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Pennsylvania Turnpike / Interstate 95 Interchange Project

Bucks County, Pennsylvania
Burlington County, New Jersey

Prepared By:

U.S. Department of Transportation
Federal Highway Administration

Commonwealth of Pennsylvania
Department of Transportation

Commonwealth of Pennsylvania
Turnpike Commission

In Cooperation With:

U.S. Army Corps of Engineers

U.S. Environmental Protection Agency

U.S. Coast Guard

Commonwealth of Pennsylvania
Department of Environmental Protection

Final Environmental Impact Statement / Section 4(f) Evaluation

June 2003

FHWA-PA-EIS-01-02-F

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT

FINAL ENVIRONMENTAL IMPACT STATEMENT/ SECTION 4(f) EVALUATION

Pursuant to:
42 U.S.C. 4332(2)(c)
49 U.S.C. 303

PREPARED BY

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
COMMONWEALTH OF PENNSYLVANIA TURNPIKE COMMISSION

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PENNSYLVANIA DEPARTMENT OF TRANSPORTATION

PENNSYLVANIA TURNPIKE COMMISSION

IN COOPERATION WITH

U.S. ARMY CORPS OF ENGINEERS
U.S. ENVIRONMENTAL PROTECTION AGENCY
U.S. COAST GUARD
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

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ABSTRACT

The Pennsylvania Turnpike/ Interstate 95 Interchange Project is the study of a proposed connection between the Pennsylvania Turnpike (I-276) and Interstate 95 (I-95) in Bucks County, Pennsylvania, with the proposed interstate improvements extending east into Burlington County, New Jersey. In addition to Transportation System Management (TSM) and Congestion Management Systems (CMS) evaluations, a No-Build Alternative and 20 Build Alternatives within three study area elements were investigated. The purpose of the project is to address the inadequate linkage between I-95 and I-276 for system continuity; the lack of I-95 continuity through the Mid-Atlantic region; inadequate capacity of the current connections between I-95 and I-276; inadequate capacity of I-95 and I-276; and the prolonged study area travel times and delays. Alternatives were studied for potential impacts to the socioeconomic, cultural, natural, and man-made environments. Project Alternative 1, consisting of the Modified Plaza West Alternative in the Toll Plaza Element, the Single Loop A Alternative in the Interchange Element, and the Bridge South Alternative in the Bridge Element, is identified as the Preferred Alternative based on the impact analyses, public and agency comments, engineering feasibility, safety, and cost-effectiveness.

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Comments on this Final Environmental Impact Statement / Section 4(f) Evaluation are due in writing by August 15, 2003 and should be directed to any of the individuals listed at the above addresses.

PREFACE

PREFACE

This Final Environmental Impact Statement/Section 4(f) Evaluation (FEIS) contains additional and new information reflecting changes that occurred since the publication of the April 2001 Draft Environmental Impact Statement/Section 4(f) Evaluation (DEIS). The substantive changes made to the DEIS for the FEIS are briefly described in this section.

A. DEIS COMPLETION, COMMENT PERIOD AND PUBLIC HEARING

On May 11, 2001 the DEIS was filed with the US Environmental Protection Agency (USEPA) and was made available for public review. The DEIS availability was advertised through the Federal Register, press releases, newsletters and public notices distributed to local citizens throughout the study area, and display advertisements in study area newspapers. Copies of the DEIS were distributed to federal, state, and local agencies, public officials, libraries and others. Comments were requested concerning the DEIS and the proposed project alternatives. A joint Federal Highway Administration (FHWA)/ Pennsylvania Turnpike Commission (PTC)/Pennsylvania Department of Transportation (PENNDOT) and US Army Corps of Engineers (USACOE) Public Hearing was held on June 12, 2001 at the Harry S. Truman High School in Bristol Township. The hearing provided the public with the opportunity to present views, opinions, and information that will be considered by the USACOE in their evaluation of the permit application for the proposed project, as well as by FHWA before their issuance of a Record of Decision (ROD) that documents the final decisions on the Selected Alternative in compliance with the National Environmental Policy Act (NEPA). The deadline for receipt of comments for the DEIS Comment Period was July 2, 2001. The DEIS comments were reviewed and substantive issues were grouped into subject matters. **Appendix I** of the FEIS is a summary of the Public Hearing and DEIS Comment Period. **Appendix I** includes all comments and testimony to the DEIS offered by the general public, local officials and agencies during the DEIS Comment Period from May 11, 2001 to July 2, 2001, and during the June 12, 2001 Joint Public Hearing. The individual responses to each substantive comment are also presented.

Comments and Coordination **(Section VII)** was revised to include **Section VII-B.14**, which describes the DEIS Comment Period and Public Hearing. The Executive Summary was also updated to describe the issues raised during the DEIS Comment Period and throughout the project development process.

B. DESIGN CHANGES

Based upon natural resource agency requests, the design and location of stormwater management facilities were modified to avoid wetland and threatened and endangered species impacts. The applicable impact tables, figures and plates were modified throughout the FEIS to reflect these changes.

C. PHASE II CONGESTION MANAGEMENT SYSTEMS (CMS) EVALUATION

A description of the Phase II CMS Evaluation was included in **Section IV-A** (Traffic and Transportation).

D. SOCIAL AND LAND USE CHARACTERISTICS

Since the DEIS distribution, a new housing development, the Villas at Chancellor's Glen, has been proposed for construction in the Toll Plaza Element, south of I-276 along Hulmeville Road. This age-restricted housing community would contain approximately 174 buildings, with two to four units per building. This development has been approved for construction by Bensalem Township, and the first units were under construction in Spring 2003.

As per PENNDOT guidelines, this proposed development was included in the noise analysis. A summary of this analysis was added to **Section IV-O**, as well as the Technical Support Data. Since construction of the proposed development has not fully progressed at the time of this FEIS, the development was not included in the other natural resource and socioeconomic investigations. However, since the area to be utilized for this proposed development was identified as farmland in the DEIS, the graphics in the FEIS were revised to identify the proposed layout of the development, rather than farmland. Also, the farmland section **(Section IV-E)** was revised.

If the Modified Plaza West Alternative were identified as the Selected Alternative, none of the units at this proposed age-restricted housing development would be displaced. However, if the Split Plaza East Alternative were selected, the potential would exist for a substantial number of displacements if this proposed housing development were completed at the time of project construction. Ten units, representing 34 residences would be displaced by the Split Plaza East Alternative, based on the currently approved site plan.

Since the DEIS, the decision was made to displace an additional property containing one residence and two commercial businesses in both the Single Loop A and Flyover A Interchange Alternatives. The property is located on New Falls Road in the northwest quadrant of the I-276/I-95 point-of-crossing and has unique zoning allowing for both residential and commercial uses.

E. CULTURAL RESOURCES

1. Historic Architectural Resources

In July 2001, the PTC submitted the *Revised Draft Pennsylvania Turnpike/Interstate 95 Interchange Project; Assessment of Effects on Historic Architectural Resources; Bucks County, Pennsylvania; Burlington County, New Jersey* (PTC, 2001) to the Pennsylvania State Historic Preservation Office (PASHPO). This report described the proposed project impacts to historic resources within the I-276/I-95 Interchange Project study area. Subsequent correspondence and meetings between the PTC, FHWA, and PASHPO occurred with reference to this topic. After meeting in December 2001, the FHWA and PASHPO decided to forward their respective opinions to the National Park Service, in its capacity as Keeper of the National Register of Historic Places (NRHP), so that an official eligibility determination could be made.

Correspondence between the agencies during the subsequent months produced the need for a field view on October 4, 2002 and discussion by the agencies in the project area. In an October 25, 2002 letter to FHWA, the Keeper of the NRHP determined that approximately 61 m (200 ft) of land beneath the Delaware River Turnpike Bridge does not contribute to the Delaware Canal National Historic Landmark, due to disturbance during the initial construction of the existing Delaware River Turnpike Bridge. Currently, the *Assessment of Effects Report* has been revised to reflect the information gathered from the Keeper of the NHRP. Section 106 consultation activities are ongoing with the PASHPO, the consulting parties, and the Advisory Council on Historic Preservation (ACHP).

2. Archaeological Resources

Based upon New Jersey Historic Preservation Office coordination, additional information regarding archaeological resources in New Jersey was included in **Section IV-D**. As part of the Programmatic Agreement, additional Phase I investigations, as well as Phase II investigations, will be conducted for each potential archaeologically significant site in New Jersey and Pennsylvania that may be impacted by the project.

F. FARMLANDS

Since the DEIS, a developer has purchased several properties previously identified as farmland in the Toll Plaza Element of the project. These properties are proposed for residential development, and construction began in Spring 2003. Because this development is located in an area previously classified as farmland, the project's farmland impacts were revised, as shown in **Section IV-E**. As a result of this change, no active farmlands will be impacted by the I-276/I-95 Interchange Project.

G. WETLANDS

Section IV-K includes changes in wetland impacts resulting from revisions in stormwater management facility design. Also, because additional state threatened and endangered plants were identified in the study area, the exceptional value designation of wetlands was revised, and the associated wetland mitigation requirements changed, as described in the wetlands section. **Section IV-K** also identifies the preliminary wetland mitigation sites. **Section VII-D.1**, which summarizes the wetland mitigation site field view held with the natural resource agencies on December 18, 2001, was added to Comments and Coordination in **Section VII**.

H. THREATENED AND ENDANGERED SPECIES

Due to the occurrence of the federally endangered shortnose sturgeon (*Acipenser brevirostrum*) in the Delaware River in the vicinity of the proposed project, *The Biological Assessment of the Shortnose Sturgeon (Acipenser brevirostrum) of the Delaware River Estuary* (PTC, 2003) has been completed and submitted to the National Marine Fisheries Service (NMFS) as required by Section 7 of the Endangered Species Act. After reviewing the Biological Assessment, the NMFS will issue a Biological Opinion. As the project continues, an updated list of construction activities will be periodically forwarded to the NMFS so they can verify that the Biological Opinion that was issued is still valid.

Since the distribution of the DEIS, additional surveys were conducted in the project study area to identify the presence or absence of the Pennsylvania threatened red-bellied turtle (*Pseudemys rubriventris*), the Pennsylvania endangered ironcolor shiner (*Notropis chalybaeus*), and several Pennsylvania listed plant species. These studies and results were described in **Section IV-L**. The following plant and animal species were found during these recent surveys:

- ✓ red-bellied turtle (*Pseudemys rubriventris*) - PA threatened
- ✓ Eastern mudminnow (*Umbra pygmaea*) - PA candidate
- ✓ Southern red oak (*Quercus falcata*) - PA endangered
- ✓ willow oak (*Quercus phellos*) - PA threatened
- ✓ toothcup (*Ammannia coccinea*) - PA endangered
- ✓ fetterbush (*Leucothoe racemosa*) - PA threatened

It should be noted that the ironcolor shiner was not found. Furthermore, as a result of the latest surveys, and changes to the stormwater management facilities, impacts to federal and state listed species was recalculated, as described in **Section IV-L**.

Correspondence and technical reports regarding threatened and endangered species can be found in the Technical Support Data, which are available for public review at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office located at 700 South Eisenhower Boulevard, Middletown, Pennsylvania, PA 17057.

I. NOISE

Since the completion of the DEIS, a previously farmed property in the Toll Plaza Element was identified as the future site of a proposed age-restricted residential community. Proposed residential developments that are planned, designed, and programmed prior to the construction of a transportation project are to be considered in the noise analysis for the project. Therefore, this development was included in the noise analysis as discussed in **Section IV-O**. Currently, as proposed, this new development meets the three defined criteria for noise barrier consideration and a preliminary noise barrier is depicted on the project mapping. More detailed information can be found in the Technical Support Data.

J. SECTION 4(f)

Since the publication of the DEIS and in response to inquiries by DCNR, state agency ownership of the Delaware Canal beneath the existing Delaware River Turnpike Bridge has been re-evaluated. As presented in the DEIS, the PTC continues to maintain that the area under the existing Delaware River Turnpike Bridge is PTC right-of-way, and that all proposed improvements for the Bridge South Alternative in the vicinity of the Delaware Canal would be located within this right-of-way. Therefore, the FHWA has determined that Section 4(f) would not apply to the property under the Delaware River Turnpike Bridge.

At a meeting with PTC and PENNDOT staff on April 5, 2002, the Pennsylvania Department of Conservation and Natural Resources (PADCNR) staff expressed the opinion that the portion of the Delaware Canal extending under the existing Delaware River Turnpike Bridge is within their jurisdiction as part of the Delaware Canal State Park.

The PTC provided to PADCNR documentation of PTC ownership/jurisdiction under cover letter dated June 11, 2002. This correspondence contained copies of letters signed by the Pennsylvania Governor and the Department of Highways approving the condemnation of lands for the construction of the existing Delaware River Turnpike Bridge.

Based on the Keeper of the National Register of Historic Places determination that the portion of the Delaware Canal under the Delaware River Turnpike Bridge is not eligible for the National Register of Historic Places as discussed in **Section E.1** of this Preface, and the prior and continuing jurisdiction over the Delaware River Turnpike Bridge right-of-way by the PTC, the FHWA has determined, in a letter dated November 1, 2002, that Section 4(f) of the US Department of Transportation Act of 1966 does not apply to the section of abandoned and disturbed canal within the PTC right-of-way.

Furthermore, this coordination with the Keeper of the National Register of Historic Places resulted in the determination that the section of the Delaware Canal prism that may remain buried under US Route 13 and adjacent parking area, outside the PTC right-of-way, retains integrity and contributes to the historic significance of the Delaware Canal Historic Landmark. Since, one of the proposed pier for the Bridge North Alternative is just outside the PTC right-of-way on the north side of the existing bridge, a Section 4(f) impact would be determined for Bridge North if it is demonstrated that the buried canal prism remains intact. This is further discussed in **Section V** of this FEIS.

K. COMMENTS AND COORDINATION

Section VII was updated to reflect additional agency and public involvement activities since the DEIS completion. **Section VII-B.14** was added to describe the DEIS Comment Period and Public Hearing process. **Section VII-D.1** was added to summarize the wetland mitigation site agency field view.

L. APPENDIX E – DVRPC COORDINATION

The title and content of this appendix has changed since the completion of the DEIS. In the DEIS, this appendix was entitled *DVRPC, Major Investment Study Resolution* and contained only the DVRPC's official resolution endorsing the "Build with Widening Alternative" as the alternative to be retained on the region's long range transportation plan.

In addition to this resolution, this appendix now contains the DVRPC Air Quality Conformity Demonstration (Executive Summary) that describes the latest regional air quality analysis and the region's demonstration of conformity with the Clean Air Act. This appendix also includes the portion of the DVRPC FY 2003-2006 Transportation Improvement Program related to funding for the I-276/I-95 Interchange Project.

M. APPENDIX H - PADEP CHAPTER 105 ENVIRONMENTAL ASSESSMENT FORM

A draft of the Pennsylvania Department of Environmental Protection (PADEP) Chapter 105 Environmental Assessment Form was added as **Appendix H**. This form was completed in anticipation of a PADEP Chapter 105 and 106 Water Obstruction and Encroachment Permit Application. As the project proceeds into Final Design, more detailed information will be collected and added to the Environmental Assessment Form before the permit application is submitted for approval to PADEP.

N. APPENDIX I – DEIS COMMENTS AND RESPONSES

As previously described in this Preface, **Appendix I** was added to the FEIS and includes all comments and testimony to the DEIS offered by the general public, local officials and agencies during the DEIS Comment Period from May 11, 2001 to July 2, 2001, and during the June 12, 2001 Joint Public Hearing.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The National Environmental Policy Act of 1969 (NEPA) requires the preparation of detailed environmental documentation for federally funded projects with anticipated environmental impacts. This Environmental Impact Statement (EIS) provides the public and federal, state, and local environmental resource and regulatory agencies with documentation that the Federal Highway Administration (FHWA), in cooperation with the Pennsylvania Turnpike Commission (PTC) and the Pennsylvania Department of Transportation (PENNDOT), has evaluated, addressed and documented environmental concerns. Consistent with FHWA requirements (T6640.8A), the Pennsylvania Turnpike (I-276)/Interstate 95 (I-95) Interchange Project was developed following the procedures presented in *Publication 278, Transportation Project Development Process, Environmental Impact Statement Handbook* (PENNDOT, 1993). This handbook outlines the policies, procedures, and methods for developing major transportation improvements in Pennsylvania that require preparation of an EIS.

The United States Environmental Protection Agency (USEPA), United States Army Corps of Engineers (USACOE), United States Coast Guard (USCG), and the Pennsylvania Department of Environmental Protection (PADEP) have agreed to be cooperating agencies for the preparation of the Final Environmental Impact Statement (FEIS) for the I-276/I-95 Interchange Project. A cooperating agency is an organization, other than a lead agency, which has jurisdiction by law or with special expertise with respect to environmental impacts due to a major federal action that would affect the quality of the human environment.

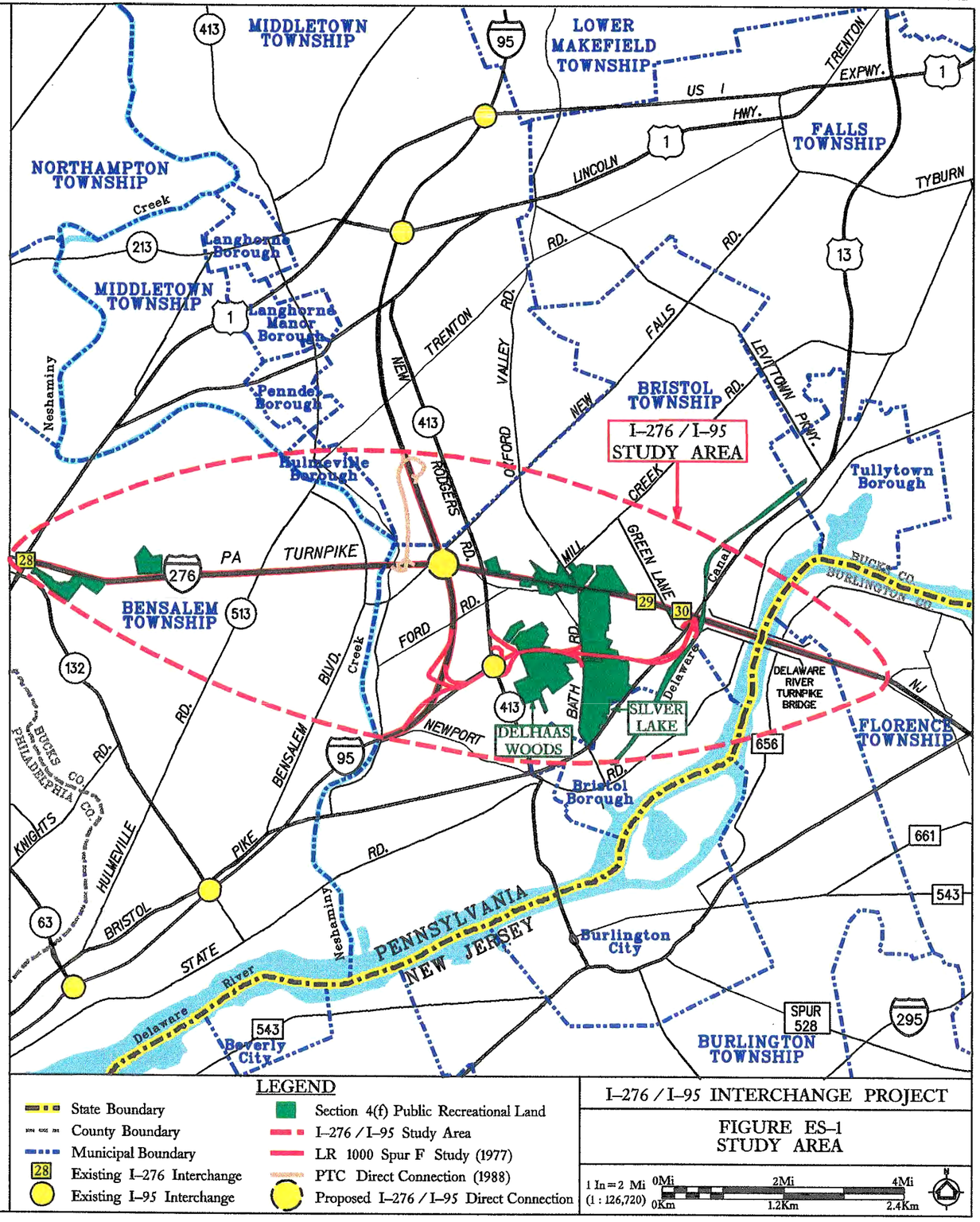
The USCG is the authority that would issue the required federal permit for any new bridge crossing of the Delaware River. The USACOE has jurisdiction over activities in navigable Waters of the US (Section 10 of the Rivers and Harbors Act of 1899) and the discharge of dredged or fill material into all Waters of the US, including wetlands (Section 404 of the Clean Water Act). USEPA has special expertise in the areas of NEPA compliance and Section 404 (b)(1) guidelines for specification of disposal sites for dredged or fill material. PADEP monitors the environmental impacts on the state level and issues the required state permits for construction.

A. INTRODUCTION

The PTC, PENNDOT, and FHWA propose to design and construct a direct connection between I-276 and I-95 in lower Bucks County, Pennsylvania, with I-276 and I-95 interstate improvements extending east into Burlington County, New Jersey (**Figure ES-1**). The FEIS details the impacts on socioeconomic, environmental, and cultural resources due to reasonable Build Alternatives. The FEIS provides detailed descriptions of the Project Purpose and Need (**Section I**), Affected Environment (**Section II**), Alternatives (**Section III**), and Environmental Consequences (**Section IV**), including suggested mitigation, and other topics as described below.

The Section 4(f) Evaluation has been prepared pursuant to Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 as amended (49 United States Code [USC] 303). The FHWA has adopted similar language in their regulations (23 CFR 771.135). Section 4(f) stipulates that the FHWA will not approve any program or project which requires the use of any publicly owned parks, recreation areas, wildlife/waterfowl refuges, or any land from an historic site of national, state, or local significance unless there is no feasible and prudent alternative to the use, and all possible planning to minimize the harm resulting from such use is included. Twenty Section 4(f) protected resources are located in the study area, including local and state parks, and historic structures. The Section 4(f) Evaluation (**Section V**) was conducted to evaluate prudent and feasible alternatives that would avoid and/or have the least harm upon these resources. Agency and public involvement were an integral part of the project development process and the development of the alternatives. The FEIS also provides Conclusions and Recommendations (**Section VI**) and a description of the public and agency involvement, which is located in Comments and Coordination (**Section VII**).

Also provided in the FEIS are the List of the Preparers and Reviewers (**Section VIII**); Distribution List (**Section IX**); References (**Section X**); and the Glossary of Terms (**Section XI**). Documentation of the steps in the project development process is included in **Section XII** of the FEIS, which contains the appendices. Such documentation includes the Composite Inventory (**Appendix A**); Cooperating Agency Correspondence (**Appendix B**); Technical Support Data Index (**Appendix C**); Farmland Conversion Impact Rating



Form AD-1006 (**Appendix D**); Delaware Valley Regional Planning Commission Coordination (**Appendix E**); Wetland Coordination (**Appendix F**); the Section 404 (b)(1) Preliminary Analysis for the Preferred Alternative (**Appendix G**), the PADEP Environmental Assessment Form (**Appendix H**) and the DEIS Comments and Responses (**Appendix I**).

In addition to the FEIS, detailed Technical Support Data and documentation are available for public review at the Project Office, located in Bensalem Township, Pennsylvania and at the PTC office located at 700 South Eisenhower Boulevard, Middletown, Pennsylvania 17057. The Technical Support Data includes information and copies of reports regarding Project Need, Congestion Management System Analysis, Major Investment Study Analysis, Alternatives Analysis, Public and Agency Involvement, socioeconomic resources, natural resources, cultural resources, noise, air quality, preliminary engineering and traffic, and potential sensitive waste sites. The FEIS is a summary of the technical information found in the Technical Support Data. Readers desiring more information about the methodologies employed during data collection and evaluation may review these files.

B. DESCRIPTION OF PROPOSED ACTION

The I-276/I-95 Interchange Project involves a high-speed, fully directional interchange between these two major interstate routes (**Figure ES-1**). The project also includes relocation of a Pennsylvania Turnpike barrier toll plaza (Interchange 30), widening of I-276 from four to six lanes between Interchange 28 and the Delaware River, and construction of an additional parallel bridge across the Delaware River. In addition, I-95 would be widened to accommodate ramps and merge lanes resulting from the construction of the interchange. When combined, these features will satisfy the five project needs identified in **Section ES-C.2** and in **Section I** of the FEIS.

The study limits extend approximately 15 km (9.2 mi) along I-276 from just west of Interchange 28, Bensalem Township, Bucks County, Pennsylvania, across the Delaware River Turnpike Bridge into Burlington and Florence Townships, Burlington County, New Jersey Approximately 2.1 km (1.3 mi) of the study limits are located in New Jersey. The study limits along I-95 extend 5.2 km (3.2 mi) from just south of Trenton Road in Middletown Township, Bucks County, Pennsylvania to the east bank of the Neshaminy Creek in Bristol Township, Bucks County, Pennsylvania (**Figure ES-1**). Generally, the study area consists of a 305 m (1000 ft) corridor centered along both I-276 and I-95 within the project limits described above. Near the I-95 crossing of I-276, the study area widens an additional 61 m (200 ft) to accommodate the proposed interchange ramp alignments.

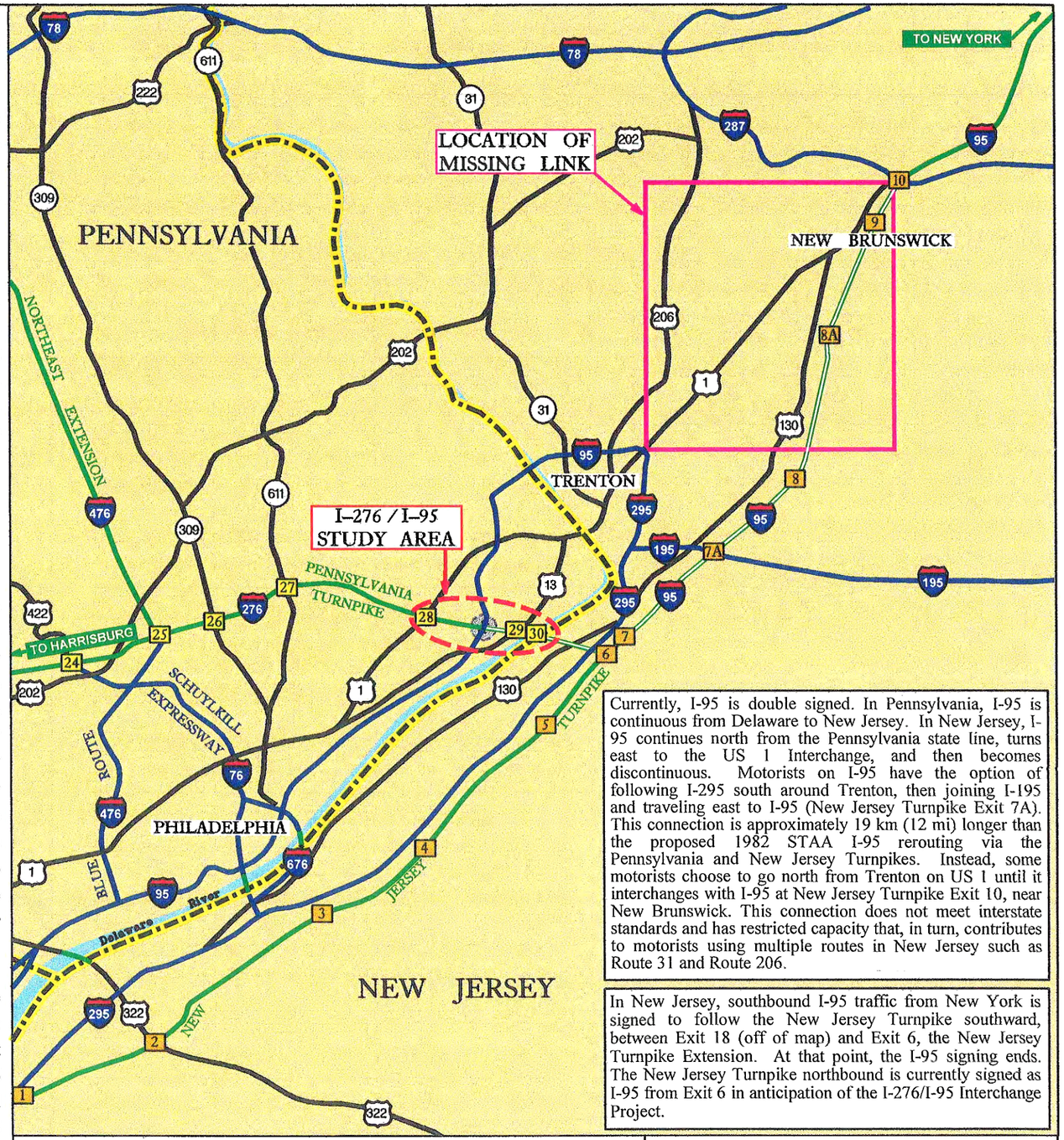
The study area is characterized by urban and suburban development. Dense residential and commercial development occurs along the I-276 and I-95 corridors. Both interstates have contributed to regional growth by improving access to major urban centers both locally, between Trenton and Philadelphia via I-95, and regionally, between Harrisburg and New York City via I-276 and I-95 (**Figure ES-2**).

C. PROJECT PURPOSE AND NEED

1. Project History

Phased construction of the I-95 interstate system over the past three decades has resulted in a gap in I-95 between I-295, near Trenton, New Jersey and I-287 in northern New Jersey near New Brunswick. This gap became known as the "missing link" of I-95 (**Figure ES-2**). Several studies have previously evaluated methods to complete the "missing link" and join I-95 and I-276. In the late 1970s, PENNDOT studied a direct connection between I-95 at PA 413 (New Rodgers Road) and I-276 near Interchange 29, known as the LR 1000 Spur F Study (**Figure ES-1**). This alternative was abandoned due to the potential environmental impacts to Delhaas Woods and use of Section 4(f) land in Silver Lake Park. Both are currently publicly owned and protected under provisions of Section 4(f) of the USDOT Act of 1966.

Two pieces of legislation that also helped to establish the need for a direct I-276/I-95 interchange connection include: the 1982 Federal Surface Transportation Assistance Act (STAA), which specified that I-95 be rerouted onto I-276 across the Delaware River Turnpike Bridge, where it would join the New Jersey Turnpike Extension, and ultimately I-95 (**Figure ES-2**); and the 1985 Pennsylvania Act 61, which authorized the PTC to build an interchange between I-95 and I-276 and widen I-276 to six lanes between Interchange 28 and the Delaware River.



In response to the 1985 Pennsylvania Act 61, the PTC evaluated a direct connection between I-276 and I-95 in 1988 in an area north of I-276 and west of I-95 **(Figure ES-1)**. This alternative was eliminated from consideration because evaluation of traffic forecasts performed by the Delaware Valley Regional Planning Commission (DVRPC) demonstrated this type of low-speed, conventional, turnpike interchange could not adequately handle the increased traffic volumes projected for the region. In 1992, the current I-276/I-95 Interchange Project was initiated.

2. I-276/I-95 Interchange Project Needs Study

The *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (PTC, 1993) provides a detailed discussion of the study area transportation deficiencies and the need for a proposed direct connection of I-276 and I-95. As summarized in **Section I** of the FEIS, the transportation deficiencies (Project Need) originally identified for Design Year 2020, which remain valid for updated Design Year 2025 traffic projections, include:

- ✓ Inadequate linkage between I-95 and I-276 for system continuity
- ✓ Lack of I-95 continuity through the Mid-Atlantic Region
- ✓ Inadequate capacity of the current connections between I-95 and I-276
- ✓ Inadequate capacity of I-95 and I-276
- ✓ Prolonged study area travel times and delays

3. Congestion Management Systems (CMS) Evaluation and Major Investment Study (MIS)

A CMS Evaluation was conducted for the project in 1995. This study investigated how measures such as transit, car pooling, van pooling, flex time, intersection improvements, and high occupancy vehicle lanes might reduce traffic congestion and reduce/eliminate the need for the connection as an alternative in the development of the project. The results are documented in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Final Congestion Management System Evaluation* (PTC, 1995).

The *Pennsylvania Turnpike/Interstate 95 Interchange Project Major Investment Study* (PTC, 1997) included an evaluation of the effectiveness and cost-effectiveness of alternative transportation investments in attaining local, state, and national goals and objectives for the metropolitan area. This study involved quantitative and qualitative analyses of project costs and benefits; identified funding sources; addressed public involvement issues; and summarized presentations to DVRPC.

As described in the CMS and MIS Evaluations, which are further summarized in **Section I** of the FEIS, various transportation modes were considered for their feasibility in meeting the project need. The No-Build, Mass Transit, and Transportation Systems Management (TSM) Alternatives were determined to not meet the project need. In conclusion, the "Build with Widening" Alternative, consisting of a direct interchange between I-276 and I-95 along with associated I-276 and I-95 widening, proved to be the only reasonable transportation alternative that meets the five project needs.

D. ALTERNATIVES STUDIED

The Build with Widening Alternative would provide a direct interchange between I-95 and I-276. It would also include widening of I-276 from four lanes (two lanes in each direction) to six lanes (three lanes in each direction), and the widening of I-95 in the vicinity of the proposed interchange to accommodate interchange ramps and merge lanes.

As detailed in **Section III** of the FEIS, the study area was divided into three separate project elements: Toll Plaza, Interchange, and Bridge. **(Figure ES-3)**. The Toll Plaza Element would entail the construction of a new barrier toll plaza to serve as the eastern terminus of the Pennsylvania Turnpike toll collection system. The Interchange Element would contain the direct connection between I-276 and I-95. The Bridge Element would involve the construction of a new Delaware River Turnpike Bridge to accommodate predicted future traffic volumes. The division points between project elements were chosen so the elements would be independent but compatible with one another in the development of conceptual engineering designs.

A range of reasonable alternatives was investigated as part of the I-276/I-95 Interchange Project, identified on **Figures ES-3** and **ES-4**, described in detail in **Section III** of the FEIS, and documented in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Final Phase I Preliminary Alternatives Analysis Report* (PTC, 1998) and the *Pennsylvania Turnpike/Interstate 95 Interchange Project Phase II Detailed Alternatives Analysis Summary* (PTC, 1998). These alternatives include those considered as part of the Preliminary Alternatives Analysis and the Detailed Alternatives Analysis, the latter of which included the analysis of alignments to further avoid and/or minimize project impacts.

1. Toll Plaza Element

Currently, the I-276 Mainline Barrier Toll Plaza, located at Interchange 30 (the Delaware River Turnpike Bridge) serves as the eastern terminus of the toll collection system for I-276. As a result of the need to re-designate a portion of I-276 as I-95 and satisfy federal and state legislation, the terminus of the tolled roadway (i.e. first ticket, last toll) would need to be relocated to the west of I-95 in order to facilitate the toll-free movement of I-95 traffic through any proposed interchange area on re-designated I-95. The plaza at Interchange 30 would remain as a one-way, Pennsylvania inbound, non-ticket toll.

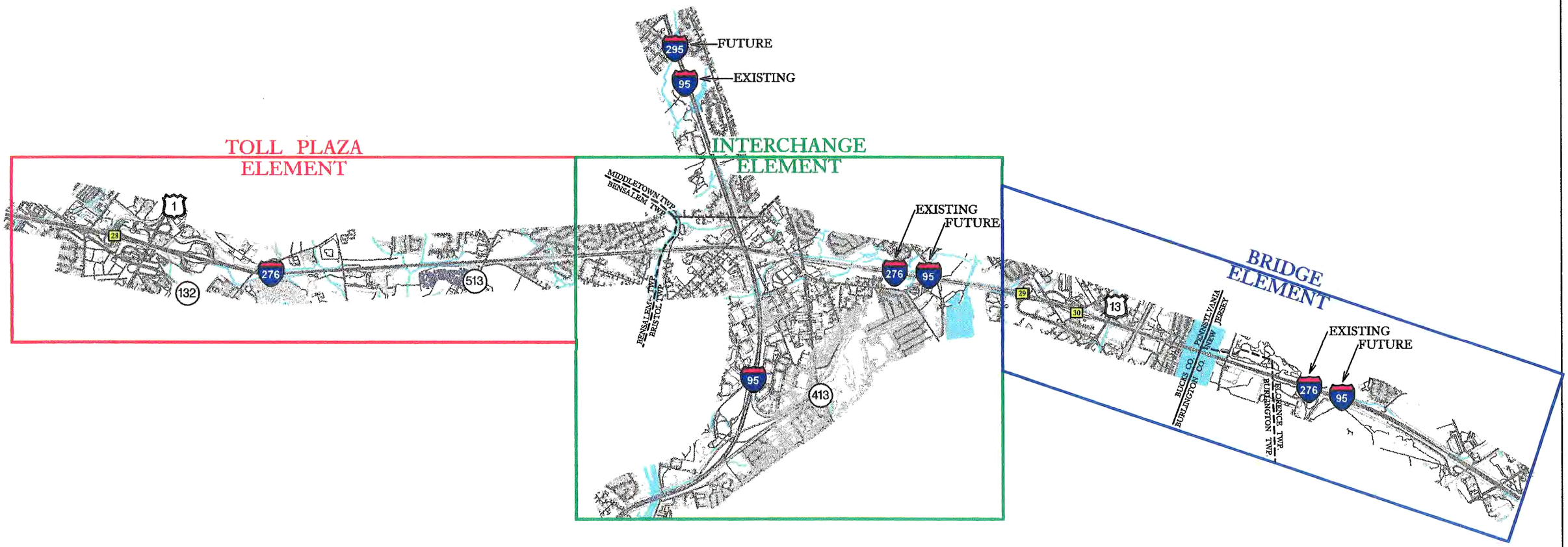
The assessment of locations for the proposed new toll plaza included engineering design features and impacts to socioeconomic, cultural and natural resources. The engineering factors included toll plaza layout and operations, the location of Interchange 28 and existing bridges over I-276, as well as impacts to existing PECO Energy transmission towers. Socioeconomic concerns included residential and commercial displacements, with impacts to Section 4(f) properties and wetland resources being key environmental concerns.

Four Build Alternatives in the Toll Plaza Element were studied (**Figures ES-3** and **ES-4**). The Standard Toll Plaza Alternative was not carried forward for study in the Detailed Alternative Analysis Phase primarily due to socioeconomic impacts. The Split Plaza West Alternative was not carried forward for detailed study in the DEIS and FEIS mainly because of Section 4(f) impacts and environmental resource impacts.

The Split Plaza East and Modified Plaza West Alternatives **(Figure ES-5)** were selected for more detailed study in the DEIS and are presented in the FEIS because both meet the project need, and minimize socioeconomic and environmental impacts compared to the Standard Toll Plaza Alternative. Split Plaza East staggers the location of the eastbound and westbound toll plazas, with a combined total of 18 lanes. The eastbound toll plaza would consist of ten lanes, including one emergency lane. The westbound toll plaza would consist of eight lanes, including one emergency lane. Both plazas would be located between Galloway Road and PA 513 (Hulmeville Road) and include slow speed electronic toll collection (E-*ZPass*).

The Modified Plaza West Alternative, which was developed during the Detailed Alternative Analysis Phase, is a standard side-by-side plaza configuration that incorporates E-*ZPass*. This alternative was selected for detailed study in the DEIS because it meets the project needs, avoids Section 4(f) properties, and minimizes environmental and socioeconomic impacts compared to Split Plaza West. It consists of 18 lanes, including two emergency lanes and is located between Richlieu and Galloway Roads, near the Philadelphia Park Racetrack. **Table ES-1** identifies the differences in impacts between the Split Plaza East and Modified Plaza West Alternatives.

As part of the project, local improvements in the Toll Plaza Element would include reconstruction of the US 1 bridge over I-276, and reconstruction of bridges that traverse I-276 at Old Lincoln Highway, PA 132 (Street Road), Richlieu Road, Galloway Road, and PA 513 (Hulmeville Road). Socioeconomic, cultural, and natural resource impacts associated with these improvements have been included in the impact summary tables for each Project Element and Alternative, such as **Table ES-1**.



TOLL PLAZA ELEMENT

- STANDARD TOLL PLAZA ALTERNATIVE
- SPLIT PLAZA EAST ALTERNATIVE
- SPLIT PLAZA WEST ALTERNATIVE
- MODIFIED PLAZA WEST ALTERNATIVE

INTERCHANGE ELEMENT

POINT-OF-CROSSING ALTERNATIVES	NEW ALIGNMENT ALTERNATIVES
FLYOVER A ALTERNATIVE	CONCEPT A ALTERNATIVE
FLYOVER B ALTERNATIVE	PUBLIC CONCEPT ALTERNATIVE
SINGLE LOOP A ALTERNATIVE	CONCEPT B ALTERNATIVE
SINGLE LOOP B ALTERNATIVE	CONCEPT B WITH URBAN INTERCHANGE ALTERNATIVE
DOUBLE LOOP A ALTERNATIVE	CONCEPT C ALTERNATIVE
DOUBLE LOOP B ALTERNATIVE	CONCEPT C MODIFIED ALTERNATIVE
NW QUADRANT HYBRID ALTERNATIVE	CONCEPT D ALTERNATIVE

BRIDGE ELEMENT

- BRIDGE NORTH ALTERNATIVE
- BRIDGE SOUTH ALTERNATIVE

NO-BUILD ALTERNATIVE

LEGEND

- Interstate Designation
- Existing I-276 Interchange
- Surface Water

A total of 20 Build Alternatives in the three project elements (Toll Plaza, Interchange, and Bridge), and a No-Build Alternative were evaluated for the I-276/I-95 Interchange Project. The alternatives are described in **Section III** of this FEIS.

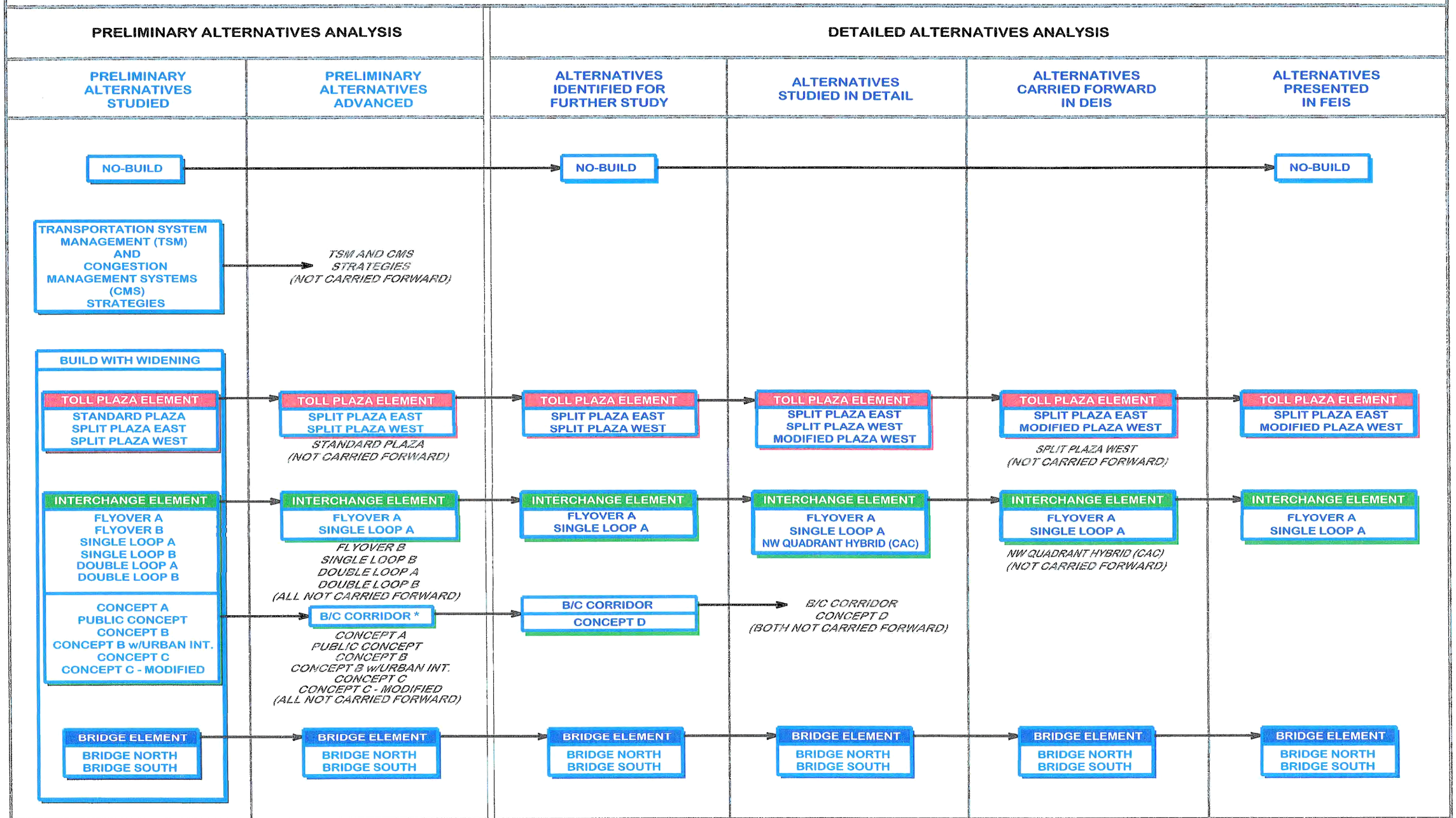
I-276 / I-95 INTERCHANGE PROJECT

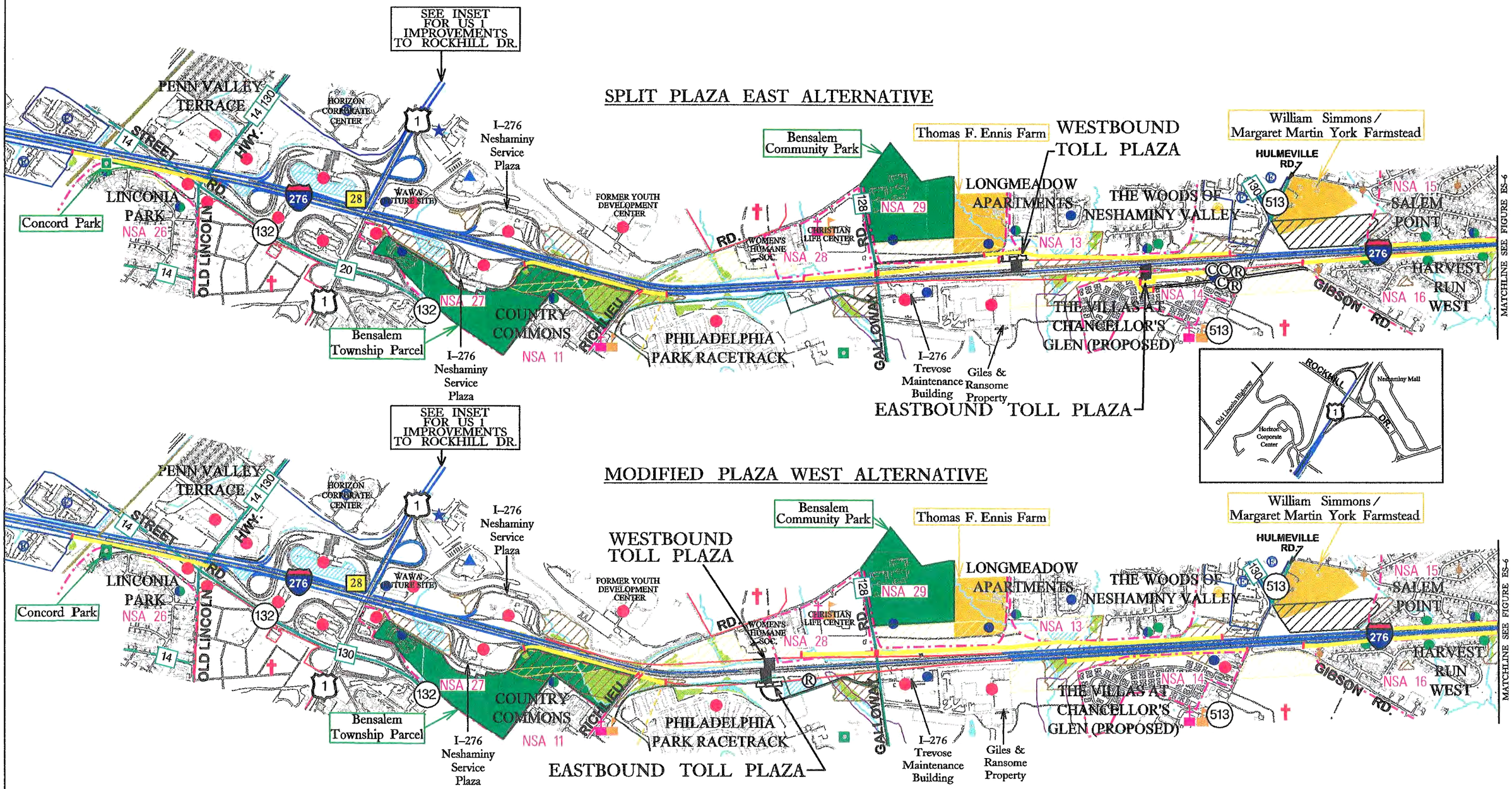
FIGURE ES-3
ALTERNATIVES

INDEX

1In = 3,600Ft (1 : 43,200)
0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M

FIGURE ES-4
I-276/I-95 INTERCHANGE PROJECT
PROGRESSION OF ALTERNATIVES DEVELOPMENT AND ANALYSIS





LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Railroad
- 28 Existing I–276 Interchange
- Potential Noise Abatement
- NSA Noise Sensitive Area
- NSA Boundary
- Potential Sensitive Waste Site
- Air Receptor
- Noise Receptor (0.5 hour)
- Air and Noise Receptor
- Surface Water
- Floodplain Limits
- Proposed Stormwater Management
- Wetlands
- Farmlands
- Forest
- Rangeland
- Coastal Zone Boundary
- NRHP Eligible Property
- Section 4(f) Public Recreational Land
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- 130 SEPTA Bus Route
- 14 SEPTA Bus Route (Peak Hour)
- School
- Church
- Cemetery with Boundary
- Police
- Private Recreational Land with Boundary
- Public Water / Sewage Facility
- PENNDOT Facility
- Power Facility
- Major Economic Center with Boundary

I–276 / I–95 INTERCHANGE PROJECT

FIGURE ES–5
TOLL PLAZA ELEMENT

SPLIT PLAZA EAST & MODIFIED PLAZA WEST ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

SINGLE LOOP A & FLYOVER A ALTERNATIVES

SINGLE LOOP A ALTERNATIVE
SEE INSET FOR FLYOVER A (BOTTOM RIGHT)

FUTURE
EXISTING
EXISTING & FUTURE
EXISTING FUTURE

MIDDLETOWN TWP.
BENSALEM TWP.
BENSALEM TWP.
BRISTOL TWP.
BENSALEM TWP.
BRISTOL TWP.

NSA 5B
NSA 6B
NSA 7&18
NSA 8
NSA 9
NSA 10
NSA 15
NSA 16
NSA 17
NSA 19A
NSA 19B
NSA 20A
NSA 20A(2)
NSA 20B
NSA 21A
NSA 21B

NEWPORTVILLE MANOR
PARKVIEW APTS.
PLUMBRIDGE
SALEM POINT
NEWPORTVILLE TERRACE
NEWPORTVILLE
LEVITTOWN TRACE
BRISTOL GARDENS
ROCKDALE
MILL CREEK FALLS
BRITTANY SPRINGS
MAYFIELD TERRACE
LAUREL BEND
MARGO GARDENS
MAGNOLIA LAKE
Delhaas Woods
Silver Lake Park

Edgar A. Smith House
First Baptist Church of Bristol
Black Ditch Park
Bristol Plaza
Municipal Campus Park
Green Trees Park A
Green Trees Park B
Lawrence Johnson Property / Lansdowne

TANGLEWOOD
NEW FALLS RD.
DURHAM
OLIVE
CREEK
BENSALEM
NESHAMINY
MAIN
NEW FALLS RD.
BATH RD.
OLD RODGERS RD.
NEW RODGERS RD.
FORD
BRISTOL
MILL CREEK
BLACK DITCH CREEK
OXFORD VALLEY
BATH ROAD
NEWPORT ROAD
NESHAMINY CREEK

MATCHLINE SEE FIGURE ES-5
MATCHLINE SEE FIGURE ES-7

NOTE: SEE FIGURE IV-5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV.A.5.

FLYOVER A ALTERNATIVE

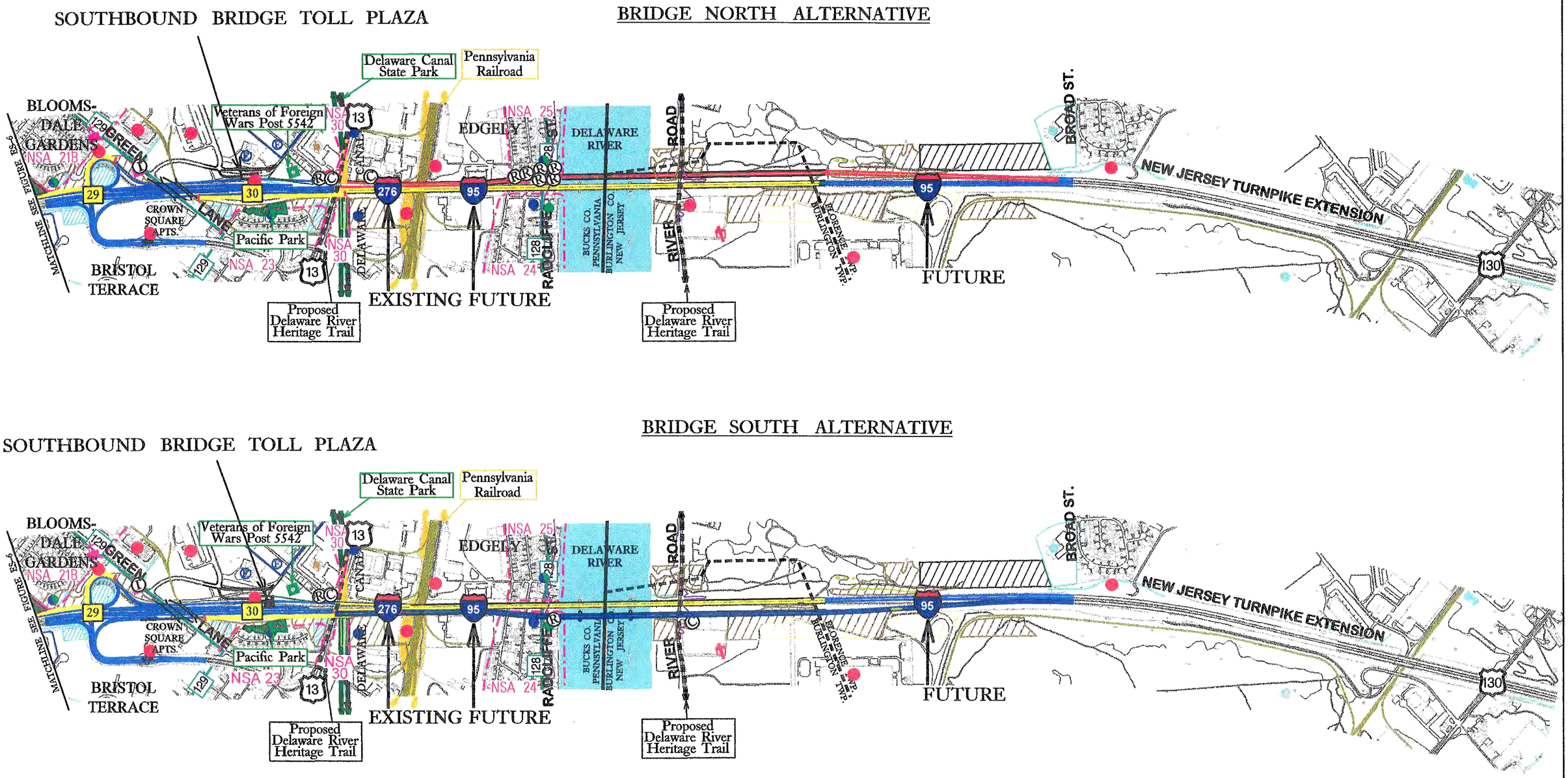
LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Existing Noise Abatement
- Potential Noise Abatement
- NSA Noise Sensitive Area
- NSA Boundary
- Potential Sensitive Waste Site
- Air Receptor
- Noise Receptor (0.5 hour)
- Noise Receptor (24 hour)
- Air and Noise Receptor
- Surface Water
- Floodplain Limits
- Wetlands
- Farmlands
- Forest
- Rangeland
- Proposed Stormwater Management
- PECO Parcel
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- (R) Residential Displacement
- (C) Commercial Displacement
- (I) Institutional Displacement
- (U) Major Utility Relocation
- 129 SEPTA Bus Route
- Church
- Municipal Building
- (F) Fire / Ambulance Service
- Health Care Facility
- Health and Human Service with Boundary
- Military Facility with Boundary
- Police
- Private Recreational Land with Boundary
- Public Water / Sewage Facility
- Power Facility
- (P) Major Economic Center with Boundary

I–276 / I–95 INTERCHANGE PROJECT

FIGURE ES–6
INTERCHANGE ELEMENT
SINGLE LOOP A & FLYOVER A ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade Of Existing Bridge
- Existing I–276 Interchange
- Railroad
- Potential Sensitive Waste Site
- NSA Noise Sensitive Area
- NSA Boundary
- Air Receptor
- Noise Receptor (0.5 hour)
- Air and Noise Receptor
- Potential Noise Abatement
- Floodplain Limits
- Wetlands
- Farmlands
- Forest
- Rangeland
- Proposed Stormwater Management
- Surface Water
- Proposed Multi–Use Trail
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- (R) Residential Displacement
- (C) Commercial Displacement
- (I) Institutional Displacement
- Church
- Cemetery with Boundary
- Private Recreational Land with Boundary
- Public Water / Sewage Facility
- Health and Human Service with Boundary
- Major Economic Center with Boundary
- SEPTA Bus Route

I–276 / I–95 INTERCHANGE PROJECT

FIGURE ES–7
BRIDGE ELEMENT

BRIDGE NORTH & BRIDGE SOUTH ALTERNATIVES

1In = 1/4Mi (1 . 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

2. Interchange Element

Each interchange alternative would include a direct high-speed connection between I-276 and I-95, widening of I-276 from four to six lanes, and associated widening of I-95. Overall, fourteen (14) Build Alternatives were studied in the Interchange Element (**Figures ES-3** and **ES-4**). Seven of these were located at the existing point-of-crossing and seven were considered on a new alignment.

Of the point-of-crossing alternatives, four were not carried forward primarily due to the comparative impacts to residential communities and commercial properties. One was not carried forward for traffic capacity and operational inferiority reasons.

There were seven Build Alternatives on new alignment considered; the new alignment alternatives would join I-95 with I-276 by connecting the interstates along a new alignment between the existing I-95/PA 413 interchange and I-276, to the west of Interchange 29. Conceptually, these alternatives are similar to the previously studied LR 1000 Spur F Alignment (**Figure ES-1**). The new alignment alternatives, which are described in **Section III** of the FEIS, were developed mainly to avoid impacts to businesses adjacent to the point-of-crossing, as requested by the Bristol Township officials and the general public during the Preliminary Alternatives Analysis phase. However, the new alignment alternatives were not carried forward due to large impacts to residential developments, Section 4(f) protected resources, and environmental resources (**Figure ES-1**).

The Flyover A and Single Loop A Alternatives, both located at the point-of-crossing of the interstates in the Interchange Element (**Figure ES-6**), were selected for study in the DEIS and are presented in the FEIS. The main characteristic of Flyover A is that the ramps would make direct connections between I-95 and I-276, including those that "fly over" both interstates to make that connection. Single Loop A is similar to Flyover A except that a loop ramp would be substituted for the proposed I-276 eastbound to existing I-95 northbound flyover ramp.

Overall, the Flyover A and Single Loop A Alternatives would have a similar range of environmental and Section 4(f) impacts, with the majority of the surrounding environmental and cultural resource features being avoided. In comparison, Single Loop A would have less commercial and residential property displacements than Flyover A. **Table ES-1** identifies the differences in impacts between these two interchange alternatives.

In addition to the proposed interchange, other improvements that would occur in the Interchange Element include the reconstruction of bridges carrying I-276 over Neshaminy Creek, Mill Creek, Durham Road, and PA 413 (New Rodgers Road); and the reconstruction of bridges over I-276 at Bensalem Boulevard, New Falls Road, Bristol-Oxford Valley Road, and over I-95 at Ford Road.

3. Bridge Element

An additional Delaware River Turnpike Bridge is required to accommodate lane requirements of the forecasted traffic volumes. The Bridge North and Bridge South Alternatives were both recommended to be evaluated in detail in the DEIS and are presented in the FEIS. These Build Alternatives incorporate a new three-lane, one-way directional bridge that would supplement the traffic capacity of the existing Delaware River Turnpike Bridge. The existing bridge would be rehabilitated and used as a three-lane one-way bridge in the opposite travel direction of the new bridge (**Figure ES-7**).

The proposed new parallel structure would be similar in design to the existing bridge for aesthetic reasons. Bridge placement to the north or south of the existing bridge would be the only major design difference between the two alternatives. The separation between the bridges (approximately 22.9 m/75 ft) was based on seismic considerations to allow construction of the new bridge in proximity to the existing bridge. The channel width and under clearance of the existing bridge would be maintained as per the requirements of the USCG. Because the end of the Pennsylvania Turnpike toll collection system would be relocated to the west of the proposed interchange, the existing two-way toll facility at the Pennsylvania Turnpike Interchange 30 would be modified to become a one-way, re-designated I-95 southbound bridge toll plaza. This direction of toll collection would be consistent with one-way tolls of other major Delaware River Bridges between Pennsylvania and New Jersey. Local access would remain via Interchange 28 and Interchange 29 along I-276 (to be re-designated I-95, east of the proposed interchange), as well as the existing interchanges at PA 413 (New Rodgers Road) and US 1 along I-95 (to be re-designated I-295 north of the proposed interchange). **Table ES-1** identifies the differences in impacts between the two Bridge Element alternatives.

TABLE ES-1
ALTERNATIVES PRESENTED IN FEIS IMPACT SUMMARY (JUNE 2003)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Modified Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Federal Threatened and Endangered Species	0	0	0	0	1 [2]	1 [2]
State Threatened and Endangered Species	0	0	7	7	3	4
Wetlands (ha/ac)	0.35 / 0.86	0.47 / 1.16	0.61 / 1.52	0.40 / 1.00	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.27 / 0.68	0.20 / 0.49	1.84 / 4.54	1.84 / 4.54	0.11 / 0.28	0.11 / 0.28
Forestland (ha/ac)	3.54 / 8.75	1.93 / 4.78	5.52 / 13.65	5.18 / 12.80	3.18 / 7.87	3.38 / 8.35
Rangeland (ha/ac)	4.39 / 10.85	1.57 / 3.87	0.81 / 2.01	0.81 / 2.01	0 / 0	0 / 0
Surface Water (crossings)	6	6	7	6	2	2
Perennial Stream Impacts (m/ft)	194 / 635	965 / 3,165	241 / 790	210 / 690	190 / 624	79 / 260
Intermittent Stream Impacts (m/ft)	363 / 1,190	346 / 1,134	966 / 3,169	957 / 3,139	204 / 669	198 / 651
Farmland (ha/ac)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites	0	0	3	3	1	1
Eligible Historic Architectural Resources	0	0	0	0	1	0
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	0 / 0	0 / 0	1 [3] / 0	1 [3] / 0	0 / 2 [4, 5]	0 / 1 [4]
Section 4(f) Resource Use (ha/ac)	0 / 0	0 / 0	0.038 / 0.094	0.038 / 0.094	0.031 / 0.077	0.032 / 0.08
Potential Sensitive Waste Sites	8	6	16	16	5	5
Public Facilities and Services	0	0	0	0	0	0
Commercial Property Displacements	3	0	11	10	2	2
Residential Property Displacements	2 [6]	1	13	9	7	2
Institutional Property Displacements	0	0	1	1	1	1
Major Utility Relocations (PECO)	0	0	1	1	0	0
Total Section Cost Estimate (million $) [7]	116	107	332	310	208 [8]	223 [8]

1 The Alternatives Presented in the FEIS impact Black Ditch Park parcel 005-021-305 (impact from ramp construction). Design for ramp construction includes pier work rather than fill embankment.
2 The federally listed Shortnose Sturgeon is also included in the State Threatened and Endangered Species total because it is listed as Pennsylvania and New Jersey Endangered.
3 Black Ditch Park.
4 Pennsylvania Railroad.
5 Delaware Canal National Historic Landmark
6 The potential exists for a substantial number of displacements at the proposed Villas at Chancellor's Glen residential development in the Split Plaza East Alternative (**Figure ES-5**).
7 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
8 This cost estimate does not include costs associated with re-decking and painting of the existing Delaware River Turnpike Bridge.

Further improvements proposed in the Bridge Element include the reconstruction or modification of bridges carrying I-276 over Green Lane, Minnesota Mining and Manufacturing Railroad Spur, and US 13 (Bristol Pike), and the rehabilitation of the existing Delaware River Turnpike Bridge.

E. ALTERNATIVES CARRIED FORWARD IN THE DEIS

Based on the results of additional engineering and traffic analyses related to Design Year 2025 traffic projections and the use of electronic toll collection (E-Z*Pass*) facilities, as well as resource agency and public comments, a total of six Build Alternatives (two Build Alternatives for each project element) were identified to be carried forward for detailed impact evaluation in the DEIS. Although the No-Build Alternative does not meet the project need, it was used as a comparison for the other alternatives. **Figure ES-4** summarizes the progression of alternatives through the engineering and environmental analyses, identifies those that were not carried forward, and those that were carried forward in the DEIS. The following alternatives have been fully studied and evaluated in **Sections III, IV,** and **V** of the DEIS:

Toll Plaza Element

- ✓ Split Plaza East
- ✓ Modified Plaza West

Interchange Element

- ✓ Flyover A
- ✓ Single Loop A

Bridge Element

- ✓ Bridge North
- ✓ Bridge South

On May 11, 2001 the Draft Environmental Impact Statement (DEIS)/Draft Section 4(f) Evaluation was filed with the USEPA and was made available for public review. The DEIS release and comment period is further described in the following subsection **ES-F**, **Section VIII-B.14,** and **Appendix I** of the FEIS.

F. DEIS COMMENT PERIOD AND PUBLIC HEARING

On May 11, 2001 the DEIS was filed with the USEPA and was made available for public review. The release of the DEIS and announcement of the June 12, 2001 public hearing were publicized in the Federal Register, press releases, project newsletters distributed to local citizens throughout the study area, display advertisements in study area newspapers, and website notices. Copies of the DEIS were distributed to federal, state, and local agencies, public officials, libraries and others. Comments were requested concerning the DEIS and the proposed project alternatives. The DEIS comment period ran from May 11 through July 2, 2001, during which time approximately 50 written comments were received.

A joint FHWA/PTC/PENNDOT and USACOE Public Hearing was held on June 12, 2001 at the Harry S. Truman High School in Bristol Township. An open house/plans display was set up with a video and presentation boards that highlighted the project background, alternatives considered, and various environmental and socioeconomic issues. Citizens were provided an opportunity to present oral, recorded, and written testimony regarding the DEIS and the application submitted by PTC for a USACOE permit to perform work in federally regulated waters of the US, including wetlands, to construct the I-276/I-95 Interchange Project. This information will be considered by the USACOE in their evaluation of the permit application for the proposed project, as well as by FHWA before their issuance of a Record of Decision (ROD) that documents the final decisions on the Selected Alternative in compliance with the National Environmental Policy Act (NEPA). Approximately 259 people attended the public hearing. Of those who attended, 32 gave formal public testimony and two gave private oral testimony.

Appendix I of the FEIS contains all comments and testimony to the DEIS offered by the general public, local officials and agencies during the DEIS Comment Period from May 11, 2001 to July 2, 2001, and during the June 12, 2001 Public Hearing. The individual responses to each substantive comment are also provided. **Section VII-B.14** of the FEIS further discusses the DEIS Comment Period.

G. ALTERNATIVES PRESENTED IN THE FEIS

The comments from the DEIS comment period and changes that occurred in the study area since the distribution of the DEIS resulted in slight modifications to the Alternatives Carried Forward in the DEIS. These changes are as follows:

- ✓ Conversion of farmlands to residential development in the Toll Plaza Element
- ✓ One additional residential displacement and two additional commercial displacements in the Interchange Element
- ✓ Inclusion of additional state listed rare, threatened and endangered species in the study area
- ✓ Reconfiguration of proposed stormwater management facilities to reduce wetland impacts in the study area
- ✓ Revisions to candidate wetland replacement sites in the study area
- ✓ Additional coordination with the Pennsylvania and New Jersey State Historic Preservation Offices in the Bridge Element
- ✓ Revisions to floodplain limits in the study area
- ✓ Coordination with the Keeper of the National Register of Historic Places resulted in the determination that the section of the Delaware Canal buried under US 13 and adjacent parking area, outside the PTC right-of-way, retains integrity and contributes to the historic significance of the Delaware Canal Historic Landmark. Since one of the proposed piers for the Bridge North Alternative is just outside the PTC right-of-way on the north side of the existing bridge, a Section 4(f) impact may be determined for Bridge North, as well as an historic architectural impact.

Therefore, the six build alternatives that were Carried Forward in the DEIS were slightly modified and are currently the Alternatives Presented in the FEIS (**Figures ES-5, 6, & 7**), as shown in the Progression of Alternatives Development and Analysis **Figure ES-4**.

Section IV of the FEIS contains a more detailed discussion of impacts associated with each of the identified alternatives. In addition to the interstate improvements, many of the local connections to the interstates would be upgraded. Furthermore, stormwater management facilities, stream crossings, culverts, and proposed noise abatement would be located/upgraded along I-276 and I-95 in the study area.

H. ENVIRONMENTAL CONSEQUENCES

Each alternative presented in the FEIS was evaluated based on detailed socioeconomic, cultural, and environmental resource impact studies. The Build Alternatives include Split Plaza East and Modified Plaza West in the Toll Plaza Element; Flyover A and Single Loop A in the Interchange Element; and Bridge North and Bridge South in the Bridge Element. The defined project purpose and needs are equally satisfied by every combination of the Build Alternatives, considering their comparative similarities. **Section IV** of the FEIS describes these evaluations in comparison with the No-Build Alternative.

Detailed impacts were assessed in accordance with applicable laws and regulations for the existing resources, including traffic and transportation features, socioeconomic features, cultural resource features, natural resource features, manmade environment, and visual quality. Where appropriate, avoidance, minimization, and mitigation strategies were identified.

I. PUBLIC AND AGENCY INVOLVEMENT

A variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project. These strategies are summarized in **Section VII** of the FEIS. Efforts included establishing a local project office, holding general public meetings and public officials meetings, organizing special interest group meetings, facilitating the organization of a Community Advisory Committee (CAC) and a Community Economic Impact Review Group (CEIRG), distributing public questionnaires, newsletters and fact sheets, creating a project website, providing informational binders to local libraries, and releasing press/public notices.

1. Project Office

At the outset of the I-276/I-95 Interchange Project, a project office was established in the project area at 3220 Tillman Drive, Suite 104, in Bensalem, Pennsylvania. The office is open daily and project representatives are available to answer questions and discuss the project with interested residents, either by phone (215-244-4444) or in person.

2. Public and Public Officials Coordination

Public meetings have been held in order to present information to the public, discuss project progress, obtain public opinions, and discuss needs and concerns. Public

officials meetings were held prior to each public meeting and at times of new project developments. Public officials were updated on the status of the project and received copies of newspaper advertisements and press releases. The general public meetings were advertised in the project newsletter, local newspapers, print and electronic media, display advertisements, public service announcements, news releases, and on the project website.

Project updates have also been provided to nearby municipalities and at meetings held with study area interest groups, such as civic associations.

3. Community Advisory Committee (CAC)

A CAC was formed to facilitate public involvement. The intent of the CAC is for representatives of study area municipalities, civic associations, environmental interests, and business interests to come together and serve as a liaison between local interests and the project team. The CAC also provides input for the development of preliminary and detailed alternatives, as well as the selection of project alternatives to be carried into Step 6 (Detailed Alternatives Analysis and Review) of PENNDOT's Transportation Project Development Process. Their questions related to the socioeconomic and environmental impacts of the alternatives provide an early indication of general public questions and concerns.

4. Community Economic Impact Review Group (CEIRG)

The CEIRG is an advisory group comprised of local stakeholders that assisted in monitoring the progress of the I-276/I-95 Interchange Project Economic Impact Study. The CEIRG is made up of elected officials, representatives of non-profit organizations, local employers and business leaders, the CAC, and Citizens at Risk (CAR). CAR is a grass-roots organization that has expressed its opposition to the project. The CEIRG provided the oversight and local perspective needed to maintain the focus, accuracy, and credibility of the economic study. This group stayed cohesive and continues to meet to be updated periodically on project developments and issues. A sub-committee was formed to discuss neighborhood impact issues not typically addressed in the transportation project development process. This sub-committee is pursuing state grant money through Bucks County to hire a consultant to investigate strategies to implement neighborhood improvements and to identify additional funding sources.

5. Congestion Management System (CMS) Committee and the Major Investment Study (MIS) Committee

A CMS Committee was formed to coordinate the completion of the CMS Evaluation. This committee was comprised of representatives from federal, state, local, and regional planning and transportation agencies. The CMS is further described in **Section III** of the FEIS.

A MIS Committee, consisting of members from the CMS Committee, was formed to aid in the development of the MIS. The MIS is further described in **Section III**.

6. Agency Coordination and Consultation

Throughout the project process, state and federal resource and regulatory agencies were encouraged to participate by identifying initial and ongoing concerns. These agencies included Pennsylvania Department of Environmental Protection (PADEP), Pennsylvania Department of Agriculture (PADA), New Jersey Department of Environmental Protection (NJDEP), Pennsylvania Department of Conservation and Natural Resources (PADCNR), USACOE, US Geologic Service (USGS), USEPA, USCG, National Park Service (NPS), US Fish and Wildlife Service (USFWS), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), National Oceanic and Atmospheric Administration (NOAA) - National Marine Fisheries Service (NMFS), Pennsylvania State Historic Preservation Office (PASHPO), and the New Jersey State Historic Preservation Office (NJSHPO). These agencies participated in the project needs analysis, alternatives development, and preparation process of the DEIS. Agency coordination was accomplished through correspondence, presentations at Agency Coordination Meetings (ACM), and during special field views of the study area.

J. PREFERRED ALTERNATIVE

For the purposes of evaluating alternatives, the study area was divided into three geographic elements: Toll Plaza, Interchange, and Bridge. The impacts and costs of the alternatives studied within these elements were quantified and compared throughout the alternatives analysis period to determine those that would require detailed evaluation in **Section IV**, the Environmental Consequences section of the FEIS. The alternatives were evaluated within these same element boundaries and assembled to form eight possible combinations of project alternatives **(Table ES-2)**, all of which meet the defined project needs. The comparison of impacts for the project alternatives led to the identification of the PTC and PENNDOT Recommended Preferred Alternative, which was presented in the DEIS to the public and resource agencies. During the DEIS Public Comment Period and Public Hearing, no substantive comments were received that altered the Recommended Preferred Alternative, hereafter referred to as the Preferred Alternative, being presented in the FEIS.

Transportation analyses identified that the No-Build Alternative will not meet the defined project needs identified in **Section I**. However, the No-Build Alternative is repeatedly depicted in the FEIS to emphasize that it is one of the alternatives to be reasonably considered. The No-Build Alternative was included throughout the alternatives analysis to provide a basis of comparison to each of the Build Alternatives carried forward for detailed study in **Section IV**, the Environmental Consequences section of the FEIS.

The combined impacts and costs for each of these eight project alternatives are summarized in **Table ES-3**. Detailed below is the rationale for the recommendation of Project Alternative 1, which combines one alternative from each element, as the Preferred Alternative for the I-276/I-95 Interchange Project.

In the Toll Plaza Element **(Figure ES-5)**, the ***Modified Plaza West*** Alternative is preferred by the FHWA, PTC and PENNDOT. This alternative locates the toll plaza further away from residential and commercial areas. With its standard (rather than split) plaza configuration, the Modified Plaza West Alternative has greater construction and operational flexibility, while reducing overall socioeconomic and some environmental impacts. The Modified Plaza West Alternative has one residential displacement and no commercial displacements, while the Split Plaza East Alternative has two residential displacements, three commercial displacements, and locates the plazas adjacent to several housing developments. Compared to Split Plaza East, Modified Plaza West has fewer impacts to forested wetlands as well as fewer impacts to the remaining environmental resources, except that the total wetland impacts and perennial stream impacts are greater for Modified Plaza West compared to Split Plaza East. **Section IV** of the FEIS contains more detailed descriptions of impacts associated with both toll plaza alternatives. **Section VII** describes the public's concerns regarding the placement and configuration of the toll plazas in the Toll Plaza Element. Furthermore, **Section VII** describes discussions at public and public officials meetings, which indicate that both are in favor of Modified Plaza West over Split Plaza East due to the decrease in socioeconomic impacts. The Mayor of Bensalem Township testified in support of the Modified Plaza West at the June 12, 2001 Public Hearing.

TABLE ES-2
LIST OF PROJECT ALTERNATIVES

Project Alternative 1 (Preferred Alternative)
Modified Plaza West Single Loop A Bridge South
Project Alternative 2
Modified Plaza West Single Loop A Bridge North
Project Alternative 3
Modified Plaza West Flyover A Bridge South
Project Alternative 4
Modified Plaza West Flyover A Bridge North
Project Alternative 5
Split Plaza East Single Loop A Bridge South
Project Alternative 6
Split Plaza East Single Loop A Bridge North
Project Alternative 7
Split Plaza East Flyover A Bridge South
Project Alternative 8
Split Plaza East Flyover A Bridge North

In the Interchange Element (**Figure ES-6**), the ***Single Loop A*** Alternative is preferred by the FHWA, PTC, and PENNDOT because it has lower costs and less socioeconomic impacts than the Flyover A Alternative, without sacrificing highway operations. Overall, both Interchange Alternatives would have a similar range of environmental impacts as the majority of the surrounding socioeconomic, environmental, and cultural resource features are avoided, although Single Loop A has less forested wetland impacts. Both also have identical Section 4(f) impacts, which were minimized as a result of engineering refinements. The Single Loop A Alternative would have less commercial (10 versus 11) and residential property (9 versus 13) displacement impacts compared to the Flyover A Alternative. Another difference between these two alternatives is the difference in the height and number of elevated ramps, which changes the visual impacts between the two alternatives. In general, the Flyover A ramps are higher than the Single Loop A ramps. Two ramps for the Single Loop A are at grade for their entire length, and the elevated ramps are lower than Flyover A. **Section VII** identifies the public and public officials concerns regarding the interchange element, as well as discussions that indicate that both are in favor of Single Loop A, due to the decrease in socioeconomic impacts. **Section IV** of the FEIS contains a more detailed description of impacts associated with both interchange alternatives.

In the Bridge Element (**Figure ES-2**), the ***Bridge South*** Alternative is preferred by the FHWA, PTC, and PENNDOT. This alternative has lower socioeconomic impacts compared to the Bridge North Alternative. The environmental resource impacts, costs, and operations of the two Bridge Element alternatives are similar. Analysis has revealed that the Bridge South Alternative would require a fewer number of residential displacements (2 versus 7). It would have slightly lower impacts to wetlands (0.03 ha/ 0.06

TABLE ES-3
PROJECT ALTERNATIVES IMPACT SUMMARY

	Project Alternative 1 Preferred Alterative	Project Alternative 2	Project Alternative 3	Project Alternative 4	Project Alternative 5	Project Alternative 6	Project Alternative 7	Project Alternative 8	No-Build [1]
Toll Plaza Element	*Modified Plaza West*	Modified Plaza West	Modified Plaza West	Modified Plaza West	Split Plaza East	Split Plaza East	Split Plaza East	Split Plaza East	
Interchange Element	*Single Loop A*	Single Loop A	Flyover A	Flyover A	Single Loop A	Single Loop A	Flyover A	Flyover A	
Bridge Element	*Bridge South*	Bridge North	Bridge South	Bridge North	Bridge South	Bridge North	Bridge South	Bridge North	
Resources									
Federal Threatened & Endangered Species	*1*	1	1	1	1	1	1	1	0
State Threatened and Endangered Species	*11*	10	11	11	10	10	11	10	0
Wetlands (ha/ac)	*0.90 / 2.22*	1.02 / 2.51	1.11 / 2.73	1.23 / 3.03	0.77 / 1.91	0.90 / 2.21	0.98 / 2.43	1.10 / 2.73	0
100 Year Floodplain (ha/ac)	*2.15 / 5.31*	2.15 / 5.31	2.15 / 5.31	2.15 / 5.31	2.22 / 5.50	2.22 / 5.50	2.22 / 5.50	2.22 / 5.50	0
Forestland (ha/ac)	*10.49 / 25.92*	10.30 / 25.44	10.83 / 26.77	10.64 / 26.29	12.10 / 29.89	11.90 / 29.41	12.44 / 30.74	12.25 / 30.26	0
Rangeland (ha/ac)	*2.38 / 5.88*	2.38 / 5.88	2.38 / 5.88	2.38 / 5.88	5.20 / 12.86	5.20 / 12.86	5.21 / 12.86	5.21 / 12.86	0
Surface Water (crossings)	*14*	14	15	15	14	14	15	15	0
Perennial Stream Impacts (m/ft)	*1,254 / 4,115*	1,365 / 4,479	1,285 / 4,215	1,396 / 4,579	483 / 1,585	594 / 1,949	514 / 1,685	625 / 2,049	0
Intermittent Stream Impacts (m/ft)	*1,501 / 4,924*	1,506 / 4,942	1,510 / 4,954	1,515 / 4,972	1,518 / 4,980	1,523 / 4,998	1,527 / 5,010	1,533 / 5,028	0
Farmland (ha/ac)	*0 / 0*	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0
Potential Archaeological Resources Sites	*4*	4	4	4	4	4	4	4	0
Eligible Historic Architectural Resources	*0*	1	0	1	0	1	0	1	0
Section 4(f) Use of Public Parks and Historic Resources (public parks/historic resources) [2]	*1 / 1*	1 / 2	1 / 1	1 / 2	1 / 1	1 / 2	1 / 1	1 / 2	0
Area of Section 4(f) Resource Use (ha/ac)	*0.070 / 0.174*	0.069 / 0.171	0.070 / 0.174	0.069 / 0.171	0.070 / 0.174	0.069 / 0.171	0.070 / 0.174	0.069 / 0.171	0
Potential Sensitive Waste Sites	*27*	27	27	27	29	29	29	29	0
Public Facilities and Services	*0*	0	0	0	0	0	0	0	0
Commercial Displacements	*12*	12	13	13	15	15	16	16	0
Residential Property Displacements	*12*	17	16	21	13 [3]	18 [3]	17 [3]	22 [3]	0
Institutional Property Displacements	*2*	2	2	2	2	2	2	2	0
Utility Relocations (PECO Substations)	*1*	1	1	1	1	1	1	1	0
Total Project Alternative Cost Estimate ($million) [4]	*640* [5]	625 [5]	662 [5]	647 [5]	649 [5]	634 [5]	671 [5]	656 [5]	0

Notes: The identified alternative impacts incorporate the associated side road/ bridge improvements, storm water management facilities, and construction of the park and ride/pool sites. See **Table ES-1** for impacts to the defined resources associated with the alternatives in each of the project elements.
1 The No-Build does not meet the project need; used for comparison purposes only.
2 The resources referred to are Black Ditch Park in the Interchange Element / Pennsylvania Railroad and the Delaware Canal in the Bridge Element.
3 The potential exists for a substantial number of displacements at the Proposed Residential Development in the Split Plaza East Alternative **(Figure ES-5)**.
4 This estimate does not include the costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.
5 Cost Estimates include roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design, and inspection.

ac versus 0.15 ha/0.36 ac), would avoid forested wetlands, and have lower impacts to perennial streams (79 m/260 ft versus 190 m/624 ft). The Bridge South would only require the use of one Section 4(f) resource (Pennsylvania Railroad), while the Bridge North would require use to two Section 4(f) resources (Pennsylvania Railroad and the Delaware Canal). As described in **Section VII**, discussions at public and public officials meetings indicate that both are in favor of Bridge South when compared to Bridge North, due to the decrease in socioeconomic impacts. **Section IV** of the FEIS contains more detailed discussions of impacts associated with both bridge alternatives.

In conclusion, after evaluation of preliminary and detailed alternatives, resultant socioeconomic, environmental and cultural resource impacts, and proposed mitigation, the FHWA, PTC, and PENNDOT recommend that the *Modified Plaza West*, *Single Loop A*, and *Bridge South* Alternatives be combined into ***Project Alternative 1*** (**Figure ES-8** and **Table ES-3**) as the Preferred Alternative. Project Alternative 1 has the following advantages when compared to the other project alternatives:

- ✓ Moderate impacts to wetlands, lowest impacts to forested wetlands
- ✓ Lowest impacts to floodplains
- ✓ Moderate impacts to forestland
- ✓ Lowest impacts to rangeland
- ✓ Lowest number of surface water crossings
- ✓ Lowest impacts to intermittent streams
- ✓ No impacts to farmlands
- ✓ Minor impacts to Section 4(f) properties
- ✓ Lowest number of commercial property displacements
- ✓ Lowest number of residential property displacements

Moderate impact is defined as an impact quantity that is exceeded by at least four other project alternatives. The term minor, as associated with the Section 4(f) impacts, has been defined as minimized impacts causing the least use and harm of the resources.

When compared to the other build alternatives, formal and informal feedback in the numerous public involvement events to date has shown that the Preferred Alternative (Project Alternative 1) is:

- ✓ Favored by a majority of the public officials and the general public
- ✓ Favored by a majority of the CAC
- ✓ Favored by a majority of the CEIRG

In summary, there are impact advantages associated with Project Alternative 1, while it is generally preferred by the general public and public officials.

K. AREAS OF PUBLIC CONTROVERSY

During the project development process, the general public and elected officials expressed their concerns about the direct and indirect socioeconomic impacts, such as displaced homes and businesses, as a result of the project. In the Pennsylvania project area municipalities (Bensalem, Bristol, and Middletown Townships), resolutions were passed between 1992 and 1998 to oppose issues and/or impacts associated with the project alternatives based on the information available at that time. It is important to note that the composition and attitudes of these bodies have changed over time. While formal resolutions of support have not occurred, specific issues such as residential/commercial impacts, highway access, and funding have been addressed. Verbal approvals and acknowledgements have been received from the current members of these councils/boards concerning the elimination of controversial alternatives from further study and the avoidance and minimization that has been accomplished with respect to the remaining alternatives. These concerns resulted in the study of the Split Plaza Alternatives (Split Plaza East and Split Plaza West), which decreased the number of homes and businesses that would be displaced when compared to the Standard Plaza in the same location. These facts, as well as compensation and relocation procedures, are explained in **Sections IV-B** and **IV-C** of the FEIS. Property takes and displacements are dependent on engineering considerations, and efforts have been made to minimize the amount of property necessary for the project improvements to be constructed. Engineering strategies and design modifications, such as bridge structures and retaining walls, have alleviated many local concerns and minimized potential property acquisitions.

Also, there was concern about the potential decline in real estate values for those businesses and residences located near the proposed connection of I-276 and I-95. However, according to *The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange* (PEL, EDRG, 2000), history shows that property values increase with increased access to highway interchanges, although they may decrease for properties abutting highways. In the case of the I-276/I-95 Interchange Project, both interstates have been in place for decades and most of the affected properties already abut the existing highway facilities. Although several homes and business may be adversely affected by the view of the interchange and ramps, benefits to many local residents and businesses would include improved accessibility to one or both of the major interstates, reductions in local traffic congestion, and the potential for highway noise abatement as a result of project construction.

During the finalization of the alternatives analysis, the principal project opponents have expressed concern that the project would negatively affect air quality. The proposed I-276/I-95 Interchange Project is included on the DVRPC FY 2003-2006 Transportation Improvement Program (TIP) and 2025 Long Range Plan (LRP), and is included on the List of Regionally Significant Projects in the DVRPC Region. The TIP conforms to the current State Implementation Plans (SIPs) of Pennsylvania and New Jersey, and satisfies the USEPA Final Conformity Rule issued on November 23, 1993, as amended August 15, 1997. A carbon monoxide (CO) analysis was performed and it was concluded that none of the predicted CO concentrations exceeded the National Ambient Air Quality Standards (NAAQS) for the No-Build or Build Alternatives for the Opening Year (2005), Interim Year (2014), or Design Year (2025) scenarios. However, air quality concerns persist and efforts will continue to be made to educate the public on this topic and to further involve PADEP and USEPA in the ongoing dialogue. Noise and air quality discussions also invariably involve discussions of traffic projections for the project. DVRPC is providing assistance in addressing these questions.

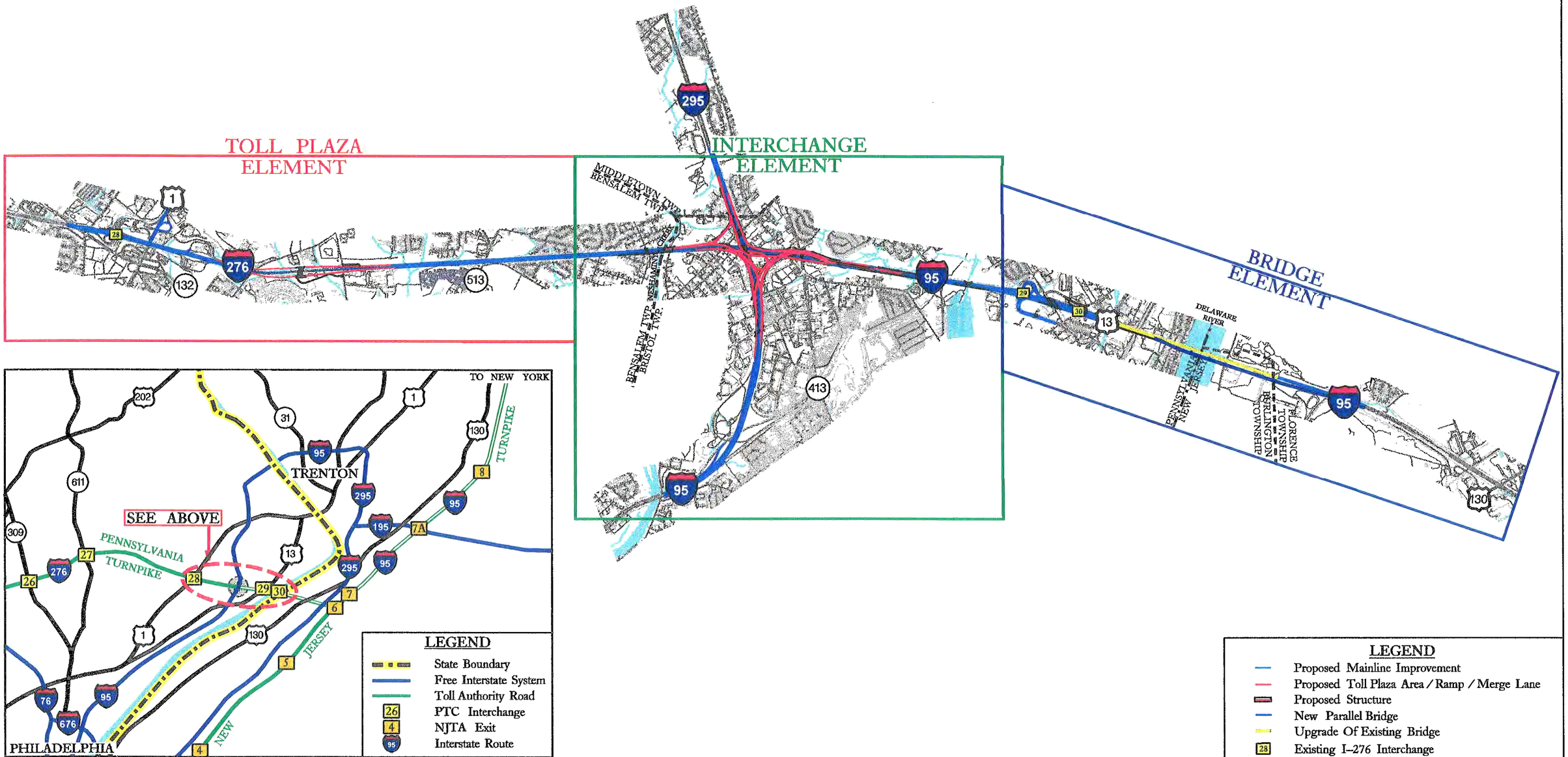
L. UNRESOLVED ISSUES WITH AGENCIES

1. Historic Resources

Based upon issues raised by the Pennsylvania State Historic Preservation Office (PASHPO) during the Section 106 process, additional investigations regarding the Pennsylvania Division of the Delaware Canal, a National Historic Landmark, have been conducted. Detailed information regarding the Delaware Canal is located in **Section IV-D**. The Keeper of the National Register of Historic Places (Keeper) indicated their determination, that due to disturbance during the initial construction of the existing Pennsylvania Turnpike Bridge, the section (approximately 61 m [200 ft]) beneath the bridge does not contribute to the Delaware Canal National Historic Landmark. Currently, the *Assessment of Effects Report* has been revised to reflect the information gathered from the Keeper, and to include a determination of no effect on the Delaware Canal for the Preferred Alternative in the Bridge Element, the Bridge South Alternative. (The Bridge North Alternative may adversely affect the Delaware Canal if it is demonstrated that the buried canal prism, outside the PTC right-of-way, remains intact and that construction of a new Bridge North pier diminishes the integrity of the property.) Because the PASHPO continues to maintain that an adverse effect would occur with the construction of the Bridge South Alternative, the report will be submitted to the Advisory Council on Historic Preservation for an opinion.

2. Archaeological Resources

The assessment of potential archaeological resource impacts associated with the Build Alternative in the three project elements is ongoing and expected to conclude following completion of any required Phase II investigations and outstanding Phase I investigations. Criteria of Eligibility (36 CFR 60.4) would be applied to determine whether the archaeological sites are eligible for listing on the National Register of Historic Places (NRHP). The Criteria of Adverse Effect (36 CFR 800.5) would be applied to each NRHP-eligible site. A Programmatic Agreement, in accordance with 36 CFR 800.14, will be completed prior to the ROD and will commit to completing the outstanding Phase I investigation on the area beneath the existing Delaware River Turnpike Bridge and any Phase II Testing considered necessary. The Programmatic Agreement will specify that no ground disturbing activities associated with the project would take place at the sites until appropriate archaeological investigations have been completed and archaeological data recovered. More detailed information can be found in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Phase I Archaeological Investigations, Management Summary* (PTC, 1995), *Pennsylvania Turnpike/Interstate 95 Interchange Project Phase I Management Summary, Phase II Work Plan* (PTC, 1997), and *Pennsylvania Turnpike/Interstate 95 Interchange Project Phase I Geoarchaeological Investigations for the I-276 Extension into New Jersey* (PTC, 1998). Signatories to the Programmatic Agreement may include, at a minimum, PTC, PENNDOT, FHWA, and the appropriate SHPO. The Advisory Council on Historic Preservation may also wish to participate as a signatory, as well as any interested Native American Tribes.



TOLL PLAZA ELEMENT

MODIFIED PLAZA WEST ALTERNATIVE

- √ I–276 WIDENING FROM FOUR TO SIX LANES
- √ INTERCHANGE 28 / US 1 IMPROVEMENTS
- √ NEW TOLL PLAZA INCLUDING E–ZPASS

INTERCHANGE ELEMENT

SINGLE LOOP A ALTERNATIVE

- √ I–276 / I–95 WIDENING
- √ NEW I–276 / I–95 INTERCHANGE
- √ I–276 / I–95 REDESIGNATION

BRIDGE ELEMENT

BRIDGE SOUTH ALTERNATIVE

- √ I–276 (FUTURE I–95) WIDENING
- √ INTERCHANGE 29 / E–ZPASS IMPROVEMENTS
- √ NEW DELAWARE RIVER BRIDGE AND BRIDGE TOLL PLAZA INCLUDING E–ZPASS

I–276 / I–95 INTERCHANGE PROJECT

FIGURE ES–8
PREFERRED ALTERNATIVE

1In = 3,600Ft (1 : 43,200)
0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M

3. Aquatic Resources

A Jurisdictional Determination of federal and state regulated waters and wetlands for the selected Project Alternative will be obtained from the USACOE, scheduled for November 2003. The *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000) will be amended to reflect any revised surveyed aquatic resource boundaries. The revised boundaries will be used to quantify project impacts. Preliminary mitigation strategies are identified in the FEIS; detailed information will be provided in the overall Mitigation Report, which will be prepared after the ROD. The final compensatory mitigation plan for unavoidable impacts to aquatic resources will be developed in coordination with the federal and state regulatory and resource agencies.

4. Threatened and Endangered Species

The Biological Assessment of the Shortnose Sturgeon (Acipenser brevirostrum) of the Delaware River Estuary (PTC, 2003) has been completed and submitted to the National Marine Fisheries Service (NMFS) as required by Section 7 of the Endangered Species Act. After reviewing the Biological Assessment, the NMFS will issue a Biological Opinion. As the project continues, an updated list of construction activities will be periodically forwarded to the NMFS so they can verify that the Biological Opinion that was issued is still valid.

5. Mitigation

This project is proceeding in accordance with PENNDOT's Transportation Project Development Process. A Mitigation Report will be drafted to include detailed mitigation strategies that are referenced in the FEIS and the federal ROD. It will not be finalized or circulated until after the issuance of the ROD. The purpose of the report is to ensure that commitments made in the ROD are accomplished during Final Design and Construction. Also in the Mitigation Report are operational and construction measures to minimize or avoid the environmental consequences of the project. Coordination with the appropriate resource agencies will continue during the development of mitigation plans.

M. FEDERAL AND STATE ACTIONS REQUIRED (PERMITS, APPROVALS)

Necessary permits and authorization for the I-276/I-95 Interchange Project are required from the federal government, the Commonwealth of Pennsylvania, and the State of New Jersey. They include the following:

- ✓ **PADEP Chapters 105 and 106 Water Obstruction and Encroachment Permit** – A Jurisdictional Determination of federal and state regulated waters and wetlands will be coordinated with the USACOE, USEPA, and PADEP. A PADEP Chapter 105 permit is required for structures and/or activities that would change, expand, or diminish the course, current, or cross section of a watercourse, floodway, or body of water. A PADEP Chapter 106 permit is required for activities, structures, or an assembly of materials on the floodplain that may impede, retard, or changes floodflows.
- ✓ **Section 10/Section 404 Permits (US Department of the Army)** – USACOE permits are required for work or structures in navigable waters of the United States and the discharges of dredged or fill material into waters of the US, including wetlands.
- ✓ **USCG Bridge Permit** – This permit is required for the construction of any bridge across the navigable waters of the United States.
- ✓ **Section 401 Water Quality Certification** – Coordination will be conducted through PADEP and NJDEP and granted as part of the wetland and stream encroachment permits.
- ✓ **NJDEP Freshwater Wetlands Permit** – A permit is required prior to engaging in a regulated activity in and around freshwater wetlands and associated transition areas.
- ✓ **NJDEP Stream Encroachment Permit** – A permit is required for construction in Flood Hazard Areas and within the 100-year floodplain.
- ✓ **NJDEP Tidelands Conveyance (Riparian Grant)** – Tidelands grants, leases, and/or licenses are required for the use of state-owned riparian lands, which are lands presently, or formerly, covered by the mean high tide.
- ✓ **NJDEP Waterfront Development Permit** – This statute encompasses development at or below the mean high water line in tidal waters of the state.
- ✓ **National Pollution Discharge Elimination System Permits** – These permits are required for construction sites and would be issued through the Bucks County, Pennsylvania and the Burlington County, New Jersey Natural Resource Conservation Services by approval of the Erosion and Sedimentation Plans. Coordination will occur during Final Design when the Erosion and Sedimentation Plans are completed, prior to construction.
- ✓ **Coastal Zone Management Program, Consistency Certification** – The Federal Coastal Zone Management Act requires that federal agency activities, including development projects directly affecting the coastal zone, must be consistent with approved state coastal zone management programs to the maximum extent practicable. Both Pennsylvania and New Jersey have Coastal Zone Management Programs, which would require a consistency certification.
- ✓ **Section 106/Programmatic Agreement** – To be prepared in accordance with 36 CFR 800.14 to address potential impacts to archaeologic-historic resources.
- ✓ **PADEP Residual Waste Beneficial Permit** – A permit is required if dredge materials are to be used as fill material for the project construction.
- ✓ **PADCNR, Native Plant Program Wild Plant Management Permit** – A permit is required for any impacts to Pennsylvania listed endangered or threatened plant species.

N. OTHER PROPOSED GOVERNMENT ACTIONS IN THE STUDY AREA

The National Park Service has proposed the planning and implementation of the Delaware River Heritage Trail, which would extend between Morrisville and Philadelphia in Pennsylvania, and between Trenton and Palmyra in New Jersey, crossing the river via the Calhoun Street (Morrisville, Pennsylvania and Trenton, New Jersey) and Tacony-Palmyra (Philadelphia, Pennsylvania and Palmyra, New Jersey) Bridges. The foundation of this pathway already exists, but linkages are needed to connect waterfront parks, promenades, canal towpaths, rail beds, and bike trails. One such linkage is near the Delaware River Turnpike Bridge where future plans for the trail would utilize the US 13 corridor to connect trails along the historic Delaware Canal within the Delaware Canal State Park. Conceptual design included in the FEIS has been planned to complement and enhance the future Delaware River Heritage Trail. The Delaware River Heritage Trail is part of the larger East Coast Greenway. The purpose of the greenway is to link trails along the East Coast to create a continuous multi-use trail system from Maine to Florida.

O. NEXT STEPS

The FEIS presents the Preferred Alternative for the proposed connection of I-276 and I-95 that best meets the project needs and results in the least overall harm.

At the conclusion of the FEIS review period, the PTC will evaluate and summarize the comments received and identify any significant or unresolved issues. The FHWA will consider this information before issuing a ROD, which documents the final decisions on the Selected Alternative in compliance with NEPA. Mitigation measures and monitoring programs designed to enforce their implementation are also outlined in the ROD.

In accordance with PENNDOT's Transportation Project Development Process, the ROD must be received, and a Final Mitigation Report describing mitigation commitments must be completed, before the project proceeds into the Final Design, ROW acquisitions, and Construction Phases, contingent upon funding availability.

Final Design occurs after the receipt of preliminary design and environmental approvals. It includes the integration of mitigation measures into design, right-of-way acquisition, and utility relocation; advertisement of the construction plans; and award of construction contracts. Compensatory mitigation commitments would normally be implemented during the Construction Phase. During construction, the multi-phased design/construction sequencing of this project would allow improvements to be opened before completion of all the project's components.

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I. PURPOSE AND NEED

I. PURPOSE AND NEED

More detailed purpose and need information is located in the Project Need Technical Support Data, and:

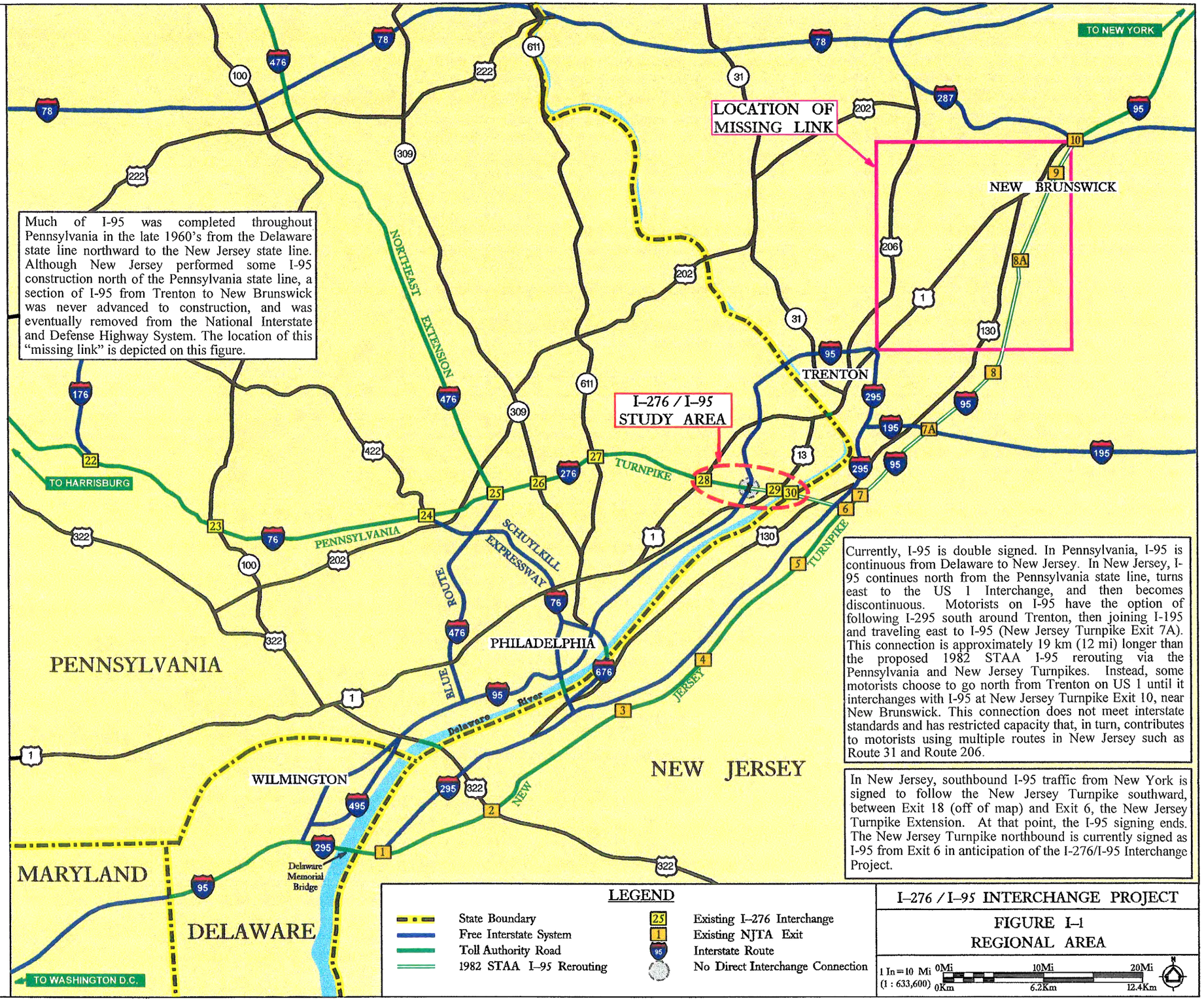
* *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study, 1993.*
* *Technical Support Data Index, including previous transportation studies relevant to the project, is located in Section XII (Appendix C).*

The information provided in this section is derived from the 1993 Purpose & Need Report. However, the format of this section is similar to that recommended in the 1994 PENNDOT Needs Study Handbook. The 1993 Purpose and Needs Study used Year 2020 traffic projections, assuming a Year 2000 start date for construction. The potential start date is now estimated to begin in Year 2005. The project need was re-evaluated using Year 2025 traffic projections. As concluded in Section I-B, the transportation deficiencies identified in the 1993 Purpose and Needs Study remain unchanged when re-evaluated using Year 2025 traffic projections.

A. PROJECT DESCRIPTION

The Pennsylvania Turnpike Commission (PTC), in conjunction with the Pennsylvania Department of Transportation (PENNDOT) and the Federal Highway Administration (FHWA), is conducting a study of the interstate traffic routing and local congestion problems associated with the existing indirect connections between Interstate 95 (I-95) and the Pennsylvania Turnpike (I-276). Also under study is the lack of I-95 continuity through the Mid-Atlantic Region between New Brunswick, New Jersey and US 1 north of Trenton, New Jersey **(Figure I-1)**. The project is being coordinated with New Jersey transportation agencies including the New Jersey Department of Transportation (NJDOT) and the New Jersey Turnpike Authority (NJTA).

In the past, the federal interstate funds used to construct I-95 through Pennsylvania were not eligible to participate in a direct interchange with a toll road. Accordingly, I-95 in Pennsylvania was constructed to overpass, but not interchange, with the existing I-276. The transfer of interstate traffic between I-95 and I-276 takes place indirectly through local interchanges on several arterial roadways, which form a perimeter around the study area **(Figure I-2)**. A rerouting of I-95 was authorized by the Federal Surface Transportation Assistance Act (STAA) of 1982 (P.L. 97-424), but was never implemented due to the lack of a direct interchange connection between I-95 and I-276 **(Figure I-1)**.



In 1985, Pennsylvania Act 61 authorized the PTC to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate (I-276) to interstate (I-95) continuity and to facilitate the rerouting of I-95 as required by the 1982 STAA, which stipulated that I-95 would continue from Delaware through Pennsylvania, cross the Delaware River Turnpike Bridge, follow the New Jersey Turnpike Extension east, then northward on the New Jersey Turnpike and join existing I-95 just north of New Brunswick, New Jersey. The National Highway System Designation Act of 1995 describes the widening of both I-95 and I-276 to six lanes and construction of the I-276/I-95 Interchange as eligible for 90 percent federal-aid funding.

In 1992, the PTC initiated preliminary engineering and environmental studies in accordance with federal and state guidelines for a proposed connection of I-95 and I-276. The preparation of a Final Environmental Impact Statement (FEIS) creates a decision-making tool developed with input from local public officials and citizens, regional transportation organizations, and environmental resource agencies. This FEIS presents the Purpose and Need **(Section I),** Affected Environment **(Section II)**, Alternatives **(Section III),** Environmental Consequences **(Section IV)**, Section 4(f) Evaluation **(Section V)**, Conclusions and Recommendations **(Section VI)**, Comments and Coordination **(Section VII)**, List of Preparers and Reviewers **(Section VIII)**, Distribution List **(Section IX)**, References **(Section X)**, Glossary of Terms **(Section XI)**, and Appendices **(Section XII).**

B. PROJECT NEED

This section summarizes the *Pennsylvania Turnpike/I-95 Interchange Project Needs Study* (PTC, 1993) that was conducted in 1993 using Year 2020 traffic projections to accommodate for 20 years of traffic growth assuming the start date of construction would be Year 2000. The potential start date for construction of the project was re-estimated to occur in Year 2005, and the previous engineering was re-evaluated using Year 2025 traffic projections. With respect to the Project Needs, the transportation deficiencies identified in the 1993 Needs Study remain unchanged when compared to the Year 2025 traffic projections. Discussions of the engineering modifications resulting from the Year 2025 traffic projections are located in **Section III-H** and **Section IV-A**.

The 1993 Needs Study for the I-276/I-95 Interchange Project was prepared in accordance with FHWA Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987); FHWA Policy Statement, *Purpose and Needs in Environmental Documents* (1990); and the PENNDOT "Strike-Off Letter" 430-90-27 (1990). The 1993 Needs Study focused on analyzing the connection of I-95 and I-276, including local travel and access patterns associated with linking these two interstates. Transportation issues that were evaluated relative to project need included: traffic volume and capacity analyses, travel times and delays, vehicle trip assignments, accident patterns, and comprehensive planning strategies. Results of the 1993 Needs Study are documented in the *Pennsylvania Turnpike/ Interstate 95 Interchange Project Needs Study* (PTC, 1993).

The following transportation deficiencies for Design Year 2020 were identified in the 1993 Needs Study and agreed upon by the appropriate transportation and environmental resource agencies on September 25, 1993 **(Section XII, Appendix B).**

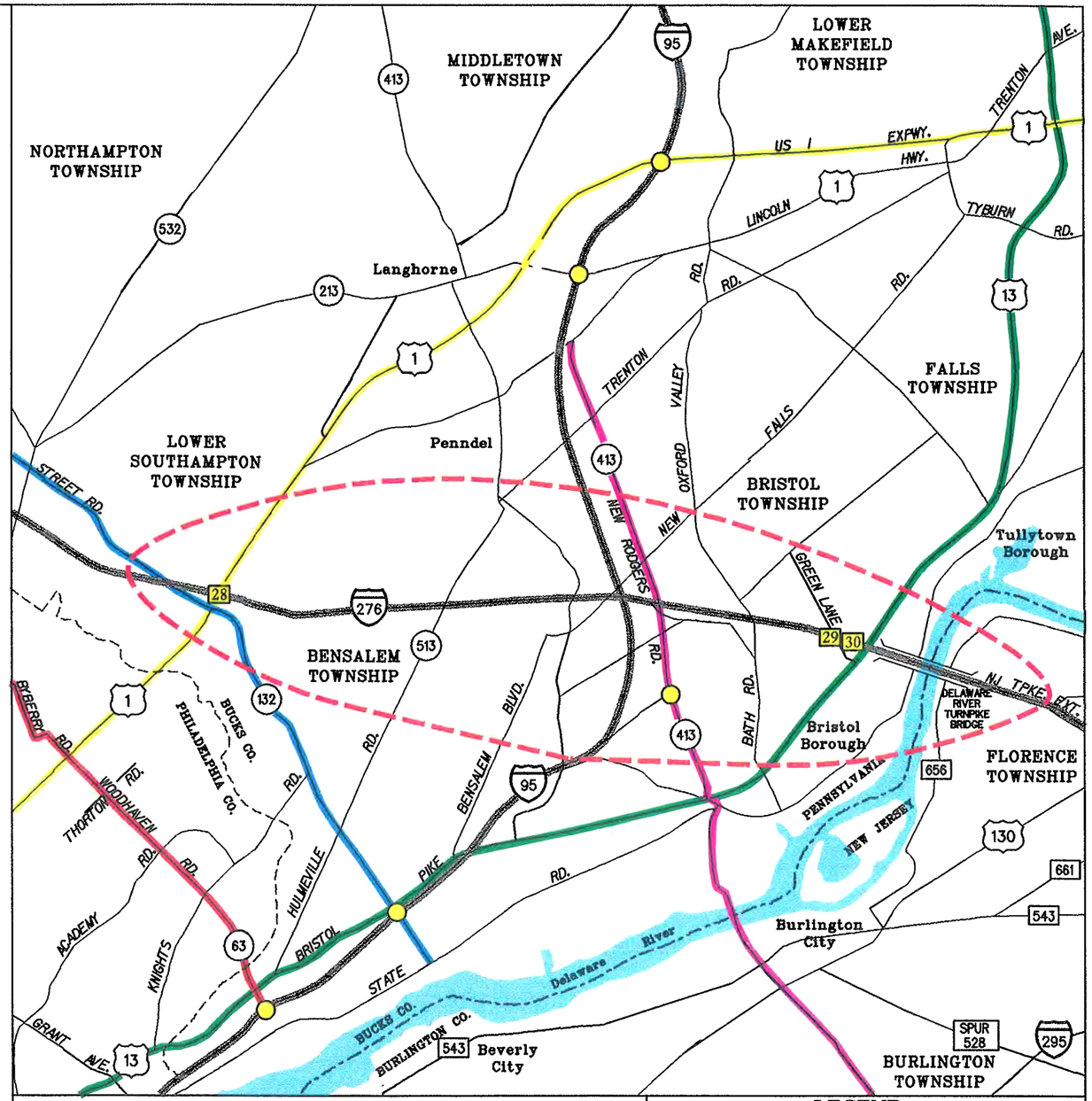
1. Inadequate Linkage between I-95 and I-276 for System Continuity

No direct connection currently exists between I-95 and I-276. Both major east coast interstates have local, regional and national importance by linking major, urban economic and political centers of the East Coast. Motorists travelling east or west on I-276 must exit I-276 at Interchanges 28 or 29, and use US 1, US 13, PA 132, PA 63, or other local roadways to access I-95 **(Figure I-2).**

Likewise, northbound and southbound motorists must exit I-95 and travel one of the previously listed local routes to the nearest I-276 interchange (Nos. 28 or 29) in order to access the interstate east-west route. This situation creates confusion for regional travelers due to the lack of a direct connection and resultant discontinuity of the interstate system. It also creates mobility problems for regional and local travelers because of limited capacity of the local transfer routes. In addition, the lack of a direct interstate-to-interstate connection fails to meet the national/federal objective of a unified and connected system of interstate highways.

2. Lack of I-95 Continuity through Mid-Atlantic Region

The 1982 STAA authorized the rerouting of I-95 using a new interchange between I-95 and the I-276, continuing across the Delaware River Turnpike Bridge, and then north along the New Jersey Turnpike to link with existing I-95 **(Figure I-1)**. This federal legislation designated both turnpikes as interstate routes and required that I-95 be rerouted onto them. The I-95 "missing link" **(Figure I-1)** was potentially eliminated by the legislative action which rerouted I-95 along the two turnpikes using the proposed I-276/I-95 Interchange in Pennsylvania. This is where the legislated I-95 interchange must occur to implement the STAA.



The study area is located within several boroughs and townships in lower Bucks County, Pennsylvania and extends into Burlington and Florence Townships, Burlington County, New Jersey. The I-95 interchanges within or adjacent to the study area in Pennsylvania include: PA 63 (Woodhaven Road) and PA 132 (Street Road) in Bensalem Township; PA 413 (New Rodgers Road) in Bristol Township; and Business Route 1 (Lincoln Highway) and the US 1 Expressway in Middletown Township. The existing I-276 interchanges in the study area include US 1 (Interchange 28) in Bensalem Township and US 13 (Interchange 29) in Bristol Township. Interchange 30 is the PTC's toll facility for crossing the Delaware River Turnpike Bridge.

LEGEND

US 1	PA 63
PA 132	28 Existing I-276 Interchange
PA 413	Existing I-95 Interchange
US 13	Study Area Boundary

I-276 / I-95 INTERCHANGE PROJECT

FIGURE I-2
STUDY AREA

1 In = 2 Mi (1 : 126,720) 0Mi 2Mi 4Mi 0Km 1.2Km 2.4Km

3. Inadequate Capacity of the Current Connections between I-276 and I-95

A traffic capacity analysis was conducted as part of the 1993 Needs Study following the *Highway Capacity Manual* (HCM) (Transportation Research Board, National Research Council, 1994) to identify the levels of service (LOS) for I-95, I-276 and local roadways, and to evaluate the performance of the roadway network. The LOS analysis **(Tables I-1** and **I-2)** was performed to identify how well the existing study area roadway network functions (no direct connection) and to predict future conditions with and without the construction of a direct connection.

The 1993 capacity analysis was based on existing (1992) and projected Year 2020 traffic volumes, as presented in *Delaware Valley's Direction 2020 Transportation Plan.* (DVRPC, 1995). The capacity analysis assumed a Year 2000 start date for construction, now estimated to begin in Year 2005. Analysis of DVRPC's updated 1999 existing traffic volumes and Year 2025 projected traffic volumes did not change the transportation deficiencies identified in the 1993 Needs Study. **Section IV-A** of this FEIS identifies the 1999 existing and Year 2025 traffic projections.

The results of the LOS analysis conducted as part of the 1993 Needs Study did not change as a result of DVRPC's updated 1999 existing and Year 2025 traffic projections. This is because LOS demarcation factors, illustrated on **Figure I-3**, are primarily a measurement of traffic flow used to compare varying levels of traffic operations to better understand the more technical traffic capacity analysis. Six possible LOS are routinely defined for each type of facility being analyzed, with each LOS being given a letter designation, A to F. The 1992 and 2020 LOS designations for the roadways presented in **Table I-1** do not change when using the updated 1999 existing traffic and Year 2025 traffic projections presented in **Section IV-A** of this FEIS.

Due to the urbanized nature of the study area, the existing traffic networks are currently operating at or near peak or full capacity. Again, the purpose of the capacity analysis was to identify the "degree of congestion" that motorists experience throughout the study area. This was accomplished by performing capacity analyses utilizing both peak hour and 12-hour average traffic volumes (**Table I-2**).

A consistently high volume of traffic occurs throughout the entire day for all roadway facilities in the study area. The daily 12-hour average volumes are very close to the volumes during peak hour conditions. For example, PA 413, which is a key roadway used to connect I-276 and I-95 **(Figure I-2)**, exhibits a constant stream of daily traffic including non-peak hours. Because the study area is highly developed and experiences high traffic volumes throughout the day, the project need must address the operational characteristics of the roadway network for both peak hour and 12-hour average volumes.

The traffic capacity analysis results for both the 12-hour average and peak hour volumes in 1992 reveal a high percentage of the existing roadways with LOS D through F with no direct connection. Therefore, there is a consistent traffic capacity deficiency for the roadway network currently connecting I-276 and I-95 **(Table I-2)**. This deficiency continues to worsen substantially by the Year 2020, with increases in traffic volumes and unacceptable LOS percentages for all connecting routes **(Table I-2)**. A direct connection will remove trips from local roads by diverting the trips to I-276 and I-95. The projected number of daily trips removed in Design Year 2020 on key network routes is illustrated on **Figure I-4**. By removing traffic from the arterial roadway network, a direct connection would improve the operating conditions of the arterial roadway network within the study area for Design Year 2020.

Based on DVRPC traffic data, Average Annual Daily Traffic (AADT) volumes for study area roadways are projected to increase significantly by Year 2020. As a result of this traffic growth, the study area network will experience a high percentage of roadways with LOS D through F if no transportation improvements are made with regard to connecting I-276 and I-95. For a 12-hour average time period, by Year 2020, 59 percent of study area roadways will have LOS D through F **(Table I-2)**.

Similarly, for peak hour conditions by Year 2020, 78 percent of the study area roadways will exhibit LOS D through F **(Table I-2)**. These results indicate that without transportation improvements relative to, and including, connecting I-276 and I-95, the traffic delays of the existing roadway network will further degrade by Year 2020.

TABLE I-1
SEQUENTIAL TRAFFIC VOLUMES AND LEVELS OF SERVICE (LOS) FOR STUDY AREA ROADWAYS

Key (Refer to Figure I-2)	Road Name	Segment	1992 AADT [1]	1992 LOS (peak hour)	2020 AADT [1] No-Build	2020 LOS No-Build (peak hour)
	US 1	PA 132 to I-276 Interchange 28	73,600	E	97,500	F
		North of I-276 Interchange 28	72,100	F	97,700	F
	PA 132 (Street Road)	US 1 to Kingston Way	40,200	D	47,100	D
		PA 513 to US 13	42,200	D	46,400	E
	PA 413 (New Rodgers Road)	US 1 Business to I-276	17,600	E	25,500	F
		I-276 to I-95 Ramp	28,300	F	36,100	D [2]
		I-95 Ramp to US 13 (Bristol Pike)	29,500	F	38,700	E [2]
	US 13 (Bristol Pike)	North of I-276 Interchange 29	38,600	D	43,400	E
		South of I-276 Interchange 29	37,800	D	40,600	D
	PA 63 [3] (Woodhaven Road)	US 1 to Thorton Road	58,200	B	75,100	C
		Knights Road to US 13	55,800	C	71,200	D

1 AADT = Annual Average Daily Traffic
2 After Improvements to I-95 Exit 26 (PA 413)
3 PA 63, located outside study area **(Figure I-2)**, was included in traffic capacity analysis due to its importance as an I-95 to US 1 connection.

TABLE I-2
LOS FOR STUDY AREA ROADWAYS (YEARS 1992 & 2020)

Year	Analysis Period	LOS A,B,C (%)	LOS D,E,F (%)	Roads with Improved LOS due to Direct Connection (%)
No Direct Connection				
1992	Peak hr.	49	51	N/A
2020	Peak hr.	22	78	N/A
1992	12-hr. avg.	73	27	N/A
2020	12-hr. avg.	41	59	N/A
Direct Connection				
2020	Peak hr.	31	69	31 [1]
2020	12-hr. avg.	62	38	35 [2]

N/A = Not Applicable; No direct connection provided.
1 9% of roadways improve from LOS D-F to LOS A-C and 22 % of roadways within the LOS D-F category improve.
2 21% of roadways improve from LOS D-F to LOS A-C and 14% of roadways within the LOS D-F category improve.

Year 2020 traffic projections indicate that additional capacity is required for local roadways currently being used to connect I-276 and I-95. If a direct connection were made between the two interstates, traffic would be removed from the local systems, and the LOS for the study area roadways would be improved by 35 percent, based upon 12-hour average traffic volumes **(Table I-2)**. Also, for peak hour conditions, the LOS for the roadways used to connect the two interstates would be improved by 31 percent **(Table I-2)**. Thus, direct connection improvements between I-276 and I-95 would remove traffic from the local roadway network, thereby increasing the ability of these facilities to carry local traffic **(Figure I-4).**

FIGURE I-3
LEVELS OF SERVICE (LOS) DEFINITIONS
TWO-DIRECTIONAL ARTERIAL ROADWAYS
[Note: Arrow Indicates Direction of Traffic Flow]

LOS A is defined as free flowing. Individual users are virtually unaffected by the presence of others in the traffic stream.

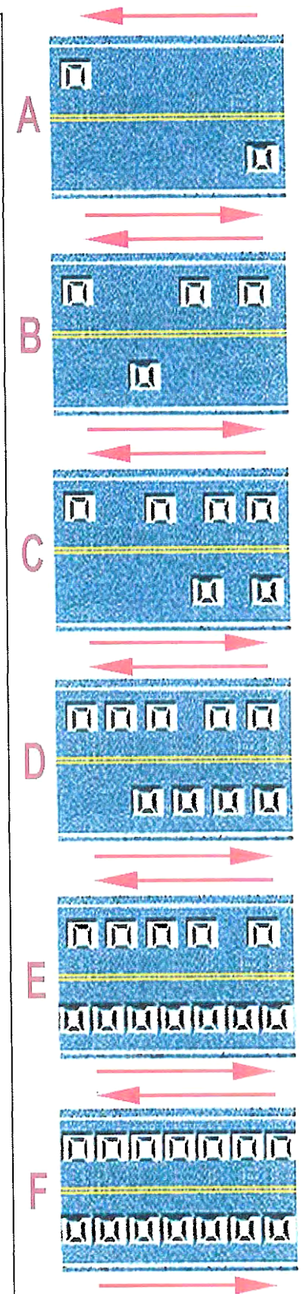
LOS B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable.

LOS C is in the range of stable flow, but begins the range in which the operations of individual users become significantly affected by interactions with others in the traffic stream.

LOS D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted and the driver experiences a generally poor level of comfort and convenience.

LOS E represents operat-ing conditions at or near the capacity level. Comfort and convenience levels are extremely poor and driver frustration is generally high.

LOS F is used to define forced or breakdown flow. This condition exists whenever the amount of traffic approaching a point exceeds the amount that can travel through the point.



4. Inadequate Capacity on I-95 and I-276

In the base year 1992, approximately 32,900 vehicles per day travel I-276 where it passes under I-95. At this location, the traffic on I-95 averages 46,700 daily vehicles. Traffic volumes on I-95 increase rapidly as one proceeds south, reaching 124,800 vehicles per day south of PA 63 (Woodhaven Road). Projected Average Annual Daily Traffic (AADT) for Year 2020 was determined by DVRPC using the travel forecasting model that incorporates study area socioeconomic data, including demographic and employment projections. Corridor traffic for the Year 2020 is projected to grow significantly, with respect to current volumes, as a result of regional growth trends affecting the study area. On I-276, projected traffic volumes increase from west to east through the study area. Daily vehicular volumes are projected to grow by 18 percent west of I-276 Interchange 28, by 36.5 percent between Interchanges 28 and 29, and by 45.8 percent on the Delaware River Turnpike Bridge.

Considering this design year projected traffic growth associated with constructing an interchange between the two interstates, it becomes necessary to focus on its impact on highway segment and ramp capacities and LOS. A peak hour LOS C was determined as the minimum criteria for the existing I-276 mainline toll road in the design year, including the Delaware River crossing. In order to provide this minimum LOS, it would be necessary to add one lane in each direction from just west of Interchange 28 (the current terminus of the 3-lane directional section of I-276) to just east of the Delaware River crossing to match the existing 3-lane directional section in New Jersey.

In Year 2020, traffic volumes on I-95 between PA 63 and PA 132 exhibit an increase of 26.8 percent, and an increase of 24.0 percent between PA 132 and PA 413. Projected traffic volumes on I-95 increase by 26.8 percent between PA 413 and US 1 Business, including the proposed interchange area, and by 15.7 percent between US 1 Business and US 1 Expressway.

The LOS and capacities of the I-95 highway segments and ramps within the study area in the design year were evaluated. LOS D was the required minimum criteria for this analysis. Currently, the 3-lane directional section of I-95 terminates at the PA 413 Interchange **(Figure I-5)**. Considering that larger interchange-induced volume increases occur south of I-276 (PA 413-I-276) when compared to the I-95 section north of I-276 (I-276-US 1 Business) **(Figure I-5)**, capacity requirements differ. While widening of existing I-95 south of I-276 to PA 413 would be required, the segment north of I-276 to US 1 Business would remain 2-lanes directional in the design year and achieve LOS D.

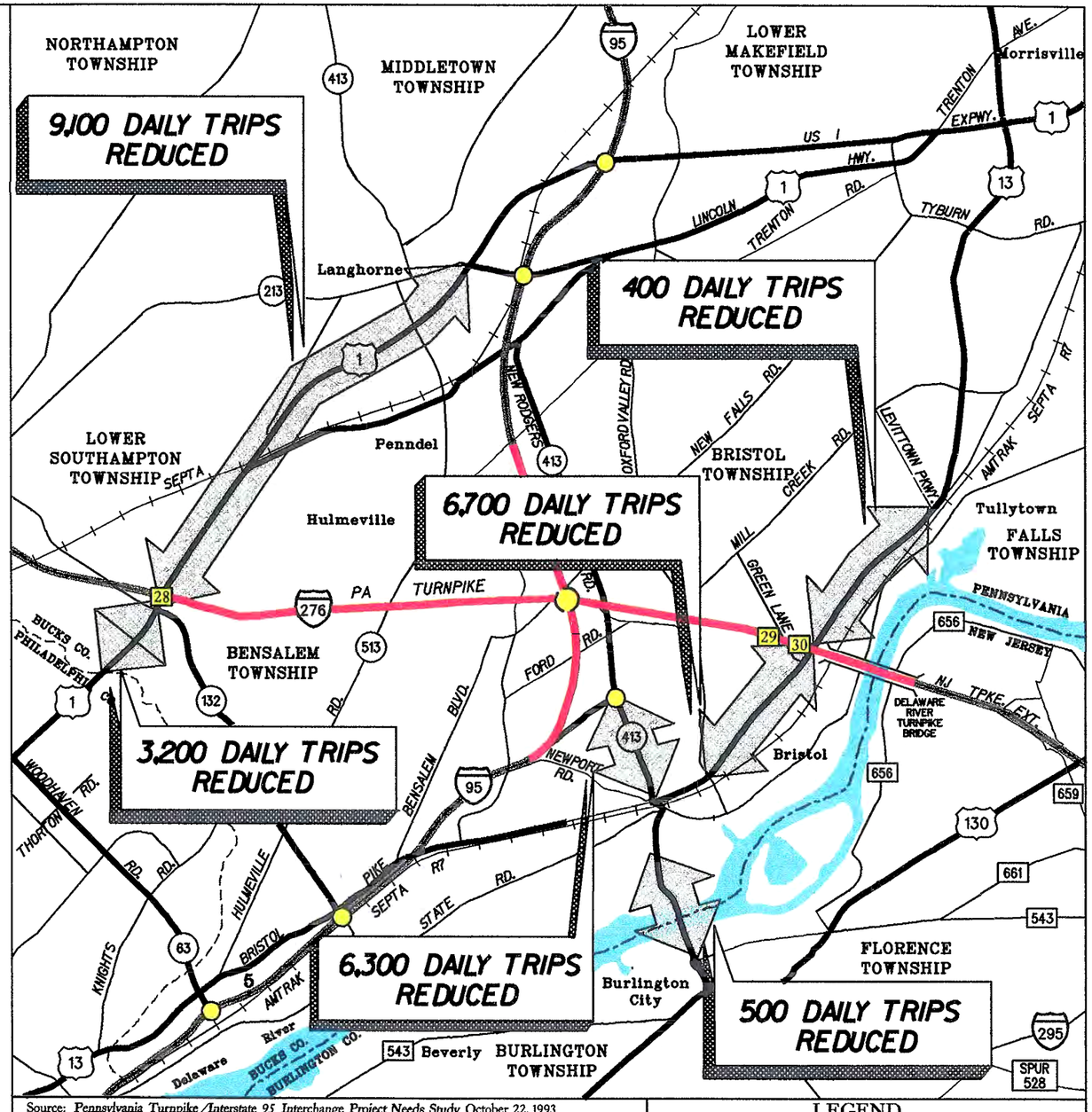
By removing traffic from the local roadway network with direct connection improvements, additional traffic would be placed on I-95 and I-276. Along I-276, 7,900 daily trips would be added between Interchange 28 and I-95, while 16,200 daily trips would be added between I-95 and Interchange 29 **(Figure I-5)**. Also, direct connection improvements would affect I-95 by adding 9,700 daily trips from US 1 Business to I-276, while 17,800 daily trips would be added between I-276 and PA 413. Therefore, in conjunction with direct connection improvements between the two interstates, additional capacity is needed on both I-95 and I-276 to provide these facilities with adequate operational capabilities.

5. Prolonged Study Area Travel Times and Delays

The LOS results associated with the roadway network are a reflection of the relationship between traffic volumes and roadway capacity of the facilities in the study area. When congestion increases, motorist travel times and associated delays are lengthened and the overall efficiency of the movement of goods and people decreases.

The correlation between the high percentages of roads experiencing inadequate LOS is directly related to the prolonged travel times and delays in the study area. For example, since 78 percent of the roadways currently used to connect I-95 and I-276 would experience unacceptable LOS during peak hour conditions by Year 2020, this corresponds directly to the same percentage of study area roadways that are experiencing excessive travel time and delays.

As noted previously, a direct connection between I-95 and I-276 would improve peak hour LOS by 31 percent for the roadway network **(Table I-2)**. Because direct connection improvements between I-95 and I-276 would improve local roadway LOS, this would also improve travel times and reduce traffic interruptions for 31 percent of study area facilities. Also, overall travel times for motorists wishing to continue on the interstate system are reduced as well.



Source: *Pennsylvania Turnpike /Interstate 95 Interchange Project Needs Study* October 22, 1993

A direct connection would remove trips from local roads by diverting the trips to I-95 and I-276. The projected number of daily trips removed in Design Year 2020 on key network routes is illustrated on this figure. This traffic removed would improve the operating conditions of the arterial roadway network within the study area for Design Year 2020.

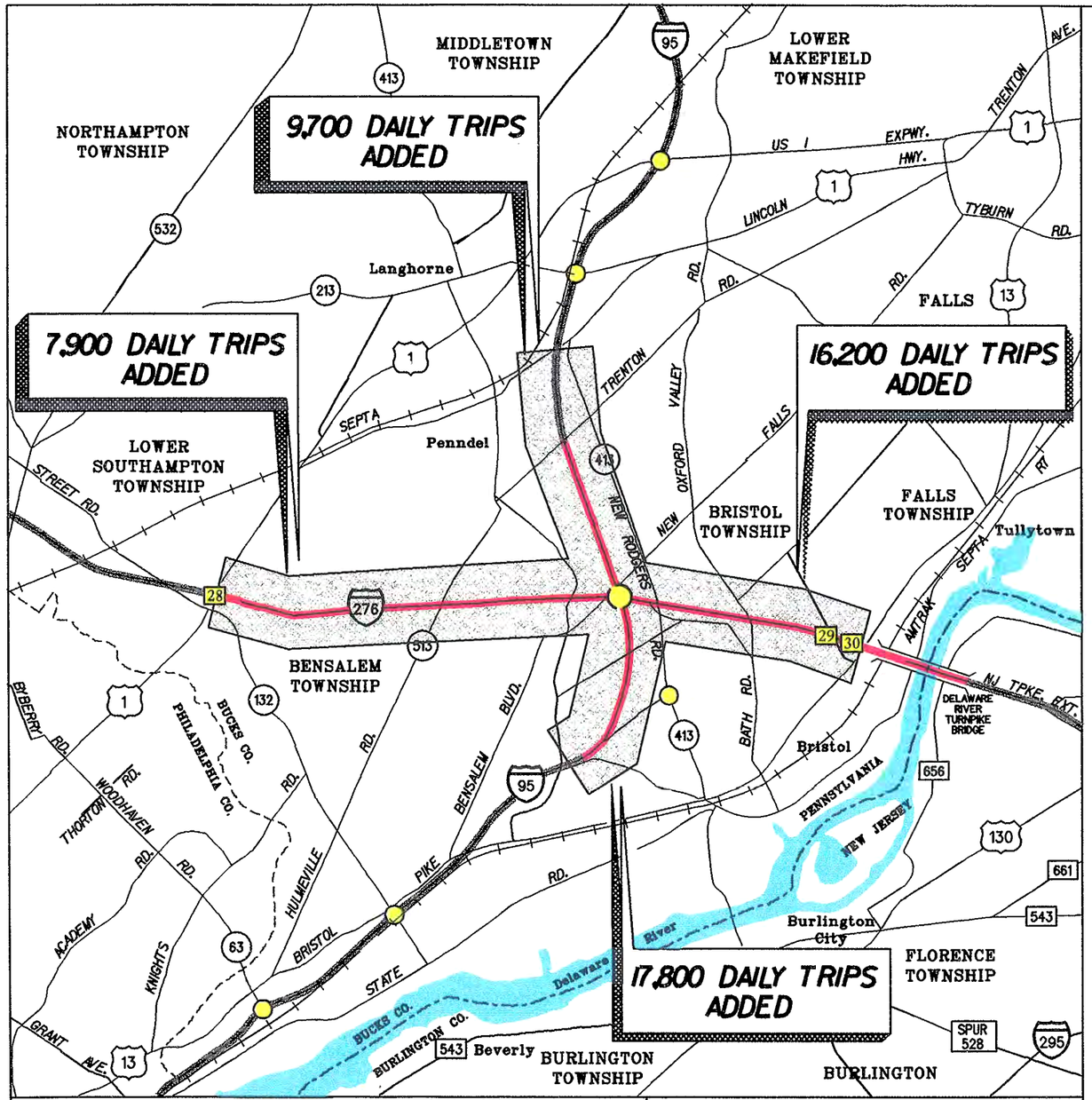
LEGEND

28 Existing I–276 Interchange
Existing I–95 Interchange
Interstate Improvement
Proposed Direct Connection

I–276 / I–95 INTERCHANGE PROJECT

FIGURE I–4
DESIGN YEAR 2020 CONNECTOR ROAD SECTION TRIP REDUCTION

1 In=2 Mi (1 : 126,720) 0Mi 2Mi 4Mi 0Km 1.2Km 2.4Km



Source: *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* October 22, 1993

LEGEND

28 Existing I–276 Interchange

Existing I–95 Interchange

Interstate Improvement

Proposed Direct Connection

I–276 / I–95 INTERCHANGE PROJECT

FIGURE I–5

DESIGN YEAR 2020 BUILD INTERSTATE TRIP INCREASE

1 In=2 Mi (1 : 126,720) 0Mi 2Mi 4Mi 0Km 1.2Km 2.4Km N

By removing traffic from the local roadway network with direct connection improvements, additional traffic would be placed on I-95 and I-276. In conjunction with direct connection improvements between the two interstates, additional capacity is needed on both I-95 and I-276 to provide these facilities with adequate operational capabilities.

C. CONSISTENCY WITH LOCAL, REGIONAL AND NATIONAL PLANNING

Planning issues were examined during the 1993 Needs Study to identify land use and development conditions that could affect traffic patterns in the study area. The results of the study are consistent with the zoning and comprehensive plans for Bensalem, Bristol, Burlington and Florence Townships. The zoning and comprehensive planning for Middletown Township is not expected to change as a result of the proposed I-276/I-95 Interchange Project.

The proposed I-276/I-95 Interchange Project is included on the DVRPC FY 2003-2006 Transportation Improvement Program (TIP) and 2025 Long Range Plan (LRP), and is included on the List of Regionally Significant Projects in the DVRPC Region. The TIP conforms to the current State Implementation Plans (SIPs) of Pennsylvania and New Jersey, and satisfied the Final Conformity Rule issued on November 23, 1993, as amended August 15, 1997.

As noted earlier, this project is consistent with the STAA of 1982 and Pennsylvania Act 61 of 1985, the latter of which authorized the PTC to construct an interchange between I-276 and I-95 and to widen I-276 to six lanes to the Delaware River. The National Highway System Designation Act, enacted by the US Congress in November 1995 included the proposed I-276/I-95 Interchange Project for designation on the National Highway System (NHS) and clarified the eligibility of the project for federal-aid funding.

The project was introduced to the environmental resource agency representatives at the January 1993 Agency Coordination Meeting (ACM), and to the public at the first public meeting in February 1993, both of which were held to address project scoping and needs. Public meetings (summarized in **Section VII**) were held to encourage public participation in the project development process.

The 1993 Needs Study that helped to define the parameters for subsequent environmental and engineering studies was submitted in August 1993 and received concurrence from ACM on September 25, 1993 **(Section XII, Appendix B)**. In October 1993 a final report, *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (PTC, 1993), was completed that summarized the project purpose and needs associated with the interconnection of I-276 and I-95.

D. SUMMARY

The *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (PTC, 1993) evaluated the need for transportation improvements. The focus of the study was to identify and evaluate the transportation deficiencies associated with the lack of a direct connection between I-276 and I-95. The project needs were developed with respect to eliminating the current I-95 "Missing Link" through the Mid-Atlantic Region, as well as, interconnecting two major interstates for the purpose of removing traffic from the local roadway network.

1. Project Need

The following summarizes the study area transportation needs for Design Year 2020 as presented in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (PTC, 1993):

- ✓ Inadequate I-276 and I-95 linkage for system continuity
- ✓ Lack of I-95 continuity through the Mid-Atlantic Region
- ✓ Inadequate capacity for the current I-276 and I-95 connections
- ✓ Inadequate capacity on I-276 and I-95
- ✓ Prolonged study area travel times and delays

2. Project Purpose

The purpose of the project is to address the above transportation deficiencies and includes the following:

- ✓ Improved I-276 and I-95 linkage for system continuity
- ✓ Improved I-95 continuity through the Mid-Atlantic Region
- ✓ Additional capacity for the current I-276 and I-95 connections
- ✓ Additional I-276 and I-95 Capacity
- ✓ Improved study area travel times and delay reduction

As noted previously in this section, the five measures listed above address the five transportation deficiencies for the project as documented in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (PTC, 1993). The five identified transportation deficiencies and their associated needs have not changed as a result of the updated existing (1999 versus 1992 AADT) and projected Design Year (2025 versus 2020 AADT) traffic volumes. The updated traffic volumes are presented in the *Pennsylvania Turnpike/I-95 Proposed Interchange Traffic Study* (DVRPC, 2001) and discussed in **Section IV-A** of this FEIS.

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II. AFFECTED ENVIRONMENT

II. AFFECTED ENVIRONMENT

More detailed affected environment information is located in Section IV (Environmental Consequences) and in the Natural Resources, Manmade Environment, Socioeconomic Information, and Cultural Resources Technical Support Data.

** Technical Support Data Index is located in Section XII (Appendix C).*

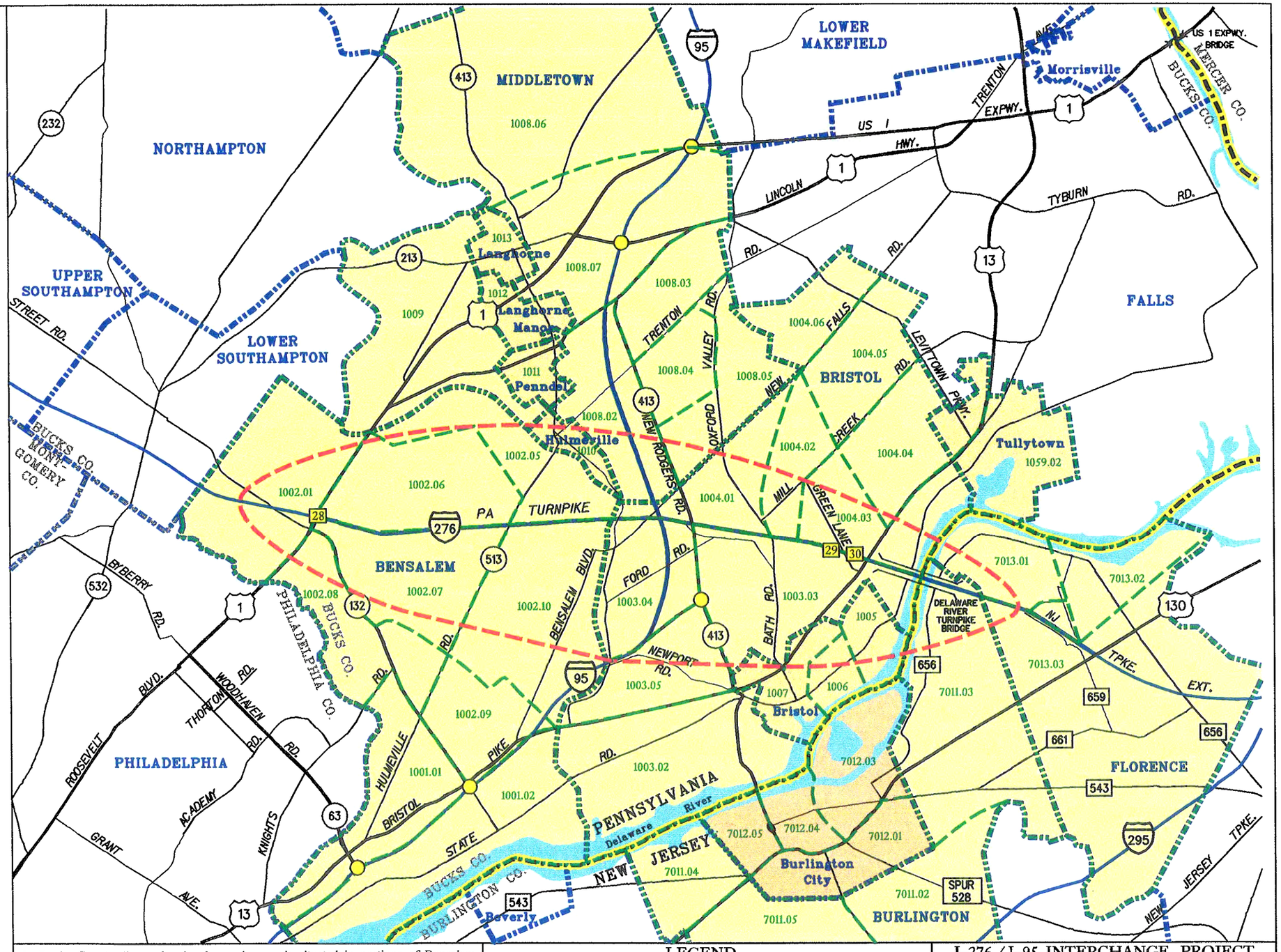
This section of the Final Environmental Impact Statement (FEIS) provides a concise description of existing socioeconomic, cultural, natural, manmade, and Section 4(f) resources for the area affected by the project as presented in this FEIS. Discussions are focused on the types and numbers of resources present that may have a bearing on impacts. A more detailed description of the existing conditions is included in the Environmental Consequences section of this FEIS **(Section IV)**.

A. PROJECT SETTING

The Pennsylvania Turnpike (I-276)/Interstate 95 (I-95) Interchange Project is located in the Mid-Atlantic Region of the United States. The study area is also situated between the major cities of Philadelphia, Pennsylvania (less than 3 km/2 mi) and New York, New York (approximately 96 km/60 mi) **(Figure I-1)**. It is also in proximity (< 16 km/10 mi) to Trenton, New Jersey, which is the state capital.

On a local level, the project is located in Bucks County, Pennsylvania and Burlington County, New Jersey **(Figure II-1)**. **Figure II-2** illustrates the land cover/land uses of the study area within a larger regional area potentially affected by the project. Environmental features, including socioeconomic, cultural, natural, manmade, and Section 4(f), are listed in **Table II-1** and were identified based on cursory field views, reference materials, and existing information sources such as aerial photos, United States Geological Service (USGS) topographic mapping, and municipal comprehensive plans.

The environmental features within the study area are illustrated on **Figure II-3**, which identifies the four USGS topographic maps the study area traverses within the potentially affected project area. **Figure II-4, Plates 1** and **2** are from full-scale USGS Quadrangle base maps to show the study area and surrounding environs. Resources that do not exist within the study area include: national or state wild and scenic rivers; wild or stocked trout waters; national natural landmarks; wildlife sanctuaries or refuges; unique geological or mineral resources; and rural historic landscapes.



In Bucks County, Pennsylvania, the study area is situated in portions of Bensalem Township, Middletown Township, and Bristol Township. In Burlington County, New Jersey, the study area is located in Burlington Township and Florence Township. In addition to these five larger municipalities in the study area shaded in yellow, the regional area potentially affected by project-related decisions includes the smaller boroughs within the tan shaded area on the figure. These municipalities are included in a regional economic impact analysis undertaken for the I-276/I-95 Interchange Project.

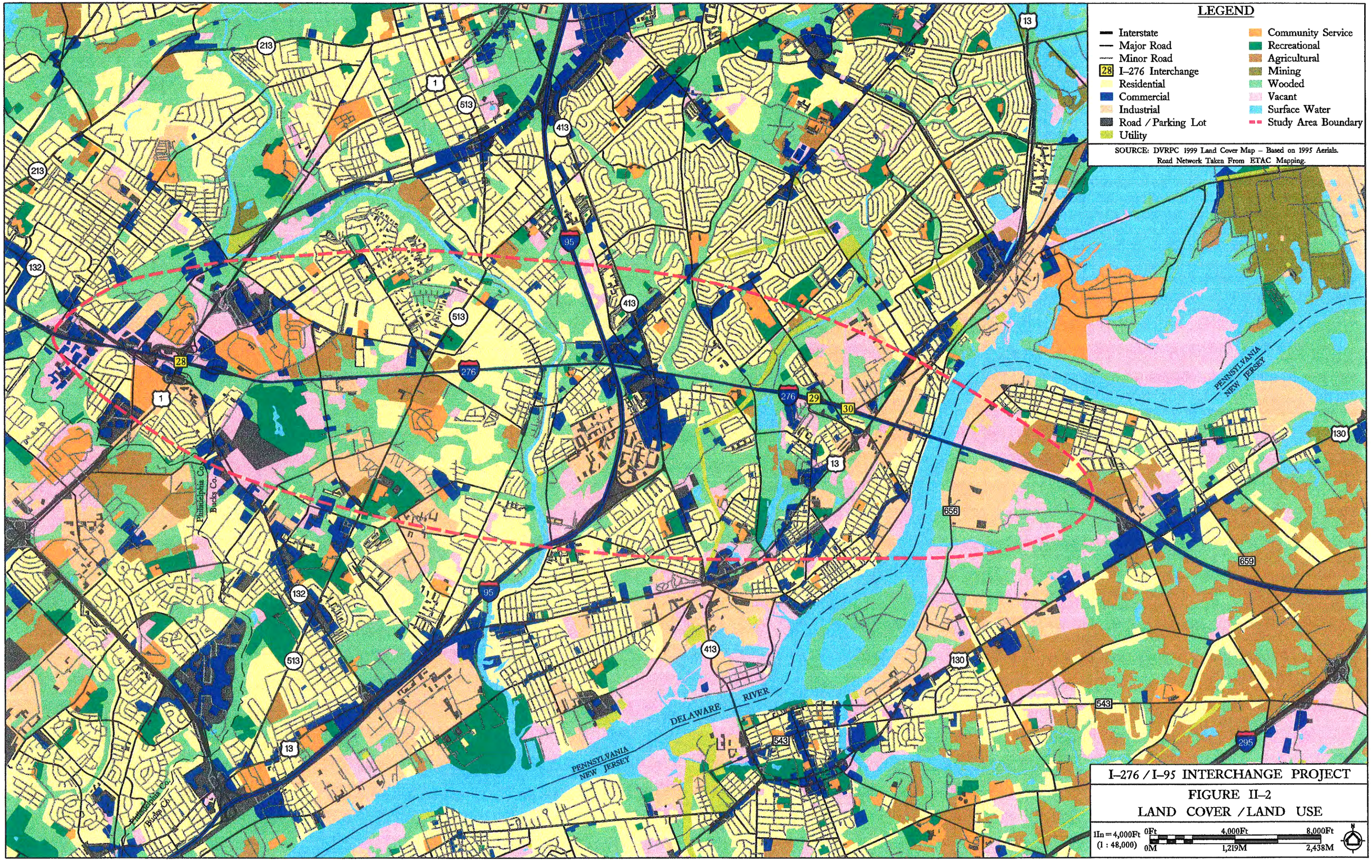
LEGEND

	County Boundary	BRISTOL	Township Names
	Municipality Boundary	Bristol	Borough Names
	Census Tract Boundary	Burlington	City Name
1002.01	Census Tract Number	28	Existing I-276 Interchange
	Study Area Boundary		Existing I-95 Interchange

I-276 / I-95 INTERCHANGE PROJECT

FIGURE II-1
AFFECTED ENVIRONMENT

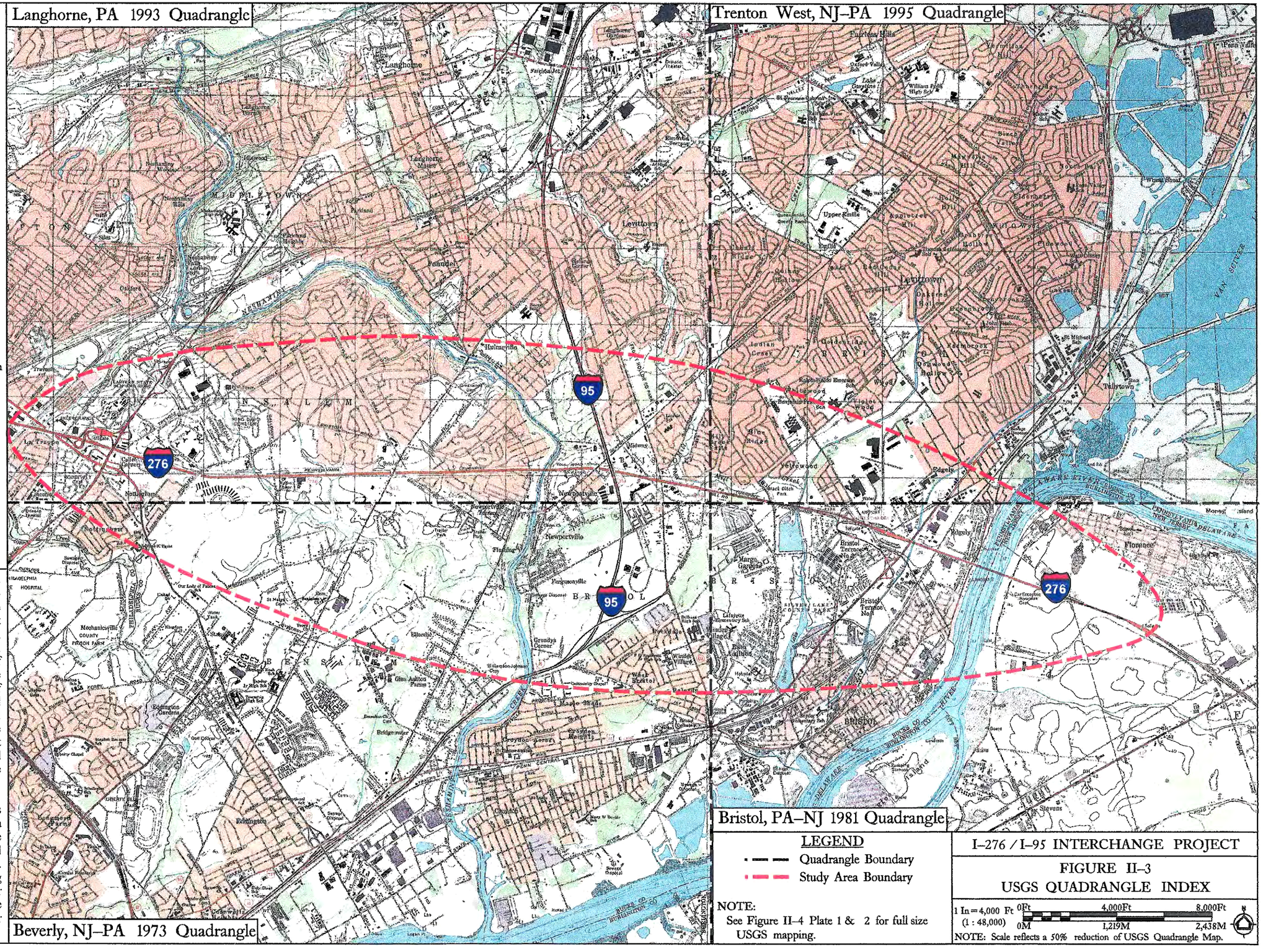
1 In = 1 Mi (1 : 63,360)
0Mi 1Mi 2Mi
0Km 0.6Km 1.2Km


LEGEND
Interstate
Major Road
Minor Road
28 I–276 Interchange
Residential
Commercial
Industrial
Road / Parking Lot
Utility
Community Service
Recreational
Agricultural
Mining
Wooded
Vacant
Surface Water
Study Area Boundary
SOURCE: DVRPC 1999 Land Cover Map – Based on 1995 Aerials.
Road Network Taken From ETAC Mapping.
PENNSYLVANIA
NEW JERSEY
DELAWARE RIVER
Philadelphia Co.
Bucks Co.
Philadelphia Co.
Bucks Co.
213
1
513
413
95
132
28
276
29
30
13
656
659
130
543
295
I–276 / I–95 INTERCHANGE PROJECT
FIGURE II–2
LAND COVER / LAND USE
1In = 4,000Ft (1 : 48,000)
0Ft 4,000Ft 8,000Ft
0M 1,219M 2,438M
N

- Building
- School; church
- Built-up Area
- Racetrack
- Airport
- Tanks
- Gaging station
- Landmark object (feature as labeled)
- Cemetery: small; large
- Perennial stream
- Perennial river
- Perennial lake; Intermittent lake or pond
- Primary highway
- Secondary highway
- Light duty road
- Unimproved road
- Trail
- Dual highway
- Dual highway with median strip
- Standard gauge single track; station
- Standard gauge multiple track
- Woods
- Scrub
- Orchard
- Tailings
- State or territorial
- County or equivalent
- Civil township or equivalent
- Incorporated city or equivalent
- Park, reservation, or monument
- Small park

The Pennsylvania portion of the study area is dominated by an extensively developed, post-World War II suburban landscape. There are many residential subdivisions, apartment complexes, industrial parks, shopping centers, and commercial strip plazas. Residential development, for the most part, consists of single-family neighborhoods dating from the last 50 years. This includes a small portion of Levittown, a typical 1950s suburban residential development, which was part of the initial suburban residential boom that occurred in the post World War II era. Older, more compact communities, such as Bristol Borough and Hulmeville Borough, are located along the Delaware River and Neshaminy Creek.

The New Jersey portion of the study area is less developed than in Pennsylvania. The study area contains sizable woodlands, large-scale manufacturing operations, and residential development in and near the town of Florence. The manufacturing industries are located along the Delaware River in Florence, and border River Road south of the New Jersey Turnpike Extension. Farmsteads are scattered further inland, east of US 130, outside the study area.



LEGEND
- Quadrangle Boundary
- Study Area Boundary

NOTE:
See Figure II–4 Plate 1 & 2 for full size USGS mapping.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE II–3
USGS QUADRANGLE INDEX

1 In = 4,000 Ft (1 : 48,000)
0Ft 4,000Ft 8,000Ft
0M 1,219M 2,438M
NOTE: Scale reflects a 50% reduction of USGS Quadrangle Map.

Langhorne, PA 1993 Quadrangle

Beverly, NJ–PA 1973 Quadrangle

Building
School; church
Built–up Area
Racetrack
Airport
Tanks
Gaging station
Landmark object (feature as labeled)
Cemetery: small; large
Perennial stream
Perennial river
Perennial lake; Intermittent lake or pond
Primary highway
Secondary highway
Light duty road
Unimproved road
Trail
Dual highway
Dual highway with median strip
Standard gauge single track; station
Standard gauge multiple track
Woods
Scrub
Orchard
Tailings
State or territorial
County or equivalent
Civil township or equivalent
Incorporated city or equivalent
Park, reservation, or monument
Small park

LEGEND

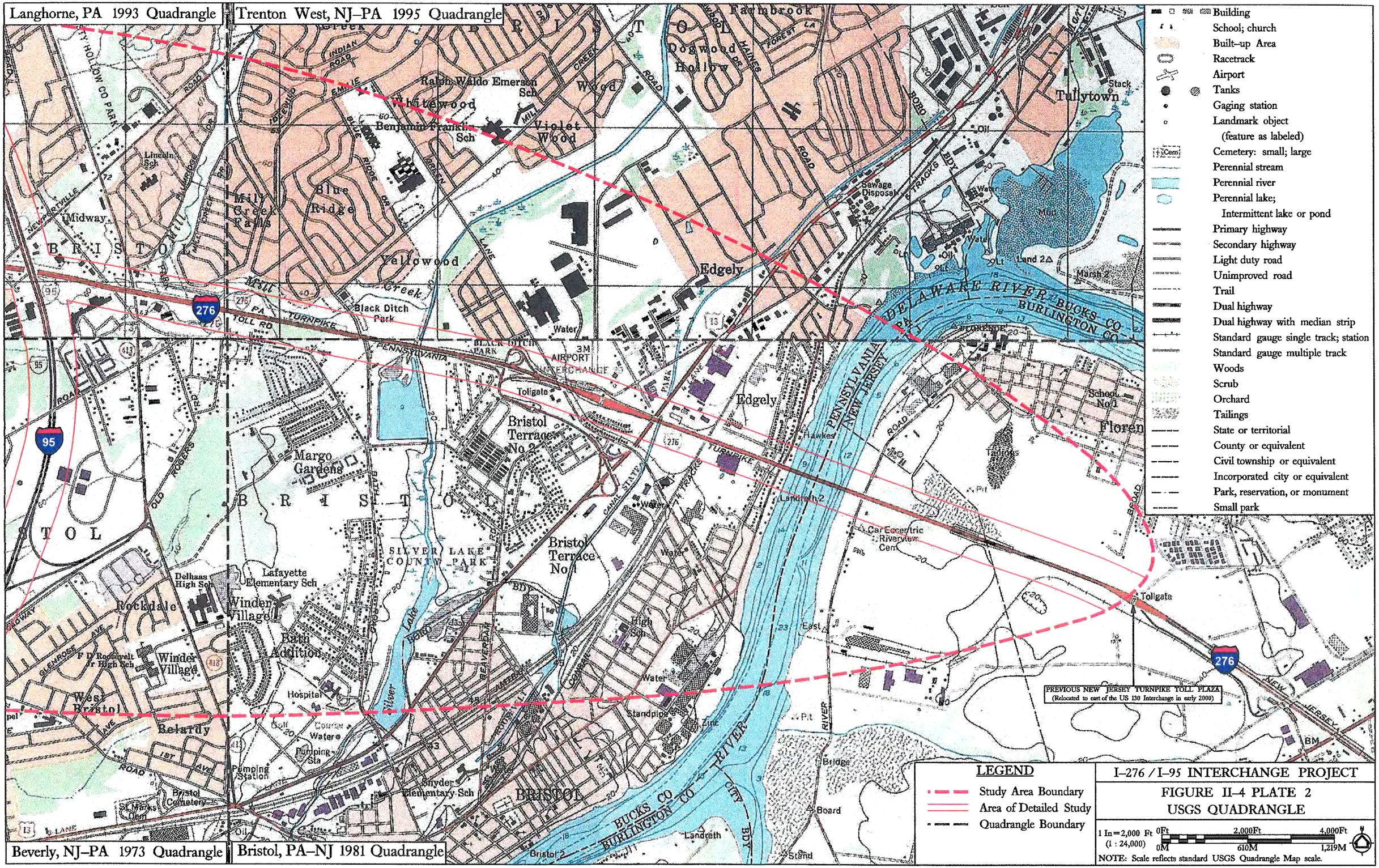
Study Area Boundary
Area of Detailed Study
Quadrangle Boundary

I–276 / I–95 INTERCHANGE PROJECT

FIGURE II–4 PLATE 1
USGS QUADRANGLE

1 In = 2,000 Ft (1 : 24,000)
0Ft 2,000Ft 4,000Ft
0M 610M 1,219M

NOTE: Scale reflects standard USGS Quadrangle Map scale.


Langhorne, PA 1993 Quadrangle
Trenton West, NJ–PA 1995 Quadrangle
Beverly, NJ–PA 1973 Quadrangle
Bristol, PA–NJ 1981 Quadrangle
Building
School; church
Built–up Area
Racetrack
Airport
Tanks
Gaging station
Landmark object (feature as labeled)
Cemetery: small; large
Perennial stream
Perennial river
Perennial lake; Intermittent lake or pond
Primary highway
Secondary highway
Light duty road
Unimproved road
Trail
Dual highway
Dual highway with median strip
Standard gauge single track; station
Standard gauge multiple track
Woods
Scrub
Orchard
Tailings
State or territorial
County or equivalent
Civil township or equivalent
Incorporated city or equivalent
Park, reservation, or monument
Small park
LEGEND
Study Area Boundary
Area of Detailed Study
Quadrangle Boundary
PREVIOUS NEW JERSEY TURNPIKE TOLL PLAZA
(Relocated to east of the US 130 Interchange in early 2000)
DELAWARE RIVER
BUCKS CO
BURLINGTON CO
PENNSYLVANIA
NEW JERSEY
BRISTOL
Edgely
Tullytown
Bristol Terrace No 1
Bristol Terrace No 2
Margo Gardens
Rockdale
Winder Village
West Bristol
Relardy
Lafayette Elementary Sch
Delhaas High Sch
Snyder Elementary Sch
Benjamin Franklin Sch
Ralph Waldo Emerson Sch
Lincoln Sch
Black Ditch Park
SILVER LAKE COUNTY PARK
3M AIRPORT INTERCHANGE
Tollgate
Sewage Disposal
Landreth 2
Landreth
Bristol 2
Car Eccentric Riverview Cem
Bridge
Board
Stand
Tailings
Marsh 2
Land 2
Water
Oil
Pumping Sta
Standpipe
Zinc
Hospital
Golf Course
Bristol Cemetery
St Marks Cem
I–276 / I–95 INTERCHANGE PROJECT
FIGURE II–4 PLATE 2
USGS QUADRANGLE
1 In = 2,000 Ft (1 : 24,000)
0Ft 2,000Ft 4,000Ft
0M 610M 1,219M
NOTE: Scale reflects standard USGS Quadrangle Map scale.

B. SOCIOECONOMIC RESOURCES

1. Traffic and Transportation

The major roadways in the study area include I-276, I-95, PA 132 (Street Road), the US 1 Expressway, PA 513 (Hulmeville Road), PA 413 (New Rodgers Road) and US 13 (Bristol Pike) **(Figure II-1)**. **Section IV-A** of this FEIS summarizes existing traffic and transportation features and impacts from project construction to these roadways.

2. Social and Land Use Characteristics

The study area population statistics were gathered through the Delaware Valley Regional Planning Commission (DVRPC) and the US Bureau of the Census. Census tracts are located on **Figure II-1.** Federal regulations require that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance (Civil Rights Act of 1964 - Title VI; and Executive Order 12898 of 1994 – *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations)*.

Through the use of census data (census tracts shown on **Figure II-1**), thirteen communities were identified within the study area, which, for project classification purposes, are considered as low-income, or minority populations, including Linconia Park, Country Commons Apartments, Philadelphia Park Racetrack, Sherwood Gardens Apartments, Foxwood Manor Apartments, Bloomsdale Gardens, Laurel Bend, Levittown Trace Apartments, Bristol Gardens Apartments, Crown Square Apartments, Bristol Terrace, Mill Creek Falls, and Newportville.

Land use within the study area is characterized by extensive urban and suburban development associated with Philadelphia and Trenton that has influenced regional development patterns. The study area contains substantial high-density residential and commercial development. **Figure II-2** depicts land use in both Bucks County and Burlington County; within the study area and adjoining potentially affected areas in both states.

Although the study area is highly developed, many private and public parks and recreational facilities exist in the study area, as identified in **Section IV-B** of this FEIS. The largest of these parks is the Bucks County owned Silver Lake Park and Nature Center that is part of the Mill Creek greenway corridor. It is approximately 297 ha (735 ac) in size and includes the ecologically important Delhaas Woods, previously owned by the Nature Conservancy. The only state park in the study area, the Delaware Canal State Park, is 96.9 km (60 mi) long and extends between the City of Easton in Northampton County and Bristol Borough in Bucks County, Pennsylvania. This linear park is also known as the Delaware River Heritage Trail and provides unique insight into the transportation network and the regional industrial heritage. This trail is a component of the larger East Coast Greenway, which utilizes the towpath of the Delaware Canal.

Section IV-B of this FEIS details existing social and land use characteristics, as well as the impacts to these characteristics as a result of project construction.

3. Economic Characteristics

Beginning in 1995, the Commonwealth of Pennsylvania initiated a revitalization effort in Lower Bucks County to take advantage of its location, developed infrastructure, and work force. These efforts, and the area that it encompasses, are referred to as the Enterprise Zone. Northern Burlington County, New Jersey, including portions of Burlington and Florence Townships, is located within the US 130/Delaware River Corridor. This consists of two sub-corridors: the US 130 Sub-Corridor and the Riverfront Sub-Corridor.

Manufacturing is the dominant industry in the Enterprise Zone and the US 130/Delaware River Corridor. **Section IV-C** of this FEIS identifies the Enterprise Zone and the economic centers of the region, and details the existing regional and local economic characteristics of the study area, as well as the impacts from construction of the project. **Section IV-U** describes the secondary development and cumulative effects of other projects, in addition to the construction of this project, which may spur additional development that could potentially impact the socioeconomic, natural, cultural, and manmade resources in the study area.

C. CULTURAL RESOURCES

Consultation with the Pennsylvania State Historic Preservation Office (PASHPO) resulted in the identification of ten historic architectural resources (described in **Section IV-D** of this FEIS) within the Pennsylvania portion of the study area. The National Register of Historic Places (NRHP) listed Pennsylvania Division of the Delaware Canal is designated as a National Historic Landmark (NHL), the highest form of recognition for historic resources. The remaining nine have been determined eligible for listing in the NRHP. Consultation with the New Jersey State Historic Preservation Office (NJSHPO) identified no properties in the New Jersey portion of the study area that are listed on, or eligible for listing in, the NRHP.

Preliminary (Phase I) archaeological investigations in the Pennsylvania portion of the study area encountered eleven potentially important archaeological sites. The New Jersey portion of the study area contains four archaeological sites also surveyed during Phase I investigations. A NJSHPO file review regarding archaeological marine surveys of the Delaware River revealed that none of the documented archaeological marine resources occur within the study area. A more detailed description of the existing cultural resources and the impacts associated with the construction of the project can be found in **Section IV-D**.

D. NATURAL RESOURCES

1. Productive Agricultural Lands

There are very few productive agricultural properties in the study area. These are located in Bensalem Township, Pennsylvania and in Florence Township, New Jersey **(Figure II-2)**. **Section IV-E** of this FEIS identifies these agricultural properties and any impacts that may occur as a result of project construction.

2. Soils, Geology and Topography

The Pennsylvania portion of the study area is composed primarily of two soil associations, the Urban Land-Chester association and the Urban Land-Howell association (USDA, 1975). The New Jersey portion of the study area is composed of primarily the Galestown-Klej association. The study area is located in the Lowland and Intermediate Upland section of the Atlantic Coastal Plain Physiographic Province. The geologic structure associated with the Atlantic Coastal Plain consists of unconsolidated deposits underlain by very complex, faulted and folded metamorphic rocks. The Delaware River floodplain is the dominant topographic feature within the study area. A more detailed description of the study area soils, geology, and topography is located in **Section IV-F** of this FEIS.

3. Groundwater Resources

The New Jersey portion of the study area is located in the outcrop of the Potomac-Raritan-Magothy aquifer system. This sole source aquifer provides groundwater for residential, commercial and industrial uses in a portion of New Jersey. A sole source aquifer supplies at least 50 percent of the drinking water for an area for which there is no other available alternative source. Middletown Township, Pennsylvania is included in the Delaware River Basin Commission (DRBC) Southeastern Pennsylvania Groundwater Protection Area. The DRBC limits withdrawals from the aquifer and requires permits for new withdrawals within a protection area. The Delaware River Basin within Delaware, New Jersey, Pennsylvania and New York is regarded as a stream flow source zone, an area that collects and recharges surface water back to the sole source aquifer. **Section IV-G** provides more detail of the existing groundwater resources in the study area.

4. Surface Water Resources

The major surface waters within the study area include the Delaware River, Neshaminy Creek, Black Ditch Creek, and Mill Creek. The Pennsylvania Department of Environmental Protection (PADEP) *Title 25 Chapter 93 of the Pennsylvania Code* (Water Quality Standards) lists the creeks as warm water fishes (WWF) and migratory fishes (MF) (PADEP, 1998). The man-made Delaware Canal passes under the Delaware River Turnpike Bridge that carries I-276 into New Jersey **(Figure II-4, Plate 2)**. A more detailed description of surface waters within the study area and the impacts to these resources by the project is contained in **Section IV-H** of this FEIS.

5. Coastal Zones

The study area lies within the Coastal Plain Physiographic Province near the interface of the Piedmont Plateau Physiographic Province. The study area lies almost entirely (except for the portion west of Richlieu Road and south of I-276 at the western limits of the study area) within the Pennsylvania and New Jersey Delaware Estuary Coastal Zones. The Federal Coastal Zone Management Act requires that federal agency activities, including development projects directly affecting the coastal zone, must be consistent with approved state coastal zone management programs to the maximum extent possible. **Section IV-I** details the coastal zone boundaries within the study area as well as the consistency of the proposed project with the Federal Coastal Zone Management Act.

6. Floodplains

Several 100-year and 500-year floodplains were evaluated in the study area. The floodplains are located along the Neshaminy Creek and its unnamed tributaries, Mill Creek, and the Delaware River. A detailed description of these floodplains, and the extent of impacts associated with project construction, can be found in **Section IV-J**.

7. Wetlands

Approximately 64 wetlands, totaling over 20 ha (50 ac) are present in the study area. Several wetlands located in Bristol Township contain habitat for Pennsylvania threatened and endangered plant species such as willow oak (*Quercus phellos*) and Maryland meadow beauty (*Rhexia mariana*). In Pennsylvania, PADEP defines wetlands containing federal or state listed threatened or endangered plant or animal species as "exceptional value", a designation affording more protection. **Section IV-K** identifies wetland locations in the study area and the wetland impacts associated with construction of the project.

8. Rare, Threatened, and Endangered Species

Coordination with federal and state natural resource agencies, including the US Fish and Wildlife Service (USFWS), the Pennsylvania Fish and Boat Commission (PFBC), the Pennsylvania Department of Natural Resources (PADCNR), the Pennsylvania Natural Diversity Inventory (PNDI), and the New Jersey Department of Environmental Protection (NJDEP), indicated that several threatened and endangered plant and animal species may be present in the study area (**Table II-1**). The state (Pennsylvania and New Jersey) endangered peregrine falcon (*Falco peregrinus*), and the federal and state (Pennsylvania and New Jersey) endangered shortnose sturgeon (*Acipenser brevirostrum*) occur in the study area near the Delaware River Turnpike Bridge. The Pennsylvania threatened red-bellied turtle is present in Magnolia Lake (Silver Lake Park) and in Mill Creek (Black Ditch Park). The Eastern mudminnow *(umbra pygmaea)*, listed as Pennsylvania candidate, is located in the Mill Creek, Black Ditch Creek and Magnolia Lake system.

Regarding protected plant species, populations of the following Pennsylvania endangered species are found within the study area: willow oak *(Quercus phellos)*, Maryland meadow beauty *(Rhexia mariana)*, toothcup (*Ammannia coccinea*), and southern red oak, *(Quercus falcate)*. Pennsylvania threatened species in the study area include sweetbay magnolia *(Magnolia virginiana)*, umbrella magnolia *(Magnolia tripetala)*, and swamp dog-hobble *(Leucothoe racemosa)*. There are two Pennsylvania tentatively undetermined species, eastern Joe-pye-weed *(Eupatorium dubium)* and bushy bluestem *(Andropogon glomeratus)*, located in the study area. The New Jersey endangered burmarigold *(Bidens bidentoides)* is located in the New Jersey portion of the study area. Detailed discussions of rare, threatened and endangered species in the study area can be found in **Section IV-L**.

9. Terrestrial Ecology

Vegetation in the study area includes plant species that are found in the Atlantic Coastal Plain Physiographic Province. In Pennsylvania, the Coastal Plain Forest is largely confined to the Delaware Estuary and is Oak/Sweetgum Association. Common plant species include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and greenbrier (*Smilax rotundifolia*). Few stands of Coastal Plain Forest remain intact in Pennsylvania. Similar plant species occur in the New Jersey portion of the study area.

Although nearly all the vegetative cover types in the study area region are disturbed to some degree, these land use/land cover types, some of which contain threatened and endangered plant species, provide wildlife habitat for a variety of species.

Despite the urban character of the study area, numerous species of wildlife occur in the study area such as white-tailed deer (*Odocoileus virginiana*), morning dove (*Zenaida macroura*), eastern cottontail (*Sylvilagus floridanus*), red-tailed hawk *(Buteo jamaicaensis)*, and American toad (*Bufo americanus*). A complete description of terrestrial ecology including forestland, rangeland, and plant and wildlife species present in the study area, as well as the anticipated project construction impacts, can be found in **Section IV-M**.

E. MANMADE RESOURCES

1. Air Quality, Noise and Vibration

The United States Environmental Protection Agency (USEPA) has developed National Ambient Air Quality Standards (NAAQS) for six criteria pollutants including ozone, particulate matter, sulfur dioxide, nitrous oxides, carbon monoxide, and lead. The Philadelphia region including Bucks County, Pennsylvania and Burlington County, New Jersey is listed by the USEPA as a non-attainment area for ozone. The non-attainment status for ozone means that ground-level ozone concentrations measured in this area exceeded USEPA NAAQS for ozone.

Twenty-eight noise sensitive areas (NSAs) were identified in the study area. The FHWA has established Noise Abatement Criteria for five Activity Category noise sensitive land uses. Noise sensitive land uses within the 28 NSAs were found to correspond to FHWA Activity Category B. Ambient noise measurements were sampled at 40 representative sites within the 28 NSAs.

Traffic-induced vibration associated with urban highways, such as I-276 and I-95, may impact adjacent homes and businesses. Usually vibration is a concern when buildings are located very close to a roadway. **Sections IV-N, IV-O**, and **IV-Q** describe, in detail, the existing conditions and impacts associated with construction of the project to air quality, noise, and vibration, respectively.

2. Known and Potential Sensitive Waste Sites

Based on background research and field reconnaissance, several potential sensitive waste sites have been identified in the study area, such as properties containing underground storage tanks, dry cleaning businesses, gas stations, etc. **Section IV-P** identifies the existing sensitive waste sites and the impacts these sites may have on project construction.

3. Visual Quality

The viewsheds in the Pennsylvania portion of the study area are limited by extensive development and the relatively flat landform. Sight distance is restricted and filled with typical suburban visual components, highways, residential developments, commercial strips, and shopping centers. The visual environment of the New Jersey portion of the study area contains less development. There are sizable woodlands, large-scale manufacturing operations, and residential developments in and near the town of Florence. A detailed description of visual quality and the impacts of project construction to existing viewsheds can be found in **Section IV-R** of this FEIS.

F. SECTION 4(f) RESOURCES

The United States Department of Transportation (USDOT) Act of 1966 Section 4(f) affords special protection from transportation projects to publicly-owned land from a public park, recreational area, or wildlife and waterfowl refuge of national, state, or local significance, or any land from a historic site of national, state, or local significance. Based on consultation with jurisdictional officials, the following ten public recreational lands are protected under Section 4(f): Bensalem Township Parcel, Bensalem Community Park (formerly Richlieu Park), Black Ditch Park, Green Trees Park A and B, Bristol Township Municipal Campus Park, Silver Lake Park & Nature Center, Pacific Park, the Pennsylvania Division of the Delaware Canal/Delaware Canal State Park, and the Delaware River Heritage Trail. There are also ten historic properties, including one NHL in the study area protected under Section 4(f). The 20 Section 4(f) resources, as well as the proposed use of two of these resources, are identified in **Section V**.

TABLE II-1
ENVIRONMENTAL FEATURES

RESOURCES	PRESENT	NOT PRESENT	METHOD OF IDENTIFICATION
Socioeconomic Resources			
Low-income, Minority Population Areas, or Special Interest Groups	X		Field reconnaissance, U.S. Bureau of Census, Delaware Valley Regional Planning Comm., Bucks County Planning Comm., New Jersey Department of Labor, Pennsylvania Department of Labor
Major Utilities	X		Field reconnaissance, U.S. Geologic Service mapping.
Public Facilities and Services	X		Field reconnaissance, Delaware Valley Regional Planning Comm., Bucks County Planning Commission, Burlington County Planning Commission, local municipalities
Residences, Businesses, or Farms	X		Field reconnaissance, Delaware Valley Regional Planning Comm., Bucks County Planning Commission, Burlington County Planning Commission, U.S. Geologic Service mapping
Cultural Resources			
High Probability Archaeological Areas	X		Field reconnaissance, Pennsylvania State Historic Preservation Office, New Jersey State Historic Preservation Office
Known Archaeological Sites	X		Pennsylvania Archaeological Survey, New Jersey Archaeological Survey files
National Register Listed Sites, Eligible Sites	X		National Register of Historic Places, Pennsylvania State Historic Preservation Office, New Jersey State Historic Preservation Office, Field reconnaissance
National Historic Landmarks	X		National Register of Historic Places, Pennsylvania State Historic Preservation Office, New Jersey State Historic Preservation Office
Rural Historic Landscape		X	Pennsylvania State Historic Preservation Office, New Jersey State Historic Preservation Office
Natural Resources			
Productive Agricultural Lands	X		Aerial photos, Bucks County Natural Resource Conservation Service, Burlington County, Natural Resource Conservation Service, Field reconnaissance
Unique Geological Resources		X	Field reconnaissance, U.S. Geologic Service Topographic Mapping
Mineral Resources		X	Field reconnaissance, U.S. Geologic Service Topographic Mapping
Groundwater Resources (i.e. wells, water supply)	X		Pennsylvania Department of Environmental Protection - Bureau of Wellhead Protection & Community Health, Pennsylvania Dept. of Conservation and Natural Resources – Bureau of Topography and Geology, New Jersey Department of Environmental Protection – Bureau of Wellhead Protection and the Bureau of Water Allocation, U.S. Geologic Service, U.S. Environmental Protection Agency, Bucks County Planning Commission, Municipal mapping documents
Streams, Rivers and Other Surface Waters (i.e., lakes, ponds, reservoirs, etc.)	X		Field reconnaissance, U.S. Geologic Service Topographic Mapping
High Quality/Exceptional Value Streams/Watersheds	X		Pennsylvania Department of Environmental Protection, New Jersey Department of Environmental Protection
Wild or Stocked Trout Waters, High Quality/Exceptional Value Waters		X	Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Comm., New Jersey Department of Environmental Protection
National/State Wild & Scenic Rivers & Streams		X	Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, New Jersey Department of Environmental Protection, National Park Service
Navigable Waterways	X		U.S. Army Corps of Engineers, U.S. Coast Guard
Coastal Zones	X		Coastal Zone Management Mapping, Pennsylvania Department of Environmental Protection, New Jersey Department of Environmental Protection
Floodplains/Floodway	X		Federal Emergency Management Agency Mapping
Wetlands (including Exceptional Value Wetlands)	X		National Wetland Inventory maps, Bucks County, Pennsylvania and Burlington County, New Jersey soil surveys, Field reconnaissance and delineation
Rare, Threatened, and Endangered Species	X		Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Game Commission, Pennsylvania Natural Diversity Inventory and Morris Arboretum, Pennsylvania Fish and Boat Comm., U.S. Fish and Wildlife Service, New Jersey Department of Environmental Protection, New Jersey Fish, Game and Wildlife, National Oceanic and Atmospheric Administration -National Marine Fisheries Service, Herpetological Associates, Field reconnaissance
Wildlife & Habitat	X		Pennsylvania Natural Diversity Inventory, Pennsylvania Game Comm., New Jersey Department of Environmental Protection, Silver Lake Nature Center
Wildlife Sanctuaries/Refuges		X	U.S. Geologic Service topographic mapping, Pennsylvania Game Comm., U.S. Fish and Wildlife Service
National or State Lands, Forests, or Parks	X		National Park Service, Pennsylvania Game Comm., New Jersey Department of Environmental Protection, Pennsylvania Department of Conservation and Natural Resources-Bureau of State Parks
National Natural Landmarks		X	Field reconnaissance, Pennsylvania Natural Diversity Inventory, New Jersey Department of Environmental Protection, National Park Service
Manmade Resources			
Sensitive Air Quality, Noise and Vibration Areas	X		Field reconnaissance, review of land use mapping
Known and Potential Sensitive Waste Sites	X		Comprehensive Environmental Response, Compensation and Liability Information System, U.S. Environmental Protection Agency, Resource Conservation and Recovery Act, Pennsylvania Department of Environmental Protection, New Jersey Department of Environmental Protection, US Geologic Service, Field reconnaissance, aerial photos, topographic mapping, review of public records
Visually Sensitive Areas	X		Field reconnaissance
Section 4(f) Resources			
Known Section 4(f) Resources	X		Field reconnaissance, Delaware Valley Regional Planning Comm., Bucks County Planning Commission, Pennsylvania Department of Environmental Protection, New Jersey Department of Environmental Protection, Pennsylvania Department of Conservation and Natural Resources, The Heritage Conservancy, local municipalities
Potential Section 4(f) Resources	X		Field reconnaissance.

Note: Please refer to **Section VII** (Comments and Coordination), **Section X** (References), and **Section XII**, Appendix B (Resource Agency Coordination) for specific information regarding resource agency coordination.

The environmental features that have been identified in the study area and are affected by the project are discussed in detail in **Section IV** (Environmental Consequences).

III. ALTERNATIVES

III. ALTERNATIVES

More detailed alternatives analysis information is located in the Project Need, Alternatives, Natural Resources, Manmade Environment and Socioeconomic Information Technical Support Data as well as:

* *Congestion Management System Evaluation - Phase I, 1995.*
* *Major Investment Study, 1997.*
* *Preliminary Alternatives Analysis Report, 1998.*
* *Detailed Alternatives Analysis Development and Review Handout, 1998.*
* *Technical Support Data Index is located in Section XII (Appendix C).*

A. INTRODUCTION

An alternatives development and evaluation process was performed to define a broad range of reasonable transportation improvement alternatives based on the identified project needs **(Section I)**. The alternatives were developed and analyzed, and were subsequently advanced or not carried forward based upon consideration of their ability to meet the project needs; potential impact on socioeconomic, cultural, and environmental features; and input received from the public, public officials, and local, state and federal resource agencies.

The Preliminary Alternatives Analysis (PAA), the Congestion Management System (CMS) Evaluation, and the Major Investment Study (MIS) that were conducted for this project and described in this section, worked in tandem during the process of developing and evaluating alternatives. As a result, the analysis, outcome, and findings of each study were coordinated with and built upon the other studies.

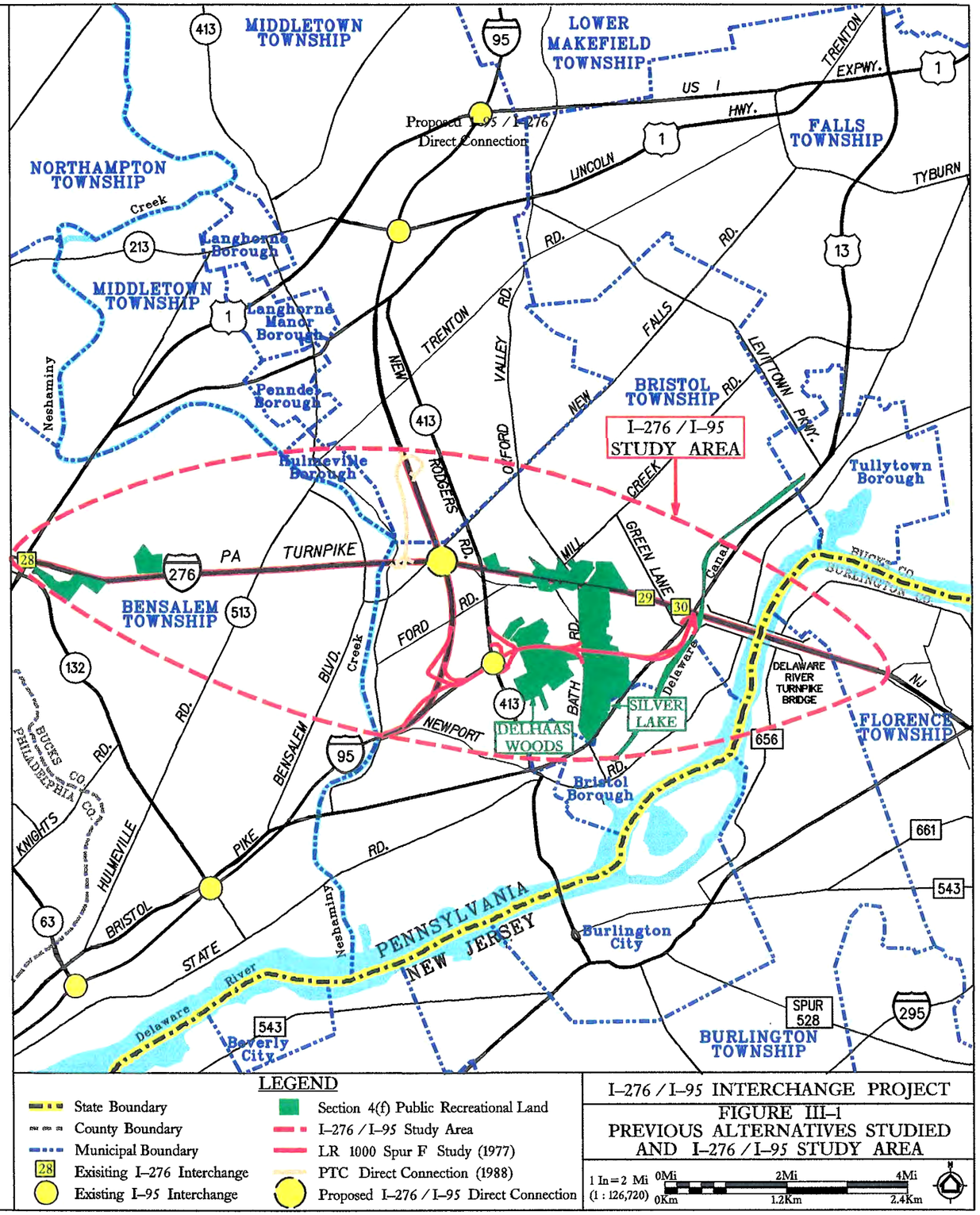
B. PREVIOUS ALTERNATIVES STUDIED

In the late 1970s, the Pennsylvania Department of Transportation (PENNDOT) studied a direct connection between I-95 (at PA 413) and I-276 (near Interchange 29). This alternative was known as the LR 1000 "Spur F" Study **(Figure III-1)**. However, the LR 1000 "Spur F" passed through both Delhaas Woods (owned at the time by The Nature Conservancy, which is an international conservation organization that protects special natural areas and rare plant and wildlife habitat) and Silver Lake Park. This alternative was not pursued because of its impacts to exceptional value forested Coastal Plain wetlands in Delhaas Woods, which are extremely rare in the region, and Section 4(f) impacts to Silver Lake Park. Both are currently protected under Section 4(f) of the United States Department of Transportation Act of 1966 (49 USC 303) and the Federal-Aid Highway Act of 1968 (23 USC 138). Section 4(f) requires that special efforts must be made to avoid use of and minimize harm to public parks/recreational lands, wildlife/waterfowl refuges, and historic sites.

The need for a direct interchange connection received renewed focus when the United States Congress passed the Surface Transportation Assistance Act of 1982 (STAA). That Act authorized the withdrawal and redesignation of certain interstate routes in the Mid-Atlantic Region. The STAA legislation authorized the withdrawal of a proposed 36.7 km (22.8 mi) section of I-95/I-695 north of Trenton and the use of the Pennsylvania and New Jersey Turnpikes as I-95 upon completion of the Pennsylvania Turnpike/I-95 Interchange. Under this Act, I-95 would continue from Delaware through Pennsylvania then across the Delaware River Turnpike Bridge. I-95 would then follow the New Jersey Turnpike Extension east, then northward on the New Jersey Turnpike and join existing I-95 just north of New Brunswick, New Jersey. Subsequently, 1985 Pennsylvania legislation (Act 61) authorized and directed the Pennsylvania Turnpike Commission (PTC) to construct a direct interchange between I-95 and I-276. Pennsylvania Act 61 also authorized the PTC to widen I-276 to six lanes, from the Northeast Extension (Mid-County Interchange 25) eastward to the Delaware River.

Responding to this legislation, the PTC began design studies in 1988 for a low-speed toll connection interchange between I-276 and I-95 in proximity to where I-95 and I-276 cross but do not connect **(Figure III-1)**. This proposed connection would have been made by the use of low-speed (≤ 56 kph/≤ 35 mph) ramps typical of traditional PTC design. The Delaware Valley Regional Planning Commission (DVRPC) traffic volume projections for Year 2004 were used. This 1988 interchange study included conceptual interchange designs with public review of, and input on, alternatives.

In 1990, the low-speed interchange study was discontinued due to insufficient capacity of the proposed low-speed ramps of the interchange to adequately serve traffic volumes projected by DVRPC. When evaluated with *Highway Capacity Manual* (Transportation Research Board, National Research Council, 1994) level of service (LOS) criteria, this type of interchange could not adequately accommodate the traffic volumes that were projected for Year 2020, which was established to be the project's design year, typically 20 years after anticipated start up of construction.



LEGEND

- State Boundary
- County Boundary
- Municipal Boundary
- 28 Exisiting I–276 Interchange
- Existing I–95 Interchange
- Section 4(f) Public Recreational Land
- I–276 / I–95 Study Area
- LR 1000 Spur F Study (1977)
- PTC Direct Connection (1988)
- Proposed I–276 / I–95 Direct Connection

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–1
PREVIOUS ALTERNATIVES STUDIED AND I–276 / I–95 STUDY AREA

1 In = 2 Mi (1 : 126,720) 0Mi 2Mi 4Mi 0Km 1.2Km 2.4Km

This interchange alternative, therefore, was dismissed and not advanced for further study. A feasibility study of a multi-level I-276/I-95 Direct Connection interchange began in 1990. Federal-aid funds were provided for engineering feasibility and environmental studies in 1992. A Notice-of-Intent issued on March 18, 1993 began the process of preparing a Draft Environmental Impact Statement (DEIS) for the I-276/I-95 Interchange Project. **Figure III-1** outlines the project study area.

C. PRELIMINARY ALTERNATIVES STUDIED

Two phases of alternatives analysis were conducted to develop and evaluate transportation alternatives to best balance the goals of meeting the project needs (**Section I** of this FEIS) and minimize impacts to the social, cultural and natural environment (**Section II** of this FEIS). The intent of the Preliminary Alternatives Analysis (PAA) was to study and develop a broad range of reasonable alternatives and evaluate them for engineering feasibility, traffic effects, cost and potential socioeconomic and environmental resource impacts. This level of analysis is typically based on the identification of key environmental features and the evaluation of the potential effects of preliminary alternatives using secondary data sources supplemented by field investigations. A CMS Evaluation, a MIS, and a PAA, as summarized in the following sections, were completed in Phase I of the I-276/I-95 Interchange Project. **Figure III-2** can be used as a guide to summarize the progression of alternatives developed during the PAA.

The results of the PAA study then formed the basis for advancing the recommended preliminary alternatives to Detailed Alternatives Analysis (DAA) and development. During the DAA Phase, detailed field studies and evaluation of an alternative's potential effect on the environment were conducted. Minor refinements to the alternatives carried forward for detailed study, and ultimately into **Section IV** of this FEIS, were then made to minimize potential impacts and address public and resource agency comments and input.

1. Congestion Management System (CMS) Evaluation

A Phase I CMS Evaluation was completed for the I-276/I-95 Interchange Project in October 1995. Under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, all urbanized areas with a population of 200,000 or greater were designated as a Transportation Management Area (TMA). ISTEA requires that each state and TMA conduct CMS planning. The CMS Evaluation is a process that provides for management of new and existing transportation facilities through use of Travel Demand Management (TDM) and operational management strategies.

The purpose of the Phase I CMS Evaluation was to examine feasible CMS strategies, singularly or in combination, to determine if they would meet the needs identified for the I-276/I-95 Interchange Project. Prior to initiating the CMS Evaluation, a traffic impact corridor was developed as the basis for the CMS Evaluation. The traffic impact corridor was defined as the area where any proposed Single Occupancy Vehicle Capacity Adding Project (SOVCAP) would have a significant impact on the operation or travel patterns of traffic. The major roadway links in the vicinity of the proposed I-276/I-95 interchange were analyzed to determine the boundaries of the traffic impact corridor.

Sixteen reasonable strategies were evaluated to determine if congestion reduction in the traffic impact corridor could eliminate the need for a SOVCAP, as listed below. Descriptions of each of the following strategies are contained in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Congestion System Management Evaluation* (PTC, 1995).

a. Travel Demand Management (TDM)

TDM strategies evaluated for the CMS Evaluation included:

- ✓ Improved and/or New Transit Service
- ✓ Employer Trip Reduction Programs (ETRP)
- ✓ Staggered/Flexible Work Schedules
- ✓ Carpooling/Vanpooling Facilities, Programs and Incentives
- ✓ Parking Management
- ✓ Congestion Pricing
- ✓ Land Use Planning
- ✓ Public Relations, Education, Changing Travel Habits

The TDM model was used to evaluate the effectiveness of the Employer Trip Reduction Program (ETRP), carpooling/ vanpooling, flexible work hours, and public education/ changing travel habits, while the Congestion Mitigation and Air Quality (CMAQ) process evaluated transit improvements and park-and-ride lots.

b. Operational Management Strategies

Operational Management strategies evaluated for the CMS Evaluation included:

- ✓ High Occupancy Vehicle (HOV) Facilities
- ✓ Transportation System Management (TSM)
- ✓ Eliminate Bottlenecks
- ✓ Travel on Freeway Shoulders During Peak Periods
- ✓ Ramp Metering
- ✓ Incident Management
- ✓ Access Management
- ✓ Intelligent Vehicle Highway System (IVHS)

c. CMS Evaluation Summary

The CMS Evaluation concluded that, even when combined, CMS strategies, ranging from TDM, operational management, and TSM to a direct I-276/I-95 interchange without additional general purpose lanes, did not eliminate the need for additional single occupant vehicle capacity on I-95 and on I-276. That is, these CMS strategies, in conjunction with a direct interchange, did not eliminate the need for widening existing I-276 and I-95 from four to six lanes.

As a result, the widening of I-276 and I-95 was advanced for further study with the proposed I-276/I-95 interchange. According to both federal and state regulations (23 CFR 450 and PENNDOT Strike-off Letter 520-95-83), a Phase II CMS Evaluation would be performed during the next phase of detailed study (DAA) to manage congestion on the portion of I-276 and I-95 that would be widened, and to manage the potential effect of congestion that the I-276/I-95 Interchange Project would have on the local transportation network. The Phase II CMS Evaluation is addressed in **Section IV-A** of this FEIS.

2. Major Investment Study (MIS)

A MIS was completed for the I-276/I-95 Interchange Project in August 1997. The MIS was a requirement of the Metropolitan Planning Regulations (Section 450.318) issued by Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) in 1993 as a result of the ISTEA legislation. The regulations stated that where the need for a MIS was identified, and federal funds were potentially involved, a MIS was to be undertaken to develop or refine the long-range transportation plan. The MIS was intended to facilitate decisions by the Metropolitan Planning Organization (MPO) in cooperation with the State Department of Transportation (DOT), transit operators, and other local decision-makers early in the transportation planning and decision-making process.

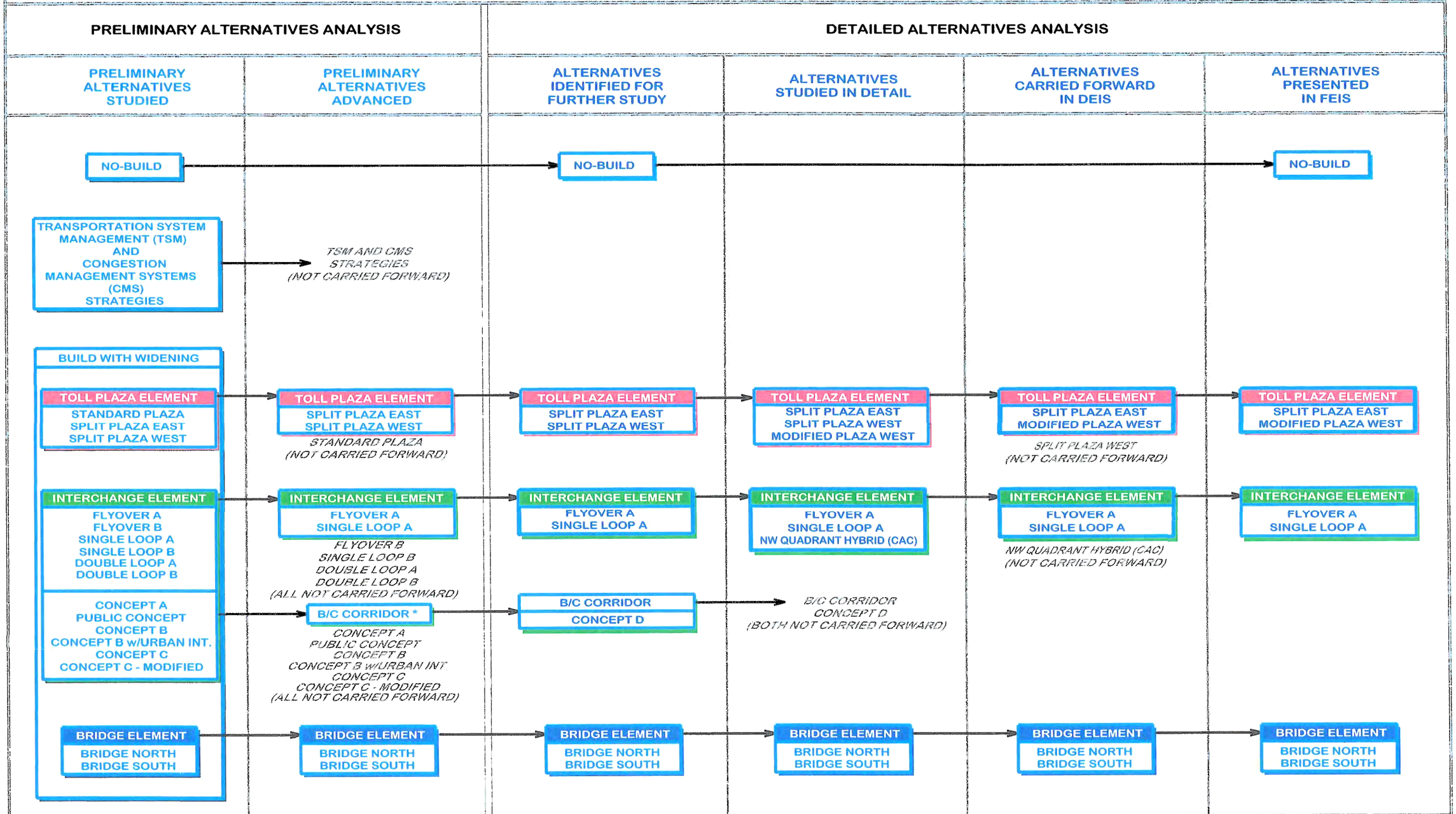
For the I-276/I-95 Interchange Project, the purpose of the MIS was to determine if and what type of major transportation investments are to be used in order to address the identified project needs. The MIS considered a broad range of reasonable transportation alternatives. Quantitative and qualitative information on costs, benefits, environmental consequences, and air quality were used to evaluate each alternative. The financial element of the MIS included a cost effectiveness analysis and identified funding resources and/or revenues to pay for the transportation investment. The MIS was performed in a cooperative and collaborative manner with proactive public involvement. It also included coordination with federal and state regulatory resource agencies, regional transportation planning organizations and local planning commissions.

The No-Build, Mass Transit, and CMS Strategies, including TSM, were considered in the development of reasonable MIS strategies that could possibly eliminate the need for a SOVCAP. These alternatives were initially developed in conjunction with the Phase I CMS Evaluation. In the MIS, these alternatives were compared against the effectiveness of an I-276/I-95 Build Interchange Alternative that includes the widening of portions of I-276 and I-95. The MIS analysis produced the following results:

a. No-Build Alternative

A No-Build Alternative would involve routine maintenance procedures to maintain continuous operation of the existing roadways. No capital improvements would be considered under this alternative, producing no appreciable changes in traffic operations. Congestion and safety conditions would continue without relief. While the No-Build Alternative does not meet the project need, it is used as a comparison for the other alternatives.

FIGURE III-2
I-276/I-95 INTERCHANGE PROJECT
PROGRESSION OF ALTERNATIVES DEVELOPMENT AND ANALYSIS



Preliminary alternatives were developed, evaluated and progressed based on their ability to meet project needs, advantages / disadvantages, potential environmental/socioeconomic impacts and agency / public input. * B/C corridor defined by (500ft) offset of the Concept B w/ Urban Interchange and Concept C alternatives centerlines, respectively.

Detailed alternatives were developed, evaluated, refined and progressed based on their advantages / disadvantages, potential environmental/ socioeconomic impacts and agency/public input.

b. Mass Transit Alternative

Mass Transit Alternatives would provide for reasonable and feasible options to address traffic deficiencies in urbanized areas of 200,000 people or more instead of conducting major highway projects. Options may include light-rail, heavy rail, passenger bus, etc. As part of the Phase I CMS Evaluation, through coordination with the Southeastern Pennsylvania Transportation Authority (SEPTA), New Jersey Transit, and FTA, improved and/or new transit service was determined to have a negligible decrease in home-based work (HBW) trips and daily vehicle miles traveled (VMT). This is due to the origin and destination patterns of the regional trips typically used by motorists on the I-95 and I-276 limited-access interstates.

c. Transportation Systems Management (TSM) Alternative

TSM would involve improvements to the existing transportation facilities that apply strategies such as parking management, ride sharing, high occupancy vehicle (HOV) lanes, and traffic signal improvements. TSM is most frequently applied in urban areas. These programs either reduce traffic volumes or increase the capacity of the roadway with limited new construction. The evaluation of the TSM Alternative for the I-276/I-95 Interchange Project produced the following results:

- ✓ An adequate connection between I-95 and I-276 would not be provided.
- ✓ Most of the existing intersections that are used to make the connection would remain deficient.
- ✓ The application of an HOV strategy would not be appropriate due to the fact that its use, in combination with two general-purpose lanes in each direction would require three lane ramps on redesignated I-95 between existing I-95 and existing I-276 (to be redesignated I-95).
- ✓ Park and ride strategies would cause a slight increase in vehicle HBW trips and total daily VMT on the local roadway network due to the increase in transit rider trips to park and ride lots.
- ✓ Ride sharing would produce only a slight reduction in vehicle HBW trips (1.5 percent) and total daily VMT (0.4 percent) due to high volumes of through and truck trips.

d. Build Alternative

Because an interchange would connect two existing, grade-separated interstate highways, the range of reasonable MIS Alternatives was limited to one Build Alternative. This alternative would provide a direct interchange between I-95 and I-276, and would also require widening of I-276 (from a total of four lanes to six lanes) and I-95 (to accommodate ramp and merge lanes for the direct connection) due to forecasted traffic volumes. The proposed "Build with Widening" Alternative was presented at the August 22, 1995 MIS Interagency Coordination Meeting. Members of the MIS Interagency Coordination Team included FHWA, FTA, PTC, PENNDOT, SEPTA, DVRPC, US Environmental Protection Agency (USEPA), US Army Corps of Engineers (USACOE), Pennsylvania Department of Environmental Protection (PADEP), New Jersey Department of Environmental Protection (NJDEP), Pennsylvania Game Commission (PGC), Bucks County Planning Commission, and Philadelphia City Planning Department. The purpose of this scoping meeting was to determine the modal alternatives that would require further analysis beyond the CMS Evaluation phase and the roles of the transportation, planning, and resource agencies in the MIS process. General consensus of those agencies in attendance was to limit the range of MIS alternatives to one reasonable alternative, the "Build with Widening" Alternative. Additional information on the MIS agency coordination is located in **Section VII** of this FEIS.

3. <u>Coordination with Metropolitan Planning Organization (MPO)</u>

The MIS was coordinated with the DVRPC, the designated MPO for the Philadelphia, Camden, Trenton, and Pottstown Urbanized Areas. Separate presentations were made to both DVRPC's Regional Transportation Committee and Citizen Advisory Committee and a report documenting the MIS and recommendations was presented to the DVRPC Board. On July 24, 1997, the Board adopted a formal resolution that the MIS Preferred Alternative "Build with Widening" should be retained on the Delaware Valley Region's long-range transportation plan as the most prudent investment for effectively addressing the defined transportation needs. A copy of this resolution is found in **Section XII, Appendix E.**

D. PRELIMINARY ALTERNATIVES ANALYSIS (PAA) RESULTS

With resource agency and regional DVRPC approval of the 1995 CMS Evaluation and the 1997 MIS, the MIS "Build with Widening" Alternative was continued for development and further study as part of the PAA. Considering existing toll collection system operations and future design year traffic projections, it was determined that this alternative also would require a new I-276 toll barrier facility and a new adjacent bridge over the Delaware River as explained below.

A new mainline toll barrier on I-276 west of the proposed interchange was determined to be necessary to preserve the integrity of the I-276 toll system while allowing for a "free of highway tolls" movement for the I-95 traffic through the interchange. This mainline toll barrier would serve as the new eastern terminus of the I-276 ticketed toll system, and would be complemented by the removal of eastbound tolls at the existing Delaware River Turnpike Bridge mainline toll barrier (Interchange 30). This barrier would be reconstructed as a "westbound only" cash (not ticketed) barrier. The combination of these two mainline barriers would end the I-276 ticket system west of the proposed interchange; permit the continuance of a Delaware River Turnpike Bridge toll in the "westbound only" direction; and maintain the free flow of I-95 traffic along the newly constructed ramps.

Additionally, to accommodate the projected traffic volumes, I-276 would need to be widened from four to six lanes and I-95 would need to be widened to accommodate ramp and merge lanes in the vicinity of the direct connection. Engineering analysis confirmed that the structural design of the existing Delaware River Turnpike Bridge prevents widening to convert the existing four-lane bridge structure (two lanes with shoulders in each direction) to six lanes (three lanes with shoulders in each direction). In order to provide the required three lanes in each direction with adequate shoulder width for interstate routes at the projected traffic volumes, a new bridge would be required.

To better develop and analyze alternatives for this lengthy project having multiple components, the MIS "Build with Widening" Alternative, hereafter referred to as the Build Alternative, was divided into three distinct and independent elements for evaluation purposes during the PAA. The three project elements identified on **Figure III-3** consist of the following key transportation components:

Toll Plaza Element

- ✓ New Mainline Toll Plaza, including widening of approximately 6.4 km (4.0 mi) of I-276

Interchange Element

- ✓ New interchange between I-276 and I-95 including widening of approximately 4.8 km (3 mi) along I-276; and widening of I-95 for ramp and merge lanes for the direct connection

Bridge Element

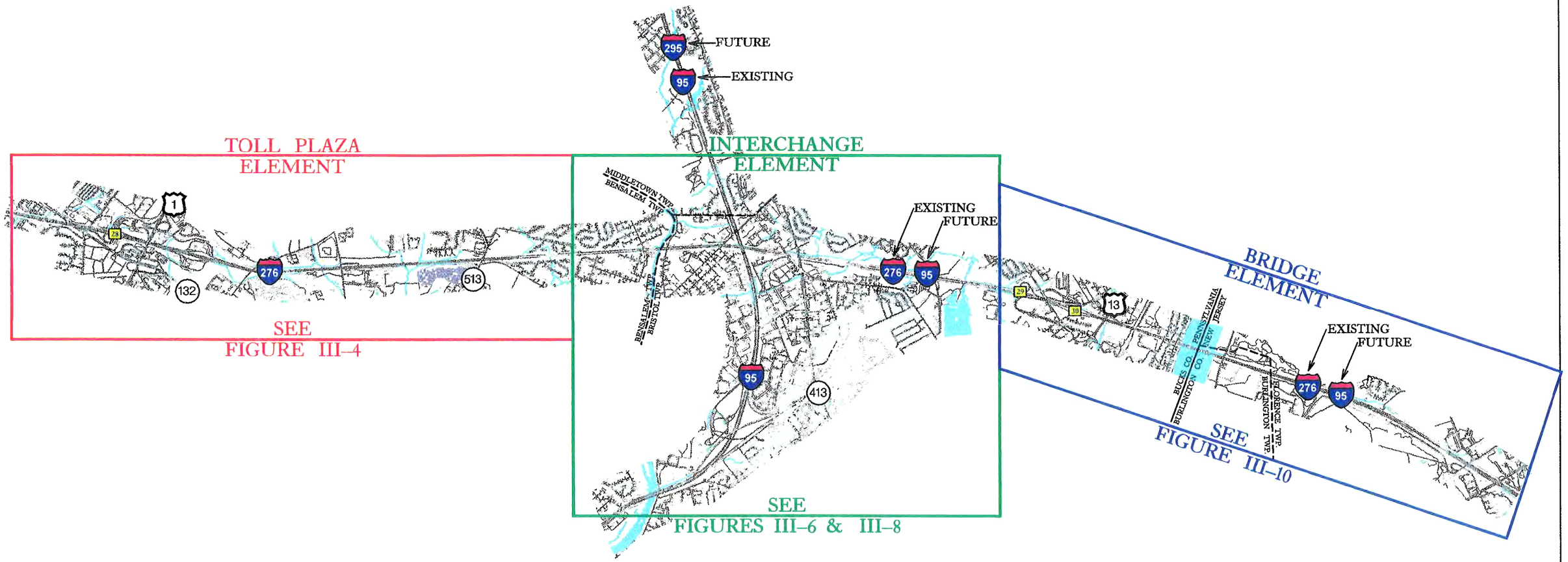
- ✓ New adjacent directional Delaware River Turnpike Bridge including widening of approximately 4.2 km (2.6 mi) of I-276 (proposed I-95) in Pennsylvania and New Jersey

Taking into consideration the public and agency input received at the time, primarily a result of the CMS, MIS, and the 1993 Needs Study, the No-Build and a total of 16 preliminary Build Alternatives were developed for detailed study as part of the PAA. The Public Concept, recommended by citizens in February 1998, was presented in the August 1998 PAA Report but was not evaluated to the same level of detail as the other 16 Build Alternatives. The Public Concept in the Interchange Element was subsequently dismissed due to its comparatively high degree of impacts.

Within each project element, additional alternatives were initially considered but not developed to a similar level of detail as the PAA. This was due to the fact that either they were not feasible based on engineering criteria/operations or that they resulted in far greater potential socioeconomic or environmental impacts in comparison with the preliminary alternative impacts. For example, as previously noted, it was determined that the existing Delaware River Turnpike Bridge cannot be structurally converted to accommodate six lanes with shoulders to meet interstate design standards.

Another example is the consideration of a standard full cloverleaf interchange design, typical of most major interstate connections. If this were to occur at the junction of I-276 and I-95, it would have far greater impacts on nearby communities and businesses in comparison with the alternatives evaluated in the PAA and summarized in the following sections. While the No-Build Alternative would not meet the project need, it is used as a comparison for the other alternatives in each of the three project elements.

SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS



TOLL PLAZA ELEMENT

STANDARD TOLL PLAZA (Figure III–4A) ALTERNATIVE

SPLIT PLAZA EAST (Figure III–4B) ALTERNATIVE

SPLIT PLAZA WEST (Figure III–4B) ALTERNATIVE

INTERCHANGE ELEMENT

POINT–OF–CROSSING ALTERNATIVES

FLYOVER A ALTERNATIVE (Figure III–6A)

FLYOVER B ALTERNATIVE (Figure III–6A)

SINGLE LOOP A ALTERNATIVE (Figure III–6B)

SINGLE LOOP B ALTERNATIVE (Figure III–6B)

DOUBLE LOOP A ALTERNATIVE (Figure III–6C)

DOUBLE LOOP B ALTERNATIVE (Figure III–6C)

NEW ALIGNMENT ALTERNATIVES

CONCEPT A ALTERNATIVE (Figure III–8A)

PUBLIC CONCEPT ALTERNATIVE (Figure III–8B) •

CONCEPT B ALTERNATIVE (Figure III–8C)

CONCEPT B WITH URBAN INTERCHANGE ALTERNATIVE (Figure III–8D)

CONCEPT C ALTERNATIVE (Figure III–8E)

CONCEPT C MODIFIED ALTERNATIVE (Figure III–8F)

• Developed in February 1998 and presented but dismissed in the August 1998 PAA Report.

BRIDGE ELEMENT

BRIDGE NORTH ALTERNATIVE (Figure III–10B)

BRIDGE SOUTH ALTERNATIVE (Figure III–10B)

LEGEND

- Interstate Designation
- Existing I–276 Interchange
- Surface Water

A total of 16 Build Alternatives in the three project elements (Toll Plaza, Interchange and Bridge) and a No-Build Alternative were evaluated in detail during the Preliminary Alternatives Analysis. Descriptions of the preliminary Build Alternatives, identified on this figure, within the three project elements are included on subsequent graphics. Key advantages and disadvantages for each alternative also provided on the identified figures.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–3
PRELIMINARY ALTERNATIVES

INDEX

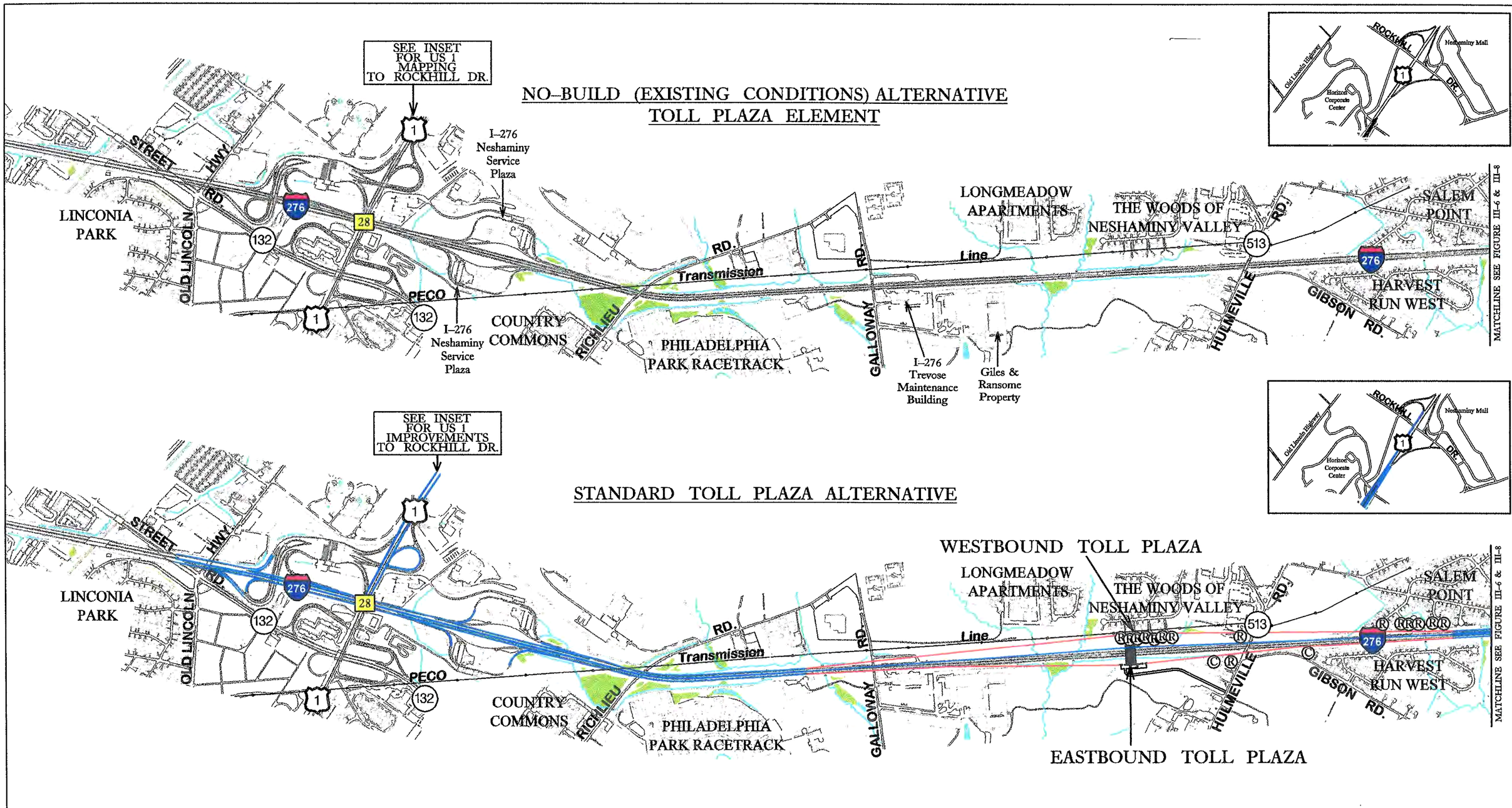
1 In = 3,600 Ft (1 : 43,200)

0Ft 3,600Ft 7,200Ft

0M 1,097M 2,194M

N

NO–BUILD ALTERNATIVE SEE FIGURES III–4A, III–6, III–8 AND III–10A



The **No-Build** would involve no changes to the four-lane (two-lane directional) I-276 mainline. The three Build Alternatives would involve the construction of a barrier toll plaza east of Interchange 28 and an additional travel lane in each direction. The **Standard Toll Plaza** would create a continuous toll plaza across both east and west bound lanes, which avoids Interchange 28 and the I-276 maintenance complex to the west. Although this location would impact the Woods of Neshaminy Valley and Salem Point housing developments, more dense residential development to the east would be avoided.

STANDARD TOLL PLAZA ALTERNATIVE

Key Advantages:

- ✓ No impact to Giles & Ransome property
- ✓ Minimal extension to existing structure at Galloway Road
- ✓ No impact to Neshaminy Service Plaza
- ✓ No impact to Trevose Maintenance Facility

Key Disadvantages:

- ✓ Impacts several properties adjacent to PA 513
- ✓ Major impacts to existing structure at PA 513
- ✓ Potentially displaces residences (15) in The Woods of Neshaminy Valley and Salem Point developments, and properties along PA 513
- ✓ Required ROW impacts to Gibson Road
- ✓ Impacts PECO Energy transmission towers

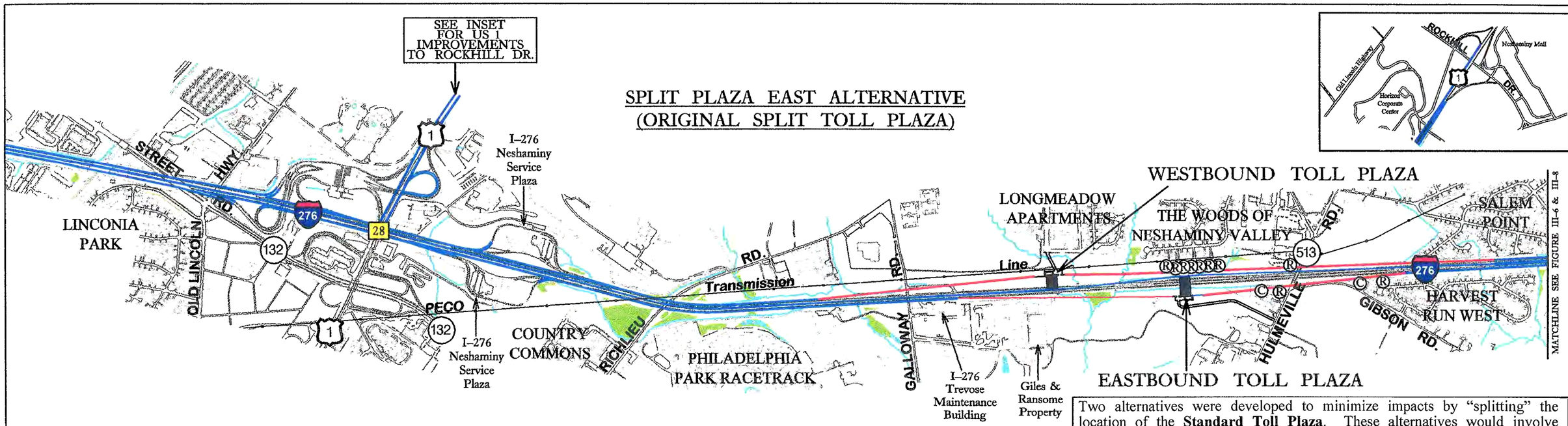
LEGEND

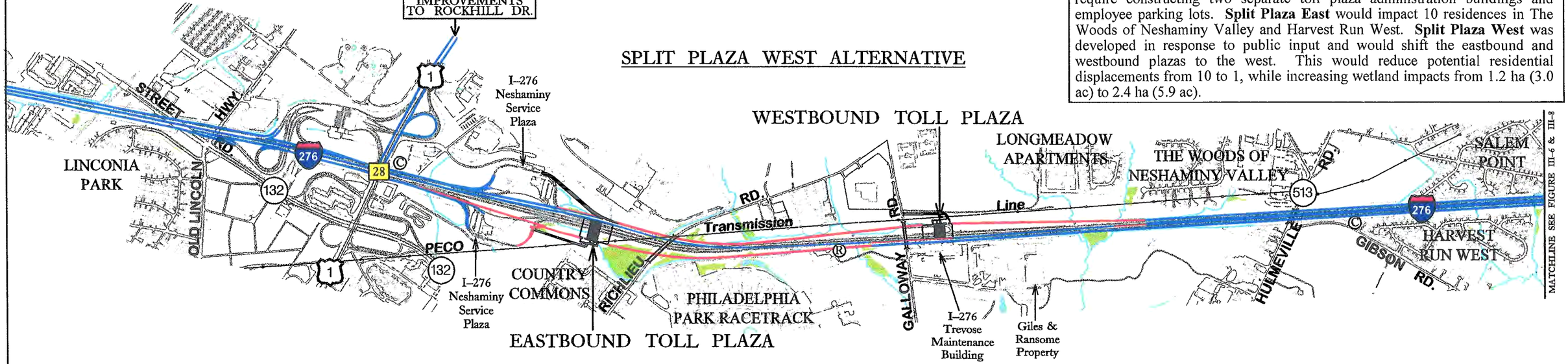
- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Existing I–276 Interchange
- Surface Water
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–4A
PRELIMINARY ALTERNATIVES
TOLL PLAZA ELEMENT
NO–BUILD & STANDARD
TOLL PLAZA ALTERNATIVES

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km





Two alternatives were developed to minimize impacts by "splitting" the location of the **Standard Toll Plaza**. These alternatives would involve staggering the location of the eastbound and westbound plazas, which would require constructing two separate toll plaza administration buildings and employee parking lots. **Split Plaza East** would impact 10 residences in The Woods of Neshaminy Valley and Harvest Run West. **Split Plaza West** was developed in response to public input and would shift the eastbound and westbound plazas to the west. This would reduce potential residential displacements from 10 to 1, while increasing wetland impacts from 1.2 ha (3.0 ac) to 2.4 ha (5.9 ac).

SPLIT PLAZA EAST ALTERNATIVE

Key Advantages:

- ✓ No impact to Giles & Ransome property
- ✓ Minimal extension to existing structure at Galloway Road
- ✓ No impact to PECO Energy transmission towers
- ✓ No impact to Neshaminy Service Plaza
- ✓ No impact to the Trevose Maintenance Facility
- ✓ No impact to Salem Point residences

Key Disadvantages:

- ✓ Impacts several properties adjacent to PA 513
- ✓ Major impacts to existing structure at PA 513
- ✓ Potentially displaces residences (10) in The Woods of Neshaminy Valley and Harvest Run West developments
- ✓ Required ROW impacts to Gibson Road

SPLIT PLAZA WEST ALTERNATIVE

Key Advantages:

- ✓ No impact to Giles & Ransome Property
- ✓ Minimal extension of existing structure at PA 513
- ✓ Minor impact to Neshaminy Service Plaza
- ✓ No impact to Trevose Maintenance Facility
- ✓ No impact to communities of the Woods of Neshaminy Valley, Salem Point or Harvest Run West
- ✓ No ROW required along Gibson Road

Key Disadvantages:

- ✓ Impacts one residential property off of Galloway Road
- ✓ Major impacts to existing structures at Richlieu and Galloway Roads
- ✓ Impacts PECO Energy transmission towers
- ✓ Greater acreage of wetland impacts

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Existing I–276 Interchange
- Surface Water
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–4B
PRELIMINARY ALTERNATIVES
TOLL PLAZA ELEMENT

SPLIT PLAZA EAST &
SPLIT PLAZA WEST ALTERNATIVES

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

1. Toll Plaza Element

Currently, the I-276 Mainline Barrier Toll Plaza, located at Interchange 30 (the Delaware River Turnpike Bridge) serves as the eastern terminus of the toll ticket system for I-276 **(Figure III-3)**. As a result of the need to redesignate a portion of I-276 as I-95 and satisfy federal and state legislation previously cited in **Section I** of this FEIS, the existing toll plaza would need to be relocated to the west of existing I-95 in order to facilitate the toll-free movement of traffic through any proposed interchange area **(Figure III-3)**. The process of selecting the best alternative for the new toll plaza involved finding a location along existing I-276 that minimized overall impacts. The area evaluated for a potential toll plaza location during the PAA is located between PA 513 (Hulmeville Road) and Interchange 28 at US 1 **(Figure III-4A, No-Build)**.

If the plaza were located to the east of PA 513, a substantial number of residential impacts would occur primarily in the Harvest Run West and Salem Point communities **(Figure III-4A)**. Locating the toll barrier to the west of PA 513 would potentially impact the Woods of Neshaminy Valley community, Giles and Ransome property, PECO Energy transmission towers, the I-276 Trevose Maintenance Facility, and the I-276 Neshaminy Service Plazas **(Figures III-4A** and **III-4B)**. The Giles and Ransome property is located adjacent to I-276 and is a distributor of heavy construction equipment. Relocation of Giles & Ransome could be costly and result in the potential loss of hundreds of jobs in Bensalem Township. The I-276 Trevose Maintenance Facility is located next to Giles & Ransome. Although PTC already owns the building, its displacement would require relocation to another site along I-276 because the closest maintenance facility is near Interchange 25 to the west. Any relocation of the maintenance facility would require additional ROW and create associated impacts.

Moving the plaza even further to the west could result in impacts to the I-276 Neshaminy Service Plazas and US1/Interchange 28 area. The use of the Neshaminy Service Plaza may be considered an advantage in terms of using existing PTC property. However, closing the Neshaminy Service Plaza in the eastbound direction eliminates the final rest stop on the Pennsylvania Turnpike System. This would make the Valley Forge Service Plaza the final eastbound rest stop, which is approximately 54.7 km (34 miles) from the Delaware River Turnpike Bridge. Similarly, closing the Neshaminy Service Plaza in the westbound direction would eliminate the first westbound rest stop on the Pennsylvania Turnpike. Either closure would have the potential to adversely impact the motorist/tourist services provided by the PTC, unless replaced at a new location. As with the maintenance facility, relocation would have associated impacts that would result due to the lack of available adjacent property. This fact coupled with the associated impacts to the US1/Interchange 28 area and operational difficulties of locating a toll plaza in close proximity to an existing turnpike interchange established the limits of toll plaza alternatives development.

Taking into account these potential I-276 operational and socioeconomic constraints, nine separate toll plaza alternatives were conceptually designed for the project (at the beginning of the PAA). The proposed eastbound and westbound toll plazas of these concepts were located between the Neshaminy Service Plazas and Hulmeville Road for the reasons already discussed. Efforts were made to design the concepts to minimize the additional right-of-way required, thereby minimizing impacts. All but two were abandoned primarily because of physical engineering constraints related to bridge structure lengths, plaza taper lengths, operational inferiority related to vehicle weave distances and geometric configuration, etc., as well as potential disruption to nearby businesses and neighborhoods, associated community facilities, and key environmental resources. As described in the PAA Report, this resulted in two toll plaza alternatives, a Standard Toll Plaza **(Figure III-4A)** and a Split Toll Plaza **(Figure III-4B)**, between Galloway Road and PA 513 being advanced for PAA study and documentation.

During further development of both toll plaza alternatives, a number of advantages and disadvantages were assessed and are listed on **Figures III-4A** and **III-4B**. This assessment considered additional engineering design features and potential impacts to socioeconomic and environmental resources. The engineering factors included plaza layout and operations, the location of Interchange 28 and existing bridges over I-276, as well as impacts to existing PECO Energy transmission towers. Socioeconomic and Environmental concerns included potential residential and commercial displacements and potential wetlands impacts.

The Standard Toll Plaza and Split Toll Plaza Alternatives were presented at a series of public officials and community meetings **(Section VII)**. In response to expressed concerns and recommendations by affected communities and Bensalem Township officials, the Split Toll Plaza Alternative was subsequently renamed the Split Plaza East Alternative and a new Split Plaza West Alternative was developed. As a result, in addition to the No-Build Alternative, three toll plaza alternatives were considered as part of the PAA, including Standard Toll Plaza, Split Plaza East and Split Plaza West **(Figures III-4A** and **III-4B)**.

a. No-Build

The No-Build Alternative, as illustrated and described on **Figure III-4A,** does not meet the project need but is used as a comparison for the other alternatives.

b. Standard Toll Plaza

The Standard Toll Plaza would be located west of PA 513 **(Figure III-4A)**. At this location, it would consist of 21 total lanes that include: eleven, 3.1 m (10 ft) wide eastbound lanes plus one 4.3 m (14 ft) wide emergency lane; one 3.1 m (10 ft) wide reversible lane; and seven, 3.1 m (10 ft) wide westbound lanes plus one 4.3 m (14 ft) emergency lane **(Figure III-5)**.

c. Split Plaza East

Compared to the Standard Toll Plaza, the Split Plaza East staggers the location of the eastbound and westbound toll plazas **(Figure III-5)** and contains a total of 22 lanes. The eastbound toll plaza would consist of twelve, 3.1 m (10 ft) wide lanes and one 4.3 m (14 ft) wide emergency lane. The westbound toll plaza would consist of eight, 3.1 m (10 ft) wide lanes and one 4.3 m (14 ft) wide emergency lane. Both plazas would be located between Galloway Road and Hulmeville Road **(Figure III-4B)**.

d. Split Plaza West

Split Plaza West **(Figure III-4B)** was formulated in response to the February 13, 1997 Public Meeting and subsequent community meetings. Specifically, residents of the Woods of Neshaminy Valley, Harvest Run West and Salem Point communities in Bensalem Township requested an evaluation of an alternative that would have no direct impact on their communities. In response, the original split plaza's location was shifted westward, while maintaining the same engineering controls (e.g., existing I-276 facilities, commercial properties, environmental resources, and existing bridge structures over I-276). As with Split Plaza East, Split Plaza West would have a "staggered" toll plaza configuration and a total of 22 lanes. The distance between the two toll barriers was increased and their relative locations reversed, with the eastbound plaza located east of the Neshaminy Service Plaza (west of Richlieu Road) and the westbound plaza located just east of Galloway Road **(Figure III-4B)**. Typical sections of each toll plaza would be identical to that for Split Plaza East **(Figure III-5)**.

2. Interchange Element

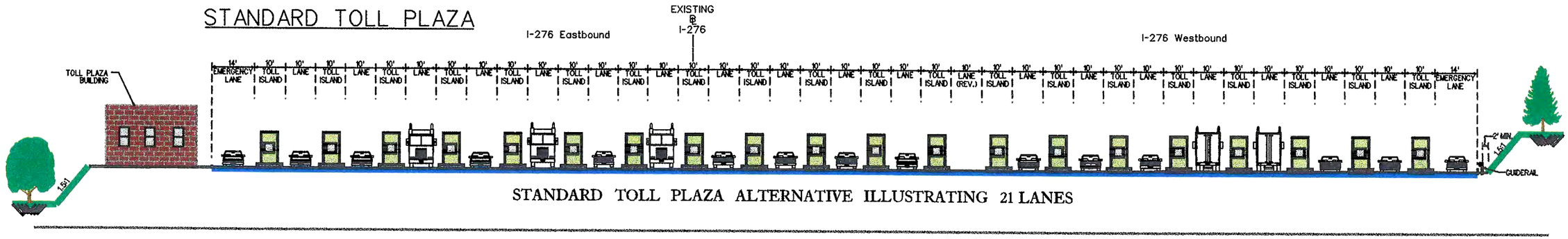
The Interchange Element extends along I-276 from west of Neshaminy Creek to east of Magnolia Lake **(Figure III-3),** and along I-95 from north of I-276 southward through the I-95/PA 413 Interchange vicinity to the Neshaminy Creek. Each interchange alternative would include widening I-276 from four to six lanes throughout the section and the widening of existing I-95 to accommodate ramp and merge lanes from the direct connection. In 1999, PENNDOT completed construction of the southbound exit ramp of the I-95/PA 413 Project. This was a separate project from the I-276/I-95 Interchange Project as illustrated on **(Figure III-6)**.

a. Point-of-Crossing Alternatives

Two conceptual interchange alternatives considered early during the PAA included rotary and cloverleaf interchanges in the vicinity of where I-95 crosses over but does not connect with I-276 **(Figure III-3)**. These alternatives were dismissed due primarily to their potential impacts to residential communities and commercial properties in comparison with the alternatives evaluated in the PAA.

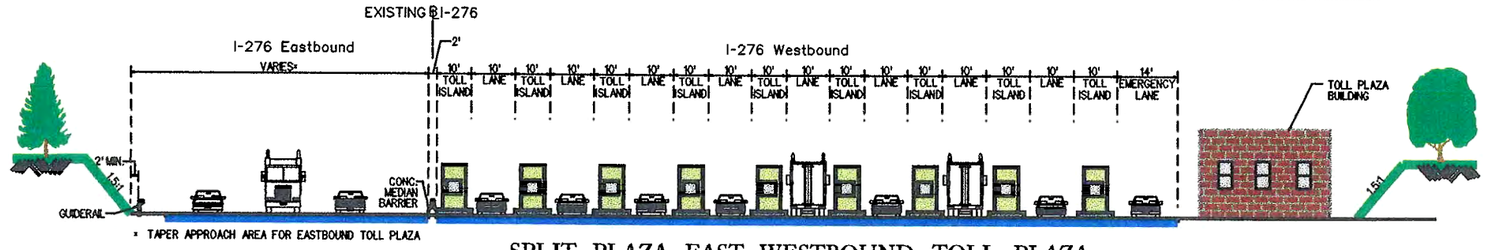
Figure III-6 illustrates the No-Build Alternative and PENNDOT's improvements to the PA 413 interchange, which were completed in September 1999. **Figure III-6** includes an index box with reference to **Figures III-6A** to **III-6C,** which illustrate the sequential development of each of the six direct interchange alternatives considered at the existing point-of-crossing of both interstates. Of the six, there are three basic interchange types named Flyover **(Figure III-6A)**, Single Loop **(Figure III-6B)** and Double Loop **(Figure III-6C)**. Each interchange type has two options, referred to as Mainline A and Mainline B, for the proposed I-276/I-95 interchange connection. **Figures III-6A** to **III-6C** distinguish proposed mainline interstate improvements, structures, ramps/merge lanes and existing/ future interstate designations.

STANDARD TOLL PLAZA

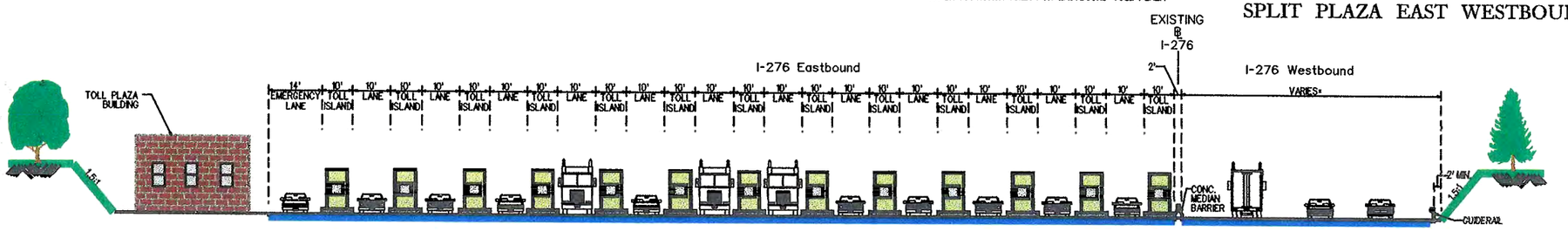


STANDARD TOLL PLAZA ALTERNATIVE ILLUSTRATING 21 LANES

SPLIT PLAZA EAST

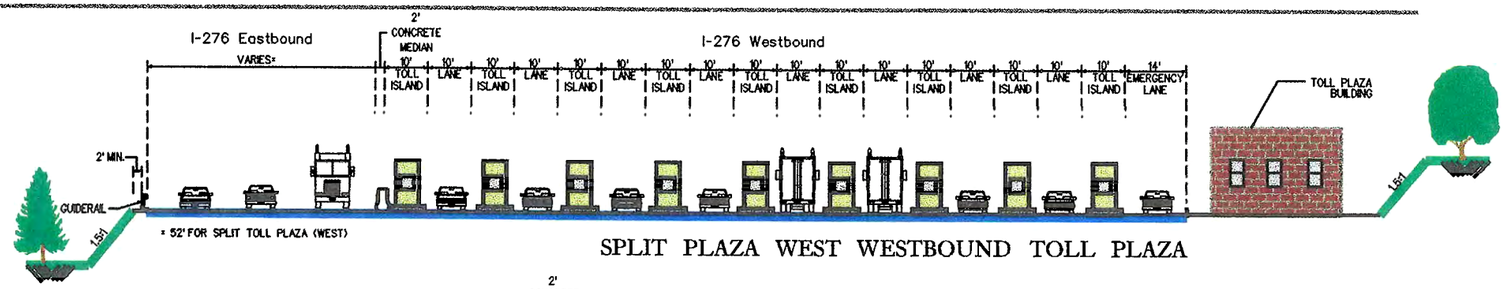


SPLIT PLAZA EAST WESTBOUND TOLL PLAZA

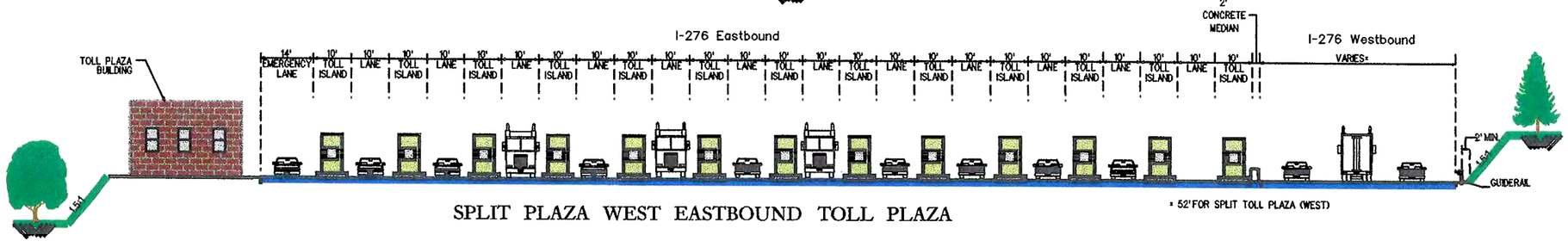


SPLIT PLAZA EAST EASTBOUND TOLL PLAZA

SPLIT PLAZA WEST



SPLIT PLAZA WEST WESTBOUND TOLL PLAZA



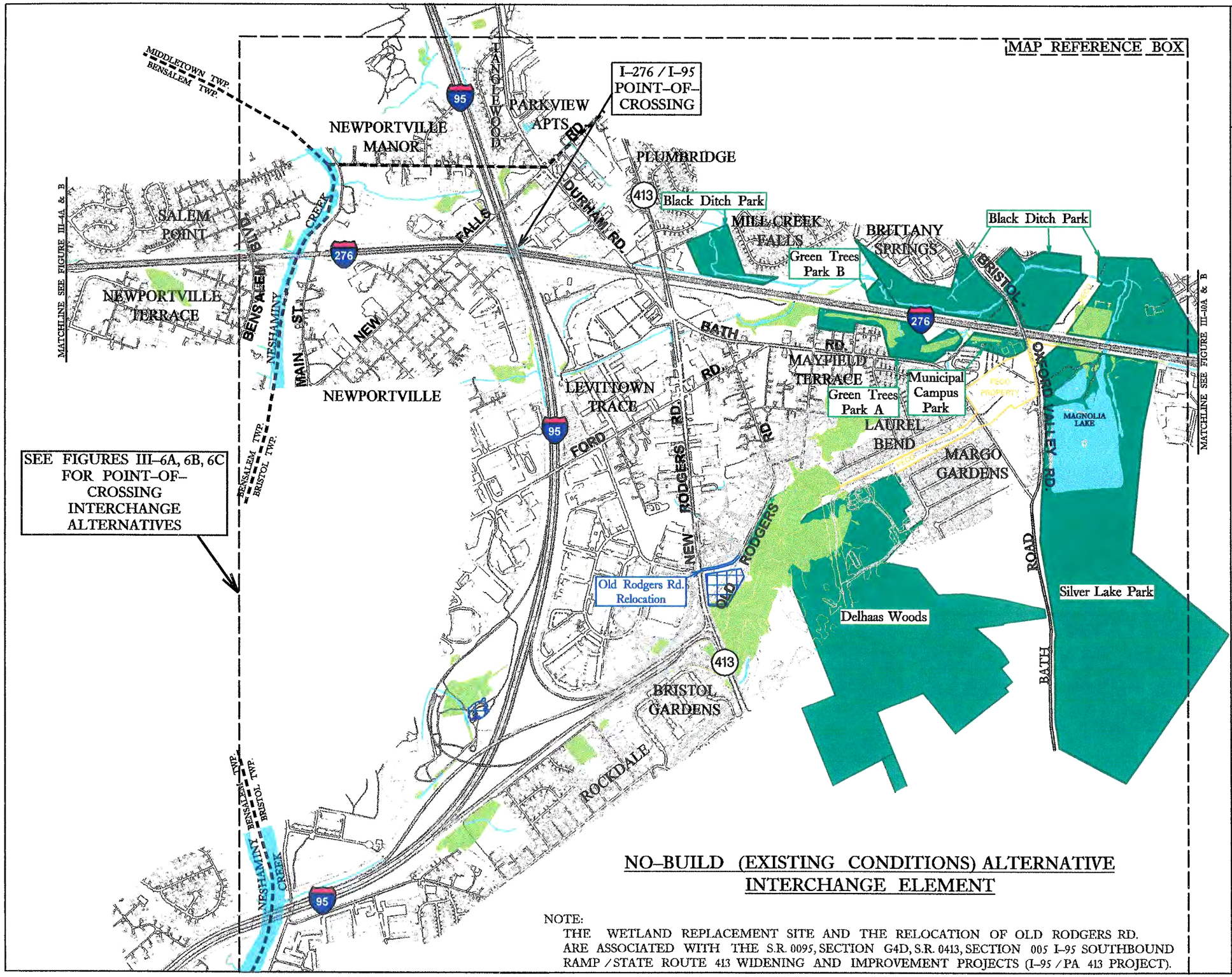
SPLIT PLAZA WEST EASTBOUND TOLL PLAZA

LEGEND

- Proposed Mainline Improvement
- Grass Area

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–5
PRELIMINARY ALTERNATIVES
TOLL PLAZA ELEMENT
TYPICAL SECTIONS



NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE INTERCHANGE ELEMENT

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

LEGEND

- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site

NO–BUILD ALTERNATIVE

This figure shows the No-Build (existing conditions) within the Interchange Element area. It also can be used as a reference map to identify the area in which the six interchange alternatives at the existing I-276/I-95 point-of-crossing are located. These include the Flyover A and B Alternatives on **Figure III-6A**, Single Loop A and B Alternatives on **Figure III-6B** and Double Loop A and B Alternatives on **Figure III-6C**.

The No-Build Alternative would not affect the current roadway conditions or recent construction of the southbound I-95 ramp at PA 413, opened in September 1999 to improve local access.

Under No-Build conditions, I-95 would continue to cross over but not connect with I-276. I-95 access to the local arterials would continue to occur to the north at US 1 and at PA 413 (**Figure III-1**). Under No-Build conditions, I-276 access would continue to occur at Interchange 28 and Interchange 29 (**Figures III-1 and III-3**).

While the No-Build Alternative would not meet the project need identified in Section I of this FEIS, it is used as a comparison for the other alternatives identified in this section of the FEIS.

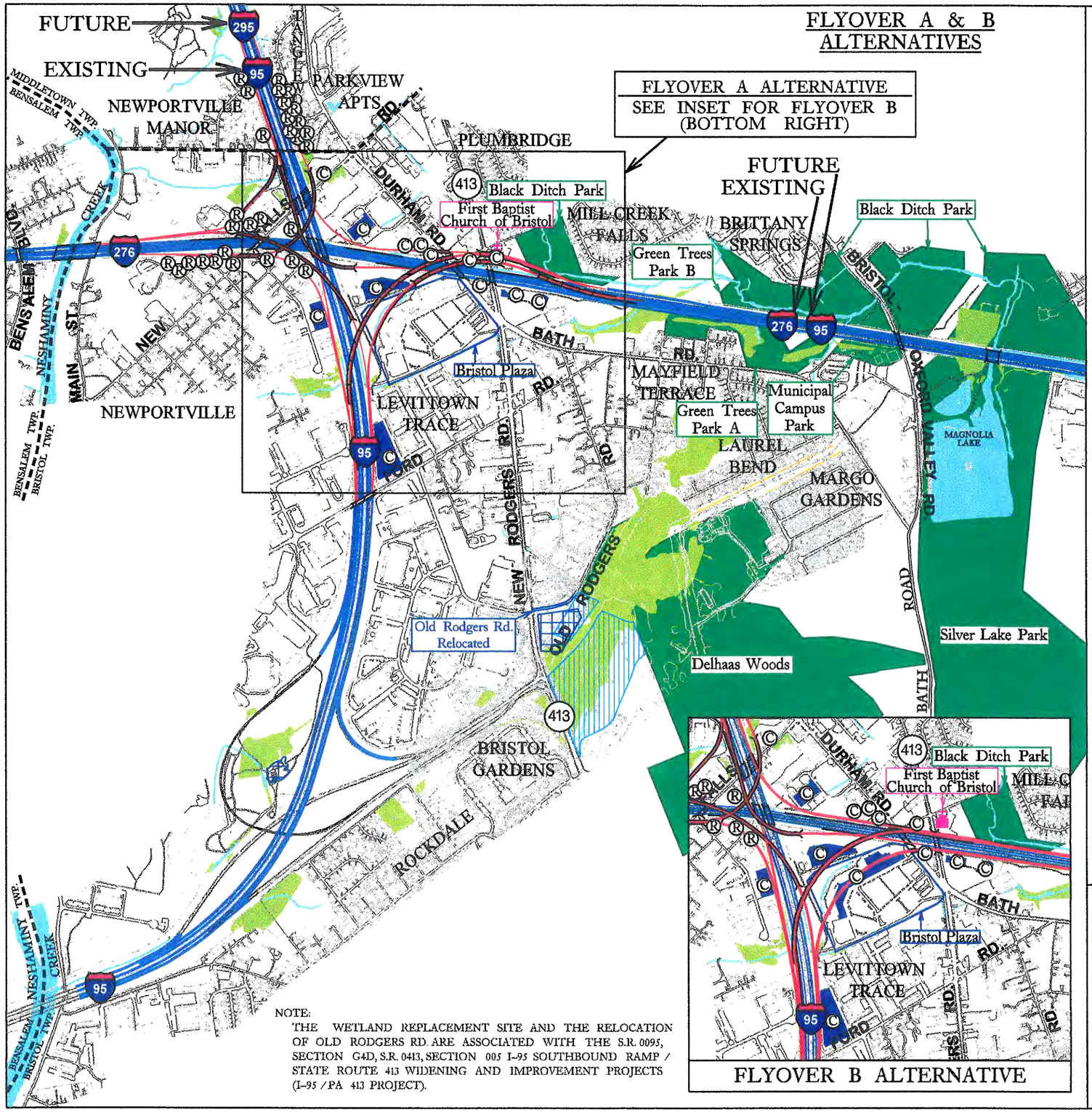


Existing I-276/I-95 Point-of-Crossing

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–6
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT
NO–BUILD ALTERNATIVE
INTERCHANGE REFERENCE

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

FLYOVER A & B ALTERNATIVES

The main design characteristic of the Flyover Interchange Alternative is that all ramps would make direct connections between I-276 and I-95, including those that "fly over" both interstates to make a connection. Flyover ramps tend to be more expensive than at-grade ramps primarily because of the required bridge structures.

Both Flyover Interchange Alternatives would have considerable impact to the Tanglewood community (11 residences). Another disadvantage of these alternatives is that they would impact 15 residences in Newportville. This impact to Newportville would primarily be due to the ramp configuration of I-276 eastbound to I-95 southbound and I-276 eastbound to future I-295 northbound. Modifications to these ramps were made in the Single Loop (**Figure III-6B**) Alternative to reduce impacts to Newportville and Tanglewood.

The main difference between Flyover Interchanges A and B is that the Flyover A Alternative would impact the First Baptist Church of Bristol with no commercial displacements at Bristol Plaza. The Flyover B Alternative would avoid the First Baptist Church of Bristol, but would impact Bristol Plaza by requiring multiple commercial displacements in Bristol Plaza.

Key Advantages:

- ✓ Single location for divergence or convergence of traffic on most ramps
- ✓ Connects I-95 directly to I-276 at existing crossing point
- ✓ Least impacts to public parklands (1.6 ha/3.9 ac)

Key Disadvantages:

- ✓ Community impacts to Newportville (15) and Tanglewood (11), 29 total residential impacts
- ✓ Numerous flyover ramps requiring lengthy structures
- ✓ Impacts to adjacent commercial properties (13)

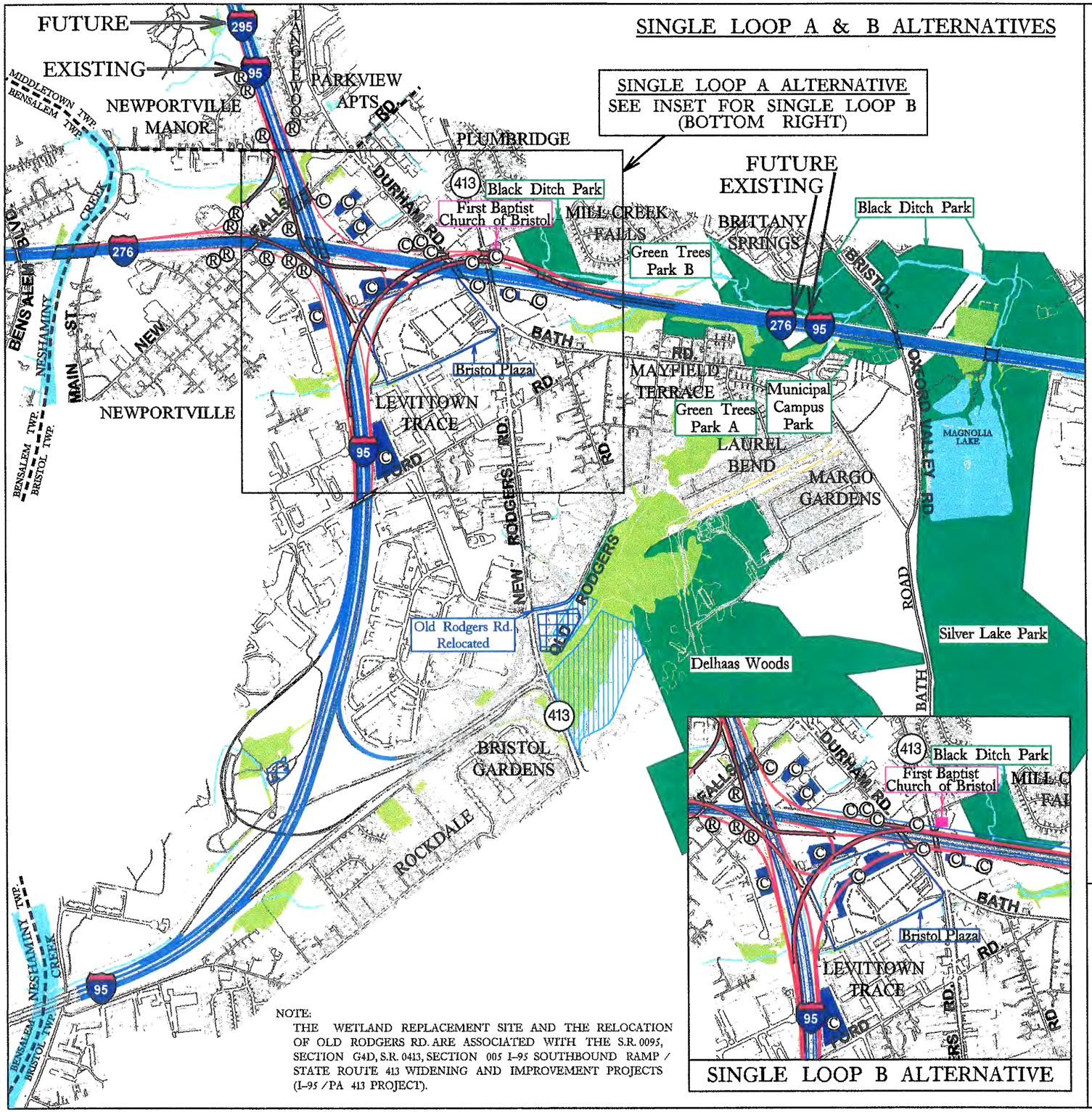
LEGEND
- Proposed Mainline Improvement
- Proposed Structure
- Proposed Ramp /Merge Lane
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–6A
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

FLYOVER A & B ALTERNATIVES

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



SINGLE LOOP A & B ALTERNATIVES

The Single Loop A Interchange Alternative would be similar to the Flyover A Interchange Alternative, with the exception of one design refinement. The I-276 eastbound to future I-295 northbound ramp is changed from a flyover ramp to a loop ramp in the southeast quadrant. Since this is the only loop ramp in this alternative, it is appropriately named the Single Loop A Interchange Alternative. An at-grade loop ramp is typically less expensive to build than a flyover ramp, but it requires more area. In this case, the landlocked property behind the Bristol Plaza would become required ROW and, therefore, would provide a good location for the loop ramp.

As a result of the loop ramp location, the impacts to residences along I-276 in Newportville and along I-95 in Tanglewood would be greatly reduced when compared to the Flyover Interchange Alternative. This is an example of how a design adjustment can result in a reduction of both residential impacts (Flyover - 29; Single Loop - 12) and construction cost ($4 to $9 million reduction).

The main difference between the Single Loop A and B Interchange Alternatives is that the Single Loop A Alternative would impact the First Baptist Church of Bristol with no impact to Bristol Plaza. The Single Loop B Alternative would have no impact to the First Baptist Church of Bristol, but would impact Bristol Plaza, requiring commercial displacements.

Key Advantages:

- ✓ Impacts to residences in Newportville (8) and Tanglewood (1) are generally minimized: Newportville - 15 for Flyover vs. 8 for Single Loop; Tanglewood – 11 for Flyover vs. 1 for Single Loop; Total - 29 for Flyover vs. 12 for Single Loop)
- ✓ Utilizes landlocked property behind Bristol Plaza for a loop ramp
- ✓ Loop ramp reduces the number of lengthy flyover ramps by one and reduces interchange levels by one
- ✓ Connects I-95 directly to I-276 at the existing crossing point
- ✓ Least public parkland impacts (1.6 ha/3.9 ac)
- ✓ Minimizes wetlands impacts (Single Loop A=2.0 ha/4.8 ac; Single Loop B=3.0 ha/7.3 ac)

Key Disadvantages:

- ✓ Double exit signing required for ramps exiting from I-276 Eastbound to I-95 Southbound and I-295 Northbound
- ✓ Impacts to adjacent commercial properties (14)

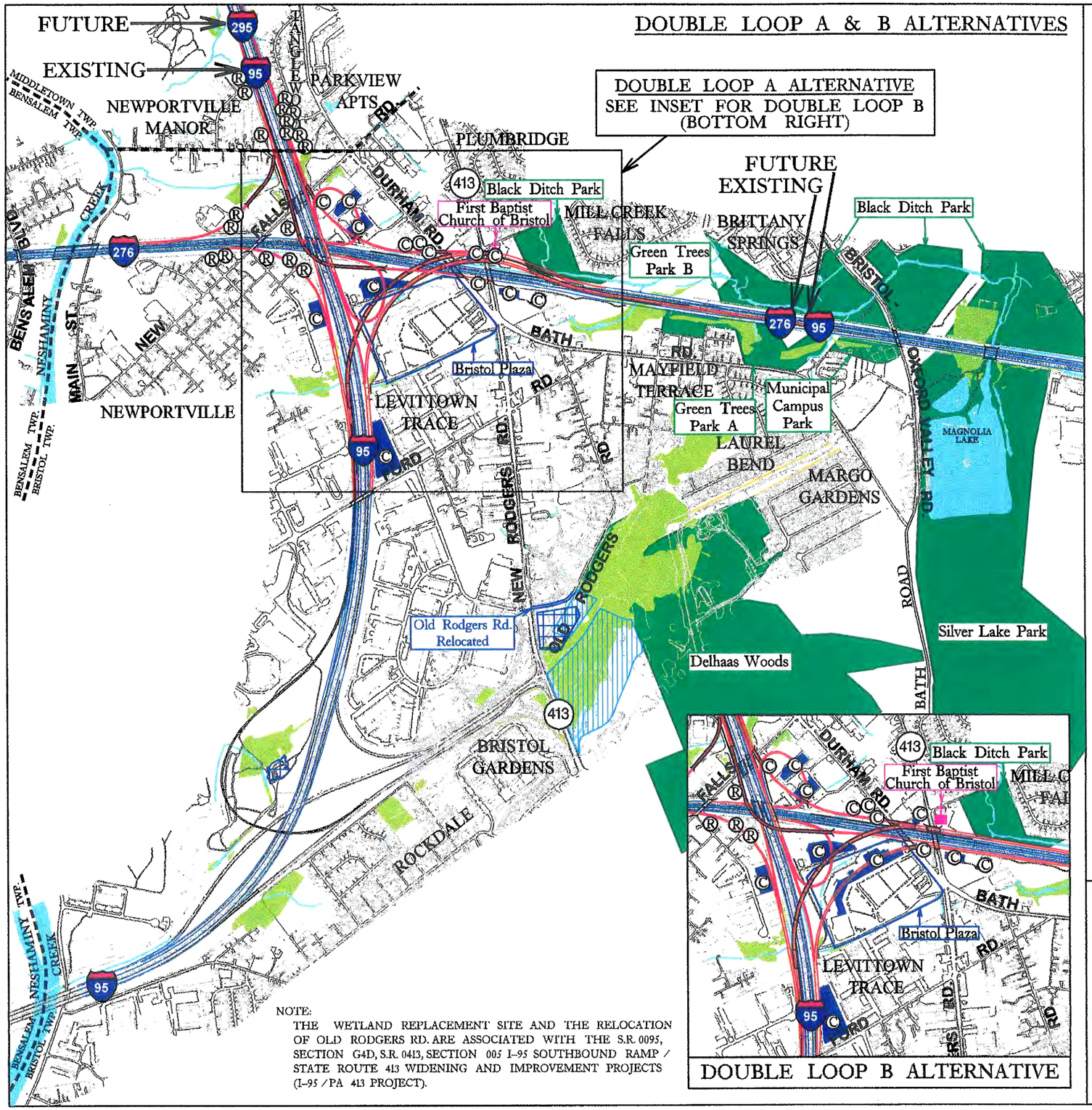
LEGEND
- Proposed Mainline Improvement
- Proposed Structure
- Proposed Ramp /Merge Lane
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- PECO Property
- State-Owned Property (Outside of Highway Right-Of-Way)
- Wetland
- I-95 / PA 413 Project Wetland Replacement Site
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I-276 / I-95 INTERCHANGE PROJECT

FIGURE III-6B
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

SINGLE LOOP A & B ALTERNATIVES

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



NOTE:
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DOUBLE LOOP A & B ALTERNATIVES

The Double Loop Interchange Alternatives would be similar to the Single Loop Interchange Alternatives except, in addition to the I-276 eastbound to future I-295 northbound loop ramp, there is another loop ramp in the northeast quadrant to carry vehicles from I-95 northbound to I-276 westbound. The additional loop ramp would require the use of a collector-distributor system so that slower traffic entering and exiting the two loops is separated from the mainline through traffic. As a result, the collector-distributor system would force I-276 westbound to future I-295 northbound motorists to tie-in further north on future I-295, and, therefore, would increase impacts to the Tanglewood residences. This modification would also displace Modern Handling Equipment, which is a large equipment leasing company and is a major employer in Bristol Township.

The Double Loop Interchanges were developed to reduce the total cost by eliminating a long flyover ramp structure. In this case, refining the design by adding another loop ramp had adverse effects. Likewise, adding a third loop in the southwest quadrant (future I-295 southbound to I-276 eastbound) would have eliminated the need for a long flyover ramp, but would cause severe impacts to residences and businesses in Newportville. A fourth loop ramp would create a cloverleaf interchange but its radius would be unreasonably large to maintain 96.5 kph (60 mph) design speed. For these reasons, alternatives with three and four loop ramps were not considered further in the Preliminary Alternatives Analysis.

The main difference between Double Loop A and B Interchange Alternatives is that Double Loop A would impact the First Baptist Church of Bristol with no impact to Bristol Plaza. Double Loop B would not impact the First Baptist Church of Bristol, but it would impact Bristol Plaza, by displacing businesses.

Key Advantages.

- ✓ Impacts to residences in Newportville (8) are generally minimized
- ✓ Utilizes landlocked property behind Bristol Plaza for a loop ramp
- ✓ Least amount of structures required
- ✓ Collector-Distributor system separates slower weaving vehicles from mainline through traffic
- ✓ Connects I-95 directly to I-276 at existing crossing point
- ✓ Least public parkland impacts (1.6 ha/3.9 ac)
- ✓ Minimizes wetlands impacts (Double Loop A=2.0 ha/4.9 ac; Double Loop B=3.0 ha/7.5 ac)

Key Disadvantages:

- ✓ Impacts residences (7) in Tanglewood
- ✓ Double exit signing required for ramps exiting from I-276 Eastbound to I-95 Southbound and I-295 Northbound and for ramps exiting from I-95 Northbound to I-276 Eastbound and Westbound
- ✓ Impacts to adjacent commercial properties (14)

LEGEND
- Proposed Mainline Improvement
- Proposed Structure
- Proposed Ramp /Merge Lane
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–6C
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

DOUBLE LOOP A & B ALTERNATIVES

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

Each interchange alternative considered for the point-of-crossing alternatives would have several advantages and disadvantages with respect to various environmental, commercial, and residential impacts, as listed on **Figures III-6A to III-6C.** Potential impacts of the preliminary interchange alternatives are discussed in **Section III-E**. **Figure III-7** illustrates existing and proposed typical roadway sections for I-276 and I-95. It also includes typical sections for proposed ramps and merge lanes associated with proposed interchange improvements.

b. New Alignment Alternatives

In addition to the previously described six point-of-crossing Build Alternatives, six other Build Alternatives on new alignments were also considered for the Interchange Element during the PAA. These six were reduced to five by the dismissal of the Public Concept as noted on **Figures III-2** and **III-3**. The main reason for the development of these five interchange alternatives on new alignment was to avoid potential impacts to businesses adjacent to the existing I-276/I-95 point-of-crossing **(Figures III-6A** to **6C)**.

Figure III-8 can be used to reference the orientation of the five alternatives on new alignment. These five new alignment alternatives would join I-276 with I-95 by connecting these interstates along a new alignment between the I-95/PA 413 interchange and I-276, to the west of Interchange 29. This would provide a direct connection between the two interstate highways approximately 1.6 km (1 mi) east of where I-276 and I-95 cross but do not connect. Conceptually, the new alignment alternatives are similar to the LR 1000 alignments not pursued in the late 1970's due to environmental resource and Section 4(f) issues as discussed in **Section III.B**. However, they were evaluated during the 1998 PAA in response to requests from public officials and the general public.

In addition to a new interchange connection between I-276 and I-95, the five new alignment alternatives would require widening sections of I-276 and I-95 from two lanes with shoulders in each direction (four lanes total) to three lanes with shoulders in each direction (six lanes total), and require redesignation of I-276 and I-95 **(Figures III-8A** to **III-8E)**.

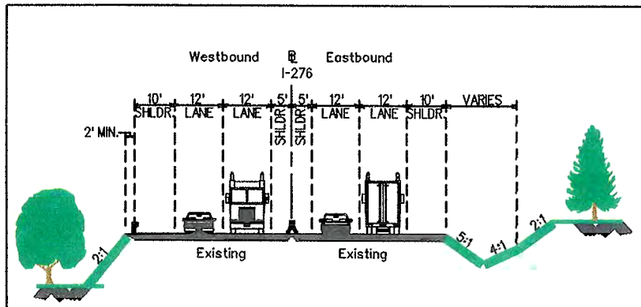
The typical sections for the new alignment alternatives are similar to the point-of-crossing alternatives located on **Figure III-7**. In this regard, a major difference between the six point-of-crossing alternatives and the five new alignment alternatives is that the majority of I-276 and I-95 widening under the new alignment alternatives would occur primarily along existing I-276, which is to be redesignated as I-95 into New Jersey. This is illustrated on **Figures III-8A** to **III-8E**, which also include descriptions of the five new alignment alternatives with summaries of key advantages and disadvantages of each alternative.

The major difference in impacts between the new alignment alternatives and the six point-of-crossing alternatives is a result of constructing a new interstate roadway on new alignment primarily through residential areas in order to connect I-276 with I-95. For example, potential residential displacements for the new alignment alternatives range from 41 to 58, compared to 12 to 29 for the point-of-crossing alternatives.

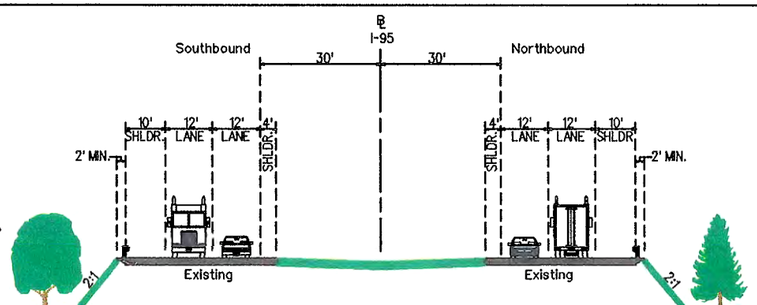
Another major consequence of the alternatives on new alignment is that environmentally sensitive public lands, such as Delhaas Woods and Silver Lake Park, would be directly and indirectly impacted depending on location and proximity of the alternative **(Figure III-8)**.

In their order of development, the following new alignment interchange alternatives were evaluated in detail during the PAA:

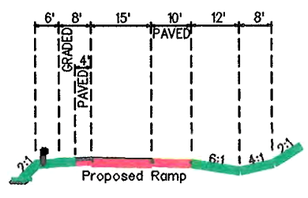
- ✓ Concept A Alternative **(Figure III-8A)**,
- ✓ Public Concept Alternative **(Figure III-8B)**,
- ✓ Concept B Alternative **(Figure III-8C)**,
- ✓ Concept B with Urban Interchange Alternative **(Figure III-8D)**,
- ✓ Concept C Alternative **(Figure III-8E)**,
- ✓ Concept C-Modified Alternative **(Figure III-8F)**.



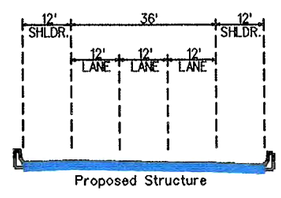
EXISTING I-276 MAINLINE TYPICAL SECTION



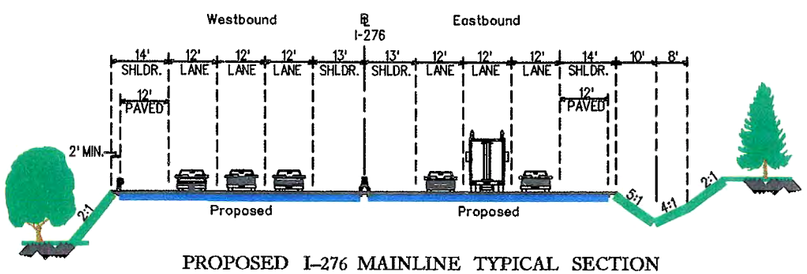
EXISTING I-95 MAINLINE TYPICAL SECTION



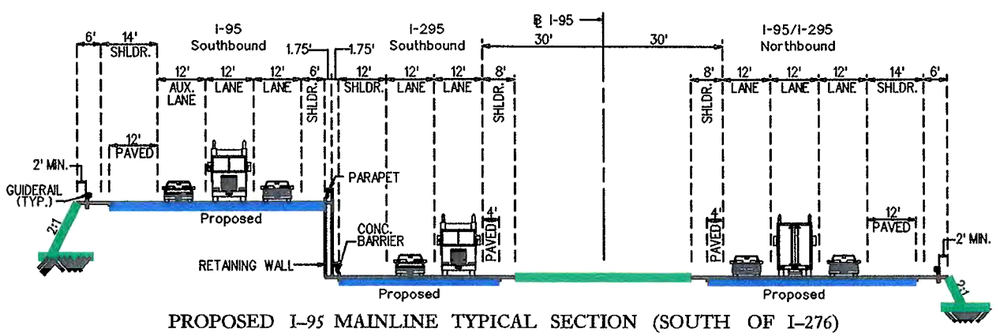
PROPOSED I-276 / I-95 INTERCHANGE RAMPS TYPICAL SECTION – BOTH DIRECTIONS



PROPOSED I-276 / I-95 MAINLINE BRIDGE WITH WIDENING TYPICAL SECTION – BOTH DIRECTIONS



PROPOSED I-276 MAINLINE TYPICAL SECTION EAST OF RELOCATED TOLL PLAZA



PROPOSED I-95 MAINLINE TYPICAL SECTION (SOUTH OF I-276)

LEGEND

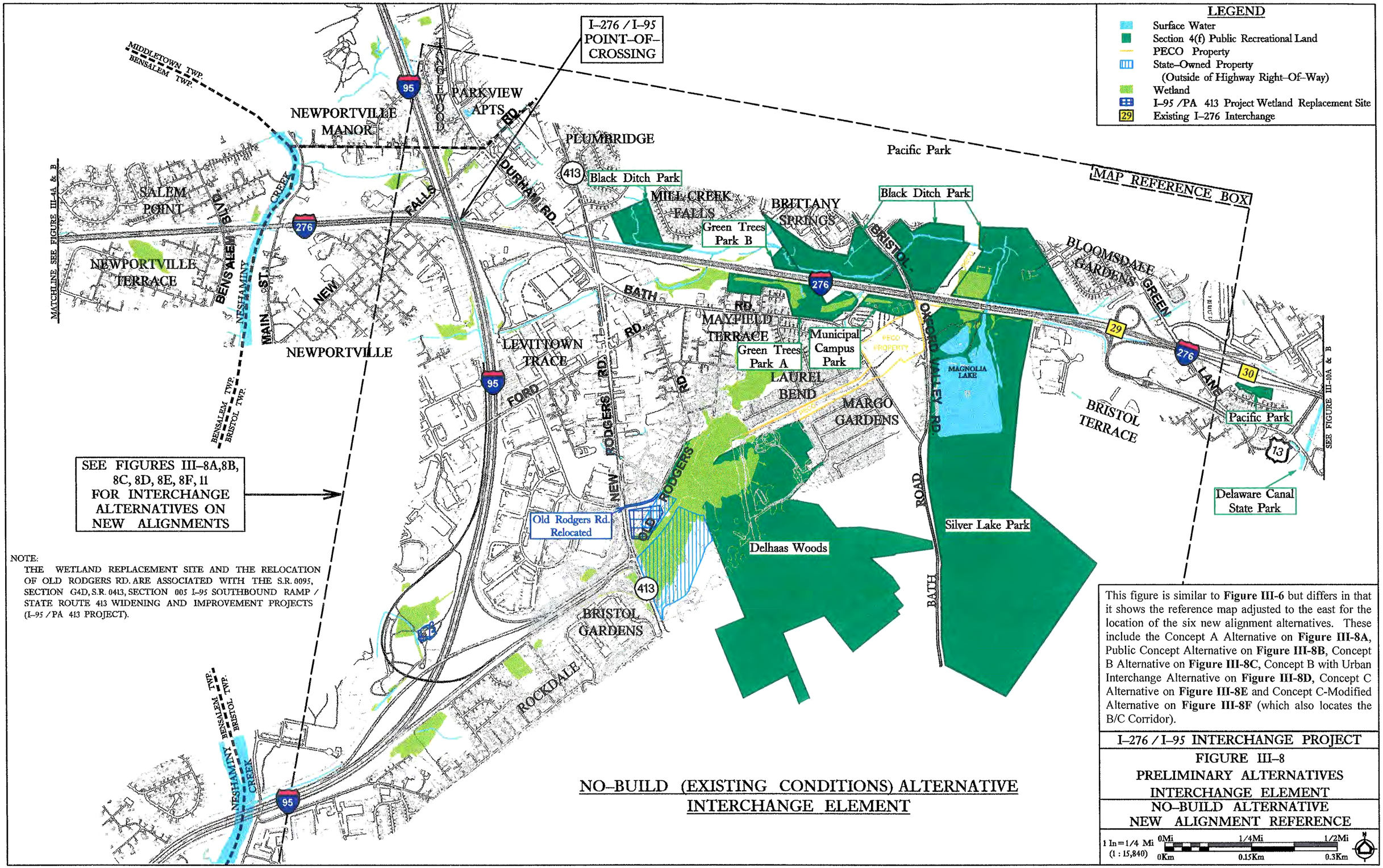
- Proposed Mainline Improvement
- Proposed Ramp /Merge Lane
- Grass Area

I-276 / I-95 INTERCHANGE PROJECT

FIGURE III-7

PRELIMINARY ALTERNATIVES INTERCHANGE ELEMENT

TYPICAL SECTIONS



NOTE:
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This figure is similar to **Figure III-6** but differs in that it shows the reference map adjusted to the east for the location of the six new alignment alternatives. These include the Concept A Alternative on **Figure III-8A**, Public Concept Alternative on **Figure III-8B**, Concept B Alternative on **Figure III-8C**, Concept B with Urban Interchange Alternative on **Figure III-8D**, Concept C Alternative on **Figure III-8E** and Concept C-Modified Alternative on **Figure III-8F** (which also locates the B/C Corridor).

I–276 / I–95 INTERCHANGE PROJECT

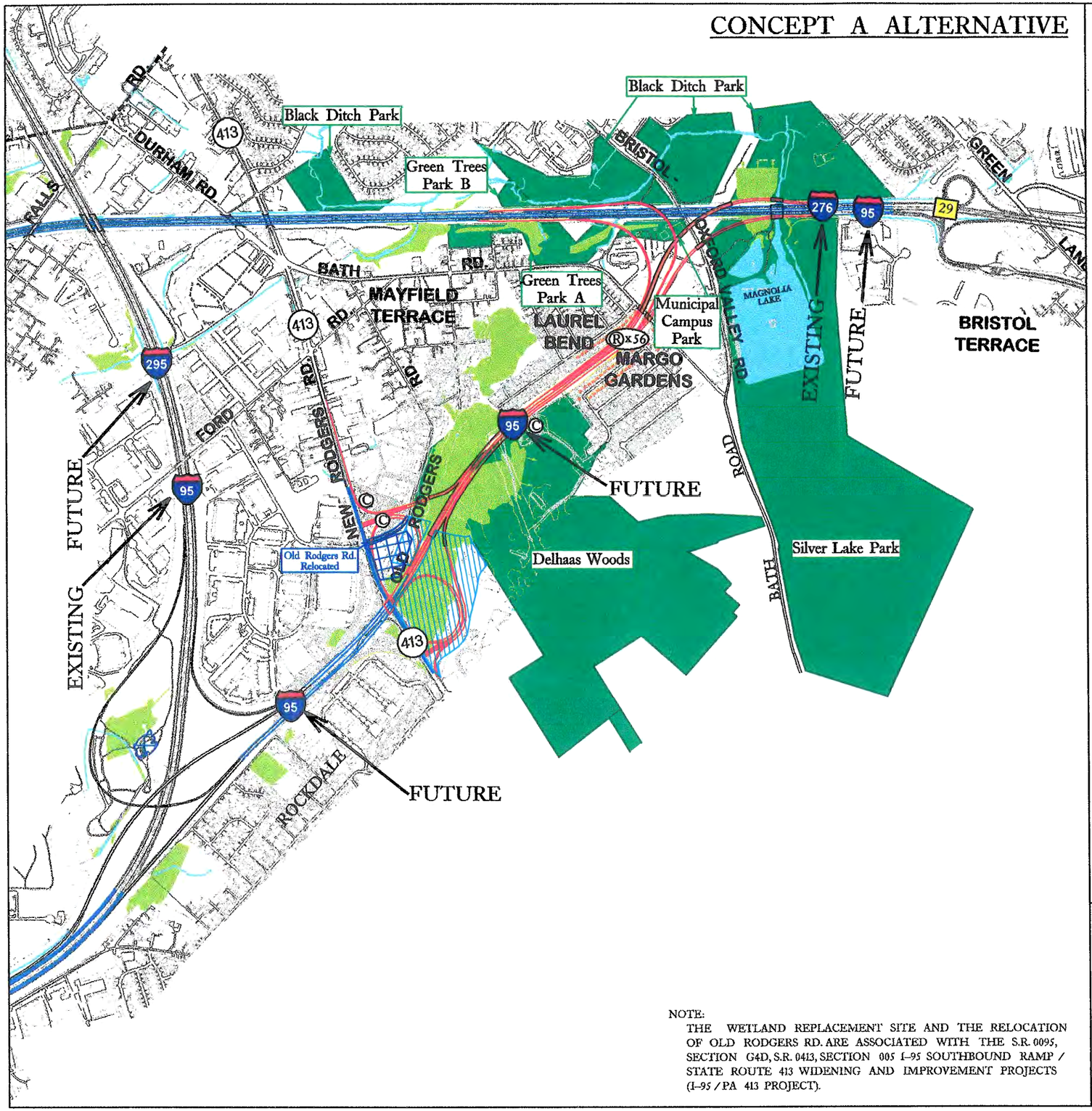
FIGURE III–8
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

NO–BUILD ALTERNATIVE
NEW ALIGNMENT REFERENCE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE
INTERCHANGE ELEMENT

CONCEPT A ALTERNATIVE



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CONCEPT A ALTERNATIVE

The Concept A Alternative is the original Bristol Township suggested concept that would use the existing PA 413 interchange, traverse Delhaas Woods, and follow an existing PECO overhead utility corridor. Under this concept, redesignated I-95 would tie into I-276 just west of Interchange 29 near the Bristol Township Building. Due to the close proximity of the two interchanges on I-276, weave lengths and LOS would be deficient. Because of the substitute ROW needed to replace the existing PECO high-tension lines, this concept would have significant impacts to Margo Gardens residences. It would also have significant impacts to Delhaas Woods and Silver Lake Park, which are afforded special consideration under Section 4(f) of the US Department of Transportation Act of 1966 (Total Section 4(f) impacts=12.4 ha/30.7 ac). This concept would have less impact to commercial properties (3) when compared to the six point-of-crossing alternatives, which is the intent of the township officials.

Key Advantages:

- ✓ Uses state-owned property from LR 1000 Spur F Project
- ✓ Commercial displacements (3) are minimized

Key Disadvantages:

- ✓ Third highest number of residential impacts (56); 41 at Margo Gardens and 15 at Laurel Bend
- ✓ Deficient weave lengths and LOS between redesignated I-95 and Interchange 29
- ✓ Indirect travel movement to/from I-95 (future I-295) north of I-276
- ✓ Requires relocation and substitute ROW for PECO overhead utility lines
- ✓ Greatest impact to public parklands (12.4 ha/30.7 ac) and wetlands resources (11.3 ha/28.0 ac)
- ✓ Impacts wetland replacement site for the I-95/PA 413 Project

LEGEND

- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- 29 I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

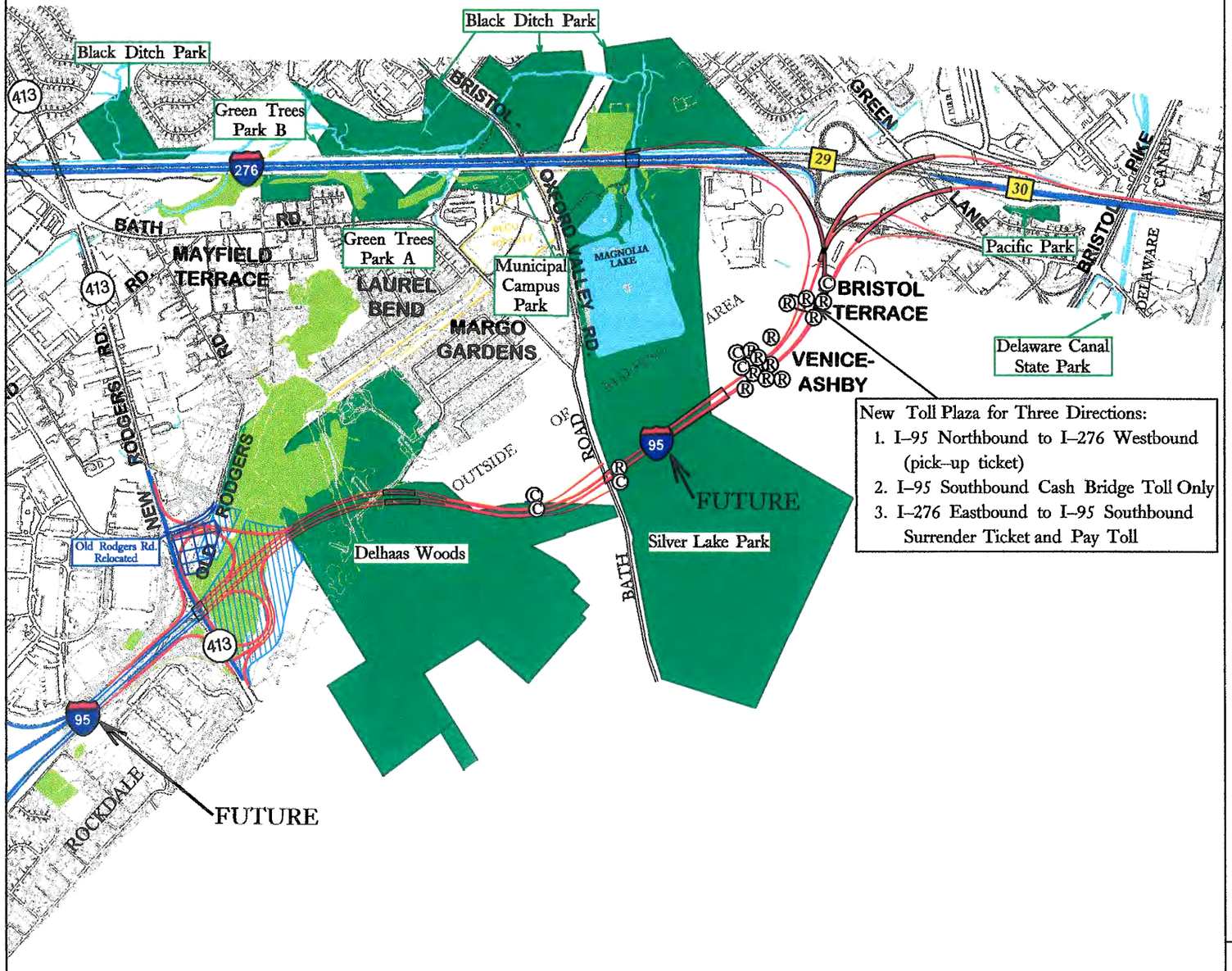
I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–8A
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

CONCEPT A ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

PUBLIC CONCEPT ALTERNATIVE



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PUBLIC CONCEPT ALTERNATIVE

The Public Concept Alternative was proposed by citizens following the February 13, 1997 Public Meeting. The alignment is similar to the Concept A Alternative **(Figure III-8A)**, except that it ties into I-276 at Interchange 29. The Public Concept Alternative would impact the Venice-Ashby low-income multi-unit housing complex instead of Margo Gardens. The intent of this concept is to use most of the property previously acquired for PENNDOT's LR 1000 Spur F Project **(Figure III-1)**, which tied into US 13. These state-owned properties are located adjacent to where redesignated I-95 crosses PA 413 and again at Bath Road. The LR 1000 Spur F project was never constructed, for the most part, due to significant environmental impacts to Delhaas Woods and Section 4(f) impacts to Silver Lake Park.

One of the important engineering considerations of this concept is that it was proposed as not requiring a new mainline toll barrier. Instead, a number of toll collection points would be constructed on the interchange ramps. Under this scenario, vehicles traveling from I-276 eastbound to I-95 southbound would pay to exit the I-276 ticket system and vehicles traveling from I-95 northbound to I-276 westbound would pick up a ticket to enter the system. An additional toll facility would be needed west of the Delaware River Turnpike Bridge. Vehicles traveling westbound over the Delaware River Turnpike Bridge destined for I-95 southbound would be required to pay a cash toll for the bridge. This necessitates a third separate toll facility due to the fact that this ramp diverges from the highway east of the existing barrier toll plaza. Accommodations would also be needed for traffic following I-95 north across the bridge so that they remain separate from the I-276 eastbound traffic exiting I-276 at Interchange 30. If a two-way bridge toll were used then the I-95 northbound traffic would need a separate toll facility.

This concept would also provide local access to Bath Road in addition to the connection at PA 413. Although the Public Concept Alternative would use portions of previously acquired PENNDOT property, it would result in substantial environmental, engineering, and operational problems.

Key Advantage:

✓ Uses state-owned property from LR 1000 Spur F Project

Key Disadvantages:

✓ Impacts to Venice-Ashby Multi-unit housing complex

✓ Greater impact to businesses (6) than Concept A B, or C Alternatives

✓ Indirect travel movement to/from I-95 (future I-295) north of I-276

✓ At least three new toll facilities are necessary

✓ Impacts to two public parklands (Black Ditch Park and Silver Lake Park, which includes Delhaas Woods) and wetlands resources

✓ Impacts wetland replacement site for the I-95/PA 413 Project

LEGEND

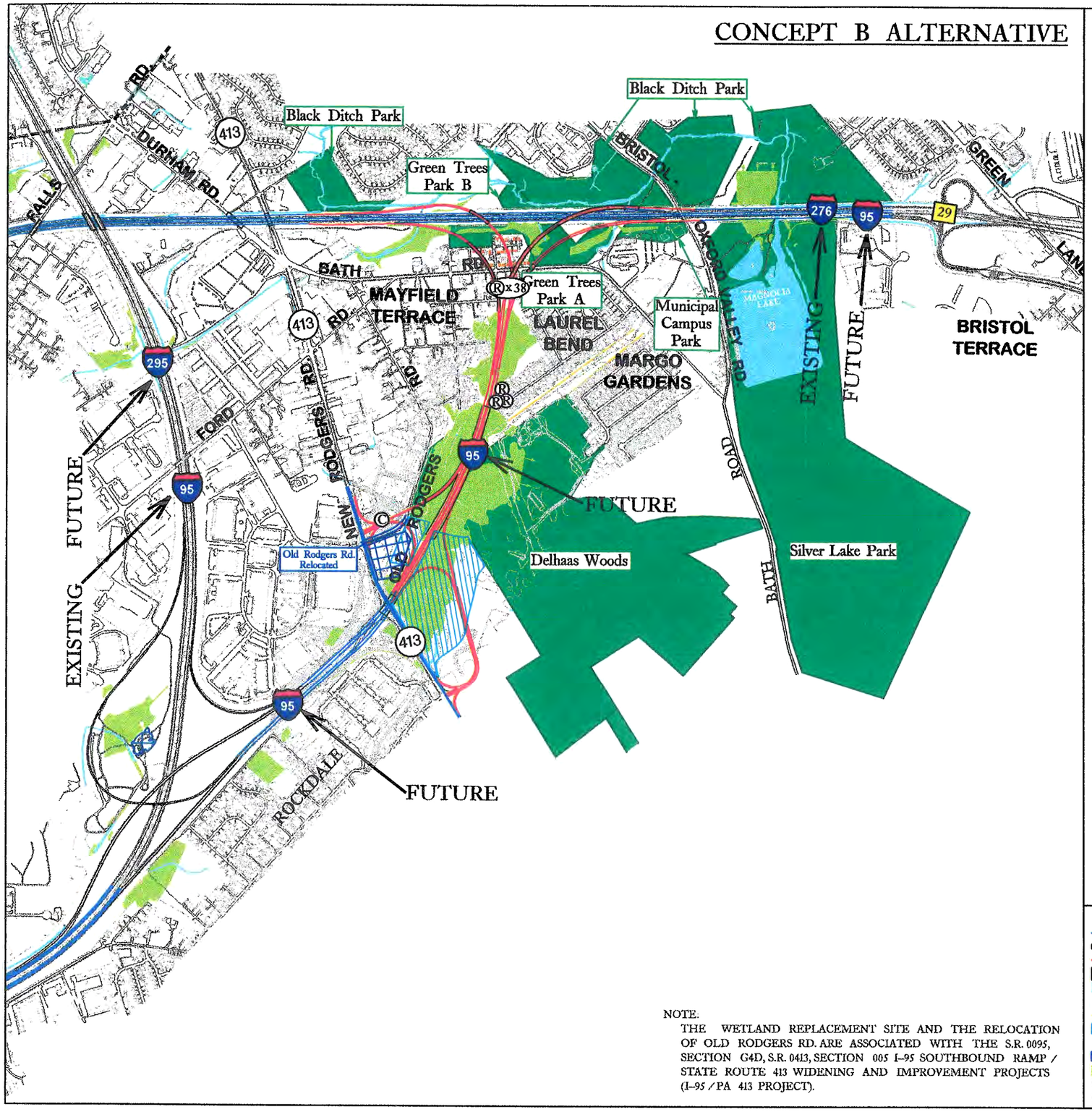
- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- 29 I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- (R) Potential Residential Displacement
- (C) Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–8B
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

PUBLIC CONCEPT ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km



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CONCEPT B ALTERNATIVE

The Concept B Alternative was developed by Bristol Township in response to comments received on the Concept A Alternative **(Figure III-8A)** at the February 13, 1997 Public Meeting. Instead of using the PECO Energy ROW corridor, the Concept B Alternative would follow Butler Avenue and connect with I-276 further west than the Concept A Alternative. Therefore, this alternative would have less of an impact to local residences although it would still be significant. It would also have less impact to Delhaas Woods and minimal impact to Silver Lake Park (total Section 4(f) lands - 8.2 ha/20.3 ac). The Concept B Alternative would also allow for a greater distance between Interchange 29 than where the Concept A Alternative would tie into I-276, although operational deficiencies such as signing and weaving lengths would still exist.

One of the disadvantages of the partial cloverleaf interchange with PA 413 is that it would impact a wetland replacement site for the I-95/PA 413 Project. This wetland creation site is located in the northwest corner of the interchange with PA 413. Also, the loop ramp at PA 413 would potentially displace one commercial property.

Key Advantages:

- ✓ Uses state-owned property from LR 1000 Spur F Project
- ✓ Commercial displacements (1) are minimized

Key Disadvantages:

- ✓ Deficient weave lengths and LOS along future I-95 between PA 413 and future I-295
- ✓ Impacts to residences in Laurel Bend (12) and Mayfield Terrace (29), 41 total residential impacts
- ✓ Indirect travel movement to/from I-95 (future I-295) north of I-276
- ✓ Moderate impacts to public parklands (8.2 ha/20.3 ac) and wetlands resources (7.3 ha/18.0 ac)
- ✓ Impacts wetland replacement site for the I-95/PA 413 Project

LEGEND

- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- 29 I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- R Potential Residential Displacement
- C Potential Commercial Displacement

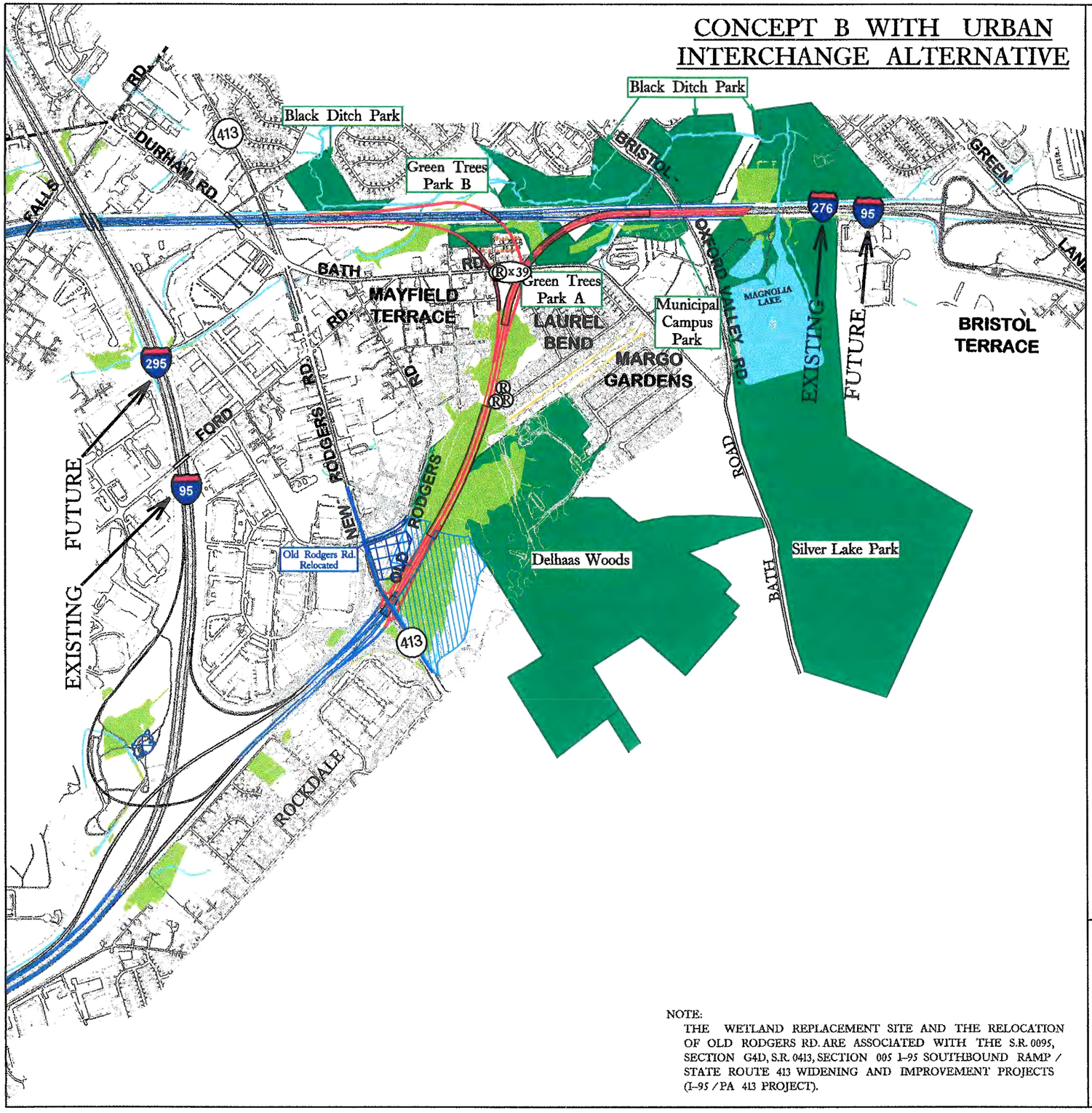
I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–8C
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

CONCEPT B ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

CONCEPT B WITH URBAN INTERCHANGE ALTERNATIVE



CONCEPT B WITH URBAN INTERCHANGE ALTERNATIVE

To reduce environmental impacts, the partial cloverleaf interchange at PA 413 designed for the Concept B Alternative **(Figure III-8C)** was replaced with an urban interchange, which uses direct ramps instead of loop ramps to reduce the amount of required ROW. The Concept B with Urban Interchange Alternative would reduce impacts to Delhaas Woods (total Section 4(f) impacts - 5.8 ha/14.4 ac) and wetlands (6.5 ha/16.0 ac) below the levels of the Concept A and B Alternatives. Another improvement is that there would be no impacts to the I-95/PA 413 Project wetland replacement site or surrounding commercial properties. However, the reduction in environmental impacts would be negated because the urban interchange would not meet minimum weave length and LOS criteria between the southbound I-95 (future I-295) off-ramp and PA 413.

Key Advantages:

- ✓ Uses state-owned property from LR 1000 Spur F Project
- ✓ No commercial displacements
- ✓ No impact to the I-95/PA 413 Project wetland replacement site

Key Disadvantages:

- ✓ Deficient weave lengths and LOS along future I-95 between PA 413 and future I-295
- ✓ Impacts to residences in Laurel Bend (13) and Mayfield Terrace (29), 42 total residential impacts
- ✓ Indirect travel movement to/from I-95 (future I-295) north of I-276
- ✓ Impacts to public parklands (5.8 ha/14.4 ac) and wetland resources (6.5 ha/16.0 ac)

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

LEGEND

- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- 29 I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- (R) Potential Residential Displacement

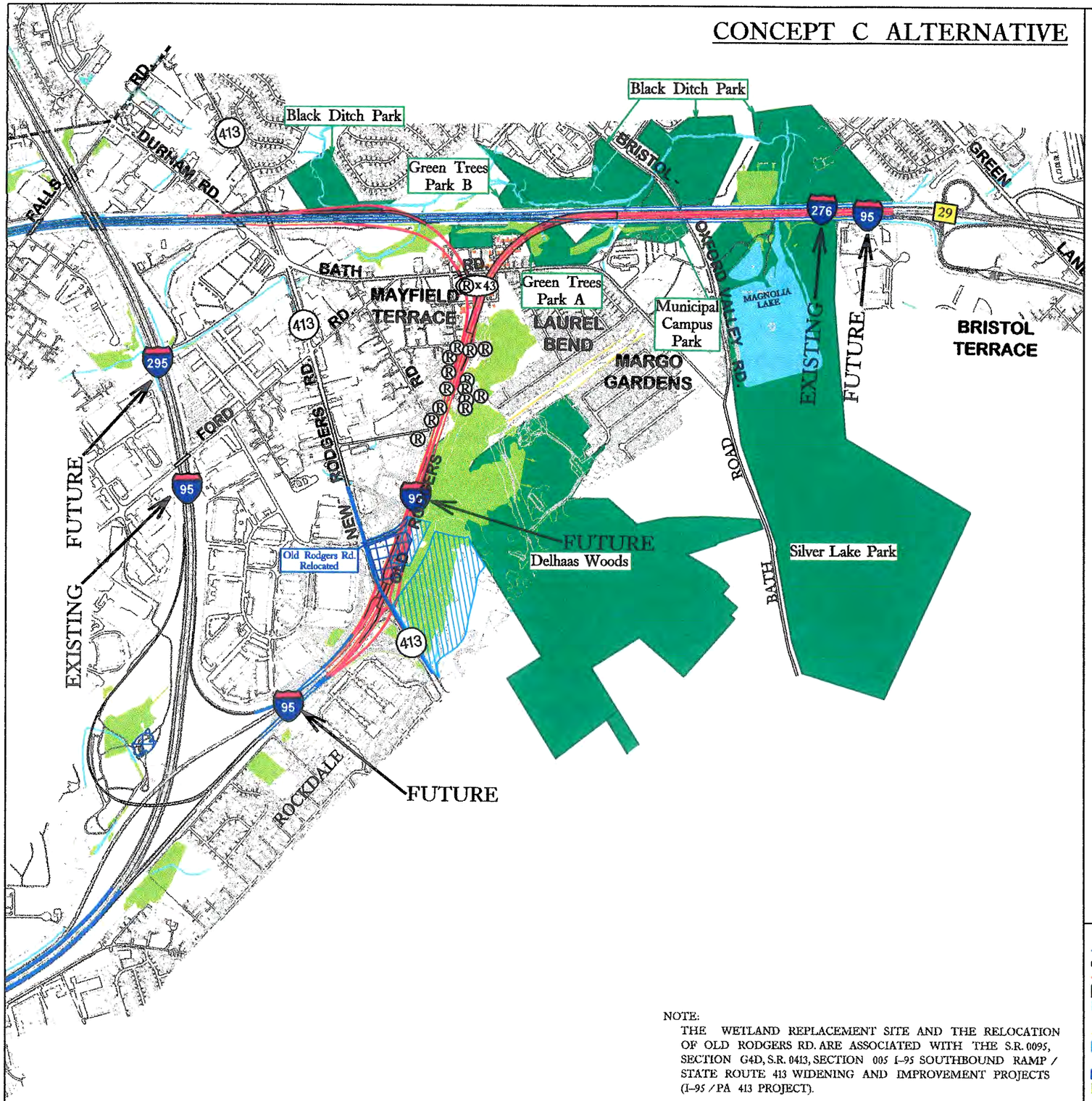
I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–8D
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

CONCEPT B WITH URBAN INTERCHANGE ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

CONCEPT C ALTERNATIVE



NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

CONCEPT C ALTERNATIVE

The Concept C Alternative was developed to minimize impacts to environmental resources such as wetlands and public parklands, while also minimizing impact to commercial properties in Bristol Township. The Concept C Alternative would also incorporate an urban interchange at PA 413. It would be similar to the Concept A **(Figure III-8A)** and Concept B Alternatives **(Figure III-8C)**, except that the mainline would follow existing Old Rodgers Road, which would place it just west of the Concept B Alternative. One of the main differences between the Concept B and Concept C Alternatives is that the Concept C Alternative would not divide Delhaas Woods.

Overall, impacts to public parklands would be reduced, however, there would still be significant environmental and Section 4(f) impacts to Delhaas Woods. Impacts to residential properties would increase substantially relative to the point-of-crossing alternatives and the Concept A and B Alternatives. This would be because the alignment was shifted to the western edge of Delhaas Woods and into Mayfield Terrace. An important characteristic of this concept is that there are no potential commercial displacements. Again, any reduction in environmental impacts would be negated because the urban interchange does not meet minimum weave length and LOS criteria between the southbound I-95 (future I-295) off-ramp and PA 413.

Key Advantages:

- ✓ Uses state-owned property from LR 1000 Spur F Project
- ✓ No commercial displacements

Key Disadvantages:

- ✓ Deficient weave lengths and LOS along future I-95 between PA 413 and future I-295
- ✓ Impacts to residences in Mayfield Terrace (57), second highest number of residential impacts
- ✓ Impacts wetland replacement site for the I-95/PA 413 Project
- ✓ Impacts to public parklands (3.2 ha/8.0 ac)
- ✓ Indirect travel movement to/from I-95 (future I-295) north of I-276

LEGEND

- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- 29 I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- Ⓡ Potential Residential Displacement

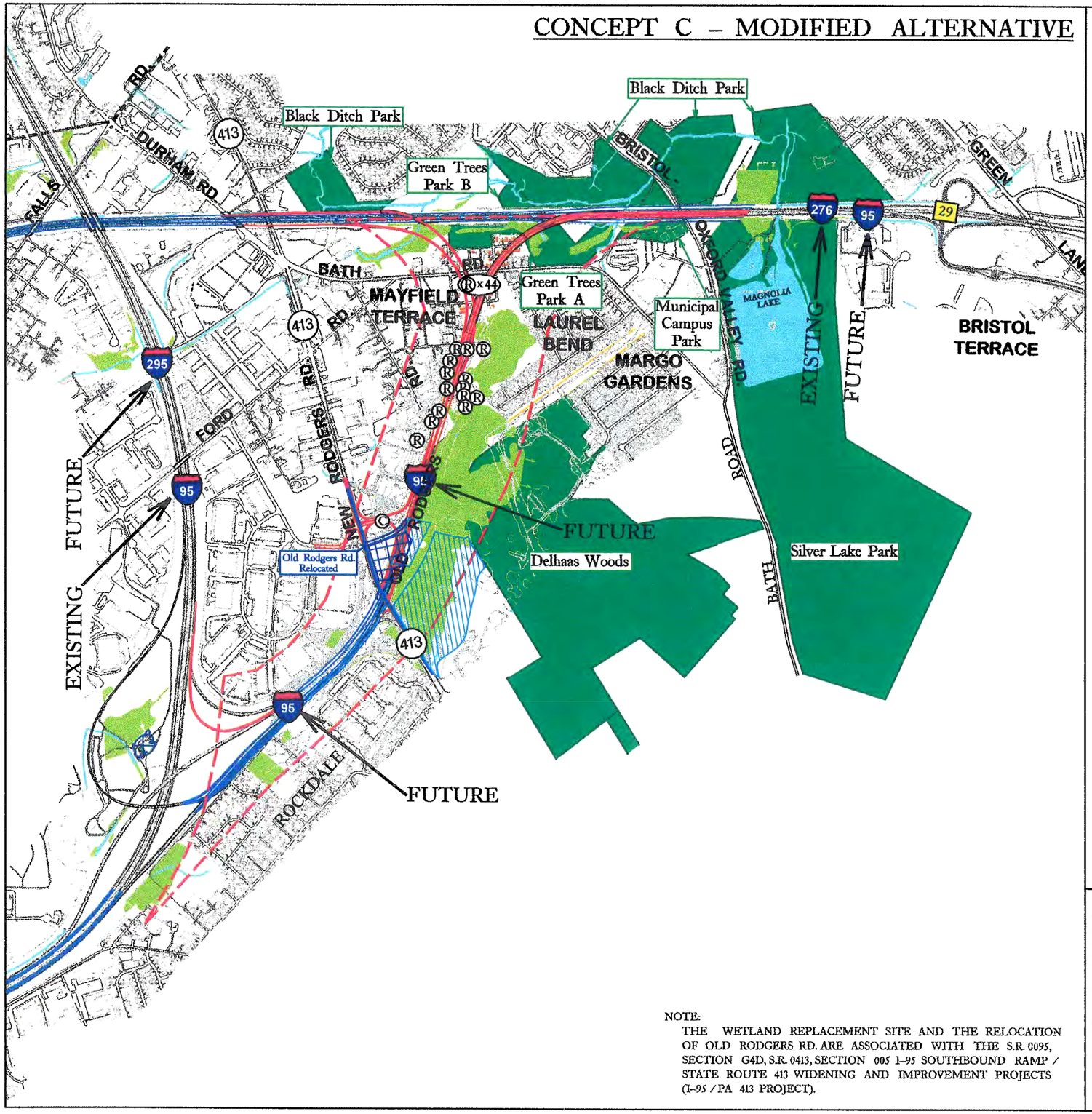
I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–8E
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

CONCEPT C ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km
N

CONCEPT C – MODIFIED ALTERNATIVE



NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

CONCEPT C – MODIFIED ALTERNATIVE

The Concept C-Modified Alternative was developed to address engineering concerns at the PA 413 Interchange. This was due to the fact that projected (2020) traffic volumes associated with an I-276/I-95 Interchange utilizing the existing I-95 spur to PA 413 were not received until the Concept B/C Alignments **(Figures III-8A to III-8E)** had been established. Both the urban and partial cloverleaf interchanges at PA 413 would generate deficient weave lengths between PA 413 and the I-276/I-95 connection. Subsequently, the Concept C – Modified Alternative was developed using the Concept C Alternative alignment with a PA 413 interchange that addressed these deficiencies.

As with the Concept C Alternative **(Figure III-8E)**, the Concept C-Modified Alternative would reduce impacts to potential Section 4(f) properties, however, there would still be substantial environmental impacts to Delhaas Woods. The PA 413 interchange modifications would impact the existing environmental features and highway infrastructure. Bridges and noise barriers constructed with the I-95/PA 413 Project would have to be reconstructed. Residential property impacts would still be relatively high (58), as with the Concept C Alternative. Also, the loop ramp in the northwest quadrant of redesignated I-95 and PA 413 would impact a wetland replacement site and a commercial property.

Key Advantages:

- ✓ Uses state-owned property from LR 1000 Spur F Project
- ✓ Commercial displacements (1) are minimized

Key Disadvantages:

- ✓ Impacts to newly constructed I-95/PA 413 Project bridge structures and associated noise barriers
- ✓ Impacts to residences in Mayfield Terrace (58), highest number of residential impacts
- ✓ Impacts wetland replacement site for the I-95/PA 413 Project
- ✓ Impacts to public parklands (3.2 ha/8.0 ac)
- ✓ Indirect travel movement to/from I-95 (future I-295) north of I-276

LEGEND

- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- B / C Corridor
- 29 I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–8F
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

CONCEPT C –
MODIFIED ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km
N

3. Bridge Element

This project element extends along existing I-276 from the Interchange 29 vicinity east across the Delaware River Turnpike Bridge into New Jersey and terminates in the vicinity of the newly constructed US 130 Interchange **(Figure III-3)**. Because the bridge is a key engineering feature, the discussions presented below are more detailed from an engineering perspective than the two previous element discussions.

During the early phase of the 1998 PAA for the I-276/I-95 Interchange Project, it was determined that an additional bridge would be needed due to the future capacity requirements for the Delaware River Turnpike Bridge crossing. As part of the PAA, engineering studies were conducted which determined that the existing four lane bridge, which was originally designed to accommodate six 3.4 m (11 ft) wide lanes, would not safely accommodate the required roadway section for future traffic volumes. This would include the required six lanes of traffic, a median barrier to separate the three lanes of traffic in each direction, and a need to maintain left and right shoulder widths that meet current interstate standards. Typical sections of existing conditions and proposed requirements are illustrated on **Figure III-9**. It was also determined that the existing through-truss, main span superstructure prohibits widening of the existing bridge. Also, the nearly 50/50 directional traffic split does not support the directional, peak-hour lane usage exercised on other Delaware River crossings in the region such as the Ben Franklin Bridge and the Walt Whitman Bridge between Philadelphia and New Jersey.

Another important factor affecting the preliminary bridge alternatives is the fact that the existing toll facilities on each side of the Delaware River will change. Under a separate project, the Florence Toll Plaza of the New Jersey Turnpike Extension was reconstructed at US 130 to the east of the previous barrier location **(Figure III-10A)**. As part of the I-276/I-95 Interchange Project, the I-276 Interchange 30 toll facility could become a one-way, Pennsylvania in-bound, non-ticket toll and traffic flow across the Delaware River Turnpike Bridge would be improved. Taking this into consideration, four bridge alternatives were initially studied, including a new six-lane structure and a new three-lane structure. Each of these two basic structure options could be located to the north or south of the existing structure **(Photo III-1** and **Figure III-9)**. The option of a new three-lane structure would be a one-way directional bridge that would supplement the existing structure.

Both of the six-lane structure alternatives would require demolition of the existing bridge structure. The combined cost of demolition, plus the cost of constructing a new six-lane bridge, would make the six-lane structure alternatives more expensive than the three-lane options. Prior to the development of the DEIS, it was determined that the potential impacts to socioeconomic and environmental resources associated with the six-lane alternatives would be greater than the impacts resulting from either of the two new three-lane structure options.

Based on these factors, the six-lane bridge alternatives were dismissed from further consideration early in the PAA. As a result, two options for a new three-lane, parallel, one-directional bridge (Bridge North and Bridge South Alternatives) were carried forward for additional engineering and impact analysis. **Figures III-10A** and **III-10B** include descriptions, illustrations and impact summaries of both alternatives in comparison with the No-Build Alternative.

The existing Delaware River Turnpike Bridge consists of two sections of multiple span approaches and one main river crossing. The river crossing is a through-truss structure that is 416 m (1,364 ft) in length, and the total length of the structure is approximately 2,003 m (6,571 ft). Design of the proposed new parallel structure has not yet been defined, but it will likely be similar to the existing structure for aesthetic reasons. The channel width and under clearance of the existing bridge would be maintained as per the requirements of the United States Coast Guard (USCG).

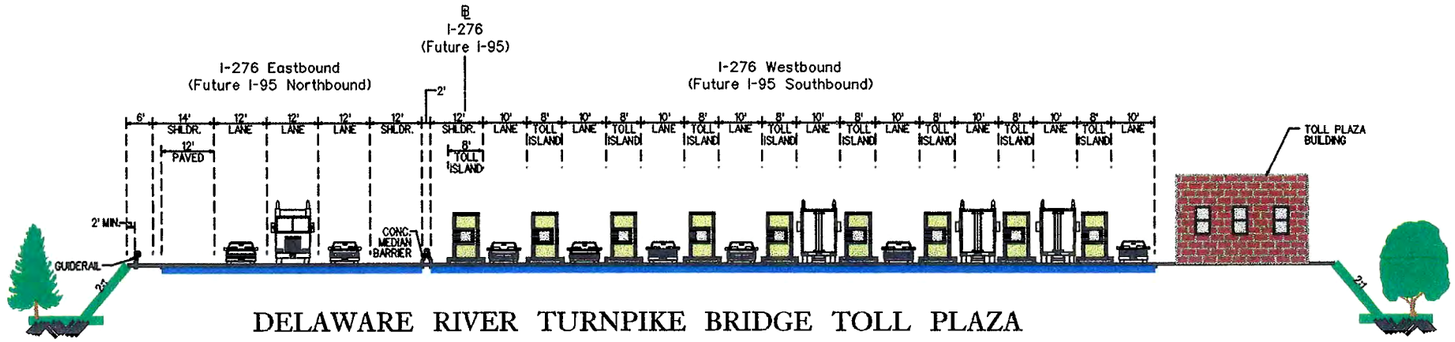
Because the end of the Pennsylvania Turnpike ticket system would be relocated to the west of the proposed interchange, the existing two-way toll facility at I-276 Interchange 30 would be modified. A new bridge toll facility would be built in its place. The new Delaware River Turnpike Bridge Toll Plaza would be a one-way westbound toll. This direction of toll collection would be consistent with one-way tolls of other major Delaware River bridges between Pennsylvania and New Jersey.

In New Jersey, a fully directional interchange between the New Jersey Turnpike Extension and US 130 has recently been built that incorporates a barrier toll plaza that replaced the previous New Jersey Turnpike toll facility located to the west as illustrated on **Figure III-10A**. The connection between the New Jersey Turnpike Extension and US 130 was a separate project administered by the New Jersey Turnpike Authority (NJTA). Also included as part of the Bridge Element is the reconstruction of the Pennsylvania Turnpike toll facility at Interchange 29 **(Figure III-10B)**.

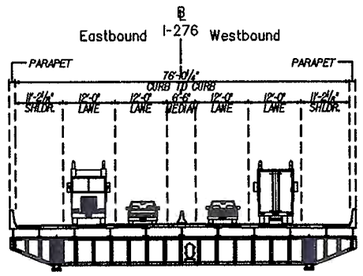
The I-276 (future I-95) structure over the Interchange 29 ramps would be reconstructed with modifications to the entrance and exit ramps. This would be due to the widening of the mainline to six lanes and the capacity and condition of the interchange. Local access would remain via Interchange 28 along I-276 and Interchange 29 along I-276 to be renamed I-95, as well as the existing I-95 interchanges at PA 413 and US 1 along I-95 to be renamed I-295. A Tolling and Revenue Study will be undertaken during project design to finalize exact locations of the tollbooths and toll revenues for the Pennsylvania Turnpike System. Should this result in substantial engineering modifications from that presented in this FEIS, impact calculations would be re-evaluated in accordance with FHWA and PENNDOT procedural requirements.



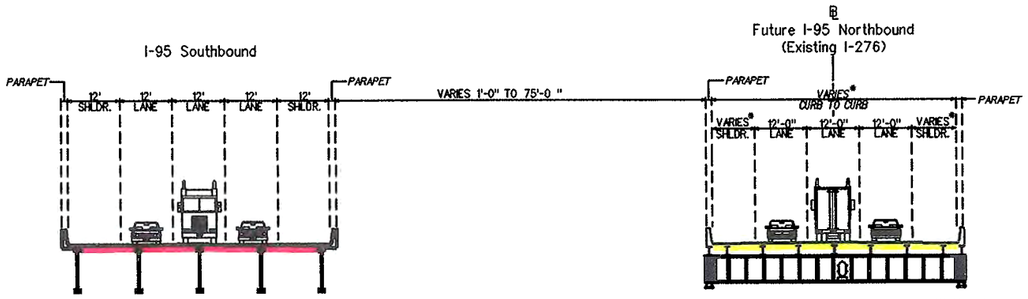
PHOTO III-1 EXISTING DELAWARE RIVER TURNPIKE BRIDGE *This aerial photo of the existing Delaware River Turnpike Bridge was taken from the New Jersey side of the Delaware River looking west towards Pennsylvania. North is to the right of the existing bridge whereas south is to the left of the existing bridge. The existing bridge includes two lanes with shoulders in each direction. The Pennsylvania Turnpike Toll Plaza at Interchange 30 is located in the background.*



DELAWARE RIVER TURNPIKE BRIDGE TOLL PLAZA

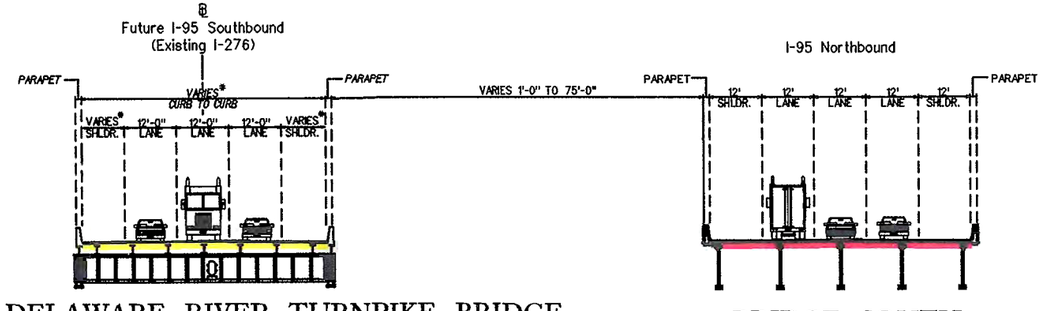


EXISTING DELAWARE RIVER TURNPIKE BRIDGE (NO–BUILD)



BRIDGE NORTH

EXISTING DELAWARE RIVER TURNPIKE BRIDGE
BRIDGE NORTH ALTERNATIVE



EXISTING DELAWARE RIVER TURNPIKE BRIDGE
BRIDGE SOUTH ALTERNATIVE

BRIDGE SOUTH

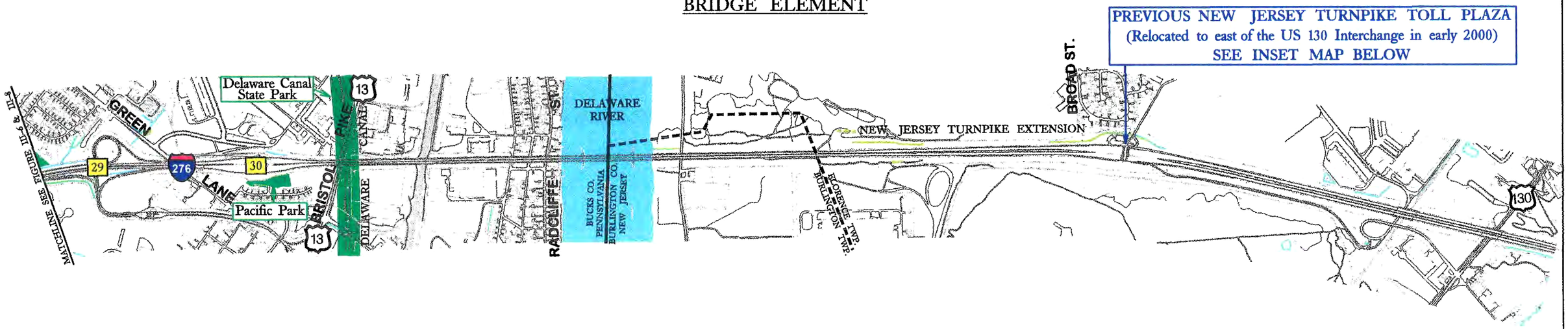
• Portions of the deck of the existing bridge approach spans would be removed to minimize impacts and eliminate excessive width not required for one–directional travel.

LEGEND
- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade of Existing Bridge
- Grass Area

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–9
PRELIMINARY ALTERNATIVES
BRIDGE ELEMENT
TYPICAL SECTIONS

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE
BRIDGE ELEMENT



NO-BUILD ALTERNATIVE

The **No-Build Alternative** would involve no changes to the existing Delaware River Turnpike Bridge crossing or the existing toll plaza. While it would not meet the project need, it is used as a comparison for the other alternatives. Both of the bridge alternatives involve the construction of a parallel Delaware River span and rehabilitation the existing bridge.

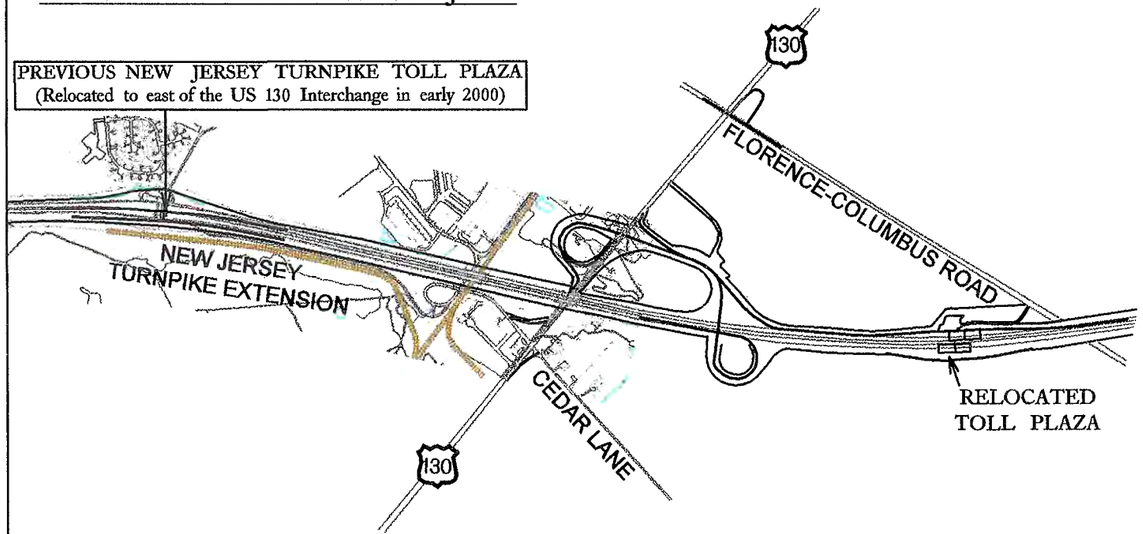
BRIDGE NORTH ALTERNATIVE

The **Bridge North Alternative** would involve the construction of a new three-lane bridge approximately 22.9 m (75 ft) to the north of the existing Delaware River Turnpike Bridge. The major areas of potential impact for this alternative would be the businesses and homes adjacent to the bridge. The commercial impacts would include four businesses. Another disadvantage of this alternative would be the impact to the nearby residences in Edgely in the vicinity of Radcliffe Avenue **(Figure III-10B)**.

BRIDGE SOUTH ALTERNATIVE

The **Bridge South Alternative** would involve the construction of a new parallel bridge structure approximately 22.9 m (75 ft) south of the existing bridge. The 22.9 m (75 ft) separation for both bridge alternatives was based on seismic considerations of the parallel structures and will allow construction of the new bridge without conflict with the existing bridge. Bridge placement to the north or south of the existing bridge would be the only major design difference between the two bridge alternatives. There would be differences in the magnitude of environmental, commercial, and residential impacts **(Table III-1)**. Generally, Bridge South would have less commercial impacts (three) and less residential impacts (three) than Bridge North **(Figure III-10B)**.

US 130 INTERCHANGE PROJECT



Source: New Jersey Turnpike Authority
NO SCALE

LEGEND

- 29 Existing I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- Wetland

INSET LEGEND

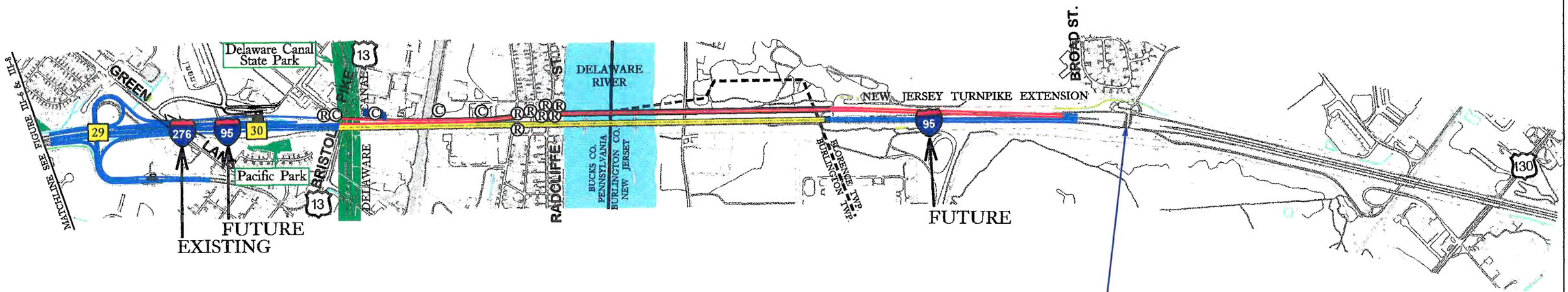
- Route 130 Interchange Ramps and Connections
- Railroad

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–10A
PRELIMINARY ALTERNATIVES
BRIDGE ELEMENT
NO–BUILD ALTERNATIVE

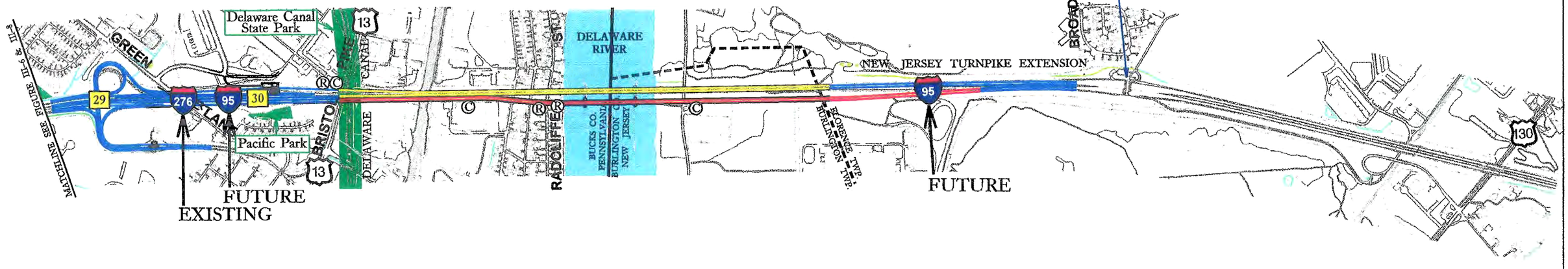
1 In = 1/4 Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km

BRIDGE NORTH ALTERNATIVE



PREVIOUS NEW JERSEY TURNPIKE TOLL PLAZA
(Relocated to east of the US 130 Interchange in early 2000)

BRIDGE SOUTH ALTERNATIVE



BRIDGE NORTH ALTERNATIVE

Key Advantage:

✓ Minimal impacts to Section 4(f) properties

Key Disadvantages:

✓ Greater impacts to residences in Edgely

✓ Commercial impacts to Window Wizards, Bruce's Auto Service and two businesses on Corell Street (one is presently vacant)

BRIDGE SOUTH ALTERNATIVE

Key Advantages:

✓ Minimizes residential impacts to Edgely

✓ Minimizes the number of commercial impacts

Key Disadvantages:

✓ Greater impact to Section 4(f) properties

LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade of Existing Bridge
- 29 Existing I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–10B

PRELIMINARY ALTERNATIVES

BRIDGE ELEMENT

BRIDGE NORTH & BRIDGE SOUTH ALTERNATIVES

1 In = 1/4 Mi (1 : 15,840)

0Mi 1/4Mi 1/2Mi

0Km 0.15Km 0.3Km

E. PRELIMINARY ALTERNATIVES ADVANCED

The potential impacts resulting from the PAA alternatives are listed on **Table III-1**. These are the results of a preliminary impact analysis of each alternative studied during the PAA to evaluate potential impacts for each alternative based on the preliminary alignments and typical roadway sections discussed in **Section III-D**. Consideration of each alternative with respect to the project design criteria, environmental constraints and community input allowed for a balanced assessment of all of the preliminary alternatives evaluated at that time.

The purpose of the PAA was to evaluate potential impacts of the preliminary alternatives, compare the alternatives' ability to meet identified project needs, and to solicit citizen input and environmental resource agency comments. This preliminary analysis of impacts included site visits, examination of existing data sources and limited field verification, review of resource inventories and planning documents, coordination with local officials, and input from resource agencies, local citizens, and public officials.

The PAA Report, approved in 1998, documented the results of the PAA. The PAA recommended advancing seven separate Build Alternatives of the 16 Build Alternatives studied into the Detailed Alternatives and Review Phase. These included two alternatives in the Toll Plaza Element (Split Plaza East and Split Plaza West); three alternatives in the Interchange Element (Single Loop A, Flyover A, and a single interchange alternative to be developed in the B/C Corridor), and two alternatives in the Bridge Element (Bridge North and Bridge South). These recommendations were consistent with input received from resource agencies, public officials, general public, and the project's Community Advisory Committee (CAC), as discussed below.

TABLE III-1
PRELIMINARY ALTERNATIVES ANALYSIS IMPACT SUMMARY (OCTOBER 1997)

Resource	Toll Plaza Element			Interchange Element											Bridge Element	
				Point-of-Crossing Alternatives						New Alignment Alternatives						
				Flyover Interchange		Single Loop Interchange		Double Loop Interchange								
	Standard Plaza	Split Plaza East	Split PlazaWest	A	B	A	B	A	B	Concept A	Concept B	Concept B w/ Urban Interchange	Concept C	Concept C-Modified	Bridge North	Bridge South
Potential Threatened/ Endangered Species Population	0	0	2	5	5	5	5	5	5	N/A	N/A	N/A	N/A	N/A	2	2
Wetlands (ha/ac)	1.3 / 3.3	1.2 / 3.0	2.4 / 5.9	2.0 / 4.9	3.0 / 7.5	2.0 / 4.8	3.0 / 7.3	2.0 / 4.9	3.0 / 7.5	11.3 / 28.0	7.3 / 18.0	6.5 / 16.0	2.3 / 5.7	3.8 / 9.3	0.30 / .76	0.06 / .14
100-Year Floodplain (ha/ac)	0.4 / 0.9	0.4 / 1.0	0.1 / 0.2	2.8 / 7.1	2.6 / 6.6	2.8 / 7.1	2.6 / 6.6	2.8 / 7.1	2.6 / 6.6	N/A	N/A	N/A	N/A	N/A	1.2 / 2.9	1.1 / 2.8
Surface Water (crossings)	4	4	4	9	9	9	9	9	9	N/A	N/A	N/A	N/A	N/A	2	2
Perennial Stream Impacts (m/ft)	203.7/668.2	140.5/461.1	549.9/1,785	440/1,445	587/1,925	433/1,420	594/1,950	436/1,430	588/1,930	N/A	N/A	N/A	N/A	N/A	43/140	43/140
Intermittent Stream Impacts (m/ft)	263.6/864.8	263.6/864.8	45.7/149.9	259/850	264/865	259/850	270/885	262/860	267/875	N/A	N/A	N/A	N/A	N/A	111/365	0/0
Farmland (ha/ac)	5.3 / 12.9	5.1 / 12.4	1.0 / 2.4	0	0	0 / 0	0 / 0	0 / 0	0 / 0	N/A	N/A	N/A	N/A	N/A	0	0
Potential Archaeological Resources Sites (ha/ac)	4.6 / 11.4	3.7 / 9.3	3.4 / 8.5	8.2 / 20.3	7.7 / 19.3	8.2 / 20.3	7.7 / 19.3	8.2 / 20.3	7.7 / 19.3	N/A	N/A	N/A	N/A	N/A	0.92 / 2.3	2.2 / 5.5
Eligible Historic Architectural Resources	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	0	0
Potential Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	0 / 0	0 / 0	0 / 0	6 / 0	6 / 0	6 / 0	6 / 0	6 / 0	6 / 0	6 / 0	5 / 0	7 / 0	6 / 0	6/ 0	2 / 0	2 / 0
Area of Potential Section 4(f) Resource Use (ha/ac)	0 / 0	0 / 0	0 / 0	1.6 / 3.9	1.6 / 3.9	1.6 / 3.9	1.6 / 3.9	1.6 / 3.9	1.6 / 3.9	12.4 / 30.7	8.2 / 20.3	5.8 / 14.4	3.2 / 8.0	3.2 / 8.0	0.62 / 1.6	1.1 / 2.8
Potential Sensitive Waste Sites	0	0	0	11	11	11	11	11	11	N/A	N/A	N/A	N/A	N/A	4	4
Public Facilities and Services	0	0	0	1[1]	1[1]	1[1]	1[1]	1[1]	1[1]	N/A	N/A	N/A	N/A	N/A	0	0
Potential Commercial Property Displacements	2	2	2	13	13	14	14	14	14	3	1	0	0	1	4	3
Potential Residential Property Displacements	15	10	1	29	29	12	12	18	18	56	42	42	57	58	8	3
Total Section Cost Estimate[2] (million $)	104	91	90	282	279	275	273	276	274	269	260±	260±	260±	260±	172[3]	180[3]

Table developed for the October 16, 1997 ACM Field View and modified for use in the August 1998 PAA Report. It does not include the Public Concept developed in February 1998 and presented but dismissed in the August 1998 PAA Report. Concept A, Concept B, Concept B with Urban Interchange, Concept C and Concept C-Modified were not evaluated in every resource category as the other alternatives due to the fact that they are outside of the detailed study area. However, these alternatives were evaluated to a level of detail for areas of most concern (wetlands, Section 4(f), displacements and cost) to allow their recommendation or elimination from further study.

N/A This information is not available at the same level of detail as that information developed for other project alternatives.

1 Partial property acquisition - no structure taking

2 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.

3 This cost estimate does not include the costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.

F. PUBLIC AND AGENCY COMMENTS

Public opinion was important in determining project alternatives to be further studied. A public meeting was held on February 13, 1997 to introduce the preliminary alternatives for the Toll Plaza, Interchange, and Bridge Elements. This meeting was held as an open house format to update the public on the project's progress. Project videos, handouts, and presentation graphics were presented to explain the alternatives under consideration for further study and their environmental features.

Over 300 people attended the February 1997 Public Meeting. Attendees of the meeting were asked to fill out a questionnaire indicating the type of interchange they preferred. Sixty-seven of the attendees, or twenty percent of the total, filled out the questionnaire. A third of the respondents did not have an alternative preference, while a quarter of the respondents preferred the Single Loop A Alternative. The remaining respondents preferred, in order of choice, the Concept A (previously referred to as the Direction Associates Alternative), the Flyover Alternatives, and the Double Loop Alternatives. Of those that preferred the Flyover and Double Loop Alternatives, the option "A" ramp configuration that avoids Bristol Plaza was preferred over the option 'B" ramp configuration.

On June 18, 1997, the CAC representing community interest throughout the study area, endorsed the following alternatives for further study: Split Plaza West, Single Loop A, Bridge North and Bridge South. Also, the CAC recommended further study of some combination of Concept B with an Urban Interchange and Concept C, both developed through coordination with Bristol Township officials in response to the dismissal of Concept A after the February 1997 Public Meeting. This new alignment alternative would be evaluated at the same level of detail as the original six point-of-crossing interchange alternatives. The area of study for the new alignment interchange alternatives became known as the B/C Corridor.

Similar to public opinion, input from regulatory and resource agencies was also instrumental in the development and review of the preliminary alternatives and associated impacts. Ongoing project development has been discussed at Agency Coordination Meetings (ACMs) in Pennsylvania and directly with individual agency officials in New Jersey. ACMs are a forum for environmental and cultural resource agency review

of transportation projects in Pennsylvania. The findings of the PAA were first presented to the environmental agency group at the July 23, 1997 ACM. In accordance with PENNDOT's Transportation Project Development Process, concurrence on the preliminary alternatives was *not* sought at this meeting.

The purpose of the presentation of preliminary alternatives at the July 1997 ACM was to update the agencies on project progress, and to introduce and explain that the new alignment interchange alternatives were developed at the request of Bristol Township officials **(Figures III-8A** to **III-8F)**. It was explained how these alternatives would traverse part of the previously identified ecologically sensitive Delhaas Woods and would impact the Mayfield Terrace, Margo Garden and/or Laurel Bend communities within the B/C Corridor **(Figure III-11)**. It was also explained at this meeting that new alignment interchange alternatives developed in the B/C Corridor had not been evaluated to the same level of environmental, cultural, and socioeconomic detail as the point-of-crossing interchange alternatives initially developed during the PAA **(Figures III-6A** to **III-6C)**.

Several agencies attending the July 23, 1997 ACM requested a field view to familiarize themselves with the study area resources and project alternatives. This resulted in an October 16, 1997 field view to review the study area. During the field view, it was agreed to provide the same level of environmental, cultural and socioeconomic data for the new alignment interchange alternatives in the B/C Corridor as that collected for the point-of-crossing interchange alternatives **(Figure III-8)**. The state and federal environmental resource agencies agreed that studies of the interchange alternatives, including the B/C Corridor should continue with more detail to be provided at the consensus point prior to the preparation of the DEIS (Refer to PENNDOT's Transportation Project Development Process for additional information regarding consensus points.) It was also agreed to provide periodic updates to ACM members on interchange alternatives developed in the B/C Corridor. Generally, the environmental resource agencies expressed concern with including any alternative within the B/C Corridor in the DEIS because of the potentially high degree of impacts to exceptional value Coastal Plain forested wetlands in Delhaas Woods **(Figures III-8A** to **III-8F)**, which are extremely rare in the southeastern Pennsylvania region.

On February 18, 1998, ACM members were provided correspondence that included the most recent new alignment alternative developed for the B/C Corridor: Concept C Modified **(Figure III-8F)**. The Concept C-Modified Alternative had been analyzed at the same level of detail for environmental, cultural, and socioeconomic resources as the point-of-crossing interchange alternatives **(Table III-1)**. It was explained to the ACM members that the new alignment alternatives that were previously developed in the B/C Corridor (Concept A, Concept B, Concept B with Urban Interchange and Concept C) would not be carried forward because of the degree of their environmental and socioeconomic impacts and/or for minimum engineering criteria related reasons. Review of the Concept C-Modified Alternative revealed that new engineering criteria would require geometric modifications to Concept C-Modified to provide proper weaving distances on the interstate through-traffic lanes. Therefore, it was decided to make certain geometric modifications to the Concept C-Modified Alternative, including the addition of collector-distributor lanes. This resulted in the Concept D Alternative **(Figure III-11)**.

A public meeting was held on June 16, 1998 to present alternatives identified for further study in the Toll Plaza Element, the Interchange Element, and the Bridge Element. Project videos, handouts, and presentation graphics were presented to explain the alternatives under consideration for further study and their environmental features. The meeting also provided an opportunity for the public to ask questions and to identify issues and concerns regarding the alternatives presented.

Over 500 people attended the meeting and 245 (47 percent) returned completed questionnaires. Generally, respondents preferred those alternatives with the least amount of potential residential displacements: Split Plaza West, Single Loop A, and Bridge South. The Concept D Alternative, in the B/C Corridor, received little public support (13 percent). Many attendees verbally opposed the Concept D Alternative. Also, full access between PA 413 and the I-276/I-95 interchange was considered "important" or "very important" by 57 percent of those who responded. A copy of the condensed public meeting summary is contained in **Section VII**, which includes a listing of public meetings, public officials meetings, CAC meetings, and community meetings held throughout the project development process.

G. ALTERNATIVES IDENTIFIED FOR FURTHER STUDY

Taking into consideration the agency and public comments discussed above, a total of seven alternatives were identified for further study including two for the Toll Plaza Element (Split Plaza East and Split Plaza West); three for the Interchange Element (Flyover A, Single Loop A, and Concept D); and two for the Bridge Element (Bridge North and Bridge South). These alternatives were generally the most feasible and least overall impactive from the preliminary engineering and preliminary impact analysis **(Table III-1)**. Although the Concept D Alternative would have large impacts when compared to the point-of-crossing alternatives, it was carried forward as the favored new alignment alternative. The seven alternatives identified for further study were consistent with the general public, CAC, public official, and transportation/environmental agency input received to that point in the study process. **Figure III-2** summarizes the progression of alternatives identified for further study.

Along with the No-Build Alternative, each of the seven Build Alternatives was further evaluated for potential project impacts to socioeconomic, natural, and cultural resources. **Table III-2** is a modified version of **Table III-1,** in that it only lists the impacts of the seven Build Alternatives, including Concept D, selected for further study. This table also differs from **Table III-1** in that the impact quantities reflect results of minor alignment adjustments and engineering modifications (engineered slopes, retaining walls, etc.) designed to minimize and, in several cases, avoid resource impacts. This included efforts to minimize the Concept D Alternative impacts and reflected a continuing effort to minimize impacts of the new alignment alternatives originally suggested by Bristol Township Officials **(Table III-1)**.

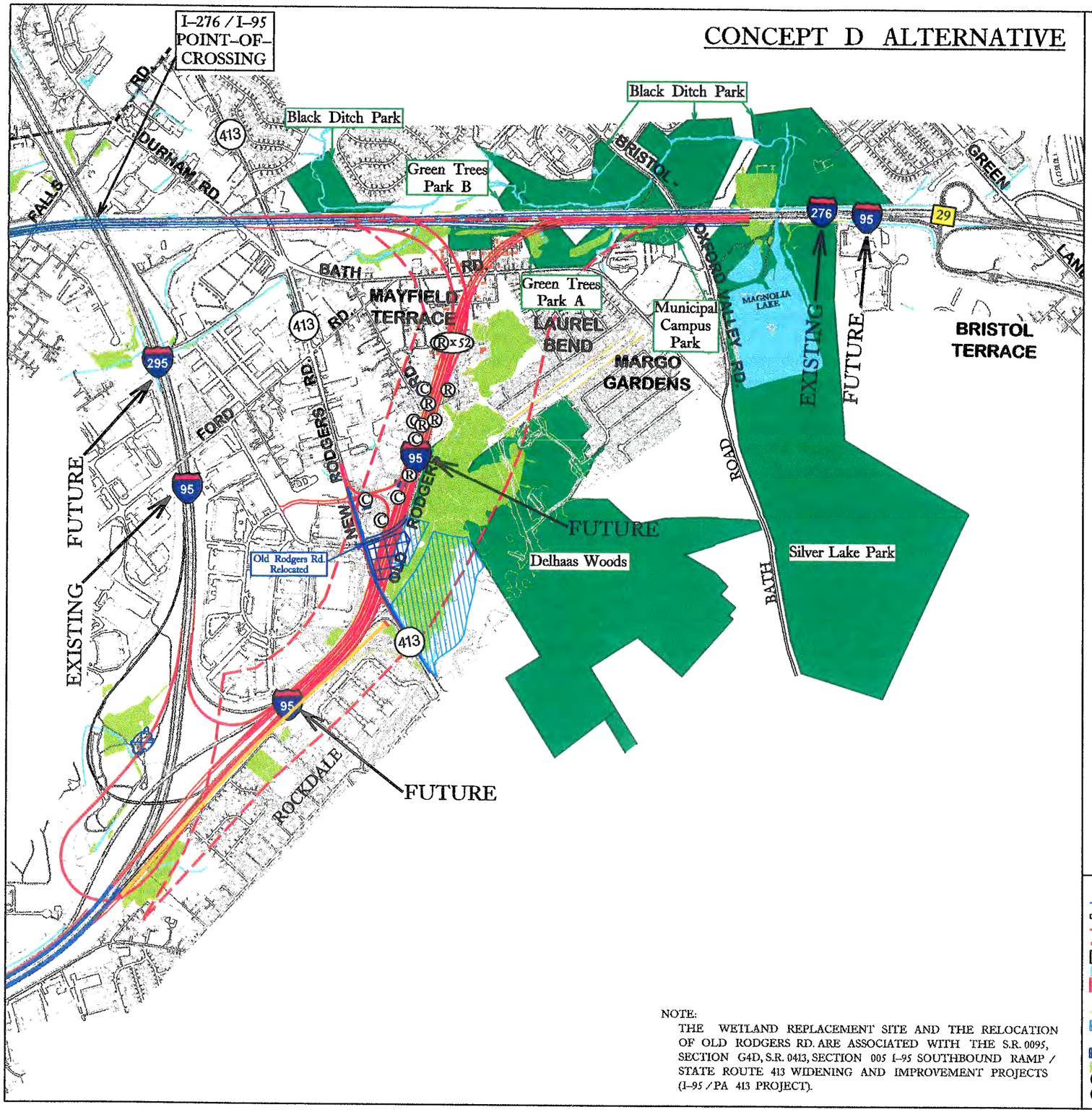
The results of the impact analysis for the alternatives further studied **(Table III-2)** were presented to transportation and environmental resource agencies at an ACM meeting on September 23, 1998. At that time, it was recommended that the Concept D Alternative not be carried forward for further study due to its extraordinary socioeconomic and environmental impacts, including wetlands and Section 4(f), when compared to the other two remaining interchange alternatives **(Table III-2)**. This recommendation responded to the resource agencies concerns expressed during the previous ACM reviews regarding the proximity of impacts to Delhaas Woods as well as local community concerns regarding the approximately 50 additional potential residential displacements. ACM members unanimously concurred with this recommendation.

H. ALTERNATIVES STUDIED IN DETAIL

Based on the concurrence received at the September 1998 ACM meeting to not carry the Concept D Alternative forward, six Build Alternatives and the No-Build Alternative were carried forward for detailed engineering and environmental impact analysis in the detailed study phase of the project. The Build Alternatives selected for detailed study included Split Plaza East and Split Plaza West in the Toll Plaza Element; Flyover A and Single Loop A in the Interchange Element; and Bridge North and Bridge South in the Bridge Element as listed in **Table III-3**. This table differs from **Table III-2** in that it does not include the Concept D Alternative. Impact quantities also differ based on additional engineering and more detailed studies involving natural, socioeconomic, and Section 4(f) resources. **Figure III-2** can be used as a guide to summarize the progression of alternatives studied in detail.

In addition to the six alternatives studied in detail, another new interchange alternative, the Northwest Quadrant Hybrid Alternative (NWQHA), was developed based on a CAC member suggestion during later stages of the detailed study phase. This is illustrated and described on **Figure III-12A**.

The NWQHA is similar to the traditional low-speed collection interchange configurations previously studied by the PTC in the 1980's. These studies were discontinued due to insufficient capacity of the proposed low-speed ramps of the interchange to adequately serve traffic volumes projected by DVRPC. The NWQHA, however, combines high-speed ramps carrying the mainline I-95 (in the southwest quadrant) with low-speed ramps in the northwest quadrant of the point-of-crossing. The low-speed interchange ramps would incorporate a toll plaza facility and handle the remaining movements from I-276 and I-95. A CAC member suggested that this tolling scenario would remove the need for a barrier toll plaza in the Toll Plaza Element, requiring this section only to be widened to six lanes, and eliminating the socioeconomic impacts associated with the toll barrier. The existing Delaware River Bridge Toll Plaza would have to be reconstructed to allow free-



NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

CONCEPT D ALTERNATIVE

The Concept D Alternative, in what became known as the B/C Corridor, was developed from the previous Concept B, C, and C-Modified Alternatives. As illustrated and described previously on **Figures III-8C** through **III-8F,** these concepts would join I-276 with I-95 by connecting these interstate facilities along a route through Bristol Township between the I-95/PA 413 interchange and I-276, to the west of Interchange 29 of I-276, thereby providing a connection between the two interstate highways. The Concept D Alternative is a modification of the Concept C-Modified Alternative **(Figure III-8F)** that was developed primarily to minimize impacts to Delhaas Woods. Although both concepts share a similar alignment, the Concept D Alternative includes a collector-distributor roadway system requiring additional lanes for local access that requires modification of the I-95/PA 413 Project improvements. The original focus of the interchange alternatives on new alignment was to avoid impacts to businesses adjacent to the existing I-276/I-95 point-of-crossing and provide local access via the I-95/PA 413 Interchange. However, the Concept D Alternative would create greater impacts to residences, businesses, wetlands, and public parkland than any of the point-of-crossing interchange alternatives **(Figure III-6** through **III-6C).** This resulted in resource agency concerns in addition to community and citizen opposition expressed subsequent to the June 1998 Public Meeting. As a result, this alternative was not carried forward due to the significant amount of socioeconomic, environmental, and public parkland impacts.

Key Advantages:

- ✓ Uses state-owned property from LR 1000 Spur F Project

Key Disadvantages:

- ✓ Impacts to newly constructed I-95/PA 413 Project bridge structures and associated noise barriers
- ✓ Impacts to residences in Mayfield Terrace (57), second highest total number of residential impacts
- ✓ Highest number of commercial displacements (6)
- ✓ Impacts wetland replacement site for the I-95/PA 413 Project
- ✓ Impacts to public parklands (3.0 ha/7.5 ac)
- ✓ Indirect travel movement to/from I-95 (future I-295) north of I-276

LEGEND
- Proposed Mainline Improvement
- Proposed Structure
- Proposed New Alignment Alternative
- B / C Corridor
- I–276 Interchange
- Surface Water
- Existing Noise Abatement
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- I–95 / PA 413 Project Wetland Replacement Site
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–11
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT

CONCEPT D ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE III-2
ALTERNATIVES IDENTIFIED FOR FURTHER STUDY IMPACT SUMMARY (AUGUST 1998)

Resources	Toll Plaza Element		Interchange Element			Bridge Element	
	Split Plaza East	Split Plaza West	Flyover A	Single Loop A	Concept D	Bridge North	Bridge South
Potential Threatened and Endangered Species Populations	0	2	5	5	5	2	2
Wetlands (ha/ac)	0.6 / 1.4	1.9 / 4.7	1.5 / 3.8	1.5 / 3.8	3.2 / 8.1	0.44 / 1.1	0.12 / 0.30
100-Year Floodplain (ha/ac)	0.6 / 1.4	0.1 / 0.3	2.8 / 7.1	2.8 / 7.1	4.9 / 12.0	1.2 / 2.9	1.1 / 2.8
Forestland (ha/ac)	4.5 / 11.2	2.1 / 5.1	5.7 / 14.2	5.7 / 14.2	6.2 / 15.4	1.0 / 2.5	1.3 / 3.3
Rangeland (ha/ac)	2.7 / 6.6	2.3 / 5.8	0.2 / 0.4	0.2 / 0.4	0.5 / 1.3	0 / 0	0 / 0
Surface Water (crossings)	4	4	9	9	6	2	2
Perennial Stream Impacts (m/ft)	140 / 461	550 / 1786	440 / 1445	433 / 1420	485 / 1590	43 / 140	43 / 140
Intermittent Stream Impacts (m/ft)	264 / 865	46 / 150	259 / 850	259 / 850	285 / 935	111 / 365	0 / 0
Farmland (ha/ac)	5.0 / 12.2	1.5 / 3.7	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites (ha/ac)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Eligible Historic Architectural Resources	0	0	0	0	0	N/A	N/A
Potential Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	0/ 0	0/ 0	3 / 0	3 / 0	3 / 0	1 / 1	1 / 1
Area of Potential Section 4(f) Resource Use (ha/ac)	0 / 0	0 / 0	1.2 / 3.1	1.2 / 3.1	3.0 / 7.5	0.52 / 1.3	0.6 / 1.5
Potential Sensitive Waste Sites	1	3	12	12	14	4	4
Public Facilities and Services	0	0	1 [1]	1 [1]	1	0	0
Potential Commercial Property Displacements	1	0	5 [2]	4 [2]	6	2	2
Potential Residential Property Displacements	8	1	11	7	57	7	2
Potential Institutional Property Displacements	0	0	1	1	0	0	0
Potential Major Utility Relocations (PECO)	0	3	1	1	0	0	0
Total Section Cost Estimate (million $) [3]	92	88	282	264	285	172 [4]	180 [4]

NOTES: Table as Presented to ACM on 9-23-98. N/A – Not Available – Field information not completed at this time

1 Partial property acquisition - no structure taking
2 Strip Plaza containing four tenant businesses (La Casa Mia Family Restaurant, Brenda's Hair Shack, C&C Berk Insurance and Take Out Beer Pizza) represents one commercial property displacement.
3 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
4 This cost estimate does not include the costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.

TABLE III-3
ALTERNATIVES STUDIED IN DETAIL IMPACT SUMMARY (JULY 2000)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Split Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Potential Threatened and Endangered Species Populations	0	0	8	8	4	6
Wetlands (ha/ac)	0.33 / 0.82	1.00 / 2.48	1.03 / 2.55	0.87 / 2.14	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.37 / 0.92	0.10 / 0.22	2.70 / 6.70	2.70 / 6.70	0	0
Forestland (ha/ac)	4.99 / 12.33	4.86 / 12.02	5.90 / 14.57	5.56 / 13.74	3.01 / 7.45	3.55 / 8.76
Rangeland (ha/ac)	3.07 / 7.58	3.61 / 8.92	0.53 / 1.30	0.52 / 1.29	0 / 0	0.14 / 0.34
Surface Water (crossings)	7	8	6	5	1	1
Perennial Stream Impacts (m/ft)	337 / 1,107	807 / 2,646	287 / 941	256 / 841	181 / 594	70 / 230
Intermittent Stream Impacts (m/ft)	905 / 2,968	970 / 3,183	1,614 / 5,296	1,280 / 4,198	206 / 677	206 / 677
Farmland (ha/ac)	2.31 / 5.71	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites (ha/ac)	0	0	3	3	0	0
Eligible Historic Architectural Resources	0	0	0	0	0	0
Potential Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	0 / 0	1 / 0 [2]	1 / 0	1 / 0	0 / 1 [3]	0 / 1 [3]
Potential Section 4(f) Resource Use (ha/ac)	0 / 0	2.26 / 5.58	1.10 / 2.74	1.10 / 2.74	0.026 / 0.064	0.032 / 0.080
Potential Sensitive Waste Sites	7	7	13	13	5	5
Public Facilities and Services	0	0	0	0	0	0
Potential Commercial Property Displacements	3	0	7	6	2	2
Potential Residential Property Displacements	9	1	12	8	7	2
Potential Institutional Property Displacements	0	0	1	1	0	0
Potential Major Utility Relocations (PECO)	0	3	1	1	0	0
Total Section Cost Estimate (million $) [4]	92	88	296	282	177 [5]	180 [5]

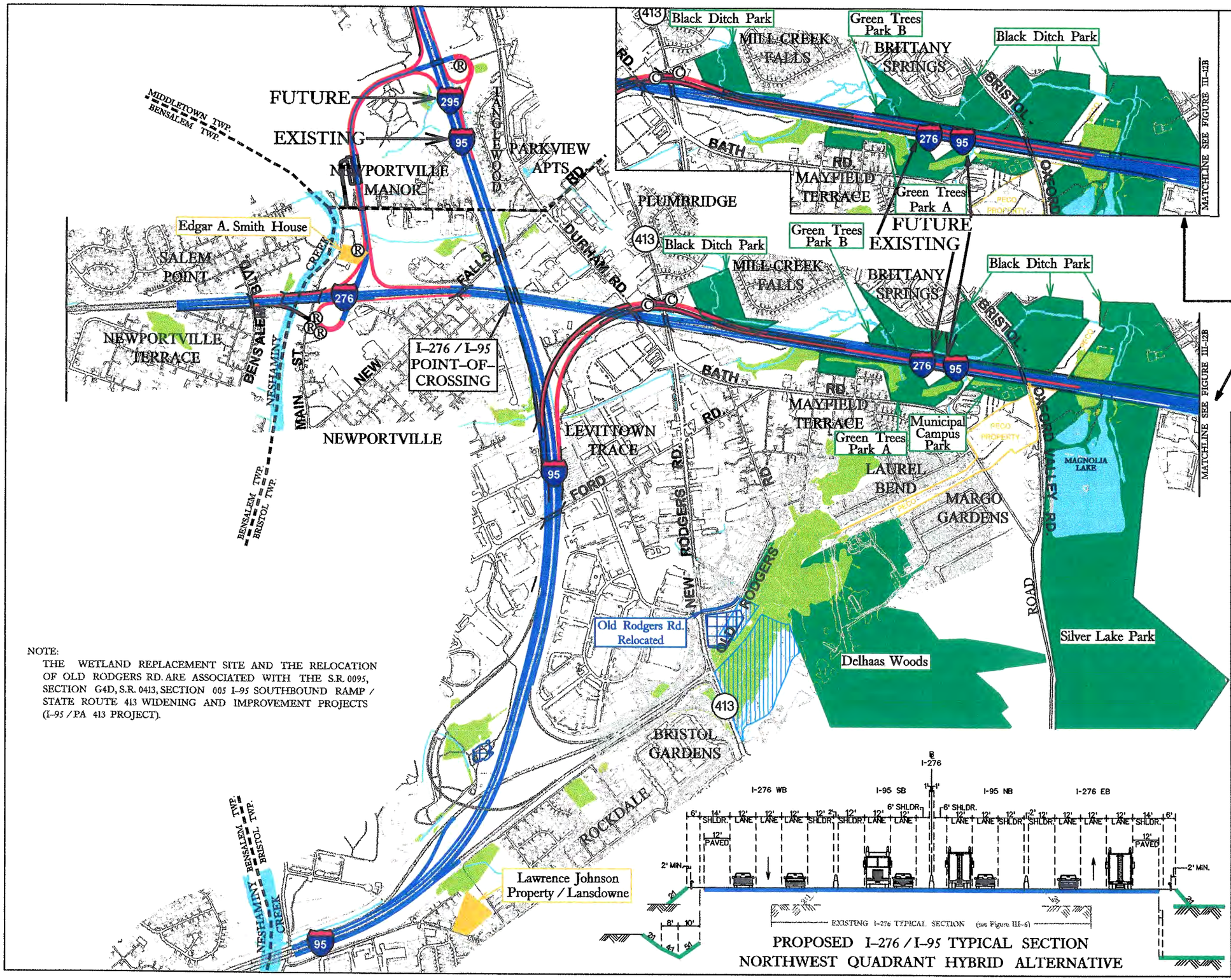
1 The alternatives studied in detail impact Black Ditch Park; parcel 005-021-305 (impact due to ramp construction on fill embankment) and parcel 005-029-160-001 (impact due to stormwater management).
2 Includes Section 4(f) use of Bensalem Township Parcel unknown at the time of the PAA Report.
3 Includes Section 4(f) use of NRHP listed Pennsylvania Railroad.
4 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
5 Estimate does not include costs of re-decking and painting existing Delaware River Turnpike Bridge.

flowing I-95 traffic to travel in the center and turnpike system traffic to travel on the outside. This separation of traffic between the Delaware River Bridge Toll Plaza and the proposed interchange required a minimum of four additional lanes along this mainline section, which increased potential impacts substantially. In addition, this alternative would need to be combined with either the Bridge North or Bridge South Alternatives in the Bridge Element to adequately serve projected traffic volumes. An abbreviated impact analysis was performed for the NWQHA to determine its feasibility as a viable project alternative with key environmental resource impacts being compared to impacts calculated for the Interchange and Bridge Element Alternatives that were studied in detail.

It was determined that the NWQHA would require lands from five Section 4(f) protected properties including the National Register of Historic Places (NRHP) eligible Edgar A. Smith House, Black Ditch Park, Green Trees Park **(Figure III-12A)**, Pacific Park, and the Delaware Canal State Park, which is both a public park and National Historic Landmark **(Figure III-12B)**. This would result in a much larger number (5 versus 1) and magnitude of Section 4(f) uses when compared to the other Interchange and Bridge Element Alternatives listed on **Table III-3**.

In addition, preliminary wetland impacts, based on NWI mapping and limited field reconnaissance, were estimated to be a minimum of 1.4 ha (3.4 ac) compared to the wetland impacts of 1.03 ha/2.55 ac and 0.87 ha/2.14 ac for Flyover A and Single Loop A, respectively. Also the levels of service of the low-speed ramps providing six of the eight interchange movements were lower in the design year when compared to the point-of-crossing alternatives. The signing of this interchange was unconventional and had an increased potential of confusing interstate motorists. Therefore, it was determined to be operationally inferior to the remaining interchange alternatives.

In summary, the NWQHA had greater Section 4(f) and wetland impacts and did not meet the defined project needs as adequately as the Flyover A and Single Loop A Alternatives. For these reasons, the NWQA was not carried forward for additional engineering and environmental impact analysis.



NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

PROPOSED I–276 / I–95 TYPICAL SECTION
NORTHWEST QUADRANT HYBRID ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Section 4(f) Public Recreational Land
- PECO Property
- State–Owned Property (Outside of Highway Right–Of–Way)
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Surface Water
- NRHP Eligible Property
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

NORTHWEST QUADRANT ALTERNATIVE SHIFT TO MATCH BRIDGE NORTH

NORTHWEST QUADRANT ALTERNATIVE SHIFT TO MATCH BRIDGE SOUTH

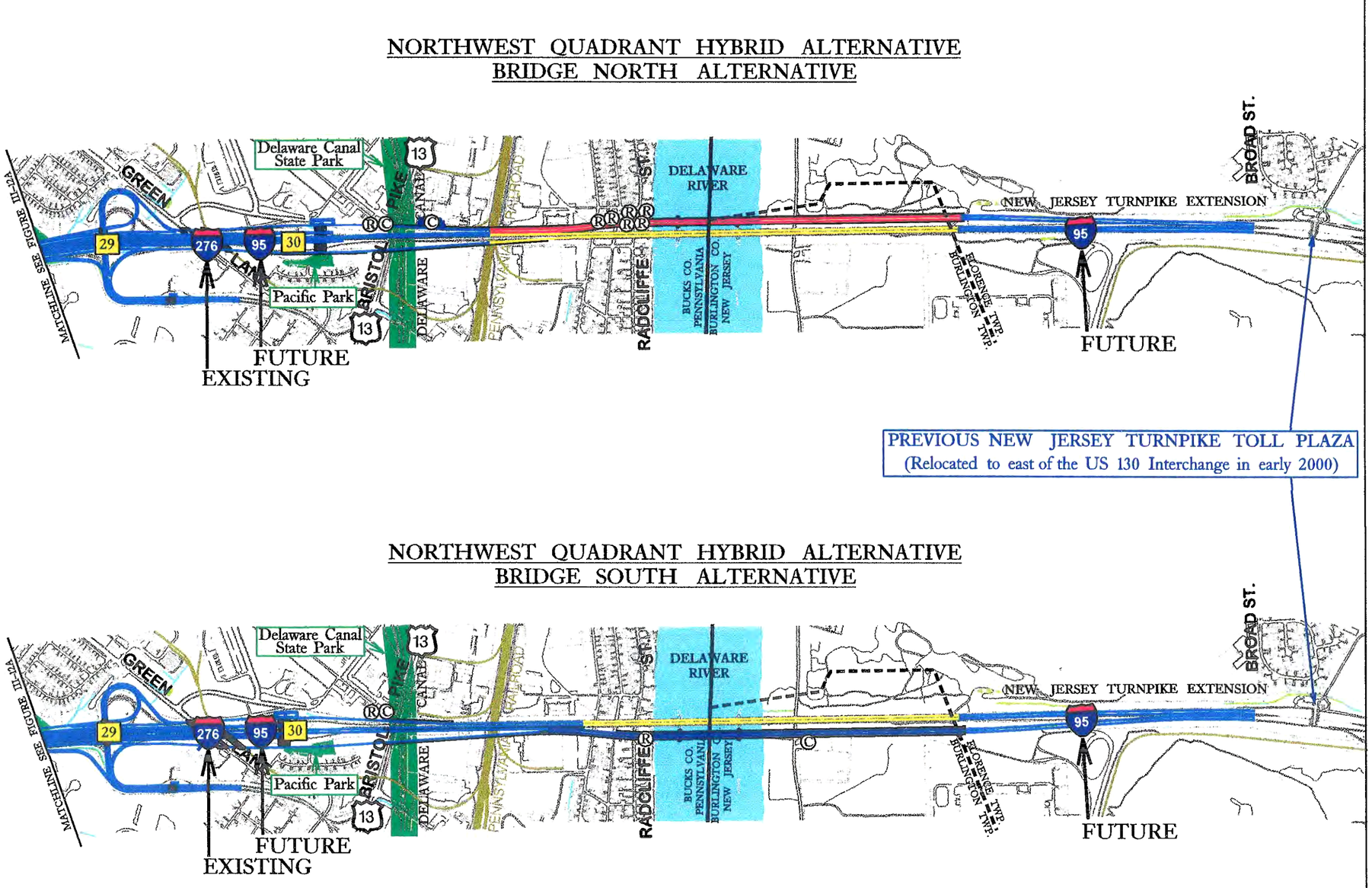
Northwest Quadrant Hybrid Alternative

The Northwest Quadrant Hybrid Alternative, a suggestion from a CAC member, would combine high-speed ramps carrying mainline I-95 with a low-speed conventional interchange to handle the remaining movements between I-95 and I-276. There would be a toll plaza in the northwest quadrant of the point-of-crossing, which removes the need for a toll plaza in Bensalem Township. To the east, this alternative could be combined with either the Bridge North or the Bridge South Alternatives (**Figure III-12B**).

This interchange would require a wider section of roadway, to accommodate a physically separated I-276 and I-95, along I-276 going east toward the Delaware River Turnpike Bridge **(Figure III-12A)**. This traffic separation is required to prevent mixing of I-95 and I-276 traffic, since the Delaware River Turnpike Bridge Toll Plaza would serve as the eastern terminus of the toll system (pay last toll, pick up first ticket). Because of substantially higher resource impacts, and inferior operational characteristics when compared to the other interchange alternatives, this alternative was not carried forward for further consideration.

I–276 / I–95 INTERCHANGE PROJECT
FIGURE III–12A
PRELIMINARY ALTERNATIVES
INTERCHANGE ELEMENT
NORTHWEST QUADRANT HYBRID ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km



Both Northwest Quadrant Hybrid Concepts in the Bridge Element would likely impact the Section 4(f) protected Pacific Park and Delaware Canal State Park. Both Section 4(f) properties are avoided by the Bridge Element Alternatives carried forward for detailed study.

LEGEND

- Proposed Mainline Improvement
- Proposed Structure
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade of Existing Bridge
- 29 Exisiting I–276 Interchange
- Railroad
- Surface Water
- Section 4(f) Public Recreational Land
- Wetland
- Ⓡ Potential Residential Displacement
- Ⓒ Potential Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–12B

PRELIMINARY ALTERNATIVES
BRIDGE ELEMENT

NORTHWEST QUADRANT
HYBRID ALTERNATIVE

1 In = 1/4 Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km

The preliminary alternatives for the Toll Plaza, Interchange, and Bridge Elements **(Tables III-2** and **III-3)** were originally developed to accommodate 20 years of traffic growth. Assuming that the potential start date for construction of a Build Alternative would begin in the Year 2000, preliminary alternatives for the I-276/I-95 Interchange Project were based on DVRPC Year 2020 traffic projections. Due to unanticipated delays in the project development schedule, the previous Year 2000 start date for construction of a Build Alternative is now estimated for the Year 2005. As a result, it became necessary to re-evaluate the previously proposed engineering designs that were based on 2020 traffic projections with revised 2025 traffic projections. This effort, conducted by DVRPC in 1999 using the regional traffic model resulted in the 2025 traffic projections that were used to re-evaluate the 1997 preliminary engineering of the 1998 PAA Build Alternatives resulting from the CMS and MIS.

As mentioned previously in **Section I-B** of this FEIS, the transportation deficiencies identified in the 1993 Needs Study remain unchanged when re-evaluated using the Year 2025 traffic projections. The arterial network of local roads modeled for the 2025 traffic model was the same as the 1993 model. The estimated Year 2025 traffic projections showed only slight deviations from those for the Year 2020 due to the use of an upgraded traffic model as well as the latest population and employment data. Unlike the 2020 traffic model, the 2025 traffic model was able to incorporate recent technology such as the addition of electronic toll collection (E-Z*Pass*) at I-276 toll facilities. In the Toll Plaza Element, a new plaza design was developed that reduced the number of lane/toll booth requirements based largely on the usage of low-speed/high-speed E-Z*Pass* lanes.

During the timeframe to complete traffic and engineering analyses, re-evaluate alternatives, modify the toll plaza requirements and recalculate impacts, the NRHP eligible Pennsylvania Railroad and two additional properties undefined at the time of the PAA were identified as Section 4(f) resources. The two additional properties added to the I-276/I-95 Section 4(f) Inventory included the Bensalem Township Parcel in the Toll Plaza Element and the proposed Delaware River Heritage Trail in the Bridge Element. This resulted in the finding that the Split Plaza West Alternative would impact the Section 4(f) protected Bensalem Township parcel, located near the eastbound toll plaza of this alternative next to the PTC Neshaminy Service Plaza.

After incorporating Year 2025 traffic volumes into the new toll plaza designs based on the slow speed and eventual use of high speed E-*ZPass* lanes **(Figure III-13)**, it was determined that the Split Plaza West Alternative would still require Section 4(f) use of the Bensalem Township Parcel. Considering the decrease in the number of toll lanes required under an E-*ZPass* system, it was possible to develop an alternative that avoided the Bensalem Township Parcel and reduced a number of natural resource impacts. For this reason, the Modified Plaza West Alternative is considered a feasible alternative in the Toll Plaza Element to avoid use of the Bensalem Township Parcel and minimize natural resource impacts. In addition, engineering modifications of the Single Loop A and Flyover A Alternatives in the Interchange Element reduced Section 4(f) impacts to Black Ditch Park. Similarly, engineering of the previously studied Bridge Element Alternatives was modified due to the implementation of E-*ZPass* and to minimize Section 4(f) use of the NRHP eligible Pennsylvania Railroad.

The re-engineered alternatives were presented to the public and to the resource agencies to receive comments and concurrence before being carried forward into the DEIS. The new Modified Plaza West Alternative in the Toll Plaza Element was presented to Bensalem Township residents at the June 29, 2000 public meeting. In addition, the alternatives were presented to the general public by means of the June 15, 2000 CAC and Community Economic Impact Review Group (CEIRG) meetings, a Topic Update mailing and the project website. The alternatives were presented to the resource agencies at the July 19, 2000 ACM meeting. At this meeting the agencies requested further information regarding the new Modified Plaza West Alternative in the Toll Plaza Element. An informational package was mailed out to the ACM members in August 2000 prior to a September 19, 2000 fieldview of the impact areas of the modified alternatives.

During the ACM and fieldview, resource agencies expressed concern about the increase in potential perennial stream impacts associated with the Modified Plaza West when compared to the Split Plaza West. It was requested at the time of the field view that additional engineering be considered to provide an additional offset for proper relocation and mitigation activities to the north of the proposed plaza. In response, Modified Plaza West was "shifted" to the south to provide additional distance on the north side of the I-276 mainline between the proposed plaza area and the PECO high-tension transmission corridor. Impacts were recalculated for the Modified Plaza West and an informational package was mailed out to the ACM members in November 2000 **(Table III-4)**. When compared to Split Plaza West Alternative, the resulting alignment showed substantial reductions in impacts for wetlands (0.47) ha/1.16 ac versus 1.00 ha/2.48 ac), forestland (1.93 ha/4.78 ac versus 4.86 ha/12.02 ac), and rangeland (1.57 ha/3.87 ac versus 3.61 ha/8.92 ac), however, impacts associated with the streams that parallel the I-276 mainline were not lowered **(Table III-4)**. The Section 4(f) protected Bensalem Township Parcel would continue to be avoided with the "shifted" Modified Plaza West Alternative. On the basis of this comparison, which showed an overall reduction in impacts when compared to Split Plaza West, the Modified Plaza West Alternative was carried forward in the DEIS.

TABLE III-4
MODIFIED PLAZA WEST AND SPLIT PLAZA WEST ALTERNATIVES IMPACT SUMMARY (NOVEMBER 2000)

Resources	Toll Plaza Element		
	Detailed Study Split Plaza West [1]	Modified Plaza West [2] (pre-shift)	Modified Plaza West [3] (after shift)
Potential Threatened and Endangered Species	0	0	0
Wetlands (ha/ac)	1.00 / 2.48	0.54 / 1.33	0.47 / 1.16
100-Year Floodplain (ha/ac)	0.10 / 0.22	0.20 / 0.48	0.20 / 0.49
Deciduous Forestland (ha/ac)	4.86 / 12.02	2.42 / 5.98	1.93 / 4.78
Rangeland (ha/ac)	3.61 / 8.92	2.19 / 5.41	1.57 / 3.87
Surface Water (crossings)	8	7	7
Perennial Stream Impacts (m/ft): Culvert or Bridge Extensions Stream Relocations	 180 / 590 626 / 2,056	 156 / 511 802 / 2,631	 155 / 509 809 / 2,656
Intermittent Stream Impacts (m/ft) Culvert or Bridge Extensions Stream Relocations	 89 / 293 882 / 2,890	 107 / 352 308 / 1,011	 105 / 343 348 / 1,145
Farmland (ha/ac)	0 / 0	0.17 / 0.042	0 / 0
Potential Archaeological Resources Sites	0	0	0
Eligible Historic Architectural Resources	0	0	0
Section 4(f) Impacts to Individual Parks and Historic Resources (parks/historic)	1 / 0	0 / 0	0 / 0
Area of Section 4(f) Resource Impacts (ha/ac)	2.26 / 5.58	0 / 0	0 / 0
Potential Sensitive Waste Sites	7	7	7
Public Facilities and Services	0	0	0
Potential Commercial Displacements	0	0	0
Potential Residential Property Displacements	1	1	1
Potential Institutional Property Displacements	0	0	0
Potential Utility Relocations (PECO Substations)	3	0	0
Total Section Cost Estimate (million $) [4]	88	88 [5]	88 [5]

Note: Table identifies impacts as presented in the November 17, 2000 mailing to ACM.
1 Split Plaza West was fully developed during the Detailed Analysis Phase (July 2000).
2 Modified Plaza West (pre-shift) was fully developed for the DEIS. Numbers represent impact calculations prior to August 22, 2000 ACM fieldview.
3 Modified Plaza West (after-shift) represents impacts recalculated based on the ACM request to provide adequate space for a perennial stream relocation. Numbers incorporate revised farmland surveys (decreased farmland impacts) and removal of westbound toll plaza access road (decreased rangeland impact).
4 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
5 Cost estimates were being re-evaluated due to engineering modifications for Year 2025 traffic volume projections and E-*ZPass*.

I. ALTERNATIVES CARRIED FORWARD IN DEIS

Based on the results of the additional engineering and traffic analyses related to Year 2025 traffic projections and E-*ZPass*, and the resultant impact reductions, as well as additional engineering to further reduce impacts, a total of six Build Alternatives including two Build Alternatives for each project element, were identified to be carried forward for detailed impact evaluation in **Section IV** of the FEIS **(Figure III-2)**. The detailed evaluation required a review and update of the existing natural, cultural, and socioeconomic resource inventories and mapping. Based on these revisions, additional engineering efforts to minimize impacts were examined and impact quantities were recalculated. The alternatives carried forward for detailed impact evaluation include the following:

Toll Plaza Element

- ✓ Split Plaza East **(Figure III-14)**
- ✓ Modified Plaza West **(Figure III-14)**

Interchange Element

- ✓ Flyover A **(Figure III-15)**
- ✓ Single Loop A **(Figure III-15)**

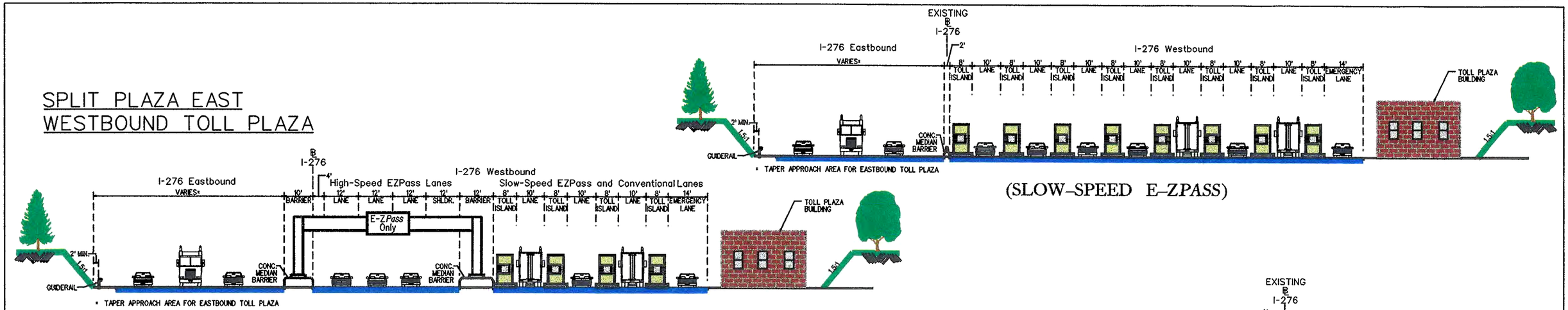
Bridge Element

- ✓ Bridge North **(Figure III-16)**
- ✓ Bridge South **(Figure III-16)**

1. Toll Plaza Element

The Split Plaza East and Modified Plaza West **(Figure III-14)** were selected for more detailed study in the DEIS. Split Plaza East would minimize wetland impacts (0.35 ha/0.86 ac versus 0.47 ha/1.16 ac) when compared to Modified Plaza West **(Table III-5)**. It would, however, increase commercial displacements (3 versus 0) and residential displacements (2 versus 1) when compared to Modified Plaza West. Modified Plaza West would have fewer forestland impacts (1.93 ha/4.78 ac versus 3.54 ha/8.75 ac), and rangeland impacts (1.57 ha/3.87 ac versus 4.39 ha/10.85 ac), when compared to Split Plaza East. Although Modified Plaza West reduces intermittent stream impacts 346 m/1,134 ft versus 363 m/1,190 ft), it increases perennial stream impacts (965 m/3,165 ft versus 194 m/625 ft). Only Modified Plaza West would have no impacts to farmlands **(Table III-5)**. **Section IV** of this FEIS contains more detailed discussions of impacts and mitigation associated with both toll plaza alternatives.

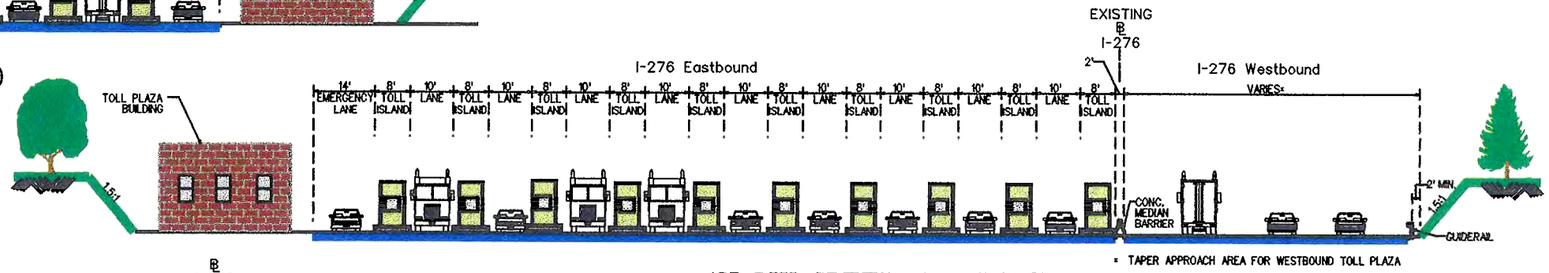
SPLIT PLAZA EAST WESTBOUND TOLL PLAZA



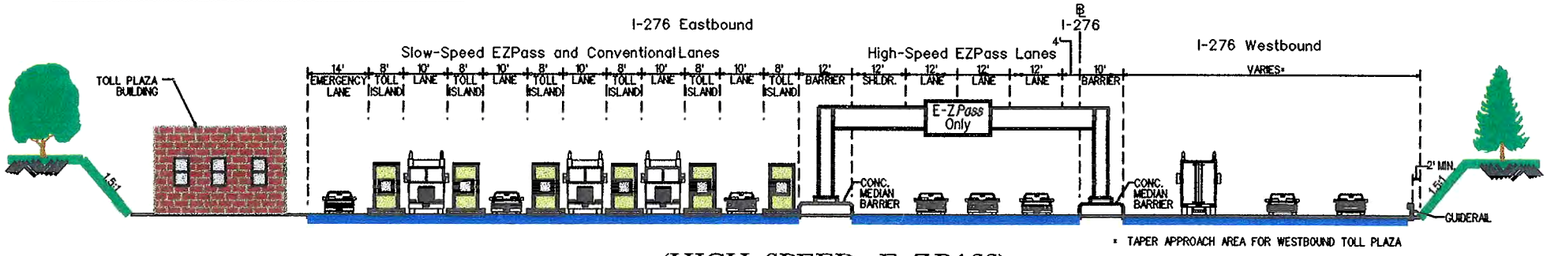
(SLOW–SPEED E–ZPASS)

(HIGH–SPEED E–ZPASS)

SPLIT PLAZA EAST EASTBOUND TOLL PLAZA

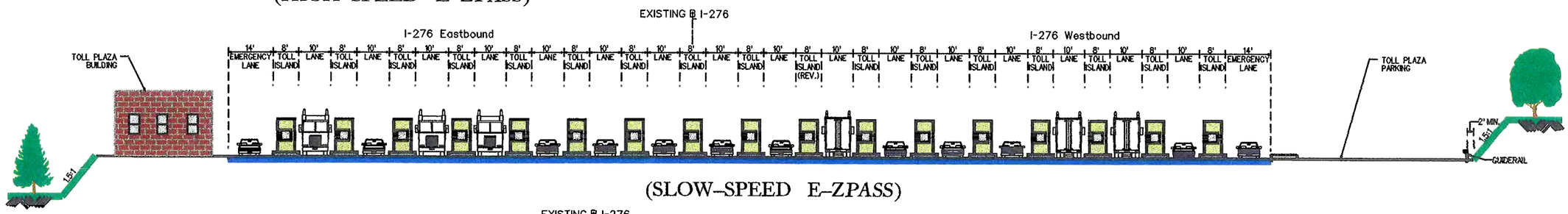


(SLOW–SPEED E–ZPASS)

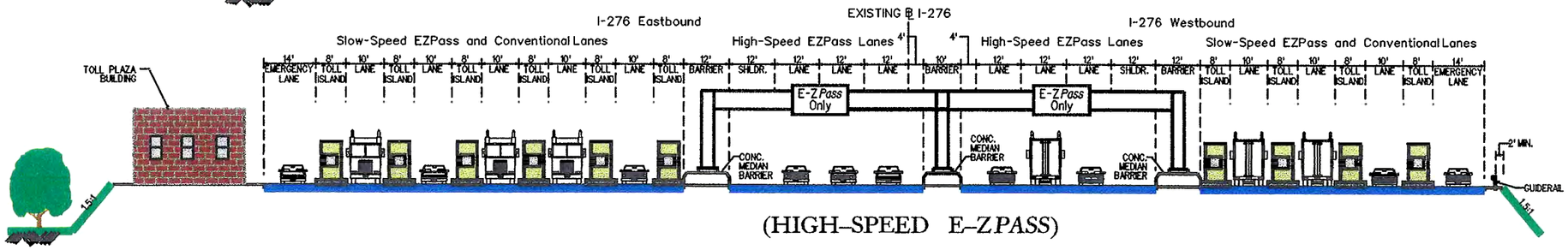


(HIGH–SPEED E–ZPASS)

MODIFIED PLAZA WEST



(SLOW–SPEED E–ZPASS)



(HIGH–SPEED E–ZPASS)

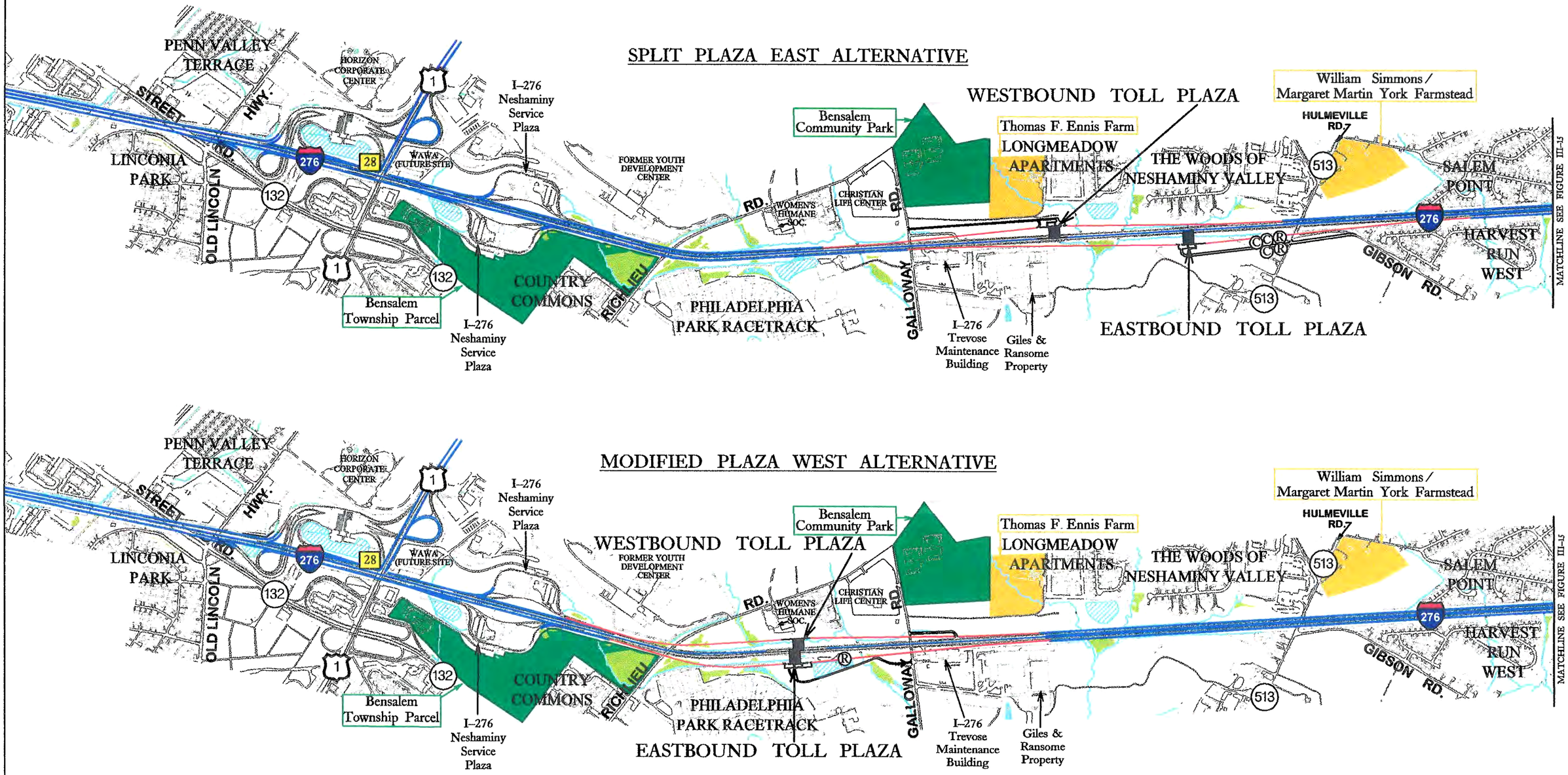
LEGEND

Proposed Mainline Improvement

Grass Area

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–13
ALTERNATIVES CARRIED FORWARD IN DEIS
TOLL PLAZA ELEMENT
TYPICAL SECTIONS



ALTERNATIVES CARRIED FORWARD IN DEIS – TOLL PLAZA ELEMENT

Split Plaza East separates the location of the eastbound and westbound toll plazas to reduce impact to the initially studied Standard Toll Plaza. Split Plaza West was originally developed in response to public input. Split Plaza West, however, would require use of a Section 4(f) property, the Bensalem Township Parcel. The impact area of this parcel contains forestland and rangeland. Re-evaluations of the revised traffic numbers for Year 2025 and the reduced number of lanes required due to the implementation of E-Z*Pass* allowed the two split plazas to be placed side by side in a conventional design to east of the Section 4(f) resource. This modification, which avoids the Bensalem Township Parcel, was identified as the Modified Plaza West Alternative and minimizes residential impacts compared to Split Plaza West. For detailed discussion refer to **Page III-32**.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Exisiting I–276 Interchange
- Surface Water
- Section 4(f) Public Recreational Land
- Wetland
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–14
ALTERNATIVES CARRIED FORWARD IN DEIS
TOLL PLAZA ELEMENT

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

SINGLE LOOP A & FLYOVER A ALTERNATIVES

SINGLE LOOP A ALTERNATIVE
SEE INSET FOR FLYOVER A (BOTTOM RIGHT)

FUTURE
EXISTING
EXISTING & FUTURE

MIDDLETOWN TWP.
BENSALEM TWP.
BENSALEM TWP.
BRISTOL TWP.

PARKVIEW APTS.
NEWPORTVILLE MANOR
PLUMBRIDGE
Edgar A. Smith House
SALEM POINT
NEWPORTVILLE TERRACE
NEWPORTVILLE
LEVITTOWN TRACE
Black Ditch Park
First Baptist Church of Bristol
MILL CREEK FALLS
Bristol Plaza
Green Trees Park B
BRITTANY SPRINGS
MAYFIELD TERRACE
Municipal Campus Park
Green Trees Park A
LAUREL BEND
MARGO GARDENS
MAGNOLIA LAKE
Silver Lake Park
Delhaas Woods
Old Rodgers Rd. Relocated
BRISTOL GARDENS
ROCKDALE
Lawrence Johnson Property / Lansdowne

LANGEWOOD
NEW FALLS RD.
DURHAM RD.
BENSALEM BLVD.
NESHAMINY CREEK
MAIN ST.
NEW FALLS RD.
BATH RD.
OLD RODGERS RD.
NEW RODGERS RD.
FORD RD.
OAK CRD.
MALEFY RD.
BATH ROAD
NESHAMINY CREEK
NEWPORT ROAD

MATCHLINE SEE FIGURE III-14
MATCHLINE SEE FIGURE III-16

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

NOTE: SEE FIGURE IV–5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV–A.5.

FLYOVER A ALTERNATIVE

EXISTING
FUTURE

PLUMBRIDGE
Black Ditch Park
First Baptist Church of Bristol
MILL
Bristol Plaza
LEVITTOWN TRACE
PORTVILLE
BATH RD.
OLD RODG
NEW

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Proposed Stormwater Management
- PECO Property
- State–Owned Property (Outside of Hwy. R.O.W.)
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Ⓤ Utility Relocation
- Proposed Bridge Deck

Section 4(f) Use of 0.69 ha (1.71 ac)

I–95 SOUTHBOUND
I–95 NORTHBOUND
I–276 WESTBOUND
EASTBOUND I–276 TO I–95 NORTHBOUND

RETAINING WALL WITH FILL EMBANKMENT DESIGN EVALUATED DURING DETAILED STUDY

Section 4(f) Use of 0.038 ha (0.094 ac)

I–95 SB
I–95 NORTHBOUND
I–276 WESTBOUND
EASTBOUND I–276 TO I–95 NORTHBOUND

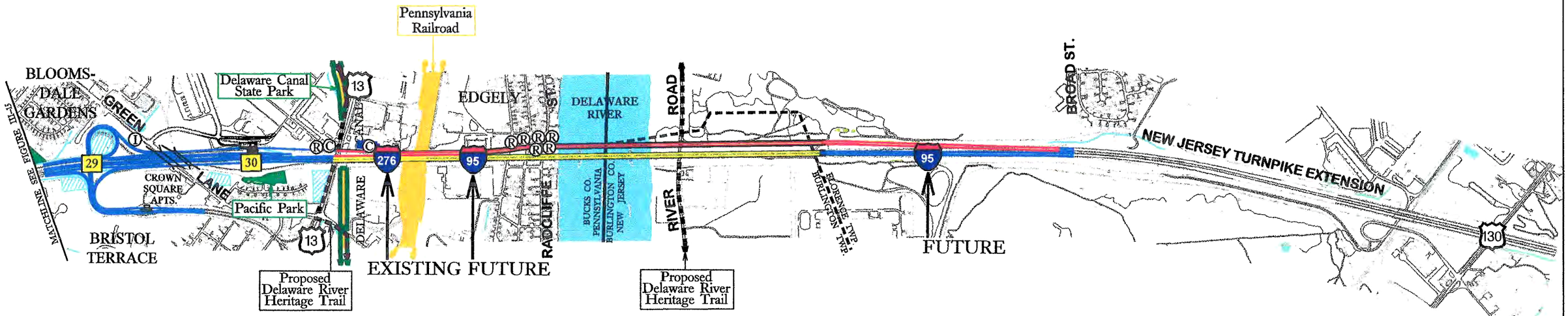
PIER SUPPORT AND BRIDGE DECK DESIGN CARRIED FORWARD IN DEIS

I–276 / I–95 INTERCHANGE PROJECT

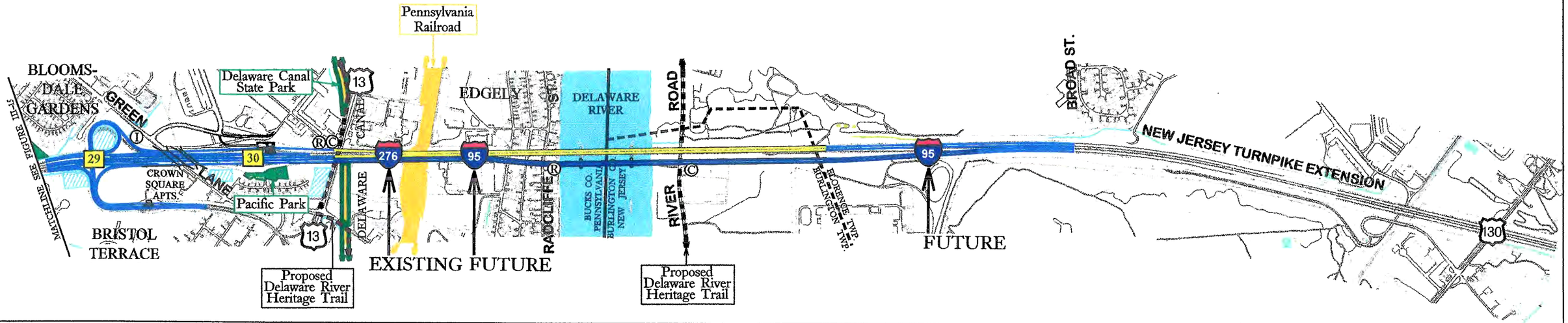
FIGURE III–15
ALTERNATIVES CARRIED FORWARD IN DEIS
INTERCHANGE ELEMENT

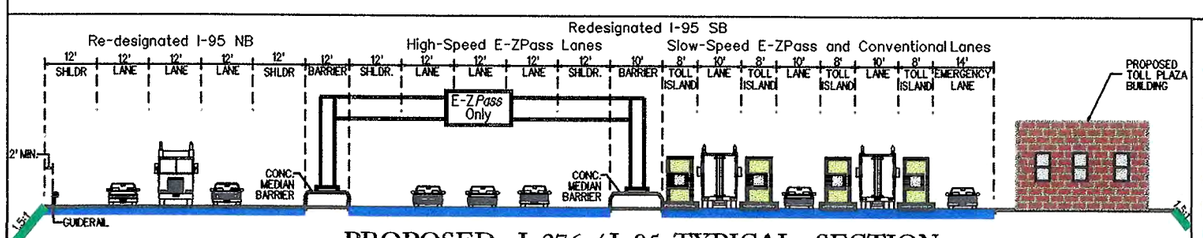
1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

BRIDGE NORTH ALTERNATIVE



BRIDGE SOUTH ALTERNATIVE





PROPOSED I–276 / I–95 TYPICAL SECTION
BRIDGE TOLL PLAZA (HIGH–SPEED E–ZPASS)

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade of Existing Bridge
- 29 Existing I–276 Interchange
- Surface Water
- Proposed Multi–Use Trail
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–16
ALTERNATIVES CARRIED FORWARD IN DEIS
BRIDGE ELEMENT

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE III-5
ALTERNATIVES CARRIED FORWARD IN DEIS IMPACT SUMMARY (APRIL 2001)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Modified Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Federal Threatened and Endangered Species	0	0	0	0	1 [2]	1 [2]
State Threatened and Endangered Species	0	0	6	6	3	4
Wetlands (ha/ac)	0.35 / 0.86	0.47 /1.16	1.03 / 2.55	0.84 / 2.09	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.27 / 0.68	0.20 / 0.49	1.84 / 4.54	1.84 / 4.54	0.11 / 0.28	0.11 / 0.28
Forestland (ha/ac)	3.54 / 8.75	1.93 / 4.78	5.88 / 14.53	5.54 / 13.70	3.18 / 7.87	3.38 / 8.35
Rangeland (ha/ac)	4.39 / 10.85	1.57 / 3.87	0.81 / 2.01	0.81 / 2.01	0 / 0	0 / 0
Surface Water (crossings)	6	6	7	6	2	2
Perennial Stream Impacts (m/ft)	194 / 635	965 / 3,165	241 / 790	210 / 690	229 / 750	118 / 386
Intermittent Stream Impacts (m/ft)	363 / 1,190	346 / 1,134	966 / 3,169	957 / 3,139	204 / 669	198 / 651
Farmland (ha/ac)	1.65 / 4.08	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites	0	0	3	3	0	0
Eligible Historic Architectural Resources	0	0	0	0	0	0
Section 4(f) Use of Public Parks and Historic Resources (public parks/historic resources)	0 / 0	0 / 0	1 [3] / 0	1 [3] / 0	0 / 1 [4]	0 / 1 [4]
Area of Section 4(f) Resource Use (ha/ac)	0 / 0	0 / 0	0.038 / 0.094	0.038 / 0.094	0.026 / 0.064	0.032 / 0.08
Potential Sensitive Waste Sites	8	6	16	16	5	5
Public Facilities and Services	0	0	0	0	0	0
Commercial Displacements	3	0	9	8	2	2
Residential Property Displacements	2	1	12	8	7	2
Institutional Property Displacements	0	0	1	1	1	1
Major Utility Relocations (PECO Substations)	0	0	1	1	0	0
Total Section Cost Estimate (million $) [5]	116	107	332	310	208 [6]	223 [6]

Notes: The identified alternative impacts incorporate the associated side road/bridge improvements, Stormwater management facilities, and construction of the park and ride/pool sites.
The No-Build associated with each element does not impact the identified resources. The No-Build does not meet the project need.

1 The Alternatives Carried Forward in the DEIS impact Black Ditch Park parcel 005-021-305 (impact from ramp construction only). Design for ramp construction includes piers rather than fill embankment.
2 The federally listed Shortnose Sturgeon is also included in the state threatened and endangered species total because it is listed as Pennsylvania and New Jersey Endangered.
3 Black Ditch Park
4 Pennsylvania Railroad
5 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
6 Cost estimate does not include the costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.

2. Interchange Element

The Flyover A and Single Loop A Alternatives **(Figure III-15)** were selected for more detailed study in the DEIS. Overall, the Flyover A and Single Loop A Alternatives would have a similar range of environmental impacts, as the majority of the surrounding businesses, environmental, and cultural resource features are avoided when compared to other alternatives studied. Both would also have identical Section 4(f) impacts **(Table III-5)**, which were reduced through the use of piers and structure rather than retained fill embankments. Single Loop A would have less commercial (8 versus 9) and residential property (8 versus 12) displacement impacts compared to Flyover A **(Table III-5)**. **Section IV** of this FEIS contains more detailed discussions of impacts and mitigation associated with both interchange alternatives.

3. Bridge Element

The Bridge North and Bridge South Alternatives were both recommended to be carried into the DEIS for more detailed evaluation. Based on the DEIS impact summary **(Table III-5)**, Bridge North would require a greater number of residential displacements (7 versus 2) than Bridge South, and would have slightly less impacts to Section 4(f) properties than Bridge South (0.026 ha/0.064 ac versus 0.032 ha/0.080ac). Bridge North would have slightly higher wetland impacts (0.15 ha/0.36 ac versus 0.03 ha/0.06 ac), but less forestland impacts (3.18 ha/7.87 ac versus 3.38 ha/8.35 ac) than Bridge South. Both Bridge Element Alternatives avoid rangeland impacts. Bridge South reduces the 229 m (750 ft) of perennial stream impacts of Bridge North to 118 m (386 ft). Commercial displacements (2) would be identical for both Bridge Element Alternatives. Federal and state threatened and endangered species populations are listed for both Bridge North and Bridge South **(Table III-5)**. Impacts and mitigation for both alternatives are discussed in **Section IV** of this FEIS.

J. ALTERNATIVES PRESENTED IN FEIS

On May 11, 2001 the Draft Environmental Impact Statement (DEIS)/Draft Section 4(f) Evaluation was filed with the US Environmental Protection Agency and made available for

public review. The availability of the DEIS was advertised through press releases, newsletters, and public notices distributed to local citizens throughout the study area, and display advertisements in newspapers in the study area. Copies of the DEIS were distributed to federal, state, and local agencies, US Congressmen, libraries and others. Comments were requested concerning the DEIS and the proposed project alternatives. The deadline for receipt of comments was July 2, 2001.

As discussed in the **Preface** of this FEIS, the comments from the DEIS comment period and changes that occurred in the study area since the distribution of the DEIS resulted in slight modifications to the Alternatives Carried Forward in the DEIS. These changes are as follows:

- ✓ Conversion of farmlands to residential development in the Toll Plaza Element
- ✓ One additional residential displacement and two additional commercial displacements in the Interchange Element
- ✓ Inclusion of additional state listed rare, threatened and endangered species in the study area
- ✓ Reconfiguration of proposed stormwater management facilities to reduce wetland impacts in the study area
- ✓ Revisions to candidate wetland replacement sites in the study area
- ✓ Additional coordination with the Pennsylvania and New Jersey State Historic Preservation Offices in the Bridge Element
- ✓ Revisions to floodplain limits in the study area
- ✓ Coordination with the Keeper of the National Register of Historic Places resulted in the determination that the section of the Delaware Canal buried under US 13 and adjacent parking area, outside the PTC right-of-way, retains integrity and contributes to the historic significance of the Delaware Canal Historic Landmark. Since one of the proposed piers for the Bridge North Alternative is just outside the PTC right-of-way on the north side of the existing bridge, a Section 4(f) impact may be determined for Bridge North, as well as an historic architectural impact. This is further discussed in **Section V** of this FEIS.

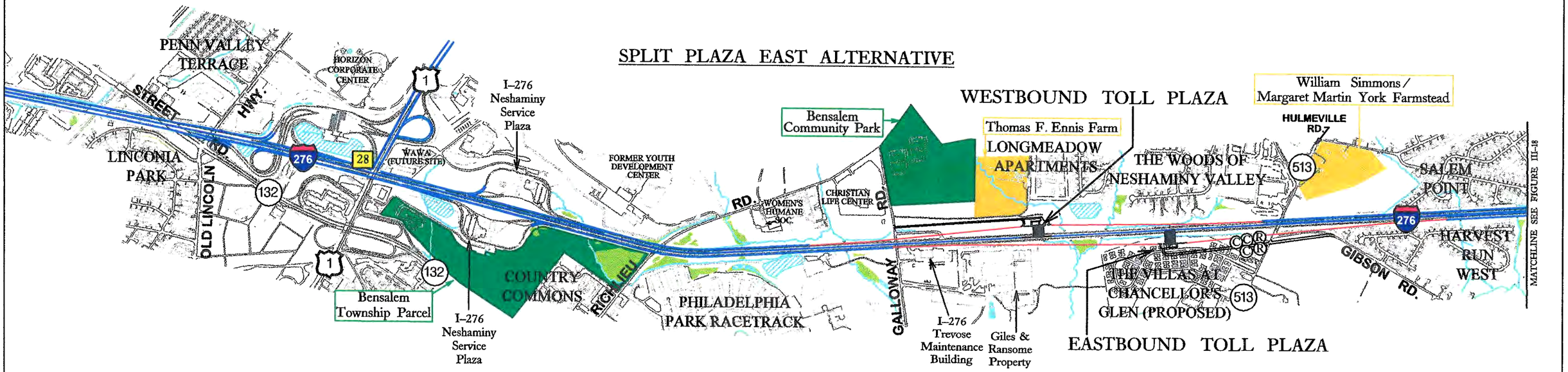
The incorporation of the modifications to the Alternatives Carried Forward in the DEIS will be referred to as the Alternatives Presented in FEIS. Although these modifications are slight, an updated impact summary table is presented in **Table III-6** and updated graphics of the Alternatives Presented in FEIS are shown in **Figures III-17, III-18**, and **III-19**. These alternatives form the basis for the impact and mitigations discussions that follow in **Section IV** (Environmental Consequences).

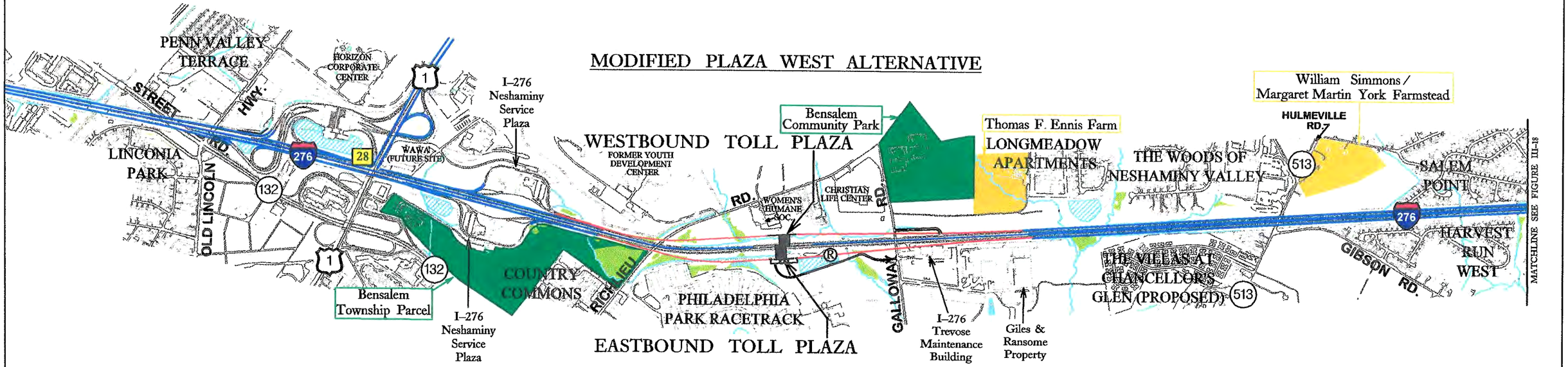
TABLE III-6
ALTERNATIVES PRESENTED IN FEIS IMPACT SUMMARY (JUNE 2003)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Modified Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Federal Threatened and Endangered Species	0	0	0	0	1 [2]	1 [2]
State Threatened and Endangered Species	0	0	7	7	3	4
Wetlands (ha/ac)	0.35 / 0.86	0.47 / 1.16	0.61 / 1.52	0.40 / 1.00	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.27 / 0.68	0.20 / 0.49	1.84 / 4.54	1.84 / 4.54	0.11 / 0.28	0.11 / 0.28
Forestland (ha/ac)	3.54 / 8.75	1.93 / 4.78	5.52 / 13.65	5.18 / 12.80	3.18 / 7.87	3.38 / 8.35
Rangeland (ha/ac)	4.39 / 10.85	1.57 / 3.87	0.81 / 2.01	0.81 / 2.01	0 / 0	0 / 0
Surface Water (crossings)	6	6	7	6	2	2
Perennial Stream Impacts (m/ft)	194 / 635	965 / 3,165	241 / 790	210 / 690	190 / 624	79 / 260
Intermittent Stream Impacts (m/ft)	363 / 1,190	346 / 1,134	966 / 3,169	957 / 3,139	204 / 669	198 / 651
Farmland (ha/ac)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites	0	0	3	3	1	1
Eligible Historic Architectural Resources	0	0	0	0	1	0
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	0 / 0	0 / 0	1 [3] / 0	1 [3] / 0	0 / 2 [4, 5]	0 / 1 [4]
Section 4(f) Resource Use (ha/ac)	0 / 0	0 / 0	0.038 / 0.094	0.038 / 0.094	0.031 / 0.077	0.032 / 0.08
Potential Sensitive Waste Sites	8	6	16	16	5	5
Public Facilities and Services	0	0	0	0	0	0
Commercial Property Displacements	3	0	11	10	2	2
Residential Property Displacements	2 [6]	1	13	9	7	2
Institutional Property Displacements	0	0	1	1	1	1
Major Utility Relocations (PECO)	0	0	1	1	0	0
Total Section Cost Estimate (million $) [7]	116	107	332	310	208 [8]	223 [8]

Notes: The identified alternative impacts incorporate the associated side road/bridge improvements, Stormwater management facilities, and construction of the park and ride/pool sites.
The No-Build associated with each element does not impact the identified resources. The No-Build does not meet the project need.

1 The Alternatives Presented in the FEIS impact Black Ditch Park parcel 005-021-305 (impact from ramp construction). Design for ramp construction includes pier work rather than fill embankment.
2 The federally listed Shortnose Sturgeon is also included in the state threatened and endangered species total because it is listed as Pennsylvania and New Jersey Endangered.
3 Black Ditch Park.
4 Pennsylvania Railroad.
5. Delaware Canal National Historic Landmark
6 The potential exists for a substantial number of displacements at the proposed Villas at Chancellor's Glen residential development in the Split Plaza East Alternative **(Figure III-17)**.
7 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
8 This cost estimate does not include costs associated with re-decking and painting of the existing Delaware River Turnpike Bridge.





ALTERNATIVES PRESENTED IN FEIS – TOLL PLAZA ELEMENT

The Split Plaza East and Modified Plaza West Alternatives have not changed since the distribution of the DEIS, and remain as the alternatives chosen for detailed study in **Section IV**. However, since the DEIS distribution, land that was classified as farmland has been converted to a residential land use. A proposed residential development (The Villas at Chancellor's Glen) is located southwest of the Hulmeville Road crossing of I-276. For the Split Plaza East Alternative, the development, as proposed, would eliminate farmland impacts but have the potential to substantially increase residential displacements. The Modified Plaza West Alternative would have no change in displacements due to the proposed residential development. Additional noise studies were conducted at the proposed residential development for both alternatives **(Section IV-O)**.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Exisiting I–276 Interchange
- Surface Water
- Wetland
- Section 4(f) Public Recreational Land
- NRHP Eiligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–17
ALTERNATIVES PRESENTED IN FEIS
TOLL PLAZA ELEMENT

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

SINGLE LOOP A & FLYOVER A ALTERNATIVES

SINGLE LOOP A ALTERNATIVE
SEE INSET FOR FLYOVER A (BOTTOM RIGHT)

FUTURE
EXISTING
EXISTING & FUTURE

MIDDLETOWN TWP.
BENSALEM TWP.
BENSALEM TWP.
BRISTOL TWP.
BENSALEM TWP.
BRISTOL TWP.

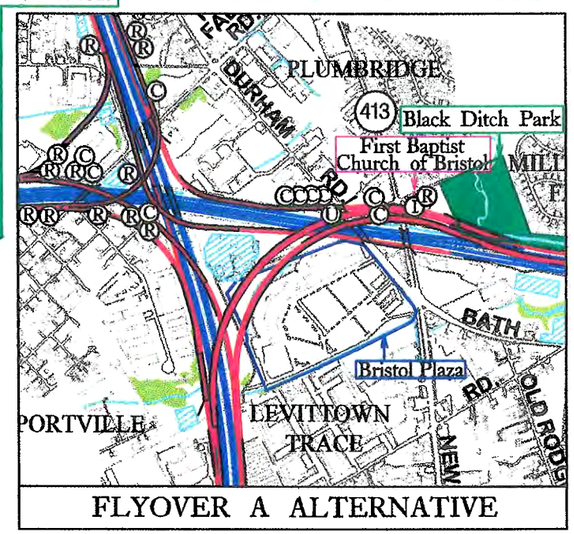
PARKVIEW APTS.
NEWPORTVILLE MANOR
PLUMBRIDGE
Edgar A. Smith House
SALEM POINT
NEWPORTVILLE TERRACE
Black Ditch Park
First Baptist Church of Bristol
MILL CREEK FALLS
Green Trees Park B
BRITTANY SPRINGS
Black Ditch Park
Bristol Plaza
LEVITTOWN TRACE
NEWPORTVILLE
MAYFIELD TERRACE
Green Trees Park A
Municipal Campus Park
LAUREL BEND
MARGO GARDENS
MAGNOLIA LAKE
BRISTOL GARDENS
ROCKDALE
Silver Lake Park
Delhaas Woods
Lawrence Johnson Property / Lansdowne

LANGEWOOD
NEW FALLS RD.
DURHAM RD.
BENSALEM BLVD.
NESHAMINY CREEK
MAIN ST.
NEW FALLS RD.
BATH RD.
OLD RODGERS RD.
NEW RODGERS RD.
FORD RD.
OXFORD VALLEY RD.
MILL CREEK
BRISTOL RD.
NESHAMINY CREEK
NEWPORT ROAD

MATCHLINE SEE FIGURE III–17
MATCHLINE SEE FIGURE III–19

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

NOTE: SEE FIGURE IV–5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV–A.5.



FLYOVER A ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Proposed Stormwater Management
- PECO Property
- State–Owned Property (Outside of Hwy. R.O.W.)
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Ⓤ Utility Relocation
- Proposed Bridge Deck

ALTERNATIVES PRESENTED IN FEIS – INTERCHANGE ELEMENT

The Flyover A and Single Loop A Alternatives have not changed since the distribution of the DEIS and remain as alternatives chosen for detailed study in **Section IV**.

Since the DEIS, several SWM facilities were reconfigured in the Interchange Element to minimize wetland impacts as a result of comments received from natural resource agencies during the Public Comment Period. This change also reduced impacts to forestlands.

Also as part of the DEIS review, various environmental agencies were concerned with the survey results for threatened and endangered (T&E) species. To address these concerns, project team scientists conducted additional surveys for T&E plants and animals from August through November 2001. In addition to other known species, the Eastern mudminnow, a species not previously reported in the DEIS, was found at Magnolia Lake in the Silver Lake Nature Center and in the Mill Creek corridor

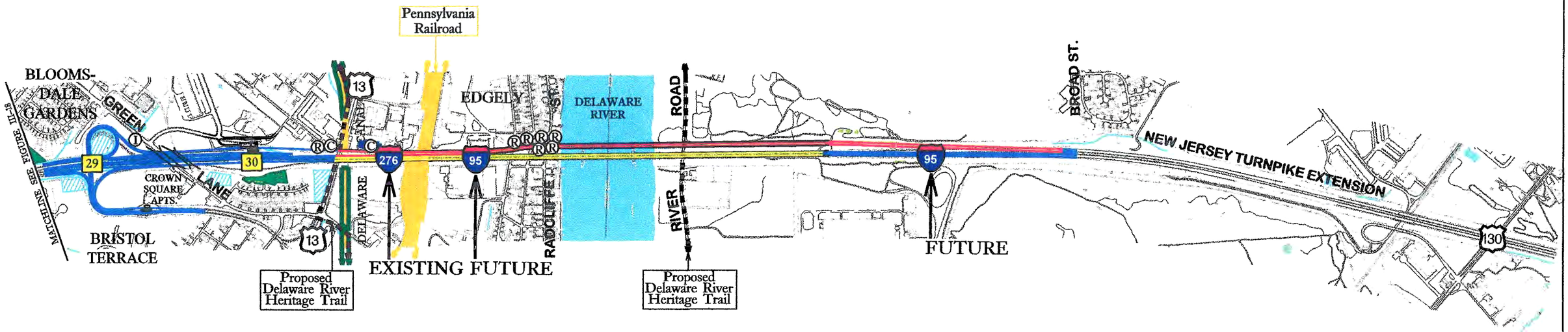
Since the DEIS, the decision was made to displace an additional property containing one residence and two commercial businesses in both the Single Loop A and Flyover A Alternatives. The property is located on New Falls Road in the northwest quadrant of the I-276/I-95 point-of-crossing and has unique zoning allowing for both residential and commercial uses.

I–276 / I–95 INTERCHANGE PROJECT

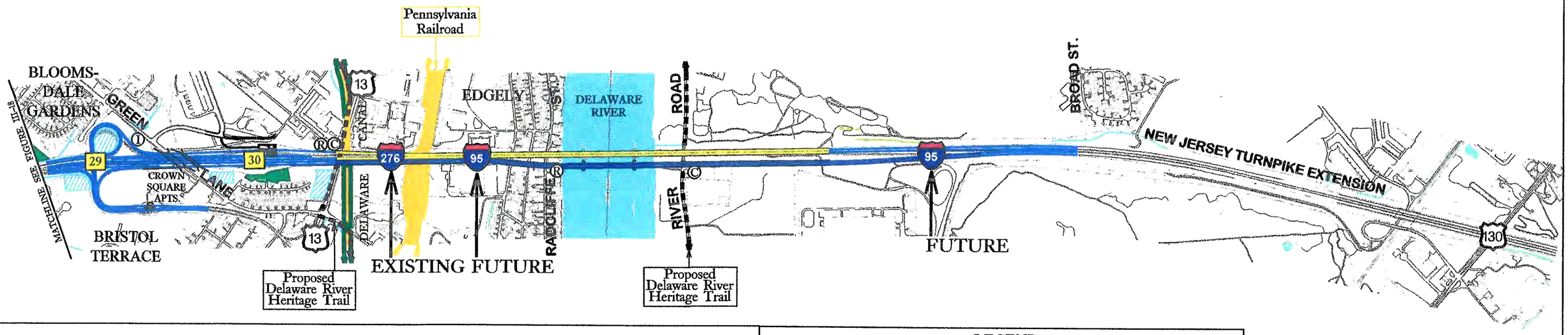
FIGURE III–18
ALTERNATIVES PRESENTED IN FEIS INTERCHANGE ELEMENT

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

BRIDGE NORTH ALTERNATIVE



BRIDGE SOUTH ALTERNATIVE



ALTERNATIVES PRESENTED IN FEIS – BRIDGE ELEMENT

The Bridge North and the Bridge South Alternatives have not changed since the distribution of the DEIS, and remain as the alternatives chosen for detailed study in **Section IV**. However, since the distribution of the DEIS, coordination continued with the Pennsylvania Historic Preservation Office concerning the project's potential impact on the Delaware Canal.

In addition, coordination with the New Jersey State Historic Preservation Office resulted in the identification of one potential archaeological resource site in the Bridge Element study area. As shown in **Table III-6**, the Bridge North and Bridge South Alternatives potentially impact one archaeological site.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade of Existing Bridge
- 29 Existing I–276 Interchange
- Surface Water
- Proposed Multi–Use Trail
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE III–19
ALTERNATIVES PRESENTED IN FEIS
BRIDGE ELEMENT

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

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IV. ENVIRONMENTAL CONSEQUENCES

IV. ENVIRONMENTAL CONSEQUENCES

More detailed environmental consequences information is located in the Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

This section of the Final Environmental Impact Statement (FEIS) presents the results of the detailed environmental impact studies conducted for the No-Build Alternative and the six Build Alternatives that were recommended in **Section III** to be carried forward in the DEIS. The Build Alternatives include Split Plaza East and Modified Plaza West in the Toll Plaza Element; Flyover A and Single Loop A in the Interchange Element; and Bridge North and Bridge South in the Bridge Element. The impacts of these alternatives to the existing features of the socioeconomic, cultural, natural, and manmade environments, as described in **Section II** and listed in **Table III-6**, are described in the following sections.

Detailed impacts were assessed in accordance with applicable laws and regulations for each of the environmental resources evaluated. Where appropriate, avoidance, minimization, and mitigation strategies are described. Graphics in this section are of similar scale and appearance to those used to present alternatives in **Section III** of this document. **Section IV** graphics identify traffic and transportation features and impacts, socioeconomic features and impacts, cultural resource features and impacts, natural resource features and impacts, manmade environment features and impacts, and visual quality features and impacts.

The following environmental features do not exist in the study area, as indicated in **Table II-1** in **Section II**: national or state wild and scenic rivers; wild or stocked trout waters; national natural landmarks; wildlife sanctuaries or refuges; unique geological resources; mineral resources; rural historic landscapes; and pedestrian overpasses. No impacts to lakes, farm ponds, or Agricultural Security Areas (ASA) are anticipated from the No-Build or Build Alternatives. Agency coordination and correspondence that document these findings are described in **Section VII** and the Technical Support Data.

A. TRAFFIC AND TRANSPORTATION

More detailed traffic and transportation information is located in the Congestion Management System Analysis, Major Investment Study Analysis, Project Need, and Traffic and Transportation and Energy Analysis Technical Support Data, and:
* *Needs Study, 1993.*
* *Final Congestion Management System Evaluation, 1995.*
* *Major Investment Study, 1997.*
* *Final Phase 1 Preliminary Alternatives Analysis Report, 1998.*
* *Technical Support Data Index is located in Section XII (Appendix C).*

Existing and projected traffic volumes were obtained using the *Pennsylvania Turnpike/I-95 Proposed Interchange Traffic Study* (DVRPC, 2001). This publication is an updated version of a similar study conducted by the Delaware Valley Regional Planning Commission (DVRPC) in 1993. The 1993 study supplied Year 2020 traffic projections to accommodate for 20 years of traffic growth, assuming the start date of construction would be 2000. This information was used during the Preliminary Alternatives Analysis, as described in **Section III**. Since the proposed construction of a Build Alternative is now estimated to begin in 2006, it became necessary to revise the document with Year 2025 traffic projections. As noted in this publication, the Pennsylvania Turnpike Commission (PTC) provided traffic volumes for I-276. DVRPC obtained traffic volumes for I-95 and the remaining roadway network within the study area from the Pennsylvania Department of Transportation (PENNDOT), the New Jersey Department of Transportation (NJDOT), and the New Jersey Turnpike Authority (NJTA). In total, volumes were forecasted by DVRPC for over 50 locations throughout the study area **(Figure IV-1).**

The Year 2025 traffic projections showed only slight deviations from the Year 2020 traffic projections due to the use of an upgraded traffic model and population and employment data. Unlike the 2020 traffic model, the 2025 traffic model incorporated recent technology changes such as the addition of electronic toll collection (E-Z*Pass*) at Pennsylvania Turnpike toll facilities, proposed developments, updated planned roadway improvements based on the current PENNDOT construction plan, and the unanticipated employment growth in the counties surrounding Philadelphia. The arterial network of local roads, including updated planned transportation improvements, modeled for the projected 2025 traffic model **(Figure IV-2)** was the same network used in the 1993 model for Year 2020 projections. Traffic has increased moderately on the study area roadways since DVRPC used the regional traffic model to forecast future Build and No-Build traffic volumes. These slight increases correlate with the forecasted annual average growth in traffic between 1999 and 2025 under the No-Build scenario.

The Year 2025 traffic model predicted a reduction of Build Condition highway volumes along I-95 (south of PA 413) when compared to 2020 traffic volumes mainly because a three-lane widening of I-95 north of PA 413 was not modeled due to the fact that acceptable levels of service (LOS) are achieved for this 2-lane by-direction section under the Build Condition. The local arterial roadway network showed slight volume increases, which would be expected during five years of growth. Both the I-276 mainline and the Delaware River Turnpike Bridge had higher 2025 traffic volumes when compared to previous 2020 volumes, which reinforced the need for widening of I-276 and an additional Delaware River Turnpike Bridge.

To evaluate the roadway's ability to provide adequate capacity, a traffic capacity analysis was completed to identify the corresponding LOS for each roadway. A LOS designation generally describes operational conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruption, comfort and convenience, and safety. A LOS analysis was conducted for this project as part of the *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (PTC, 1993). As mentioned previously in **Section I-B**, the extent of transportation deficiencies identified in the 1993 Needs Study remains unchanged when re-evaluated using the 2025 projected traffic volumes. A description of the analysis and the LOS for Year 1992, Design Year 2020 No-Build, and Design Year 2020 Build is contained in **Section I-B.3**.

1. Existing Conditions

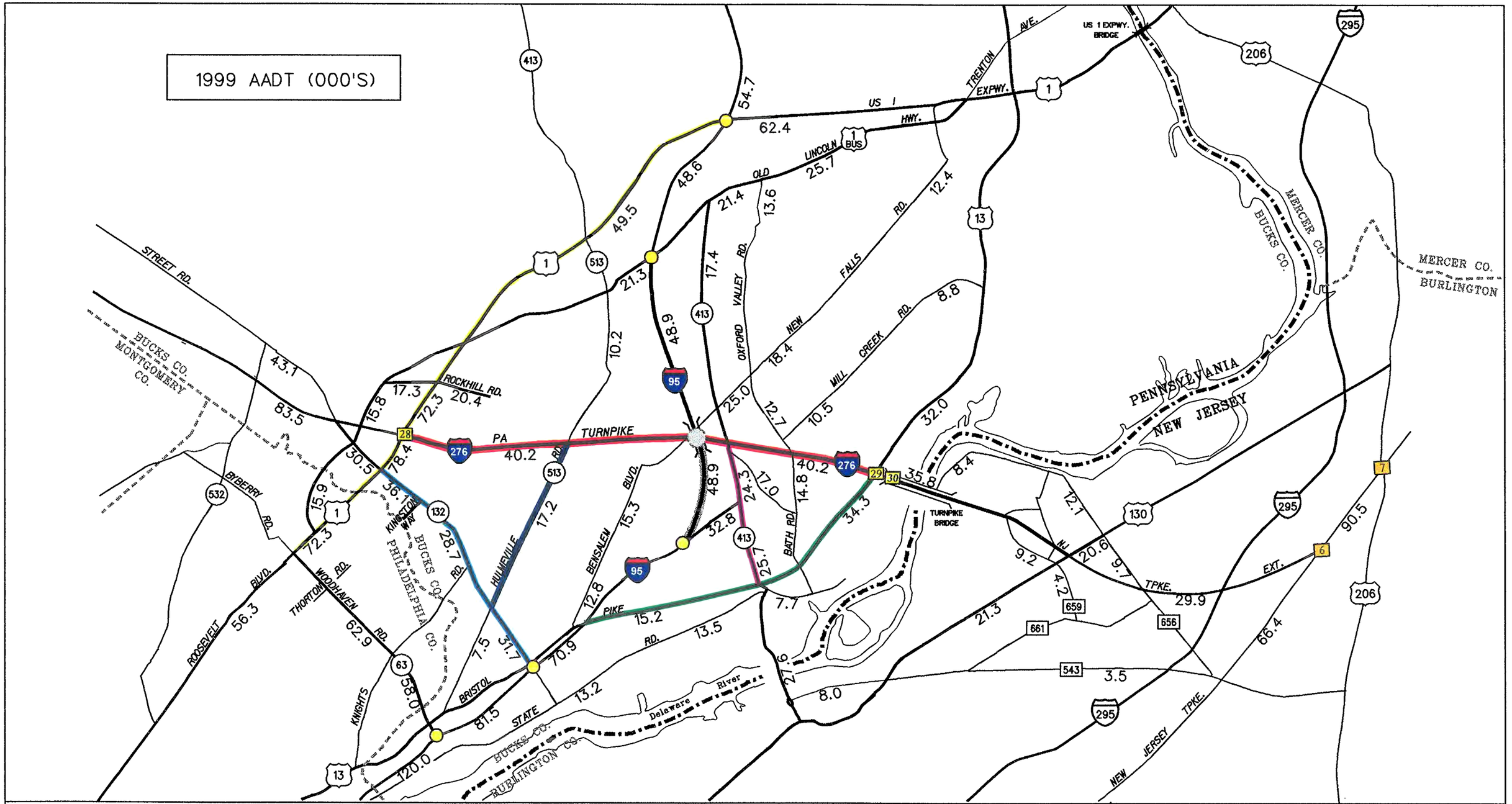
The traffic study conducted by DVRPC in 2001 approximated that during 2000, an annual average daily traffic (AADT) volume of 40,200 vehicles traverses I-276 at the crossing of I-95. At this location, I-95 traffic averages 48,900 daily vehicles, which is the smallest volume on I-95 within the study area. Year 2000 traffic volumes on I-95 increase rapidly as motorists travel south, reaching 120,000 AADT south of PA 63 (Woodhaven Road). Within New Jersey, an AADT volume of 35,000 vehicles traverse the Delaware River Turnpike Bridge and onto the New Jersey Turnpike Extension. US 130 traffic averages approximately 21,000 daily vehicles near the interchange with the New Jersey Turnpike Extension. **Figure IV-1** (2000 Average Daily Traffic Volumes) and **Figure IV-2** (2025 Build and No-Build Traffic Volumes) illustrate and describe current and future traffic volumes forecasted for the study area.

2. Safety

In 1993, a crash analysis was performed for I-276, I-95, and the existing study area roadway network to identify roadway segments that are deficient with regard to safety. The crash data used for evaluation included an Engineering Extract Summary obtained from the PENNDOT Center for Highway Safety for a three-year period from 1989 to 1991 (PENNDOT, 1992). The crash rates for each roadway reflect an average three-year total crash rate per one million vehicle miles traveled. These rates were then compared to the statewide average rate taken from PENNDOT's *Accident Records System Homogenous Report for Accidents in Years 1987 to 1991* (PENNDOT, 1992), which contains roadway attributes such as type of roadway, classification, total width, AADT range, and crash severity data.

The majority of crash types were reported as rear-end, angle, and sideswipe. The major causes of these crashes were identified as tailgating, failure to heed a stopped vehicle, careless lane changes, and improper left turning. The crash analysis indicated 68 percent of roadways have crash rates less than the statewide crash average. Of the remaining 32 percent, 16 percent had crash rates greater than the statewide average; 9 percent exhibited rates greater than two times the statewide average; and 7 percent had rates greater than three times the statewide average.

Many roadways with crash rates greater than the statewide average have been targeted for improvements by PENNDOT's Twelve Year Transportation Improvement Program and PENNDOT Safety and Mobility Initiative (SAMI) projects. The SAMI program identifies areas with safety deficiencies that can be improved with minor road upgrades. These programs aim to reduce the percentage of deficient roadways. Therefore, the existing crash histories of the roadway network, coupled with future PENNDOT improvement projects aimed to mitigate safety deficiencies, reveal that approximately three quarters of the roadways in the traffic impact study area may exhibit acceptable crash-related characteristics by Year 2004. Considering that a Build Alternative would remove traffic from these studied corridors, these safety results are expected to improve, rather than be compromised.



EXISTING TRAFFIC VOLUMES

This figure shows the annual average daily traffic volumes (AADT) for study area roadways for the Year 2000. The arterial system within the study area carries daily traffic volumes ranging from 15,200 on US 13 (south of PA 413) to 78,400 daily vehicles on US 1 between Street Road and the I-276 Interchange 28 entrance. The majority of arterial roadways within the study area carry volumes in the range of 20,000 - 40,000 vehicles per day. These highway facilities, such as US 1, US 13, PA 132 and PA 413 are typically four lanes wide. Both segments of I-276 and I-95 within the study area are presently configured as four lane interstate highways. I-276 has been widened to six lanes east of the Delaware River Turnpike Bridge. Access to I-276 within the study area is provided by US 1 at Interchange 28 and US 13 at Interchange 29. Local access to I-95 is provided by the US 1 Expressway, US 1 Business, PA 413 (New Rodgers Road), PA 132 (Street Road) and PA 63 (Woodhaven Road). Shown above are the locations of these roadways with respect to the I-276 and I-95 point-of-crossing.

LEGEND

- State Boundary
- County Boundary
- No Interchange / Indirect Connection
- 28 Existing I-276 Interchange
- Existing I-95 Interchange
- 6 Existing NJ Turnpike Exit
- I-276
- I-95
- PA 132
- US 1
- PA 513
- PA 413
- US 13

Source: Pennsylvania Turnpike / Interstate 95 Proposed Interchange Traffic Study (DVRPC,2001)

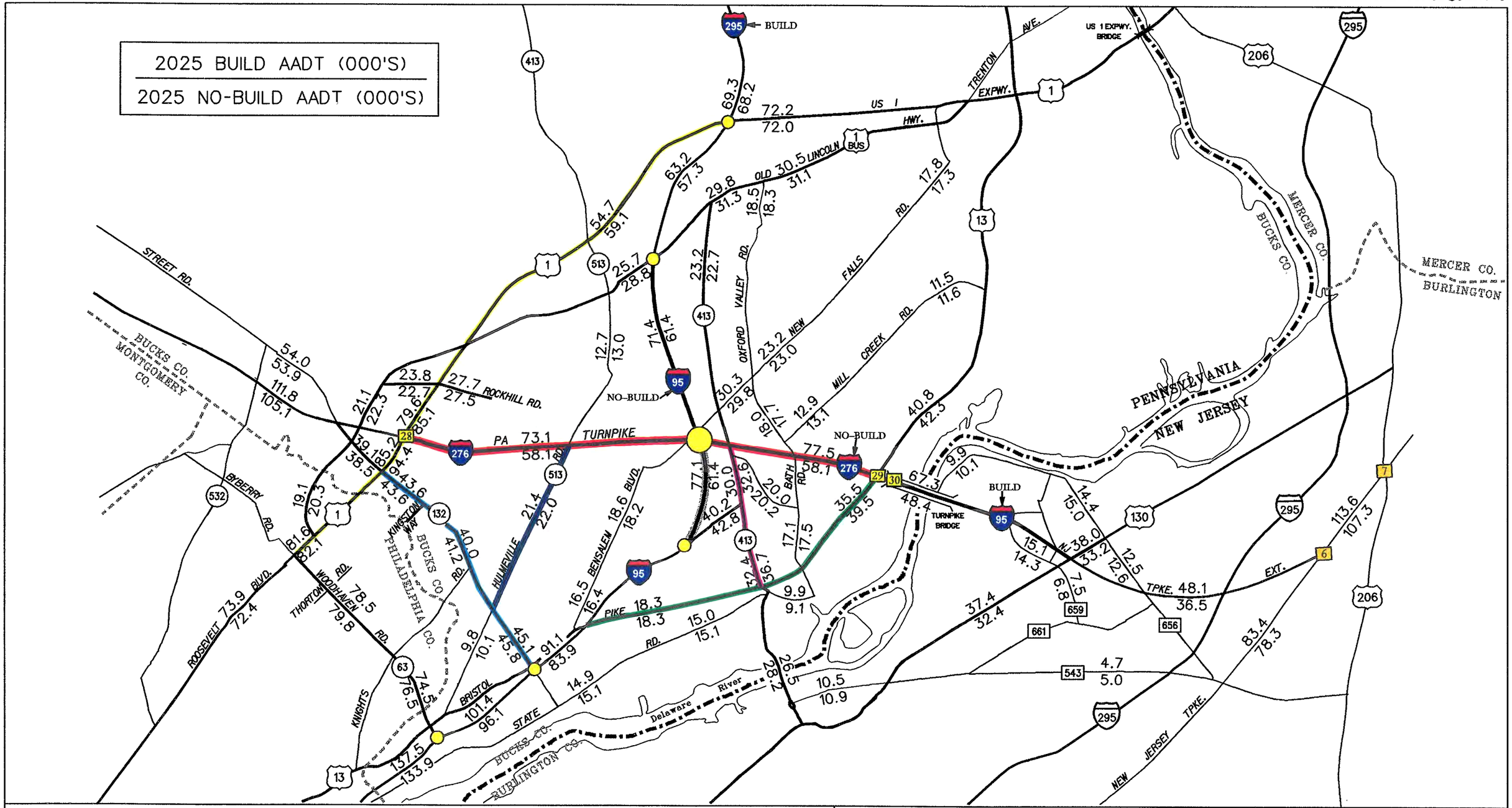
I-276 / I-95 INTERCHANGE PROJECT

FIGURE IV-1
TRAFFIC AND TRANSPORTATION
2000 AVERAGE DAILY
TRAFFIC VOLUMES

1 In = 1.5 Mi (1 : 2414)

0 0.75 1.5 2.25 3
1207 2414 3621 4828

N



FUTURE TRAFFIC VOLUMES

This figure shows the range of annual average daily traffic volumes (AADT) for study area roadways for the Design Year 2025 Build and No-Build. Under the Year 2025 Build Conditions, traffic volumes are reduced on the majority of local roadways due to the direct connection of I-276 and I-95. Construction of this direct connection between I-276 and I-95 would decrease traffic volumes along local arterials such as US 1, PA 132, PA 513, PA 413, PA 63, and US 13 and redirect these volumes to I-276 and I-95. Segments of I-276 between Interchanges 28 and 29 would experience volume increases between 21 and 25 percent. I-95 south of I-276 would have a 20 percent increase in traffic volume and the Delaware River Turnpike Bridge would have a 28 percent increase in volume when compared to the 2025 No-Build volumes. Widening of I-276 and the construction of a new Delaware River Turnpike Bridge structure considered under the Build Alternative would accommodate the predicted traffic volume increases.

LEGEND

- State Boundary
- County Boundary
- Proposed Full Interchange at Direct Connection
- 28 Existing I–276 Interchange
- Existing I–95 Interchange
- 6 Existing NJ Turnpike Exit
- I–276
- I–95
- PA 132
- US 1
- PA 513
- PA 413
- US 13

Source: Pennsylvania Turnpike/Interstate 95 Proposed Interchange Traffic Study (DVRPC,2001)

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–2
TRAFFIC AND TRANSPORTATION
2025 BUILD AND NO–BUILD
TRAFFIC VOLUMES

1 In = 1.5 Mi (1 : 2414)
0 0.75 1.5 2.25 3
1207 2414 3621 4828

3. Impacts

a. No-Build Alternative

The No-Build Alternative offers only routine maintenance procedures to maintain continuous operation of the existing roadways. No capital improvements are considered under this alternative, producing no appreciable changes in traffic operations. Congestion and safety conditions would continue without relief (**Figure IV-2**).

Considering that existing traffic volumes are predicted to increase under the Year 2025 No-Build, the LOS for study area traffic corridors such as US 1 and PA 63 is expected to deteriorate under the No-Build Alternative. The No-Build Alternative offers no improvements to traffic operations in the study area and thereby fails to meet the project needs.

b. Build Alternative

The Build Alternative would involve the construction of a high speed, direct interchange between I-276 and I-95. This alternative would also include the construction of a new I-276 toll barrier facility, widening of I-276 and I-95, and construction of a new bridge over the Delaware River parallel to the existing structure. The Build Alternative would also include improvements to the local transportation infrastructure, such as secondary roadway widening, bridge reconstruction, and interchange reconfiguration.

The roadway projects considered under the Build Alternative are intended to improve the overall vehicular progression through the study area. Vehicular progression is generally defined as a vehicle's ability to travel a roadway segment considering such limiting factors as vehicular density, vehicular speed, number of travel lanes, and traffic signalization. **Table IV-1** shows four types of improvements to be completed on the study area roadways if the I-276/I-95 Interchange is constructed. As indicated in the table, these enhancements would improve the vehicular progression. The Key colors correspond to the highlighted roadways on **Figures IV-1** and **IV-2.**

Implementation of the Build Alternative would offer numerous transportation infrastructure improvements that would otherwise not occur under the No-Build Alternative. Infrastructure improvements occur in the three project elements (Toll Plaza Element, Interchange Element, and the Bridge Element) described previously in **Section III** and included on **Figure IV-3**. Infrastructure improvements made within each element are located and described on **Figures IV-3A** to **IV-3C** and summarized as follows.

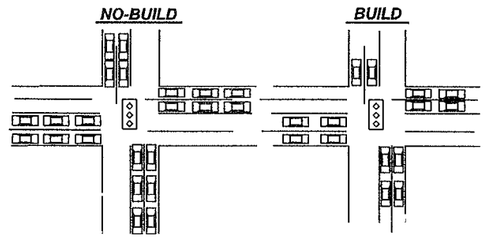
TABLE IV-1
I-276/I-95 INTERCHANGE PROJECT STUDY AREA ROADWAY IMPROVEMENTS

Key (Refer to Figures IV-1, IV-2)	Traffic Corridor	Segment Limits	Overall Vehicular Progression[1] (See Below)	Reasons for Change in Overall Vehicular Progression (Type V,B,W or I)
	I-276 (Pennsylvania Turnpike)	Interchange 28 to I-95 I-95 to US 13	Improved Improved	W W
	I-95	PA 413 Ramps to I-276	Improved	W
	PA 132 (Street Road)	US 1 to Kingston Way PA 513 to US 13	Improved Improved	V, I V
	US 1 Expressway	PA 63 to PA 132 PA 132 to I-276 Ramps I-276 Ramps to Neshaminy Interchange Neshaminy Interchange to I-95	Improved Improved Improved Improved	V V, B, W and I V, W and I V
	PA 513 (Hulmeville Road)	PA 132 to I-276	Improved	V and B
	PA 413 (New Rodgers Road)	I-276 to I-95 Spur I-95 Spur to PA 413	Improved Improved	V V
	US 13 (Bristol Pike)	I-95 to PA 413 PA 413 to I-276	Improved Improved	V V

[1] **Overall Vehicular Progression** is defined as a vehicle's ability to travel a roadway segment considering such limiting factors as vehicular density, vehicular speed, number of travel lanes, and traffic signalization.

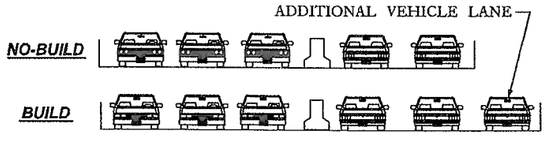
Type V- Reduced Volume Due to I-276/I-95 Interchange Construction

Example: Shown below is a typical example of a signalized intersection that would experience fewer delays and back-ups due to the reduction in volume along local roadways.



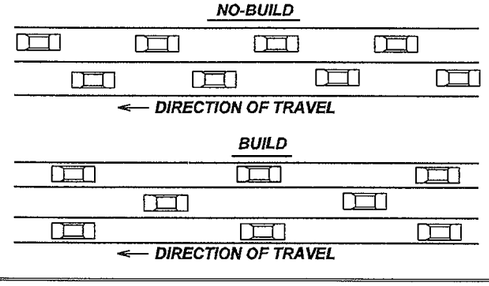
Type B- Bridge Replacement with Additional Width for Lanes/Shoulders

Example: The bridge carrying US 1 over the I-276 would be reconstructed to allow three lanes in each direction. This removes the three lanes to two-lane merge, thereby improving traffic flow through the US 1/Street Road interchange area.



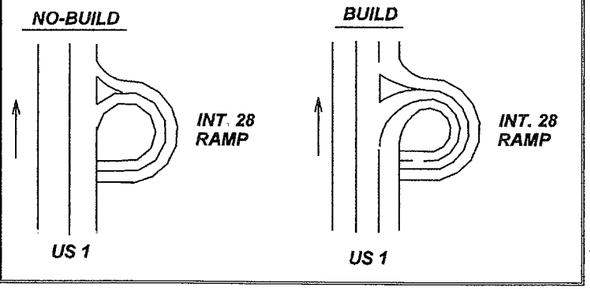
Type W- Roadway Widening

Example: Roadway widening would allow for an additional lane to be added to the roadway segment. The additional lane would decrease traffic density and allow more freedom to maneuver.



Type I- Interchange/ Intersection Reconfiguration

Example: Widening of the northbound US 1 off-ramp to Interchange 28 and realignment of on-ramp to accommodate an additional northbound lane on US 1 would eliminate delays caused by merging/diverging vehicles in this segment.



(1) Toll Plaza Element (Figure IV-3A Plate 2)

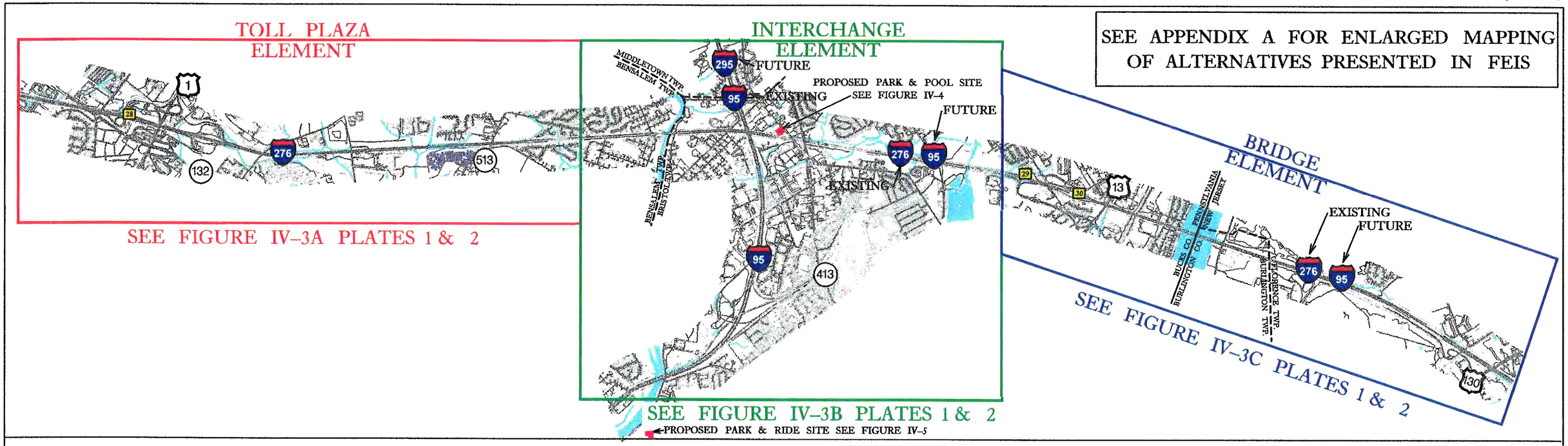
Infrastructure improvements within the Toll Plaza Element include the widening of I-276 from two to three lanes in each direction. The additional two lanes in this segment would accommodate the predicted design year traffic volume increase of 15,000 AADT associated with the Build Alternative (**Figure IV-3A, Plate 2**).

Widening of I-276 would also include the reconstruction and widening of bridges carrying I-276 over Old Lincoln Highway, PA 132 (Street Road) and the Conrail tracks. Construction of new bridge structures that overpass I-276 would occur at US 1, Richlieu Road, Galloway Road, and PA 513 (Hulmeville Road). These bridges would be widened where necessary to provide for additional I-276 travel lanes.

Improvements to the US 1 bridge would increase local roadway efficiency by making US 1 three lanes in each direction, thereby eliminating the existing three to two lane northbound merge. In addition, an added lane in each direction between the ramps to Interchange 28 and the Neshaminy Interchange on US 1, and a two lane on-ramp to Interchange 28 from northbound US 1 would further improve local roadway efficiency (**Figure IV-3A, Plate 2**).

(2) Interchange Element (Figure IV-3B Plate 2)

Improvements within the Interchange Element would include the construction of eight direct ramps between I-276 and I-95, thereby creating a fully directional interchange between the two existing interstate highways. Construction of an interchange between these two highways is projected to reduce Year 2025 traffic volumes on local roadways such as US 1, PA 132 (Street Road), PA 413 (New Rodgers Road), and US 13 (Bristol Pike). With either the Single Loop A Alternative or the Flyover A Alternative, there would be widening of I-276 from two to three lanes in each direction and widening of I-95 to accommodate ramp and merge lanes associated with the direct connection. Widening of I-276 would also require the reconstruction of bridges carrying I-276 over Neshaminy Creek/Main Street, Durham Road, PA 413 (New Rodgers Road), and Mill Creek. With either the Single Loop A Alternative or the Flyover A Alternative, there would be widening of I-276 from two to three lanes in each direction and widening of I-95 to accommodate ramp and merge lanes associated with the direct connection. Widening of I-276 would also require the reconstruction of bridges carrying I-276 over Neshaminy Creek/Main Street, Durham Road, PA 413 (New Rodgers Road), and Mill Creek. In addition, replacement and/or re-construction of the bridges over I-276 at Bensalem Boulevard, New Falls Road, I-276, and Bristol-Oxford Valley Road; and over I-95 at Ford Road are proposed infrastructure improvements within the Interchange Element (**Figure IV-3B, Plate 2**).



SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS

TRAFFIC AND TRANSPORTATION

TOLL PLAZA ELEMENT



The Toll Plaza Element consists of major roadways such as the Pennsylvania Turnpike (I-276), US 1, PA 132 (Street Road), and PA 513 (Hulmeville Road). US 1, at Interchange 28, provides access to I-276 in this element.

The US 1 Interchange area is just one of the local roadway sections that would undergo improvements under a Build Alternative. Improvements considered for the US 1 Interchange area would include a new bridge structure with an additional lane where US 1 overpasses I-276 (pictured above), and an additional lane added to the Interchange 28 on-ramp.

INTERCHANGE ELEMENT



The major transportation feature of the Interchange Element includes the I-276 and I-95 point-of-crossing (pictured above). I-95 passes over I-276. In this element, these two roadways are currently unconnected, four lane, interstate highways. The PA 413 (New Rodgers Road)/I-95 Interchange provides access to I-95 in this element. Until recently, this interchange had entrance ramps to I-95 North and South from PA 413 and only one exit ramp that carried northbound I-95 traffic to PA 413. In late 1999, PennDOT completed construction of a ramp that allows I-95 southbound traffic to exit I-95 at PA 413, as discussed in **Section III**.

BRIDGE ELEMENT



The Bridge Element contains the Delaware River Turnpike Bridge (pictured above) that connects sections of the Pennsylvania and New Jersey Turnpikes. Other major transportation facilities in this element include US 13 (Bristol Pike), which provides access to I-276 at Interchange 29, and US 130, which provides access to the New Jersey Turnpike Extension. This extension continues eastward and connects to the New Jersey Turnpike at Interchange 6.

This element also contains rail lines operated by SEPTA, AMTRAK and Norfolk Southern. These rail lines operate just east and parallel to US 13.

More detailed descriptions of the existing roadway network, planned roadway improvements, and impacts to traffic and transportation are located throughout **Section IV-A**.

The existing roadway networks within the Toll Plaza, Interchange, and Bridge Elements are illustrated on **Figure IV-3A Plate 1**, **Figure IV-3B Plate 1** and **Figure IV-3C Plate 1**, respectively. These figures also represent the No-Build Alternative.

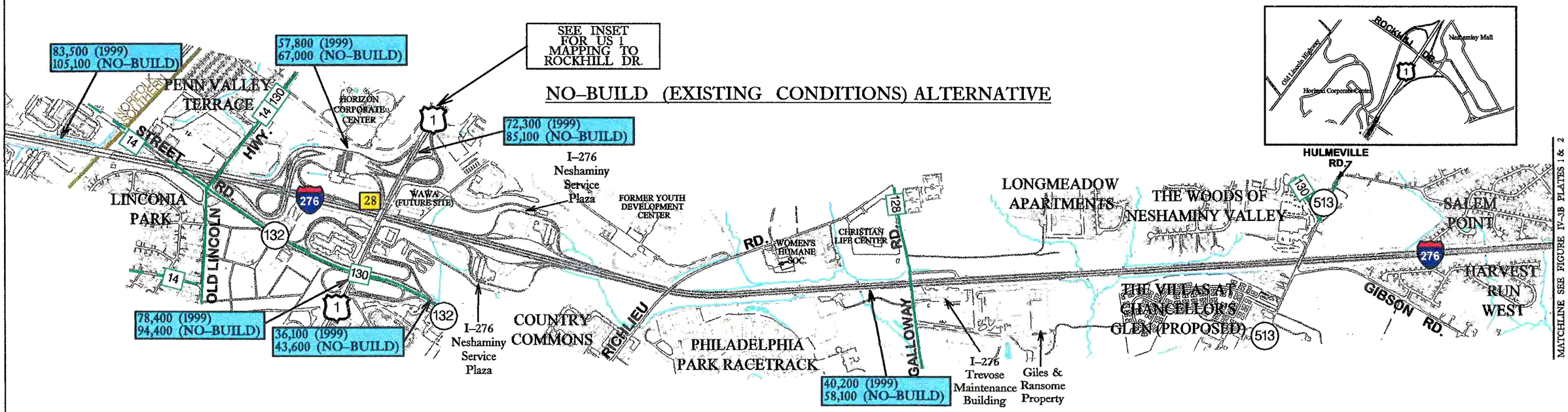
Roadway improvements considered under the Build Alternative are identified in each element on **Figure IV-3A Plate 2**, **Figure IV-3B Plate 2** and **Figure IV-3C Plate 2**.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3
TRAFFIC AND TRANSPORTATION

INDEX

1In = 3,600Ft (1 : 43,200)
0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M



TOLL PLAZA ELEMENT – NO-BUILD ALTERNATIVE (EXISTING CONDITIONS)

The major transportation facilities that currently exist within the Toll Plaza Element include I-276, US 1, PA 132 (Street Road), and PA 513 (Hulmeville Road). The 1999 traffic volumes for these major roadways in the Toll Plaza Element (as shown above) were obtained from the *Pennsylvania Turnpike/I-95 Interchange Traffic Study* (DVRPC, 2001). This figure also shows the predicted Year 2025 traffic volumes for the No-Build Alternative.

Additional existing transportation features include the Norfolk Southern railroad tracks, located immediately west of the I-276 crossing of PA 132 (Street Road), and SEPTA Bus Routes 14, 128, and 130. Bus Routes 14 and 130 currently pass under I-276, west of Interchange 28, along PA 132 (Street Road) and Old Lincoln Highway. SEPTA Bus Route 130 utilizes a section of PA 513 (Hulmeville Road) just north of I-276.

US 1, at Interchange 28, provides access to I-276 in this element. Between PA 132 (Street Road) and the I-276 Interchange 28 entrance, approximately 78,000 vehicles travel on US 1. Approximately 57,800 vehicles per day use Interchange 28 to enter or exit the Pennsylvania Turnpike. East of Interchange 28, I-276 is a four-lane highway (two lanes in each direction) that currently carries approximately 40,200 vehicles per day. West of Interchange 28, I-276 exists as a six-lane highway (three lanes in each direction) that carries approximately 83,500 vehicles per day.

TOLL PLAZA ELEMENT – BUILD ALTERNATIVES

The I-276/I-95 Interchange Project offers numerous infrastructure improvements within the study area that would otherwise not occur under the No-Build Alternative. These infrastructure improvements involve proposed roadway widening, bridge reconstruction, and intersection reconfiguration. Roadway improvements associated with a Build Alternative are intended to improve the overall condition of roadways throughout the study area.

Infrastructure improvements within the Toll Plaza Element are shown graphically on **Figure IV-3A Plate 2**. Key improvements considered in the Toll Plaza Element would include the widening of I-276 from four to six lanes, construction of a new US 1 bridge over I-276, and widening of US 1 to three lanes in each direction. Infrastructure improvements associated with the I-276/I-95 Interchange Project would occur throughout the three project elements and are not limited to improving I-276 and I-95. Proposed improvements for each element are represented on figures showing the Build Alternatives.

TOLL PLAZA ELEMENT – TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS

The transportation infrastructure improvements in the Toll Plaza Element would include (see **Figure IV-3A Plate 2**):

1. Widening of the I-276 bridge over the Norfolk Southern railroad tracks.
2. Reconstruction of the I-276 bridge over PA 132 (Street Road). Additional width may be provided to PA 132.
3. Reconstruction of the I-276 bridge over Old Lincoln Highway. Additional width may be provided to Old Lincoln Highway.
4. Replacement of Interchange 28 ramps over I-276.
5. Replacement of US 1 bridges over the I-276 mainline and Interchange 28 ramps, making US 1 three lanes in each direction.
6. Additional lane added in each direction along US 1 between the Interchange 28 ramps and the Neshaminy Interchange. This reduces the existing delays caused by merging/diverging vehicles in this segment.
7. Widening of the northbound US 1 ramp to Interchange 28, creating a two-lane off-ramp.
8. Widening of I-276 from two to three lanes in each direction to accommodate design year traffic volumes (all elements).
9. A new toll plaza facility would serve as the Pennsylvania Turnpike's eastern toll collection terminus (i.e. the last eastbound toll and the first westbound ticket).
10. Replacement of bridge carrying Richlieu Road over I-276. Additional width may be provided to Richlieu Road.
11. Replacement of bridge carrying Galloway Road over I-276.
12. Replacement of bridge carrying PA 513 over I-276. A total of four lanes may be provided for PA 513.

LEGEND

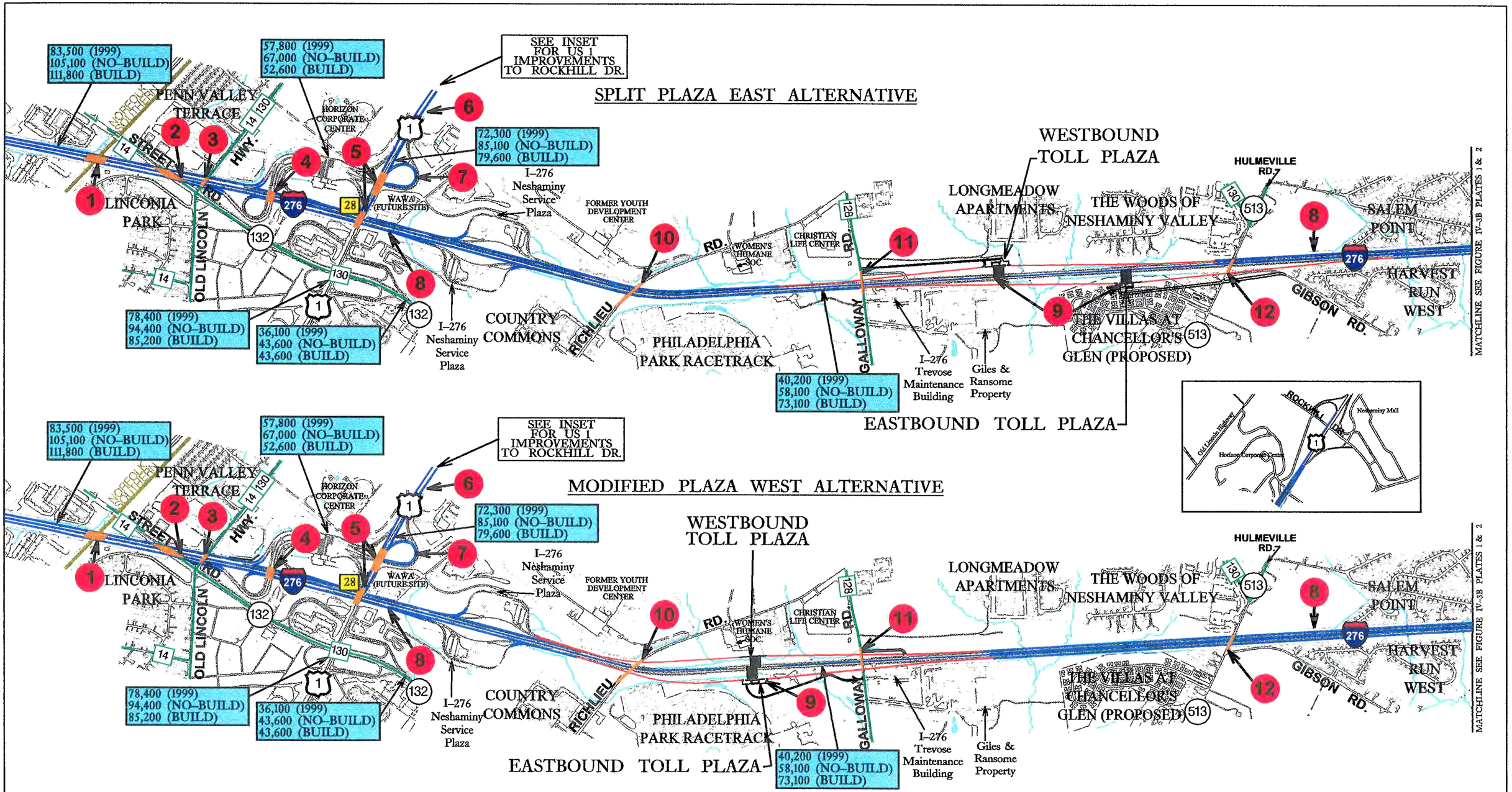
- Surface Water
- 28 — Existing I–276 Interchange
- 20 — SEPTA Bus Route
- SEPTA Bus Route (Peak Hour)
- Railroad
- (1999) (NO–BUILD) — Current 1999 and 2025 No–Build Traffic Volumes and Forecasts (Total Vehicles Per Day Both Directions)

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3A PLATE 1
TRAFFIC AND TRANSPORTATION
TOLL PLAZA ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km



TOLL PLAZA ELEMENT BUILD ALTERNATIVES

The Split Plaza East and Modified Plaza West Alternatives would receive the same transportation infrastructure improvements and would therefore have similar impacts. Construction of a new toll facility, widening of I-276, and side road reconstruction for roads crossing I-276 would temporarily impact traffic along PA 132 (Street Road), Old Lincoln Highway, US 1, Richlieu Road, Galloway Road, and PA 513 (Hulmeville Road). In addition, SEPTA Bus Routes using PA 132, Old Lincoln Highway, and PA 513 may experience delays due to temporary construction related activities on these roads. Traffic detour routes would be implemented during reconstruction of the bridge structures. Year 2025 Build and No-Build traffic volumes are shown in this figure. The Build Alternative would effectively reduce vehicular volume from the US 1 and Interchange 28 area and increase vehicular volume to I-276 in this element. Widening of I-276 from four to six lanes would accommodate the additional I-276 volume (15,000 vehicles per day) in this segment under the Year 2025 Build Alternative. Reduced volume along US 1 and improvements to the US 1 bridge and Interchange 28 ramps would improve traffic efficiency and safety along the US 1 corridor.

LEGEND

- Bridge Reconstruction / Widening
- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Railroad
- 28 Existing I–276 Interchange
- Surface Water
- 14 SEPTA Bus Route
- SEPTA Bus Route (Peak Hour)
- 1 Infrastructure Improvement (project–related improvements to the roadway system)
- (1999) (NO–BUILD) (BUILD) Current 1999, 2025 No–Build and 2025 Build Traffic Volumes and Forecasts (Total Vehicles Per Day Both Directions)

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3A PLATE 2

TRAFFIC AND TRANSPORTATION TOLL PLAZA ELEMENT

SPLIT PLAZA EAST & MODIFIED PLAZA WEST ALTERNATIVES

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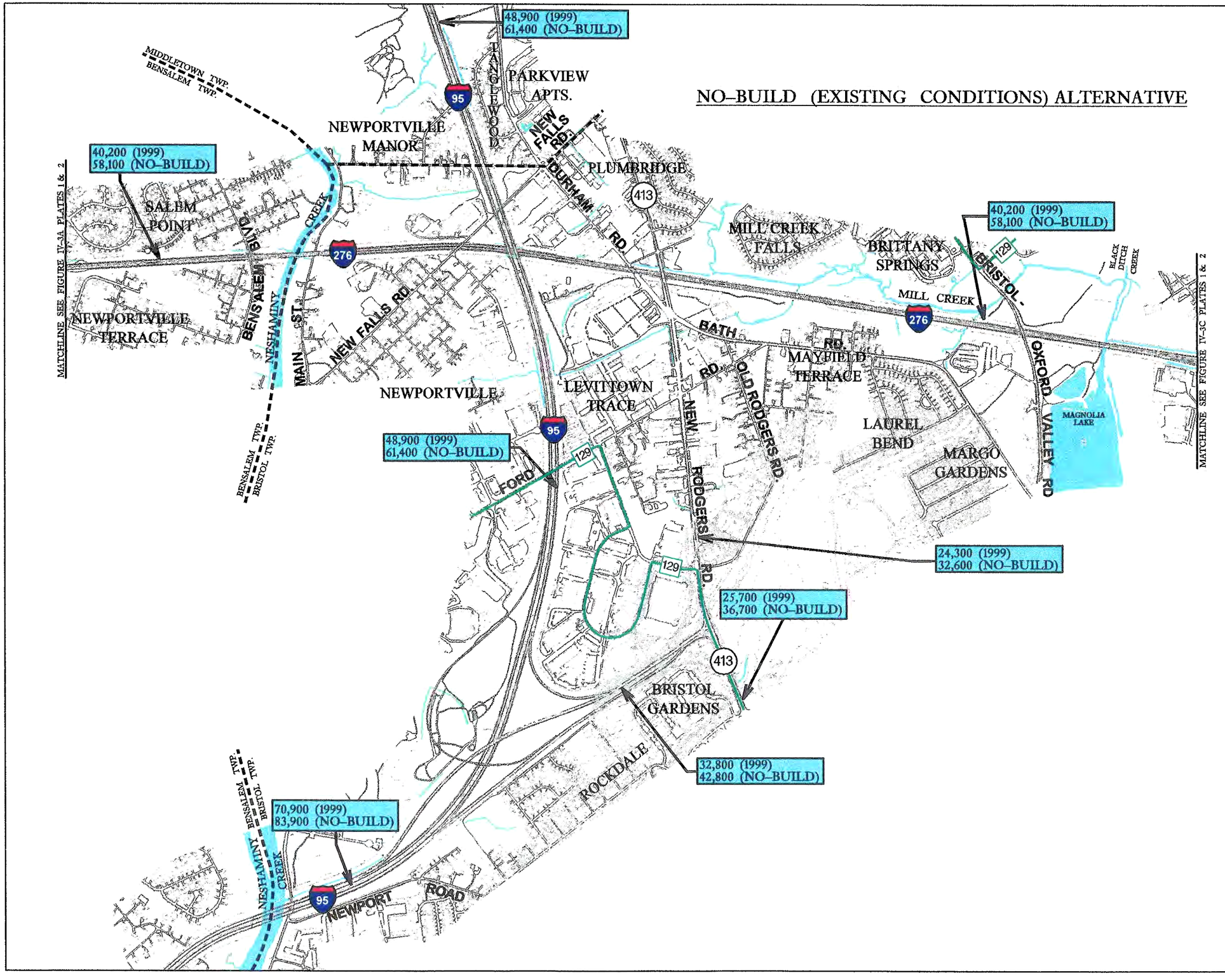
0Mi 1/4Mi 1/2Mi

0Km 0.15Km 0.3Km



LEGEND

- Surface Water
- 20 — SEPTA Bus Route
- (1999) (NO–BUILD) — Current 1999 and 2025 No–Build Traffic Volumes and Forecasts (Total Vehicles Per Day Both Directions)

INTERCHANGE ELEMENT NO-BUILD ALTERNATIVE (EXISTING CONDITIONS)

I-276, I-95, and PA 413 (New Rodgers Road) are the major regional facilities located within the Interchange Element. Though not directly connected to either I-276 or I-95, roadways such as Bensalem Boulevard, New Falls Road, Ford Road, Durham Road, and Bristol-Oxford Valley Road are part of the local transportation infrastructure. SEPTA Bus Route 129, which crosses the element at Bristol-Oxford Valley Road, Ford Road, and PA 413 provides public transportation.

In September of 1999, PennDOT completed construction of a ramp between southbound I-95 and PA 413. Construction of this ramp created a full interchange between I-95 and PA 413 and improved the overall local and regional infrastructure.

Under the No-Build Alternative, there would be no planned improvements to transportation infrastructure within the Interchange Element.

INTERCHANGE ELEMENT BUILD ALTERNATIVES

The I-276/I-95 Interchange Project offers numerous infrastructure improvements within the study area that would otherwise not occur under the No-Build Alternative. Improvements for either the Single Loop A or Flyover A Alternative would include the construction of interchange ramps and widening of I-276 (see **Figure IV-3B Plate 2**). These improvements would cause temporary traffic impacts to the major interstates. Local traffic would experience delays along Bensalem Boulevard, New Falls Road, Ford Road, PA 413 (New Rodgers Road), Durham Road, and Bristol-Oxford Valley Road due to side road reconstruction and bridge replacements. Public transportation (SEPTA) may also experience temporary delays at the Bristol-Oxford Valley Road overpass of I-276. PennDOT and local municipalities have approved traffic detour routes for use during construction.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3B PLATE 1
TRAFFIC AND TRANSPORTATION
INTERCHANGE ELEMENT

NO–BUILD ALTERNATIVE

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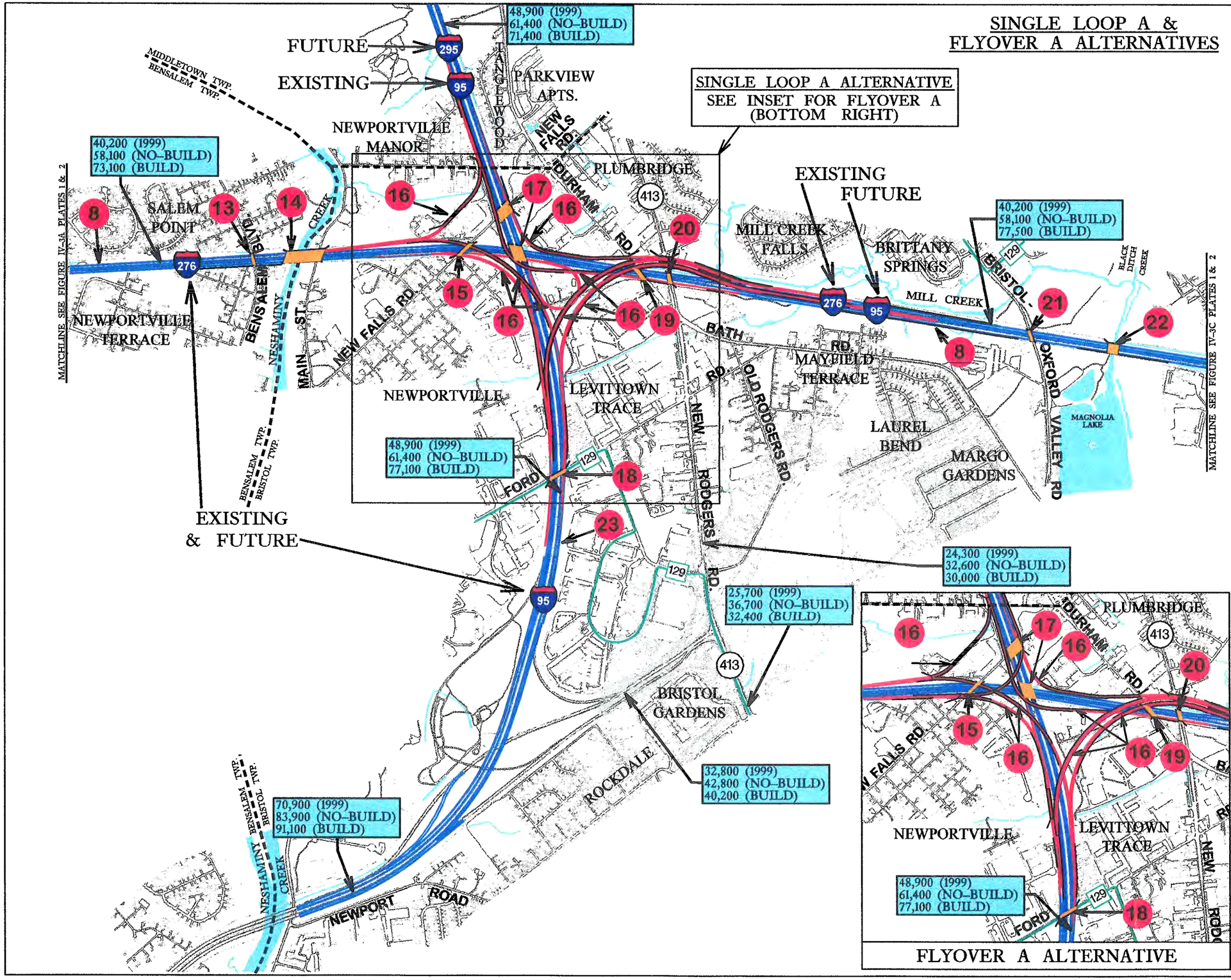
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



LEGEND

- Bridge Reconstruction /Widening
- Proposed Mainline Improvement
- Proposed Ramp /Merge Lane
- Proposed Structure
- Surface Water
- 20 — SEPTA Bus Route
- 1 — Infrastructure Improvement (project–related improvements to the roadway system)
- (1999) (NO–BUILD) (BUILD) — Current 1999, 2025 No–Build and 2025 Build Traffic Volumes and Forecasts (Total Vehicles Per Day Both Directions)

INTERCHANGE ELEMENT – TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS

The potential infrastructure improvements in the Interchange Element are described below and depicted at left. Infrastructure improvements in the Interchange Element include:

8. Widening of I-276 from two to three lanes in each direction to accommodate design year traffic volumes (all elements).
13. Bridge replacement carrying Bensalem Boulevard over I-276. Additional width may be provided to Bensalem Boulevard.
14. Widening of the I-276 bridge over the Neshaminy Creek and Main Street.
15. Bridge replacement carrying New Falls Road over I-276. Additional width may be provided to New Falls Road.
16. Eight direct ramps between I-276 and I-95, creating a fully directional interchange between the two interstate highways.
17. Widening and/or reconstruction of bridges carrying I-95 over New Falls Road and I-276. Additional width may be provided on New Falls Road.
18. Bridge replacement carrying Ford Road over I-95. Additional width may be provided to Ford Road.
19. Reconstruction and widening of the I-276 bridge over Durham Road.
20. Replacement of the I-276 bridge over PA 413 (New Rodgers Road). Additional PA 413 width may be provided.
21. Bridge replacement carrying Bristol-Oxford Valley Road over I-276. Additional width may be provided to Bristol-Oxford Valley Road.
22. Widening of the I-276 bridge over Mill Creek.
23. Associated widening of existing I-95 to accommodate the merging/diverging vehicles in the I-95/I-276/PA 413 interchange area.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3B PLATE 2
TRAFFIC AND TRANSPORTATION
INTERCHANGE ELEMENT

SINGLE LOOP A &
FLYOVER A ALTERNATIVES

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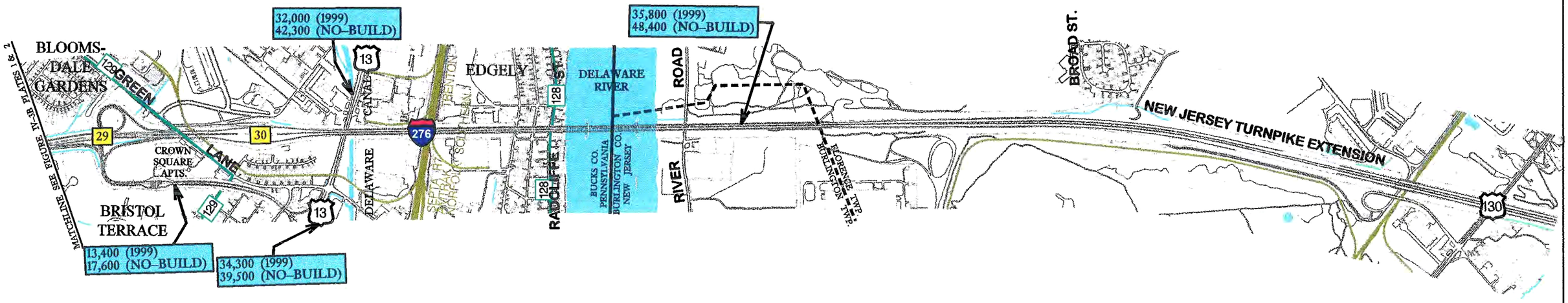
0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE



BRIDGE ELEMENT – NO-BUILD ALTERNATIVE (EXISTING CONDITIONS)

The Bridge Element contains Interchange 30 and the Delaware River Turnpike Bridge, which connects sections of the Pennsylvania and New Jersey Turnpikes. Other major transportation facilities include US 13 (Bristol Pike), which provides access to I-276 at Interchange 29, and US 130 in New Jersey, which provides access to the New Jersey Turnpike Extension, which continues east and connects to the New Jersey Turnpike at Interchange 6 (outside project mapping).

This element also contains rail lines operated by SEPTA, AMTRAK and Norfolk Southern, which operate just east and parallel to US 13. Public transportation features in this element include the SEPTA Bus Routes 129 and 128. Route 129 crosses the element at Green Lane and Route 128 at Radcliffe Street.

Current and Year 2025 No-Build traffic volumes from the *Pennsylvania Turnpike/I-95 Interchange Traffic Study* (DVRPC, 2001) are depicted above. The current volumes are shown for vehicles entering and exiting I-276 at Interchange 29 (13,400 vehicles per day), vehicles traveling on US 13 (approximately 33,000 vehicles per day) and vehicles crossing the Delaware River Turnpike Bridge (35,800 vehicles per day).

BRIDGE ELEMENT – BUILD ALTERNATIVES

The I-276/I-95 Interchange Project offers numerous infrastructure improvements within the study area that would otherwise not occur under the No-Build Alternative. Infrastructure improvements within the Bridge Element are shown graphically on **Figure IV-3C Plate 2**. Key improvements considered in the Bridge Element would include the widening of I-276 from four to six lanes, a new bridge toll plaza, and construction of a new Delaware River Turnpike Bridge.

BRIDGE ELEMENT – TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS

The transportation infrastructure improvements in the Bridge Element would include (**see Figure IV-3C Plate 2**):

8. Widening of I-276 from two to three lanes in each direction to accommodate design Year 2025 traffic volumes (all elements).
24. Reconstruction of Interchange 29 ramps and toll facilities.
25. Reconstruction of the I-276 bridges over Green Lane and the 3M Railroad. Additional width may be provided to Green Lane.
26. Reconstruction of the existing barrier toll plaza (Interchange 30) to collect one-way, I-95 southbound (currently I-276 westbound) bridge tolls.
27. New parallel three lane bridge over the Delaware River and US 13.
28. Rehabilitation and seismic retrofitting of the existing Delaware River Turnpike Bridge



Interchange 30 of I-276 (pictured above) currently acts as the eastern terminus of the Pennsylvania Turnpike (i.e. the last eastbound toll and the first westbound ticket). Under the Build Alternative, this segment of I-276 would be renamed I-95 and would not require an I-276 toll collection facility Interchange 30 would be reconstructed to collect one-way, I-95 southbound bridge tolls. The new eastern terminus of the Pennsylvania Turnpike would be located in the Toll Plaza Element in Bensalem Township (see **Figure IV-3A Plate 2**).

LEGEND

- Surface Water
- 29 — Existing I–276 Interchange
- 20 — Existing SEPTA Bus Route
- (1999) (NO–BUILD) — Current 1999 and 2025 No–Build Traffic Volumes and Forecasts (Total Vehicles Per Day Both Directions)
- Railroad

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3C PLATE 1
TRAFFIC AND TRANSPORTATION BRIDGE ELEMENT
NO–BUILD ALTERNATIVE

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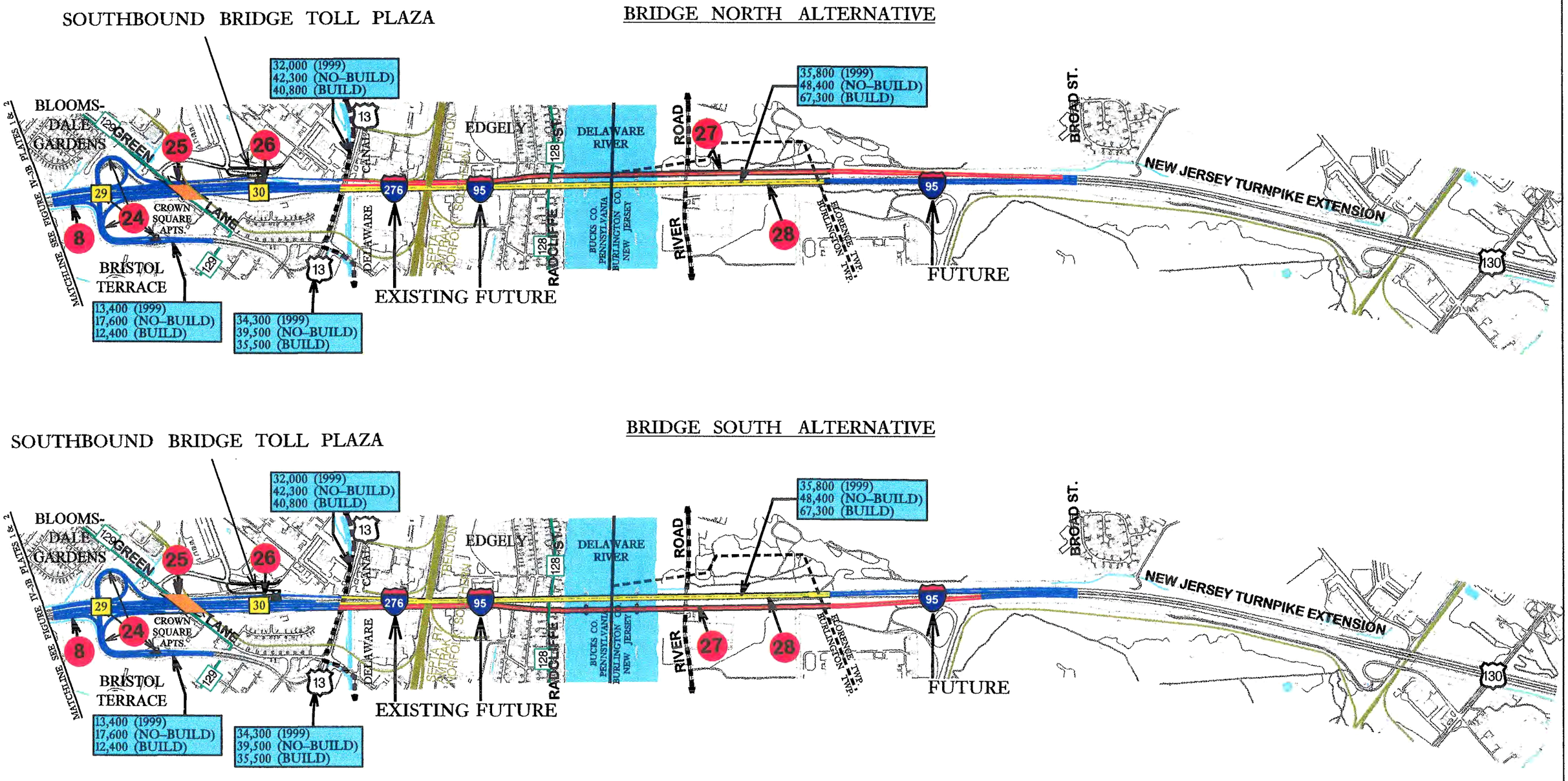


BRIDGE ELEMENT BUILD ALTERNATIVES

The Bridge North and Bridge South Alternatives would receive the same transportation infrastructure improvements and would therefore have similar impacts. Reconstruction of the existing barrier toll plaza (Interchange 30), widening of I-276, and construction of a new parallel bridge over the Delaware River would temporarily impact traffic along Green Lane and US 13. In addition, SEPTA Bus Route 128 using Radcliffe Street and Route 129 using Green Lane may experience delays due to temporary construction related activities. Year 2025 Build and No-Build traffic volumes are also shown in this figure. The Build Alternative would effectively reduce vehicular volume along US 13 and Interchange 29, and increase vehicular volume on I-276 in this element. Construction of a new three lane bridge spanning the Delaware River would accommodate the additional 18,900 vehicles per day crossing the Delaware River under Year 2025 Build conditions.

LEGEND

- Bridge Reconstruction / Widening
- Proposed Mainline Improvement
- Upgrade Of Existing Bridge
- New Parallel Bridge Alternative
- Railroad
- 28 Existing I–276 Interchange
- Proposed Mutli–Use Trail
- Surface Waters
- SEPTA Bus Route
- 1 Infrastructure Improvement (project–related improvements to the roadway system)
- (1999) (NO–BUILD) (BUILD) Current 1999, 2025 No–Build and 2025 Build Traffic Volumes and Forecasts (Total Vehicles Per Day Both Directions)

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–3C PLATE 2
TRAFFIC AND TRANSPORTATION
BRIDGE ELEMENT

BRIDGE NORTH &
BRIDGE SOUTH ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

(3) Bridge Element (Figure IV-3C Plate 2)

Infrastructure improvements in the Bridge Element would include the construction of an additional three-lane Delaware River bridge and the rehabilitation and seismic retrofitting of the existing bridge. The new bridge structure would accommodate an additional 18,900 VPD predicted to occur under the Build Alternative in the Year 2025 (**Figure IV-3C, Plate 2**). One bridge would be used to carry traffic into New Jersey, with the other to carry traffic into Pennsylvania.

Widening of I-276 in Pennsylvania from four to six lanes would require the reconstruction and widening of the bridge carrying I-276 over Green Lane. Construction would also include reconfiguration of Interchange 29 to accommodate a wider (six-lane) mainline and reconstruction of the Interchange 30 barrier toll plaza to accommodate one-way eastbound bridge tolls (**Figure IV-3C, Plate 2**).

4. Pedestrian and Bicycle Facilities

A review of county and municipal plans indicates that the project will not have an adverse effect on existing and proposed pedestrian and bicycle facilities in the study area. In fact, the project, through proper coordination, has the ability to improve the safety and access of pedestrian and bicycle facilities on study area roads.

In the Bridge Element, the Delaware River Heritage Trail is planned to parallel the towpath of the Delaware Canal State Park in Pennsylvania, and River Road in New Jersey (**Figure IV-3C**). The Delaware River Heritage Trail will be part of the proposed East Coast Greenway, a 4183 km (2,600 mi) off-road trail system linking 23 major cities on the east coast. The sole existing obstacle within the study area to the proposed trail is US 13 (Bristol Pike) where the towpath is non-existent because the canal is culverted under US 13 (Bristol Pike). A proposed use of Green Lane, US 13 (Bristol Pike), and pedestrian/bicycle improvements at the Green Lane/US 13 (Bristol Pike) intersection has been identified to make the trail continuous in the study area. Also, the proposed Delaware River Turnpike Bridge south abutment location has been modified to allow the proper offset required to construct the trail on the west side of US 13 (Bristol Pike). Coordination between transportation agencies, representatives of the Delaware River Heritage Trail, and the East Coast Greenway Alliance began before the release of the DEIS and will continue as part of the public involvement process during the final design of the proposed Delaware River Turnpike Bridge. Additional information regarding the public recreational areas can be found in **Section V**.

In the remainder of the study area, the traffic and transportation improvements identified also have the potential to improve the overall safety and mobility of pedestrians and cyclists. The numerous bridges and underpasses in the study area currently impede safe non-vehicular travel. As discussed previously, coordination would occur between the state, county, and municipal agencies to work towards providing safe conditions for these travel modes on study area facilities that would be reconstructed or expanded due to this project.

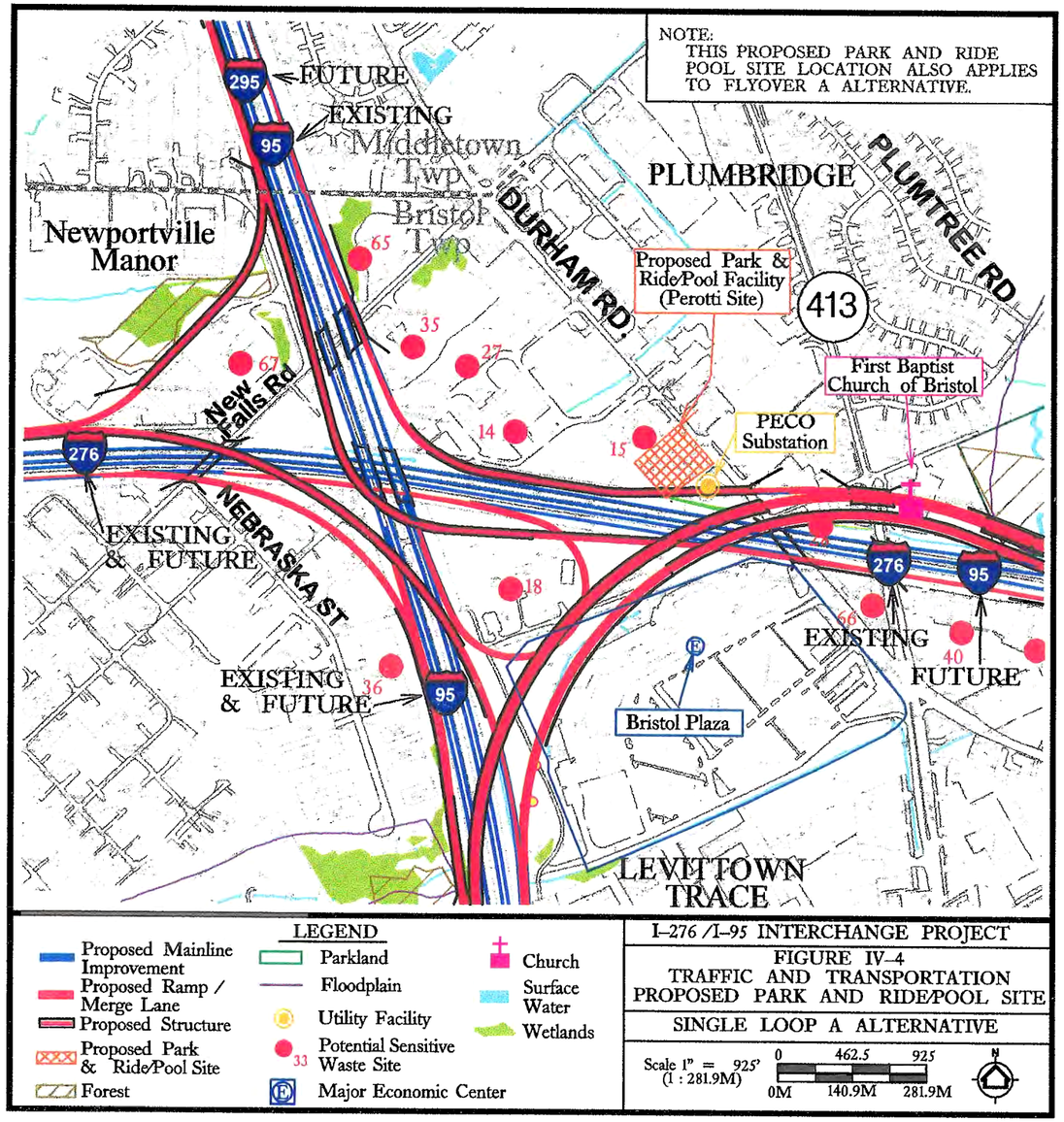
5. Phase II CMS Strategies

Five strategies were identified in the Phase I CMS Evaluation for investigation in Phase II. Coordination with transportation resource and planning agencies on August 12, 1998 and August 9, 1999 resulted in limiting the list of practical strategies to three: Intelligent Transportation Systems (ITS), Incident Management and Park and Ride/Pool sites. Local road improvements were not determined to be necessary because the project removes traffic from local roads. Also, ramp metering was labeled an ineffective strategy due to the lengths and operations of the interstates when compared to the project limits. Separate commitments for the remaining three strategies are not anticipated, as they will be constructed as part of the project and will be eligible for project funding. Construction of the highway facilities will include ITS and Incident Management features, with coordination between PENNDOT, NJTA, NJDOT, and PTC, in conjunction with hierarchy guidelines currently being cooperatively established.

ITS and Incident Management features and facilities have been employed and are currently operated by all four transportation agencies. These include Highway Advisory Radio (HAR), portable and permanent Variable Message Signs (VMS), Incident Detection equipment, traffic flow meters, E-Z*Pass*, etc. Congestion management strategies for this project include the supplemental and coordinated use of these existing systems so that alternative interstate facilities in New Jersey and Pennsylvania can be intentionally used by motorists in the case of congestion or an incident. Procedures for enhanced coordination and communication between these agencies are already in the process of being developed and will likely be in place before the I-95 re-designation takes place.

Recognizing the difficulties in sharing information and facilitating interagency coordination, DVRPC's ITS Technical Task Force developed a framework for institutional coordination of ITS in the Delaware Valley. It is a three-phase project entitled Philadelphia Integrated Multi-modal Informational Sharing (PRIMIS). The emphasis of Phase I of PRIMIS was to develop interagency cooperation through the ITS Regional Architecture, which concluded in a March 2001 document. Phase II, which represents a concept that is intended to utilize and build upon the I-95 Corridor Coalition's Information Exchange Network (IEN), is currently underway. In Phase II, the intention is to enhance the Delaware Valley component if the I-95 IEN by increasing the number of local transportation facilities covered by the I-95 IEN and increasing accessibility to the IEN by the additional regional organizations.

In addition to the ITS strategies proposed in the Phase II CMS Evaluation, two park and ride/pool facilities are expected to be implemented with the construction of the I-276/I-95 Interchange Project. The objective of this implementation would be to satisfy the needs for additional rail station parking capacity and convenient, safe carpool areas to further reduce additional highway capacity demand. It was determined that there is no need for more than two park and ride/pool facilities due to the locations of several existing



facilities near the study area. These include the Levittown Southeastern Pennsylvania Transportation Authority (SEPTA) Station at US 13 (Bristol Pike) and Levittown Parkway; Cornwells Heights SEPTA Station at Station Avenue and I-95; Woodbourne SEPTA Station at Woodbourne Road; and a portion of the Neshaminy Mall parking area at Rockhill Drive.

With the construction of the I-276/ I-95 Interchange Project, one of the two proposed sites for a park and ride/pool facility would be the Perotti Site, as identified on **Figure IV-4**. This site would be utilized as a park and ride/pool facility (which encourages multi-occupancy automobile usage). In addition to the Perotti site, one of the following two sites would be utilized as a park and ride facility (which provides access to transit or bus services), the SEPTA Site and the Former Acme Site, which are identified on **Figure IV-5**.

The Perotti site is located just north of I-276, west of PA 413 (New Rodgers Road) in a commercial area of Bristol Township (**Figure IV-4**). This parcel currently contains a strip plaza containing four businesses, La Casa Mia Family Restaurant, Brenda's Hair Shack, C&C Insurance, and Take Out Beer and Pizza. This property would be acquired to construct interchange components for either the Single Loop A or Flyover A Interchange Alternatives. The remaining portion of the parcel would be available for development as a park and ride/pool facility. This site would be used for carpooling due to its proximity to I-95, I-276 and PA 413. The site would encourage carpooling, and therefore, may reduce the number of vehicles traveling on these highways.

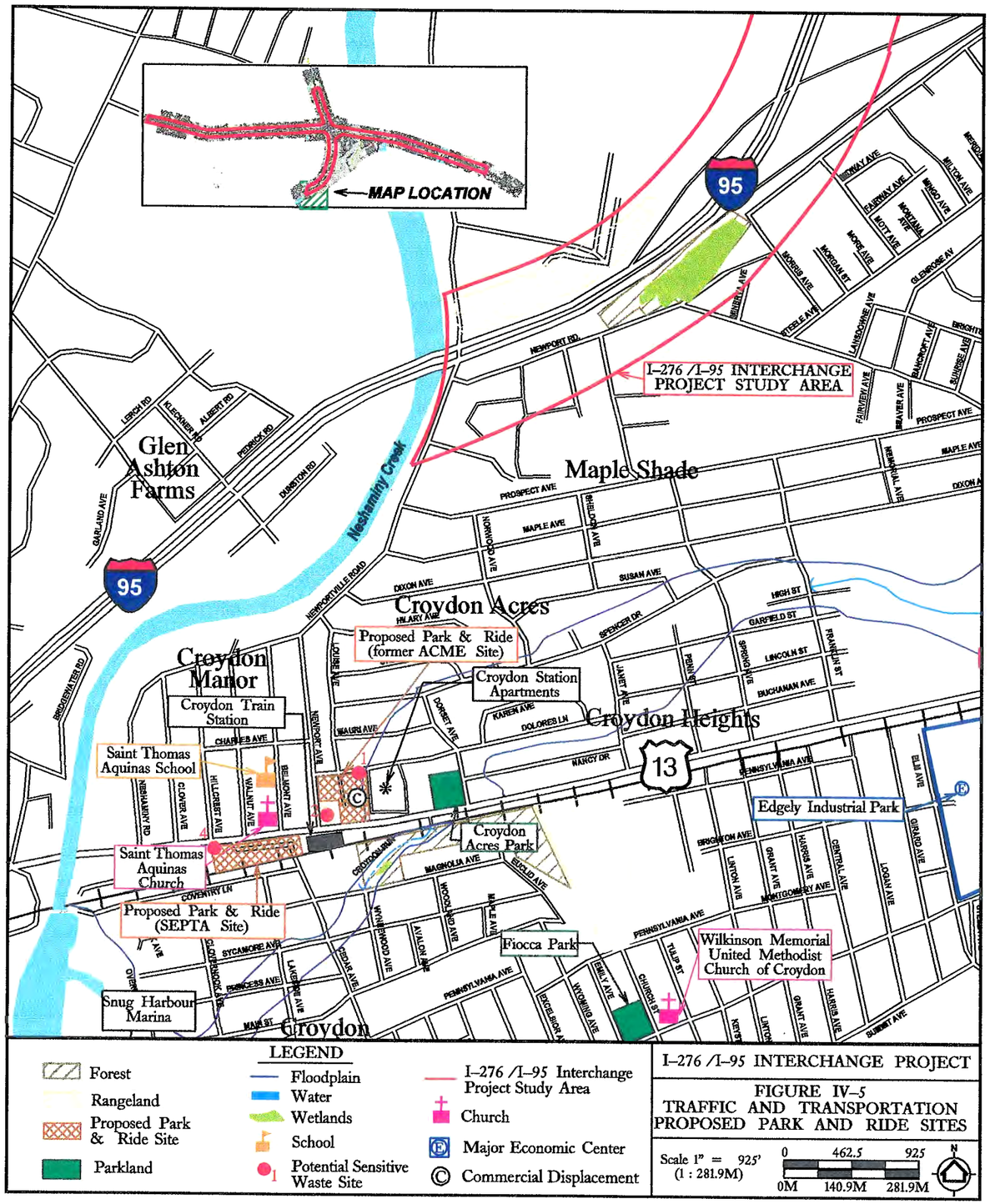
The Former Acme Site is located in a commercial area in Croydon, Bristol Township, across the street from the SEPTA Croydon Station, along Newport Avenue and US 13 (**Figure IV-5**). This site formerly consisted of a parking area with a building used by Acme for employee training and rehabilitation. A portion of the parking area was used by SEPTA (under an informal agreement with the owner) as additional parking for the Croydon Station, due to ridership demand. Currently, the Acme building has been replaced by a CVS Pharmacy. During this redevelopment a portion of the property was set aside for parking for SEPTA commuters, thereby maintaining the number of parking spaces for the Croydon Station. Use of this site as a park and ride would offer ideal access as a park and ride facility due to its proximity to US 13 (Bristol Pike), I-95, and the Croydon Station.

The SEPTA site, located in a commercial area in Croydon, Bristol Township, is a proposed extension/expansion of the existing parking for SEPTA's Croydon Station (**Figure IV-5**). Additional parking would be provided along Cedar Avenue adjacent to the existing station. The site, which is already used informally for parking, is ideal as an additional park and ride/pool facility because of its proximity to the Croydon Station, US 13 (Bristol Pike), and I-95.

a. Impacts

The construction of a park and ride/pool facility at any of the identified sites would have limited impacts on socioeconomic, natural or cultural resources. Both the SEPTA Site and the former Acme Site are already used for parking for the SEPTA Croydon Station. Only the former Acme Site would potentially displace a commercial business, however, depending upon the design of the facility, this existing structure may or may not be acquired. In addition, the former Acme Site is partially located in the floodplain for Croydon Run. However, because the stream is culverted beneath the property, which is already developed, minimal disturbance would be needed to implement a park and ride facility. Therefore, additional floodplain encroachment is not expected. The construction at any of the proposed park and ride/pool sites would require management of stormwater in accordance with Bristol Township requirements.

In the area surrounding the former Acme and SEPTA Sites, there are three potential sensitive waste sites that would require additional investigation with the construction of a park and ride site. These sites, which are identified in **Figure IV-5** and discussed in further detail in the *I-276/ I-95 Interchange Improvements Park and Ride Facility Hazardous Waste Investigation Preliminary Area Reconnaissance/Initial Site Assessment* (PTC, 2000), are Site #1-the former Acme Market; Site #2-B&B Automotive Inc., and Site #4-the Texaco Service Station. The major elements of concern associated with these sites are hazardous material production/storage and storage tanks. Discovery of contaminated soils and/or unknown underground storage tanks (USTs) is always a possibility during construction. A geophysical survey for unknown USTs may be required for each proposed site. Interior investigations may be required for structures that use materials containing asbestos and polychlorinated biphenyls (PCB). (Also, the Perotti site, as well as adjacent properties, is a potential sensitive waste site, as shown in **Figure IV-4**. These sites would be impacted by the construction of the I-276/I-95 Interchange, and therefore, impacts are addressed in **Section IV-P** as part of the Interchange Element).



No residential, community, or park and recreational facilities would be adversely affected through the use of any of the three sites. There will be no impacts to forestland, rangeland, wetlands, coastal zones, threatened and/or endangered species, terrestrial or aquatic habitat, water resources, visual quality, or cultural resources. There would be no adverse impacts to low-income or minority populations, as described in **Section IV-B.4**. The construction of a park and ride/pool facility should provide employment opportunities as well as increased opportunities to commute to additional places of employment or for recreational purposes. Employment opportunities may include construction activities and site maintenance. The impacts associated with the construction of park and ride/pool facilities have been included in the impact summary tables for the Interchange Element Alternatives throughout this FEIS.

b. Mitigation

The purpose of the implementation of the Phase II CMS Strategies is to complement the proposed I-276/I-95 interchange and maximize the effectiveness and efficiency of the existing transportation network in both Pennsylvania and New Jersey. This will involve the efforts of Pennsylvania and New Jersey state police, incident/traffic management team teams from PTC, NJTA, and PENNDOT, as well as the installation of equipment and infrastructure, as described in the previous section. Coordination between the aforementioned agencies and DVRPC is important to the success of these strategies

With the construction of any of the park and ride/pool facilities, any displaced business would be mitigated for in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Pennsylvania Eminent Domain Code Act, and Title VI of the Civil Rights Act, which are further described in **Section IV-C.5**. Also, depending upon the selection of the park and ride/pool site, the potential sensitive waste sites would be re-evaluated to determine the extent of contamination, if any. Such methods are further described in **Section IV-P**.

Implementation of the infrastructure improvements and/or the Phase II CMS Strategies associated with the Build Alternative would improve traffic efficiency of the regional and local roadway network by reducing delays and congestion and providing an improved LOS and overall vehicular progression. These improvements are also intended to enhance safety conditions and provide better access within the study area.

B. SOCIAL AND LAND USE CHARACTERISTICS

More detailed social and land use information is located in the Socioeconomic Information Technical Support Data.
** Technical Support Data Index is located in Section XII (Appendix C).*

This evaluation focused on Bucks County, located in the southeastern portion of Pennsylvania, and Burlington County, located in the southwestern portion of New Jersey. Both counties are part of the nine-county Delaware Valley Regional Planning Commission (DVRPC) Region, which includes the Pennsylvania counties of Delaware, Chester, Bucks, Montgomery, and Philadelphia; and the New Jersey Counties of Burlington, Camden, Gloucester and Mercer. Bucks and Burlington Counties are also within the Philadelphia Primary Metropolitan Statistical Area (PMSA). Like other counties within the Philadelphia PMSA, Bucks and Burlington Counties have experienced extensive growth in the past several decades (US Bureau of the Census).

While investigating the social and land use characteristics, the municipalities directly affected by the project were evaluated, Bensalem, Bristol and Middletown Townships, Bucks County, Pennsylvania, and Burlington and Florence Townships, Burlington County, New Jersey. These municipalities make up the study area. However, because the project involves improvements to two major highways, which may affect a larger area, social and land use characteristics of the surrounding municipalities were also investigated. **Figure II-1** identifies the study area and the adjoining and potentially affected municipalities.

The DVRPC, US Bureau of the Census, Pennsylvania Department of Labor and Industry, and New Jersey Department of Labor were contacted for socioeconomic and land use information.

Information from the 1990 Census and 2000 Census was gathered for population, per capita income, unemployment rate, median housing value, and elderly and non-white populations within the study area. The census information was used to characterize the population within the study area and to determine whether the proposed project would impact population demographics. US Bureau of the Census terminology regarding demographic terms (e.g., black, Hispanic, and poverty) were used in this evaluation.

TABLE IV-2
POPULATION TRENDS

Geographic Area	Actual Population		Projected Population				Percent Change 2000 - 2025
	1990[1]	2000[2]	2010[2]	2015[2]	2020[2]	2025[2]	
Pennsylvania							
Bucks County	541,174	597,635	662,400	688,660	719,610	748,120	25.2%
Bensalem Township	56,788	58,434	59,200	60,130	60,640	61,060	4.5%
Bristol Borough	10,405	9,923	10,170	10,440	10,600	10,290	8.7%
Bristol Township	57,129	55,521	56,760	56,860	57,380	57,730	4.0%
Hulmeville Borough	916	893	950	960	980	1,000	12.0%
Langhorne Borough	1,361	1,981	2,070	1,940	1,930	1,910	-3.6%
Langhorne Manor Borough	807	927	980	1,010	1,040	1,070	15.4%
Middletown Township	43,063	44,141	47,870	48,870	52,090	53,980	22.3%
Penndel Borough	2,703	2,420	2,400	2,270	2,220	2,160	-10.7%
Tullytown Borough	2,339	2,031	2,230	2,290	2,370	2,450	20.6%
New Jersey							
Burlington County	395,066	423,394	457,660	476,550	496,490	513,450	21.3%
Burlington City	9,835	9,736	9,640	9,610	9,580	9,550	-2.9%
Burlington Township	12,454	20,294	22,920	24,800	26,660	28,530	40.6%
Florence Township	10,266	10,746	11,690	12,200	12,690	13,190	22.7%

Source: 1. *1990 Population by Municipality for the 28-County DVRPC Data Service Area* (DVRPC, 1991)
2. *DVRPC Regional Data Bulletin #73 – Population & Employment Forecasts 2000-2025, 9-County DVRPC Region* (DVRPC, 2002)

1. Population

a. Existing Conditions

The study area and adjacent municipalities investigated include the five townships and six boroughs identified on **Figure II-1** in **Section II**. The townships are typically large in area and population, while the boroughs are small in area and population. The three most populous townships, Bensalem, Bristol, and Middletown, account for almost 80 percent of the study area population.

b. Demographics

A demographic analysis was conducted for the townships within, and adjacent to, the study area. **Table IV-2** lists the past, current, and predicted populations for the municipalities located in the vicinity of the study area. DVRPC forecasts are based on projecting the population forward using current birth, death, and migration rates. These factors are then modified based on changing trends, assumptions about future conditions, and considerations such as land availability for development, infrastructure changes, and market, social and political forces (DVRPC, 1993). The DVRPC population forecasts indicate that Bucks County would continue to experience population growth through the year 2025. This growth correlates with forecasted land development described in **Section IV-B.2**.

Populations in Bensalem, Bristol, and Middletown Townships, Pennsylvania are projected to grow 4.5 percent, 8.7 percent and 22.3 percent, respectively, between years 2000 and 2025. Except for two small boroughs, Langhorne and Penndel, the populations of the municipalities located near the project are expected to grow through year 2025.

The DVRPC population forecasts for Burlington County, New Jersey, like Bucks County, Pennsylvania, indicate a continued growth through the year 2025. This growth correlates with the forecast land development as described in **Section IV-B.2**. Populations in Burlington and Florence Townships, New Jersey are expected to increase by 40.6 and 22.7 percent, respectively, between years 2000 and 2025.

The Pennsylvania municipalities within, and adjacent to, the study area are at, or below, the county and state averages for the percent of residents over 64, except for Bristol Borough, Tullytown Borough **(Table IV-3)**. Burlington City has a higher percentage of the population over 64 years when compared to Burlington County and the State of New Jersey. Those areas with a high number of non-white populations are described in **Section IV-B.4**. In 1997,

none of the Pennsylvania municipalities had an unemployment rate higher than the state's. In 2000, both Bristol Borough and Penndel Borough had an unemployment rate higher than the state. However, in 2000, none of the Pennsylvania municipalities had a poverty level greater than the state. More information regarding employment forecasts is in **Section IV-C.1**.

For the study area and adjacent municipalities, the percent of persons below the poverty level is highest in Bristol Township and Bristol Borough, Pennsylvania, and Florence Township, New Jersey. However, these percentages are still lower than the respective state averages **(Table IV-3)**. These municipalities are older industrial centers that have seen an economic decline over the last few decades. Municipalities with the highest median household income are Middletown Township and Bensalem Township. Both of these municipalities have experienced extensive residential growth in recent decades.

TABLE IV-3
POPULATION CHARACTERISTICS

Geographic Area	Total Population (2000)	Percent of Non-White (2000)	Percent of Population over 64 Years (2000)	Median Household Income (1999)	Percent Persons below the Poverty Level (1999)	Percent Unemployed		Non-Institutionalized Persons 16-64 Years	
						1997	2000	Percent with Work Disability (2000)	Percent with Mobility/Self- Care Limitation (2000)
Pennsylvania	12,281,054	14.6%	15.6%	$40,106	11.0%	4.2%[2]	5.7%	10.65	13.0%
Bucks County	597,635	7.5%	12.4%	$59,727	4.5%	3.2%[2]	3.5%	9.8%	10.3%
Bensalem Township	58,434	17.1%	11.0%	$49,737	7.4%	4.1%[2]	4.8%	14.4%	15.7%
Bristol Borough	9,923	16.5%	15.7%	$35,378	10.4%	N/A[1]	7.1%	15.1%	18.5%
Bristol Township	55,521	13.9%	12.7%	$48,090	7.6%	3.8%[2]	4.5%	13.9%	16.5%
Hulmeville Borough	893	2.6%	11.8%	$55,259	1.8%	N/A[1]	2.9%	6.9%	6.6%
Langhorne Borough	1,981	18.5%	10.8%	$56,389	3.0%	N/A[1]	3.5%	12.4%	7.0%
Langhorne Manor Borough	927	5.7%	13.2%	$67,500	2.7%	N/A[1]	3.7%	21.6%	8.3%
Middletown Township	44,141	6.1%	13.0%	$63,964	3.3%	2.7%[2]	3.1%	8.0%	9.6%
Penndel Borough	2,420	8.0%	13.2%	$36,296	4.6%	N/A[1]	6.3%	7.6%	14.5%
Tullytown Borough	2,031	2.3%	16.9%	$45,625	4.2%	N/A[1]	0.4%	9.0%	14.1%
New Jersey	8,414,350	27.4%	13.2%	$55,146	8.5%	5.1%[3]	5.8%	11.6%	12.9%
Burlington County	423,394	21.6%	12.6%	$58,608	4.7%	3.9%[3]	3.9%	9.3%	10.6%
Burlington City	9,736	31.8%	16.8%	$43,115	8.0%	5.9%[3]	5.6%	13.1%	15.4%
Burlington Township	20,294	32.3%	12.6%	$61,663	5.0%	4.1%[3]	3.9%	10.9%	12.7%
Florence Township	10,746	14.5%	11.9%	$56,843	6.1%	4.0%[3]	4.9%	9.9%	11.8%

Source: *2000 US Census*
1 Percent Unemployed is not calculated for Pennsylvania municipalities with a population less than 40,000
2 *Pennsylvania Civilian Labor Force Data By Labor Market Area of Residence* (PA Department of Labor and Industry, Bureau of Research and Statistics, 1998 and 1996)
3 *1997 Annual Average Labor Force Estimates by Municipality* (New Jersey Department of Labor)

c. Impacts

Five municipalities would be directly affected by the project (**Figure II-1** in **Section II**). The three Pennsylvania townships that would be directly affected, Bensalem, Bristol, and Middletown, are extensively developed and each has populations in excess of 40,000. In New Jersey, the study area directly affects Burlington and Florence Townships, which are sparsely populated with less than 30,000 residents cumulatively. In Pennsylvania, the widening of I-276 and associated widening of I-95 throughout the study area would occur mainly within the existing right-of-way (ROW) and therefore, would not adversely impact population or demographics. The proposed improvements could potentially displace 12-22 residences depending upon which alternative is selected from each project element. When compared to total population in the surrounding area, the displacement of residences from this project would not have a substantial effect on the overall population demographics. Additional information regarding residential relocations can be found in **Section IV-B.3**.

d. Mitigation

As shown on **Table IV-2**, the study area population in Bucks and Burlington Counties is large and expected to grow. Therefore, the project impacts to regional population and population demographics would be minimal, and no mitigation would be warranted. Mitigation measures for local residential displacements are found in **Section IV-B.3**.

2. Land Use and Comprehensive Planning

Information on existing and proposed land use, zoning, and comprehensive planning was gathered through available DVRPC and municipal planning documents and interviews with planning officials from Bensalem, Bristol, and Middletown Townships in Bucks County, Pennsylvania and Burlington and Florence Townships in Burlington County, New Jersey. The following list indicates the most recent comprehensive plans for these municipalities:

Bucks County, Pennsylvania
- ✓ *Final Bucks County Comprehensive Plan*, 1993

Bensalem Township
- ✓ *Zoning Ordinance of Bensalem Township*, 1998
- ✓ *Bensalem Township, Bucks County, Pennsylvania Comprehensive Plan 1987-2010*, 1988
- ✓

Bristol Township
- ✓ *Bristol Township Zoning Ordinance*, 2000
- ✓ *Bristol Township, Bucks County, Pennsylvania Comprehensive Plan 1986-2006*, 1986

Middletown Township
- ✓ *Comprehensive Plan Middletown Township, Bucks County*, 1994
- ✓ *Middletown Township Zoning Ordinance, Bucks County, Pennsylvania,* 1991

Burlington County, New Jersey
- ✓ *Overall Economic Development Program, Burlington County, New Jersey, 1996 Update,* 1996

Burlington Township
- ✓ *Burlington Township Master Plan*, 1998

Florence Township
- ✓ *Master Plan, Re-Examination Report Florence Township*, 2000
- ✓ *Zoning Ordinance*, 1999

Generally, the comprehensive plans are consistent with DVRPC's forecasts for population growth. Both Bensalem and Bristol Townships identify the I-276/I-95 Interchange Project in their proposed transportation plans. However, those municipalities that do not identify the project recognize the importance of developing municipal programs and plans in accordance with Pennsylvania's Transportation Improvement Program. Both Burlington and Bucks Counties state their commitment to work with both state and local municipalities to aid in transportation planning.

a. Existing Land Use

Since the late 1940s, land use within and adjacent to the study area has become more urbanized, with suburban residential and commercial developments replacing agricultural lands (**Figure II-2** in **Section II**). **Table IV-4** shows the percent increase or decrease in each land use category that occurred in the study area and adjacent municipalities between 1970 and 1990. As the table indicates, most municipalities have experienced increases in residential land use and non-residential developed land use within the last two decades. Similarly, the amount of recreation, vacant, and wooded lands has decreased for the Bucks County municipalities. The amount of agricultural land has either decreased or remained stable between 1970 and 1990 for most municipalities, especially in New Jersey. In the DVRPC Region, urban areas and older suburbs are generally fully developed and have lost population between 1970 and 1990. New growth has occurred in emerging suburban communities where farmland or woodlands have been most often converted to new residential or commercial development (DVRPC, 1995).

TABLE IV-4
LAND USE CHANGES 1970 - 1990

County or Municipality	Total Area sq. km. (sq. mi.)	Land Use Change 1970 - 1990											
		Residential			Non-Residential Developed			Agriculture			Recreation, Vacant and Wooded[1]		
		1970 sq. km. (sq. mi.)	1990 sq. km. (sq. mi.)	Percent Change	1970 sq. km. (sq. mi.)	1990 sq. km. (sq. mi.)	Percent Change	1970 sq. km. (sq. mi.)	1990 sq. km. (sq. mi.)	Percent Change	1970 sq. km. (sq. mi.)	1990 sq. km. (sq. mi.)	Percent Change
Pennsylvania													
Bucks County	1,618.75 (625.00)	198.99 (76.83)	265.27 (102.42)	33.3%	143.82 (55.53)	207.23 (80.01)	44.1%	473.04 (182.64)	528.80 (204.17)	11.8%	770.97 (297.67)	564.72 (218.04)	-26.8%
Bensalem Township	55.06 (21.26)	10.13 (3.91)	15.62 (6.03)	54.1%	10.85 (4.19)	17.61 (6.80)	62.4%	5.46 (2.11)	1.53 (0.59)	-71.9%	26.37 (10.18)	16.47 (6.36)	-37.5%
Bristol Borough	4.84 (1.87)	1.11 (0.43)	1.92 (0.74)	71.5%	1.86 (0.72)	1.89 (0.73)	2.6%	0.00 (0.00)	0.00 (0.00)	0.0%	1.35 (0.52)	0.73 (0.28)	-46.5%
Bristol Township	45.22 (17.46)	13.93 (5.38)	15.02 (5.80)	8.0%	11.47 (4.43)	14.76 (5.70)	28.5%	0.31 (0.12)	0.41 (0.16)	35.9%	16.65 (6.43)	11.29 (4.36)	-32.1%
Hulmeville Borough	1.04 (0.40)	0.26 (0.10)	0.44 (0.17)	62.4%	0.34 (0.13)	0.18 (0.07)	-41.3%	0.16 (0.06)	0.13 (0.05)	-19.9%	0.31 (0.12)	0.18 (0.07)	-37.5%
Langhorne Borough	1.32 (0.51)	0.60 (0.23)	0.70 (0.27)	21.5%	0.39 (0.15)	0.34 (0.13)	-10.5%	0.03 (0.01)	0.05 (0.02)	92.6%	0.34 (0.13)	0.18 (0.07)	-46.8%
Langhorne Manor Borough	1.65 (0.64)	0.57 (0.22)	0.75 (0.29)	28.6%	0.31 (0.12)	0.28 (0.11)	-11.3%	0.00 (0.00)	0.03 (0.01)	0.0%	0.78 (0.30)	0.57 (0.22)	-26.8%
Middletown Township	50.51 (19.50)	10.70 (4.13)	15.02 (5.80)	40.4%	7.54 (2.91)	11.91 (4.60)	58.1%	8.68 (3.35)	4.43 (1.71)	-48.9%	23.54 (9.09)	17.22 (6.65)	-26.9%
Penndel Borough	1.11 (0.43)	0.57 (0.22)	0.54 (0.21)	-7.2%	0.36 (0.14)	0.49 (0.19)	39.2%	0.00 (0.00)	0.00 (0.00)	0.0%	0.18 (0.07)	0.05 (0.02)	-65.6%
Tullytown Borough	5.41 (2.09)	0.41 (0.16)	0.49 (0.19)	17.1%	1.04 (0.40)	2.80 (1.08)	169.0%	0.21 (0.08)	0.05 (0.02)	-76.5%	2.18 (0.84)	0.41 (0.16)	-81.1%
New Jersey													
Burlington County	2,149.73 (830.01)	114.22 (44.10)	171.10 (66.06)	49.8%	183.55 (70.87)	149.26 (57.63)	-18.7%	503.81 (194.52)	388.06 (149.83)	-23.0%	1294.02 (499.62)	1358.20 (524.40)	5.0%
Burlington City	6.32 (3.73)	2.18 (0.84)	2.46 (0.95)	12.6%	3.65 (1.41)	2.28 (0.88)	-37.1%	0.26 (0.10)	0.10 (0.04)	-59.1%	1.66 (0.64)	3.00 (1.16)	82.6%
Burlington Township	36.80 (14.21)	4.45 (1.72)	4.48 (1.73)	0.5%	3.83 (1.48)	7.64 (2.95)	98.8%	15.31 (5.91)	7.85 (3.03)	-48.8%	11.68 (4.51)	15.15 (5.85)	29.8%
Florence Township	26.26 (10.14)	2.28 (0.88)	3.78 (1.46)	66.7%	2.69 (1.04)	4.17 (1.61)	55.1%	12.43 (4.80)	7.90 (3.05)	-36.4%	7.59 (2.93)	9.12 (3.52)	19.9%

Source: *Land Use in the Delaware Valley 1970-1990* (DVRPC, 1994).
Note: Non-Residential Developed land use is comprised of the manufacturing, transportation, utilities, commercial, community service, military, and mining categories.
Because DVRPC has changed the way land use is classified, current land use data cannot be compared with land use data issued prior to 1990.
1 This category includes recreation land uses (parks, recreation sites, amusement parks, resorts and camps, public assembly areas, and golf courses), land with solid tree cover (woodlands, marshes, and swamps), and land that is undeveloped, but clearly not wooded or agricultural (cleared land that is unused).

This growth has not occurred in smaller boroughs and cities. As **Table IV-4** shows, four of the smallest municipalities in the Bucks County study area vicinity (Penndel, Hulmeville, Langhorne and Langhorne Manor Boroughs) experienced a decrease in either residential or non-residential land use in the last two decades. This change in the small municipalities reflects the loss of manufacturing jobs in the boroughs and townships as the older manufacturing centers closed. This trend indicates that jobs are moving out of older cities and industrial areas, such as Bristol Township, and moving to newer suburban growth areas.

Presently, there is a mixture of land uses in and adjacent to the study area as discussed in **Section II** and shown on **Figure II-2**. In the vicinity of Interchange 28, the properties adjacent to I-276 are mostly commercial and/or unimproved parkland. Just west and north of the I-276/I-95 point-of-crossing, land use is predominantly single family residential. East and south of the point-of-crossing, land use consists of a patchwork of large, interspersed residential and manufacturing areas.

The New Jersey portion of the study area is predominantly wooded and vacant area, with limited manufacturing land uses, farmland, and residential development. According to the *Overall Economic Development Program, Burlington County, New Jersey, 1996 Update* (Burlington County Board of Chosen Freeholders, 1996), Burlington and Florence Townships are experiencing rapid commercial and residential development. However, in Burlington City, especially along US 130, development has considerably slowed because most of the city has already been built out.

b. Proposed Land Use

In the DVRPC Region, the growth trend would occur at the fringe of existing suburban development, where the land becomes more rural. It is expected that future development would transform the rural communities into the new suburbia, while developed suburbs and cities would see slow, limited growth. In recognizing this trend, both Bucks and Burlington Counties, and their municipalities, are encouraging redevelopment.

The Bucks County Comprehensive Plan identifies three geographic regions: Upper, Central, and Lower Bucks County, Pennsylvania, the latter of which contains the project study area. The Lower Bucks County Region is further subdivided into major planning areas, which include Bensalem, Middletown, and Bristol, among others. It is anticipated that additional growth in the Bensalem and Bristol Planning Areas would continue through development or redevelopment of the remaining vacant parcels, due to the limited land available for new development. Growth in the Middletown Planning Area is expected to continue as a result of land still available for development, adequate infrastructure, transportation access, and employment opportunities. New development primarily continues as low-density single use, often on land previously used for farming (DVRPC, 1995). Furthermore, the I-276/I-95 point-of-crossing area in Bucks County has been identified as a Growth Center by DVRPC. A Growth Center is an emerging center that is expected to experience an increase in the concentration of people, employment, and services (DVRPC, 1995).

In Burlington County, New Jersey, including Florence and Burlington Townships, agricultural land would continue to give way to residential and non-residential development. However, industrial development and redevelopment is a major element of Burlington County's economy, and there are many signs of expansion, including 40 acres identified for development in Burlington and Florence Townships (Burlington County Board of Chosen Freeholders, 1996).

Moreover, Burlington County may pursue the New Jersey Enterprise Program for the US 130 Corridor, with the inclusion of commercial and industrial areas of riverfront communities. Burlington County will encourage the revitalization of the county's riverfront communities through the redevelopment of downtown and waterfront areas (Burlington County Board of Chosen Freeholders, 1996). Such sites targeted for redevelopment include the former Roebling Steel plant in Florence Township.

Figures IV-6 to **IV-6C, Plate 2** identify existing socioeconomic conditions and expected impacts. The Toll Plaza Element is located within Bensalem Township, Pennsylvania. The Interchange Element is located mainly in

Bristol Township, Pennsylvania, although there is a small portion of this element in Bensalem and Middletown Townships, Pennsylvania. The Bridge Element is located in Bristol Township Pennsylvania, and within Burlington and Florence Townships, New Jersey.

(1) Toll Plaza Element (Figure IV-6A, Plate 1)

According to Bensalem Township officials, development has been proposed for several properties directly adjacent to I-276 in the Toll Plaza Element **(Figure IV-6A, Plate 1)**. The Christian Life Center Church and School was completed in Fall 2000 on the property adjacent to I-276 and Galloway Road. There are a number of larger developments proposed for the area of Bensalem around I-276 Interchange 28. The former George Washington Motor Lodge property, northeast of Interchange 28, has been proposed for redevelopment for retail use, a convenience store and gas station. The former Eastern State School and Hospital site, northwest of Interchange 28, has been proposed as a new Horizon Corporate Center. Shopping plazas have recently been constructed, one north of Interchange 28 and directly east of US 1, and another, Bensalem Crossing, is across from the Village Mart on the corner of Bristol Road and PA 513 (Hulmeville Road). The former Youth Development Center was sold by the Pennsylvania Department of General Services to Realen Homes, a builder of single family and age-restricted homes. The sale agreement stipulated that 12ha (30 ac) of the 42 ha (104 ac) property be transferred to Bensalem Township to be preserved as open space. The remainder of the property is zoned rural residential which would allow for one home per acre. Also under construction is an age-restricted housing community, the Villas at Chancellor's Glen, located along Hulmeville Road immediately south of I-276.

(2) Interchange Element (Figure IV-6B, Plate 1)

Within Middletown Township, no major development has been proposed within the vicinity of the Interchange Element **(Figure IV-6B, Plate 1)**. In Bristol Township, the Coca-Cola Company owns a 40.47 ha (100 ac) vacant property southeast of the Newportville/Ford Road intersection. This property, and a smaller parcel owned by the township, is proposed to be developed into an industrial park, although no formal development plans have been submitted to date. Neither interchange alternative would affect these properties.

(3) Bridge Element (Figure IV-6C, Plate 1)

Unspecified industrial development has been proposed in Bristol Township in the area of the Bridge Element **(Figure IV-6C, Plate 1)**. The area beneath the Delaware River Turnpike Bridge, between the rail lines and the Edgely neighborhood along Radcliffe Street, has been proposed as an industrial park by the Bucks County Redevelopment Authority. This area includes the active Kohler/Roburn plant and the abandoned Corel Steel plant property. As part of this proposed redevelopment project, Wilson Street has been extended from south of the Kohler/Roburn plant to north of the Delaware River Turnpike Bridge.

No major development is proposed adjacent to the Delaware River Turnpike Bridge in Burlington County, New Jersey. However, there is a 242.82 ha (600 ac) property south of the bridge that has been developed into an industrial center, the Senator C. William Haines Industrial Center. Also, the construction of the interchange between the New Jersey Turnpike Extension and US 130 was completed in Spring 2000. This interchange allows truck traffic better access to the existing and proposed industrial sites in Burlington and Florence Townships.

In Florence Township, New Jersey, an assisted living facility was constructed in early 1999. This facility, Continuing Care Concepts, is located off of Broad Street, **(Figure IV-6C, Plate 1)** with property lines bordering the New Jersey Turnpike Extension ROW.

c. Impacts to Existing and Proposed Land Use

Overall, the project is not expected to change the existing or future land use patterns in the study area. The properties proposed for development, which were identified in the previous section, would not be adversely affected by the I-276/I-95 Interchange Project (residential and business relocations are described in **Sections IV-B.3** and **IV-C.3**). Impact to the local and regional economy, and employment opportunities are discussed in **Sections IV-C.1** and **IV-C.2**. The project may require strip acquisitions of property, which would become classified as transportation land use. The remaining portions of the properties would likely retain their existing land use designations.

In an economic impact analysis conducted by the Pennsylvania Economy League and the Economic Development Research Group (PEL, EDRG, 2000), and further described in **Section IV-C**, traffic data, case studies and interviews were used to determine the impact of the I-276/I-95 Interchange Project on regional and local office development. Interviewees participating in the study felt that the Lower Bucks County area has lagged in developing as an office center in the region, and that an interchange would increase the attractiveness of Lower Bucks County as a premiere office location by reduced travel distances, time, and crash rates. These benefits from an interchange would likely accelerate redevelopment and reposition industrial parks and aging retail locations closer to the interchange area **(Section IV-C)**.

Transportation improvements would be used to support economic development and growth within existing communities and emerging growth areas, rather than encouraging further dispersion of land uses (DVRPC, 1995). New corporate centers and office parks would tend to locate along highway corridors or at interchange areas. New residential development would continue to be primarily single-family design (DVRPC, 1995).

Under the Build Alternative, it is estimated that the additional office attraction to Bucks County could create an additional 100 jobs in 2010 to over 1,800 more jobs in 2025. Locally, new office-based employment could be located in Bensalem, Bristol, and Middletown Townships to provide local residences with office-based employment opportunities close to their homes (PEL, EDRG, 2000).

(1) Toll Plaza Element (Figure IV-6A Plate 2)

Widening of I-276 in the Toll Plaza Element would affect land bordering the existing highway that includes portions of wooded, vacant, agricultural, industrial, and residential land uses **(Figure IV-13)**. Strip acquisitions of land may be converted to transportation land use. However, the strip acquisitions are not expected to alter the land use of the remaining portions of the adjacent properties. For example, the project would require the acquisition of a strip of land from the Christian Life Center in the vicinity of Galloway Road. However, this strip property acquisition would not affect the structure, facilities, or use of the Center.

The Split Plaza East Alternative **(Figure IV-6A, Plate 2)** would impact the undeveloped portion of a residential property north of I-276, in addition to two residences and three businesses located south of I-276 off of PA 513 (Hulmeville Road). Also, the Split Plaza East Alternative requires the use of land committed to residential development, the proposed Villas at Chancellor's Glen, located along Hulmeville Road immediately south of I-276. This property was previously farmland.

Modified Plaza West would impact a portion of rangeland that is used as horse pasture to the north of I-276. To the south, additional wooded land would be impacted **(Figure IV-6A, Plate 2)**. Modified Plaza West would displace one residence located on Galloway Road, south of I-276.

(2) Interchange Element (Figure IV-6B Plate 2)

Widening of I-276 and I-95 in the interchange element would affect property located adjacent to existing highways. Along I-276, wooded land north and south of I-276 would be impacted. Widening along I-95 would impact industrial, vacant, wooded, and residential land **(Figure IV-13)**.

The Flyover A Alternative and the Single Loop A Alternative would each have similar impacts. In the vicinity of the I-276/I-95 point-of-crossing, these alternatives would impact residential land in the southwest quadrant, wooded land in the northwest and southeast quadrants, and commercial land use in the four quadrants **(Figure IV-6B, Plate 2)**. There would be some residential and commercial displacements near the point-of-crossing. The affected areas include Tanglewood and Newportville. The affected portions of land would be converted to transportation land use. The ramps included in both alternatives would isolate property, creating open land that would also be converted to the transportation land use category.

(3) Bridge Element (Figure IV-6C Plate 2)

Widening of I-276 within the Bridge Element would impact property located adjacent to the existing highway. Strip acquisitions of property would be required from vacant, industrial, commercial, and wooded land in Pennsylvania **(Figure IV-13)**. In New Jersey, vacant, wooded, and industrial land uses may be affected. In both states, it is expected that the strip of acquired property would convert to a transportation land use, while the remaining portion of the property would retain its original land use designation.

The Bridge North and Bridge South Alternatives would impact property currently used for industrial, single family residential, and vacant land. The Bridge South Alternative would additionally impact wooded land **(Figure IV-6C, Plate 2)**. The Bridge North and Bridge South Alternatives would displace residences along Radcliffe Street in the vicinity of the I-276 bridge over the Delaware River as well as a few additional residential and business displacements

located north of I-276, off of US 13 (Bristol Pike). Furthermore, the Bridge South Alternative would displace a business in New Jersey located south of the existing bridge off of River Road. The impacted land would be converted to the transportation land use category.

d. Effects on Zoning and Comprehensive Planning

The proposed project is identified in the municipal comprehensive plans for Bristol Township and Bensalem Township in Pennsylvania, and Florence Township in New Jersey. Therefore, the Build Alternative is consistent with their plans. While the project is not identified in the Middletown Township, Pennsylvania or the Burlington Township, New Jersey comprehensive plans the project would be compatible with the current plans. These plans are identified in **Section IV-B.2**.

The expectations of economic growth (also discussed in **Section IV-C.1**) are made real by the opportunities for growth that are present throughout the project area and the extended region. The connection of the two highways present state and local officials, planners, and economic development leaders with an opportunity to plan and build a strategy that would create lasting value and quality within the region. These local leaders should plan accordingly to guide this regional growth (PEL, EDRG, 2000).

e. Mitigation

Throughout the Final Design stage, coordination would be conducted with the affected municipalities to ensure that the details incorporated in the Final Design are consistent with local zoning and planning efforts.

3. <u>Residential Impacts and Mitigation</u>

The proposed I-276 widening, the I-276/I-95 Interchange, and an additional Delaware River Turnpike Bridge would displace some existing residences. Displacements were determined by overlaying the proposed alternative alignments onto the mapping of the existing study area. Generally, residential structures that fall within a 9-m (30 ft) offset of the required ROW line were considered to be displaced (**Figures IV-6A** through **IV-6C Plate 2**). The residential displacements are located within the Pennsylvania portion of the study area. That is, there are no residential displacements in New Jersey due to the construction of the project.

The prevalent housing types in the study area are single-family units followed by multi-family units inclusive of duplexes and apartments. The residential displacements in the three project elements are single-family homes located in Pennsylvania. The displaced residents would be relocated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601).

a. Residential Relocations

The No-Build Alternative would not require the relocation of any residents. An analysis of the Build Alternatives in each element concluded that the following residential properties may need to be relocated, as listed per alternative and municipality:

(1) Toll Plaza Element (Figure IV-6A, Plate 2)

Split Plaza East (two displaced residential properties)

- ✓ Two single-family residences in Bensalem Township on the west side of PA 513 (Hulmeville Road), near the Gibson Road intersection, and south of I-276 (The potential exists for approximately 34 additional residential displacements as a result of impacts to the proposed Villas at Chancellor's Glen.)

Modified Plaza West (one displaced residential property)

- ✓ One single-family residential property in Bensalem Township. This home is located west of Galloway Road, south of I-276

(2) Interchange Element (Figure IV-6B Plate 2)

Flyover A (13 displaced residential properties)

- ✓ Nine single-family residential properties located in the Newportville section of Bristol Township
- ✓ Two single-family residential properties located in the Tanglewood section of Middletown Township
- ✓ One single-family residential property located in the Newportville Manor section of Middletown Township
- ✓ One single-family residence, the parsonage of the First Baptist Church of Bristol, in Bristol Township

Single Loop A (nine displaced residential properties)

- ✓ Seven single-family residences in the Newportville section of Bristol Township
- ✓ One single-family residence in the Newportville Manor section of Middletown Township
- ✓ One single-family residence, the parsonage of the First Baptist Church of Bristol, in Bristol Township

(3) Bridge Element (Figure IV-6C, Plate 2)

Bridge North (seven displaced residential properties)

- ✓ Six single-family residences in the vicinity of Radcliffe Street (Edgely section), and one just west of US 13 (Bristol Pike) and north of I-276, Bristol Township

Bridge South (two displaced residential properties)

- ✓ One single family residence in the vicinity of Radcliffe Street (Edgely section), south of the Pennsylvania Turnpike, Bristol Township, and one just west of US 13 (Bristol Pike) and north of I-276, Bristol Township

Depending upon the combination of alternatives from each project element, the residential displacements would range from 12 to 22.

b. Mitigation

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, apply to the relocations. The procedures for property acquisition are fully documented in two pamphlets entitled *Turnpike Procedure for Property Acquisition* (PTC, 1993), and *Relocation Assistance Bulletin No. 47* (PTC, undated). Mitigation measures, according to the act, include assisting residents with relocation into available and comparable housing. PENNDOT, the PTC, and FHWA policies regarding relocations require the following:

- ✓ All applicable state and federal relocation laws and regulations would be addressed. No person would be displaced unless and until clean, safe, and comparable replacement housing has been made available without discrimination;
- ✓ Just Compensation, including relocation payments and services, would be provided prior to the date that relocation is required; and,
- ✓ A 90-day written notice must be provided prior to the date that relocation is required.

Persons would not be displaced by this project unless, and until, adequate replacement housing has been made available to affected persons in accordance with Title VI of the Civil Rights Act of 1964.

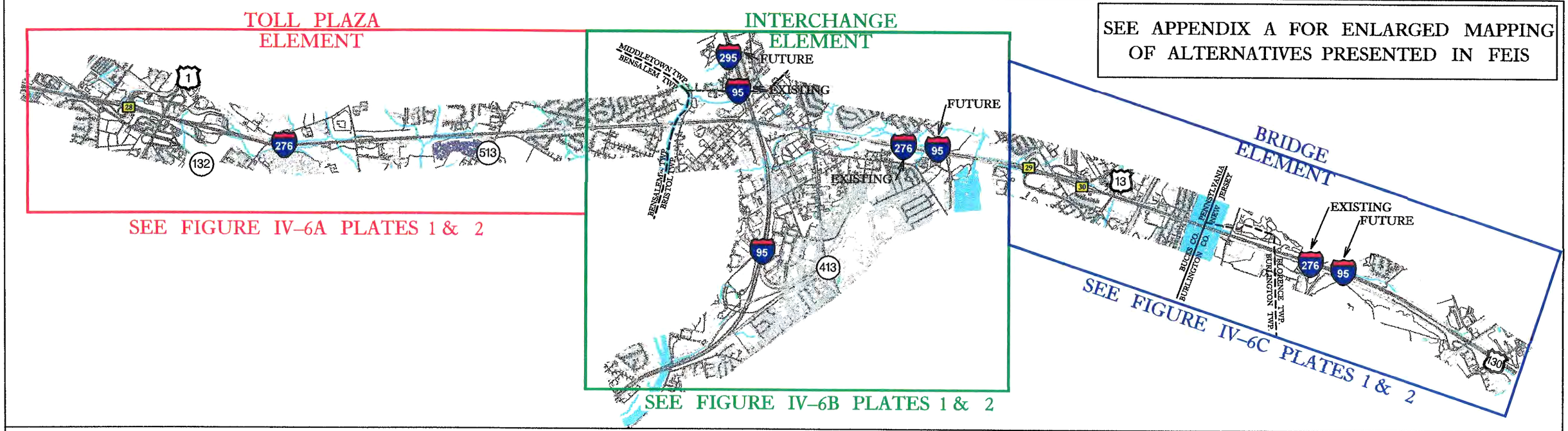
Based on field observations, it is unknown if special groups such as elderly or handicapped, would be displaced and would need special considerations during relocation. This would be confirmed during Final Design and if necessary, the appropriate assistance would be given to these residential relocations.

Displaced housing and available housing data is summarized in **Tables IV-5** to **IV-7**. The "Available Residential Properties" represent the number of homes listed for sale in December of 2002 per school district and/or municipality. These tables suggest that sufficient replacement housing for residents requiring relocation is available in municipalities in the vicinity of the study area.

After the proposed project improvements have been finalized, the PTC, in conjunction with PENNDOT, would conduct a final relocation survey to determine, on a case-by-case basis, the number of displaced residents and provide relocation assistance in accordance with applicable regulations. Replacement property would be offered to displaced persons without discrimination and would be within financial means and provide reasonable accessibility to places of employment and public services. In cases where only portions of a property would be required by the I-276/I-95 Interchange Project, monetary compensation would be provided to property owners in accordance with applicable regulations.

For rented properties, the tenant would be assisted in finding comparable housing and would receive supplements for the additional cost required to rent the comparable housing for a period of 42 months. If the tenant is looking to purchase, the rental offer may be applied to the replacement home price.

Housing of Last Resort will be used for residential locations if comparable replacement housing is not physically available, or is available but not within the normal supplemental limits at the time that relocation is required.



SOCIOECONOMIC RESOURCES

COMMUNITY FACILITIES AND SERVICES



There are several churches located in the vicinity of the study area in Pennsylvania. The Toll Plaza Element includes the Bensalem Baptist Church, Saint Ephrem Church, and the Christian Life Center. The First Baptist Church of Bristol (pictured above), and Saint Mary's Ukrainian Church are located in the Interchange Element. The Pentecostal House of Prayer: Church of the Living God is located in the Bridge Element. There are no churches within the New Jersey portion of the study area.

A few cemeteries are located within the study area including Roosevelt Memorial Park, Resurrection Cemetery, and Rosedale Memorial Park in the Toll Plaza Element; and the Hays-Rainier Cemetery located near the study area in New Jersey.

Fire stations in Newportville, in the Interchange Element, provide fire protection within the Pennsylvania portion of the study area. Bensalem, Bristol and Middletown Townships Police Departments provide police protection in the Pennsylvania study area. Also, the Pennsylvania State Police are stationed at the Trevose Barracks located in the Toll Plaza Element. Within New Jersey, Florence and Burlington Townships and the New Jersey State Police provide fire and emergency services to the New Jersey Turnpike Extension.

Major economic centers in the study area include the Village Center in the Toll Plaza Element; the Keystone Industrial Parks, Bristol Plaza, and Magnolia Industrial Park located in the Interchange Element; and the Edgely and Bristol Industrial Parks in Bristol Township and the Senator C. William Haines Industrial Center in Burlington County, New Jersey located in the Bridge Element.

The Northwestern Human Services Center, Bristol-Bensalem Division in the Interchange Element and Continuing Care Concepts in the Bridge Element are health and human service providers identified in the study area.

PARKS AND RECREATIONAL FACILITIES



For the Pennsylvania portion of the study area, Bensalem Community Park and the Bensalem Township Parcel (including the Bensalem BMX Raceway) are the only public parks in the Toll Plaza Element. Both Concord Park and the Philadelphia Park Racetrack are located in the Toll Plaza Element but are privately owned.

Park and recreational facilities identified in the Interchange Element include: Black Ditch Park, Silver Lake Park (shown at left), Green Trees Park A, Green Trees Park B, the Bristol Township Municipal Campus, the Bristol Township Recreation Field, Brookside Park and Laurel Bend Park. Pacific Park, the Delaware Canal State Park, and the Veterans of Foreign Wars Post 5542 are located in the Bridge Element.

There are no national, state or municipal parks in the New Jersey portion of the study area.

The location of the socioeconomic resources identified in each of the Toll Plaza, Interchange and Bridge Elements are mapped on **Figures IV-6A Plate 1, IV-6B Plate 1** and **IV-6C Plate 1,** respectively.

More detailed descriptions of the Socioeconomic Resources and impacts associated with the Build and No-Build Alternatives are located in **Sections IV-B** and **IV-C.** Discussion of the parks that have been identified as Section 4(f) Resources is located in **Section V**.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–6
SOCIOECONOMIC RESOURCES

INDEX

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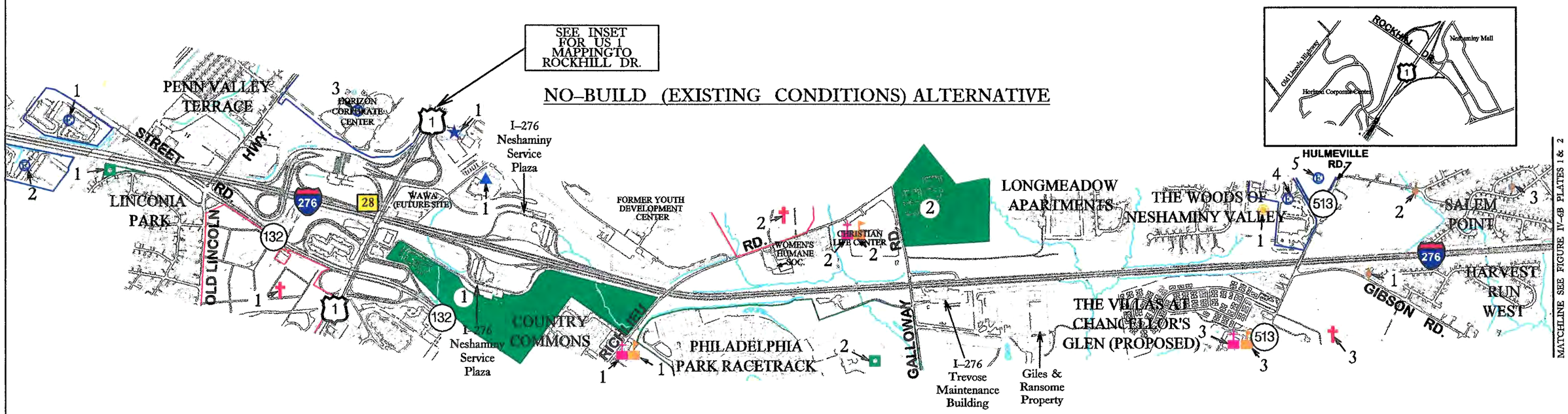
0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M

N



SOCIOECONOMIC RESOURCES IN THE TOLL PLAZA ELEMENT



There are three church/school facilities located in the Toll Plaza Element. The St. Ephrem Church and School (pictured above) is located just south of I-276 on PA 513 (Hulmeville Road). The Bensalem Baptist Church and School is located on Richlieu Road just south of I-276. The Christian Life Center Church and School is located at the intersection of Galloway and Richlieu Roads.



Philadelphia Park Racetrack (shown above) and Concord Park, located along Concord Drive in the Linconia Park section of the study area, are both significant socioeconomic resources in the Toll Plaza Element. The Philadelphia Park Racetrack is a public recreational resource as well as an economic resource for Bensalem Township, Pennsylvania.

STUDY AREA COMMUNITY FACILITIES AND SERVICES LEGEND

School:
1. Bensalem Baptist School
2. Christian Life Center School
3. Saint Ephrem School

Church:
1. Bensalem Baptist Church
2. Christian Life Center Church
3. Saint Ephrem Church

Police:
1. Pennsylvania State Police Trevose Barracks

Cemetery with Boundary:
1. Roosevelt Memorial Park
2. Rosedale Memorial Park
3. Resurrection Cemetery

Section 4(f) Public Recreation Land:
1. Bensalem Township Parcel
2. Bensalem Community Park – Bensalem School District

Private Recreational Land with Boundary:
1. Concord Park
2. Philadelphia Park Racetrack

Major Economic Center with Boundary:
1. Trevose Corporate Center
2. Metropolitan Industrial Park
3. Horizon Corporate Center (proposed)
4. Bensalem Crossing
5. Village Center

Public Water / Sewage Facility:
1. Bucks County Water & Sewer Authority (Pump Station #3)
2. Wastewater Pumping Station
3. Wastewater Pumping Station

PENNDOT Facility:
1. PENNDOT Bucks County Maintenance District

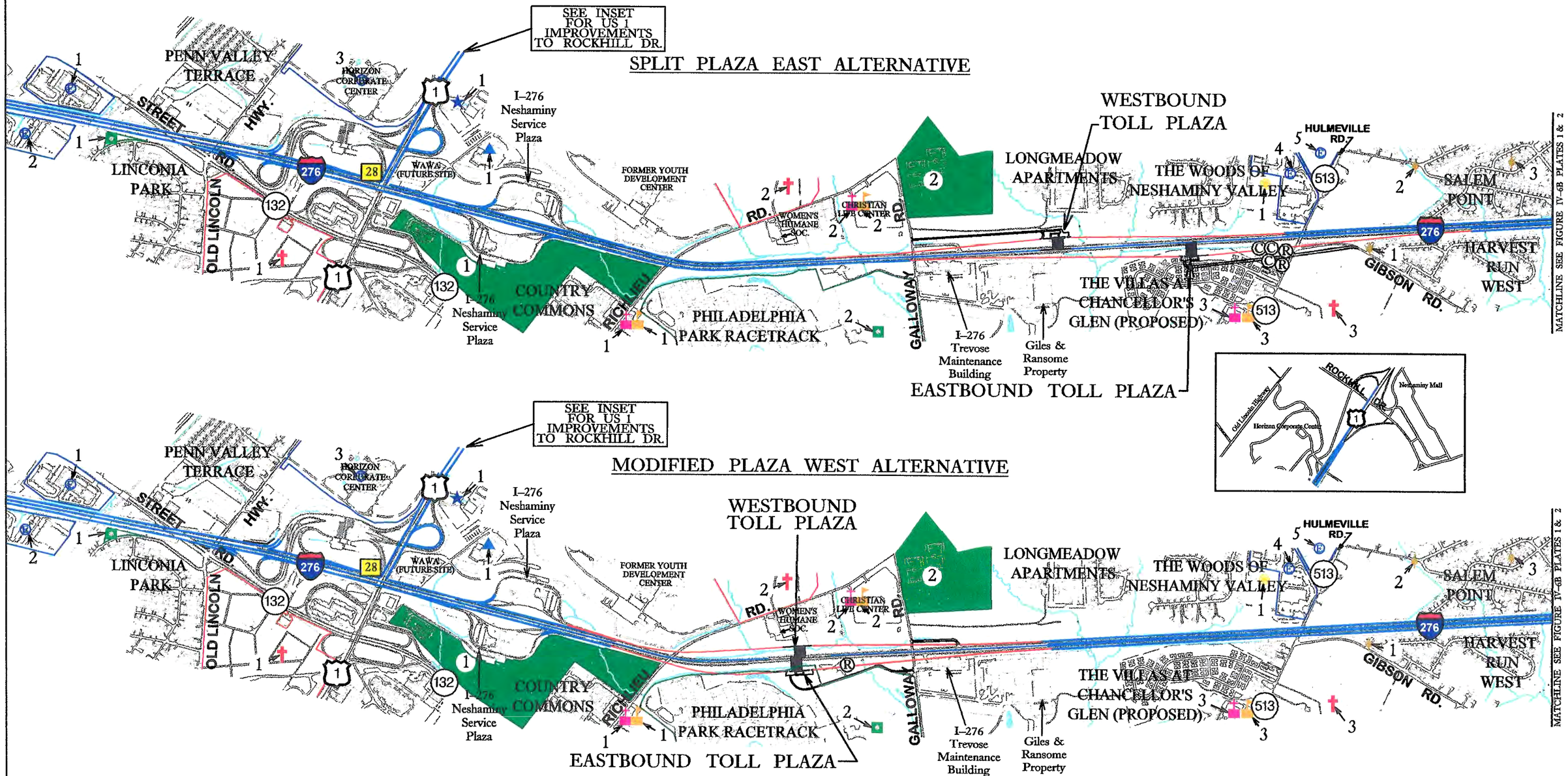
Power Facility:
1. PECO Substation

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–6A PLATE 1
SOCIOECONOMIC RESOURCES
TOLL PLAZA ELEMENT

NO–BUILD ALTERNATIVE

1 In = 1/8 Mi (1 : 7,920) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km



TOLL PLAZA ELEMENT BUILD ALTERNATIVES

Socioeconomic resource impacts in the Toll Plaza Element are related primarily to the location of the proposed toll plaza facility. No public facilities would be impacted by either toll plaza alternative. The Modified Plaza West Alternative would locate the toll plaza between Richlieu Road and Galloway Road. This alternative impacts one residential property, located just southwest of where Galloway Road crosses I-276, and has no commercial impacts.

The Split Plaza East Alternative would have more impacts to residential and commercial properties in the Toll Plaza Element. Under the Split Plaza East Alternative, the proposed toll plaza facilities would be located between Galloway Road and PA 513 (Hulmeville Road). This proposed alignment would impact three commercial and 36 residential properties located just southwest of the PA 513 (Hulmeville Road) crossing of I-276.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- 28 Existing I-276 Interchange
- Surface Water

REFER TO FIGURE IV-6A PLATE 1 FOR COMMUNITY FACILITIES AND SERVICES LEGEND AND INVENTORY

I-276 / I-95 INTERCHANGE PROJECT

FIGURE IV-6A PLATE 2
SOCIOECONOMIC RESOURCES
TOLL PLAZA ELEMENT
SPLIT PLAZA EAST &
MODIFIED PLAZA WEST ALTERNATIVES

IIn = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE

MATCHLINE SEE FIGURE IV–6A PLATES 1 & 2

MATCHLINE SEE FIGURE IV–6C PLATES 1 & 2

MIDDLETOWN TWP.
BENSALEM TWP.

BENSALEM TWP.
BRISTOL TWP.

BENSALEM TWP.
BRISTOL TWP.

PARKVIEW APTS.

NEWPORTVILLE MANOR

PLUMBRIDGE

SALEM POINT

NEWPORTVILLE TERRACE

NEWPORTVILLE

LEVITTOWN TRACE

MILL CREEK FALLS

BRITTANY SPRINGS

MAYFIELD TERRACE

LAUREL BEND

MARGO GARDENS

MAGNOLIA LAKE

BRISTOL GARDENS

ROCKDALE

TAYLOR BLVD.

NEW FALLS RD.

DURHAM RD.

BENSALEM BLVD.

NESHAMINY CREEK

MAIN ST.

NEW FALLS RD.

BATH RD.

OLD RODGERS RD.

NEW RODGERS RD.

OXFORD VALLEY RD.

BATH ROAD

NEWPORT ROAD

MILL CREEK

BLACK DITCH CREEK

NESHAMINY CREEK

95

276

413

STUDY AREA COMMUNITY FACILITIES AND SERVICES LEGEND

Church:
4. Community Baptist Church
5. First Baptist Church of Bristol
6 St. Mary's Ukrainian Church

Municipal Building:
1. District Court 1–3
2. Bristol Township Building

Military Facility with Boundary:
1. US Army Reserve Center

Police:
2. Bristol Police Department

Fire / Ambulance Service:
1. Newportville Company 12
2. Newportville Company 82

Health Care Facility:
1. Bristol Township Senior Center
2. Woven Hearts Alternative Living Services

Section 4(f) Public Recreational Land:
3. Delhaas Woods – Bucks Co.
4. Green Trees Park A – Bristol Twp.
5. Green Trees Park B – Bristol Twp.
6. Black Ditch Park – Bucks Co.
7. Silver Lake Park – Bucks Co.
8. Bristol Twp. Municipal Campus

Private Recreational Land with Boundary:
3. Brookside Park – Bristol Twp.
4. Laurel Bend Park – PECO
5. Bristol Twp. Recreation Field – PECO

Power Facility:
2. PECO Substation

Health and Human Service with Boundary:
1. Northwestern Human Services Center, Bristol–Bensalem Division

Major Economic Center with Boundary:
6. Keystone Industrial Park II
7. Keystone Industrial Park III
8. Keystone Industrial Park I
9. Bristol Plaza
10. Magnolia Industrial Park

Public Water / Sewage Facility:
4. Reservoir and Pumping Station (no longer in use)
5. Wastewater Pumping Station

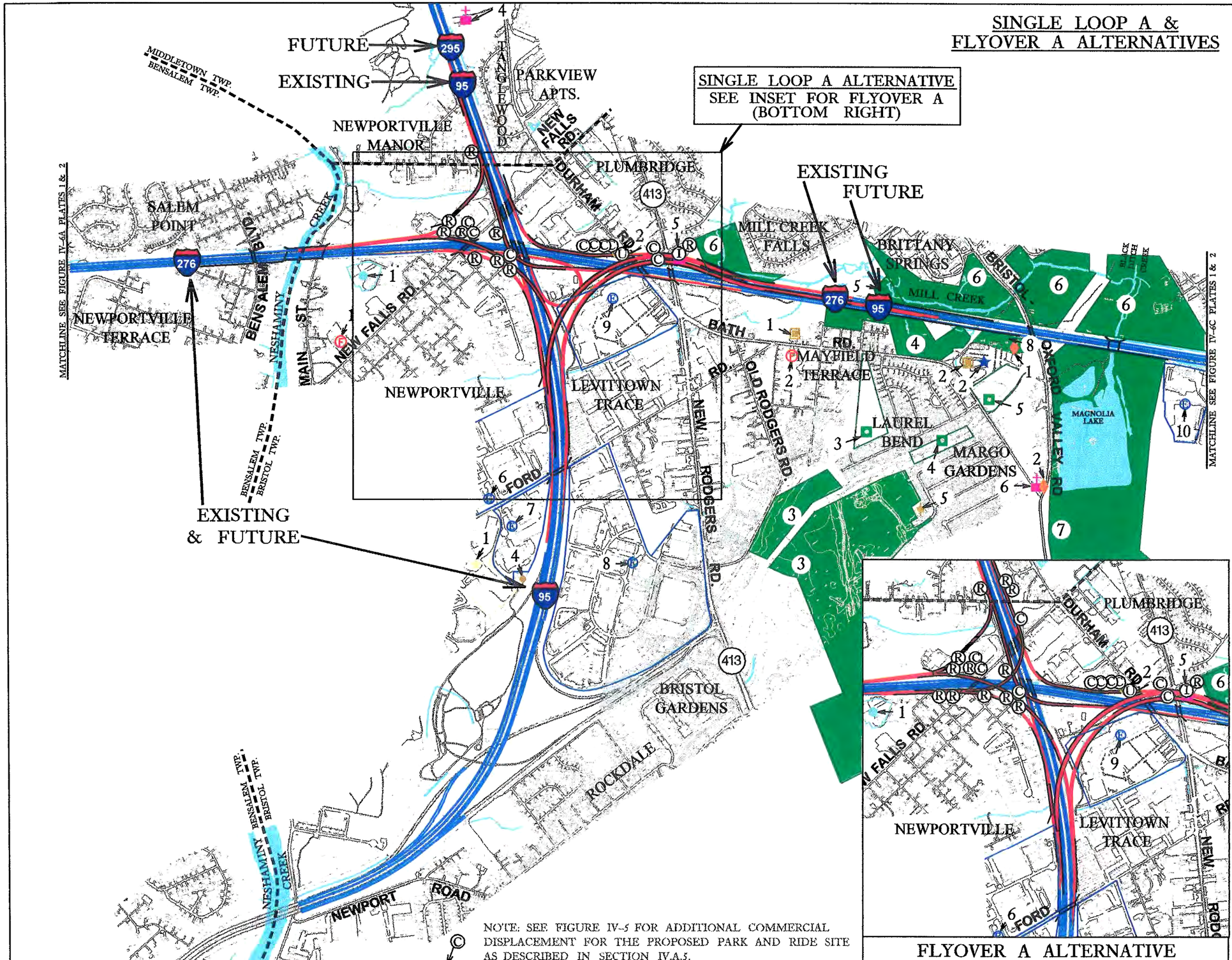
I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–6B PLATE 1
SOCIOECONOMIC RESOURCES
INTERCHANGE ELEMENT

NO–BUILD ALTERNATIVE

1 In = 1/8 Mi (1 : 7,920)

0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km


SINGLE LOOP A & FLYOVER A ALTERNATIVES

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Ⓤ Major Utility Relocation
- Surface Water

REFER TO FIGURE IV-6B PLATE 1 FOR COMMUNITY FACILITIES AND SERVICES AND LEGEND INVENTORY

INTERCHANGE ELEMENT BUILD ALTERNATIVES

Socioeconomic resource impacts in the Interchange Element are due to the proposed location of the interchange ramps. Key differences in impacts between the two alternatives occur in the number of potential residential and commercial displacements. The Flyover A Alternative would impact 13 residential properties and 11 commercial properties. The Single Loop A Alternative would reduce the number of residential impacts in Newportville, and would remove residential impacts to the Tanglewood community. Single Loop A also reduces the number of commercial impacts by one. Overall, the Single Loop A Alternative would impact nine residential properties and ten commercial properties.

Additional resource impacts would occur under either alternative due to the similar alignment of interchange ramps. The First Baptist Church of Bristol, located on PA 413 (New Rodgers Road) immediately northeast of the I-276/PA 413 point-of-crossing, would be displaced under both alternatives. Black Ditch Park (west of Mill Creek Falls) would be impacted similarly by ramp construction associated with either alternative. The ramps would be put on structure to minimize impacts to the park. A more detailed comparison of impacts associated with the Build Alternatives in the Interchange Element is located on **Table III-6**.

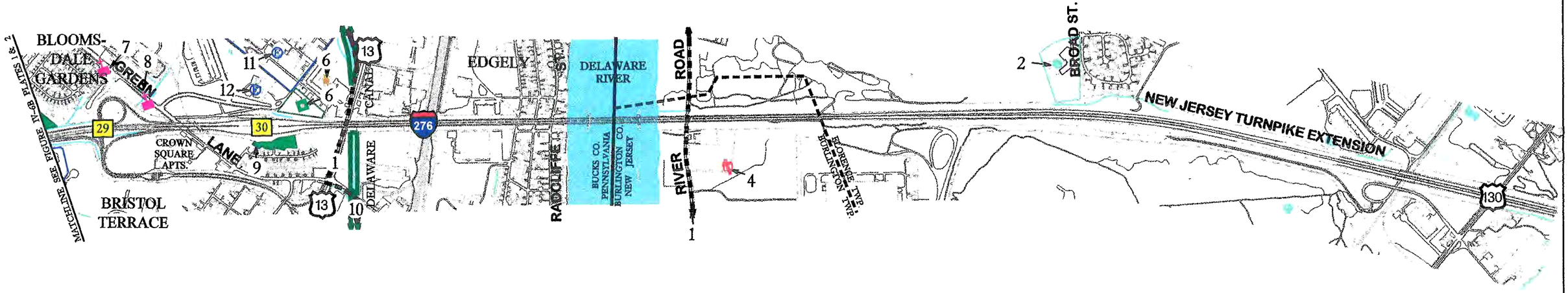
I-276 / I-95 INTERCHANGE PROJECT

FIGURE IV-6B PLATE 2
SOCIOECONOMIC RESOURCES
INTERCHANGE ELEMENT

SINGLE LOOP A &
FLYOVER A ALTERNATIVES

1In = 1/4Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE



SOCIOECONOMIC RESOURCES IN THE BRIDGE ELEMENT



Existing socioeconomic resources in the Bridge Element include public parks and recreational facilities like Pacific Park (pictured above). The park is located along Pacific Avenue in Bristol Township, Pennsylvania. The Veterans of Foreign Wars Post 5542 of Bristol Township and Delaware Canal State Park are also socioeconomic resources found in the Bridge Element.



The Hays-Rainier Cemetery (pictured above) is located south of the Delaware River Turnpike Bridge along River Road in Burlington County, New Jersey. This cemetery is a unique example of the cemeteries identified in the socioeconomic resource inventory.

STUDY AREA COMMUNITY FACILITIES AND SERVICES LEGEND

- Church:
  - 7. Pentecostal House of Prayer: Church of the Living God
  - 8. Time of Refreshing Ministry
- Cemetery with Boundary:
  - 4. Hays–Rainier Cemetery (Riverview Cemetery)
- Section 4(f) Public Recreation Land
  - 9. Pacific Park – Bristol Twp.
  - 10. Delaware Canal State Park
- Proposed Multi–Use Trail
  - 1. Proposed Delaware River Heritage Trail
- Private Recreation Land with Boundary:
  - 6. Veterans of Foreign Wars Post 5542 – private
- Major Economic Center with Boundary:
  - 11. Edgely Industrial Park
  - 12. Bristol Industrial Park
- Health and Human Service with Boundary:
  - 2. Continuing Care Concepts
- Public Water / Sewage Facility:
  - 6. Wastewater Pumping Station
- 29 Existing I–276 Interchange
- Surface Water

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–6C PLATE 1
SOCIOECONOMIC RESOURCES
BRIDGE ELEMENT

NO–BUILD ALTERNATIVE

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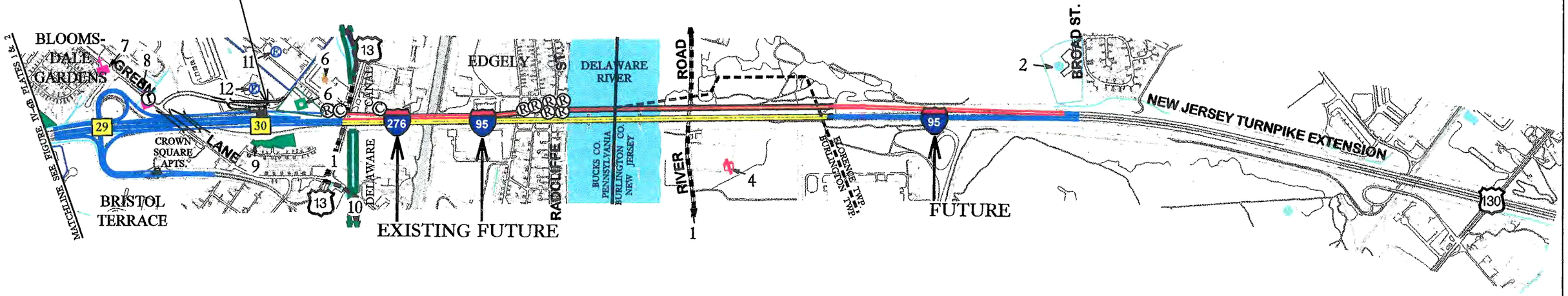
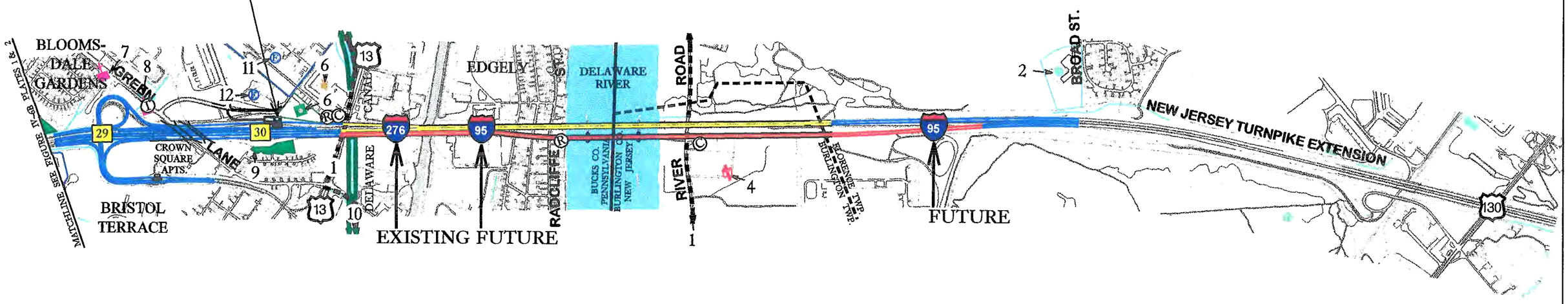
0Km 0.15Km 0.3Km

BRIDGE NORTH ALTERNATIVE



BRIDGE SOUTH ALTERNATIVE



BRIDGE ELEMENT BUILD ALTERNATIVES

Socioeconomic resource impacts in the Bridge Element are primarily due to the proposed location of a new three-lane bridge to the north or south of the existing Delaware River Turnpike Bridge. The Bridge North Alternative would have two commercial displacements (Bruce's Auto Services and Window Wizards) and seven residential displacements, all of which are located in Bristol Township, Pennsylvania.

The Bridge South Alternative would have two commercial displacements (Bruce's Auto Services in Bristol Township, Pennsylvania, and North East Trailer Services in Burlington Township, New Jersey) and two residential property displacements located in Bristol Township, Pennsylvania. Both the Bridge North and Bridge South Alternatives would impact A Time of Refreshing Ministry located on Green Lane.

LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade of Existing Bridge
- 29 Existing I–276 Interchange
- Surface Water
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement

REFER TO FIGURE IV–6C PLATE 1 FOR COMMUNITY FACILITIES AND SERVICES INVENTORY

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–6C PLATE 2
SOCIOECONOMIC RESOURCES
BRIDGE ELEMENT

BRIDGE NORTH &
BRIDGE SOUTH ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE IV-5
BUCKS COUNTY RESIDENTIAL HOUSING – TOLL PLAZA ELEMENT

Estimated Price Range	Estimate of Available Residential Properties [1]			Displaced Residential Properties	
	Bensalem Township & School District	Bristol Township & School District	Neshaminy School District [2]	Bensalem Township	Bensalem Township
				SPLIT PLAZA EAST	MODIFIED PLAZA WEST
≤$100,000	4	4	1	0	0
$100,001-$125,000	5	17	1	2	0
$125,001-$150,000	20	46	5	0	0
$150,001-$175,000	13	21	8	0	0
$175,001-$200,000	6	12	11	0	0
$200,001-$225,000	5	7	5	0	0
$225,001-$250,000	4	2	13	0	1
$250,001-$275,000	7	2	11	0	0
≥$250,001	5	3	31	0	0
Total	**69**	**114**	**86**	**2**	**1**

1 and 2: see below

TABLE IV-6
BUCKS COUNTY RESIDENTIAL HOUSING – INTERCHANGE ELEMENT

Estimated Price Range	Estimate of Available Residential Properties [1]			Displaced Residential Properties			
	Bensalem Township & School District	Bristol Township & School District	Neshaminy School District [2]	Bristol Township	Middletown Township	Bristol Township	Middletown Township
				FLYOVER A		SINGLE LOOP A	
≤$100,000	4	4	1	0	0	0	0
$100,001-$125,000	5	17	1	3	0	3	0
$125,001-$150,000	20	46	5	5	0	4	0
$150,001-$175,000	13	21	8	2	0	1	0
$175,001-$200,000	6	12	11	0	1	0	1
$200,001-$225,000	5	7	5	0	1	0	0
$225,001-$250,000	4	2	13	0	1	0	0
$250,001-$275,000	7	2	11	0	0	0	0
≥$250,001	5	3	31	0	0	0	0
Total	**69**	**114**	**86**	**10**	**3**	**8**	**1**

1 and 2: see below

TABLE IV-7
BUCKS COUNTY RESIDENTIAL HOUSING – BRIDGE ELEMENT

Estimated Price Range	Estimate of Available Residential Properties [1]			Displaced Residential Properties	
	Bensalem Township & School District	Bristol Township & School District	Neshaminy School District [2]	Bristol Township	Bristol Township
				BRIDGE NORTH	BRIDGE SOUTH
≤$100,000	4	4	1	1	1
$100,001-$125,000	5	17	1	3	0
$125,001-$150,000	20	46	5	0	0
$150,001-$175,000	13	21	8	1	0
$175,001-$200,000	6	12	11	0	0
$200,001-$225,000	5	7	5	0	0
$225,001-$250,000	4	2	13	1	1
$250,001-$275,000	7	2	11	1	0
≥$250,001	5	3	31	0	0
Total	**69**	**114**	**86**	**7**	**2**

1 The **Estimate of Available Residential Properties** was acquired through ©1995-2001 NATIONAL ASSOCIATION OF REALTORS® and Homestore, Inc. All rights reserved. Equal Housing Opportunity REALTOR.com® is the official site of the National Association of REALTORS® and is operated by Homestore, Inc. Properties listed do not include empty lots or rental properties.

2 Neshaminy School District included the following municipalities: Middletown Township, Lower Southampton Township, Hulmeville Borough, Langhorne Borough, Langhorne Manor Borough and Penndel Borough.

4. Environmental Justice /Title VI

Title VI of the Civil Rights Act of 1964 requires that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance. Executive Order (EO) 12898 of February 11, 1994: *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, requires federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health and environmental effects of their programs, policies, and activities on minority and/or low-income populations. The *Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-Income Populations* (Final DOT Order 50125, April 15, 1997) and FHWA Order 6640.23 of December 2, 1998: *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, establishes the policies and procedures for compliance with environmental justice. FHWA Order 6640.23 dictates *FHWA will implement the principles of DOT Order 50125 and Executive Order O12898 by incorporating Environmental Justice principles in FHWA programs, policies, and activities within the framework of existing laws, regulations, and guidance*. These guidances call for a proactive public involvement program, which enables low-income and minority populations access to project information and encourages participation in the project development process.

In accordance with FHWA Order 6640.23, the project's public involvement program has incorporated the identified low-income and minority communities. For instance, a project office was established in Bensalem Township and project representatives were made available to answer questions and discuss the project with interested individuals. Project newsletters and topic update sheets were sent to residences and businesses located in the study area, as well as those individuals interested in the project. Community leaders and organizations were identified, such as the Bucks County Housing Group, Croydon Civic Association, the Philadelphia Park Racetrack Ministry, and local town watches. These groups were sent project information, such as newsletters, and were invited to visit the project office for additional information or contact the Project Team to set up community meetings.

In addition, meetings were held with the general public, public officials and government agencies, local civic associations, apartment complex managers, residential communities, and the business community throughout the project study area. Questionnaires were distributed at the public officials' and the general public meetings. There was a Community Advisory Committee (CAC) and a Community Economic Impact Review Group (CEIRG). A project website was developed and informational packets were provided to the local municipal buildings and libraries to increase the availability of the project information. **Section VII** describes the public involvement measures in more detail.

Census data (1990) for minority and low-income populations in the I-276/I-95 Interchange Project study area were obtained from the US Bureau of the Census. Also, local community service organizations, the Bucks County Housing Authority, and the US Department of Housing and Urban Development were contacted for information regarding low-income and minority populations. The information gathered was used in the environmental justice analysis entitled *The Pennsylvania Turnpike/Interstate 95 Interchange Project Environmental Justice Disproportionate Effects Analysis* (PTC, 1999). This document and the data collected are located in the Technical Support Data (the index is located in **Appendix C**).

The environmental justice analysis used a comparative analysis that measured the impacted populations for each alternative and compared these statistics to the overall county mean average thresholds for minority and low-income populations in Bucks County, Pennsylvania and Burlington County, New Jersey. The census data and coordination with community service organizations, the Bucks County Housing Authority, and the US Department of Housing and Urban Development identified the low-income or minority populations and their corresponding communities: Linconia Park, Country Commons Apartments, Philadelphia Park Racetrack, Sherwood Garden Apartments, Foxwood Manor Apartments, Bloomsdale Gardens, Laurel Bend, Levittown Trace Apartments, Bristol Gardens Apartments, Crown Square Apartments, Bristol Terrace, Mill Creek Falls, and Newportville. These communities are located on **Figures IV-6A** to **IV-6C**, except for Sherwood Garden and Foxwood Manor Apartments which are located outside of the project

mapping, north of the point-of-crossing of I-276 and I-95 and east of Durham Road. No communities within the study area in New Jersey were identified as low-income or minority when compared to Burlington County data.

The analysis indicates that the I-276/I-95 Interchange Project has the *potential* to disproportionately impact minority and low-income populations. This FEIS provides the required information to address the concerns for *adverse, disproportionate* effects as a result of the project.

a. Impacts

As defined in FHWA Order 6640.23, adverse effects include air, noise, and water pollution; soil contamination; impacts to man-made or natural resources; impacts to aesthetic values; impacts to community cohesion or a community's economic vitality; impacts or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion; isolation, exclusion or separation of minority or low-income individuals from the community; and the denial of, reduction in, or significant delay in the receipt of benefits of FHWA programs, policies, or activities.

(1) No-Build Alternative

The No-Build Alternative would not directly adversely affect any minority or low-income communities. Only routine maintenance procedures would be required to maintain the continuous operation of the existing study area roadways. Overall traffic congestion may continue to worsen, which may lead to unsafe local roads and to a reduction in the level of service on local roadways.

(2) Build Alternatives

It is important to note that this project involves improvements to existing highways. For this reason, the communities adjacent to these highways would be impacted. This section identifies impacts specific to the environmental justice communities protected under EO 12898.

There would be no adverse effects to the traffic and roadways in regard to the low-income and minority communities. With the construction of the I-276/I-95 interchange, regional traffic, which currently uses local roads to connect between I-276 and I-95, would remain on interstates through the study area. Furthermore, local infrastructure improvements, as described previously in **Section IV-A**, would benefit the local resident and business travelers. There should be an improvement in traffic efficiency of the regional and local roadway network by reducing delays and congestion and providing better access within the study area. This would also lead to enhanced safety conditions along the roadways.

Impacts to the low-income and/or minority communities include the acquisition of homes in Newportville with either the Single Loop A or Flyover A Alternatives. Residential relocations, as further described in **Section IV-B.3**, are not limited to Newportville. Other communities that may experience residential displacements that have not been identified as low-income or minority include: Tanglewood for each interchange alternative and the homes along Radcliffe Street (Edgely section) for either alternative in the Bridge Element. These communities are shown on **Figures IV-6A** to **IV-6C, Plate 2**.

The I-276/I-95 Interchange Project is located along an existing highway. No communities will be divided, access-restricted, or isolated by the project; therefore, there would be no adverse effects upon community functions and cohesion. Residential displacements would be limited to those residences that would be directly impacted, would lose access, or would have been surrounded entirely by highway infrastructure. Except for the displacement of the First Baptist Church of Bristol with either Interchange Alternative and the displacement of A Time of Refreshing Ministry with either Bridge Alternative, the community facilities in the vicinity of low-income or minority communities, such as the churches, schools, and hospitals, identified and located on **Figures IV-6A** to **IV-6C, Plate 2**, would not be impacted and would continue to operate under existing conditions.

The First Baptist Church of Bristol is located in the vicinity of the identified low-income and minority populations. However, through coordination with the pastor, the majority of the congregation is not considered low-income or minority. Furthermore, members are from several different communities, many of which are outside the study area. Therefore, the environmental justice populations within the study area would not be substantially affected by the church displacement.

A Time of Refreshing Ministry is located on Green Lane in the vicinity of identified low-income and minority populations. The property is currently leased by the church, and services began in Spring 2001. Coordination and meetings have been conducted with church officials. The church has a congregation of about 20 members and serves the surrounding communities, as well as individuals located outside the study area in areas such as Trenton, New Jersey. This facility would be displaced as a result of construction of either the Bridge North or Bridge South.

In Bristol Township, there may be displacements of businesses in the vicinity of low-income and minority communities. These business impacts are described in more detail in **Section IV-C.2**. The businesses that may be displaced in Bristol Township include: Summit Auto Center, Inc.; Summit Auto Sales Center; former Acme building (currently CVS Pharmacy); Bush Transportation Systems; La Casa Mia Family Restaurant; Take Out Cold Beer and Soda; Brenda's Hair Shack; C&C Berk Insurance; Bruce's Auto Services; Worthington Tree Service; WindoWizards, Szafranski General Contractor and Szafranski Abrasive Wheel Manufacturing. With the displacement of these businesses, there may be a short-term loss of employment. However, these businesses may choose to relocate in the area. There are other properties in the vicinity that may be available for redevelopment, as well as other nearby retail plazas that have vacancies. Additionally, there are similar organizations and businesses in the study area that provide the same services.

The I-276/I-95 Interchange Project would impact natural resources such as surface waters, wetlands, forestland, rangeland, and wildlife. Impacts to these resources should not adversely affect the quality of life or recreational pastimes for the communities within the study area. These impacts are described in more detail in **Sections IV-H** to **IV-M**. No recreational, educational, or scientific areas would be adversely impacted.

As described in **Section IV-N**, none of the projected carbon monoxide concentrations for the Build Alternative would exceed the National Ambient Air Quality Standards (NAAQS). Although Bucks County was designated by the US Environmental Protection Agency (USEPA) as severe non-attainment for ozone levels, the project was included in the Transportation Improvement Program (TIP), which is a regional air quality conformity analysis for ozone and is in conformity with the Statewide Implementation Plan (SIP). The SIP is the State's plan for addressing air quality degradation.

A noise analysis (**Section IV-O**) was conducted in accordance with FHWA standards and PENNDOT criteria. The analysis indicates that most residential communities immediately adjacent to I-276 and I-95 would experience increased traffic noise levels with the construction of ramps for the proposed interchange. Additionally, traffic lanes would be moved closer to the communities due to the proposed widening of I-276, and construction of the toll plaza in Bensalem Township.

Regarding vibration, this project involves improvements to the existing highway, and there are no structures that would be within 7.6 m (30 ft) of the highways after construction. Therefore, it is anticipated that the structural impacts due to vibration from both I-276 and I-95 would not increase as a result of this project. Vibration is described in more detail in **Section IV-Q**.

In terms of the visual environment, the Pennsylvania portion of the study area is extensively developed. Typical suburban visual components include highways, houses, commercial areas, and shopping centers. As identified in **Section IV-R**, the only low-income and/or minority communities with impacted visual environments are Newportville Manor and Newportville, both located in the Interchange Element (**Figure IV-6B, Plate 2**). The Flyover A Alternative would impact the visual environment with the removal of the residences and the construction of elevated ramps. The Single Loop A Alternative would similarly impact these communities, although the constructed ramps would be at-grade instead of on an elevated structure (i.e. bridge).

In summary, the potential impacts to the environmental justice populations include the displacement of residential and commercial properties, the displacement of one church (A Time of Refreshing Ministry), traffic noise impacts, and visual quality impacts. This project is located along existing highways and the alternatives for each project element are very similar. However, the environmental justice communities would *not* be "disproportionately" impacted. Moreover, it is possible that this project may benefit and aid in the prosperity of the local communities. For example, more accessible routes to work, and/or more local employment opportunities may become available (**Section**

IV-C.1). Also, the reduced traffic on the local roadways would help decrease the existing air and noise pollution and improve vehicular travel safety. The construction of noise barriers, as warranted, would also help reduce traffic noise from the highways. The implementation of the Phase II CMS strategies, such as the proposed park and ride/ pool sites described previously in **Section IV-A**, may also benefit the low-income communities by providing transportation opportunities. These positive effects may outweigh some of the adverse impacts.

In conclusion, this project would not have a disproportionately high and adverse effect to low-income or minority populations.

b. Mitigation

Because the project and its alternatives would not have a disproportionately high and adverse human health and environmental effect to low income and minority populations, mitigation specific to satisfying the provisions of environmental justice would not be necessary. Nevertheless, other mitigation commitments associated with the project are addressed in this document where adverse impacts have been identified for all affected populations and communities.

The project's public involvement program, conducted in accordance with FHWA Order 6640.23 as previously described, would continue throughout the project's duration.

5. Community Facilities and Services

There are several schools, emergency services, and health care facilities located in the study area. There is the potential that the Build Alternative would enhance the accessibility of these community resources due to the infrastructure improvements and the reduction of traffic on local roadways, as described in **Section IV-A**. Two churches would be displaced as a result of the Build Alternative. The No-Build Alternative would not impact any community facilities and services. The locations of community facilities and services are shown on **Figures IV-6** to **IV-6C, Plate 2**.

a. Schools

At present, there are no schools or other educational facilities along I-276 and I-95 that would be displaced by the project. The Christian Life Center Church and School was constructed in Bensalem Township in 2000. A small portion of this property may be acquired. However, this strip property acquisition is not anticipated to impact the function of the school.

During proposed project construction, temporary detours and road closures would be necessary to reconstruct local roads that must be realigned to accommodate widening of both I-276 and I-95. Reconstruction of these local roads may cause delays to school buses or require temporary detours for school bus routes. This may affect three schools near the study area in Bucks County, Pennsylvania (**Figures IV-6A** and **IV-6B, Plate 1**): Saint Ephrem School, located near the intersection of PA 513 (Hulmeville Road) and Mechanicsville Road; the Bensalem Baptist Church and School on Richlieu Road; and the Abraham Lincoln Elementary School, located on Plumbridge Drive near New Falls Road, just outside the study area. No schools are located in the New Jersey portion of the study area. Proposed detour routes were shared and approved by school/emergency personnel. Additional information regarding traffic delays can be found in **Section IV-A** and in the Technical Support Data. Construction impacts are described in more detail in **Section IV-T**.

b. Churches and Cemeteries

There are several churches located in the vicinity of the study area (**Figure IV-6A** to **IV-6C, Plate 2**). The Bensalem Baptist Church is located on Richlieu Road just south of I-276. The Christian Life Center Church and School is located at the intersection of Galloway Road and Richlieu Road, adjacent to I-276 in Bensalem Township. Saint Ephrem Church is located near the intersection of PA 513 (Hulmeville Road) and Mechanicsville Road. The First Baptist Church of Bristol is located on New Rodgers Road just north of where New Rodgers Road passes under I-276. Saint Mary's Ukrainian Church is located near the intersection of Bath Road and Oxford Valley Road. The Pentecostal House of Prayer: Church of the Living God is located off of Green Lane in the Bloomsdale Gardens residential development. Also on Green Lane, near Airport Road, is A Time of Refreshing Ministry. No churches in New Jersey are within the study area.

There are a few cemeteries located near the study area. Roosevelt Memorial Park is located on Old Lincoln Highway; Rosedale Memorial Park is located on Richlieu Road; and Resurrection Cemetery is located along PA 513 (Hulmeville Road) in Bensalem Township, Pennsylvania (**Figure IV-6A, Plate 1**). An unnamed cemetery is located between Durham Road and I-95, north of the point-of-crossing in Middletown Township, Pennsylvania (outside the project mapping). There is one cemetery located near the study area in New Jersey, the Hays-Rainier Cemetery. This cemetery, also known as Riverview Cemetery, is located in Florence Township off of River Road, south of the New Jersey Turnpike Extension (**Figure IV-6C, Plate 1**).

In the Toll Plaza Element, for either Split Plaza East or Modified Plaza West there may be the acquisition of a strip of land from the Christian Life Center Church and School (**Figure IV-6A, Plate 2**), however, there would be no adverse impacts to the structure or functions of the church. In the Interchange Element, both Flyover A and Single Loop A would require the displacement of the First Baptist Church of Bristol (**Figure IV-6B, Plate 2**). In the Bridge Element, both Bridge North and Bridge South would require the displacement of A Time of Refreshing Ministry.

Additional information regarding the church displacements can be found in **Section IV-C.2.b**.

The No-Build Alternative would not adversely impact any churches or cemeteries.

c. Emergency Services

Fire protection within the Pennsylvania study area is provided by the Newportville Company 12 Fire Station located on New Falls Road, and the Newportville Company 82 Fire Station located near the intersection of Bath Road and Old Rodgers Road. Both of these fire companies are located in Bristol Township (**Figure IV-6B, Plate 2**). In Bensalem Township, Nottingham Fire Company 65 and Rescue Squad 186, near the intersection of Street and Richlieu Roads (outside the project mapping), respond to emergencies on I-276 and other local emergencies.

In Middletown Township, emergency medical service is provided by Rescue Squad 168, located northwest of the intersection of PA 413 (New Rodgers Road) and I-95 (outside the project mapping). Bensalem, Bristol, and Middletown Townships Police Departments provide police protection in the Pennsylvania portion of the study area. The Pennsylvania State Police, located at the Trevose and Plymouth Meeting Barracks, patrol the Pennsylvania Interstate Highways in the study area (I-95 and I-276, respectively).

In the New Jersey study area, Florence Township Fire Station 1 and Florence Emergency Squad 409 respond to emergencies on the New Jersey Turnpike. In Burlington Township, the Springside and Beverly Road Fire Departments and the Burlington City Emergency Squad also respond to emergencies on the New Jersey Turnpike within the study area. Police protection in the New Jersey study area is provided by Burlington and Florence Township Police Departments. The New Jersey State Police patrol the New Jersey Turnpike and other interstate highways in the study area. These New Jersey facilities are located outside the immediate study area.

Neither the No-Build nor the Build Alternatives would directly impact the emergency services previously referenced. Road closures and detours during construction on the project may indirectly impact emergency services access by causing temporary delays. Proposed detour routes were shared and approved by emergency personnel.

d. Health Care Facilities

Medical services to residents of the Pennsylvania study area are provided by four local hospitals: Frankford Hospital-Bucks County Campus, Temple Lower Bucks Hospital, St. Mary Medical Center, and the Frankford Hospital Torresdale Campus. Medical care in the New Jersey study area is provided by the Allegheny University Hospital, Rancocas Hospital, and the Memorial Hospital of Burlington County. None of these facilities are located in the immediate study area. These medical facilities are accessible from the major/minor arterials and local roadways within, and outside, the study area.

Neither the No-Build Alternative nor the Build Alternative would directly impact health care facilities through property structure acquisitions. Road closures and detours during construction on the project may indirectly impact emergency services by causing temporary delays. Temporary impacts are further addressed in **Section IV-T**.

e. Mitigation

Except for the First Baptist Church of Bristol and A Time of Refreshing Ministry (**Figure IV-6B, Plate 2**), the study area schools, places of worship, emergency services, and health care facilities would not be directly affected by the I-276/I-95 Interchange Project. During construction there may be some temporary travel delays, detours, and road closures. During Final Design these temporary impacts would be coordinated with the community facilities to determine the least disruptive procedures.

The First Baptist Church of Bristol and A Time of Refreshing Ministry would be displaced due to project construction. The churches would receive compensation in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and described in **Section IV-C.2.b**.

Coordination with Pastor William Smith, First Baptist Church of Bristol, was conducted throughout the alternatives development process. He attended public meetings, visited the project office, and spoke to project team representatives numerous times. During the alternatives development process, he was aware that some of the interchange alternatives that were not carried forward due to increased commercial property impacts did not impact the church, and that the ramps that do displace the church with the remaining point-of-crossing alternatives are fixed by design criteria. He is generally aware of the relocation procedures and has acknowledged that his congregation resides throughout Lower Bucks County.

Coordination with Pastor Jacqueline Fentress has indicated that services at A Time of Refreshing Ministry began in Spring 2001. Church officials lease the property on which the church is located. The congregation has about 20 members from the surrounding communities, as well as other localities, such as Trenton, New Jersey. Pastor Fentress is aware of the potential impacts to her church, and she has been introduced to the relocation procedures that would occur prior to construction.

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601) and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, property owners would receive monetary compensation for the portion of property acquired for project construction.

6. <u>Parks and Recreational Facilities</u>

A total of 16 state, county, and municipal public recreational areas and private community spaces are located within the study area, all within Pennsylvania. These are identified and illustrated on **Figures IV-6A** to **IV-6C, Plate 2**. Pertinent information relevant to each of the identified recreational areas, including impacts, is listed in **Table IV-8**. The identified Black Ditch Park includes a total of seven parcels, five of which are located in the study area (**Table IV-9**).

Bensalem Community Park and the Bensalem Township Parcel are the only public recreational areas in the Toll Plaza Element (**Figure IV-6A, Plate 1**). Both Concord Park and the Philadelphia Park Racetrack, also located in the Toll Plaza Element, are privately owned.

Public recreational areas in the Interchange Element include Black Ditch Park, Silver Lake Park (including Delhaas Woods), Green Trees Park A, Green Trees Park B, the Bristol Township Municipal Campus, and Brookside Park (**Figure IV-6B, Plate 1**). The Bristol Township Recreation Field and Laurel Bend Park, both owned by PECO, are also located in the Interchange Element, and are considered to be privately owned.

The publicly owned Pacific Park and Delaware Canal State Park, and the Veterans of Foreign Wars Post 5542, a privately owned facility, are located in the Bridge Element (**Figure IV-6C, Plate 1**). Since the release of the DEIS, coordination activities were conducted with the Pennsylvania Department of Conservation and Natural Resources (PADCNR) to address the issue of jurisdiction over the historic Delaware Canal. The area in question was the property beneath the existing Delaware River Turnpike Bridge that was the former path of the Delaware Canal.

Early coordination with PADCNR concluded that the boundary of the Delaware Canal State Park, which was mapped to the edge, but outside the PTC right-of-way of the parcel, was accurately mapped and therefore no impacts to the park were listed in the DEIS. However, both PADCNR and the PTC were unable to produce material documenting any deeded ownership of the canal segment. Additional research and deed searches conducted by all involved parties were unable to produce documentation of ownership by a specific agency at the Commonwealth. Review of construction plans for the bridge indicated that the property was transferred to PTC jurisdiction through the filing of plans approved by the Governor and the Secretary of the Department of Highways, and therefore a final determination was made that the PTC maintains jurisdiction over the right-of-way of the property under the bridge.

Also located in the Bridge Element is the proposed Delaware River Heritage Trail in both Pennsylvania and New Jersey. According to the National Park Service, the trail is in the planning phases and is scheduled for phased construction in 2006. The Delaware River Heritage Trail will be part of the proposed East Coast Greenway, a 4183 km (2,600 mi) off-road trail system linking 23 major cities on the east coast. Coordination with the East Coast Greenway Alliance began before the release of the DEIS and will continue as part of the public involvement process during the final design of the proposed Delaware River Turnpike Bridge. Additional information regarding the public recreational areas can be found in **Section V**.

a. Impacts

Figure IV-6A, Plate 1 through **Figure IV-6B, Plate 2** shows the proximity of most parks and recreational facilities, as listed in **Table IV-8**, to I-276 and I-95. Of the 16 public and private recreational areas and community open space areas identified, Black Ditch Park in the Interchange Element would be directly impacted by the project **(Table IV-9)**. This would include an estimated 0.038 ha (0.094 ac) impact for either the Flyover A or Single Loop A Alternatives (**Figure IV-6B, Plate 2**). This is a result of preliminary engineering for use of pier supports instead of fill embankment to construct ramps between I-276 and I-95 as part of the proposed interchange connecting both interstates.

Black Ditch Park is one of the resources in the study area that is protected by Section 4(f) of the USDOT Act of 1966 codified in 49 USC 303. Additional discussions of Section 4(f) issues are contained in the Section 4(f) Evaluation (**Section V**). In addition to the Section 4(f) Evaluation, investigations and research concluded that none of the public recreation areas in the project study area received assistance under the Land and Water Conservation Fund Act of 1965 and therefore the project impacts do not result in conversion of Section 6(f) lands. Additional information is located in the Technical Support Data.

The Bridge North and Bridge South Alternatives would both avoid impacting the Delaware Canal State Park by using existing PENNDOT and PTC owned ROW along US 13 (Bristol Pike). **Section V** describes and illustrates how the Pennsylvania Department of Conservation and Natural Resources (PADCNR)-owned Delaware Canal State Park would be avoided by either of the Bridge Element Alternatives. There would be some land acquisition from the Veterans of Foreign Wars (VFW) Post 5442 due to the proposed re-construction of the toll plaza at Interchange 30. Bridge North requires 0.50 ha (1.23ac) of VFW land, while Bridge South requires 0.31 ha (0.76 ac) (**Figure IV-6C, Plate 2**).

b. Mitigation

As a result of coordination with the Bucks County Department of Parks and Recreation, mitigation to Black Ditch Park would include construction of a combination of retaining walls and landscaping to screen the view of I-276 and the proposed interchange ramps.

The noise analysis included park and recreational facilities, as described in **Section IV-O**. The proposed noise abatement would extend along the entire length of Black Ditch Park, not just the impacted parcel in the vicinity of the proposed I-276/ I-95 Interchange. Other mitigation measures are further addressed in **Section V-E.6.a.(1)**.

Noise benefits would possibly occur for other parks not directly impacted by the proposed project. This would include the private community Concord Park in the Toll Plaza Element; Bristol Township's Green Trees Parks A and B and Municipal Campus, along with Bucks County's Silver Lake Park in the Interchange Element; and Bristol Township's Pacific Park and PADCNR-owned Delaware Canal State Park in the Bridge Element. Potential noise abatement is described in **Section IV-O** and would be further evaluated during Final Design.

TABLE IV-8
PRIVATE PARKS AND PUBLIC RECREATIONAL AREAS

Facility Name	Municipality	Facility Ownership	Use Restrictions	Specific Use Functions	Future Plans	Total Area ha (ac)	Impact
Toll Plaza Element							
Concord Park	Bensalem Township	Private	N/A	Active/ Passive Recreation	N/A	0.25 (0.62)	none
Philadelphia Park Racetrack	Bensalem Township	Private	N/A	Horse Racing	N/A	161.67 (399.50)	none
Bensalem Community Park [1]	Bensalem Township	Bensalem School District	None	Community Programs, Public Assess	Expansion	12.10 (29.90)	none
Bensalem Township Parcel [1]	Bensalem Township	Bensalem Township	Recreation	Non-motorized BMX Dirt Bikes, Public Access	Track Upgrade	16.48 (40.71)	none
Interchange Element							
Black Ditch Park [1]	Bristol Township	Bucks County	None	Active/ Passive Recreation	Upgrade trails	47.35 (117)	0.038 hectares (0.094 acres)
Green Trees Park A [1]	Bristol Township	Bristol Township	Recreation/ Open Space	Currently Undeveloped	Nature Study/ Fitness Trail	5.00 (12.35)	none
Green Trees Park B [1]	Bristol Township	Bristol Township	Recreation/ Open Space	Currently Undeveloped	Open Green Space	0.78 (1.94)	none
Bristol Township Municipal Campus [1]	Bristol Township	Bristol Township	Recreation	Municipal complex, Senior Center, Multiple Recreation	1997 Plan Update	4.69 (11.60)	none
Bristol Township Recreation Field	Bristol Township	PECO	N/A	Ball Fields	N/A	5.22 (12.90)	none
Brookside Park	Bristol Township	Bristol Township	None	Active/ Passive Recreation		3.61 (8.92)	none
Laurel Bend Park	Bristol Township	PECO	N/A	Active/ Passive Recreation	N/A	1.68 (4.15)	none
Silver Lake Park (and Delhaas Woods) [1]	Bristol Township	Bucks County	Deed Restrictions (Delhaas Woods)	Designated Nature Center/ Outdoor Education Program	Dredge Silver Lake	297.45 (735)	none
Delaware River Bridge Element							
Pacific Park [1]	Bristol Township	Bristol Township	Recreation	Recreation	Upgrading	0.57 (1.41)	none
Veterans of Foreign Wars Post 5542	Bristol Township	Private	N/A	N/A	N/A	0.84 (2.08)	Bridge North - 0.50 ha/1.23 ac Bridge South - 0.31 ha/0.76 ac
Delaware Canal State Park [1]	Bristol Township [2]	Commonwealth of Pennsylvania	None	See 1987 Master Plan/ Updated Recreational Guide	Delaware River Heritage Trail	96.9 km (60 miles) [3]	none
Proposed Delaware River Heritage Trail/ East Coast Greenway [1]	Bristol Township, PA, Florence & Burlington Townships, NJ	multi-public/ limited private	N/A	N/A	Multi-use Pathway	(planning phase)	none

Note: The identified alternative impacts incorporate the associated side road/bridge improvements, stormwater management facilities, and construction of the park and ride/pool sites. The No-Build Alternative associated with each element does not impact the identified resources.

Sources: *Final Bucks County Comprehensive Plan* (Bucks County Planning Commission, 1993)
Bristol Township Park and Recreation Plan 1997 - Update (Bristol Township, 1997)
Bucks County Tax Maps

N/A Not Applicable.
1 Included in Section 4(f) inventory in **Section V**
2 Location of park within the study area
3 Total length

TABLE IV-9
BLACK DITCH PARK PARCELS AND IMPACT DETERMINATIONS

Tax Map County-Owned Parcel	Size (by tax map) ha (ac)	Date of Purchase	Use Restrictions	Section 4(f) Impact
05-021-305 [1]	**3.413 (8.434)**	**11-8-1971**	**Deed: "provide land for recreation, conservation and historical purposes, may not be transferred, sold or leased without written approval of the Secretary of Housing and Urban Development." HUD-OS-168; Article XXIV & XXV [2]**	**Yes**
05-025-082-003 [1]	6.062 (14.979)	12-28-1970	Deed: "perpetual easement in favor of PTC for channel change of Mill Creek for Contract Section 34-C… for public purposes and for no other use or purpose whatsoever." HUD-OS-168, and Article XXIV & XXV [2]	No
05-029-159 [1]	0.557 (1.377)	3-11-1965	HUD-OS-168; Project 70 [3], Article XXIV & XXV [2]	No
05-029-160-001 [1]	8.42 (20.8)	3-11-1965	HUD-OS-168; Project 70 [3], Article XXIV & XXV [2]	No
05-040-037 [1]	19.06 (47.1)	3-11-1965	HUD-OS-168; Project 70 [3], Article XXIV & XXV [2]	No
05-040-036-001	4.60 (11.36)	7-6-1964	HUD-OS-1	N/A
05-040-345	5.22 (12.9)	Not Available	Not Available	N/A
Total Acres	**47.33 (116.96)**			

Note: Bolded "Use Restrictions" are from correspondence with Bucks County (1-27-99).
1 Black Ditch Park parcels within 304.8 m (1,000 ft) wide study area.
2 Article XXIV and XXV of County Code, Act of 8-9-1955, P.L. 323, Section 2401 et. Seq., and Section 2501 et. Seq.
3 Project 70 – Land Acquisition and Borrowing Act (land for recreation, conservation, and historical purposes)

C. ECONOMIC CHARACTERISTICS

More detailed economic characteristics information is located in the Socioeconomic Information Technical Support Data, as well as:
* *The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange (PEL, EDR 2000).*
* *Technical Support Data Index is located in Section XII (Appendix C).*

The economic characteristics for the study area and adjacent municipalities were evaluated by investigating trends regarding local and regional economy and employment forecasts. While investigating the economic characteristics, the municipalities directly affected by the project were evaluated. These are Bensalem, Bristol and Middletown Townships in Bucks County, Pennsylvania, and Burlington and Florence Townships in Burlington County, New Jersey. However, because the project involves improvement to two major highways that may affect a larger area, economic characteristics of the surrounding municipalities were also investigated. **Figure II-1** identifies the study area and the adjoining and potentially affected municipalities.

Also, an economic impact study was conducted by the Pennsylvania Economy League (PEL) and the Economic Development Research Group (EDRG) to determine adverse impacts and benefits the project would have on the local and regional economy. The detailed results are documented in *The Value of Connections. The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange* (PEL, EDRG, 2000).

Several key factors that tend to stimulate economic growth include adequate infrastructure, community services, and employment or business opportunities. Key factors that tend to stifle growth include traffic congestion, lack of business or employment opportunities, and environmental constraints. External influences from surrounding areas can be a major growth factor (Bucks County Planning Commission, 1993). Regarding Bucks and Burlington Counties, their proximity to Philadelphia and New York City are major contributors to economic growth in these two counties. Economic growth occurs at the local level due to the presence of a transportation network that connects employment centers to the surrounding residential areas. This transportation network includes Interstates 276, 95, and 476; US Routes 1 and 202; PA Routes 309, 313/663, and 611 in Bucks County; and the New Jersey Turnpike, I-295, and US 130 in Burlington County (**Figures I-1** and **I-2** in **Section I** and **Figures IV-1** and **IV-2**).

1. Local and Regional Economy

Beginning in 1995, the Commonwealth of Pennsylvania initiated a revitalization effort in Lower Bucks County to take advantage of its location, developed infrastructure, and work force. This effort and the area it encompassed were referred to as the Bucks County Enterprise Zone and were approved in a plan in 1997 by the Pennsylvania Department of Community and Economic Development. Portions of Bensalem Township, Bristol Township, Bristol Borough, Tullytown Borough, Falls Township, and Morrisville Borough make up the Enterprise Zone **(Figure IV-7)**. This designation is intended to bring new opportunities for economic development, encourage increased private sector investment with subsequent new job creation, and business expansion (Redevelopment Authority of the County of Bucks, 1999).

Existing businesses in, or those relocating to, the Enterprise Zone will be eligible for low-interest loans, state tax credits, and other financial and technical assistance. Infrastructure improvements will be treated as a priority by the state, and businesses can apply for state grants for business development programs and assistance (Redevelopment Authority of the County of Bucks, 1999).

Northern Burlington County, New Jersey, including portions of Burlington and Florence Townships, is located within the US 130/Delaware River Corridor. This consists of two sub-corridors: the US 130 Sub-Corridor and the Riverfront Sub-Corridor **(Figure IV-7)**. The US 130 Sub-Corridor is highway-oriented and serves as a pass-through corridor conveying motorists from one end of Burlington County to the other. The Riverfront Sub-Corridor is more locally oriented, with concentrations of commercial activity serving local populations of the riverfront communities. This Sub-Corridor is evolving from a heavy industry base toward light industrial and service-oriented businesses. Consequently, some older industrial facilities still lie dormant because they are not readily adaptive to reuse. Both Sub-Corridors have been in a recent decline, losing population and employment (Burlington County Board of Chosen Freeholders, et. al., 1998).

Manufacturing is the dominant industry in the Enterprise Zone and US 130/Delaware River Corridor. **Figure IV-7** identifies industrial parks located in and around the Enterprise Zone and the economic nodes associated with the US 130/Delaware River Corridor (Burlington County Board of Chosen Freeholders, et. al., 1996). The following subsections describe how the project would affect the local and regional economy of the study area municipalities.

a. Bensalem Township, Pennsylvania

Bensalem Township, in an effort to broaden and diversify its tax base, has been implementing strategies to make the township more attractive as a business location (PEL, EDRG, 2000). It is anticipated that a direct connection between I-276 and I-95 would increase the attractiveness of the area, especially the area surrounding Interchange 28 along I-276. With the proposed interchange, the number of vehicles using Interchange 28 and US 1 is expected to decrease. US 1 would also be widened in the vicinity of Interchange 28. Less traffic congestion in this area has the potential to make the planned mixed-use complex at the proposed Horizon Corporate Center **(Figure IV-7)** a centerpiece of a regional business center (PEL, EDRG, 2000).

Bensalem Township is looking forward to becoming a tourism destination. A Bucks County Tourism Center has been established along PA 132 (Street Road) adjacent to the Philadelphia Racetrack in Bensalem Township. The tourism center is expected to be a starting point for visitors to other Bucks County tourist destinations. These destinations include the proposed shrine to Saint Katharine Drexel (canonized on October 1, 2000) located on the grounds of the Sisters of the Blessed Sacrament, and a revitalized waterfront **(Figure IV-7)** (PEL, EDRG, 2000).

The former George Washington Motor Lodge property, northeast of Interchange 28 was purchased by Wawa with the intent of constructing a convenience store and gas station. As of the writing of this FEIS, the Wawa market and gas station has been approved by the Bensalem Township council. The former Eastern State School and Hospital site, northwest of Interchange 28, has been proposed as a new corporate center, the Horizon Corporate Center. A shopping plaza with Home Depot and Target anchor stores has been recently constructed north of Interchange 28, directly east of US 1, along Rockhill Drive. A Genuardi's Supermarket was recently completed in late 1999 and is located in the Bensalem Crossing Shopping Center, across from the Village Mart, on the corner of Bristol Road and PA 513 (Hulmeville Road).

b. Bristol Township, Pennsylvania

Bristol Township is focusing on utilizing the Bucks County Enterprise Zone designation as a tool to increase investment and interest in its existing industrial parks and properties. The proposed connection of I-95 and I-276 would provide new and improved access to the Bucks County Enterprise Zone via both PA 413 (New Rodgers Road) and US 13 (Bristol Pike). From the PA 413 exit ramp at I-95, there would be a number of improvements. First, traffic volumes would decrease through Interchange 29 of I-276. The improvement would be evident in the reduction of through traffic currently using PA 413 (New Rodgers Road) and US 13 (Bristol Pike) as a connection between I-276 and I-95. Removing unnecessary traffic from these local roads would increase the efficiency of the roadways for local business and residential traffic. While these improvements do not open up new land for development, it would open new possibilities for existing buildings or underutilized properties. Older warehouses and industrial facilities would have new potential for redevelopment as flex space, usable as either office or light industrial. Existing properties would have increased value, with increased demand for locations at the center of Bucks County's multi-modal transportation network (PEL, EDRG, 2000).

In Bristol Township, the Coca-Cola Company owns a 40.47 ha (100 ac) vacant property southeast of the Newportville/Ford Road intersection. This property, and a smaller parcel owned by the township, has been proposed to be developed into an industrial park, although no formal development plans have been submitted to date. This parcel is of great concern to Bristol Township because local officials have identified an insufficient number of employment facilities in the township, and there is little vacant land that is suitable for such development.

The area beneath the Delaware River Turnpike Bridge, between the rail lines and the Edgely neighborhood along Radcliffe Street, has been proposed as an industrial park by the Bucks County Redevelopment Authority. This area includes the active Kohler/Roburn plant and the abandoned Corel Steel plant property. As part of this proposed redevelopment project, Wilson Street was extended from south of the Kohler/Roburn plant to north of the Delaware River Turnpike Bridge.

c. Middletown Township, Pennsylvania

Middletown Township has the largest concentration of retail development and car dealerships in Bucks County. Middletown Township has benefited from the I-95 and Business Route 1 connection for years. However, new retail development in Middletown Township has faced competition from the US 1/Oxford Valley Road area in Falls Township, located approximately 1.2 km (2 mi) north of the I-276/I-95 study area. There are currently several retail vacancies now existing in the Middletown Township's major strip and shopping centers. With the I-276/I-95 Interchange Project, Business Route 1 would become the first northern exit (along existing I-95, future I-295) from the proposed new connection **(Figure IV-7)**. This is expected to increase the attractiveness of the Business Route 1 area. The project's economic study has predicted an increased office presence in the long term and more immediate opportunities in the potential hotel/retail developments (PEL, EDRG, 2000).

d. Burlington and Florence Townships, New Jersey

Burlington County has seen recent development occur as a result of the new connection of US 130 and the New Jersey Turnpike Extension **(Figure IV-7)**. Warehouse and distribution facilities have opened in the immediate area of this interchange. With the I-276/I-95 Interchange Project, there would be a new direct connection between Burlington County and I-95 that would make these types of facilities even more attractive (PEL, EDRG, 2000).

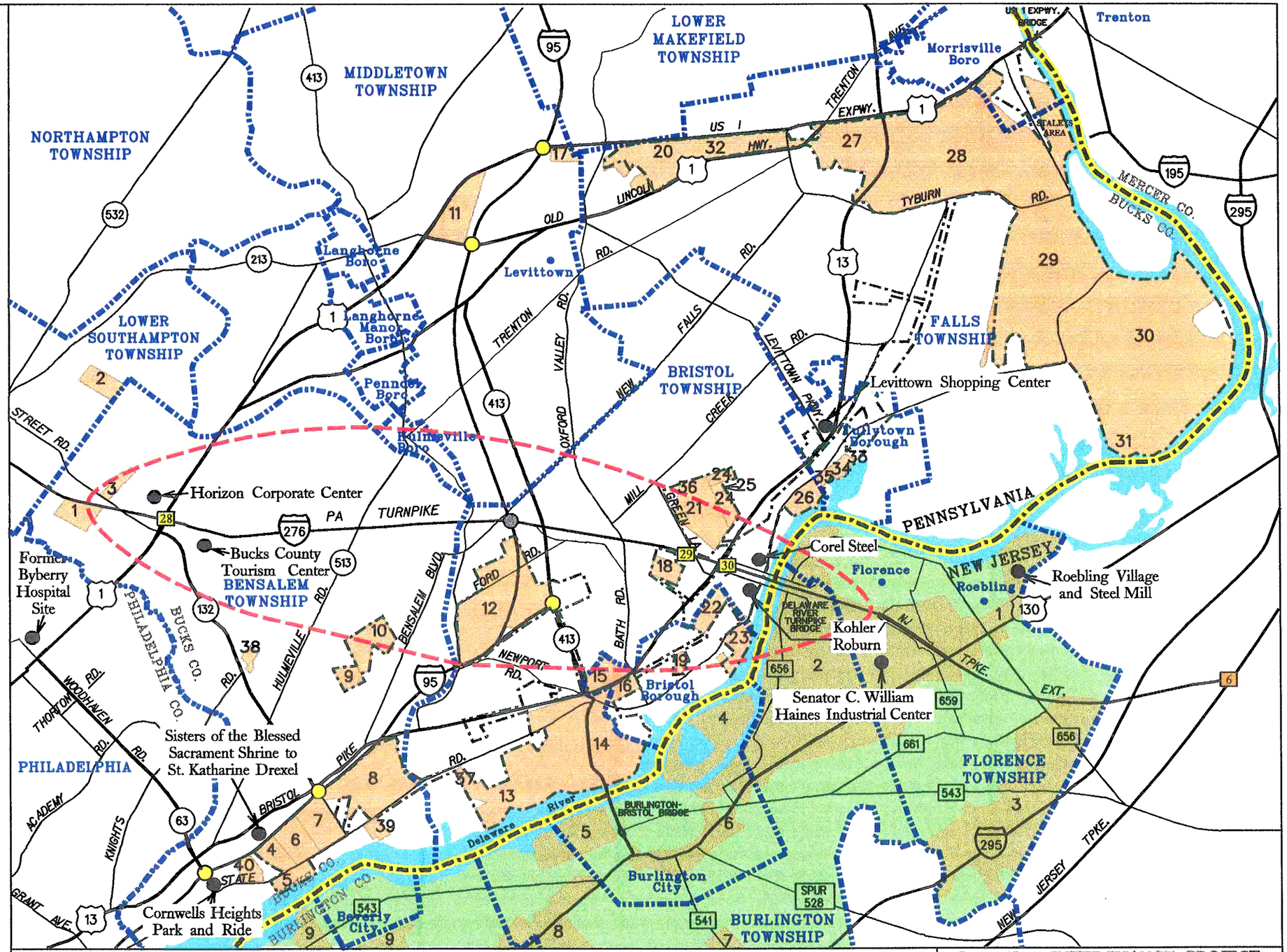
The Burlington-Florence segment of the US 130/Delaware River Corridor has developed into a major industrial employment center, home to a host of light industrial and distribution centers **(Figure IV-7)**. The long planned Senator C. William Haines Industrial Center (formerly known as the Food Distribution Center) has been built and is operational. Support industries and businesses (truck and trailer repair, office suppliers, delivery services, hotel/ conference center, etc.) and commercial establishments (convenience goods, restaurants and eateries, etc.) are integrated into the employment center, thus providing a diverse economic mix (Burlington County Board of Chosen Freeholders, et. al., 1998).

INDUSTRIAL PARKS

1. Metropolitan Industrial Park
2. Scottsville Industrial Park
3. Neshaminy Industrial Park
4. Liberty Bell Industrial Park
5. State Road Industrial Park
6. I–95 Industrial Park
7. Delaware Expressway Industrial Park
8. Expressway 95 Industrial Park
9. Cornwells Industrial Park
10. Bridgewater Industrial Park
11. Bucks County Business Park
12. Keystone Industrial Parks I,II,III
13. Riverview Industrial Park
14. Rohm and Haas Facilities
15. Bristol Commerce Park
16. Bath Industrial Park
17. Cabot and Forbes Industrial Park
18. Magnolia Industrial Park
19. Grundy Industrial Area
20. Bucks County Business Park
21. Bristol Industrial Park
22. Green Lane Industrial Park
23. Riverfront North Area
24. Edgely Industrial Park
25. Tremont Industrial Park
26. Riverside Industrial Complex
27. Falls Industrial Park
28. Penn Warner Industrial Park Area
29. USX Industrial Park
30. Fairless Works Area
31. Novalog Marine Terminal
32. Conrail Industrial Park
33. Arsenal Industrial Park
34. Jaycee Industrial Park
35. Simons Industrial Park
36. Bristol Industrial Park
37. Croydon Industrial Park
38. Knights Road Industrial Park
39. Chadwick/Dunks Ferry Industrial Park
40. Woodhaven Industrial Park

NJ ECONOMIC NODES

1. Commercial Services Redevelopment
2. Industrial Complex
3. Resource Recovery Research / Industrial Complex With Agricultural Buffer
4. Commercial/ Recreational/ Services Development
5. Industrial Complex
6. Linear Commercial/ Services Redevelopment
7. Commercial/ Industrial Complex
8. Linear Commercial/ Services / Industrial/ Residential Redevelopment
9. Industrial Complex



LEGEND

- County Boundary
- Municipality Boundary
- Study Area Boundary
- Proposed Direct Connection
- Enterprise Zone
- US 130 / Delaware River Corridor
- Industrial Park Area
- NJ Economic Node
- Existing I–276 Interchange
- Existing I–95 Interchange
- Existing NJTA Exit

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–7
ECONOMIC CENTERS

1 In = 1 Mi (1 : 63,360)

0Mi 1Mi 2Mi
0Km 0.6Km 1.2Km

Several thousand employees make daily commutes to and from the Senator C. William Haines Industrial Center via automobiles, commuter vans, buses, and light rail transit. Materials, goods, and products enter and exit the center by truck and rail. The recently completed New Jersey Turnpike Interchange at US 130, which provides intra- and interstate access, conveys vehicles into and out of the Center swiftly, efficiently, and safely (Burlington County Board of Chosen Freeholders, et. al., 1998).

Former industrial sites located in the Roebling area of Florence Township have been redeveloped into various adaptive uses **(Figure IV-7)**. Some of the older industrial sites have found new life as mixed residential/commercial developments. Others have been redeveloped as flexible incubator facilities for high-tech businesses and skilled craftsman and tradesman businesses. Entirely new industrial and commercial buildings have replaced deteriorated, obsolete structures (Burlington County Board of Chosen Freeholders, et. al., 1998).

New housing development has continued to grow in the areas outside of the employment center. The form and pattern of the new housing developments vary from suburban settings comprised of single-family dwellings on moderate sized lots to neo-traditional developments comprised of a mix of housing types and densities. Open space and parklands have been set aside to enhance recreational opportunities within this area (Burlington County Board of Chosen Freeholders, et. al., 1998).

e. Other Regional Area Opportunities

Through construction of the project and/or local planning initiatives, Lower Bucks County communities may expect the following development opportunities (PEL, EDRG, 2000):

- ✓ Access to improved Interchange 29 and reductions in growth of traffic on US 13 (Bristol Pike) are expected to increase the potential for the commercial redevelopment of the Levittown Shopping Center.
- ✓ Business growth in the Bucks County Enterprise Zone is expected to assist the continued redevelopment of the Bristol waterfront.
- ✓ The completion of an integrated transportation system and removal of through traffic from US 13 (Bristol Pike) is expected to result in improved competitiveness for the Novolog Delaware River Port operations, USX properties in Falls Township, Pennsylvania, as well as the rest of the Bucks County Enterprise Zone.

Through construction of the project and/or local planning initiatives, the City of Philadelphia may expect the following development opportunities (PEL, EDRG, 2000):

- ✓ Eliminating the interstate bypass of the Philadelphia region for the North-South travelers is expected to increase tourism potential, particularly for day visitors.
- ✓ Improved access to the New Jersey and western suburb markets via interstate connections for the I-95/ Woodhaven Road exit area is expected to help both the retail and office/industrial complexes in that area.
- ✓ The redevelopment of the Roosevelt Boulevard corridor (US 1), and the future of the Byberry Hospital site will be enhanced by the significant speed improvement on US 1 from Woodhaven Road to I-276 (20% ± improvement in average level speed).
- ✓ The new interchange would present an opportunity to utilize the new Cornwells Heights Park and Ride Lot on I-95, east of Woodhaven Road. With AMTRAK's new Acela high-speed train scheduled for their Northeast Corridor operations in 2001, this lot, opened in 1998, could serve as an important suburban Philadelphia stop, in addition to its current use for SEPTA commuter rail. The I-276/I-95 Interchange Project will allow potential users from the northern and western Philadelphia suburbs more direct access to this station.

The Newtown/Yardley/Lower Makefield area, north of the I-276/I-95 study area, is expected to continue to have office and research growth with the following development opportunities (PEL, EDRG, 2000):

- ✓ The new interchange would provide a direct, toll-free connection to the Central New Jersey markets via I-276.
- ✓ The new interchange would provide an alternative to the US 1 Expressway as a means for accessing I-276.
- ✓ The new interchange is expected to provide access to a broader pool of employees.
- ✓ The growth of the real estate market is expected to be important to future development throughout Lower Bucks County.

2. Employment Opportunities

In the years since the 1990 census, employment in the Delaware Valley Region grew roughly 2.2 percent from 2.69 to 2.75 million jobs (DVRPC, 1998). The *1997 County and Municipal Population, Households and Employment Estimates* (DVRPC, 1998) concluded that the study area townships experienced positive economic growth between the years 1990 and 1997. Bensalem, Bristol, and Middletown Townships in Pennsylvania experienced growth of 7.0 percent, 0.2 percent and 21.3 percent, respectively. Burlington and Florence Townships in New Jersey experienced growth of 23.6 percent and 6.5 percent, respectively (DVRPC, 1998).

The *1990 Employment Centers in the Delaware Valley* (DVRPC, 1994) identified 124 important employment centers in the nine-county region. Such "employment centers" are defined by DVRPC as concentrated areas of non-residential developed land combined with employment densities greater that 0.5 employees per acre. Portions of the study area in lower Bucks County contain a number of employment centers due to their proximity to the City of Philadelphia and to I-276 and I-95. Within Burlington County, New Jersey, the majority of employment centers are located between the Delaware River and the New Jersey Turnpike, close to the City of Philadelphia. Those centers located in Bucks County and Burlington County in the vicinity of the study area include: Lower Southampton-Bensalem, I-95-Franklin Mills, Bristol, Route 1 Business, Falls, Route 13-Bristol-Tullytown, New Falls Road-Oxford Valley Road, US 206-US 130-Bordentown and US 130-Edgewater Park-Florence (Riverfront) (DVRPC, 1994).

Currently, some of the largest employers in Lower Bucks County include: Charming Shoppes Inc., Rohm and Haas Co., US Steel Fairless Works, Waste Management Inc., Bailey-Fischer & Porter Co., and PECO Energy Co. (*Philadelphia Business Journal*, February 25, 1998). In Burlington County, the largest employers include Viking Yacht Company Corp., CVS/Mark Steven Merchandiser, Computer Sciences Corp., Lockheed Martin, and Okidata (*Industrial Directory*, Burlington County Department of Economic Development, 1998). Each of these companies, for both Lower Bucks County and Burlington County, has over 500 employees.

For year 2025 county employment forecasts, a shift-share analysis was conducted by DVRPC. This analysis examined the county's historical share of the region's employment and the trends that may shift that share either up or down. Factors that influenced the analysis included land and infrastructure availability, transportation access, and market trends. The forecast indicates that employment growth in Bucks and Burlington Counties is expected to continue into the year 2025 (**Table IV-10** to **Table IV-12**).

Of the 12 municipalities within and adjacent to the study area in Pennsylvania and New Jersey, ten have projected employment increases through the year 2025 (**Table IV-10**). Only two municipalities are not expected to experience an increase in employment by year 2025. Burlington City's employment may decrease by 18.3 percent and Langhorne Borough is expected to remain the same. Overall, both Bucks and Burlington Counties are expected to experience increased employment. DVRPC's *Year 2020 County and Municipal Interim Population and Employment Forecasts* (DVRPC, 1993) included both Middletown and Bensalem Townships in the 25 fastest growing municipalities in the DVRPC Region with regard to employment.

The employment forecasts by employment sector for both Bucks and Burlington Counties (**Tables IV-11** and **IV-12**) project an overall increase in percent of total employment for the period 2000 to 2025, except for the categories of manufacturing and federal civilian & military.

Under the Build Alternative, it is estimated that the additional office attraction to Bucks County could create an additional 100 jobs in Year 2010 to over 1,800 more jobs in Year 2025. Locally, new office-based employment could be located in Bensalem, Bristol, and Middletown Townships to provide local residences with office-based employment opportunities close to their homes (PEL, EDRG, 2000).

Construction spending for the I-276/I-95 Interchange Project would provide regional jobs through the hiring of highway related workers to plan, design, and construct the highway facilities. The construction spending for the project also includes the purchase of necessary materials and products, such as concrete, structural steel, and electrical equipment that can typically be obtained through local suppliers. Based on purchasing averages for typical construction projects completed in the nine county region, PEL, EDRG calculated that nearly $466 million would be spent in the nine county DVRPC region (PEL, EDRG, 2000).

TABLE IV-10
EMPLOYMENT FORECAST SUMMARY

Municipality	1990 Census	*1997 Estimate	2000 Census	*2010 Forecast	*2020 Forecast	*2025 Forecast	*Percent Change 2000-2025
Pennsylvania							
Bucks County	**245,360**	**264,010**	**308,982**	**296,610**	**323,470**	**338,310**	24.4%
Bensalem Township	33,390	35,720	31,301	38,040	41,370	42,840	17.0%
Bristol Borough	8,290	7,950	4,671	7,810	7,760	7,900	1.5%
Bristol Township	20,630	20,680	27,744	20,770	21,870	22,620	8.9%
Hulmeville Borough	120	160	472	170	150	180	12.5%
Langhorne Borough	920	920	754	920	930	930	0.0%
Langhorne Manor Borough	1,380	1,400	517	1,900	1,860	2,150	41.4%
Middletown Township	19,480	23,630	22,701	32,110	34,230	35,400	39.3%
Penndel Borough	1,040	1,040	1,242	1,040	1,120	1,260	24.8%
Tullytown Borough	1,910	2,400	1,043	2,830	3,150	3,300	31.0%
New Jersey							
Burlington County	**191,345**	**201,144**	**211,409**	**226,350**	**240,400**	**250,550**	**21.0%**
Burlington City	5,648	5,678	4,749	5,700	5,200	4,700	-18.3%
Burlington Township	10,147	10,302	10,336	11,150	12,000	12,450	18.6%
Florence Township	3,649	3,860	5,430	4,350	4,300	4,300	4.9%

Source: *Year 2025 County & Municipal Population & Employment Forecasts* (DVRPC, 2000)
* Based on the DVRPC 1997 Estimate

TABLE IV-11
BUCKS COUNTY, PENNSYLVANIA EMPLOYMENT FORECASTS

Employment Category	Bucks County, Pennsylvania					
	1990 Census	2000 Census	*2010 Forecast	*2020 Forecast	*2025 Forecast	*Percent Change 2000-2025
Total Employment	245,360	**308,982**	296,650	323,440	338,360	24.4%
Agriculture and Mining	5,640	1,465	5,910	6,310	6,540	14.5%
Construction	19,380	22,150	13,660	14,210	14,620	3.1%
Manufacturing	42,690	47,835	38,860	39,390	39,790	-0.3%
Transportation and Utilities	7,120	12,064	8,830	9,470	9,810	18.3%
Wholesale	13,740	14,145	20,040	23,230	24,930	45.4%
Retail	47,600	41,045	54,720	55,700	56,070	5.2%
Finance, insurance, real estate	14,720	25,983	19,260	22,160	23,630	46.9%
Services	72,140	133,279	110,340	126,770	136,150	46.5%
Federal civilian & military	6,380	701	4,520	4,570	4,610	-0.6%
State & local government	15,950	10,315	20,510	21,630	22,210	12.5%

Sources: *Year 2025 County & Municipal Population & Employment Forecasts* (DVRPC, 2000)
*Based on 1990 Census

TABLE IV-12
BURLINGTON COUNTY, NEW JERSEY EMPLOYMENT FORECASTS

Employment Category	Burlington County, New Jersey					
	1990 Census	2000 Census	*2010 Forecast	*2020 Forecast	*2025 Forecast	*Percent Change 2000-2025
Total Employment	191,345	**211,409**	226,350	240,400	250,550	21.0%
Agriculture and Mining	3,060	847	4,920	5,020	5,090	4.9%
Construction	11,480	11,598	10,500	11,170	11,660	15.9%
Manufacturing	23,150	22,558	19,200	18,970	18,920	-6.3%
Transportation and Utilities	8,040	11,507	11,940	13,340	14,200	40.6%
Wholesale	11,290	9,161	15,320	16,920	17,930	34.6%
Retail	31,960	24,672	28,600	39,220	39,880	7.8%
Finance, insurance, real estate	15,500	17,230	20,270	23,100	24,800	51.7%
Services	48,745	92,823	71,260	77,620	82,600	33.7%
Federal civilian & military	18,940	5,523	12,190	12,060	11,990	-3.7%
State & local government	18,180	15,490	22,150	22,980	23,480	12.1%

Sources: *Year 2025 County & Municipal Population & Employment Forecasts* (DVRPC, 2000)
* Based on 1990 Census

Construction spending, which includes Final Design, ROW acquisitions, and utility relocations, is spread out over an assumed 15-year period between 2000 and 2015, would support an average of over 500 regional jobs with over 800 jobs occurring in the peak year of construction. In Bucks County, the project would support over 500 jobs in the peak year and an average of 300 jobs for the entire project period (PEL, EDRG, 2000).

About one third of the Bucks County jobs related to the time period when construction is taking place, are likely to be located in Middletown, Bristol, and Bensalem Townships, based upon historic shares of employment (**Table IV-13**). This is likely a conservative estimate, given that proximity to the project might dictate an increased likelihood of firm location in the project area (PEL, EDRG, 2000).

TABLE IV-13
ESTIMATED EMPLOYMENT SUPPORTED BY CONSTRUCTION SPENDING, LOWER BUCKS COUNTY TOWNSHIPS

Township	Peak Year Employment	Average Employment (2000-2015)
Bensalem Township	68	38
Bristol Township	39	22
Middletown Township	44	26
Total	**152**	**86**

Source: PEL, EDRG, 2000

Travel cost savings associated from the connection of I-276 and I-95 include reduced travel distances, reduced travel time, and reduced accident rates as a result of reduced travel times. Such cost savings allow for reinvestment or continued development of the region (**Table IV-14**). Regional employment could increase by almost 1,200 new jobs, with service sector (46 percent) and the retail trade sector (17 percent) leading the way. Locally, Bucks County is expected to gain 178 jobs, with Burlington County adding 218, and Philadelphia gaining 315. Bensalem, Bristol, and Middletown Townships would together add over 50 jobs (PEL, EDRG, 2000).

TABLE IV-14
2025 SYSTEMWIDE MILEAGE & TRAVEL TIME CHANGES COMPARISON OF BUILD AND NO-BUILD SCENARIOS

	Vehicle Miles Traveled	Vehicle Hours Traveled
No-Build	122,436,254	4,273,722
Build	122,269,651	4,263,654
Savings	**166,603**	**10,068**

Source: PEL, EDRG, 2000

3. Business and Facility Impacts and Mitigation

The proposed I-276/I-95 interchange, the I-276 widening, and the additional Delaware River Turnpike Bridge would displace several existing commercial businesses. (A discussion of residential relocations is in **Section IV-B.3**.)

a. Business Impacts and Mitigation

The No-Build Alternative would not require the relocation of any commercial properties or facilities. The commercial properties that may be relocated are listed below according to Build Alternative and municipality.

(1) Toll Plaza Element (Figure IV-6A, Plate 2)

Split Plaza East (three displaced commercial properties)
- ✓ Bill Salmon's Auto Body, Bensalem Township
- ✓ William R. Salmon Jr. Attorney at Law, Bensalem Township
- ✓ Flea Market, Bensalem Township

(The William R. Salmon Jr. Attorney at Law and the Flea Market are located in the same building, as well as, on the same tax parcel, as a residential displacement.)

Modified Plaza West (no displaced commercial properties)

(2) Interchange Element (Figure IV-6B, Plate 2)

Flyover A (11 displaced commercial properties)
- ✓ Summit Auto Center Inc., Bristol Township
- ✓ Summit Auto Sales Center, Bristol Township
- ✓ Bush Commercial Trucking, Bristol Township
- ✓ Worthington's Tree Service, Bristol Township
- ✓ La Casa Mia Family Restaurant, Bristol Township
- ✓ Take Out Cold Beer and Pizza, Bristol Township
- ✓ Brenda's Hair Shack, Bristol Township
- ✓ C&C Berk Insurance, Bristol Township
- ✓ Former Acme Building (currently CVS Pharmacy), Bristol Township (displaced due to the proposed park and ride)
- ✓ Szafranski General Contractor, Bristol Township
- ✓ Szafranski Abrasive Wheel Manufacturing, Bristol Township

Single Loop A (ten displaced commercial properties)
- ✓ Summit Auto Center Inc., Bristol Township
- ✓ Summit Auto Sales Center, Bristol Township
- ✓ Worthington's Tree Service, Bristol Township
- ✓ La Casa Mia Family Restaurant, Bristol Township
- ✓ Take Out Cold Beer and Pizza, Bristol Township
- ✓ Brenda's Hair Shack, Bristol Township
- ✓ C&C Berk Insurance, Bristol Township

- ✓ Former Acme Building (currently CVS Pharmacy), Bristol Township (displaced due to the proposed park and ride)
- ✓ Szafranski General Contractor, Bristol Township
- ✓ Szafranski Abrasive Wheel Manufacturing, Bristol Township

(La Casa Mia Family Restaurant, Take Out Cold Beer and Pizza, Brenda'a Hair Shack, and C&C Berk Insurance are located within a strip plaza located on PA 413 (New Rodgers Road) in Bristol Township and shown on **Figure IV-6B, Plate 2**. Also, there would be one additional commercial displacement due to the construction of the park and ride/pool facilities as identified and evaluated in **Section IV-A.5**, the former Acme building (currently CVS Pharmacy). This displacement has been incorporated into the Interchange Element Alternative impacts in the overall impact summary tables.)

(3) Bridge Element (Figure IV-6C Plate 2)

Bridge North (two displaced commercial properties)
- ✓ Bruce's Auto Services, Bristol Township
- ✓ WindoWizards, Bristol Township

Bridge South (two commercial properties)
- ✓ Bruce's Auto Services, Bristol Township
- ✓ North East Trailer Services, Burlington Township

Depending upon the combination of alternatives from each project element, the potential commercial displacements range from 12 to 16. There would be some job loss and tax base impacts (described in **Section IV-C.4**). The loss of employment would not adversely affect the overall employment in the study area. Furthermore, the influx of new jobs due to the proposed interchange would counteract many negative impacts, which would result from the commercial displacements. These employment opportunities are expected due to the easier access to the study area via highways (PEL, EDRG, 2000). Other opportunities for economic growth are discussed in **Section IV-U**.

Commercial businesses requiring relocation would be compensated for affected lands and buildings in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended. It is the responsibility of the individual owners to select new properties for their businesses. Monetary compensation in accordance with these regulations would also be provided to commercial property owners and tenants for moving expenses should their property be acquired for the project.

Displaced business owners who are the tenants of the property owner of the acquired real property, such as the businesses in the strip plaza in Bristol Township, would receive relocation payments and fair market value payments for any tenant–owned improvements on the property.

b. Facility Impacts and Mitigation

As discussed in **Section IV-B.5**, two churches may potentially be displaced as a result of project construction. The First Baptist Church of Bristol is located on New Rodgers Road, just north of where New Rodgers Road passes under I-276. This facility offers church services and organizes bible studies. The building is a brick and cinderblock structure. The parking lot can accommodate approximately 85 vehicles. This property would be displaced due to the construction of either of the two Interchange Alternatives **(Figure IV-6B, Plate 2)**.

A Time of Refreshing Ministry is located on Green Lane, adjacent to the ramps for Interchange 29. The Church leases the property and services began in Spring 2001. Church services, Sunday school, bible study sessions are offered. The existing number of parking spaces is approximately 15, and an additional 13 spaces are to be added. This facility would be displaced due to the construction of either of the two Bridge Alternatives (**Figure IV-6C, Plate 2**).

The First Baptist Church of Bristol and A Time of Refreshing Ministry would receive monetary compensation in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, for acquisition of the building and property.

4. Tax Base Impacts

County governments assign a value, referred to as the "assessed value", to the properties in their jurisdiction. Based on this assessed value, the tax for each property is calculated. The proposed displacements of local businesses and residences may result in a loss of the assessed value for the affected municipalities. The No-Build Alternative would not directly impact the tax base of Bucks County, Pennsylvania; Burlington County, New Jersey; nor the study area municipalities and school districts. **Table IV-15** provides a summary of the estimated changes in the assessed value to study area municipalities and school districts as a result of the commercial and residential displacements required for each alternative.

It is anticipated that this small loss of assessed value (less than 1 percent per alternative and municipality) would not substantially alter the tax base of this area. Adverse effects would be offset by the investment in existing properties and new development associated with access improvements brought by the construction of the interchange. For instance, as previously mentioned, the I-276/I-95 point-of-crossing area has been identified as a growth center. The project would support conditions necessary for future business growth in the corridor (additional information regarding future growth can be found in **Sections IV-C.1** and **IV-U**). Furthermore, displaced businesses may choose to relocate to nearby areas within the affected townships, thereby minimizing the short-term/long-term loss of assessed value.

5. Mitigation

Property acquisitions would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended (42 USC 4601), the Pennsylvania Eminent Domain Code Act of 1964, as amended, and Title VI of the Civil Rights Act of 1964. These procedures are fully documented in the PTC pamphlet entitled *Turnpike Procedure for Property Acquisition* (PTC, 1993) and *Relocation Assistance Bulletin No. 47* (PTC, undated). The PTC policies covering relocation, including services and payments, require that no persons lawfully occupying real property shall be required to move from his/her dwelling or to move his/her business, farm operation, or nonprofit organization without written notice of at least 90 days prior to the date such moves is required. Additional discussions of residential relocations, mitigation measures, and available replacement housing are located in **Section IV-B.3**.

TABLE IV-15
LOSS OF ASSESSED VALUE

Municipality or School District	Total Assessed Value (1999)	Estimated 1999 Assessed Value of Displacements for Right of Way	Percentage of Total 1999 Assessed Value Lost	Estimated 1999 Assessed Value of Displacements for Right of Way	Percentage of Total 1999 Assessed Value Lost
		SPLIT PLAZA EAST		MODIFIED PLAZA WEST	
Bucks County	$1,771,896,388	$23,900	0.0013%	$10,000	0.0006%
Bensalem Township	$140,484,280	$23,900	0.0170%	$10,000	0.0071%
Bensalem Township School District	$140,484,280	$23,900	0.0170%	$10,000	0.0071%
		FLYOVER A		SINGLE LOOP A	
Bucks County	$1,771,896,388	$198,940	0.0112%	$145,470	0.0082%
Bensalem Township	$140,484,280	$0	0.0000%	$0	0.0000%
Bensalem Township School District	$140,484,280	$0	0.0000%	$0	0.0000%
Bristol Township	$102,483,500	$179,620	0.1753%	$142,550	0.1391%
Bristol Township School District	$102,483,500	$179,620	0.1753%	$142,550	0.1391%
Middletown Township	$123,970,025	$19,320	0.0156%	$2,920	0.0024%
Neshaminy School District	$187,071,270	$19,320	0.0103%	$2,920	0.0016%
		BRIDGE NORTH		BRIDGE SOUTH	
Bucks County	$1,771,896,388	$140,400	0.0079%	$27,900	0.0016%
Bristol Township	$102,483,500	$140,400	0.1370%	$27,900	0.0272%
Bristol Township School District	$102,483,500	$140,400	0.1370%	$27,900	0.0272%
Burlington County	$22,033,182,622	$0	0.0000%	$230,000	0.0010%
Burlington Township	$1,717,947,864	$0	0.0000%	$230,000	0.0134%
Burlington Township School District	$1,717,947,864	$0	0.0000%	$230,000	0.0134%
Florence Township	$486,552,956	$0	0.0000%	$0	0.0000%
Florence Township School District	$486,552,956	$0	0.0000%	$0	0.0000%

Note: The identified alternative impacts incorporate the associated side road/bridge improvements, stormwater management facilities, and construction of the park and ride/pool sites. The No-Build Alternative associated with each element does not impact the identified resource.
Sources: Bucks County Tax Assessment Board (December 2002), Burlington Township Assessor's Office (December 2002), Burlington County Board of Taxation (January 2003)

D. CULTURAL RESOURCES

More detailed cultural resources information is located in the Cultural Resources Technical Support Data, and:

- *Archaeological Survey, Phase I Management Summary, Phase II Work Plan, 1997.*
- *Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the Pennsylvania Turnpike/Interstate 95 Interchange Project Reports, 1998 and 1999.*
- *Revised Draft I-276/I-95 Interchange Project Assessment of Effects on Historic Architectural Resources Report, 2003.*
- *Technical Support Data Index is located in Section XII (Appendix C).*

Cultural resources investigations were conducted in accordance with Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended; the Federal Highway Aid Act of 1966, as amended; the National Environmental Policy Act of 1969; the implementing regulations of the Advisory Council on Historic Preservation 36 CFR Part 800- *Procedures for the Protection of Historic Properties* and 36 CFR Parts 60 and 63- *National Register of Historic Places*; and Pennsylvania and New Jersey State Acts. Coordination is ongoing with the Pennsylvania State Historic Preservation Office (PASHPO) and the New Jersey State Historic Preservation Office (NJSHPO).

The Section 106 Regulations (36 CFR Part 800 *Procedures for the Protection of Historic Properties*) were revised during the National Register of Historic Places (NRHP) eligibility phase of the I-276/I-95 Interchange Project. The identification and evaluation of historic architectural resources were nearly complete when the revised regulations were adopted on June 17, 1999; thus, that phase of the project will remain as completed under the previous version of the regulations. The assessment of effects phase for historic architectural resources started after June 17, 1999, and has been conducted according to the revised regulations as a result of the following process.

In April 2000, the PTC, on behalf of FHWA, contacted property owners, historic conservation organizations, historical commissions, government agencies, and planning commissions/boards who had demonstrated an interest in the I-276/I-95 Interchange Project and its potential to affect historic resources. The PTC offered the opportunity for these individuals and groups to participate as consulting parties regarding historic resources pursuant to the revised regulations effective June 17, 1999 implementing Section 106 of the National Historic Preservation Act.

In addition to the historic resource property owners, the following organizations have been included as Section 106 Consulting Parties for the I-276/I-95 Interchange Project:

- ✓ Lower Bucks County Canal Conservation Committee
- ✓ Heritage Conservancy
- ✓ Friends of the Delaware Canal
- ✓ Delaware and Lehigh National Heritage Corridor
- ✓ Bucks County Historical Society
- ✓ Rails to Trail Conservancy
- ✓ East Coast Greenway Alliance
- ✓ Delaware Riverkeeper Network
- ✓ Delaware River Greenway Partnership
- ✓ F.D. Roosevelt Middle School
- ✓ Pennsylvania Historical and Museum Commission
- ✓ Historical Architectural Review Boards for Hulmeville and Langhorne Boroughs
- ✓ Bensalem Township
- ✓ Bensalem Township Planning Commission
- ✓ Bristol Township
- ✓ Bristol Township Planning Commission
- ✓ Bristol Borough
- ✓ Middletown Township
- ✓ Middletown Township Planning Commission
- ✓ Tullytown Borough
- ✓ Tullytown Borough Planning Commission
- ✓ National Park Service
- ✓ Delaware Canal State Park
- ✓ Bucks County Planning Commission
- ✓ New Jersey Department of Environmental Protection – Division of Parks and Forestry – Historic Preservation Office.

Federally recognized Native American Tribes were also contacted as part of the Section 106 process. The tribes were given the opportunity to comment on both the DEIS and FEIS archaeological resource investigation reports. The tribes were also given the opportunity to review and become a signatory of the Draft Programmatic Agreement. The consulting parties were also given the opportunity to review and comment on the Draft Programmatic Agreement prepared for this project (**Section IV-D.2** and **IV-D.3**).

1. Historic Architectural Resources

Background research was conducted to gain an understanding of the area's historical and architectural development and to identify previously prepared cultural resource studies; NRHP eligibility evaluations or listings; and Historic American Buildings Survey and Historic American Engineering Record documentation. This research identified two previously documented resources within the study area: the Pennsylvania Division of the Delaware Canal (a National Historic Landmark) and the Pennsylvania Railroad between Philadelphia and New York (**Table IV-16**). Both resources are located in the Bridge Element of the I-276/I-95 Interchange Project. These resources are mapped and described on **Figure IV-8A** through **IV-8C, Plate 2**.

In 1935 the US Congress charged the National Park Service with the responsibility for designating and promoting the preservation of nationally significant historic sites, buildings, and objects. The National Historic Landmark program was established to identify and protect such places, which included the Pennsylvania Division of the Delaware Canal. The National Historic Landmark designation is an official recognition by the Federal government of a historic property's national significance. They are places where significant historic events occurred that represent those ideas that shaped the nation, provide important information about the past, or are outstanding examples of design or construction.

The documentation of historic architectural resources was divided into five study areas of potential effects (APE) within which the project may directly or indirectly cause changes in the character or use of historic properties. These APEs are identified and briefly described on **Figure IV-8**. For the five APEs, more than 160 architectural resources that are 50 years of age or older were identified. Through coordination with the SHPO, eight of these sites meet NRHP eligibility criteria. These eight historic architectural resources, combined with the two resources mentioned above (Delaware Canal and Pennsylvania Railroad) total ten historic resources identified in the APEs that meet NRHP eligibility criteria (**Table IV-16**). The resources are mapped and described in detail on **Figures IV-8A, Plate 1** through **IV-8C, Plate 2**. However, four resources, the Daniel Larue, Jr. House, the Middletown Crossroads Hotel, the Old Stone Tavern/Bloomsdale Ferry House, and Shady Side, are outside the current project study area and/or project mapping and, therefore, are not shown. The locations of these four resources, with respect to the project elements, are shown on **Figure IV-8**. In 2002, the Keeper of the NRHP determined the portion of Delaware Canal located within the PTC right-of-way beneath the existing Delaware River Turnpike Bridge no longer contributes to the historical importance of the Delaware Canal. This determination was based on a site visit as well as photographs and construction drawings documenting the destruction of this portion of the canal prism during turnpike construction in 1954.

The results of these studies, including detailed information regarding APE size, location, methodology, etc., are contained in the Determination of Eligibility reports that are located in the Technical Support Data.

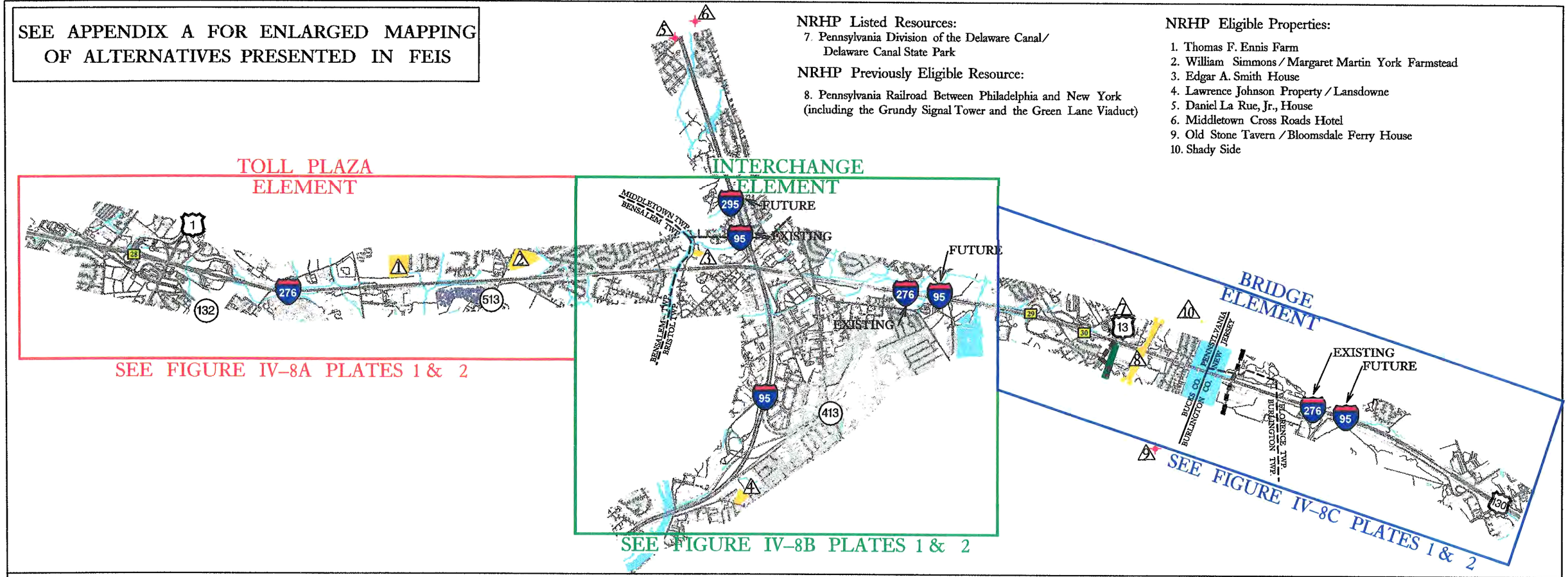
2. Archaeological Resources

Phase I Archaeological surveys conducted in Pennsylvania included the area along I-276 from Interchange 28 to the west bank of the Delaware River, and along I-95 from the east bank of Neshaminy Creek to the US 1 overpass. Additional field investigations were performed in a section west of Interchange 28 that determined Phase I surveys would not be required, as the PASHPO concurred in a letter dated April 20, 1999. In New Jersey, the survey area consisted of a 3.2 km (2 mi) section of the New Jersey Turnpike Extension located between the Delaware River and US 130.

Background information for potential archaeological sites within the study area was developed using construction plans of I-276, aerial photography, county soil surveys and historic structures inventory documents. Phase I investigations, which included the excavation of a series of shovel test pits and geomorphological investigations, were conducted in areas exhibiting a minimal level of disturbance.

Phase I investigations in the Pennsylvania portion of the study area encountered eleven archaeological sites. These sites are not mapped as a precaution to protect the potential resource locations. Four of the sites are prehistoric sites on the floodplain of Mill Creek; two are historic sites associated with standing historic structures; and five are concentrations of historic artifacts that appear to mark locations where historic structures once stood. Each identified site would require additional testing to assess NRHP eligibility if the site is located within the selected alternative alignment. More detailed information can be found in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Archaeological Survey, Phase I Management Summary, Phase II Work Plan* (PTC, 1997), located in the Technical Support Data.

SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS



HISTORIC ARCHITECTURAL RESOURCES STUDY AREA DESCRIPTIONS

The documentation of historic architectural resources was divided into five study areas of potential effects (APE) within which the I-276/I-95 Interchange Project may directly or indirectly cause changes in the character or use of historic properties. These areas are: (1) The 305 m (1,000 ft) wide corridor in Pennsylvania; (2) the 305 m (1,000 ft) wide corridor in New Jersey; (3) the Delaware River Crossing Area in Pennsylvania; (4) the Delaware River Crossing Area in New Jersey; and, (5) the West Extension of the 305 m (1,000 ft) wide corridor in Pennsylvania.

(1) Pennsylvania Study Area

The boundary of this study area is a 305 m (1,000 ft) wide corridor centered on I-276 and I-95, with an additional 61 m (200 ft) extension at point-of-crossing of I-276 and I-95. This study area extends along I-276 from the Interchange 28 vicinity in the west to the Pennsylvania/New Jersey border in the east, and along I-95 from the eastern bank of the Neshaminy Creek in the south to approximately 1,860 m (1.16 mi) north of the I-276/I-95 point of crossing. This area is located in Bucks County and includes portions of Bensalem, Bristol, and Middletown Townships. As documented in the report entitled *Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Bensalem, Bristol, and Middletown Townships, Bucks County, Pennsylvania* (January, 1998), 66 potential architectural resources are located within the Pennsylvania study area. Six of these resources **(Resources 1-6, Figures IV-8A and IV-8B)** meet NRHP eligibility criteria in addition to one NRHP listed resource **(Resource 7, Figure IV-8C)** and one previously determined eligible resource **(Resource 8, Figure IV-8C)**.

(2) New Jersey Study Area

In New Jersey the 305 m (1,000 ft) wide corridor extends along the Turnpike from the Pennsylvania/New Jersey border east to US Route 130. This study area is located in Burlington County and includes portions of Burlington, Florence, and Mansfield Townships. As documented in the report entitled *Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Burlington, Florence, Mansfield Townships, Burlington County, New Jersey* (July 1999), three potential historical architectural resources are located in the New Jersey study area, one of which (Hunt Brothers Circus Winter Headquarters) met NRHP eligibility criteria. However, this resource was demolished in late 1999 by private interests.

(3) Delaware River Crossing Area in Pennsylvania

This study area is defined as an irregularly shaped viewshed bounded by the Delaware River in the east and US 13 in the west. The boundaries are defined by proximity to the Delaware River Turnpike Bridge, as well as by mature trees and buildings that restrict views of the bridge. The east boundary extends along the riverfront approximately 853 m (2,800 ft) north of I-276. It extends approximately 1,067 m (3,500 ft) south along the riverfront from the Delaware River Turnpike Bridge to the south boundary of Bristol Township. The inland boundaries of the study area include three areas (north half, south half, and middle portion) not graphically depicted above but are defined in the *Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Addendum PA-2, Delaware River Crossing and West Extension Vicinity, Bristol Township, Bucks County, Pennsylvania* (July, 1999). The west portion follows the sight lines along US 13 and extends south to the bridge carrying the I-276 ramps. This area is located in Bristol Township, Bucks County, Pennsylvania. A total of 66 architectural resources 50 years or older were evaluated in the Delaware River Crossing Area in Pennsylvania. Of these, two resources **(Resources 9 and 10, Figure IV-8C)** meet eligibility criteria

(4) Delaware River Crossing Area in New Jersey

The Delaware River Crossing area in New Jersey is defined as extending approximately 1,372 m (4,500 ft) southwest and 1,097 m (3,600 ft) northeast of the existing Turnpike's ROW. The study area includes properties fronting these roadways and extends to curves in the roads that restrict sight lines into the project area. The Delaware River forms the north/northwest border of the study area. The north/northeast border of the study area is defined by the mature trees and buildings that restrict views into the project area. The south border of the study area is defined by a bend along the river that restricts sight lines into the project area. This area is located in Florence and Burlington Townships, Burlington County, New Jersey. As documented in *Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Addendum NJ-1. Delaware River Crossing Vicinity, Florence and Burlington Townships, New Jersey* (June, 1999), 27 architectural resources that are 50 years of age or older are located within the New Jersey Delaware River Crossing study area. None of these resources meet NRHP eligibility criteria.

(5) West Extension

The West Extension study area is defined as extending approximately 838 m (2,750 ft) beyond the west end of the initial study area, or 305 m (1,000 ft) west of the railroad tracks beyond Interchange 28. Since the proposed work in this area is similar to that in the 305 m (1,000 ft) wide corridor study area, the same north and south boundaries, located 152 m (500 ft) on either side of I-276, were applied. This area is located in Bensalem, Bucks County, Pennsylvania. As documented in the *Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Addendum PA-2, Delaware River Crossing and West Extension Vicinity, Bristol Township, Bucks County, Pennsylvania* (July, 1999), no historic architectural resources were identified in the West Extension study area.

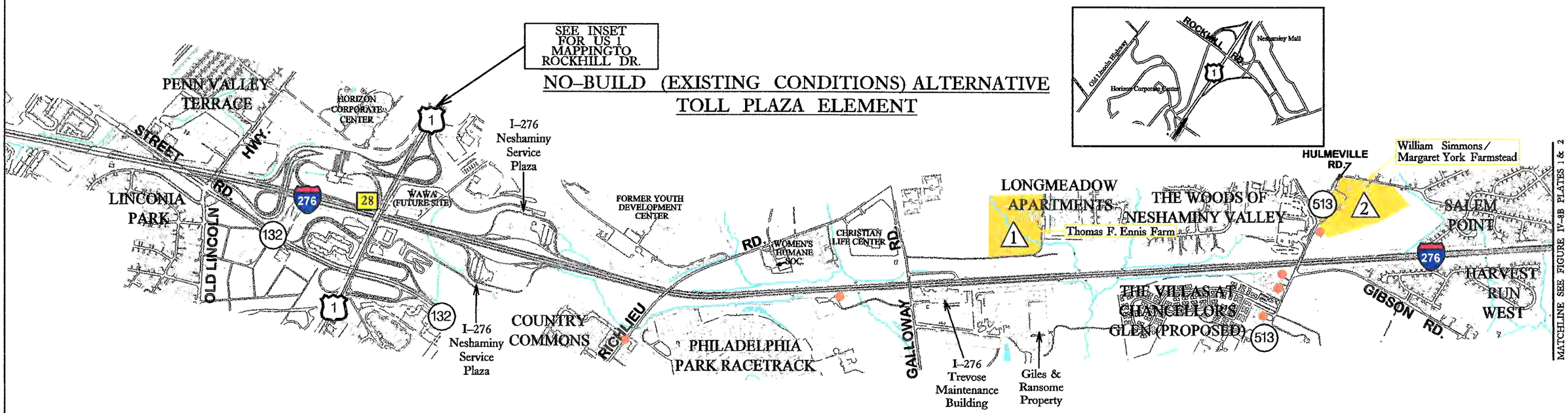
There are a total of four NRHP eligible resources in the study area in addition to the one NRHP listed resource and the one previously determined eligible resource.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8
CULTURAL RESOURCES

INDEX

1In = 3,600Ft (1 : 43,200)



HISTORIC ARCHITECTURAL RESOURCES IN THE TOLL PLAZA ELEMENT



1. **Thomas F. Ennis Farm**
The 19.44 ha (48.04 ac) property fronts the south side of Bristol Road approximately 30 m (100 ft) from the proposed I-276 improvements in Bensalem, Pennsylvania. It contains eight historic architectural resources, grouped in two complexes, and is eligible for the NRHP as a locally significant representative of a nineteenth/early-twentieth-century farmstead associated with agricultural development in Bensalem Township (Criterion A and C).



2. **William Simmons/Margaret York Farmstead**
The 5.9 ha (14.5 ac) property fronts the east side of Hulmeville Road, approx. 58 m (190 ft) from the proposed I-276 improvements in Bensalem. It contains six historic architectural resources and is eligible for the NRHP as a locally significant example of craftsman-era alterations to a historic dwelling in Bensalem Township (Criterion C).

LEGEND

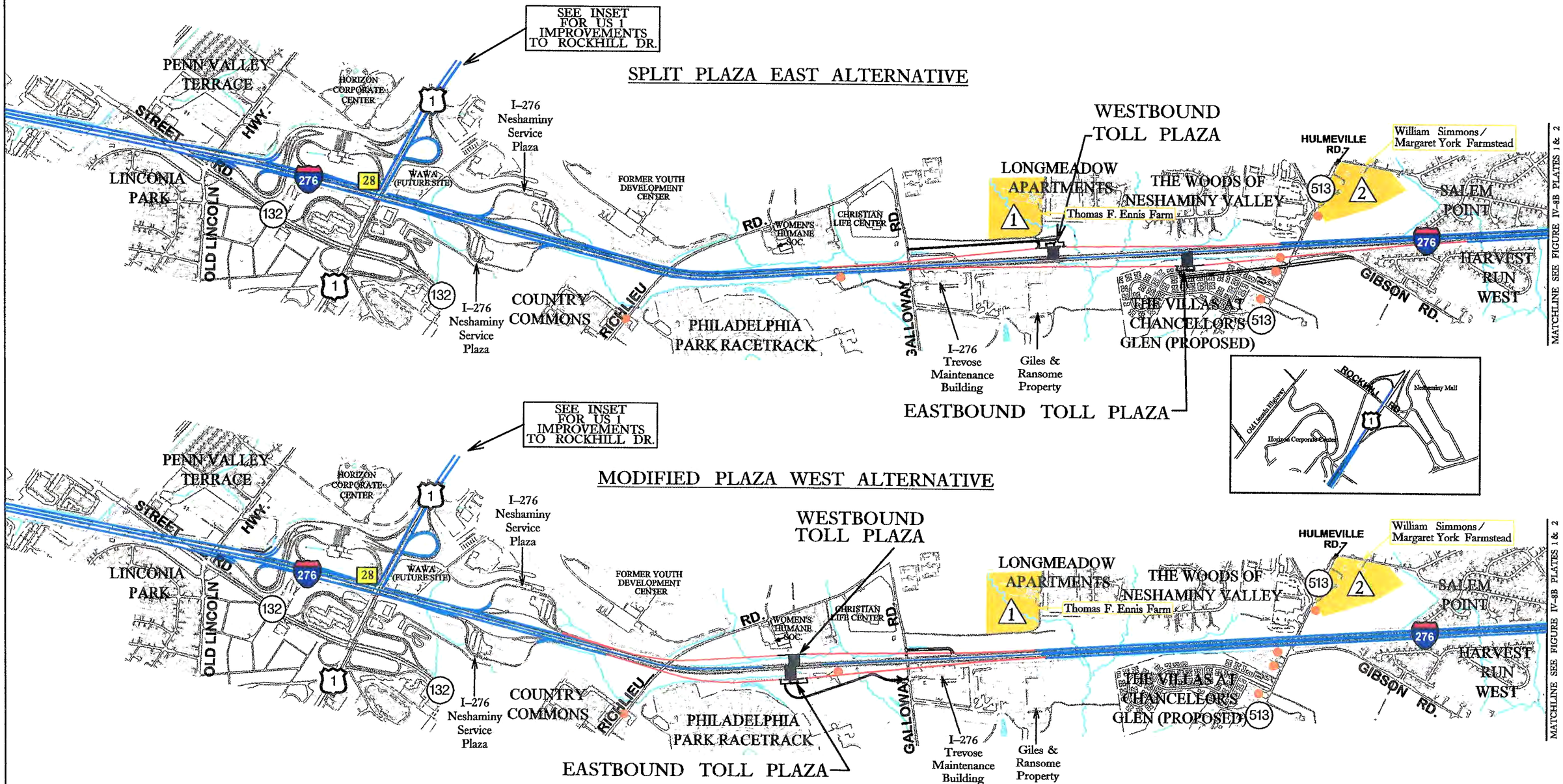
- Surface Water
- 28 Existing I–276 Interchange
- NRHP Eligible Property
- Surveyed Resource

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8A PLATE 1
CULTURAL RESOURCES
TOLL PLAZA ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km
N



TOLL PLAZA ELEMENT BUILD ALTERNATIVES

In the Toll Plaza Element, two properties north of I-276 have been determined eligible for the NRHP: Thomas F. Ennis Farm and William Simmons/ Margaret Martin York Farmstead. These properties would not be impacted by either the Split Plaza East or the Modified Plaza West Alternatives. Potential impacts would relate to the proximity of the improvements to the property's agricultural setting. However, this effect would not be adverse, because it would not alter, directly or indirectly, any of the characteristics that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. The introduction of new elements would not significantly alter the setting now characterized by a major visual and audible element in the form of the existing I-276, which is approx. 76 m (250 ft) from the southern proposed NRHP property boundary. Road widening required for the toll plaza construction is located in the vicinity of the Ennis Farm. Neither the Split Plaza East nor the Modified Plaza West would impact the William Simmons/Margaret Martin York Farmstead. There are no archaeological resource areas in this element.

LEGEND

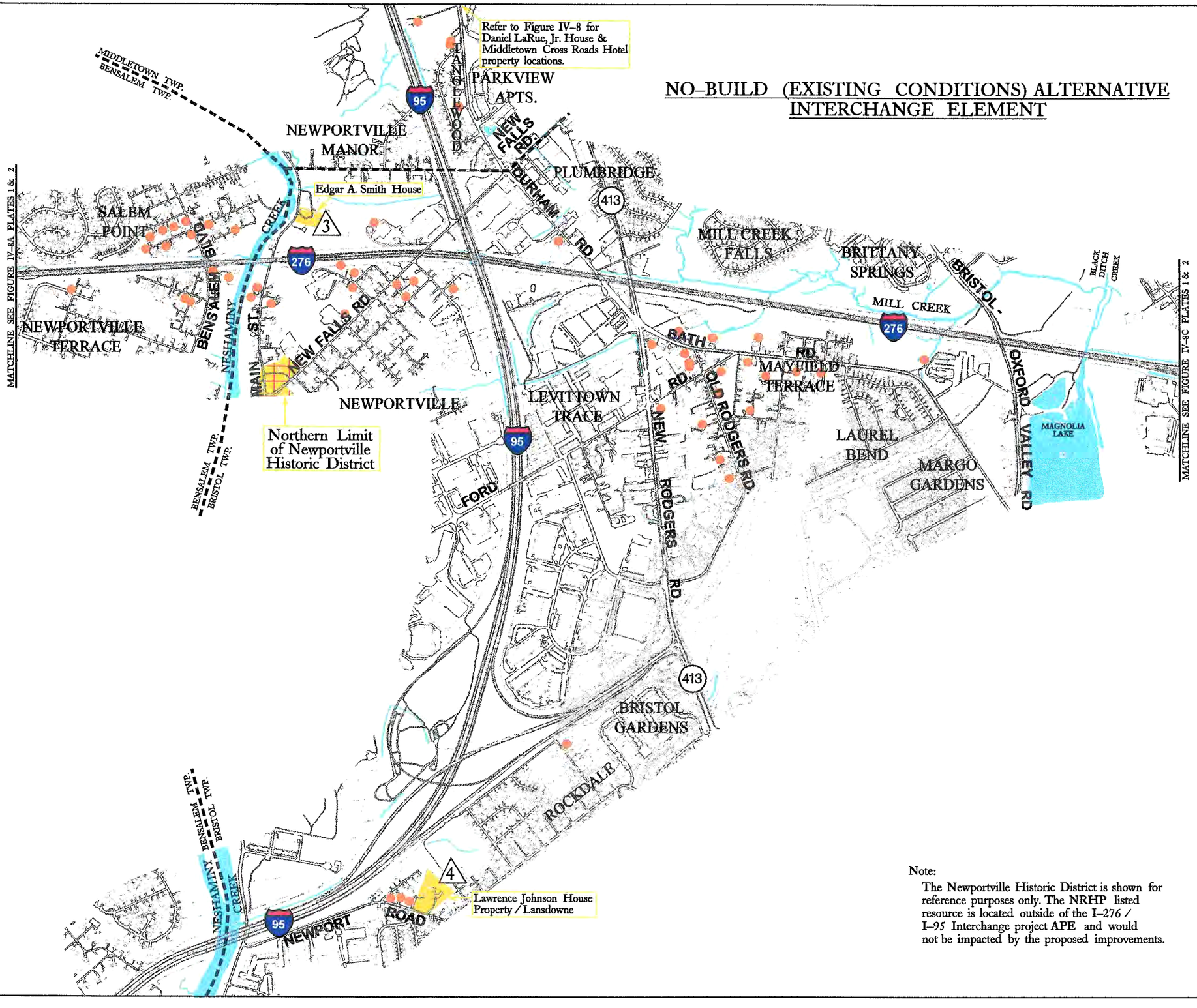
- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Surface Water
- 28 Existing I–276 Interchange
- NRHP Eligible Property
- Surveyed Resource

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8A PLATE 2
CULTURAL RESOURCES
TOLL PLAZA ELEMENT
SPLIT PLAZA EAST & MODIFIED PLAZA WEST ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE INTERCHANGE ELEMENT



Note:
The Newportville Historic District is shown for reference purposes only. The NRHP listed resource is located outside of the I–276 / I–95 Interchange project APE and would not be impacted by the proposed improvements.

LEGEND
- NRHP Eligible Property
- NRHP Historic District
- Surveyed Resource
- Surface Water

HISTORIC ARCHITECTURAL RESOURCES IN THE INTERCHANGE ELEMENT



3. **Edgar A. Smith House**
The approximately 0.8 ha (2 ac) property fronts the southeast side of Newportville Road, approximately 76 m (250 ft) from the proposed I-276 improvements in Bristol (Newportville), Pennsylvania. It contains two historic architectural resources, and is eligible for the NRHP as a locally significant example of craftsman design in Bensalem Township (Criterion C).



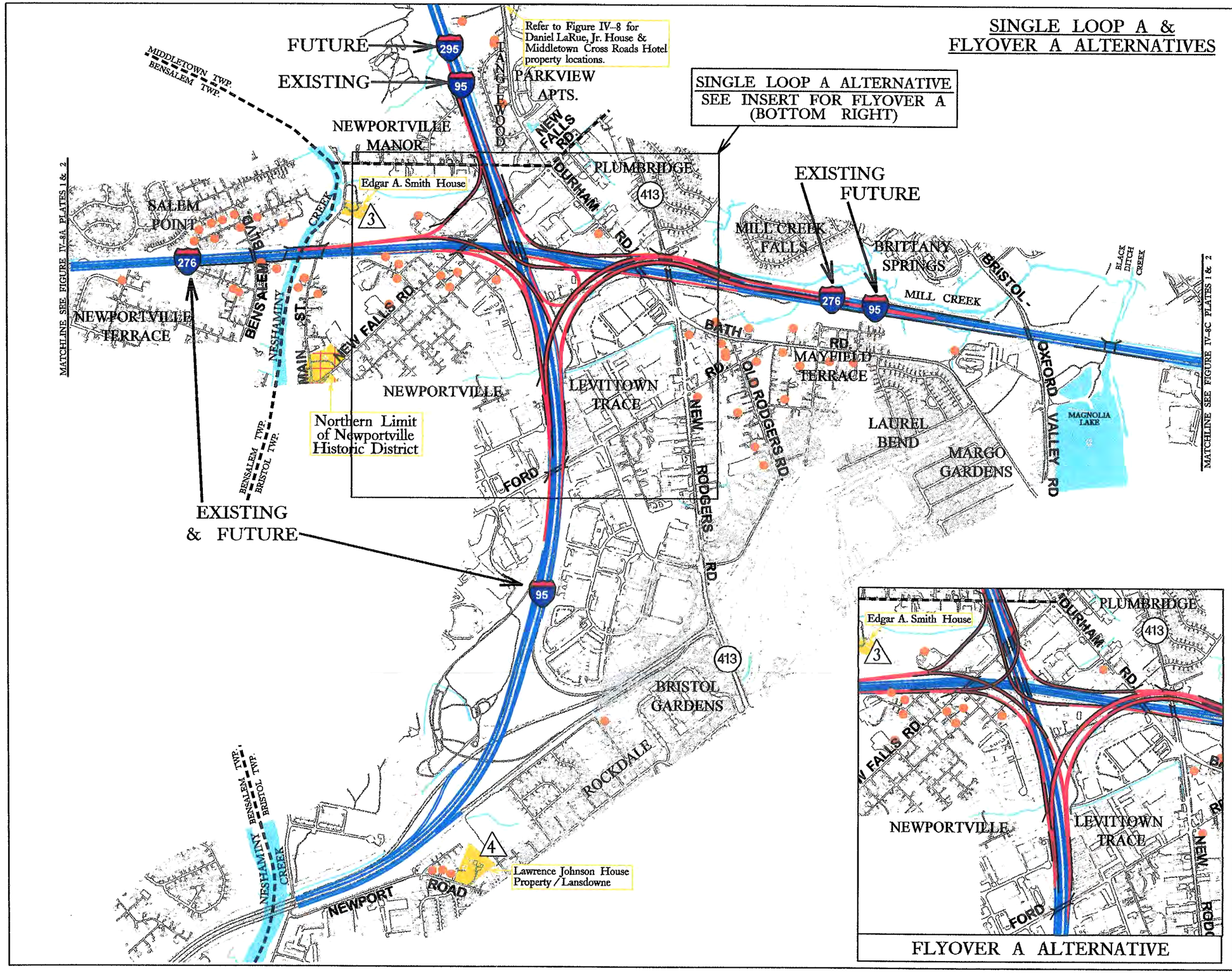
4. **Lawrence Johnson House Property/Lansdowne**
The 1.4 ha (3.57 ac) property fronts the northeast side of Newport Road, approximately 100 m (330 ft) from the proposed I-95 improvements in Bristol, Pennsylvania. It contains one historic architectural resource, and is eligible for the NRHP as a locally significant example of a country house estate developed by nineteenth-century Philadelphians in lower Bucks County (Criterion C).

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8B PLATE 1
CULTURAL RESOURCES
INTERCHANGE ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



FLYOVER A ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- NRHP Eligible Property
- NRHP Historic District
- Surveyed Resource
- Surface Water

INTERCHANGE ELEMENT BUILD ALTERNATIVES

Cultural resources in the Area of Potential Effect (APE) of the Interchange Element include the two properties determined eligible for listing in the NRHP and eight areas of potential archaeological resources.

The NRHP eligible historic architectural resources are the Edgar A. Smith House and the Lawrence Johnson Property. These resources would not be impacted by the Single Loop A or Flyover A Alternatives. Two other NRHP eligible resources, the Daniel LaRue, Jr. House and the Middletown Crossroads Hotel were identified in preliminary field investigations, but are located north of the current study area and are not shown or discussed in detail on the Interchange Element mapping.

The NRHP listed Newportville Historic District is located outside of the APE and would not be impacted by the proposed improvements. This is a result of engineering efforts to minimize impacts to the Newportville community by excluding loop ramps from this quadrant of the interchange.

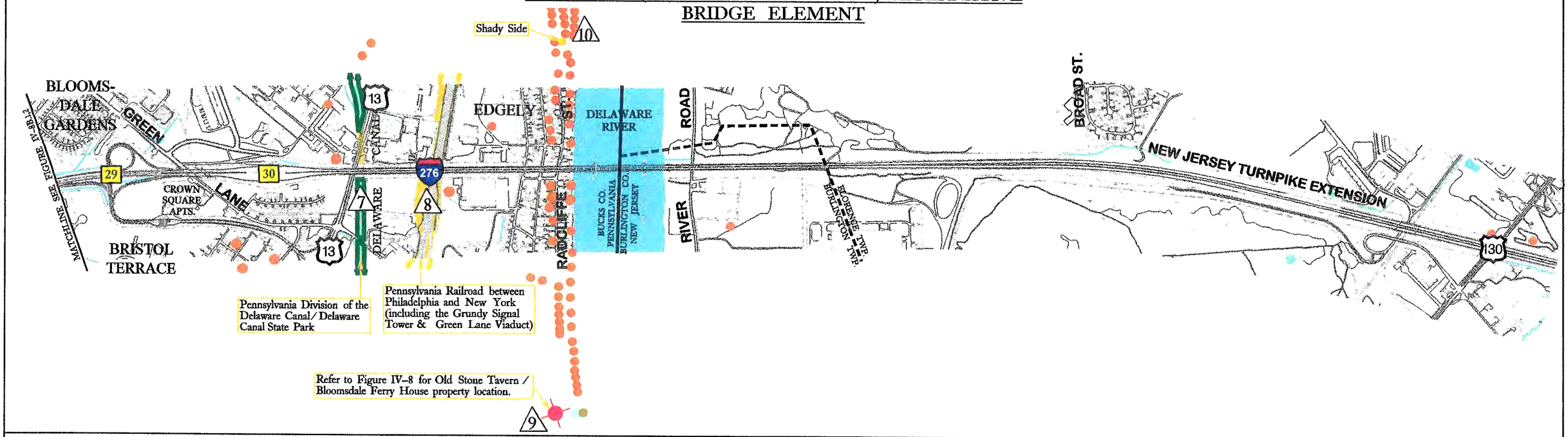
I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8B PLATE 2
CULTURAL RESOURCES
INTERCHANGE ELEMENT

SINGLE LOOP A &
FLYOVER A ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE
BRIDGE ELEMENT



HISTORIC ARCHITECTURAL RESOURCES WITHIN BRIDGE ELEMENT



7. **Pennsylvania Division of the Delaware Canal/Delaware Canal State Park**
This state owned park starts in Bristol Township and extends north for approximately 96 km (60 mi) to Easton. This resource includes the only remaining continuously intact remnant of the great towpath canal building era of the early and mid-nineteenth century. The canal is a National Historic Landmark and is a key element in the National Delaware and Lehigh Navigation Canal Heritage Corridor. The towpath is a National Heritage Trail.



8. **Pennsylvania Railroad between Philadelphia and New York (including the Grundy Signal Tower & Green Lane Viaduct)**
This linear property includes the railroad ROW and railroad tracks. The PASHPO determined this resource to be eligible for the NRHP as a district on August 11, 1994. The Grundy Signal Tower (Circa 1920) and the Green Lane Viaduct (1931) were surveyed as part of the I-276/I-95 Interchange Project and found eligible for the NRHP as contributing to the Pennsylvania Railroad property.

LEGEND

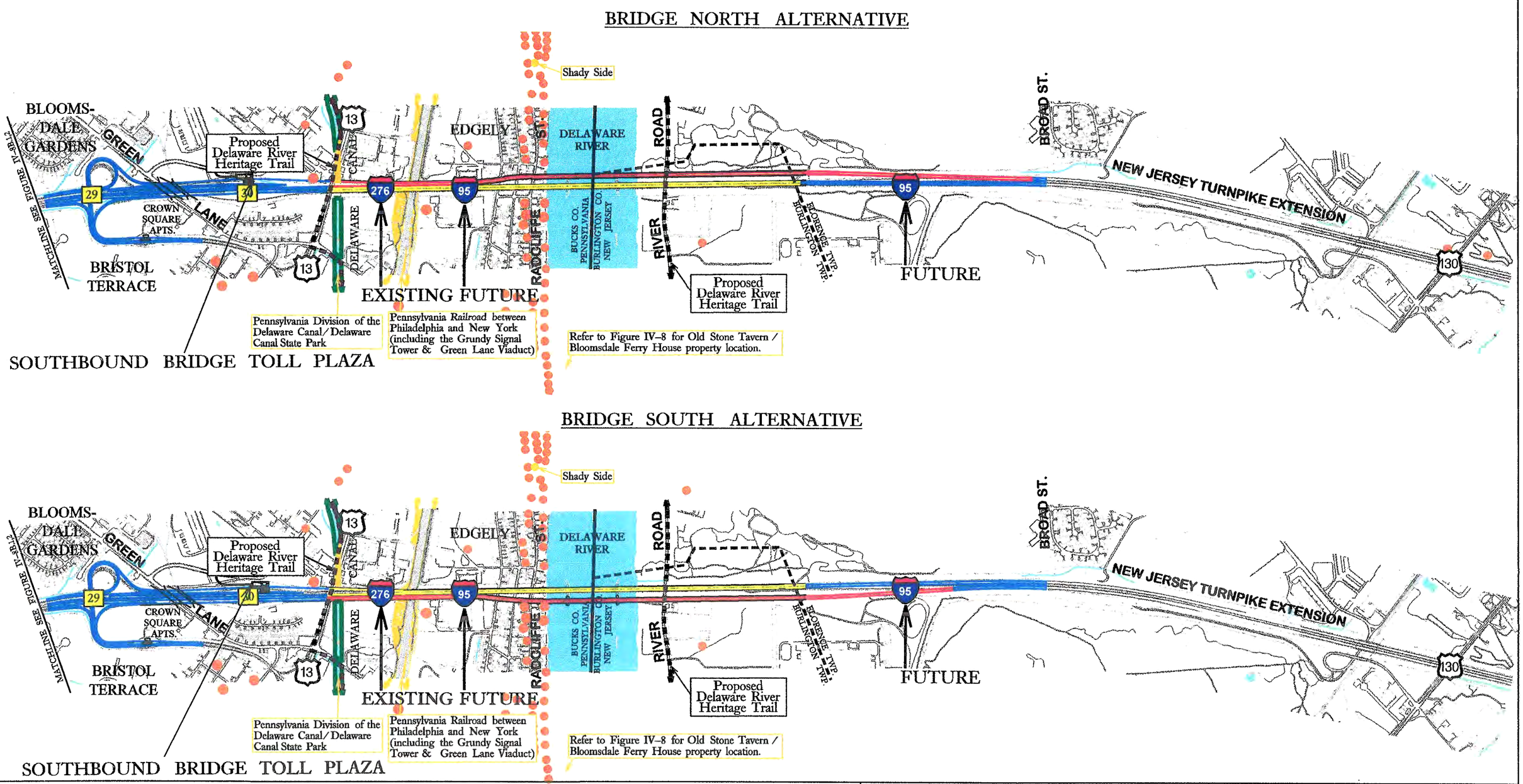
- Surface Water
- 29 Existing I–276 Interchange
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible Property
- Surveyed Resource
- NRHP Eligible Properties (outside study area)

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8C PLATE 1
CULTURAL RESOURCES
BRIDGE ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



BRIDGE ELEMENT BUILD ALTERNATIVES

According to 36 CFR 800.5.a.1 and 2 (revised 1999), the Bridge South Alternative would have no adverse effect on the Delaware Canal, which is designated as a National Historic Landmark (NHL), because the pier work for the proposed new bridge would be located within the existing I-276 right-of-way. However, for Bridge North, the pier work would extend into the PENNDOT right-of-way along US 13, and this may be determined an adverse effect to the Delaware Canal. This is discussed in **Section V** (Section 4(f) Evaluation) and illustrated on **Figures V-14 and V-14A**. However, both the Bridge North and Bridge South Alternatives would impact the NRHP Pennsylvania Railroad, a resource determined to be eligible for the NRHP in 1994. Impacts to the Pennsylvania Railroad are similar (0.026 ha/0.063 ac for Bridge North and 0.032 ha/0.080 ac for Bridge South) and result from placement of piers within the railroad ROW that would extend three existing bridge piers. In Pennsylvania, the Bridge Element also contains one area of potential archaeological resources located in the vicinity of the Interchange 29 toll facility. Neither bridge alternative would impact this site. However, in New Jersey, directly beneath the existing bridge, both the Bridge North and Bridge South Alternatives may impact a potential archaeological site.

LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade Of Existing Bridge
- Proposed Mutli–Use Trail
- NRHP Eligible / Listed Property
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- 29 Existing I–276 Interchange
- Surface Water
- Surveyed Resource

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–8C PLATE 2
CULTURAL RESOURCES
BRIDGE ELEMENT

BRIDGE NORTH &
BRIDGE SOUTH ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE IV-16
HISTORIC ARCHITECTURAL RESOURCES INVENTORY AND EFFECTS DETERMINATIONS

Fig. IV-8 Ref. No.	Name (Historic/Other)	Type	Style	Date or Period	NRHP Eligibility Criteria [1]	NRHP Date Listed or Determined Eligible	Section 106 Effects
Toll Plaza Element							
1	Thomas F. Ennis Farm	Farmstead	Colonial Revival	c. 1860 - c. 1940	A and C	11/07/95	No Adverse Effect Split Plaza East
2	William Simmons/Margaret Martin York Farmstead	Farmstead	Bungalow/Craftsman	c. 1780 - c. 1820	C	10/27/95	None
Interchange Element							
3	Edgar A. Smith House	Single Dwelling	Bungalow/Craftsman	c. 1935	C	10/27/95	None
4	Lawrence Johnson Property/Lansdowne	Country House Estate	Italianate and Colonial Revival	c. 1850	C	10/27/95	None
5	Daniel Larue, Jr. House [2]	Farmhouse	Federal	c. 1780 – c. 1820	C	11/01/95	None
6	Middletown Cross Roads Hotel [2]	Tavern	19th Century Vernacular	c. 1800 – c. 1820	A	10/27/95	None
Bridge Element							
7	Pennsylvania Division of the Delaware Canal	Canal	N/A	c. 1827	NHL	12/08/76	Adverse Effect Bridge North No Adverse Effect Bridge South
8	Pennsylvania Railroad between Philadelphia and New York	Railroad	N/A	19th and 20th centuries	A and C	8/11/94	No Adverse Effect Bridge North Bridge South
9	Shady Side [2]	Dwelling	Italian Villa	c. 1780 – c. 1925	C	04/16/99	None
10	Old Stone Tavern/ Bloomsdale Ferry House [2]	Tavern	18th Century Vernacular with Greek Revival and Italianate Alterations	c. 1720 – 2nd quarter 19th century	A and C	04/16/99	None

Note: The identified alternative impacts incorporate the associated side road/bridge improvements, stormwater management facilities, and construction of the park and ride/pool sites. The No-Build Alternative associated with each element does not impact the identified resource.

1 Historic resources may be previously listed or determined eligible for the National Register of Historic Places (NRHP) if they possess integrity of location, design, setting, material, workmanship, feeling, and association, and if they meet at least one of the following criteria:
Criterion A - Associated with events that have made a significant contribution of the broad patterns of history,
Criterion B - Associated with the lives of persons significant in our past,
Criterion C - Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction, and
Criterion D - Yielded, or is likely to yield, information important in prehistory or history.

2 These resources are located outside the current study area.

Two reports were completed that discuss the archaeological investigations in the New Jersey portion of the study area. The report *Management Summary, Phase I Archaeological Investigations, I-95/Pennsylvania Turnpike Project, Pennsylvania Turnpike Extension* (PTC 1995) summarizes the results of a field walkover and shovel testing associated with Phase I testing in New Jersey. The report concludes that two sites would require further testing as part of the Phase II Investigations. However, the study limits have since been refined, and these sites are now located outside the current study area.

The second report is titled *Phase I Geoarcheological Investigations, I-276 Extension into New Jersey for the I-95/I-276 Interchange Project* (PTC 1998) and summarizes additional Phase I testing that evaluated the extent and nature of historic disturbance and the archaeological potential of sediments found at depths that exceed the limits of previous shovel probe testing. This report concluded that there is one site located beneath the existing Delaware River Turnpike Bridge that requires additional Phase I investigations, and possibly Phase II investigations.

These reports were forwarded for review and comment to the Native American Tribes that potentially have ties to the project area.

It is anticipated that subsequent to the FEIS a summary report describing the results of each report will be compiled. A Draft Programmatic Agreement, which can be found in the Technical Support Data, was completed that commits to completing the additional Phase I investigations on the area beneath the existing Delaware River Turnpike Bridge as recommended in the *Phase I Geoarcheological Investigations, I-276 Extension into New Jersey for the I-95/I-276 Interchange Project* (PTC 1998), as well as any Phase II testing considered necessary. This work would be conducted during the early phases of Final Design.

A file review was conducted at the NJSHPO for information regarding archaeological marine surveys of the Delaware River. Investigations are detailed in *Cultural Resources Overview and Sensitivity Analysis for the Delaware River and Bay* (USACOE, 1979). None of the archaeological marine sites documented in this report occur in the project study area.

3. Impacts

The No-Build Alternative would have no effect on cultural resources eligible for, or listed on, the NRHP. The assessment of effects pursuant to the Section 106 process does not require an assessment of the No-Build Alternative.

The assessments of Section 106 effects of the Build Alternatives on historic architectural resources are provided in **Table IV-16** and in the text boxes on **Figures IV-8A**, **IV-8B**, and **IV-8C**. The details of this assessment are presented in the *Revised Draft Pennsylvania Turnpike/Interstate 95 Interchange Project Assessment of Effects on Historic Architectural Resources, Bucks County, Pennsylvania, Burlington County, New Jersey* (PTC, 2003), located in the Technical Support Data. The Bridge North Alternative may adversely affect the Delaware Canal. A structural pier for the Bridge North Alternative is proposed for an area outside the PTC right-of-way, but within the PENNDOT right-of-way for US 13. The proposed pier would be constructed through a backfilled portion (from the construction of US 13 over the Delaware Canal during the 1940s) of the Delaware Canal. The effect would be adverse if it is demonstrated that the buried canal prism located within PENNDOT's right-of-way remains intact, and that the construction of a new Bridge North Alternative pier in this location diminishes the integrity of the property. If the Bridge North Alternative is selected as the Preferred Alternative, a Programmatic Agreement would be required to address these effects.

Currently, the PASHPO maintains that the Bridge South Alternative would adversely affect the Delaware Canal. Therefore, Section 106 activities are ongoing with consulting parties and the Advisory Council on Historic Preservation regarding the assessment of effects of historic resources.

The assessment of potential archaeological resource impacts associated with the Build Alternatives in the three project elements is ongoing and expected to conclude following completion of any required Phase I and II investigations. Based on the current level of investigations, it can be estimated that the Toll Plaza Alternatives would not impact potential archaeological resources. Both the Flyover A and Single Loop A Interchange Alternatives may impact three potential archaeological resources and the Bridge North and Bridge South Alternatives may impact one potential archaeological resource.

4. Mitigation

The Bridge North Alternative is the only Build Alternative that may impact an historic resource, the Delaware Canal. Mitigation measures would be determined based on coordination with the consulting parties. Mitigation strategies may include enhancement of the canal at the area of impact, or another location along its length.

With respect to archaeological resources, a Draft Programmatic Agreement, which was compiled in accordance

with 36 CFR 800, commits to additional Phase I investigation and Phase II investigations during the early phases of Final Design. This includes the evaluation of the sites' NRHP eligibility and stipulates that no ground disturbing activities associated with the project would take place at the sites until appropriate archaeological investigations have been completed. Signatories to the Draft Programmatic Agreement would include, at a minimum, PENNDOT, PTC, FHWA, and the appropriate SHPO. The Advisory Council on Historic Preservation may also wish to participate as a signatory, as well as any Native American Tribes with cultural or religious ties to the project area. Criteria of Eligibility (36 CFR 60.4) would be applied to determine whether the sites are eligible for listing on the NRHP. The Criteria of Adverse Effect (36 CFR 800.5) would be applied to each NRHP-eligible site. If this application determined the project would have an adverse effect on the site, it would be recommended that the project be designed to avoid the site. If avoidance is not feasible, the Programmatic Agreement defines a Data Recovery Program to recover the information contained in the site.

E. FARMLANDS

More detailed farmland information is located in the Farmlands Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

The farmlands investigation for the Pennsylvania study area was conducted in accordance with guidelines contained in *Publication 324, The Transportation Project Development Process, Agricultural Resource Handbook* (PENNDOT, 1998). This publication outlines the process for evaluating agricultural land in Pennsylvania in compliance with the Federal Farmland Protection Policy Act (FPPA), Pennsylvania Act 100, the Agricultural Area Security Law, and the Agricultural Land Preservation Policy (ALPP) according to the Commonwealth of Pennsylvania Governor's Office Executive Order 1997-6. Farmlands in the New Jersey study area were evaluated in compliance with the FPPA and the Agriculture Retention and Development Act (ARDA).

1. Existing Conditions

Preliminary farmland identification began in early 1993 with additional analyses undertaken in Fall 1997 and early 1999. An examination of aerial photographs and field observations revealed several properties either actively farmed or recently farmed. Property owners and farm tenants were interviewed to determine farm use patterns and agricultural produce types. County soil surveys were consulted to determine the location of prime and unique soils, soils of statewide and/or local importance, and soil capability class. The Bucks County, Pennsylvania and Burlington County, New Jersey Planning Offices were also consulted to identify any parcels enrolled in Agricultural Security Areas (ASAs), or Agricultural Development Areas (ADAs), development programs, and/or farm properties with conservation easements.

TABLE IV-17
PRODUCTIVE AGRICULTURAL PROPERTIES

Key	Owner	Tax Parcel	Hectares (Acres)	Potential Impacts ha (ac)	ALPP [1]					FPPA [4]
					Easements/ Deed Restrictions	ASA /ADA[2]	Preferential Tax Assessment	Zoning	Soil Capability Class [3]	
Pennsylvania										
ST-1	Chester Stenderowicz	2-51-9	5.9 (14.5)	None	None	No	Yes	Residential	I, II, IV	N/A
PE-1	PECO Energy	2-51-10	1.1 (2.8)	None	None	No	No	Residential	I, II, III, IV	N/A
ST-2	Chester Stenderowicz	2-52-38	3.7 (9.1)	None	None	No	Yes	Residential	I, II, III, IV	N/A
New Jersey										
PC-1	Continuing Care Concepts	155.49-54.02	16.3 (40.3)	None	N/A	N/A	N/A	Residential	N/A	YES

Note: The identified alternative impacts incorporate the associated side road/bridge improvements, stormwater management facilities, and construction of the park and ride/pool sites. The No-Build Alternative associated with each element does not impact the identified resource.
1 ALPP refers only to Pennsylvania agricultural areas considered under the Agricultural Land Preservation Policy.
2 ASA/ADA refers to land enrolled in state-sponsored security or development protection areas.
3 Refer to Technical Support Data for Soil Capability Class Definition.
4 FPPA refers to properties with soils identified as prime, unique or of state or local importance.

Table IV-17 contains the study area agricultural properties and information regarding the current owner, tax parcel, size, zoning, impacts, and notations summarizing the results of the farmland investigation, as described below. Productive farmlands are depicted on **Figures IV-9** to **IV-9C, Plate 2** by their key found in **Table IV-17**.

Two of the farmland properties identified in the Pennsylvania study area are in ALPP jurisdiction because they are enrolled in the preferential tax assessment program of the Clean and Green Act (Act 319) **(Table IV-17** and **Figure IV-9A)**. Each of these properties contain soils of capability class I, II III, or IV, or combinations of these four classes. The capability classes generally group the soils according to their limitations when used for field crops, the risk of damage when they are so used, and the way they respond to treatment (USDA, 1975). Of the eight capability classes, the first four, I, II, III, and IV have been identified in *Publication 324, The Transportation Project Development Process, Agricultural Resource Handbook* (PENNDOT, 1998) as the soils best suited for agricultural purposes.

Pennsylvania Act 100 and Pennsylvania Act 43 evaluations concluded that there are no ASAs or properties protected by agricultural conservation easements in the Pennsylvania study area. Depending upon the selection of the Build Alternative, this project may or may not be subject to Agricultural Lands Condemnation Approval Board (ALCAB) jurisdiction, as described under impacts.

ARDA review concluded there are no ADA properties with conservation or development easements in the New Jersey study area.

FPPA review indicated that because the Pennsylvania study area is classified as urbanized (US Bureau of the Census, Philadelphia Regional Office), it is exempt from FPPA jurisdiction. A small portion of the study area in Florence Township, New Jersey is not identified as urban on the census map, and it required evaluation under FPPA requirements. This area has unique farmland soils composed of Galestown sand in 0-5 percent slopes.

2. Impacts

The No-Build, Modified Plaza West, Split Plaza East, Flyover A, Single Loop A, Bridge South, and Bridge North Alternatives would not impact productive agricultural farmlands. The Bridge North would parallel the property line of PC-1, but would not impact the parcel **(Figure IV-9C, Plate 2)**.

The soils in the Pennsylvania portion of the study area are exempt from FPPA because this area is designated as an urban area by the US Bureau of the Census. Therefore, based on FPPA guidelines, it would not be necessary to complete and submit Form AD-1006 to the Natural Resources Conservation Service (NRCS) to obtain Farmland Conversion Impact Ratings for the above-mentioned four properties. In Florence Township, New Jersey, a small area along the New Jersey Turnpike Extension, approximately 1 mile (2 km) east of the Delaware River, is not identified as urban, and therefore does fall under the purview of FPPA. As part of FPPA regulations, a Form AD-1006 was completed and submitted to the NRCS to obtain a Farmland Conversion Impact Rating. Because less than one percent of the county FPPA soils would be impacted by either the Bridge North or Bridge South Alternatives, the NRCS determined they did not prefer one alternative verses the other as documented in the Technical Support Data. A copy of Form AD-1006 is located in **Section XII, Appendix D**.

3. Mitigation

Throughout this project's preliminary development, efforts have been made to avoid and/or minimize impacts to farmland resources. No impacts are anticipated for any of the proposed Build Alternatives and therefore no mitigation activities are required.

F. SOILS, GEOLOGY AND TOPOGRAPHY

More detailed soils, geology, and topography information is located in the Geology and Groundwater Hydrology, and Soils and Erosion Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

1. Soils

The soil resources evaluation included a review of technical references, including the *Soil Survey of Bucks and Philadelphia Counties, Pennsylvania* (United States Department of Agriculture [USDA], Natural Resources Conservation Service [NRCS], 1975); the *Soil Survey of Burlington County, New Jersey* (USDA-NRCS, 1971 (1996 Reprint)); the *Hydric Soils Interim List, Bucks and Philadelphia Counties, Pennsylvania* (USDA, NRCS, undated), and *Hydric Soils of the United States* (USDA-NRCS, 1991).

a. Existing Conditions

The Pennsylvania study area is composed primarily of two soil associations that are classified as deep soils having a medium textured surface layer and a medium textured or moderately fine textured subsoil (USDA, 1975). The Urban Land-Chester association consists of nearly level to sloping, well-drained land types and soils on uplands. The Urban Land-Howell association consists of nearly level and gently sloping well-drained land types and soils on terraces.

The majority of soils found directly adjacent to the roadway and within the I-276 and I-95 ROW is classified as cut and fill land consisting of unconsolidated fill materials brought in during the construction of the existing highways. The Doylestown, Hatboro, and Fallsington soil series are associated with the streams and tributaries in the study area. These soils have shallow depth to high water tables (0 to 0.5 ft below the surface), and are listed as hydric soils in the *Hydric Soils Interim List, Bucks and Philadelphia Counties* (USDA, NRCS, undated).

The Chalfont, Lawrenceville, Pope, Urban Land, Urbana, and Woodstown soil series are listed as soils with hydric inclusions. Soil resource constraints consist primarily of flooding hazards due to high or seasonal high water tables. Micaceous soils (Chester and Manor) that provide poor structure or bank stability are also present in the project study area. Manor loam, 8-15 percent slopes, is indicated to have moderate erosion hazard potential, while other soils in the area have slight erosion hazard potential.

The New Jersey study area is composed primarily of one soil association, the Galestown-Klej association, which consists of nearly level to gently sloping, excessively drained to somewhat poorly drained soils that are rapidly and moderately rapidly permeable, and have a sand and loamy sand subsoil or underlying material (USDA, 1996). This association is located immediately east of and adjacent to the Delaware River.

The majority of soils found directly adjacent to the roadway, and within the New Jersey Turnpike Extension ROW are classified as Made Land and Urban Land, which consist either of materials dredged from the Delaware River, or cut and fill materials brought in to fill low lying elevations throughout the area. There are no soils in the New Jersey study area that are listed as hydric, or as having inclusions of hydric soils. Soil resource constraints consist of flooding hazards due to a seasonal high water table, loose soils, and frost-heave hazards.

Additional study area soils information, including soil series, classifications, engineering characteristics, and erosion hazards, is contained in the Technical Support Data.

b. Soil Impacts

The No-Build Alternative would not impact existing study area soils.

(1) Toll Plaza Element (Figure IV-9A, Plate 2)

Both the Split Plaza East and the Modified Plaza West Alternatives would involve construction in two soil series that may require special engineering considerations to facilitate roadway construction. Specifically, Doylestown and Hatboro soils may present engineering constraints during excavation work in five locations along streams due to a shallow high water table, or to a flooding hazard. This includes the areas directly adjacent to unnamed tributaries of Neshaminy Creek. The soils impacted by alternatives in the Toll Plaza Element have a slight erosion hazard potential **(Table IV – 18).**

TABLE IV-18
ENGINEERING CONSTRAINTS OF SOILS

Soil Series	Shrink Swell Potential	Erosion Hazard	Soil Features Affecting Highway and Road Design	Suitability as Source of Road Fill
Toll Plaza Element				
Chalfont (CaB)	Low	Slight	Seasonal high water table	Fair
Chester (CeA, CeB, CeC)	Low	Slight	Micaceous material, poor stability	Fair
Cut and Fill Land	N/A	N/A	N/A	N/A
Doylestown (DoA, DoB)	Low	Slight	High water table	Poor
Duncannon (DuA, DuB)	Low to Moderate	Slight	Features generally favorable	Fair
Hatboro (Ha)	Low to Moderate	Slight	High water table, subject to flooding	Fair
Lawrenceville (LgA, LgB)	Low	Slight	Seasonal high water table, high frost heaving potential	Fair
Urban land - Chester Complex (UdB, UdC)	Too variable	N/A	Too variable to rate	Too variable
Urban land–Howell Complex (Uh)	Too variable	N/A	Too variable to rate	Too variable
Urbana (UrA, UrB)	Too variable	Slight	Seasonal high water table, Poor stability	Fair
Interchange Element				
Alton (AgA,AgB)	Low	Slight	Flooding hazard	Good
Chester (CeA, CeB, CeC)	Low	Slight	Micaceous material, poor stability	Fair
Cut and Fill Land	N/A	N/A	N/A	N/A
Fallsington (Fa)	Low	Slight	High water table, high frost heaving potential	Good
Hatboro (Ha)	Low to Moderate	Slight	High water table, subject to flooding	Fair
Howell (HoA, HoB)	Moderate	Slight	Features generally favorable	Fair
Manor (MaB, MaC)	Low	Slight to Moderate	Micaceous material – poor stability	Fair
Pope (PpA)	Low	Slight	Flooding hazard	Good
Urban land - Chester Complex (UdB, UdC)	Too variable	N/A	Too variable to rate	Too variable
Urban land (Ub)	Too variable	N/A	Too variable to rate	Too variable
Urban land–Howell Complex (Uh)	Too variable	N/A	Too variable to rate	Too variable
Urbana (UrA, UrB)	Too variable	Slight	Seasonal high water table, Poor stability	Fair
Woodstown (WoA)	Low to moderate	Slight	Seasonal high water table, moderate frost heaving potential	Poor
Bridge Element				
Alton (AgA,AgB)	Low	Slight	Flooding hazard	Good
Cut and Fill Land	N/A	N/A	N/A	N/A
Galestown (GaA, GcB)	Low	Slight	None reported	Fair
Hatboro (Ha)	Low to Moderate	Slight	High water table, subject to flooding	Fair
Made land (Ma)	Low	Slight	Loose sand hinders hauling, subject to soil blowing	Fair
Urban land (Ug)	Low	Slight	Frost-heave hazard	Good to Poor
Urban land–Howell Complex (Uh)	Too variable	N/A	Too variable to rate	Too variable

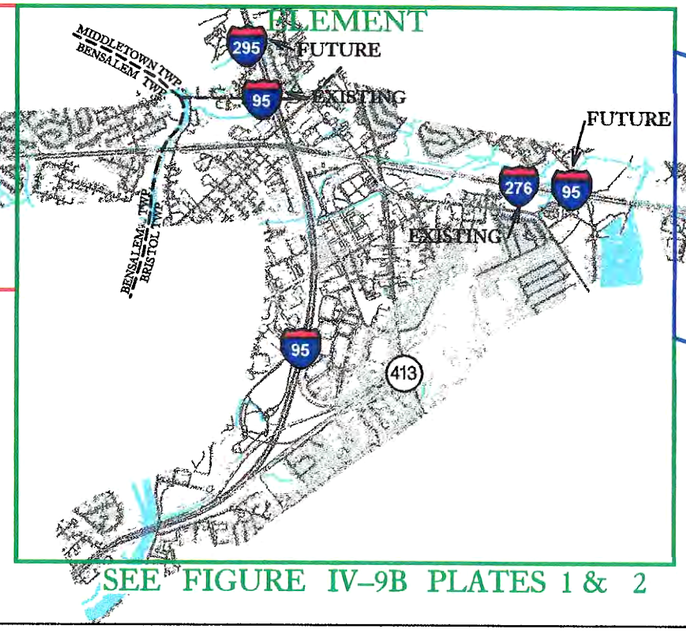
Source: USDA, NRCS: *Soil Survey of Bucks and Philadelphia Counties*, 1975 and *Soil Survey of Burlington County*, New Jersey, 1996 (Reprint).
N/A - Not available in *Soil Survey of Bucks and Philadelphia Counties or Soil Survey of Burlington County.*

TOLL PLAZA ELEMENT



SEE FIGURE IV–9A PLATES 1 & 2

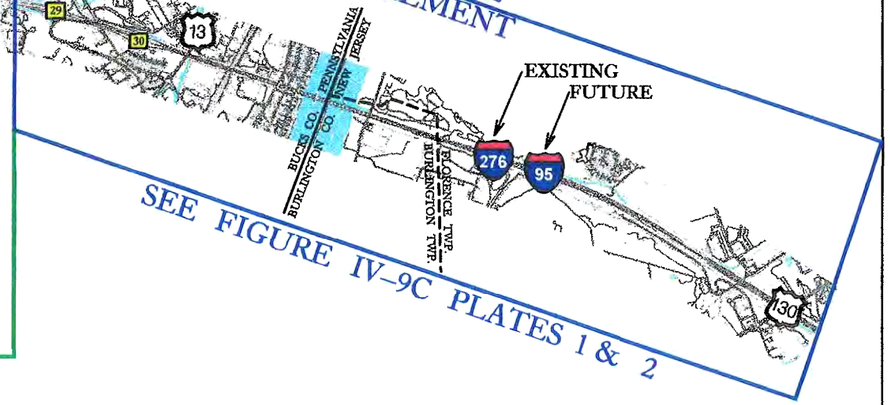
INTERCHANGE ELEMENT



SEE FIGURE IV–9B PLATES 1 & 2

SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS

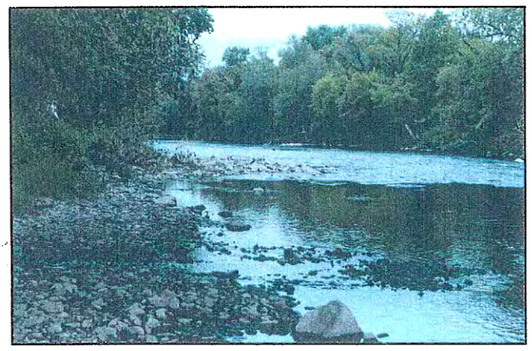
BRIDGE ELEMENT



SEE FIGURE IV–9C PLATES 1 & 2

NATURAL RESOURCES

SURFACE WATERS, FLOODPLAINS AND COASTAL ZONES



The I-276/I-95 Interchange Project study area contains many surface water resources, the largest of which is the Delaware River. Other major waters in the study area, which are also tributaries to the Delaware River, include Neshaminy Creek (pictured above) and Mill Creek. More detailed descriptions of surface waters and floodplains can be found in **Sections IV-H** and **IV-J**.

The study area also contains land located within the coastal zone boundary, the limit of which parallels I-276 in the Toll Plaza Element (**Figure IV-9A Plate 1**). Coastal zone information can be found in **Section IV-I**.

FORESTLANDS AND RANGELANDS



Although most of the study area is covered by urban land use, forestland and rangeland cover types exist that provide habitat for wildlife, some of which are threatened and endangered species. The forests of Black Ditch Park and Silver Lake Park in the Interchange Element are examples of habitats that contain remnants of coastal plain forest and threatened and endangered species habitat (**Figure IV-9B Plate 1**). The coastal plain forest type (pictured above) is common throughout the study area. A more detailed description of the study area forestland and rangeland types is located in **Section IV-M**.

WETLANDS AND FARMLANDS



A total of 64 wetlands were identified in the study area, some of which provide habitat for threatened and endangered species. Pictured above is an example of a typical forested wetland found in the study area. More detailed descriptions of the study area wetlands are found in **Section IV-K**.

Farmlands located in the study area occur only in the Toll Plaza (**Figure IV-9A Plate 1**) and Bridge Elements (**Figure IV-9C Plate 1**). A detailed description of study area farmlands is found in **Section IV-E**.

THREATENED AND ENDANGERED SPECIES



Photo by R.T. Zappalorti

Numerous species of concern, such as the Red-bellied turtle (pictured above), have been identified in areas such as Delhaas Woods, Silver Lake Park, Black Ditch Park, and the Delaware River. Detailed information on these species is located in **Section IV-L**.

I–276 / I–95 INTERCHANGE PROJECT

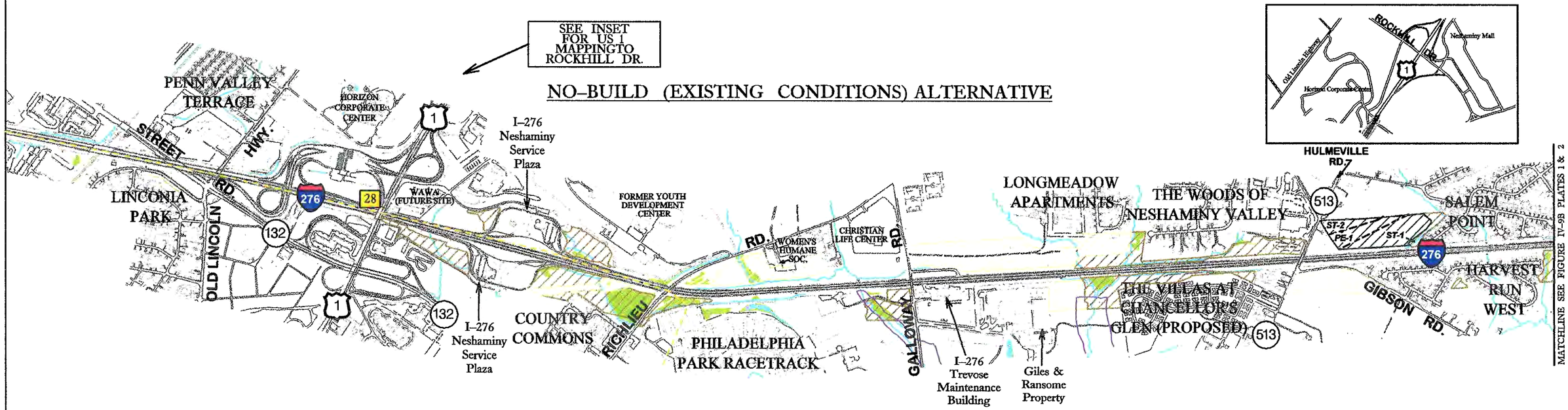
FIGURE IV–9
NATURAL RESOURCES

INDEX

1In = 3,600Ft (1 : 43,200)

0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M

N



NATURAL RESOURCES IN THE TOLL PLAZA ELEMENT



An example of a manmade wetland found in the study area is depicted above. The wetland, located on the Philadelphia Park Racetrack property, was created when surface water runoff collected in a poorly drained area. Wetlands created under these conditions are common throughout the study area. In the Toll Plaza Element, several wetlands surround the intersection of I-276 with Richlieu Road.



The Toll Plaza Element contains the only farmland parcels located in the Pennsylvania portion of the study area. This particular farm (ST-1) is located immediately northeast of the intersection of I-276 and PA 513 (Hulmeville Road).

Toll Plaza Element also contains parcels that were previously farmed and are now classified as rangeland. These rangeland parcels are located in the vicinity of the intersection of PA 513 and Gibson Road.



There are many small streams or tributaries that exist in the Toll Plaza Element. The surface waters seen in this element are tributaries to the Neshaminy Creek. Shown above is an unnamed tributary that exists in the Harvest Run West neighborhood, which is a typical example of a surface water crossing along I-276. These tributaries are usually channeled under I-276 through a culvert.

LEGEND

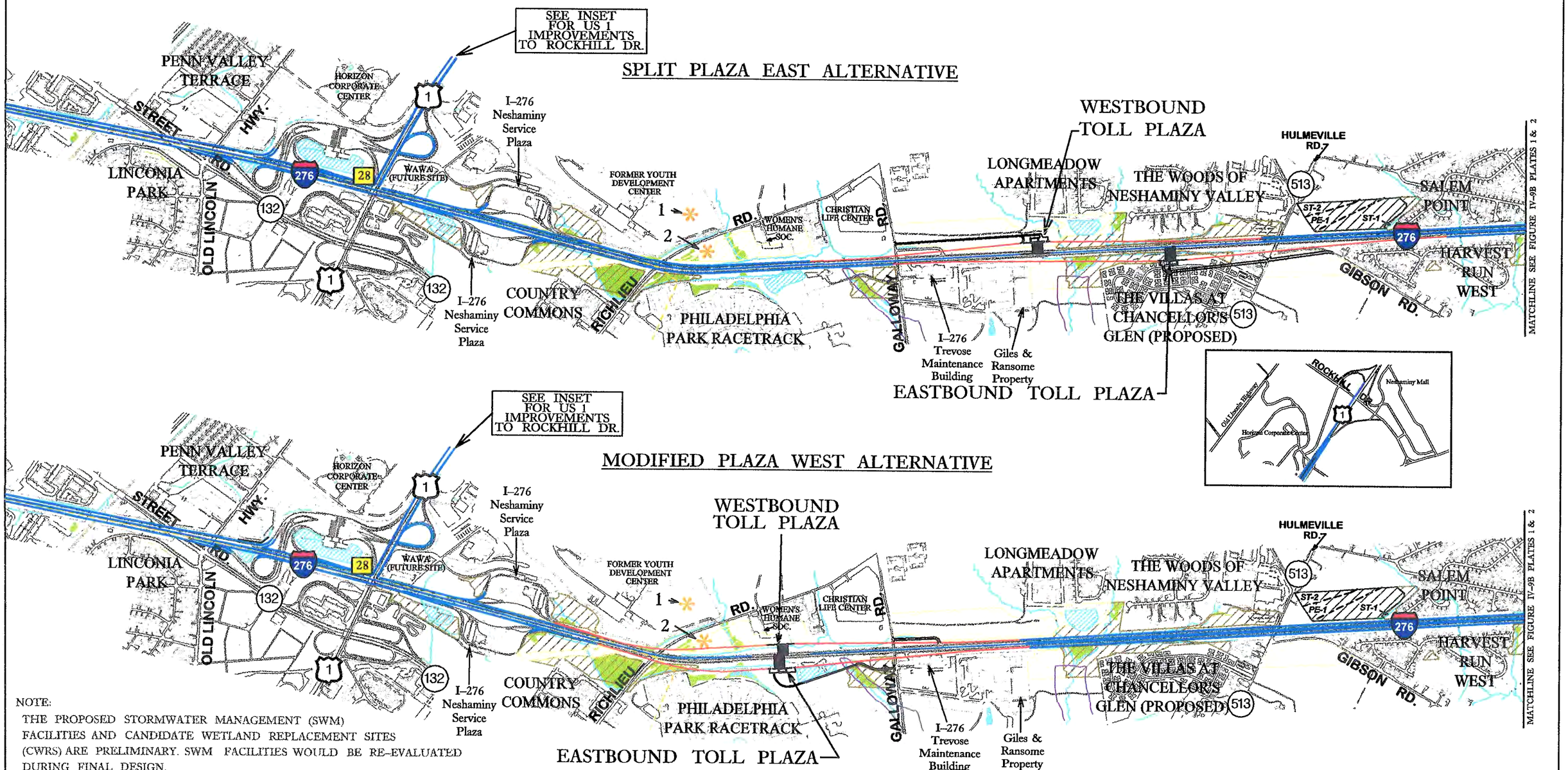
- Surface Water
- 28 Existing I–276 Interchange
- Floodplain Limits
- Wetlands
- Coastal Zone Boundary
- Farmlands
- Forest
- Rangeland
- ST-1 Farmland Ownership Designation

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–9A PLATE 1
NATURAL RESOURCES
TOLL PLAZA ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE–EVALUATED DURING FINAL DESIGN.

TOLL PLAZA ELEMENT BUILD ALTERNATIVES

Impacts to natural resources in the Toll Plaza Element would be relatively similar when comparing the Split Plaza East and Modified Plaza West Alternatives. Differences in wetland, stream, and farmland impacts would occur due to the placement of the proposed toll plaza facility in each alternative. The proposed mainline improvements, which would include widening I-276 from four to six lanes, would be the same for both alternatives and therefore would impact resources similarly.

Modified Plaza West would have increased perennial stream and wetland impacts when compared to Split Plaza East, especially in the vicinity of Richlieu Road. A more detailed comparison of impacts is located on **Table III-6**. Split Plaza East has increased impacts to forestland, rangeland, and floodplains when compared to the Modified Plaza West. These resources are located mainly in the vicinity of the proposed eastbound and westbound toll plazas and toll plaza access roads.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Floodplain Limits
- Wetlands
- Coastal Zone Boundary
- Proposed Stormwater Management
- ST-1 Farmland Ownership Designation
- 28 Existing I–276 Interchange
- Surface Water
- Farmlands
- Forest
- Rangeland
- Candidate Wetland Replacement Sites (1–2)

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–9A PLATE 2

NATURAL RESOURCES

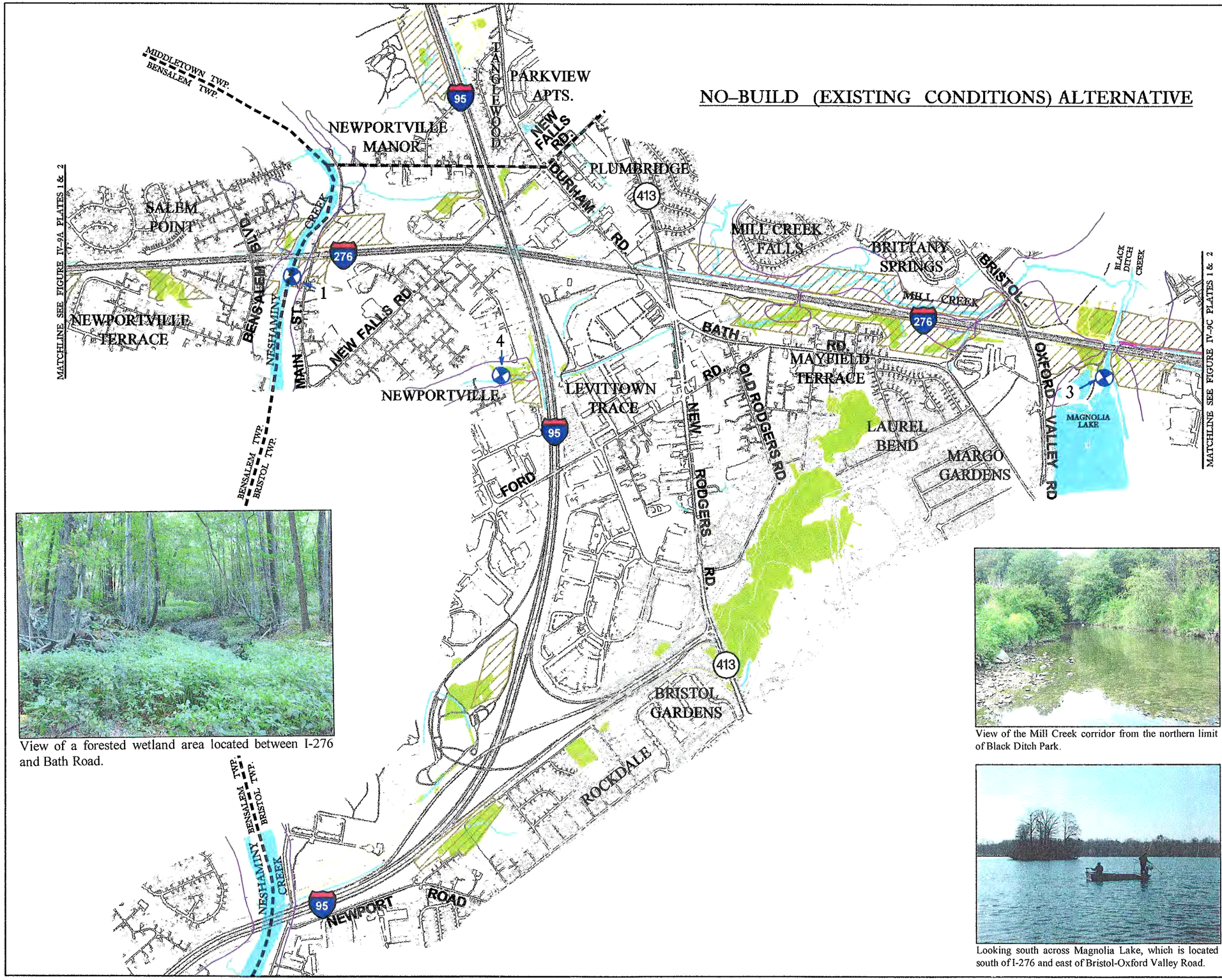
TOLL PLAZA ELEMENT

SPLIT PLAZA EAST & MODIFIED PLAZA WEST ALTERNATIVES

1In = 1/4Mi (1 : 15,840)

0Mi 1/4Mi 1/2Mi

0Km 0.15Km 0.3Km



View of a forested wetland area located between I-276 and Bath Road.

View of the Mill Creek corridor from the northern limit of Black Ditch Park.

Looking south across Magnolia Lake, which is located south of I-276 and east of Bristol-Oxford Valley Road.

LEGEND

- Surface Water
- Floodplain Limit
- Wetland
- Forest
- Rangeland
- Water Quality Sample Site

NATURAL RESOURCES IN THE INTERCHANGE ELEMENT

The majority of natural resources in the Interchange Element are mainly limited to isolated wetlands and forests due to the extensive residential and commercial development of the area. Along I-276, east of the point-of-crossing, the Mill Creek corridor, Black Ditch Park, and Silver Lake Park are important natural resources that contain wetlands, floodplains, streams, forests, and threatened and endangered species habitat.

The Mill Creek corridor contains a stretch of deciduous forestland that is immediately north of I-276 and east of PA 413 (New Rodgers Road). This corridor is of special concern due to the presence of four threatened and endangered species populations and also the close proximity of the Mill Creek streambed and floodplain to I-276.

Both Black Ditch Park and Silver Lake Park contain a variety of resources such as wetlands, coastal plain forest, and surface waters that provide habitat for threatened and endangered species populations. Black Ditch Park contains four threatened and endangered species populations and Silver Lake Park contains three.

Major surface waters within the Interchange Element include the Neshaminy Creek, Mill Creek, and Magnolia Lake.

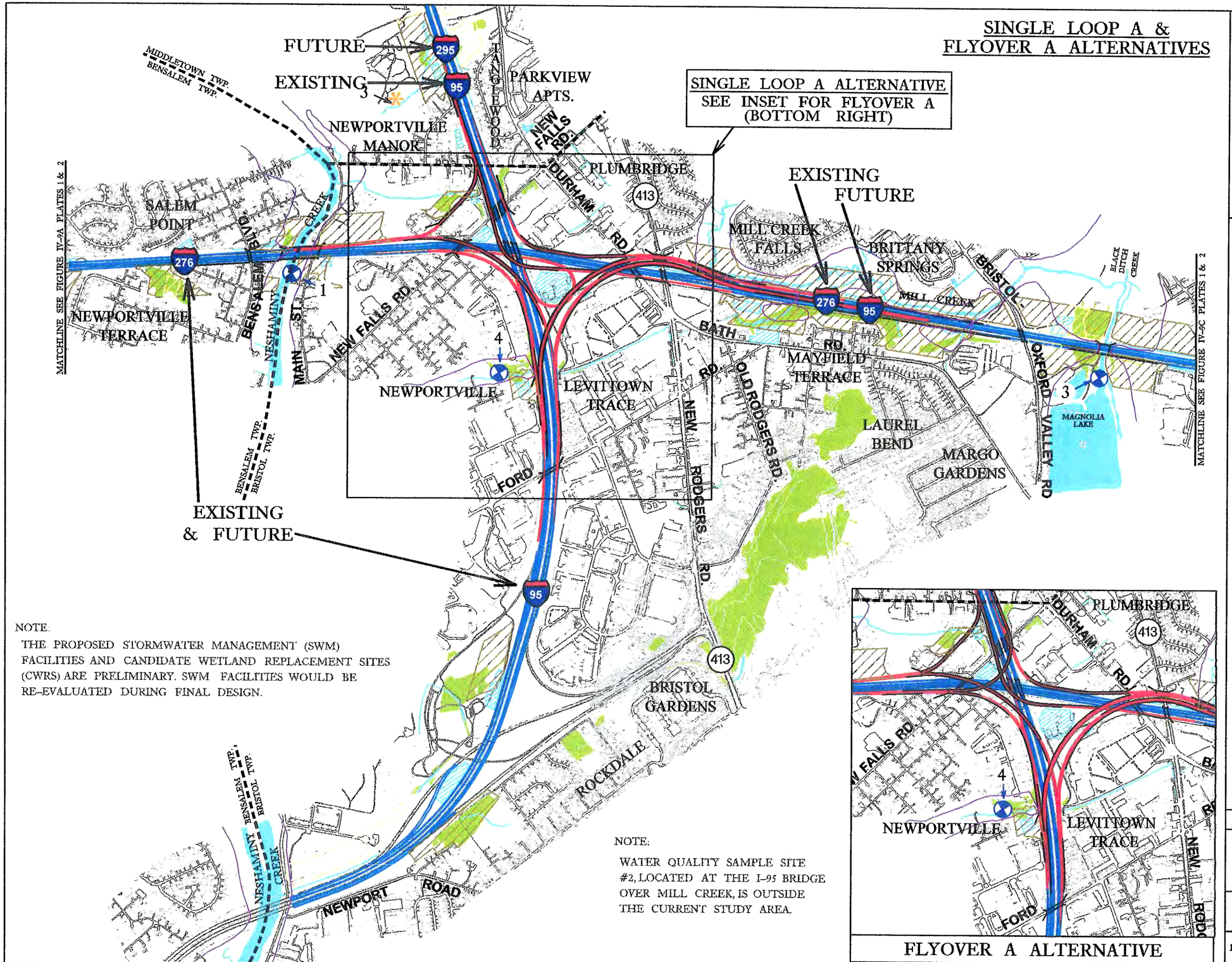
I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–9B PLATE 1
NATURAL RESOURCES
INTERCHANGE ELEMENT

NO–BUILD ALTERNATIVE

1in = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

SINGLE LOOP A & FLYOVER A ALTERNATIVES



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

NOTE:
WATER QUALITY SAMPLE SITE #2, LOCATED AT THE I-95 BRIDGE OVER MILL CREEK, IS OUTSIDE THE CURRENT STUDY AREA.

FLYOVER A ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Surface Water
- Floodplain Limit
- Wetland
- Forest
- Rangeland
- Water Quality Sample Site
- Proposed Stormwater Management
- Candidate Wetland Replacement Site (3)

INTERCHANGE ELEMENT BUILD ALTERNATIVES

The majority of natural resource impacts in the Interchange Element would result from the construction of interchange ramps. Because this area is well developed, natural resource impacts would be minimal, and would include minor wetland impacts and deciduous forest impacts. The associated widening of I-276 and I-95 would occur within the current ROW, where possible, to minimize impacts.

Due to the similar alignments of the Single Loop A and Flyover A Alternatives, impacts to natural resources are nearly equal when comparing the two alternatives. Single Loop A natural resource impacts are similar to those for Flyover A, with the exception of less wetland, forestland, perennial, and intermittent stream impacts when compared to Flyover A.

Similar impacts that occur under both alternatives include: surface water crossings of Neshaminy Creek and Mill Creek; floodplain encroachments, rangeland impacts, and the potential impact of seven threatened and endangered species populations. A more detailed comparison of impacts associated with the Build Alternatives is located in **Table III-6**.

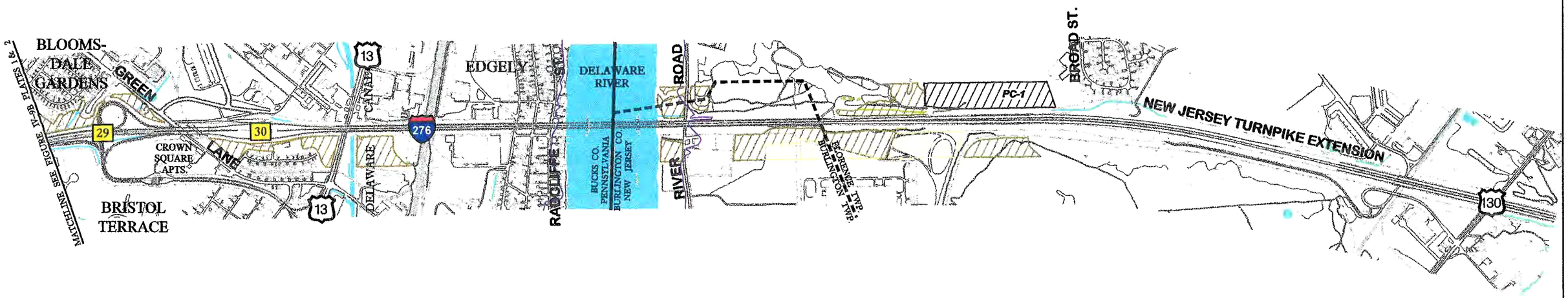
I-276 / I-95 INTERCHANGE PROJECT

FIGURE IV-9B PLATE 2
NATURAL RESOURCES
INTERCHANGE ELEMENT

SINGLE LOOP A &
FLYOVER A ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE



NATURAL RESOURCES IN THE BRIDGE ELEMENT



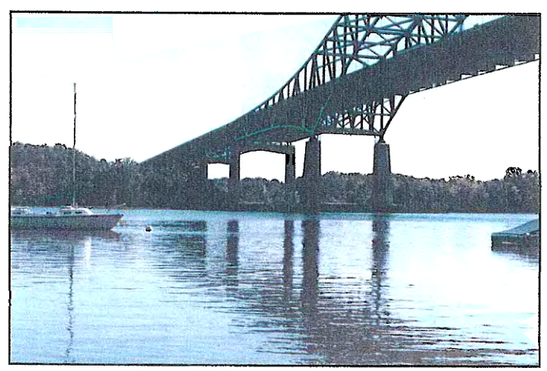
The Delaware Canal (pictured above) is a surface water resource listed in the natural resource inventory of the Bridge Element. PADCNR activities have resulted in rewatering portions of the canal, including the segment in the study area.

There are stands of deciduous forestland occurring in both Pennsylvania and New Jersey in the Bridge Element. The Pennsylvania forests exist largely as isolated patches whereas New Jersey forests are more extensive and connected to rangeland cover types.



Wetland resources identified in the New Jersey portion of the study area are generally located in disturbed environments parallel to the New Jersey Turnpike Extension. Pictured above is a typical example of the type of wetland found in the New Jersey portion of the study area.

There is one farmland that occurs in the Bridge Element. This farm, PC-1, is located in New Jersey, immediately north of the New Jersey Turnpike Extension.



The Delaware River (pictured above) and associated floodplain are significant resources in the Bridge Element. The Delaware River area contains one potential federally listed endangered species, the shortnose sturgeon, which is also New Jersey and Pennsylvania endangered. Other New Jersey and/or Pennsylvania threatened and endangered species populations in the Bridge Element include the peregrine falcon, bur-marigold, willow oak, sweetbay magnolia, and umbrella magnolia.

LEGEND

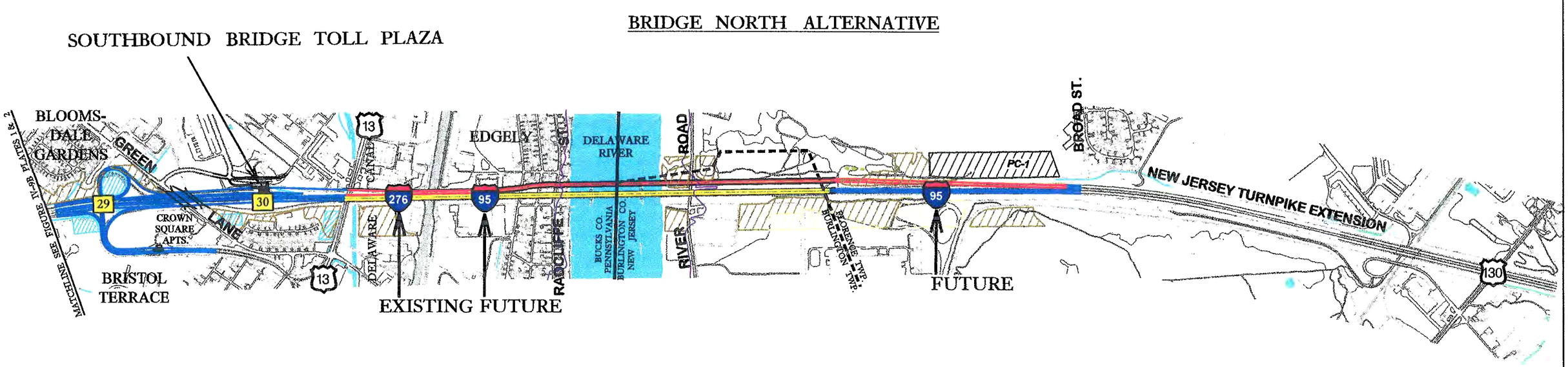
- Surface Water
- 29 Existing I–276 Interchange
- Floodplain Limits
- Wetlands
- Farmlands
- Forest
- Rangeland
- PC-1 Farmland Ownership Designation

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–9C PLATE 1
NATURAL RESOURCES
BRIDGE ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km
N



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

BRIDGE ELEMENT BUILD ALTERNATIVES

Differences in impacts to natural resources in the Bridge Element are due mainly to the construction of a new three-lane bridge to the north or south of the existing Delaware River Turnpike Bridge. The Bridge North Alternative has higher impacts to natural resources when compared to the Bridge South Alternative except in the areas of threatened and endangered species and forestland. The majority of wetland and forestland impacts are located in New Jersey, while the threatened and endangered species are located in both the Delaware River and on the Pennsylvania side of the river. The Bridge North Alternative would impact one federally listed and three state listed threatened and endangered species populations, whereas the Bridge South Alternative would minimize impacts to wetlands and perennial streams but would impact one additional state listed endangered plant species. A more detailed comparison of impacts in the Bridge Element is located in **Table III-6**.

LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade of Existing Bridge
- Floodplain Limit
- Surface Water
- Proposed Stormwater Management
- PC-1 Farmland Ownership Designation
- Wetland
- 29 Existing I-276 Interchange
- Rangeland
- Forest
- Farmland

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–9C PLATE 2
NATURAL RESOURCES
BRIDGE ELEMENT

BRIDGE NORTH &
BRIDGE SOUTH ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

(2) Interchange Element (Figure IV-9B, Plate2)

Both the Flyover A and Single Loop A Alternatives would involve construction in five soil series that may require special engineering considerations to facilitate roadway construction. Soils in the Interchange Element that may require special considerations include Hatboro, Fallsington, Alton, Urbana, and Pope. These soils may present engineering constraints during excavation work in six locations along streams due to a high water table, or to a flooding hazard. This includes the areas directly adjacent to unnamed tributaries of Neshaminy Creek and Mill Creek, as well as low lying wetland systems located north and south of I-276 along the existing I-95 highway corridor. In addition, micaceous soils listed as having poor stability, including the erosion-prone Manor Loam, 8-15 percent slopes, occur along I-95 in the northern portion of the Interchange Element **(Table IV-18)**.

(3) Bridge Element (Figure IV-9C, Plate2)

Both the Bridge North and Bridge South Alternatives would involve construction in one soil series that may require special engineering considerations during excavation work to facilitate roadway construction. Hatboro soils, which have a high water table and are subject to flooding, are present in the vicinity of the Delaware Canal. Soils along the Delaware River are listed as Urban Land in Pennsylvania, and Made Land in New Jersey. These soils consist of deep fill materials placed over original soil. Due to the highly variable nature and content of the fill materials, engineering constraints could not be determined for these soil series **Table IV-18.**

c. Soil Mitigation

Erosion of soils may temporarily occur as construction activities disturb vegetation and expose soil. Erosion and sediment pollution control devices such as sediment traps, silt fence, sedimentation basins, interception channels, and seeding and mulching would be used to minimize the impacts of soil erosion. Detailed Erosion and Sediment Control Plans would be prepared during Final Design in accordance with the guidelines provided by Pennsylvania Department of Environmental Protection (PADEP); New Jersey Department of Environmental Protection (NJDEP); Bucks and Burlington Counties Conservation Districts; *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2002); and the *Standards for Soil Erosion and Sediment Control in New Jersey* (New Jersey Department of Agriculture, 2000). The Erosion and Sediment Control Plans would be included in the National Pollutant Discharge and Elimination System (NPDES) Permit. The permits prepared for the project would meet the requirements of Chapter 102, Chapter 105, and Chapter 106 of *Title 25 of the Pennsylvania Code.*

Within the study area, Mill Creek, although currently not recognized as such, meets the criteria for a candidate stream for designation as a Class IV Exceptional Value Waters, as described in **Section IV-H**. Therefore, construction within the watershed of Mill Creek may require compliance with the water quality pollution prevention and protection guidelines specified by PADEP's *Special Protection Waters Implementation Handbook* (PADEP, 1992).

Additional information regarding mitigation of soils impacts during project construction is located in **Section IV-T**.

2. <u>Geology and Topography</u>

The geologic resources evaluation included a review of technical references including *Engineering Characteristics of the Rocks of Pennsylvania* (Geyer and Wilshusen, 1982); the *Geology and Groundwater Resources of Burlington County, New Jersey* (New Jersey Department of Conservation and Economic Development (NJDCED), 1968); the *Technical Manual for Land Use Regulation Program* (NJDEPE, 1993); and the *Environmental Impact Statement for Executive Order No. 2154 Review, Interconnection between New Jersey Turnpike Pennsylvania Extension and US Route 130* (NJTA, 1995). The topographic evaluation included a review of the USGS Beverly, PA-NJ; Bristol, PA-NJ; Langhorne, PA; and the Trenton West, NJ topographic quadrangles.

a. Existing Conditions

The study area is located within the Lowland and Intermediate Upland section of the Atlantic Coastal Plain Physiographic Province. The Atlantic Coastal Plain Physiographic Province is characterized by very low local relief, in the form of a flat upper terrace surface which is cut by valleys that range from steep-sided and narrow to open and shallow. The Delaware River floodplain is the dominant topographic feature within the study area.

The study area bedrock consists of formations of gneiss and schist of the Paleozoic Era. For most of the Pennsylvania study area, bedrock is overlain by generally deep deposits of sands and gravel of the more recent Cenozoic Era. The geologic structure associated with the Atlantic Coastal Plain consists of unconsolidated deposits underlain by very complex, faulted and folded metamorphic rocks.

The New Jersey study area is located in the Inner Lowland section of the Atlantic Coastal Plain Physiographic Province. The Raritan-Magothy geologic formation, which is classified as an acid-producing soil deposit according to the NJDEP Technical Manual for Stream Encroachment (*Technical Manual for Land Use Regulation Program,* NJDEPE, 1993), outcrops in this area with deposits comprised of fine to medium grained, unconsolidated sand and clay, overlain by a thin layer of Pleistocene deposits. Within the New Jersey study area, elevations range from less than five feet above sea level at the Delaware River, to over 21 m (70 ft) above sea level along portions of the New Jersey Turnpike Extension and elsewhere in the eastern portion of the study area. Drainage is characterized by numerous small to medium sized streams that flow west to the Delaware River. Additional information regarding study area geologic formations is contained in the Technical Support Data.

b. Geology and Topography Impacts

The No-Build Alternative would not impact geologic or topographic features in the study area.

The Build Alternative will not adversely impact any geodetic control monuments, as there are none within the project impact area.

(1) Toll Plaza Element (Figure IV-9A, Plate 2)

Between I-276 Interchange 28 at US 1 and Neshaminy Creek, the Split Plaza East and Modified Plaza West Alternatives are underlain by terrace deposits of the Pennsauken/Bridgeton formations, which are interrupted by exposures of Wissahickon Schist at locations where I-276 crosses waterways, including Neshaminy Creek. In addition, the roadway crosses a narrow, northeast-trending exposure of Lower Paleozoic mafic gneiss at the US 1/I-276 interchange. The Wissahickon formation has only fair cut/slope stability and may require drainage maintenance, and the Pennsauken/Bridgeton formations have a cut-slope stability ranging from good to poor, depending on the dominant composition material. Mafic gneiss has good cut-slope stability, and is highly resistant to weathering. The geology of the area would not be substantially impacted by construction activities. The topography of the area would be minimally impacted, as existing grades would be utilized, where possible, in order to minimize visual impacts.

(2) Interchange Element (Figure IV-9B, Plate 2)

Along the western half of the I-276 section extending from Neshaminy Creek to Bristol-Oxford Valley Road, the Flyover A and Single Loop A Alternatives are underlain by the Pennsauken/Bridgeton formations with the exception of a minor exposure of Wissahickon Schist adjacent to Neshaminy Creek. To the east of the point-of crossing, another exposure of Wissahickon Schist occurs. Between the eastern limit of this exposure and Bristol-Oxford Valley Road, the remainder of this segment of I-276 is underlain by Trenton Gravel. Both the Wissahickon and Trenton Gravel formations have only fair cut/slope stability and may require drainage maintenance. The Pennsauken/Bridgeton formations have a cut/slope stability ranging from good to poor, depending on the dominant composition material. Most of the I-95 alignment in the Interchange Element of the project is also within the mapped limits of the Pennsauken/Bridgeton formations. The geology of the area would not be substantially impacted by construction activities. The topography of the area would be minimally impacted, as existing grades would be utilized, where possible, to minimize visual impacts. There would be impacts to topography due to the proposed ramps at the point-of-crossing or proposed interchange ramps, which would be required for new construction.

(3) Bridge Element (Figure IV-9C, Plate 2)

Both the Bridge North and Bridge South Alternatives, extending from Bristol-Oxford Valley Road in the Pennsylvania portion of the study area to the Delaware River, would involve construction in the Trenton Gravel formation. The Raritan-Mathogy formation would be encountered during construction on the New Jersey side of the Delaware River. Construction within the Raritan-Mathogy formation could expose acid-producing soil deposits, which would require special erosion and sedimentation control measures. The Trenton Gravel formation has only fair cut/slope stability and may require drainage maintenance. In addition, the thick deposit of alluvial material associated with the Trenton Gravel formation, combined with a shallow groundwater surface, prohibit excavation to sound rock for spread footing on rock foundations. However, the granular soil is typically dense enough to directly support footing loads.

Detailed information on constraints related to the Raritan-Mathogy formation for the purposes of constructing this project is not known. Boring analyses and geological investigations would be completed as part of the Final Design of the bridge structure during the design phases of the project. The geology of the area would not be substantially impacted by construction activities. The topography of the area would be minimally impacted, as existing grades would be utilized, where possible, in order to minimize visual impacts. There would be impacts to topography due to the proposed excavation, which would be required for bridge construction.

c. Geology and Topography Mitigation

When situations such as major excavations or earthwork create slope stability concerns, detailed geotechnical investigations would be conducted and recommendations would be made to minimize their impact on construction. As mentioned above, foundation design required for bridgework would require extensive geotechnical investigations to identify potential constraints related to construction of the project. Recommendations would be provided in the foundation reports to address sheeting and shoring of excavations, slope stability, drainage impacts, etc.

In New Jersey, acid-producing deposits would likely be encountered in those areas where bridge structures would be placed. Areas of exposed acid-producing soil deposits would be managed as outlined in the *Technical Manual for Land Use Regulation Program* (NJDEP, 1993). Methods of testing for acidic soil deposits would also follow the methods outlined in the technical manual.

The Raritan-Mathogy formations within New Jersey are associated with soils that produce sulfuric acid upon exposure to oxygen from the air or from surface waters. In general, clayey deposits (some of which contain acid-producing deposits) are distributed irregularly throughout the formation beds and are of highly variable thickness.

When excavation in this formation is being considered, pre-construction borings should be examined for the possible presence of acid-producing deposits. Additional tests for pH and sulfate should be performed in the field or laboratory during pre-construction investigations and during construction to identify the presence of acid-producing deposits.

Structural and non-structural (vegetative) soil erosion and sediment control measures would be developed depending on a variety of factors, such as the duration and extent of soil disturbance, the construction season, the types and locations of stormwater collection structures, and final slopes. Detailed Erosion and Sediment Control Plans would be prepared during Final Design in accordance with the guidelines provided by PADEP; NJDEP; Bucks and Burlington Counties Conservation Districts; *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2002); and the *Standards for Soil Erosion and Sediment Control in New Jersey* (NJ Department of Agriculture, 2000). Soil erosion and sediment control measures in areas of acidic soils may include, but are not limited to, the following:

Recommended Non-Structural Methods:

- ✓ Minimize the exposure time and excavation area of acid-producing deposits when encountered.
- ✓ Temporary stockpiled acid soils material to be exposed more than 60 days should be covered with a minimum of 3 to 6 inches of woodchips.
- ✓ Establishment of permanent vegetation cover and mulch on exposed soils where perennial vegetation is needed for long term protection.
- ✓ Dust control on construction sites and roads to prevent blowing and movement of dust from exposed surfaces.
- ✓ Topsoil stripped from the site should be stored separately from temporarily stockpiled high acid producing soils.
- ✓ Stockpiles of highly acid soil should be located on level land to minimize its movement, especially when this material has a high clay content.
- ✓ Equipment used for movement of high acid producing soils should be cleaned at the end of each day to prevent spreading of high acid soil materials to other parts of the site.
- ✓ Limestone should be applied to areas where high acid producing soils are encountered.
- ✓ Acid-producing deposits, including soil contaminated with such deposits that are not backfilled and covered on site, should be disposed in a suitable manner and location.
- ✓ Monitoring of areas where acid soil has been placed or buried should be performed for up to 2 years to assure proper control.
- ✓ In addition, the guidelines stated in the PADEP *Erosion and Sediment Pollution Control Program Manual, 1990* and NJDEP *Soil Erosion and Sediment Control Standards* (N.J.A.C. 16:25A) should be met.

Recommended Structural Methods:

- ✓ Spread and compact 1-foot of soil free of acid-producing deposits over the exposed deposit surface. The pH of such soil should be 5.0 or greater.
- ✓ Covering small quantities of acid soil material or piles to be stockpiled for less than 60 days with heavy grade sheets of black polyethylene to keep acid soil material dry.
- ✓ Installation of slope protection structures where concentrated water would cause excessive erosion on existing and/or recently developed cut and fill slopes.
- ✓ Channel stabilization of open channels and existing streams or ditches.
- ✓ The erection of sediment barriers across, or at, the toe of slopes to intercept and detain small amounts of sediment from unprotected areas of limited coverage.

Additional information regarding soil erosion and sediment control measures is located in **Section IV-T** and the Technical Support Data.

G. GROUNDWATER RESOURCES

More detailed groundwater information is located in the Geology and Groundwater Hydrology Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

Information on general groundwater characteristics and study area aquifers was gathered from available New Jersey Department of Environmental Protection (NJDEP), Pennsylvania Department of Environmental Protection (PADEP) and US Geological Survey (USGS) publications. The locations of recorded wells within the study area were gathered from the Pennsylvania Department of Conservation and Natural Resources (PADCNR), the Pennsylvania Geologic Survey and the NJDEP Bureau of Water Allocation.

After determining the locations of important groundwater resources, such as aquifers and wells, impacts were evaluated by comparing the locations of these resources to the project's limits of disturbance.

1. Aquifer Characteristics

Study area groundwater conditions are variable because the study area is located in the Lowland and Intermediate Upland section of the Atlantic Coastal Plain Physiographic Province. Most wells in the Pennsylvania study area are located in crystalline, metamorphic rock (gneisses and schists) formations. These formations comprise the basement rock for the Raritan-Magothy formation that is a larger, regional aquifer system. In New Jersey, most of the study area wells are located in the Raritan-Magothy formation. Other study area wells in New Jersey are located in associated deposits of sand, gravel, and clay. The geologic characteristics of these aquifers are located in the Technical Support Data.

The Delaware River Basin Commission (DRBC) has designated sections of Berks, Bucks, Chester, Lehigh, and Montgomery Counties, Pennsylvania as the Southeastern Pennsylvania Ground Water Protection Area. Within the study area, only Middletown Township is included in this area. The DRBC limits withdrawals and requires permits for new withdrawals within the protection area.

2. Sole Source Aquifers (SSA)

A Sole Source Aquifer (SSA) is an aquifer designated by the US Environmental Protection Agency (USEPA) as the "sole or principal source" of drinking water for a given aquifer service area. The USEPA has designated the New Jersey Coastal Plain Aquifer System, underlying the New Jersey Coastal Plain Area, as the sole or principal source of drinking water for certain New Jersey counties, including Burlington County. The boundary of the New Jersey Coastal Plain Aquifer System also extends into Pennsylvania to include the area within the two miles of the Delaware River , which is part of the stream flow source zone of that aquifer system. The stream flow source zone is defined as the upstream headwaters area that drains into a recharge zone.

Portions of the study area in Pennsylvania and New Jersey that are outside the designated boundary of the New Jersey Coastal Plain Aquifer System are considered to be either in the stream flow source zone or the recharge zone of this SSA. This is because heavy pumping in Camden, New Jersey and Philadelphia, Pennsylvania has caused a reversal in the normal discharge of the aquifer. Consequently, the Delaware River surface water recharges the aquifer instead of vice-versa (Blickwedel and Wood, 1989).

3. Wellhead Protection Areas

Coordination with the Bucks County Planning Commission and NJDEP Ground Water Planning indicated that there are no Wellhead Protection Areas in the study area. There is a Wellhead Protection Area north of the study area in Bristol Township, Pennsylvania. Because the study area is located in a SSA, there is the potential that a Wellhead Protection area may be established in the future.

4. Well Water Inventory

Comprehensive plans for each study area municipality were reviewed to obtain information on study area water supplies. Either a municipal water authority or a private water company serves the majority of communities, with surface water as the primary source of raw water in the Pennsylvania portion of the study area. In Pennsylvania, private on-site groundwater wells are used in small, widely separated areas throughout the study area, and do not represent a substantial use of the local groundwater resources (PADCNR, 1999). None of these wells are near the study area, based on review of the *Pennsylvania Groundwater Information System* (PADCNR, 1999).

In the New Jersey portion of the study area, Florence Township relies solely on groundwater supplies for potable drinking water. The township maintains a well field that is located on the same parcel as the township municipal building, approximately 1219 m (4000 ft) northeast of the New Jersey Turnpike Extension. Burlington Township also relies on groundwater for drinking water supplies. The township has six wells currently in use and one under construction. Four wells are located at the main treatment plant site on Oxmeed Road and two are located on Aqua Road in the southwestern part of the township near Edgewater Park.

In addition to the drinking water supply wells, there are approximately 21 wells that are mainly used for groundwater monitoring or testing purposes (NJDEP Bureau of Water Allocation, 1999). None of these wells are used as a source for drinking water. Additional, more detailed information regarding groundwater resources is located in the Technical Support Data.

5. Impacts

The No-Build Alternative would not impact groundwater quantity or quality.

The alternatives in the Toll Plaza, Interchange, and Bridge Elements would have a minimal impact on local and regional groundwater. Increases in the amount of impervious cover would result through the construction of roadway ramps, jug handles, shoulders, etc., which would reduce the groundwater recharge area of the Raritan-Magothy aquifer. The Build Alternatives would result in the addition of between 38.92 ha (96.17 ac) and 39.18 ha (96.81 ac) of impervious surface, depending on which alternatives would be selected from each project element. However, the majority of new project runoff would pass through appropriate stormwater management devices, and would eventually reach the Neshaminy Creek, Mill Creek, or their tributaries, with ultimate discharge to the Delaware River. Since these surface waters are sources of inflow to the water table, as described in **Section IV-G.2**, much of the additional runoff would be indirectly recharged back to the groundwater.

With respect to the groundwater of the New Jersey Coastal Aquifer System, which is a SSA, the Build Alternatives would have minimal, if any, impact. Although the Delaware River and its tributaries comprise the stream flow source area for this aquifer system, project contributions would be inconsequential when compared to the vast size of the overall Delaware River system.

The project has the potential to further affect groundwater quality of the area by adding to the total amount of highway runoff pollutants entering the soil and groundwater system. Pollutants include road salts, heavy metals, oil, and grease. A detailed description of highway runoff pollutants and their sources is contained in the Technical Support Data.

The project would have little effect on the local water supply wells in the Pennsylvania portion of the study area. Most study area communities within Pennsylvania are served by either a municipal water authority or a private water company that typically use surface water as the primary source of raw water. However, in New Jersey, both Burlington and Florence Townships rely on groundwater wells for their drinking supply. These wells are a considerable distance from the study area and would not be impacted. The Florence Township well is located approximately 1219 m (4000 ft) northeast of the New Jersey Turnpike Extension. The wells previously identified for Burlington Township are between 6.5 to 8 km (4 to 5 mi) south of the study area.

6. Mitigation

Impacts to groundwater resources would be minimized through the implementation of sediment and erosion control measures specified by the PENNDOT *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2002), *Standards for Soil Erosion and Sediment Control in New Jersey* (New Jersey Department of Agriculture, 2000), PENNDOT *Publication 408, Specifications* (PENNDOT, 2000), PADEP and NJDEP regulations, and local jurisdictional agencies, such as the Bucks and Burlington Counties Conservation Districts. In addition, measures for spill containment and control would be incorporated to prevent groundwater contamination due to spills during construction. Additional information regarding spill containment and control, and other potential construction impact minimization measures, are described in **Section IV-T.**

H. SURFACE WATER RESOURCES AND AQUATIC BIOTA

More detailed Surface Water Resources and Aquatic Biota information is located in the Water Quality and Aquatic Biota and Surface Water Hydrology and Floodplains Technical Support Data.
** Technical Support Data Index is located in Section XII (Appendix C).*

Information pertaining to surface water resources was attained through coordination with PADEP, the Pennsylvania Fish and Boat Commission (PFBC), DRBC, USGS, NJDEP, and the USEPA STORET (storage and retrieval) database. The STORET database is managed by the USEPA and incorporates sampling data from other agencies, including USGS, DRBC, PFBC, PADEP, and NJDEP

Preliminary engineering design was used to calculate the surface water impacts associated with the extension of existing culverts, widening of existing bridges, construction of new bridge structures, and the relocation of surface waters.

1. Existing Conditions

The study area is drained by many waterways, the largest being the Delaware River, which flows south through the Bridge Element. The tributaries of the Delaware River in the Pennsylvania study area include Neshaminy Creek and Mill Creek. The study area also contains numerous unnamed tributaries that are part of the Neshaminy and Mill Creek Watersheds. Black Ditch Creek, located just north of the study area, is a tributary to Mill Creek. The Pennsylvania portion of the study area lies within both the Neshaminy Creek and Mill Creek Watersheds **(Figure IV-10)**. Within the New Jersey portion of the study area there is one small, unnamed tributary to the Delaware River just north of the Delaware River Turnpike Bridge. The Bustleton Creek Watershed is located south of the New Jersey portion of the project study area. Study area streams are depicted on **Figures IV-9A** to **IV-9C, Plate 2**.

Recreational uses of surface water resources in the study area include fishing and boating in the Delaware River, Neshaminy Creek, and Silver Lake. No streams in the study area are trout stocked waters managed by the PFBC. No surface waters in the study area have been identified as commercial fisheries.

The majority of study area streams have streambeds composed of varying amounts of clay, silt, sand, gravel, and, to a lesser extent, cobbles. The streambeds of larger water bodies such as Neshaminy Creek and the Delaware River are comprised of larger percentages of cobbles, rocks and boulders. Most of these streams exhibit eroded bank conditions caused by increased stream flows usually related to accelerated runoff from impervious surfaces, such as parking lots or housing developments during storm events. This accelerated runoff has had negative impacts on surface water quality, including stream bank erosion. Additional details regarding study area stream width, depth, gradient, and substrate were gathered during field investigations. Perennial and intermittent streams were classified using definitions outlined in *Title 25 of the Pennsylvania Code, Chapter 87 Surface Mining of Coal* (PADEP, 1996). A summary of the study area stream characteristics and classifications for the perennial and intermittent stream crossings are contained in **Table IV-19**.

a. Water Quality

(1) Delaware River

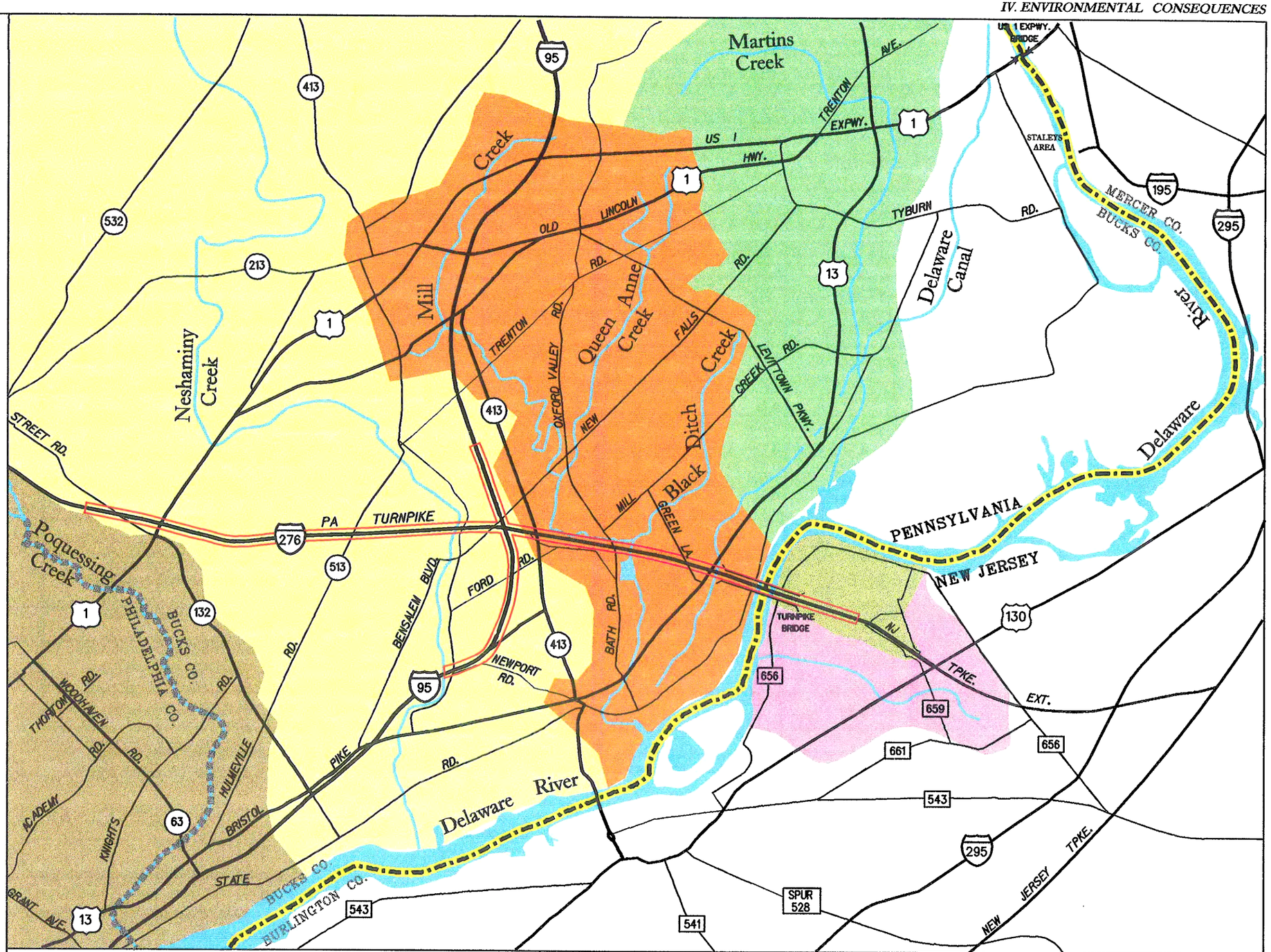
The major impact on water quality in the lower Delaware River is urbanization. The study area is located in DRBC Zone 2, or the upper Tidal River Zone, which contains tidal freshwater. The *Delaware River and Bay Water Quality Assessment, 1996-1997 305(b) Report* (DRBC, 1998) evaluated toxicity data in the Delaware River in terms of

categories: the Aquatic Life Use Full Support category and the Aquatic Life Non-Supporting category. The Full Support category describes good water quality that supports a diverse community of fish, plants, and aquatic insects, as well as the array of human activities assigned to a river by the state. The Non-Supporting category describes poor water quality that does not support a healthy aquatic community and/or prevents some human activities on the river (*The Quality of Our Nation's Water 1996 Executive Summary of the National Water Quality Inventory 1996 Report to Congress,* USEPA, 1998). Toxicity data from 1994-1995 compared to the 1996-1997 data resulted in 8 sq. mi. of the Delaware River Zone 2 to be transferred from the Aquatic Life Use Full Support category to the Non Supporting category (DRBC, 1998). In addition to toxicity data, bacterial levels in 1996-1997 were higher than previous data, suggesting a decrease in the water quality of the Delaware River.

Review of the 1997-1998 STORET data identified occasional violations of the applicable standards at the Trenton Avenue Bridge sampling station located upstream of the study area. Levels of heavy metals were often greater than the chronic criteria throughout the year. Monthly dissolved oxygen levels were typically above the minimum oxygen standard of 5.0 milligrams per liter (mg/l).

(2) Neshaminy Creek

According to the *Commonwealth of Pennsylvania 1996 Water Quality Assessment 305(b) Report* (PADEP, 1996), municipal point sources are one of the largest contributing factors to degraded water quality for surface waters in the watershed of Neshaminy Creek. Degraded water quality conditions were identified in some of the tributaries to the Neshaminy Creek mainstem through review of PADEP reports and water quality field sampling conducted for the project. These problems are caused by increased nutrients and reduced dissolved oxygen. Discharge of oxygen demanding materials, such as sewage and other organic wastes, are the primary factors in oxygen reduction (PADEP, 1996). Although contamination from sewage and industrial development is evident, the mainstem of the Neshaminy Creek has a sufficient flushing rate to maintain a relatively high dissolved oxygen content and neutral pH despite degraded conditions in some of its tributaries. Review of the 1997-1998 STORET data for Neshaminy Creek mainstem indicated that the majority of parameters sampled were within acceptable limits.



The Pennsylvania portion of the study area lies within the Neshaminy and Mill Creek watersheds, both of which are within the Delaware River watershed. The study area also contains numerous unnamed tributaries that are part of these watersheds. Named tributaries to the Mill Creek watershed include Black Ditch Creek and Queen Anne Creek located north of the study area. Numerous unnamed tributaries, which drain directly into the Delaware River, drain the New Jersey portion of the study area.

LEGEND

- Neshaminy Creek Watershed
- Poquessing Creek Watershed
- Martins Creek Watershed
- Bustleton Creek Watershed
- Unnamed Tributary to DE River Watershed
- Mill Creek Watershed
- Surface Water
- County Boundary
- Area of Detailed Study
- State Boundary

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–10
WATERSHEDS

1 In = 1 Mi (1 : 63,360) 0Mi 1Mi 2Mi 0Km 0.6Km 1.2Km N

TABLE IV-19
SUMMARY OF PERENNIAL AND INTERMITTENT STREAM CROSSINGS

Stream	Stream Impact ID/ Plate Number (Refer to Appendix A)	Chapter 93 Designation	Width m (ft)	Depth cm (in)	Average Gradient ft/1000 ft	Stream Substrate	Classification/ Notes
UNT to Neshaminy Cr.	MPW-2/ Plate 2 SPE-1/ Plate 2A	WWF, MF	0.6 - 1.2 (2.0 - 4.0)	2.5 - 15 (1.0 - 6.0)	7	Bedrock/Gravel /Silt	R2. Flowing, cloudy water. Sewage odor and foam on surface. White precipitate on substrate. Down stream of Phila. Park Racetrack basin outflow. Watershed largely commercial land.
UNT to Neshaminy Cr.	MPW-3/ Plate 2 SPE-2/ Plate 2A	WWF, MF	1.2 - 1.5 (4.0 - 5.0)	5.0 - 15 (2.0 - 6.0)	8	Gravel/Sand/ Silt	R2. Flowing, cloudy water. Some aquatic vegetation and invertebrates observed. Watershed influenced largely by commercial land use.
UNT to Neshaminy Cr.	MPW-4/ Plate 2 SPE-3/ Plate 2A	WWF, MF	1.2 - 1.5 (4.0 - 5.0)	2.5 - 5.0 (1.0 - 2.0)	10	Gravel/ Sand/ Silt	R2. Flowing, clear water. Algae on rocks. No invertebrates observed. Watershed largely residential land.
UNT to Neshaminy Cr.	MPW-5/ Plate 2 SPE-4/ Plate 2A	WWF, MF	0.6 - 2.4 (3.0 - 5.0)	5.0 - 10.0 (2.0 - 4.0)	8	Gravel/Sand	R2. Clear water with moderate flow. Algae on rocks. Invertebrates observed. Watershed largely residential land use.
UNT to Neshaminy Cr.	MPW-7/ Plate 3 SPE-6/ Plate 3A	WWF, MF	0.6 - 2.4 (3.0 - 8.0)	5.0 - 7.5 (2.0 - 3.0)	8	Cobble/Rocks/ Sand/Silt	R2. Clear water with moderate flow. Algae on rocks. Invertebrates observed. Watershed dominated by residential land use.
UNT to Neshaminy Cr.	MPW-8/ Plate 3 SPE-7/ Plate 3A	WWF, MF	0.6 - 0.9 (2.0 - 3.0)	5.0 - 7.5 (2.0 - 3.0)	10	Sand/Silt/ Detritus	R4. Clear water with minimal flow. No invertebrates observed. Watershed dominated by residential land use.
Neshaminy Creek	SL-1/ Plate 4 FLY-1/ Plate 4A	WWF, MF	39.6 (130.0)	N/A	2	Cobble/Gravel/ Sand/Silt	R1. Watershed is a mixture of various land use types, largely residential and forestland.
UNT to Neshaminy Cr.	SL-2/ Plate 4 FLY-2/ Plate 4A	WWF, MF	0.6 - 1.2 (3.0 - 4.0)	5.0 – 8.9 (2.0 – 3.5)	10	Gravel/Silt/ Detritus	R4. Clear water with minimal flow. No invertebrates observed. Watershed a mixture of land use types.
UNT to Neshaminy Cr.	SL-3/ Plate 4 FLY-3/ Plate 4A	WWF, MF	0.6 - 1.5 (2.0 - 5.0)	5.0 - 15.0 (2.0 - 6.0)	4	Sand/Silt	R2. Clear water with minimal flow. Watershed influenced largely by commercial land use.
UNT to Neshaminy Cr.	FLY-4/ Plate 5A	WWF, MF	0.3 (1.0)	<2.5 (<1.0)	15	Sand/Silt/ Detritus	R4. Clear water but not flowing. Watershed dominated by residential land use.
UNT to Mill Cr.	SL-6/ Plate 8 FLY-7/ Plate 8A	WWF	0.6 - 1.5 (2.0 - 5.0)	7.5 - 15.0 (3.0 - 6.0)	4	Gravel/Sand/ Silt/Detritus	R2. Clear water with moderate flow. Invertebrates observed Watershed consists of forested wetlands.
UNT to Mill Cr.	SL-7/ Plate 8 FLY-8/ Plate 8A	WWF	0.6 - 1.2 (3.0 - 4.0)	7.5 - 20.0 (3.0 - 8.0)	4	Silt/Sand/ Detritus	R4. Clear water with low flow, dries up in summer months. Invertebrates and minnows observed. Watershed consists of forested wetland and residential land use.
Mill Creek	SL-8/ Plate 8 FLY-9/ Plate 8A	WWF	12.2 (40.0)	N/A	<1	Cobble/Gravel/ Sand/Silt	R2. Watershed consists largely of residential and park land use types.
UNT to Mill Cr.	BS-2/ Plate 9 BN-2/ Plate 9A	WWF	0.6 - 0.9 (2.0 - 3.0)	12.7 (5.0)	2	Silt/Mud/ Detritus	R4. Clear water with minimal flow. No invertebrates observed. Watershed dominated by commercial land use (3M facility). Wetland located at source.
Delaware River	BS-3, BS-4/ Plate 9 BN-3, BN-4/ Plate 9A	WWF, MF	378.0 (1,240.0)	N/A	<1	Cobble/Gravel/ Sand/Silt	R1. Watershed consists of a wide range of land use types.

Source: *Title 25 of the Pennsylvania Code, Chapter 93 Water Quality Standards* (PADEP, 1999).
UNT - Unnamed Tributary
R1 - Tidally Influenced Stream (see glossary for definition)
R2 - Lower Perennial Stream (see glossary for definition)
R4 - Intermittent Stream (see glossary for definition)
WWF - *Warm Water Fishes* - Maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.
MF – *Migratory Fishes* – Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which ascend to flowing waters to complete their life cycle.

(3) Mill Creek

There was no information in the STORET database for Mill Creek or any of its tributaries within the study area. Therefore, a water quality investigation of Mill Creek, consisting of field sampling, was conducted in 1994. Results of this investigation are discussed in **Section IV-H.5**.

Within the study area, Mill Creek, although not currently classified as such, meets the criteria for a candidate stream for designation as a Class IV Exceptional Value Waters due to the confirmed presence of threatened and endangered aquatic species (PADEP, 1992). During surveys conducted in the fall of 2001, the Pennsylvania candidate eastern mudminnow (*Umbra* pygmaea) was found in segments of Mill Creek and Silver Lake Park. Spotted pondweed (*Potamogeton pulcher*), a Pennsylvania endangered species, was previously found in Mill Creek. **Section IV-L** details the threatened and endangered species found in the study area. The Pennsylvania's Special Protection program aspires to maintain clean waters and protect outstanding resources and environmental amenities (*Special Protection Waters Implementation Handbook*, PADEP, 1992).

(4) Delaware Canal

Until recently, the Delaware Canal within the study area had an insufficient water supply and remained dry for extended periods throughout the year, thus making it unable to support fish and macroinvertebrates. Since distribution of the DEIS, local efforts have been made to dredge and re-water the Delaware Canal throughout its length, including the portion in the study area. However, it is unknown if any fishes or macroinvertebrates will repopulated the canal in the study area.

(5) Water Quality Field Sampling

Because there were a limited number of STORET sites for study area streams, field sampling was conducted to augment existing water quality data.

Four water quality field sampling sites were established in 1994 at the following locations **(Figure IV-9B, Plate 1)**: (1) Neshaminy Creek, approximately 46 m (150 ft) downstream of the I-276 bridge; (2) Mill Creek, approximately 46 m (150 ft) downstream of the I-95 bridge in the Sycamore Ridge Greenbelt of Mill Creek Valley Park (this site is located outside the study area); (3) Mill Creek, approximately 30 m (100 ft) downstream of the I-276 bridge at Silver Lake Park; and (4) An unnamed tributary to Neshaminy Creek, approximately 8 m (25 ft) downstream of the Groveland Avenue culvert in Newportville (approximately 398 m/1,300 ft downstream of I-95). Details regarding the water quality field sampling program, including methodology and sampling results, are located in the Technical Support Data.

The sampling results for each of the four sites are described below. The water quality criteria for this sampling program are included in the *Administrative Manual – Part III, Water Quality Regulations* (DRBC, 1994), *Title 25 of the Pennsylvania Code, Chapter 16 Water Quality Toxics Management Strategy* (Pennsylvania Department of Environmental Resources (PADER, 1993), and *Title 25 of the Pennsylvania Code, Chapter 93 Water Quality Standards* (PADER, 1993).

Each of the four sample sites was sampled in February, May, August, and November of 1994. Over 40 parameters were evaluated for each sample taken. Comparing the sampling results to the criteria, Sampling Site 1 exceeded DRBC criteria for dissolved solids in the February sampling. Sampling Site 2 exceeded PADER (currently PADEP) criteria for dissolved solids, aluminum, lead, and iron in February; lead exceeded PADER criteria in August and November; and mercury exceeded PADER criteria in May and November. Sampling Site 3 exceeded PADER criteria for dissolved solids, aluminum, lead, and iron in February; lead also exceeded PADER criteria in August; and mercury exceeded PADER criteria in February. Sampling Site 4 exceeded PADER criteria for aluminum, copper, iron, lead and mercury in February; dissolved solids, copper, iron, manganese, and mercury in May; lead was exceeded in August; and aluminum, iron, manganese, and mercury in November.

More detailed information regarding the water quality field sampling program, including methodology and sampling techniques, is included in the Technical Support Data.

b. Aquatic Resources

(1) Aquatic Macrophytes

In independent aquatic plant surveys conducted in 1988, several aquatic plant species were identified in the freshwater tidal sections of the Delaware Estuary. The following are species that typically occur in the study area: wild-celery (*Vallisneria americana*), Eurasian water milfoil (*Myriophyllum spicatum*), Nuttall's waterweed (*Elodea nuttallii*), slender naiad (*Najas flexilis*), horned pondweed (*Zannichella palustris*), small pondweed (*Potamogeton pusillus*), curly pondweed (*Potamogeton crispus*), and sago pondweed (*Potamogeton pectinatus*) (Schuyler, 1988).

The tidal sections of Neshaminy Creek and its tributaries support a variety of aquatic plant species. Aquatic plant species collected from Neshaminy Creek by Schuyler (1988) included wild-celery, Eurasian water-milfoil, Nuttall's waterweed, long-leaf pondweed (*Potamogeton nodosus*), and larger water-starwort (*Callitriche heterophylla*). Plants identified by the PFBC 1975 *Neshaminy Creek Stream Survey Report* included species of milfoil (*Myriophyllum sp.*), pondweed (*Potamogeton sp.*), arrow-head (*Sagittaria sp.*), smartweed (*Polygonum sp.*), spatterdock (*Nuphar sp.*), and cattail (*Typha sp.*).

In Mill Creek, larger water-starwort and common hornwort (*Ceratophyllum demersum*) were collected (Schuyler, 1988).

Various plant surveys were conducted to determine the presence or absence of threatened or endangered aquatic plant species in the project study area. The New Jersey endangered bur-marigold (*Bidens bidentoides*) was identified in the intertidal zone of the Delaware River, south of the existing Delaware River Turnpike Bridge, during a 1998 botanical survey. Spotted pondweed (*Potamogeton pulcher*), a Pennsylvania endangered plant that has historically been found in the study area, was not found during surveys of appropriate habitat associated with Mill Creek during the fall of 2000. Additional information regarding botanical surveys can be found in the reports *Endangered Plant Species Report for the I-95/I-276 Interchange Project Property* (Mellon, 2001) and *Plant Species of Special Concern Report for the I-95/I-276 Interchange Project Site* (Mellon, 2002).

(2) Plankton

The dominant phytoplankton species in the Delaware Estuary, within the study area, include *Cyclotella menghiniana*, *Closterium sp.*, *Melosira sp.*, *Nitzschia sp.*, *Scenedesmus sp.*, and *Pediastrum sp.* The dominant zooplankton of the freshwater tidal section of the Delaware Estuary includes cyclopoid copepods, cladocera, rotifers, and gammarid amphipods (Frithsen et. al., 1991). The dominant ichthyoplankton (fish eggs and larvae) in the Delaware Estuary consisted of blueback herring, alewife, and other clupeid fishes (Frithsen et. al., 1991).

(3) Aquatic Macroinvertebrates

In general, the type and number of benthic macroinvertebrates in the study area streams suggest fair to good water quality, despite the degraded condition of many local waterways in watersheds that consist largely of urban land use. Macroinvertebrate information for the study area waterways was obtained through the STORET database, PADEP stream reports, and field sampling by the Project Team. Macroinvertebrate sampling was conducted in the Delaware River, Mill Creek, Neshaminy Creek, and unnamed tributaries to Neshaminy Creek. The macroinvertebrates found during sampling are presented in **Table IV-20**, as well as their pollution tolerance levels.

Macroinvertebrates collected while sampling the Delaware River and Neshaminy Creek included *Stenonema*, *Argia*, *Stenelmis*, and *Chimarra*. Because they are generally intolerant to decomposable organic waste, they are indicators of good water quality (USEPA, 1973).

Sampling conducted by PADEP in 1991 on an unnamed tributary to Neshaminy Creek yielded macroinvertebrate genera such as *Cricotopus*, *Simulium*, and *Hydropsyche*, which are generally considered to be pollution intolerant, but were present in samples despite the tributary showing high levels of fecal bacteria. Acute levels of fecal bacteria may have been a result of detention basin discharge or urban runoff from sources located upstream of the sampling point (PADEP, 1991).

The blue crab (*Callinectes sapidus*) is a recreationally important invertebrate that occurs in the Delaware Estuary. A complete listing of study area macroinvertebrate genera is presented in the Technical Support Data.

(4) Fishes

Records of fish species in the study area were obtained from fisheries surveys conducted by the Pennsylvania Game Commission (PGC), PFBC, Silver Lake Nature Center (SLNC), and NJDEP, Bureau of Freshwater Fisheries. The PGC provided a master list of fish species that occur in the study area. No fisheries information was found for Mill Creek. Detailed information on fish species occurring in study area waterbodies is located in the Technical Support Data.

Thirty-two fish species are reported to occur in the tidal Delaware Estuary in the study area. Generally, improved water quality has allowed the populations of fish species, such as American shad and striped bass, to increase from historic lows.

Important recreational species in the estuary include American eel (*Anguilla rostrata*), blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad (*Alosa sapidissima*), common carp (*Cyprinus carpio*), channel catfish (*Ictalurus punctatus*), white catfish (*Ameiurus catus*), brown bullhead (*Ameiurus nebulosus*), striped bass (*Morone saxatilis*), white perch (*Morone americana*), largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), pumpkinseed (*Lepomis gibbosus*), and redbreast sunfish (*Lepomis auritus*).

The shortnose sturgeon (*Acipenser brevirostrum*), which occurs in the Delaware River and project study area, is listed as a Federal, Pennsylvania, and New Jersey endangered species. The shortnose sturgeon is protected under the Endangered Species Act of 1973, as amended (**Section IV-L**). The blueback herring, American shad and striped bass are species of interest to both the PFBC and NJDEP-FGW. The Delaware River Fish and Wildlife Cooperative and the Atlantic States Marine Fisheries Commission (ASMFC) have developed management plans for American shad and blueback herring. The ASMFC has also instituted a management plan for striped bass.

Thirty-four fish species have been reported by various agencies from the Neshaminy Creek, which is tidally influenced from its mouth upstream to the I-276 bridge. Anadromous fishes such as blueback herring and alewife ascend Neshaminy Creek in the spring to spawn. Common species reported in Neshaminy Creek include American eel, blueback herring, goldfish (*Carassius auratus*), common carp, Eastern silvery minnow (*Hybognathus regius*), spotfin shiner (*Cyprinella spiloptera*), satinfin shiner (*Cyprinella analostanus*), white sucker (*Catostomus commersoni*), white perch, largemouth bass, smallmouth bass (*Micropterus dolomieui*), pumpkinseed, and redbreast sunfish.

A total of 42 fish species have been documented as occurring in Silver Lake (Carmichael, undated). Common species include American eel, banded killifish (*Fundulus diaphanus*), brown bullhead, common carp, golden shiner (*Notemigonus crysoleucas*), tesselated darter (*Etheostoma olmstedi*), largemouth bass, smallmouth bass, white crappie (*Pomoxis annularis*), and pumpkinseed. Silver Lake, located in Silver Lake Park, is fed by Mill Creek and was created when Mill Creek was dammed.

In the Fall 2001, surveys were conducted to determine the presence or absence of the Pennsylvania endangered ironcolor shiner (*Notropis chalybaeus*) in the project study area. None were identified in the survey areas, however, during these surveys the Pennsylvania candidate eastern mudminnow (*Umbra pygmaea*) was found in Silver Lake Park and Mill Creek. Additional information regarding the ironcolor shiner survey is located in the report *An Intensive Survey for Ironcolor Shiner (Notropis chalybaeus), Within Waterways Associated with the Proposed Connection of the Pennsylvania Turnpike (I-276) and Interstate Highway Route 95* (O'Herron et. al., 2002), and in **Section IV-L**.

(5) Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act established Essential Fish Habitat (EFH) as " the habitat of marine, estuarine, and anadromous finfish, mollusks and crustaceans". It was further defined to include "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity". Coordination with the NMFS confirmed that no EFH for any marine, estuarine, or anadromous fish species is located within the study area. EFH designation is restricted to waters with salinities ≥0.5 parts per thousand. Therefore, the section of the Delaware River within the study area, which is totally freshwater, does not meet this requirement.

c. Drinking Water Supply

Two surface water bodies in the study area provide a source for drinking water for study area municipalities. The Philadelphia Suburban Water Company, whose service area includes Bensalem Township, Bristol Borough, and part of Bristol Township, identified two surface water intake stations that provide water for these municipalities. In Pennsylvania, one station is located along the Neshaminy Creek in Neshaminy Falls, which is upstream and north of the study area. The other station is located along the Delaware River in Bristol Borough, south of the study area.

The Lower Bucks County Water Authority also maintains an intake station along the Delaware River upstream of Bristol, near Tullytown. Their service area includes Tullytown Borough, Bristol, Middletown, and Falls Townships.

Within New Jersey, Florence and Burlington Townships rely mainly on groundwater sources for their potable drinking water supply. These groundwater supply wells are discussed in **Section IV-G.4**. However, the City of Burlington maintains a water supply intake facility on the Delaware River. The intake is located between Burlington Island and the bulkhead of the City of Burlington, south of the study area.

TABLE IV-20
BENTHIC MACROINVERTEBRATES OCCURRING IN THE STUDY AREA

Taxa	Tolerance Value[1]	Waterbody Sampled						
		Del 1	Nesh 1	Sta 1A	Sta 1B	Sta 2	Sta 3	Mill 1
TURBELLARIA (Flatworms)								
Planariidae								
Cura	N/A		X			X	X	
Dugesia	4	X					X	
OLIGOCHAETA (Aquatic Worms)								
Prosopora								
Lumbriculidae	10			X	X		X	
HIRUDINEA (Leeches)								
Glossiphoniidae								
Placobdella	6					X		
CRUSTACEA								
Isopoda (Sow Bugs)								
Asellidae								
Lirceus	8			X			X	
Asellus	8					X	X	
Amphipoda (Scuds, Sideswimmers)								
Gammaridae								
Gammarus	4	X		X		X	X	X
Talitridae								
Hyalella	8						X	
Decapoda (Crayfish)								
Cambaridae	6			X				
INSECTA								
Diptera (Flies, Midges)								
Chironomidae	6	X	X					
Pentaneura	Intolerent			X			X	
Dicrotendipes	8			X			X	
Polypedilum	6			X			X	
Brillia	5			X				
Eukiefferiella	8			X				
Cricotopus	7					X		
Nilotanypus	4			X	X	X	X	
Chironomus	10						X	
Tipulidae	3							X
Antocha	4.6			X				
Tipula	4			X				
Simuliidae								
Simulium	6					X		
Trichoptera (Caddis Flies)								
Hydropsychidae	4							X
Cheumatopsyche	5	X	X	X				
Hydropsyche	4			X	X			
Ceratopsyche	2			X				
Philopotamidae								
Chimarra	4		X					
Helicopsychidae								
Heliopsyche	3		X					
Glossosomatidae	0	X						
Lepidoptera								
Pyralidae								
Petrophila	5	X						
Ephemeroptera (Mayflies)								
Heptageniidae								
Stenonema	4	X	X					
Stenacron	4	X	X					

Taxa	Tolerance Value[1]	Waterbody Sampled						
		Del 1	Nesh 1	Sta 1A	Sta 1B	Sta 2	Sta 3	Mill 1
Baetidae								
Acentrella	4	X						
Baetis	6	X	X	X				
Caenidae								
Caenis	7		X					
Megaloptera (Alderflies)								
Sialidae								
Sialis	4			X			X	
Odonata (Dragonflies, Damselflies)								
Agrionidae								
Argia	6	X	X					
Aeshnidae								
Boyeria	6.3			X			X	
Lestidae								
Archilestes	N/A			X			X	
Libellulidae								
Plathemis	10						X	
Hemiptera (Bugs)								
Gerridae	5			X	X			
Coleoptera (Beetles)								
Curculionidae								
Bagous	N/A			X				
Dytiscidae								
Lycophilus	N/A			X			X	
Elmidae								
Stenelmis	5	X	X	X		X		
Gonielmis	5					X		
Optioservus	4			X				
Hydrophilidae								
Berosus	6.7		X					
Derallus	N/A						X	
Dibolocelus	N/A						X	
Psephenidae								
Ectopria	5			X				
Collembola (Springtails)	N/A			X				
HYDRACARINA (Water Mites)								
Trombidiformes								
Mideopsis	N/A			X				
GASTROPODA (Snails, Limpets)								
Pleuroceridae								
Planorbula	N/A			X				
Basommatophora								
Physidae	8	X						
Physella	8			X	X			
Planorbidae	7	X						
BIVALVIA (Clams, Mussels)	N/A							X
Pelecypoda								
Pisidiidae	8		X					

Del 1 – Delaware River, Trenton Ave Bridge, Sample date 9/30/93, STORET printout 12/18/98.
Nesh 1 – Neshaminy Creek, PA 213 Bridge, Sample date 9/30/93, STORET printout 12/18/98.
Sta 1A – Unt. to Neshaminy Creek, PADER, Sample date 7/22/91.
Sta 1B – Unt. to Neshaminy Creek, PADER, Sample date 7/22/91.
Sta 2 – Unt. to Neshaminy Creek, PADER, Sample date 7/22/91.
Sta 3 – Unt. to Neshaminy Creek, PADER, Sample date 7/22/91.
Mill 1 – Mill Creek, KCI, Sample date 2/16/99.
1 – Tolerance Values are on a 0 to 10 scale, 0 representing the tolerance value of an extremely sensitive organism and 10 for a tolerant organism.
Source: Barbour M.T., et. al., 1999.

d. Navigable Waterways

The USACOE defines navigable waters as those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. Therefore, within the study area, the Delaware River, Neshaminy Creek, and the Delaware Canal are considered navigable waters according to the USACOE. The Delaware Canal was historically used to transport goods. Currently, the Delaware Canal within the study area in Bristol Township is culverted beneath US 13 (Bristol Road), Green Lane, and other local roads and urban developments.

The US Coast Guard (USCG) considers tidal waters and/or waters with interstate commerce navigable. Therefore, both the Neshaminy Creek and the Delaware River are considered navigable. Both the Delaware Canal and Mill Creek are not tidal and are not considered navigable by the USCG due to constrictions such as culverts and/or dams.

According to nautical charts prepared by the United States Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Neshaminy Creek, 1,609 m (1 mi) downstream from the I-95 bridge (near US 13), contains 1 to 2 m (3 to 8 ft) deep navigational channels leading to four small marinas and many stream docks.

The NOAA Nautical Charts also indicate that the Delaware River, near the Delaware River Turnpike Bridge, contains a major navigational channel designated as the Landreth Channel. The channel ranges from 7 to 11 m (22 to 36 ft) deep; 122 m (400 ft) wide; 1.21 nautical miles (1.7 km/1.06 mi) long; and has an Extreme Low Water Tide depth of 12 m (40 ft). The Delaware River Turnpike Bridge has a horizontal clearance of 168 m (550 ft) and a vertical clearance of 41 m (135 ft) from mean high water.

There are three ports located upstream, and in proximity, to the existing Delaware River Turnpike Bridge, the Riverside Port, the Novolog Marine Terminal, and the Grows Terminal. These ports are located on the Pennsylvania side of the river. The annual number of ships entering these ports was determined through coordination with the Maritime Exchange of the Delaware Estuary and Bay. This number would be the approximate number of ships passing beneath the Delaware River Turnpike Bridge, since there are no other ports located upstream of Novolog. Of the 112 ships listed in **Table IV-21**, 10 traveled to the Riverside Port, 14 traveled to Grows, and the remaining 88 traveled to Novolog. The ships traveling to the Riverside Port mainly carried cement products; those traveling to the Novolog Marine Terminal mainly carried steel products, and those traveling to Grows carried salt, pumice, and steel products. Additional information regarding these vessels and shipping in the Delaware River can be found in the Technical Support Data.

TABLE IV-21
APPROXIMATE NUMBER AND SIZE OF VESSELS PASSING BENEATH THE DELAWARE RIVER TURNPIKE BRIDGE (between May 2002 and May 2003)

Length of Ships (meters)	Width of Ships (meters)										
	<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	≥50	no data	TOTALS
<100	---	1	---	---	---	---	---	---	---	---	1
100 to 109	1	---	3	---	---	---	---	---	---	---	4
110 to 119	---	2	---	---	---	---	---	---	---	---	2
120 to 129	---	---	1	---	---	---	---	---	---	---	1
130 to 139	---	1	3	---	---	1	---	---	---	---	5
140 to 149	---	---	1	---	---	---	---	---	---	---	1
150 to 159	---	---	2	---	---	---	---	---	---	---	2
160 to 169	---	---	3	9	---	---	---	---	---	---	12
170 to 179	---	---	3	7	1	---	---	---	1	---	12
180 to 189	---	---	4	2	26	---	---	---	---	1	33
190 to 191	---	---	3	4	11	---	---	---	---	---	18
200 to 209	---	---	1	---	1	---	---	---	---	---	2
210 to 219	---	---	---	---	1	---	---	---	---	---	1
220 to 229	---	---	---	---	11	---	---	---	---	---	11
≥230	---	---	---	---	---	---	---	---	---	---	0
no data	---	---	---	---	---	---	---	---	---	7	7
TOTALS	1	4	24	22	51	1	0	0	1	8	112

2. Impacts

The No-Build Alternative would not add any additional impacts to the existing surface water resources. Impacts to surface water resources from alternatives in the Toll Plaza, Interchange, and Bridge Elements would include the direct impacts resulting from stream encroachments and aquatic habitat loss, as well as impacts associated with additional roadway surface runoff and increases in pollutants draining into surface waters. Runoff rates decrease with the construction of stormwater management facilities. In addition, it is expected that there would be temporary impacts associated with construction related activities during construction.

a. Water Quality

Water quality of the existing streams (major streams and smaller tributaries) will experience both temporary and permanent impacts associated with the construction of the project. The principal concern to water quality is the permanent impact of increased contaminant loading from highway runoff. It is approximated that the project would result in the addition of between 38.92 ha (96.17 ac) and 39.18 ha (96.81 ac) of impervious surface, depending on which alternatives would be selected from each project element. This additional area would create additional roadway runoff containing automobile related pollutants. Pollutants of concern include deicing agents, heavy metals, oil, grease, and other hydrocarbons. However, the additional roadway runoff would pass through stormwater management facilities constructed adjacent to the highway alignments. In addition, the proposed stormwater management facilities would be designed to receive a portion of the existing roadway runoff. Currently, some of the streams in the study area are aligned parallel to I-276 and I-95 and, therefore, receive runoff directly from the roadway. Directing this runoff to the proposed stormwater management facilities for primary treatment may alleviate some contaminant-loading stresses to existing streams.

Temporary impacts to water quality would result from construction activities that disturb the substrate and bank of an impacted stream. Such activities include the construction of temporary causeways and cofferdams within the stream channel, bank excavation to extend wing walls, culverts or pier construction, or the removal of stream bank vegetation. These disturbances have the potential to cause erosion during construction. Erosion of disturbed stream bank areas would increase siltation and sediment loads to the impacted stream, increasing suspended particulates and turbidity.

Temporary impacts to water quality may occur due to the construction of in-stream piers and bridges that span Neshaminy Creek and the Delaware River. Impacts to water quality may include a temporary increase in turbidity and siltation during pier construction and cofferdam construction. No permanent water quality impacts are anticipated from this action.

b. Aquatic Resources

Aquatic biota of the study area streams will also experience temporary and permanent impacts associated with the construction of the project. Temporary impacts are directly related to earth moving activities, and the resultant changes in water quality conditions, such as increased siltation and sediment loads, depressed oxygen levels, suspended particulates, and turbidity. Temporary impacts would include:

- ✓ Direct loss of aquatic organisms intolerant of sedimentation and suspended solids, and a resulting change in aquatic community structure in the area of disturbance and further downstream
- ✓ Loss of vegetative canopy cover and stream shading that increases sunlight and elevates water temperatures, thereby altering dissolved oxygen levels and primary production
- ✓ Reduction in the adult reproductive rates and survival of young of the year invertebrates and fish
- ✓ Changes in the aquatic community structure and inhibition of the food web due to increased sediment loads and suspended solids

Permanent impacts would include direct impacts due to the extension of existing culverts, additional roadway surface, and construction of bridges to span surface waters, including construction of bridge piers in stream channels. Permanent impacts would include:

- ✓ Direct loss of aquatic habitat, and the values it provides, such as spawning habitat and cover
- ✓ Altered stream flow, current patterns, bed loads, and water quality that affect aquatic community structure and stream geomorphology

As a result of presence or absence surveys for threatened or endangered aquatic species in the project study area, species of concern have been identified that would be impacted by the project and therefore require special attention during construction **(Section IV-L)**. The federally endangered shortnose sturgeon (*Acipenser brevirostrum*) may be impacted during the construction of bridge piers and other activities that affect water quality or aquatic habitat of the Delaware River. Similarly, construction related impacts in the vicinity of Mill Creek may affect the Pennsylvania candidate eastern mudminnow (*Umbra pygmaea*) and the Pennsylvania threatened red-bellied turtle (*Pseudemys rubriventris*). Information regarding impacts to rare, threatened and endangered species is located in **Section IV-L.2**.

c. Drinking Water Supply

Both the Delaware River and the Neshaminy Creek are surface water bodies in the study area that are sources for drinking water. The intake station, previously identified along the Neshaminy Creek in Neshaminy Falls, is upstream of the study area and would not be impacted by the project. The intake station along the Delaware River maintained by the Lower Bucks County Water Authority is upstream of Bristol near Tullytown and, therefore, would not be impacted by the project.

Bristol Borough and the City of Burlington maintain additional intake stations located along the Delaware River. These intake stations are located downstream of the study area. It is anticipated that the proposed project would have no adverse impact to water quality at these stations. The project would incorporate the permanent use of stormwater management basins that would receive additional roadway runoff as well as some of the existing untreated runoff that currently drains into surface waters in close proximity to I-276 and I-95. The proposed stormwater management basins would allow for sediments and contaminants to settle while providing a controlled release of water to the streams.

d. Navigable Waterways

Direct impacts to navigable waterways are anticipated within the study area. The widening of the I-276 bridge over Neshaminy Creek would require in-stream pier placement, however, the proposed piers would be aligned with the existing pier structures. The new bridge constructed over the Delaware River and Delaware Canal would be similar in structural design to the existing bridge and the proposed piers would be aligned to the existing pier structures. The existing horizontal and vertical clearances provided at the Delaware River, Delaware Canal, and Neshaminy Creek would be maintained. Temporary impacts to the waterways would result from construction related activities such as the construction of cofferdams and causeways.

3. Project Element Impacts

Preliminary engineering designs were used to calculate the impact on surface waters associated with each alternative. Construction of the project would impact surface water resources by the extension of existing culverts to accommodate additional highway structures, widening of existing bridges, construction of new structures, and the relocation of surface waters. The impacts associated with the alternatives in each project element are presented in **Tables IV-22** to **IV-24**.

TABLE IV-22
STREAM IMPACTS – TOLL PLAZA ELEMENT

Stream Name	Stream Impact ID/ Plate Number (Refer to Appendix A)	Classification	Description of Impact	Length of Impact m (ft) Maximum Width m (ft)	Area of Impact sq m (sq ft)
Split Plaza East					
UNT to Neshaminy Creek	SPE-1/ Plate 2A	Perennial	**Culvert extension**[1] for existing 2.4 x 1.5 m (8 x 5 ft) box culvert under I-276 connecting the UNT on the south side of I-276 to the UNT associated with the Woman's Humane Society property.	10.97 (36) 1.22 (4)	13.38 (144)
UNT to Neshaminy Creek	SPE-2/ Plate 2A	Perennial	**Culvert extension**[1] for an existing 5.2 x 2.1 m (17 x 7 ft) box culvert under I-276 that carries a perennial stream flowing from the north to the south of I-276.	18.59 (61) 1.52 (5)	28.34 (305)
UNT to Neshaminy Creek	SPE-3/ Plate 2A	Perennial	**Culvert extension**[1] for an existing 2.4 x 1.8 m (8x 6 ft) box culvert under I-276 that carries a perennial stream flowing from the north to the south of I-276.	75.29 (247) 1.52 (5)	114.74 (1,235)
UNT to Neshaminy Creek	SPE-4/ Plate 2A	Perennial	**Culvert extension**[1] for an existing 3.7 x 2.4 m (12 x 8 ft) box culvert under I-276 that carries a perennial stream flowing from the north to the south of I-276.	79.55 (261) 1.5 (5)	121.24 (1,305)
UNT to Neshaminy Creek	SPE-5/ Plate 3A	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276, however it classified as an intermittent stream because it is a hydrologic connection between a wetland and perennial stream.	328.27 (1,077) 1.52 (5)	500.28 (5,385)
UNT to Neshaminy Creek	SPE-6/ Plate 3A	Perennial	**Culvert extension**[1] for an existing 3.0 x 1.8 m(10 x 6 ft) box culvert under I-276 that carries a perennial stream flowing from the north to the south of I-276.	9.14 (30) 2.44 (8)	22.30 (240)
UNT to Neshaminy Creek	SPE-7/ Plate 3A	Intermittent	**Culvert extension**[1] for an existing 1.2 m (4 ft) round culvert under I-276 that carries an intermittent stream flowing from the north to the south of I-276.	3.05 (10) 0.91 (3)	2.79 (30)
UNT to Neshaminy Creek	SPE-8/ Plate 3A	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to direct intermittent flow from a stormwater management facility to the culvert identified as SPE-7. This channel was classified as intermittent because it receives hydrology from groundwater seeps.	31.39 (103) 0.91 (3)	28.71 (309)
Total Length and Area of Perennial Stream Impacts				**193.55 (635)**	**299.98 (3,229)**
Total Length and Area of Intermittent Stream Impacts				**362.71 (1,190)**	**531.78 (5,724)**
Modified Plaza West					
UNT to Neshaminy Creek	MPW-1/ Plate 2	Perennial	**Relocation** of a channel that parallels I-276. The channel directs the perennial stream along I-276 before it connects to the culvert identified as MPW-3. This channel also acts as a drainage structure for I-276.	433.12 (1,421) 1.83 (6)	792.09 (8,526)
UNT to Neshaminy Creek	MPW-2/ Plate 2	Perennial	**Relocation**[1] of a channel that parallels I-276. The channel directs the perennial stream along I-276 before it connects to MPW-1 via a culvert under I-276. This channel also acts as a drainage structure for I-276.	376.43 (1,235) 1.22 (4)	458.94 (4,940)
UNT to Neshaminy Creek	MPW-3/ Plate 2	Perennial	**Culvert extension**[1] for an existing5.2 x 2.1 m (17 x 7 ft) box culvert that carries a perennial stream flowing from the north to the south of I-276.	103.02 (338) 1.52 (5)	157.01 (1,690)
UNT to Neshaminy Creek	MPW-4/ Plate 2	Perennial	**Culvert extension**[1] for an existing 2.4 x 1.8 m (8x 6 ft) culvert under I-276 that carries a perennial stream flowing from the north to the south of I-276.	15.24 (50) 1.52 (5)	23.23 (2,50)
UNT to Neshaminy Creek	MPW-5/ Plate 2	Perennial	**Culvert extension**[1] for an existing 3.7 x 2.4 m (12 x 8 ft) box culvert under I-276 that carries a perennial stream flowing from the north to the south of I-276.	19.20 (63) 1.52 (5)	29.26 (315)
UNT to Neshaminy Creek	MPW-6/ Plate 3	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276, however it is classified as an intermittent stream because it is a hydrologic connection between a wetland and perennial stream.	311.20 (1,021) 1.52 (5)	474.27 (5,105)
UNT to Neshaminy Creek	MPW-7/ Plate 3	Perennial	**Culvert extension**[1] for an existing 3.0 x 1.8 m(10 x 6 ft) box culvert under I-276 that carries a perennial stream flowing from the north to the south side of I-276.	17.68 (58) 2.44 (8)	43.11 (464)
UNT to Neshaminy Creek	MPW-8/ Plate 3	Intermittent	**Culvert extension**[1] for an existing 1.2 m (4 ft) round culvert under I-276 that carries an intermittent stream flowing from the north to the south side of I-276.	3.05 (10) 0.91 (3)	2.79 (30)
UNT to Neshaminy Creek	MPW-9/ Plate 3	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to direct intermittent flow from a stormwater management facility to the culvert identified as MPW-8. This channel was classified as intermittent because it receives hydrology from groundwater seeps.	31.39 (103) 0.91 (3)	28.71 (309)
Total Length and Area of Perennial Stream Impacts				**964.69 (3,165)**	**1503.64 (16,185)**
Total Length and Area of Intermittent Stream Impacts				**345.64 (1,134)**	**505.76 (5,444)**

Notes: Length of Impact is defined as the total linear distance of stream channel that is within the limits of disturbance of construction.
Maximum width is defined as the largest bank-to-bank distance of a segment of impacted stream channel.
Culvert extensions would be added to the existing culvert structures under I-276 and I-95. Existing structures are approximately 30 m (100 ft) in length along I-276 and 46 m (150 ft) along I-95.
UNT Unnamed Tributary
1 Surface water crossing impact

a. Toll Plaza Element (Figure IV-9A, Plate 2)

The Modified Plaza West Alternative would have greater impacts to surface waters with 965 m (3,165 ft) of perennial streams and 346 m (1,134 ft) of intermittent streams impacted compared to 194 m (635 ft) of perennial streams and 363 m (1,190 ft) of intermittent streams impacted by the Split Plaza East Alternative **(Table IV-22)**. As seen in **Table IV-22**, the two alternatives would have similar impacts at stream crossings due to the required extension of the existing culverted stream crossings to accommodate roadway widening.

The observed difference in perennial stream impacts when comparing the Split Plaza East with the Modified Plaza West is due largely to the location of the proposed toll plaza facilities. Modified Plaza West, located between Richlieu and Galloway Roads, would have greater perennial stream impacts due to the required relocation of two streams that are channeled parallel to I-276 ROW in this segment. These streams would be relocated to the area outside of the proposed I-276 ROW for the Modified Plaza West. The relocated stream channels would be designed to have similar stream characteristics of the existing streams. The designed channels would have a similar width, depth, gradient, and substrate as the existing stream. The new channels would incorporate an appropriate meander based on design features. The stream bank slopes would be re-vegetated and maintain a 2:1 slope.

Impacts to surface waters due to the required extension of an existing culverted stream crossing are also identified on **Table IV-22**. There are six surface water crossings impacted by the Split Plaza East and five by the Modified Plaza West. The culvert extensions are associated with the proposed widening of I-276 that is considered for both alternatives. A summary of stream characteristics for the impacted stream crossings is located in **Table IV-19**.

b. Interchange Element (Figure IV-9B, Plate 2)

The Flyover A Alternative would have slightly greater impacts with 241 m (790 ft) of perennial streams and 966 m (3,169 ft) of intermittent streams impacted compared to the Single Loop A Alternative with 210 m (690 ft) of perennial streams and 957 m (3,139 ft) of intermittent streams impacted. **Table IV-23** identifies the stream impacts due to stream relocations, culvert extensions, pier footings, ramps, and the additional width of bridge widening above a stream.

TABLE IV-23
STREAM IMPACTS – INTERCHANGE ELEMENT

Stream Name	Stream Impact ID/ Plate Number (Refer to Appendix A)	Classification	Description of Impact	Length of Impact m (ft) Maximum Width m (ft)	Area of Impact sq m (sq ft)
Flyover A					
Neshaminy Creek	FLY-1/Plate 4A	Perennial	**Bridge pier**[1] would be constructed within the stream channel. The impact identified is the additional area of new pier footings that extend from the existing pier.	21.95 (72) 4.88 (16)	107.02 (1,152)
UNT to Neshaminy Creek	FLY-2/ Plate 4A	Intermittent	**Relocation**[1] of a channel that extends from a culvert under I-95. The channel would be relocated based on the location of the proposed ramp structure.	39.32 (129) 1.22 (4)	47.94 (516)
UNT to Neshaminy Creek	FLY-3/ Plate 4A	Perennial	**Culvert extension**[1] for an existing 1.5 x 1.2 m (5 x 4 ft) box culvert under I-95 that carries a perennial stream flowing from the east to the west side of I-95.	66.45 (218) 1.52 (5)	101.26 (1,090)
UNT to Neshaminy Creek	FLY-4/ Plate 5A	Intermittent	**Culvert extension**[1] for an existing 0.8 m (2.5 ft) round culvert under I-95 that carries an intermittent stream flowing from the east to the west side of I-95.	9.14 (30) 0.30 (1)	2.79 (30)
Mill Creek	FLY-5/ Plate 4A	Perennial	**Ramp** would be constructed over Mill Creek. The identified impact is the area of the stream segment impacted by shading and pier work.	79.25 (260) 10.97 (36)	869.57 (9,360)
UNT to Mill Creek	FLY-6/ Plate 4A	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	514.50 (1,688) 1.22 (4)	627.28 (6,752)
UNT to Mill Creek	FLY-7/ Plate 8A	Perennial	**Culvert extension**[1] for an existing 1.8 x 1.2 m (6 x 4 ft) box culvert under I-276 that carries a perennial stream flowing from the south to the north side of I-276.	51.82 (170) 1.52 (5)	78.97 (850)
UNT to Mill Creek	FLY-8/ Plate 8A	Intermittent	**Culvert extension**[1] for an existing 1.5 x 1.2 m (5 x 4 ft) box culvert under I-95 that carries an intermittent stream flowing from the east to the west side of I-95.	15.54 (51) 1.22 (4)	18.95 (204)
Mill Creek	FLY-9/ Plate 8A	Perennial	**Bridge**[1] carrying I-276 over Mill Creek would be widened. There is no direct in-stream impact, however the identified impact is the additional area of surface water coverage.	21.34 (70) 12.19 (40)	260.13 (2,800)
UNT to Mill Creek	FLY-10/ Plate 8A	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	387.40 (1,271) 1.22 (4)	472.32 (5,084)
Total Length and Area of Perennial Stream Impacts				**240.79 (790)**	**1,416.96 (15,252)**
Total Length and Area of Intermittent Stream Impacts				**965.91 (3,169)**	**1,169.28 (12,586)**
Single Loop A					
Neshaminy Creek	SL-1/ Plate 4	Perennial	**Bridge pier**[1] would be constructed within the stream channel. The impact identified is the additional area of new pier footings that extend from the existing pier.	21.95 (72) 4.88 (16)	107.02 (1,152)
UNT to Neshaminy Creek	SL-2/ Plate 4	Intermittent	**Relocation**[1] of a channel that extends from a culvert under I-95. The channel would be relocated based on the location of the proposed ramp structure.	39.32 (129) 1.22 (4)	47.94 (516)
UNT to Neshaminy Creek	SL-3/ Plate 4	Perennial	**Culvert extension**[1] for an existing 1.5 x 1.2 m (5 x 4 ft) box culvert under I-95 that carries a perennial stream flowing from the east to the west side of I-95.	45.42 (149) 1.52 (5)	69.21 (745)
Mill Creek	SL-4/ Plate 4	Perennial	**Ramp** would be constructed over Mill Creek. The identified impact is the area of the stream segment impacted by shading and pier work.	79.25 (260) 10.97 (36)	869.57 (9,360)
UNT to Mill Creek	SL-5/ Plate 4	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	514.50 (1,688) 1.22 (4)	627.28 (6,752)
UNT to Mill Creek	SL-6/ Plate 8	Perennial	**Culvert extension**[1] for an existing 1.8 x 1.2 m (6 x 4 ft) box culvert under I-95 that carries a perennial stream flowing from the south to the north side of I-276.	42.37 (139) 1.52 (5)	64.57 (695)
UNT to Mill Creek	SL-7/ Plate 8	Intermittent	**Culvert extension**[1] for an existing 1.5 x 1.2 m (5 x 4 ft) box culvert under I-276 that carries an intermittent stream flowing from the south to the north side of I-276.	15.54 (51) 1.22 (4)	18.95 (204)
Mill Creek	SL-8/ Plate 8	Perennial	**Bridge**[1] carrying I-276 over Mill Creek would be widened. There is no direct in-stream impact, however the identified impact is the additional area of surface water coverage.	21.34 (70) 12.19 (40)	260.13 (2,800)
UNT to Mill Creek	SL-9/ Plate 8	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	387.40 (1,271) 1.22 (4)	472.32 (5,084)
Total Length and Area of Perennial Stream Impacts				**210.31 (690)**	**1,370.51 (14,752)**
Total Length and Area of Intermittent Stream Impacts				**956.77 (3,139)**	**1,166.49 (12,556)**

Notes: Length of Impact is defined as the total linear distance of stream channel that is within the limits of disturbance of construction.
Maximum width is defined as the largest bank-to-bank distance of a segment of impacted stream channel.
Culvert extensions would be added to the existing culvert structures under I-276 and I-95. Existing structures are approximately 30 m (100 ft) in length along I-276 and 46 m (150 ft) along I-95.
UNT Unnamed Tributary
1 Surface water crossing impact

Impacts within the Interchange Element are similar when comparing the two alternatives because there is only one difference in the design of the proposed alternatives. This difference is identified as the proposed location of the ramp connecting eastbound I-276 with existing I-95 North (future I-295 North). When compared to the Single Loop A Alternative, the proposed alignment of this ramp for the Flyover A Alternative would require an additional impact to a culverted surface water crossing along I-95. This impact is identified as "FLY-4" on **Table IV-23**. For this reason, the Flyover A has one additional surface water crossing impact (seven total) when compared to Single Loop A (six total). A summary of stream characteristics for the impacted stream crossings is located in **Table IV-19**.

Other surface water impacts in the Interchange Element, such as extensions to existing culverts and bridges spanning Neshaminy and Mill Creeks, would be similar when comparing the two alternatives. The widening of the I-276 bridge over Neshaminy Creek, which is proposed for both alternatives, would have direct impacts associated with the construction of new pier footings within the stream channel. The new pier footings would include approximately 107 sq m (1,152 sq ft) of in-stream direct impacts. Construction of new pier footings would also include the temporary impacts associated with the construction of a 6 m (20 ft) temporary causeway that extends the full width of the stream.

Also proposed for both alternatives is the widening of the I-276 bridge structure over Mill Creek. This bridge requires no in-stream pier placement and, therefore, has no direct impact. However, the elevation of the existing bridge is approximately 6 m (20 ft) from the mean high water level of the stream and any proposed widening of the existing bridge would provide additional "shading" to the stream. This shading is considered an indirect impact to the aquatic habitat beneath the proposed structure. In addition, temporary impacts to the stream bank would result from construction activities associated with the extension of existing wing walls. These impacts would include the removal of vegetation, soil disturbance, and potential erosion. Mitigation activities to provide stream bank stabilization to offset temporary and permanent impacts are discussed later in this section.

Similar shading impacts would occur where the proposed future I-95 mainline would span a segment of Mill Creek in the area northeast of the point-of-crossing. The proposed ramp would be constructed on piers and span a 79 m (260 ft) segment of Mill Creek (**Table IV-23**). The elevation of the proposed ramp is approximately 9 m (30 ft) from the mean high water level of the stream, thereby shading the aquatic habitat beneath the proposed ramp. In addition, included in the identified area of impact for this stream segment is 4 sq m (43 sq ft) of pier footing that directly impacts the stream bank and channel of Mill Creek. Construction of the pier footers would be accessible from the north side of I-276 so placement of a temporary causeway within the stream is not required. The ramp has a total length of 177 m (582 ft) and also spans the floodplain associated with this stream segment. Indirect impacts to riparian vegetation along Mill Creek underneath the proposed ramp may also occur as a result of ramp shading. Efforts would be made to minimize erosion and disturbance to the stream bank by maintaining as much vegetative root mass as possible.

The impacts to this segment of Mill Creek, particularly the stream bank impacts associated with pier construction disturbances and ramp shading of stabilizing vegetation, occurs in a segment currently under heavy erosion forces due to the existing alignment of the stream. During the initial construction of the Turnpike in the 1950s, the stream was aligned to flow parallel to I-276. The realignment created an abrupt 90-degree turn (south to east) in the direction of flow that causes erosion of the stream's outer bank. It is anticipated that suitable bank stabilization measures, such as toe-of-slope protection with bioengineering and hard substrates to deflect the erosive forces, would be required along approximately 110 m (360 ft) of stream bank.

Construction within the watershed of Mill Creek would comply with the water quality pollution prevention and protection guidelines specified by PADEP's *Special Protection Waters Implementation Handbook* (PADEP, 1992), because Mill Creek meets the requirements to be a candidate stream for designation as a Class IV Exceptional Value Stream.

c. Bridge Element (Figure IV-9C, Plate 2)

Due to the similar design of the Bridge North and Bridge South Alternatives, impacts to the Delaware River are expected to be relatively similar. Construction of the Bridge South Alternative would impact approximately 198 m (651 ft) of intermittent streams and 79 m (260 ft) of perennial streams. The Bridge North Alternative would impact approximately 204 m (669 ft) of intermittent streams and 190 m (624 ft) of perennial streams. The additional 111 m (364 ft) of perennial stream impact for the Bridge North Alternative is associated with a tidal stream channel just north of the existing Delaware River Turnpike Bridge structure in New Jersey. This channel would be relocated based on the proposed location of a pier footing of the Bridge North Alternative. **Table IV-24** identifies stream impacts due to stream relocations, culvert extensions, and the construction of pier footings.

The Delaware River would be impacted by the construction of a new bridge structure approximately 27 m (90 ft) in width (**Table IV-24**). Direct impacts to the river would include construction of two pier structures located within the channel, each having a pier footprint of approximately 604 sq. m (6,500 sq. ft). This impact would be required for both the Bridge North and Bridge South Alternatives. **Table IV-19** contains a summary of Delaware River characteristics.

4. Mitigation

To minimize direct impacts to surface waters, proposed bridges and crossings would be constructed, where possible, perpendicular to the impacted streams. New bridge piers and abutments, where possible, would be placed outside the banks of active channels to reduce impacts to the natural stream bottom and riffle/pool complexes. A report would be prepared to identify potential strategies to mitigate for perennial and intermittent stream impacts. Mitigation strategies would be developed in coordination with natural resource agencies and would include the following measures:

- ✓ Minimization of the length of impacted stream at each proposed stream crossing
- ✓ Establishment/planting of non-invasive native herbaceous and woody vegetation along disturbed stream banks to stabilize banks and reduce erosion
- ✓ Establishment/planting of shade tolerant vegetation along disturbed stream banks shaded by bridge and ramp structures
- ✓ Maintaining vegetative root systems for stream bank stabilization, cutting trees at the diameter of breast height (DBH) where possible
- ✓ Rapid re-establishment of herbaceous vegetation for areas disturbed during construction activities
- ✓ Minimization of disturbances to vegetation along stream riparian zones, wetlands, and ROW to reduce erosion
- ✓ Strict adherence and implementation of sediment and erosion control plans and measures to minimize impacts to water quality and aquatic biota
- ✓ The construction and use of stormwater management structures would receive the additional roadway runoff, as well as some of the existing untreated runoff
- ✓ Protection of wetlands and surface waters outside the area of direct disturbance by use of silt fencing and other measures
- ✓ Consideration of alternatives other than the use of temporary causeways to facilitate bridge widening and/or construction activities
- ✓ Restoration of Waters of the US disturbed as a result of temporary construction activities, including not only the re-establishment of vegetation but also the restoration of stream bank elevations and stream channel and wetlands surface contours

Stream design and/or restoration efforts would be implemented to mitigate the direct impacts to streams resulting from the construction of the project. Newly constructed or relocated stream channels would be designed to have similar stream characteristics as the existing impacted stream channel. The relocated streams would have a similar width, depth, gradient, and substrate as the existing stream. The new channel would incorporate an appropriate meander based on design features. In addition, all relocated stream bank slopes would be re-vegetated and maintain a 2:1 slope. Every effort would occur to make the quality of the relocated stream channels equal to or better than the existing channels.

Stream channels impacted by the construction of a culvert or bridge structure would also require mitigation measures. Potential mitigation measures may include the use of depressed culverts to eliminate elevation differences between culvert and stream substrate, or the use of oversized structures at bridge and culvert crossings that would provide adequate passage for aquatic and terrestrial species.

Segments of streams that would be impacted due to the construction or extension of a culvert or bridge are considered a permanent stream loss. Permanent stream loss would be mitigated by applying appropriate mitigation measures to the impacted stream or, if not possible, a stream within the watershed of the impacted stream. Potential measures to mitigate for stream loss include stream and stream bank slope restoration, stream enhancements, and aquatic habitat enhancements.

TABLE IV-24
STREAM IMPACTS – BRIDGE ELEMENT

Stream Name	Stream Impact ID/ Plate Number (Refer to Appendix A)	Classification	Description of Impact	Length of Impact m (ft) Maximum Width m (ft)	Area of Impact sq m (sq ft)
Bridge North					
UNT to Mill Creek	BN-1/ Plate 9A	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276 and Interchange 29, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	178.00 (584) 1.22 (4)	217.02 (2,336)
UNT to Mill Creek	BN-2/ Plate 9A	Intermittent	**Culvert extension**[1] of an existing 0.9 m (3 ft) round culvert under I-276 that receives roadway runoff from I-276 and Interchange 29, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	25.91 (85) 0.91 (3)	23.69 (255)
Delaware River	BN-3/ Plate 9A	Perennial	**Bridge pier**[1] would be constructed within the Delaware River. The impact identified is the additional area of new pier footing that would be required at one of the pier locations.	39.62 (130) 15.24 (50)	603.87 (6,500)
Delaware River	BN-4/ Plate 9A	Perennial	**Bridge pier**[1] would be constructed within the Delaware River. The impact identified is the additional area of new pier footing that would be required at one of the pier locations.	39.62 (130) 15.24 (50)	603.87 (6,500)
UNT to Delaware River	BN-5/ Plate 10A	Perennial	**Relocation** of a channel that was constructed on the north side of the Delaware River Turnpike Bridge to receive roadway runoff from River Road, the New Jersey Turnpike extension and adjacent lands. The channel is classified as perennial because it is tidally influenced by the Delaware River.	110.95 (364) 3.35 (11)	371.98 (4004)
Total Length and Area of Perennial Stream Impacts				**190.20 (624)**	**1,579.72 (17,004)**
Total Length and Area of Intermittent Stream Impacts				**203.91 (669)**	**240.71 (2,591)**
Bridge South					
UNT to Mill Creek	BS-1/ Plate 9	Intermittent	**Relocation** of a channel that parallels I-276. The channel was constructed to receive roadway runoff from I-276 and Interchange 29, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	178.00 (584) 1.22 (4)	217.02 (2,336)
UNT to Mill Creek	BS-2/ Plate 9	Intermittent	**Culvert extension**[1] of an existing 0.9 m (3 ft) round culvert under I-276 that receives roadway runoff from I-276 and Interchange 29, however it was classified as an intermittent stream because it provides a hydrologic connection between a wetland and Mill Creek.	20.42 (67) 0.91 (3)	18.67 (201)
Delaware River	BS-3/ Plate 9	Perennial	**Bridge pier**[1] would be constructed within the Delaware River. The impact identified is the additional area of new pier footing that would be required at one of the pier locations.	39.62 (130) 15.24 (50)	603.87 (6,500)
Delaware River	BS-4/ Plate 9	Perennial	**Bridge pier**[1] would be constructed within the Delaware River. The impact identified is the additional area of new pier footing that would be required at one of the pier locations.	39.62 (130) 15.24 (50)	603.87 (6,500)
Total Length and Area of Perennial Stream Impacts				**79.25 (260)**	**1,207.74 (13,000)**
Total Length and Area of Intermittent Stream Impacts				**198.42 (651)**	**235.70 (2,537)**

Notes: Length of Impact is defined as the total linear distance of stream channel that is within the limits of disturbance of construction.
Maximum width is defined as the largest bank-to-bank distance of a segment of impacted stream channel.
Culvert extensions would be added to the existing culvert structures under I-276 and I-95. Existing structures are approximately 30 m (100 ft) in length along I-276 and 46 m (150 ft) along I-95.
UNT Unnamed Tributary
1 Surface water crossing impact

a. Water Quality

Water quality mitigation to address the direct impact of contaminant loading due to additional roadway surface runoff would include the use of stormwater management practices (e.g. vegetative controls, detention basins, grass swales, and wetlands) to reduce discharge volumes and remove pollutants. The Build Alternative would incorporate the permanent use of stormwater management basins that would receive the additional roadway runoff as well as some of the existing untreated runoff that currently drains into surface waters in close proximity to I-276 and I-95. The stormwater management basins would allow for sediments and contaminants to settle while providing a controlled release of water to the streams. In addition, grass swales provide similar functions and could be constructed parallel to the roadway to allow for the collection and gradual release of runoff into streams.

Temporary water quality impacts would be minimized through the implementation of an Erosion and Sedimentation Control Plan as specified by PENNDOT *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2002), *Standards for Soil Erosion and Sediment Control in New Jersey* (New Jersey Department of Agriculture, 2000), *Publication 408, Specifications* (PENNDOT, 2000), PADEP and NJDEP regulations, and local jurisdictional agencies, which would include the Bucks and Burlington Counties Conservation Districts. The ability to effectively manage sediment and erosion control measures during construction would provide reasonable protection against short-term impacts associated with construction related activities. In addition, **Section IV-T** describes measures to minimize impacts to surface waters during construction, such as spill containment and control measures, which would be incorporated to prevent contamination due to accidental spills.

b. Aquatic Biota

Temporary impacts to aquatic biota are directly related to the condition of water quality and control of erosion and sediment during construction. Development and implementation of an erosion and sedimentation control plan would mitigate impacts to water quality and thereby aid in mitigating impacts to aquatic biota. Direct impacts to surface waters resulting in the permanent loss of aquatic habitat would be mitigated through stream and aquatic habitat enhancements for the impacted stream or, if not possible, a stream within the impacted stream watershed.

As part of the project's mitigation report, measures will be investigated to avoid, to the maximum extent possible, or minimize impacts to all aquatic biota that has been identified as threatened or endangered. For instance, to avoid and/or minimize impacts to the federally listed shortnose sturgeon, as well as other anadromous fish, construction restrictions between March 15th through May 31st and again between September 1st and November 30th may be implemented. Construction restrictions would apply to sediment generating activities, and pile driving activities. Additional information regarding measures to address impacts to rare, threatened and endangered species is in **Section IV-L.3**.

c. Drinking Water Supply

Impacts to surface water resources utilized for a drinking water supply would be minimized through the use of stormwater management facilities to receive roadway runoff from the addition of impervious surface. These facilities would also receive some of the runoff of the existing impervious surface. The stormwater management basins would allow for sediments and contaminants to settle while providing a controlled release of water to the streams. In addition, grass swales provide similar functions and could be constructed parallel to the roadway to allow for the collection and gradual release of runoff into streams.

Temporary impacts caused by construction activities could be minimized by the implementation of sediment and erosion control measures. In addition, measures for spill containment and control would be incorporated to prevent surface water contamination due to accidental spills during construction. Spill containment and control measures, and other methods to minimize potential construction impacts, are further described in **Section IV-T**.

d. Navigable Waterways

The temporary impacts to navigable waterways would be mitigated by providing adequate fenders around cofferdams during pier construction, maintaining an open navigational channel and, if necessary, providing advance notification to the US Coast Guard if a channel closure is required.

A USCG Bridge Permit would be required for the construction of the Bridge North and Bridge South Alternatives.

I. COASTAL ZONES

More detailed coastal zone information is located in the Coastal Zone Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

1. Coastal Zone Boundaries and Project Consistency

The study area extends through both the Pennsylvania and New Jersey Coastal Zones. Within Pennsylvania, the Delaware Estuary Coastal Zone extends over the majority of the study area, except for the I-276 segment from Richlieu Road to the western study area limit (**Figure IV-9A Plate 1**). There, the Delaware Estuary Coastal Zone boundary extends along I-276 and excludes the southern portion of the study area. There are no Geographic Areas of Particular Concern (GAPC) in the Pennsylvania study area.

A portion of the New Jersey study area is located in the New Jersey Coastal Zone as described in the *Coastal Program Permit Rules* (N.J.A.C. 7:7E, 1997). In New Jersey, there are four special coastal zone area designations which merit special management rules: Special Water Areas, Special Water's Edge Areas, Special Land Areas, and Coastwide Special Areas. Because these special designations are determined on a case-by-case basis, their applicability to this project would be evaluated during Final Design (N.J.A.C. 7:7E, 1997).

The Federal Coastal Zone Management Act requires that federal agency activities, including development projects directly affecting the coastal zone, be consistent with approved state coastal zone management programs to the maximum extent practicable. In Pennsylvania, a project is determined to be consistent with PADEP's Coastal Zone Management Program after all necessary state permits regarding stream encroachment, water quality, wetlands, etc. are obtained. The Pennsylvania Coastal Zone Management Program will make its federal consistency determination during Final Design, upon receipt of the Record of Decision and Final Mitigation Report.

In New Jersey, the *Coastal Program Permit Rules* (N.J.A.C. 7:7E, 1997) state, "a pre-application review is an optional service especially recommended for major development." Pre-application meetings were held with NJDEP in March 1992, February 1994, and February 2000. During project Final Design, details of the identified Preferred Alternative will be provided at an additional pre-application meeting to discuss procedures, policies, a tidelands interim license, a riparian grant, and other NJDEP permit requirements for the project.

2. Impacts

The No-Build Alternative would not impact existing coastal zone resources.

Overall, the Build Alternatives are not expected to have any major adverse impacts to the coastal zones in Pennsylvania and New Jersey. There may be minor impacts to the coastal zones due to grading, excavation, filling, and a temporary increase of turbidity and siltation. These impacts would occur in each of the project elements. All wetland impacts are within the coastal zone, as described in **Section IV-K**, and stream impacts as described in **Section IV-H** are within the coastal zone.

3. Mitigation

Adverse impacts would be minimized by following the guidelines of the federal and state coastal zone management programs, and adherence to permitted activities. Title Chapter 25 15.20a of the Pennsylvania code stipulate that impacted wetlands in the coastal zone must also be mitigated for in the coastal zone. For this project, the potential wetland mitigation sites, and potential stream relocation/mitigation areas, are located within the coastal zone.

The Bridge Element is in an area classified by N.J.A.C. 7:7E as the "Delaware River Region". Consequently, during Final Design the bridges and piers would be designed according to N.J.A.C. 7:7E-4.2 (d), (m), the standards of which are included in the Technical Support Data.

J. FLOODPLAINS

More detailed floodplains information is located in the Surface Water Hydrology and Floodplains Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

Floodplains were evaluated in the study area according to 23 CFR 650 Part A and Executive Order 11988. The limits for the 100-year and 500-year floodplain within the study area were obtained from the Federal Emergency Management Agency (FEMA) Flood Boundary and Floodway Maps. The 100-year floodplains have been added to the project mapping. US Department of Housing and Urban Development, Federal Insurance Administration flood insurance studies were reviewed for Bensalem Township (1978), Bristol Township (1992), Middletown Township (1979), Hulmeville Borough (1977), Bristol Borough (1979) in Pennsylvania, and Burlington Township (1990) and Florence Township (1990) in New Jersey.

1. Existing Floodplain Boundaries

In the study area, I-276 crosses Neshaminy Creek, Mill Creek, the Delaware River, and several small streams (**Figure IV-9A** to **IV-9C**). Portions of the Delaware River, Neshaminy Creek, and Mill Creek within the study area have been mapped by FEMA as Zone AE, which is defined as an area that is subject to a 1% annual chance to flooding (also known as a 100-year flood) and where the base flood elevations have been determined. A portion of an unnamed tributary to Neshaminy Creek, located in the Toll Plaza Element, is mapped by FEMA as Zone A, which is also a 100-year floodplain, but the base flood elevations have not been determined. The 100-year floodplains of these streams are mapped. Hydraulic data for the Neshaminy Creek, Mill Creek, and the Delaware River was obtained from FEMA. The drainage area for each culvert crossing was delineated on USGS 7.5-minute quadrangle topographic mapping.

In the Toll Plaza Element, the only floodplains along I-276 are the 500-year flood boundary for three unnamed tributaries to Neshaminy Creek (**Figure IV-9A Plate 1**). Downstream from I-276, the Flood Boundary Map indicates an approximate 100-year flood boundary for these unnamed tributaries to Neshaminy Creek.

In the Interchange Element, the floodplains for Neshaminy Creek and Mill Creek are near I-276, which crosses Neshaminy Creek. Mill Creek flows alongside I-276 for a considerable distance before flowing under I-276 into Silver Lake Park (**Figure IV-9B, Plate 1**).

In the Bridge Element, the only floodplain is that associated with the Delaware River in Pennsylvania (**Figure IV-9C, Plate 1**).

2. Impacts and Hydrologic/ Hydraulic Studies

The floodplains that may be affected by the project occur adjacent to the existing study area roadways. The location of the proposed widening, interchange, and bridge construction is dictated by topographic and socioeconomic constraints. There is no practicable alternative because floodplains cannot be avoided within essentially the same alignment; and alternatives to avoid the floodplains would entail substantial increase in cost, socioeconomic and Section 4(f) impacts, and additional impacts to adjacent environmentally sensitive areas. The alternatives development phases included practicable measures to minimize harm to floodplains and other natural resources (**Section III**).

According to Chapter 10 of the PENNDOT's *Publication 13M, Design Manual, Part 2, Highway Design* (2002), a floodplain study is required for any stream crossing that has a drainage area of more than 1.5 sq km (0.58 sq mi). Each of the Build Alternatives would have several crossings of streams with drainage areas of less than 1.5 sq km (0.58 sq mi), which would not require full hydrologic and hydraulic reports. These are considered roadway drainage structures. A more detailed investigation of floodplains will be conducted during Final Design.

Executive Order 11988 (Floodplain Management) and 23 CFR 650 describe requirements and procedures regarding floodplain encroachment. Accordingly, a significant floodplain encroachment shall mean a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood-related impacts:

- ✓ A significant potential for interruption or termination of a transportation facility needed for emergency vehicles or provides a community's only evacuation route.
- ✓ A significant risk, or
- ✓ A significant adverse impact on natural and beneficial floodplain values.

The No-Build Alternative would not impact floodplains. The impacts associated with the construction of any of the Build Alternatives for the I-276/I-95 Interchange Project

would not cause a significant encroachment as defined in 23 CFR 650. It is proposed that the existing bridges be widened and the existing culverts be extended, as necessary, for the widened roadway. There will be no significant potential for interruption or termination of transportation facilities needed for emergency vehicles or which provide a community's evacuation route; no significant risk of flooding; or no significant adverse impact on floodplain values. A more detailed investigation of floodplain impacts will be conducted during Final Design.

a. Toll Plaza Element (Figure IV-9A, Plate 2)

There are eight culverted streams crossing beneath I-276 in the Toll Plaza Element. Six culverts would be extended for the Split Plaza East Alternative and five culverts would be extended for the Modified Plaza West Alternative. The length of the extensions varies between the project alternatives. It is proposed that the culvert extensions be the same size and at the same grade as the existing culverts.

Two of the culverts carrying unnamed tributaries to the Neshaminy Creek under I-276 are located approximately 0.13 miles (0.21 km) west of Galloway Road and 0.5 miles (0.8 km) west of PA 513 (Hulmeville Road), have drainage areas in excess of 1.5 sq. km. (0.58 sq mi) and therefore would require hydrologic and hydraulic studies during Final Design. If hydrologic studies determine that floodway impacts produce an increase in the Base Flood Elevation (BFE), the completion of a Conditional Letter of Map Revision (CLOMR) may be required for increases in excess of the permitted limit. In the Toll Plaza Element, an area where the floodplains have been mapped by FEMA as Zone A, the maximum allowable increase in BFE from the existing to proposed conditions is 1.00 foot. The other six culverted streams, also unnamed tributaries to the Neshaminy Creek, have drainage areas less than 1.5 sq. km. (0.58 sq. mi.) and, therefore would not require hydrologic and hydraulic studies during Final Design.

It is anticipated that there would be no increase, or adverse effect on the floodway because of the proposed culvert extensions. There would be no significant change in the 100-year flood elevation in the stream channel either upstream or downstream from the extended culverts. Also, there would be no significant adverse impacts on natural and beneficial floodplain values, and only minor floodplain encroachment.

b. Interchange Element (Figure IV-9B, Plate 2)

In the Interchange Element, there are five culverts beneath the roadway, two bridges, and Mill Creek that flows parallel to I-276. Impacts would be the same for either the Single Loop A Alternative or the Flyover A Alternative.

There are two culverted streams crossing beneath I-276 in the Interchange Element. These streams are unnamed tributaries that drain north across I-276 into Mill Creek. Both would be extended for this project. There are three culverts crossing beneath I-95 in the Interchange Element. These streams are unnamed tributaries to Neshaminy Creek. Two cross under I-95 approximately 0.2 miles (0.32 km) and 0.55 miles (0.88 km) north of the I-276 and I-95 point-of-crossing, and one crosses under 0.25 miles (0.40 km) north of Ford Road. Culvert extensions would be at the same size and grade as the existing culverts. The culverted streams in the Interchange Element have drainage areas less than 1.5 sq km (0.58 sq mi) and, therefore, no hydrologic and hydraulic studies would be required in Final Design.

Widening of I-276 within the Interchange Element would encroach on the floodplain of Mill Creek between PA 413 (New Rodgers Road) and Bristol-Oxford Valley Road. Floodplain analysis indicated that there would be a small increase in the Calculated Water Surface Elevation (CWSEL) of Mill Creek that would be dissipated less than one mile (1.61 km) upstream. This estimated rise would not be significant and there would be no adverse impact because of this encroachment. There may be some minimal encroachment of the Mill Creek floodway.

The backwater from Mill Creek controls the 100-year flood elevation for two culverted stream crossings located along I-276 between PA 413 and Bristol-Oxford Valley Road. There would be a small increase in the 100-year flood elevations, which would be dissipated less than one mile (1.61 km) upstream. There would be no effect on the floodway because of these culvert extensions. There would be no adverse impacts on natural and beneficial floodplain values and only minor floodplain encroachment because of these culvert extensions.

The two bridge crossings in the Interchange Element are Neshaminy Creek and Mill Creek. The width of the I-276 bridge across Neshaminy Creek would increase from 18 m (60 ft) to approximately 43 m (140 ft). The widening of the existing bridge structure would require extensions to the existing piers. The new piers would impact 107.02 sq m (1,152 sq ft) of in-stream substrate. These pier extensions are required due to the span length of the existing bridge and would be aligned with the existing bridge piers. The rise in the CWSEL of Neshaminy Creek associated with the construction of these piers would be approximately 0.02 m (0.07 ft).

The I-276 bridge over Mill Creek would be increased in width from approximately 18 m (60 ft) to approximately 43 m (140 ft). Widening of this bridge would require extensions to the existing abutments and piers that are outside the stream channel. The additional lengths of the proposed abutments and piers would be aligned with the existing structures and extend into the Mill Creek floodway. The rise in the CWSEL of Mill Creek associated with the extension of these abutments would be approximately 0.12 m (0.41 ft).

The widening of these bridges would have no adverse impact on natural and beneficial floodplain values, with only minor floodplain and floodway encroachments. The calculated impacts to the floodway for both of these bridge extensions are less than the FEMA maximum allowable increase to BFE of 0.30 m (1 foot) and are not anticipated to produce hazardous velocities within the floodway. Scour protection would be provided as required for the abutments and piers.

The proposed construction activities in the Interchange Element would encroach on the floodways of Neshaminy and Mill Creeks and would potentially alter the BFE of these waters. Increases in BFE that are in excess of the permitted limit would require the completion of a CLOMR. In the Interchange Element, all floodplains have been mapped by FEMA as Zone AE. Within this zone, there is to be no rise when comparing the existing to proposed conditions when activities include encroachments on a FEMA designated floodway. Preliminary studies have determined that some waters in the Interchange Element showed an increase in the CWSEL and therefore it is anticipated that a detailed engineering study and completion of the CLOMR would be required.

c. Bridge Element (Figure IV-9C, Plate 2)

For either the Bridge North or Bridge South Alternatives, a new parallel bridge would be constructed over the Delaware River either north or south of the existing bridge. The new piers required for these alternatives would be aligned with the existing piers. Both alternatives would require the construction of five piers located in the floodplain and two piers located within the Delaware River stream channel. The five piers located in the floodplain would impact approximately 0.11 ha (0.28 ac). The two in-stream piers are each approximately 604 sq m (6,500 sq ft) in area and directly impact the CWSEL. The rise in the CWSEL associated with the construction of either proposed Bridge Alternative piers would be significantly less than 0.30 m (1 foot), which is the FEMA maximum allowable increase to BFE. Therefore, it is not anticipated to produce hazardous velocities within the floodway. Only minor impacts on natural and beneficial floodplain values and floodplain encroachment are expected with the construction of the new parallel bridge.

The proposed construction activities in the Bridge Element would encroach on the floodway of the Delaware River and would potentially alter the BFE of the river. Increases in BFE that are in excess of the permitted limit would require the completion of a CLOMR. In the Bridge Element, the floodplain of the Delaware River has been mapped by FEMA as Zone AE. Within this zone, there is to be no rise when comparing the existing to proposed conditions when activities include encroachments on a FEMA designated floodway. Preliminary studies have determined that the Delaware River showed an increase in the CWSEL and therefore it is anticipated that a detailed engineering study and completion of the CLOMR would be required.

3. Mitigation

Minimization measures would include using structures designed to avoid increases in backwater elevation. The design of bridges and culverts is expected to be adequate to pass the 100-year flood without creating excessive backwater or increasing mean velocity. Abutments and piers would be placed to minimize encroachment on the 100-year floodplain, in accordance with Chapter 105 "Dam Safety and Waterway Management," Chapter 106, "Floodplain Management" and the Floodplain Management Act, P.L. 851, No.166 administered by the PADEP. These actions, taken with respect to construction, would conform to Executive Order 11988 (Floodplain Management). A US Coast Guard permit will be required for the construction of the additional Delaware River Bridge in the Bridge Element. Furthermore, coordination with the effected communities will occur to ensure that the project meets any local flood ordinances.

Efforts will be taken to minimize impacts during construction. Special procedures, such as construction platforms, timber matting, silt fencing, and protective fencing will be used to minimize temporary, construction-related impacts to floodplains. Additional measures are described in **Section IV-T**.

Using minimization measures as needed, it is expected that there will be no substantial risks or adverse impacts on natural or beneficial floodplain values. Therefore, any of the Build Alternatives would not constitute a significant encroachment.

K. WETLANDS

More detailed wetlands information is located in the Wetlands Technical Support Data, as well as:
* *Revised Draft Wetland Identification, Delineation, and Assessment Report, 2000.*
* *Technical Support Data Index is located in Section XII (Appendix C).*

1. Existing Conditions

A review of existing documentation was completed prior to beginning the wetland field evaluation, including USGS topographic quadrangle maps, United States Fish and Wildlife Service (USFWS) National Wetland Inventory Maps (NWI), the *Soil Survey of Bucks and Philadelphia Counties, Pennsylvania* (USDA, 1975), the *Soil Survey of Burlington County, New Jersey* (USDA, 1971 (1996 reprint)), the state and county hydric soils lists, and aerial photography.

The location and extent of Federally regulated waters of the US, including wetlands within the study area, were identified in the field and surveyed using the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), hereafter referred to as the "*1987 Manual*". The NJDEP requires delineations be conducted using the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Federal Interagency Committee for Wetland Delineation, 1989), hereafter referred to as the "*1989 Manual*".

The USACOE verified that the resource mapping accurately depicted the extent of Federal jurisdiction within the study area for purposes associated with the preparation of the DEIS for the project. This letter, as well as a Letter of Interpretation/Line Verification from the NJDEP, is located in **Section XII, Appendix F**. These letters signify that the resource agencies are in agreement with the mapped boundaries of the wetlands in the study area. A USACOE Jurisdictional Determination for the wetlands impacted by the Preferred Alternative is scheduled for November 2003.

In New Jersey, the state has assumed jurisdiction over non-tidal wetland regulation, therefore delineations are conducted using the *1989 Manual*. However, tidal wetlands in New Jersey still remain under the jurisdiction of the USACOE and these wetlands must be delineated using the *1987 Manual*. Therefore, project wetlands in New Jersey were assessed using both the *1987 and 1989 Manuals*. There were no acreage differences between the two methods of delineation.

The study area is located within the Delaware River Watershed. The Neshaminy Creek and Mill Creek are larger tributaries to the Delaware River. **Figure IV-10** shows the Neshaminy Creek and Mill Creek sub-watersheds. **Table IV-25** identifies the drainage basin for each of these watercourses. A total of 64 wetlands were identified and delineated, which included 19.78 ha (48.88 ac) of wetlands in Pennsylvania and 0.50 ha (1.19 ac) of wetlands in New Jersey. As **Table IV-26** indicates, the wetlands in the study area are made up of three types, Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), and Palustrine Forested (PFO). **Figures IV-9** to **IV-9C, Plate 2** show the location of delineated wetlands. The Composite Inventory Plates, located in **Appendix A**, show more detailed information regarding wetlands and waters.

2. Exceptional Value Wetlands

Pennsylvania Chapter 105 recognizes exceptional value wetlands that deserve special protection (PADEP, 1999). The presence of state or federal threatened or endangered species in a wetland can increase the resource value of the wetland to *exceptional value* in Pennsylvania or *exceptional resource value* in New Jersey (N.J.A.C. 7:7A-2.5).

As described in **Section IV-L**, Federal, Pennsylvania, and New Jersey listed species of concern are found in the study area. These species are mainly found along the Mill Creek corridor, Silver Lake Park, Black Ditch Park, and the Delaware River. Many wetlands occur in proximity to areas identified as supporting threatened and endangered species, and these wetlands appear to maintain habitat that supports these species. Therefore the status of exceptional value was determined for four (4) wetlands in the study area. As shown on **Table IV-28**, the only exceptional value wetland that may be impacted by the project, E16, is located in the Interchange Element. Additional information regarding exceptional value wetlands can be found in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report*, (PTC, 2000) and the project Technical Support Data.

TABLE IV-25
WETLAND IMPACTS PER WATERSHED

Watershed	Drainage Area (sq mi)	Wetland Impacts (ha/ac)					
		Split Plaza East	Modified Plaza West	Flyover A	Single Loop A	Bridge North	Bridge South
Neshaminy Creek	232.0	0.35/0.86	0.47/1.16	0.25/0.64	0.04/0.12	-	-
Mill Creek	19.8	-	-	0.36/0.88	0.36/0.88	-	-
Delaware River	13,500[1]	0.35/0.86	0.47/1.16	0.61/1.52	0.40/1.00	0.15/0.36	0.03/0.06

Note: Neshaminy and Mill Creeks are tributaries to the Delaware River, and, therefore, part of the Delaware River drainage area.
1 The drainage basin for the Delaware River includes parts of Pennsylvania, New Jersey, Delaware, and New York. The drainage area in Pennsylvania is 8,072.0 sq. mi., and the drainage area in New Jersey is 2,969 sq. mi.

TABLE IV-26
WETLAND NUMBERS, SIZES, AND CLASSIFICATIONS

	Number	PEM		PSS		PFO		Total	
		hectare	acre	hectare	acre	hectare	acre	hectare	acre
Total Wetlands in the Study Area	64	4.32	10.66	1.68	4.15	14.28	35.26	20.28	50.07
State									
Pennsylvania	60	4.18	10.34	1.47	3.64	14.13	34.90	19.78	48.88
New Jersey	4	0.14	0.32	0.21	0.51	0.15	0.36	0.50	1.19
Project Element									
Toll Plaza Element	20	1.57	3.88	0.37	0.91	3.03	7.49	4.97	12.28
Interchange Element	38	2.39	5.90	1.10	2.73	11.10	27.41	14.59	36.04
Bridge Element	6	0.36	0.88	0.21	0.51	0.15	0.36	0.72	1.75

PEM Palustrine Emergent
PSS Palustrine Scrub/Shrub
PFO Palustrine Forested

3. Wetland Functional Assessment

Wetland functions and values were evaluated using *The Highway Methodology Workbook Supplement, Wetlands Functions and Values, A Descriptive Approach* (USACOE, New England Division, 1994). This method is also known as the Corps Descriptive Method (CDM). This method qualitatively describes the physical characteristics and functions of the wetlands, and uses this information to select principal functions and values based upon a series of consideration/rationales and "best professional judgment". Principal functions/values assessed include: groundwater recharge/discharge; floodflow alteration; aquatic habitat; sediment/toxicant/pathogen retention; nutrient removal/ retention/transformation; production export; sediment/ shoreline stabilization; wildlife habitat; recreation; educational/scientific value; uniqueness/heritage; visual quality/aesthetics; and endangered species habitat.

The wetland functional assessment for the I-276/I-95 Interchange Project study area wetlands was conducted in Fall 1999. More detailed information and wetland functional assessment data forms and photographs are included in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000) for the project. Principal functions for each impacted wetland are summarized in **Tables IV-27** to **IV-29**.

4. Section 404 (b)(1) Preliminary Analysis

The Section 404 (b)(1) Preliminary Analysis has been prepared to satisfy the requirements of Section 404 of the Clean Water Act. Construction of this project would require a USACOE Section 404 Permit, a USACOE Section 10 Permit, and a PADEP Chapter 105 Permit. In order to obtain these permits, the PADEP must issue the Section 401 Water Quality Certification for the project. The PADEP Chapter 105 Permit Application Environmental Assessment Form has been prepared and is included in **Appendix H.** Consistent with the requirements of Section 404 of the Clean Water Act, this analysis addresses 40 CFR Part 230: Subparts B through F. The Section 404 (b)(1) Preliminary Analysis is located in **Appendix G**.

TABLE IV-27
ESTIMATED WETLAND IMPACTS – TOLL PLAZA ELEMENT

Impacted Wetland Site	Watershed	Existing Function [1]	Classification [2] and Size (ha/ac)				Wetland Impacts (ha/ac) due to Filling and Grading							
			PEM	PSS	PFO	Total	PEM	PSS	PFO	Total	PEM	PSS	PFO	Total
							Split Plaza East				Modified Plaza West			
W3B	Neshaminy Creek	STR	0.03/0.08	-	-	0.03/0.08	-	-	-	-	0.03/0.08	-	-	0.03/0.08
W5	Neshaminy Creek	STR, NR	0.09/0.23	0.12/0.24	-	0.21/0.47	0.04/0.09	-	-	0.04/0.09	0.07/0.16	-	-	0.07/0.16
W6	Neshaminy Creek	FA, WH	-	-	0.35/0.88	0.35/0.88	-	-	-	-	-	-	0.09/0.23	0.09/0.23
W7	Neshaminy Creek	STR, WH, REC	0.04/0.11	0.16/0.40	-	0.20/0.51	-	-	-	-	0.03/0.08	0.05/0.12	-	0.08/0.20
W8	Neshaminy Creek	FA, SSS, WH, REC	0.36/0.89	0.02/0.05	-	0.38/0.94	-	-	-	-	0.15/0.36	-	-	0.15/0.36
W10	Neshaminy Creek	FA, NR	0.24/0.60	-	-	0.24/0.60	-	-	-	-	0.004/0.01	-	-	0.004/0.01
W11	Neshaminy Creek	STR	-	-	0.04/0.11	0.04/0.11	-	-	-	-	-	-	0.04/0.10	0.04/0.10
W14	Neshaminy Creek	GWD, FA, AH, STR, WH	-	-	0.36/0.90	0.36/0.90	-	-	0.31/0.77	0.31/0.77	-	-	0.01/0.02	0.01/0.02
TOTAL IMPACTS							**0.04/0.09**	**-**	**0.31/0.77**	**0.35/0.86**	**0.28/0.69**	**0.05/0.12**	**0.14/0.35**	**0.47/1.16**

Note: The identified alternative impacts incorporate the associated side road/bridge improvements, stormwater management facilities, and construction of the park and ride/pool sites. The No-Build Alternative associated with each element does not impact the identified resource.

TABLE IV-28
ESTIMATED WETLAND IMPACTS – INTERCHANGE ELEMENT

Impacted Wetland Site	Watershed	Existing Function [1]	Classification [2] and Size (ha/ac)				Wetland Impacts (ha/ac) due to Filling and Grading							
			PEM	PSS	PFO	Total	PEM	PSS	PFO	Total	PEM	PSS	PFO	Total
							Flyover A				Single Loop A			
W20	Neshaminy Creek	GWD, STR, NR	-	-	0.18/0.44	0.18/0.44	-	-	(63 sq. ft.)	(63sq. ft.)	-	-	(67sq. ft.)	(67 sq. ft.)
N16	Neshaminy Creek	FA, STR, NR, SSS, WH	-	-	0.43/1.06	0.43/1.06	-	-	(267 sq. ft.)	(267 sq.	-	-	(253sq. ft.)	(253 sq. ft.)
N19	Neshaminy Creek	STR	-	-	0.19/0.47	0.19/0.47	-	-	0.19/0.47	0.19/0.47	-	-	0.02/0.05	0.02/0.05
N22	Neshaminy Creek	GWD	0.31/0.77	-	-	0.31/0.77	0.04/0.10	-	-	0.04/0.10	-	-	-	-
S3	Neshaminy Creek	STR	0.02/0.06	-	-	0.02/0.06	0.01/0.02	-	-	0.01/0.02	0.01/0.02	-	-	0.01/0.02
S6	Neshaminy Creek	FA, STR, NR	0.09/0.22	0.02/0.06	-	0.11/0.28	-	0.02/0.05	-	0.02/0.05	-	0.02/0.05	-	0.02/0.05
E15	Mill Creek	FA, STR, WH, REC	0.17/0.42	-	0.43/1.06	0.60/1.48	0.01/0.03	-	0.11/0.28	0.12/0.31	0.01/0.03	-	0.11/0.28	0.12/0.31
E16 *	Mill Creek	GWD, STR, WH, REC, UH, END	0.79/1.95	-	1.03/2.55	1.82/4.50	0.02/0.04	-	-	0.02/0.04	0.02/0.04	-	-	0.02/0.04
E18B	Mill Creek	FA	-	-	0.07/0.18	0.07/0.18	-	-	0.01/0.03	0.01/0.03	-	-	0.01/0.03	0.01/0.03
E24	Mill Creek	FA	-	-	0.11/0.28	0.11/0.28	-	-	0.06/0.14	0.06/0.14	-	-	0.06/0.14	0.06/0.14
E28	Mill Creek	FA, STR, NR, WH	-	-	1.10/2.72	1.10/2.72	-	-	0.12/0.29	0.12/0.29	-	-	0.12/0.29	0.12/0.29
E30	Mill Creek	FA, STR	0.02/0.06	-	-	0.02/0.06	0.02/0.06	-	-	0.02/0.06	0.02/0.05	-	-	0.02/0.05
TOTAL IMPACTS							**0.10/0.25**	**0.02/0.05**	**0.49/1.22**	**0.61/1.52**	**0.06/0.14**	**0.02/0.05**	**0.32/0.81**	**0.40/1.00**

* Exceptional Value

TABLE IV-29
ESTIMATED WETLAND IMPACTS – BRIDGE ELEMENT

Impacted Wetland Site	Watershed	Existing Function [1]	Classification [2] and Size (ha/ac)				Wetland Impacts (ha/ac) due to Filling and Grading							
			PEM	PSS	PFO	Total	PEM	PSS	PFO	Total	PEM	PSS	PFO	Total
							Bridge North				Bridge South			
E6	Delaware River	GWD, STR	-	-	0.15/0.36	0.15/0.36	-	-	0.15/0.36	0.15/0.36	-	-	-	-
E12	Delaware River	GWD, STR	0.03/0.06	-	-	0.03/0.06	-	-	-	-	0.03/0.06	-	-	0.03/0.06
TOTAL IMPACTS							**-**	**-**	**0.15/0.36**	**0.15/0.36**	**0.03/0.06**	**-**	**-**	**0.03/0.06**

[1] Principal Functions and Values:
GWD - groundwater recharge/discharge
NR - nutrient removal/retention/transformation
REC - recreation
END - endangered species habitat
FA - floodflow alteration
PE - production export
EDU - educational/scientific value
AH - aquatic habitat
SSS - sediment/shoreline stabilization
UH - uniqueness/heritage
STR - sediment/toxicant/pathogen retention
WH - wildlife habitat
VQ - visual quality/aesthetics

[2] PEM: Palustrine Emergent; PSS: Palustrine Scrub/shrub: PFO: Palustrine Forested

5. Impacts

The wetlands affected by the project occur adjacent to the existing study area roadways. The location of the proposed widening and construction are dictated by topographic and socioeconomic constraints. Descriptions of impacted wetlands, including location, size, classification, functions/values, relationships to the project, relationships to other wetlands in the vicinity, unique or significant characteristics, and photographs can be found in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000) and the Technical Support Data (the index is located in **Appendix C**).

For the I-276/I-95 Interchange Project, there is no practicable alternative to impacting wetlands. This is because the wetlands being impacted cannot be avoided within essentially the same project alignment, which is based on the location and widening of the existing highways. Alternatives to avoid the wetlands would entail substantial increase in cost, socioeconomic and Section 4(f) impacts, and additional impacts to adjacent environmentally sensitive areas. The alternatives development phases included practicable measures to minimize harm to wetlands **(Section III)**.

Impacts to the study area wetlands were determined based upon the comparative analysis of the preliminary engineering plans and the field wetland delineation. The No-Build Alternative would not impact wetlands.

Wetland impacts were calculated based on area of disturbance, the cut and fill limits, from the preliminary engineering design plans. The identification of impacts included the permanent fill areas; areas involving alteration of topography; areas of mechanized land clearing (clearing that excavates and re-deposits soil); and remnant wetland areas not directly filled but that are substantially degraded or dewatered as a result of isolation from the normal hydrologic source, or by severe size reduction, leading to a substantial loss of normal wetland functions. For the I-276/I-95 Interchange Project, because it is along existing highways, no wetlands would be fragmented. For each impacted wetland, **Tables IV-27** to **IV-29** identifies the wetland watershed, functions/values, classification, area, and the estimated direct impacts for each alternative. **Table IV-25** identifies the wetland impacts per watershed.

Because impacts to functions and values are often difficult to determine qualitatively, wetland mitigation measures will be designed to replicate those functions/values provided by the impacted wetlands, regardless of whether the impacted wetlands would continue to provide these functions/values after the project has been constructed.

In addition to direct impacts to wetlands caused by fill placement, post-construction impacts to wetland functions and values may also be realized. These may include such impacts as the loss of wetland flora, fauna, and habitat due to sediment and pollutant deposition or hydraulic changes caused by the disruption of surface and groundwater flow.

An assessment of cumulative impacts to wetlands provides a more ecological description of impact that supplements the direct acreage impacts and puts it into perspective. Cumulative losses occur whenever the combined effect of the loss of several small sites results in the overall degradation in the performance of important functions in the watershed. Cumulative impacts to wetland and waters of the US are described in **Section IV-U**.

a. Toll Plaza Element (Figure IV-9A Plate 2)

As shown on **Table IV-27**, the Split Plaza East Alternative would impact approximately 0.35 ha (0.86 ac) of wetlands, primarily due to highway widening, with some additional impacts where the new toll plazas are proposed. The wetland functions/values impacted by Split Plaza East include floodflow alteration (FA), sediment/ toxicant/ pathogen retention (STR), wildlife habitat (WH), nutrient removal/ retention/ transformation (NR), groundwater recharge/ discharge (GWD), and aquatic habitat (AH). The Modified Plaza West Alternative would impact 0.47 ha (1.16 ac) of wetlands. The functions/values that would be impacted by Modified Plaza West include floodflow alteration (FA), sediment/ toxicant/ pathogen retention (STR), wildlife habitat (WH), nutrient removal/ retention/ transformation (NR), groundwater recharge/ discharge (GWD), aquatic habitat (AH), recreation (REC), and sediment/ shoreline stabilization (SSS). **Table IV-27** describes the impacted wetlands by vegetation type, size, and functions/values.

b. Interchange Element (Figure IV-9B, Plate 2)

As shown on **Table IV-28**, the Flyover A Alternative would impact 0.61 ha (1.52 ac) of wetlands, and the following functions/values: floodflow alteration (FA), sediment/ toxicant/ pathogen retention (STR), wildlife habitat (WH), nutrient removal/ retention/ transformation (NR), groundwater recharge/discharge (GWD), recreation (REC), sediment/shoreline stabilization (SSS), production export (PE), endangered species habitat (END), and uniqueness/heritage (UH).

The Single Loop A Alternative would impact 0.40 ha (1.00 ac). Single Loop A would impact the same wetland functions/values as Flyover A, as described above. **Table IV-28** shows the vegetation type of each impacted wetland, as well as the size and functions/values. Many of the wetlands impacted are located adjacent to I-276 and are associated with the floodplains and small tributaries of Mill Creek and Neshaminy Creek.

c. Bridge Element (Figure IV-9C Plate 2)

Wetland impacts in the Bridge Element are within New Jersey. The Bridge North Alternative would impact 0.15 ha (0.36 ac) of forested wetlands, and the Bridge South Alternative would impact 0.03 ha (0.06 ac) of emergent wetlands, avoiding forested wetlands. Both Delaware River Turnpike Bridge Alternatives would impact the same wetland functions/values, which are groundwater recharge/ discharge (GWD) and sediment/ toxicant/ pathogen retention (STR). **Table IV-29** shows the vegetation type, size, and functions/values of each impacted wetland in the Bridge Element. Direct wetland impacts for either alternative would occur in New Jersey in isolated wetlands associated with roadway drainage **(Figure IV-9C, Plate 2)**.

In New Jersey, wetland impacts greater than 0.10 ha (0.25 ac) require an Individual Freshwater Wetland Permit. Mitigation is required and may include restoration, creation at a ratio of 2:1 (creation area to impacted area), purchase from wetland mitigation banks, preservation, etc. Mitigation must occur within New Jersey; it is not acceptable to conduct mitigation strategies out of state. However, wetland impacts less than 0.10 ha (0.25 ac) require a General Freshwater Wetland Permit, and no mitigation is required.

In summary, if Bridge South is constructed, because the wetland impacts are less than 0.10 ha (0.25 ac), NJDEP does not require mitigation. However, if the Bridge North Alternative is constructed, because the impacted wetlands are greater than 0.10 ha (0.25 ac), NJDEP requires wetland mitigation, which must be implemented within the state of New Jersey. To satisfy NJDEP requirements, and because the wetland impacts in New Jersey are so minor, mitigation strategies that would be investigated for this project include enhancement, use of wetland banks, or monetary payment to support wetland preservation goals. During Final Design, coordination with the NJDEP would continue to identify the appropriate mitigation strategy.

6. Wetlands Finding

A Wetland Finding is required pursuant to Executive Order 11990 and PENNDOT Strike-Off Letter 430-90-07. As defined in the PENNDOT Strike-Off Letter, the I-276/I-95 Interchange Project would require an Individual Wetland Finding because this project is a highway improvement project which involves the physical disturbance of more than one acre (0.40 hectares) of vegetated wetlands. According to Strike-Off Letter 430-90-07, the wetland finding documentation for this project has been incorporated into the FEIS.

In accordance with Executive Order 11990, Section 2(a) for Federal Aid projects that meet the criteria of an Individual Wetland Finding, the Federal Highway Administration (FHWA) has determined that:

1. There is no practicable alternative to the proposed project given the following conditions:
   a) The wetlands being traversed cannot be avoided within essentially the same alignment;
   b) Alternatives to avoid the wetlands would entail substantial increase in cost, additional economic or social effects, or additional effects on other adjacent environmentally sensitive areas.
2. The proposed project includes all practicable measures to minimize harm to wetlands that may result from the proposed construction.

The I-276/I-95 Interchange Project was initiated with two pieces of legislation: a) the 1982 Federal Surface Transportation Assistance Act, which specified that I-95 be re-routed onto I-276 across the Delaware River Turnpike Bridge to join the New Jersey Turnpike Extension, and

ultimately I-95; and b) the 1985 Pennsylvania Act 61 which authorized the Pennsylvania Turnpike Commission to build an interchange between I-95 and I-276 and widen I-276 to six lanes between Interchange 28 and the Delaware River. These legislative actions restrict the alignment of the project; therefore the wetlands cannot be avoided due to a change in alignment. The wetlands affected by the project occur adjacent to the existing study area roadways. The widening of I-276 and the construction of the interchange ramps are primarily dictated by topographic, socioeconomic, environmental and Section 4(f) property constraints.

Based upon the above considerations, the FHWA has determined that there is no practicable alternative to the proposed construction in wetlands. The proposed project includes practicable measures to minimize harm to wetlands, such as retaining walls and steepened slopes as further described in **Section IV-K.7**.

Descriptions of the wetlands, including location, size, classification, functions/values, relationships to the project, relationships to other wetlands in the vicinity, unique or significant characteristics, and photographs can be found in the *Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000). Details regarding wetland impacts and minimization measures can be found in the FEIS (**Sections IV-K.5** and **IV-K.7**). Also, wetland mitigation is discussed in the FEIS and a mitigation plan will be prepared during Final Design.

7. Mitigation

Mitigation strategies depend on the natural resource agencies' continued review of the project's alternative analyses and their evaluation of the nature and extent of wetland impacts. Priority would be given to maintaining the existing acreage and functions of wetlands; avoidance and/or minimization of impacts to waters and wetlands would continue to be considered throughout Final Design. Minimization measures that have been incorporated include engineering the slopes of the highway embankment to create the narrowest footprint possible. Coordination will be conducted with the natural resource agencies when developing detailed mitigation plans to compensate for the loss of wetland acreage and functions. Such measures may include protection of existing wetlands and floodplains during construction, re-vegetation of disturbed areas with native plants, enhancing existing degraded wetlands or wetlands partially impacted by the project, restoration of former wetlands, and/or creation of new wetlands with functions and values similar to those lost.

To minimize wetland impacts during construction, there will be strict adherence to the erosion and sediment control measures specified by the PADEP; NJDEP; Bucks and Burlington Counties Conservation Districts; *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2002); and the *Standards for Soil Erosion and Sediment Control in New Jersey* (New Jersey Department of Agriculture, 2000); and coordination under Chapter 105 of the Pennsylvania Administrative Code, and Sections 401 and 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act would be enforced. The requirements and special conditions of these permits would need to be met to minimize construction-related impacts. Other methods include the possible use of timber matting, silt fencing, protective fencing, and avoiding the placement of any construction staging or storage areas in wetland areas.

After implementing practicable steps to avoid and minimize potential wetlands impacts, compensation by restoration or creation of replacement sites is the next mitigation action. The following considerations are taken under advisement when investigating wetland replacement sites.

- ✓ Determine amount of each type of wetland impacted (area, vegetative type, and functions/values) and identify the watershed where the wetland impacts occur.
- ✓ Determine location of an appropriate site or sites for wetland replacement according to the *Design Criteria - Wetlands Replacement/Monitoring* (PADEP, 1997). Replacement wetlands should be located in the immediate vicinity, and within the same watershed, of the impacted wetlands. Off-site locations are investigated when on-site locations are exhausted or infeasible. Furthermore, the criteria requires that when a wetland impact occurs within a designated Coastal Zone Management area, then the wetland replacement must also be within the Coastal Zone Management area. A majority of the project study area is within the coastal zone described in **Section IV-I**, and therefore, mitigation sites would be chosen appropriately.
- ✓ Emergent wetlands would be constructed at a minimum area ratio of 1:1, replacement acres to lost acres. Coordination with natural resource agencies determined that the replacement of impacted forested and scrub-shrub wetlands should be replaced at a minimum ratio of 2:1, replacement acres to lost acres.
- ✓ Functions and values that are lost would be replaced at a minimum ratio of 1:1 replacement function/value to impacted function/value.
- ✓ PADEP requires that for each exceptional value wetland the mitigation ratio should be 2:1, replacement acres to impacted acres.
- ✓ NJDEP requires mitigation for wetland losses greater than 0.25 acres.

More detailed information regarding wetland mitigation will be outlined in the Mitigation Report to be prepared prior to Final Design for this project. Wetland mitigation measures should be designed to complement mitigation measures identified for other natural resources, such as terrestrial ecology and surface water.

a. Candidate Wetland Replacement Sites (CWRS)

The selection of wetland replacement sites is in the preliminary stages. Specific sites would be identified as the project proceeds towards the Final Design phase. The February 1990 Memorandum of Agreement (MOA) between the USEPA and the USACOE clarified the federal policies on the level and type of mitigation necessary to demonstrate compliance with the Section 404(b)(1) Guidelines; that section of the Clean Water Act provides environmental criteria by which permits for the discharge of dredged or fill material are evaluated. In addition, the December 26, 2002 USACOE Regulatory Guidance Letter (No. 02-2) provides guidance on compensatory mitigation for aquatic resource impacts under the USACOE Regulatory Program pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

Wetland impacts have been broken down into their vegetative types and per state. For Pennsylvania, depending upon the combination of alternatives, the PEM wetland impacts range from 0.10 ha (0.23 ac) to 0.38 ha (0.94 ac); the PSS wetland impacts range from 0.02 ha (0.05 ac) to 0.07 ha (0.17 ac); and the PFO wetland impacts range from. 0.46 ha (1.16 ac) to 0.80 ha (1.99 ac). In New Jersey, the range of PEM wetland impacts range from zero to 0.03 ha (0.06 ac); and the PFO wetland impacts range from zero to 0.15 ha (0.36 ac). No PSS wetlands will be impacted in New Jersey. Based upon these impacts, the proposed wetland replacement ranges from 0.12 ha (0.27 ac) to 0.43 ha (1.04 ac) for PEM wetlands, from 0.04 ha (0.10 ac) to 0.14 ha (0.34 ac) for PSS wetlands; and from 0.92 ha (2.32 ac) to 1.90 ha (4.70 ac) for PFO wetlands.

As shown in **Tables IV- 27**, **IV-28**, and **IV-29**, the functions and values that would be lost in Pennsylvania as a result of the project are the same for each possible combination of alternatives. These are groundwater discharge/recharge (GWD), sediment/toxicant/pathogen retention (STR), nutrient removal (NR), floodflow alteration (FA), sediment/shoreline stabilization (SSS), endangered species habitat (END), recreation (REC), uniqueness/heritage (UH), aquatic habitat (AH), and wildlife habitat (WH).

The *Design Criteria -Wetlands Replacement/Monitoring* (PADEP, 1997) was used as a guide during the preliminary wetland replacement site investigations. Potential sites were determined suitable if they were not forested, and a potential water supply (ground or surface) was present or could be feasibly obtained. Sites investigated were located near or adjacent to the project study area, and therefore all are within the Pennsylvania coastal zone and the impacted watersheds. Several sites were chosen because of their disturbed condition and limited natural resource, wildlife, or recreational value; others were chosen to enhance these existing functions/values. Sites with mature trees or diverse upland habitat were avoided. A natural resource agency field view was conducted on December 18, 2001 to allow the natural resource agencies the opportunity to review the candidate wetland replacement sites. Attendees included the USACOE, USFWS, PADEP, and the PFBC. Based on agency input the list of potential sites was narrowed down to three: Youth Development Center, Women's Humane Society, and the Northwest Quadrant.

The following are general descriptions of the remaining three potential wetland mitigation sites. They are shown on **Figures IV-9A** and **IV-9B**, as well as in **Appendix A**. Additional information is located in the Technical Support Data. This was a preliminary investigation and no specific studies, such as soils, hydrology, and vegetative analyses have yet been conducted. As more detailed studies are conducted prior to Final Design they will be further coordinated with the natural resources agencies and documented in the Mitigation Report to be prepared for the project.

(1) Youth Development Center (CWRS #1)

The former Youth Development Center is located just east of the Neshaminy Service Plaza, north of I-276, in Bensalem Township (**Figure IV-9A**). This property was recently purchased by Realen Homes, a builder of single family and age-restricted homes, from the Pennsylvania Department of General Services. The grounds of this property have been maintained as a lawn. There is a possibility that a wetland replacement site on this property may allow for the site to revert back to a more natural state. The soil survey indicates the site contains hydric soils and an intermittent stream flows through the property and into an adjacent existing wetland. Furthermore, the headwaters of another stream are located adjacent to this property, therefore, sources of hydrology are available.

The sale agreement stipulated that 12 ha (30 ac) of the 42 ha (104 ac) property be transferred to Bensalem Township for preservation as open space. The remainder of the property is zoned rural residential which would allow for one home per acre. Utilization of this property as a wetland replacement site would require coordination with Bensalem Township and/or Realen Homes.

Functions/values a wetland at this location may provide include:

- ✓ Nutrient Removal/Retention/Transformation
- ✓ Groundwater Recharge/Discharge
- ✓ Sediment/ Toxicant/Pathogen retention

(2) Women's Humane Society (CWRS #2)

The Women's Humane Society initially planned on creating a recreational/wildlife sanctuary on their property, which is located along Richlieu Road in Bensalem Township, north of I-276 (**Figure IV-9A**). Recent discussions indicate that the Women's Humane Society had coordinated with local environmental agencies and had determined that the existing wetlands, uplands, and vegetation on the property supported diverse wildlife habitats. Minor enhancement measures were performed and included tree plantings in existing wetlands and the placement of bird boxes. Therefore, the plans to add wetlands to this property are no longer in effect. However, the organization is interested in working with the Project Team to implement wetland enhancement efforts.

PECO high-tension wires traverse the property, which is mainly composed of herbaceous and scrub/shrub vegetation. A small perennial stream flows through the property. There are existing wetlands that may be expanded and/or restored. The wetlands located in the western corner of the property, near the PECO Tower, appear disturbed. Furthermore, the soils at this site are listed as County Hydric Soils.

Piezometric studies may need to be conducted to determine if a groundwater source exists, which would be augmented by the sheet flow from stormwater and floodflow. Wetlands at this location may provide the following functions and values:

- ✓ Wildlife Habitat
- ✓ Recreation
- ✓ Education/Scientific Value
- ✓ Sediment/Shoreline Stabilization
- ✓ Floodflow Alteration
- ✓ Groundwater Recharge/Discharge
- ✓ Aquatic Habitat (if water ponding on perched clay bed)

(3) Northwest Quadrant (CWRS #3)

This is a large 37-acre parcel owned by the Pennsylvania Turnpike Commission (PTC) located to the northwest of the point of crossing (**Figure IV-9B**). This parcel was acquired during previous studies to construct an interchange with I-95. Prior to PTC ownership, the parcel was proposed for development as a mobile home park. Remnant cement pads and electric conduits are still evident. There are large tracts of forest, shrubby areas, and wetlands on this parcel. The northwest corner of the parcel contains a portion of an unnamed tributary to the Neshaminy Creek. There are numerous upland drainage channels along the property.

If this site were utilized for wetland mitigation, it would only use the portion of the project that has low wildlife habitat value. The adjacent mature forest would not be used or affected by the wetland mitigation construction. Furthermore, created wetlands could be designed to provide amphibian habitat.

Piezometric studies may need to be conducted to determine if a groundwater source exists, which would be augmented by the sheet flow from stormwater. Wetlands at this location may provide the following functions and values:

- ✓ Wildlife Habitat
- ✓ Education/Scientific Value
- ✓ Sediment/Shoreline Stabilization
- ✓ Floodflow Alteration
- ✓ Groundwater Recharge/Discharge
- ✓ VQ - visual quality/aesthetics

The Technical Support Data contains more detailed information for these Candidate Wetland Replacements Sites, as well as those that were previously investigated and determined to be unsuitable.

As stated previously, the investigation of the wetland replacement sites is preliminary. Detailed design will continue into the Final Design phase of the project. Mitigation measures will be referenced in the Record of Decision (ROD) and detailed in the Mitigation Report, which will be completed after the issuance of the ROD. Additional coordination and analysis will be conducted to determine which of the identified sites would be most suitable for wetland creation. Also, during the additional analysis, additional sites not previously identified may be discovered and investigated appropriately. The additional analyses may include hydraulic and hydrologic analysis, geomorphological and pedological analysis, and vegetative analysis. Also, assessment of potential archeological or historical resources, productive agricultural land, sensitive waste, property acquisitions, and construction access concerns would be conducted. Should results from these continued investigations reduce the total yield of anticipated wetland replacement, coordination may be conducted to consider the use of suitable sites on the PADEP Wetland Registry, or on any licensed, agency-approved and operational Wetland Mitigation Bank within the region.

b. Other Potential Mitigation Options

Another way to mitigate wetland impacts is to coordinate with local and state government agencies, organizations, and/or private landowners to implement a conservation easement or greenbelt to protect the existing stream corridors, wetlands, floodplains, and other riparian area.

L. RARE, THREATENED AND ENDANGERED SPECIES

More detailed rare, threatened and endangered species information is located in the Vegetation and Wildlife Technical Support Data as well as:

- ** Habitat Evaluations and Endangered Frog Surveys along the Proposed I-276 and I-95 Interchange Project Study Corridor, in Bucks County, Pennsylvania, 1999.*
- ** Endangered Plant Species Report for I-95/I-276 Interchange Project Property, 2001.*
- ** Redbelly Turtle Studies at the I-95/I-276 Interchange Project, Bristol Township, Bucks County, Pennsylvania, 2001.*
- ** Plant Species of Special Concern Report for I-95/I-276 Interchange Project Site, 2002.*
- ** An Intensive Survey for Ironcolor Shiner (Notropis chalybaeus) within Waterways Associated the Proposed Connection of the Pennsylvania Turnpike (I-276) and Interstate Highway Route 95, 2002.*
- ** Biological Assessment of the Shortnose Sturgeon (Acipenser brevirostrum) of the Delaware River Estuary, 2002*
- ** Technical Support Data Index is located in Section XII (Appendix C).*

State and federal agencies that monitor or regulate threatened and endangered species and critical habitat were contacted to obtain information on rare, threatened, and endangered species within the study area. Federal agencies contacted include: USFWS and National Marine Fisheries Service (NMFS). Pennsylvania agencies contacted include: PFBC, PGC, PADCNR, Pennsylvania Natural Diversity Inventory (PNDI), and the Morris Arboretum of the University of Pennsylvania. New Jersey agencies contacted included: NJDEP - Division of Fish Game and Wildlife (FGW), Endangered and Non-game Species Program, Natural Heritage Program (NHP). Copies of agency letters are located in the Technical Support Data.

1. Existing Conditions

a. Federal Threatened and Endangered Species

One federally listed endangered species, the shortnose sturgeon (*Acipenser brevirostrum*), inhabits the study area. The shortnose sturgeon is known to occur in the Delaware

River between Trenton, New Jersey and south through Philadelphia, Pennsylvania (NMFS, 1998). **Table IV-30** contains additional information regarding the habitat of this species. Section 7 of the Endangered Species Act (ESA) outlines procedures for protecting federally listed species and their designated critical habitats. A biological assessment is required for any major federal action. As discussed below, a biological assessment for the shortnose sturgeon has been completed.

TABLE IV-30
SENSITIVE SPECIES OF CONCERN WITHIN THE STUDY AREA

Common Name	Latin Name	Protected Status	Habitat and Range	Study Area Location
Bur-marigold, Southern estuarine beggar-ticks, swamp beggar ticks	*Bidens bidentoides*	NJ Endangered	Tidal marsh; shores of the Delaware River and Bay	Bridge Element: along the east bank of the Delaware River
Bushy bluestem, broom-sedge bush beardgrass	*Andropogon glomeratus*	PA Tentatively Undetermined	Low moist ground, marshes and swamps; Massachusetts to Florida, west to Kentucky, southern California and Nevada	Interchange Element: Black Ditch Park
Eastern Joe-pye-weed	*Eupatorium dubium*	PA Tentatively Undetermined	Swamps, shores; Nova Scotia, southern New Hampshire and south	Interchange Element: Black Ditch Park
Eastern mudminnow	*Umbra pygmaea*	PA Candidate	Atlantic slope; southern New York to northern Florida	Interchange Element: Mill Creek, Black Ditch Creek, Magnolia Lake
Maryland meadow beauty	*Rhexia mariana*	PA Endangered	Wet meadows, springy and wet sandy areas; north to Cape Cod, eastern Pennsylvania, Virginia, southern Indiana and southern Illinois	Interchange Element: in and along Black Ditch Park
Fetterbush; Swamp Dog-hobble	*Leucothoe Racemosa*	PA Tentatively Undetermined	Wet wood thickets; Virginia to Florida and Southeast Louisiana.	Interchange Element: infield area for the ramps for the PA 413/I-95 Interchange
Peregrine falcon	*Falco peregrinus*	PA and NJ Endangered	Mainly open country; East coast from New Jersey through Florida & along the coast of the Gulf of Mexico	Bridge Element: Delaware River Turnpike Bridge
Red-bellied turtle	*Pseudemys rubriventris*	PA Threatened	Ponds, rivers, & other large bodies of fresh water; southern New Jersey and extreme east West Virginia to northeast North Carolina	Interchange Element: Black Ditch Park and Silver Lake Park
Shortnose sturgeon	*Acipenser brevirostrum*	Federal, PA and NJ Endangered	Anadromous fish, live in slower moving riverine and estuarine waters and migrate to faster moving freshwaters to spawn. Found in most major river systems along the eastern seaboard including the Delaware River, from Philadelphia to Trenton, and the Hudson River	Bridge Element: Delaware River
Southern red oak	*Quercus falcata*	PA Endangered	Woods; se. New York, s. Ohio, s. Illinois & s. Missouri to n. Florida & e. Texas	Interchange Element: wooded area east of I-95, south of Ford Rd.
Sweetbay magnolia	*Magnolia virginiana*	PA Threatened	Swamps and damp woods, east Massachusetts, New Jersey, Pennsylvania, and Arkansas to Florida and Texas	Bridge Element: north of I-276 in the coastal plain forest remnants near the ramps for Interchange 29
Toothcup	*Ammannia coccinea*	PA Endangered	Wet, sandy or silty shores; exposed mud of ponds, marshes & stream banks; New Jersey to Florida , and from Ohio to S. Dakota and southwest.	Interchange Element: infield area for the ramps for the PA 413/I-95 Interchange
Umbrella magnolia, umbrella-tree magnolia	*Magnolia tripetala*	PA Threatened	Mountain streamsides, southern Pennsylvania, Ohio, Kentucky, and Missouri to Georgia, Arkansas and southeastern Oklahoma	Bridge Element: north of I-276 in the coastal plain forest remnants near the ramps for Interchange 29
Willow oak	*Quercus phellos*	PA Endangered	Coastal Plain, uplands; New York to Florida, westward to Kentucky, Missouri and Texas	Interchange and Bridge Elements: along I-276 and I-95 in the coastal plain forest remnants

Sources: Conant, et. al., 1991; Hitchcock, 1971; Illick, 1928; Knobel, 1980; Ladd, 1995; Magee, 1981; National Geographic Society, 1987; Newcomb, 1977.; Peterson et. al., 1968; Petrides, 1972; Robinson et. al., 1908; Zappalorti, et. al., 1999.

b. Section 7 Consultation and Coordination

Section 7 of the ESA [16 U.S.C. Section 1536(a)(2)] requires a biological assessment to be prepared for the purpose of analyzing the potential effects of the project on federal listed species and critical habitat in order to establish and justify an 'effect determination,' which is a determination of project impacts on the listed species. The NMFS would review the biological assessment to determine whether the proposed project involves "major construction activities" and if the proposed project would likely jeopardize the continued existence of the listed species or result in the destruction or adverse modification of designated critical habitat. If no adverse impacts are anticipated, the proposed project may proceed to completion. If the project is determined to "jeopardize a species or adversely affect its critical habitat," the NMFS, through a biological opinion, must suggest reasonable and prudent alternatives to the FHWA proposal that would avoid this result. The ESA states, "Where formal consultation is required, NMFS must issue a written biological opinion outlining its findings and the information upon which the conclusions are based". Furthermore, coordination must occur between the federal funding agency (FHWA) and the federal agencies issuing permits (USEPA, USACOE, and USCG).

The *Biological Assessment of the Shortnose Sturgeon (Acipenser breviorstrum) of the Delaware Estuary* (PTC, 2002) has been completed and submitted to NMFS and is currently under review. The conclusions indicate that through the use of construction phasing and timing, as well as minimization and avoidance techniques, the I-276/I-95 Interchange Project would have no adverse effect on the population of the shortnose sturgeon in the project study area. The Biological Assessment was submitted to NMFS in January 2003. After reviewing this report, the NMFS will issue a Biological Opinion. As the project continues toward construction, an updated list of construction activities will be periodically forwarded to the NMFS so they can verify the accuracy of the Biological Opinion. More detailed information regarding the biological assessment can be found in the Technical Support Data.

Coordination with the NMFS determined that depending on the type of activities to be performed in the Delaware River, seasonal restrictions would be recommended for in-water work on the Delaware River to minimize impacts to the shortnose sturgeon and other anadromous fishes. Impacts that would impede fish migrations include increased turbidity, decreased water quality and high decibel levels. Efforts would be made to ensure disturbances in the unprotected streambed, such as during cofferdam construction, be conducted from November to March.

c. Pennsylvania Threatened and Endangered Species

Agency coordination revealed that five Pennsylvania endangered or threatened animals may occur in, or near, the study area. The Pennsylvania endangered species include shortnose sturgeon (*Acipenser brevirostrum*), New Jersey chorus frog (*Pseudacris f. kalmi*), coastal plain leopard frog (*Rana utricularia*), ironcolor shiner (*Notropis chalybaeus*), and the peregrine falcon (*Falco peregrinus*), which is known to nest on the Delaware River Turnpike Bridge. The Pennsylvania threatened species is the red-bellied turtle (*Pseudemys rubriventris*). Refer to **Table IV-30** for specific information on habitat requirements and study area locations for species of concern located in the study area.

In response to PFBC concerns, field studies were conducted to verify the presence, or absence, of the New Jersey chorus frog and the coastal plain leopard frog. As coordinated with the PFBC, habitat evaluations and field surveys that were conducted between May 1997 and July 1998 indicated these species no longer exist in the study area. Additional information can be found in *Habitat Evaluations and Endangered Frog Surveys along the Proposed I-276 and I-95 Interchange Project Study Corridor, in Bucks County, Pennsylvania* (Zappalorti, 1999), and in the Technical Support Data.

In Fall 2001, surveys were conducted in the study area to determine the presence or absence of the Pennsylvania threatened red-bellied turtle (*Pseudemys rubriventris*) and the Pennsylvania endangered ironcolor shiner (*Notropis chalybaeus*). Presence/absence surveys conducted for the red-bellied turtle confirmed their presence in Magnolia Lake and in the associated pond to the north. Although no red-

bellied turtles were observed in Mill Creek, it is believed that the turtles likely utilize the corridor for migration. Presence/absence surveys conducted for the ironcolor shiner confirmed no occurrences in the survey areas. However, during these surveys the Pennsylvania candidate Eastern mudminnow (*Umbra pygmaea*) was found in Silver Lake Park and Mill Creek **(Table IV-30)**. Additional information regarding the red-bellied turtle and ironcolor shiner surveys can be found in the reports *Redbelly Turtle Studies at the I-95/I-276 Interchange Project, Bristol Township, Bucks County, Pennsylvania* (Zappalotti et. al., 2001) and *An Intensive Survey for Ironcolor Shiner (Notropis chalybaeus), within Waterways Associated with the Proposed Connection of the Pennsylvania Turnpike (I-276) and Interstate Highway Route 95* (O'Herron et. al., 2002).

A review of PNDI information identified five plant species of concern that may be within the Pennsylvania study area. Species of concern included slender sea-oats (*Chasmanthium laxum*), Virginia willow (*Itea virginica*), soapwort gentian (*Gentiana saponaria*), and spotted pondweed (*Potamogeton pulcher*). Velvety panic grass (*Dichanthelium scoparium*), a Pennsylvania endangered species, is located just south of the study area.

Field surveys of the study area were conducted in October 2000 and 2001 to determine the presence/absence of plant species of concern. The surveys identified the presence of nine plant species of concern within the Pennsylvania portion of the study area. The Pennsylvania endangered species include the willow oak (*Quercus phellos*), Maryland meadow beauty (*Rhexia mariana*), toothcup (*Ammannia coccinea*), and Southern red oak (*Quercus falcata*). Pennsylvania threatened species included sweetbay magnolia (*Magnolia virginiana*), and umbrella magnolia (*Magnolia tripetala*), swamp dog-hobble (*Leucothoe Racemosa*). The tentatively undetermined species include bushy-bluestem (*Andropogon glomeratus*) and Eastern Joe-pye-weed (*Eupatorium dubium*) **(Table IV-30)**.

The presence/absence plant surveys were conducted to gather an accurate account of the species, number, and location of species of concern in the study area. This information was utilized to determine impacts due to the project and identify mitigation goals. Additional information regarding the plant species of concern can be found in the *Endangered Plant Species Report for I-95/I-276 Interchange Project Property* (Mellon, 2001), the *Plant Species of Special Concern Report for I-95/I-276 Interchange Project Site* (Mellon, 2002), and the Technical Support Data. The study area locations and habitat requirements of the identified species of concern are included in **Table IV-30**.

d. New Jersey Threatened and Endangered Species

Three New Jersey endangered species are known to occur in the study area: the shortnose sturgeon (*Acipenser brevirostrum*), peregrine falcon (*Falco peregrinus*), and the bur-marigold (*Bidens bidentoides*) **(Table IV-30)**. A 1998 botanical survey found the bur-marigold (*Bidens bidentoides*) in the intertidal zone of the Delaware River south of the existing Delaware River Turnpike Bridge.

2. Impacts

The No-Build Alternative would involve no new roadway construction and would not impact any threatened and endangered species or their habitat. Impacts to Pennsylvania threatened and endangered plants would require a PADCNR Native Plant Program Wild Plant Management Permit.

a. Toll Plaza Element

The Split Plaza East and the Modified Plaza West Alternatives would not impact rare, threatened and endangered species.

b. Interchange Element

Construction of the proposed interchange ramps and the associated widening of I-276 and I-95 in the Interchange Element may impact seven species of concern for either the Flyover A Alternative or the Single Loop A Alternative. Impacted plant species include willow oak, sweetbay magnolia, Eastern Joe-pye-weed, Maryland meadow beauty, and bushy-bluestem. Similarly, construction related impacts in the vicinity of Mill Creek may affect the mudminnow and the red-bellied turtle.

c. Bridge Element

The Bridge North Alternative may impact three species of concern: the peregrine falcon, shortnose sturgeon, and willow oak. The Bridge South Alternative may also impact the peregrine falcon, shortnose sturgeon, and willow oak as well as the bur-marigold. The Pennsylvania and New Jersey threatened peregrine falcon may be impacted during construction of a new parallel bridge, either north or south, and during seismic upgrading and painting of the existing bridge. The federal endangered shortnose sturgeon would be impacted during construction of bridge piers and other activities that would affect water quality or aquatic habitat in the Delaware River. Additional information regarding the type of impact has been gathered and documented in the Technical Support Data and biological assessment, *Biological Assessment of the Shortnose Sturgeon (Acipenser brevirostrum) of the Delaware River Estuary,* (PTC, 2002).

3. Mitigation

During Final Design, measures will be investigated to avoid, to the maximum extent possible, or minimize impacts to these sensitive plant and animal species and their habitats. Design options, such as retaining walls or bridges, may be used to avoid or minimize impacts to critical habitat. Construction impacts (i.e., sedimentation impacts, chemical pollution, habitat disturbance, etc.) would be minimized by strict adherence to the project Soil, Erosion, and Sedimentation Control Plan and the development of stormwater management plans. Construction timing restrictions would be implemented to avoid disturbing listed species during migrations or nesting periods. For instance, to avoid impacts to the shortnose sturgeon efforts would be made to ensure disturbances in the unprotected streambed, such as during cofferdam construction, be completed during the months of November to March. To avoid impacts to any nesting peregrine falcon, coordination would be conducted with the PGC and NJDEP to determine the exact locations of nests, and construction would be limited within 61 m (200 ft) of an active nest during the nesting season (March 15th through July 1st).

Habitat disturbance within the project ROW would be minimized by using a temporary barrier (i.e., orange plastic snow fencing) to prevent construction vehicles and personnel from disturbing sensitive habitat. Stormwater management practices (e.g. vegetative controls, detention basins, and grass swales) would be utilized to reduce discharge volumes and remove pollutants from sensitive habitats. In order to offset potential impacts, the following strategies may be implemented:

- ✓ Purchase of critical habitat for conservation purposes
- ✓ Improvement of existing habitat
- ✓ Fund and implement educational programs
- ✓ Conduct or fund research on sensitive species and habitat within the study area
- ✓ Creation of red-bellied turtle nesting habitat

Minimization measures to reduce project impacts will continue to be developed and will be detailed in the Mitigation Report to be prepared for the project. Mitigation measures to be designed for other natural resources such as wetlands and surface waters may benefit listed species and their critical habitat. Coordination with the natural resource agencies will continue as mitigation measures are developed.

M. TERRESTRIAL ECOLOGY

More detailed terrestrial ecology information is located in the Vegetation and Wildlife Technical Support Data, as well as:

- *Habitat Evaluations and Endangered Frog Surveys Along the Proposed I-276 and I-95 Interchange Project Study Corridor, in Bucks County, Pennsylvania, 1999.*
- *Endangered Plant Species Report for the I-95/I-276 Interchange Project Property, 2001.*
- *Endangered Species Report for I-95/I-276 Interchange Project Site, 2002.*
- *Technical Support Data Index is located in Section XII (Appendix C).*

Terrestrial habitat information was obtained through existing document review, including county soil surveys and natural resource plans, aerial photography, and information gathered during field views. Wetland habitats were evaluated using *The Highway Methodology Workbook Supplement, Wetlands Functions and Values, A Descriptive Approach* (USACOE, New England Division, 1994). Forest and rangeland habitat was classified using *A Land Use and Land Cover Classification System for Use with Remote Sensor Data* (Anderson et. al., 1976).

The following agencies were contacted to obtain information about wildlife species that may occur in the study area: PGC, PFBC, PADCNR-PNDI, NJDEP-FGW, NJDEP-NHP, and the Silver Lake Nature Center (SLNC). Agency correspondence is documented in the Technical Support Data.

1. Existing Conditions

a. Vegetation

The study area vegetation consists of plant species that occur in the Atlantic Coastal Plain Physiographic Province. In Pennsylvania, the Coastal Plain Forest is largely confined

to the Delaware Estuary. Common plant species of both the Coastal Plain Forest and the study area include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), greenbrier (*Smilax rotundifolia*), and sweet pepper bush (*Clethra alnifolia*). Few stands of Coastal Plain Forest remain intact in Pennsylvania, making it a rare vegetative community type in Pennsylvania (Cuff et al., 1989). Similar plant species occur in the New Jersey study area.

There are several Pennsylvania and New Jersey endangered or threatened plant species in the study area, as described in **Section IV-L**. Botanical surveys was conducted to accurately identify the locations of species of special concern. The surveys, *Endangered Plant Species Report for I-95/I-276 Interchange Project Property* (Mellon, 2001) and *Endangered Species Report for I-95/I-276 Interchange Project Site* (Mellon, 2002), can be found in the Technical Support Data (the index is located in **Appendix C**).

Based on field observations, most of the vegetative cover types in this region are disturbed to some degree. These disturbances are mainly due to human activities such as roadway, utility, residential, and commercial development. Although most of the study area is covered by urban land use and most of the limited vegetative cover types are disturbed in some way, these land use/land cover types provide habitat for wildlife, some of which are threatened, endangered, and undetermined status plant species. **Table IV-31** lists the identified vegetative cover types that are common in the study area. Included in this table is the total area of each cover type and common wildlife species and plants that have been observed in each cover type.

The disturbed nature of the study area has provided ideal opportunities for the introduction and proliferation of invasive plant species. Invasive plants are characterized by their ability to grow and spread aggressively and displace other plants. Invasive plants tend to appear on disturbed ground and the most aggressive can invade existing ecosystems. These plants are undesirable because they are difficult to control and can dominate and degrade the environment and habitat for native insects, birds, and animals (PADCNR, ND). Common invasive species found in the study area include garlic mustard (*Alliaria petiolata*), Japanese honeysuckle (*Lonicera japonica*), common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), multiflora rose (*Rosa multiflora*), Eurasian water milfoil (*Myriophyllum spicatum*), and reed canary grass (*Phalaris arundinacea*).

b. Wildlife

Despite the urban character of the study area, numerous species of wildlife occur, or have historically occurred, in the study area. These include the white-tailed deer (*Odocoileus virginiana*), mourning dove (*Zenaida macroura*), eastern cottontail (*Sylvilagus floridanus*), red-tailed hawk (*Buteo jamaicensis*), and American toad (*Bufo americanus*). These species typically use a variety of habitats.

The PGC fish and wildlife database lists 372 wildlife species that occur in, or around, the study area (PGC correspondence, 2/93). Of the 372 species listed, 50 are fish, 24 are amphibians, 24 are reptiles, 240 are birds, and 34 are mammals. The NJDEP-FGW correspondence (5/18/93) listed 148 species including five fish species, 15 reptile species, ten amphibian species, 98 bird species, and 20 mammal species. SLNC compiled a list of species that may occur in Silver Lake Park based on known ranges and habitat preferences (SLNC correspondence, 6/23/93). The SLNC identified the occurrence of six fish species, nine amphibian species, nine reptile species, 51 bird species, and 22 mammal species within Silver Lake Park. The SLNC documentation includes a listing of invertebrates that may occur in Silver Lake Park, many of which are likely to occur in other study area locations. Field surveys were conducted in coordination with the PFBC, which determined the absence of state threatened and endangered frog species within the study area. During field surveys conducted between May 1997 and July 1998, eleven mammal species, eight reptile species, and six amphibians were observed or captured. Additional information regarding these field studies can be found in *Habitat Evaluations and Endangered Frog Surveys Along the Proposed I-276 and I-95 Interchange Project Study Corridor, in Bucks County, Pennsylvania* (Zappalorti, 1999) and in the Technical Support Data.

The occurrence of these animal species in the study area depends on the availability of suitable habitat, season, and migration routes and patterns. However, the occurrence of many species listed in the various databases is based on historical records, and some species may no longer occur in the study area.

TABLE IV-31
VEGETATIVE COVER TYPES IN THE STUDY AREA

Anderson Land Use/ Land Cover Classification	Total Area within Study Area	Common Wildlife Species Observed
Forestland Cover Types:		Plants: red maple, sweet gum, tuliptree, green ash, red oak
Deciduous	100.19 ha (247.56 ac)	Mammals: big brown bat, Eastern chipmunk, white-tailed deer, white-footed mouse, gray fox, gray squirrel
		Birds: Cooper's hawk, black-capped chickadee, wood thrush, pine warbler, red-bellied woodpecker
		Reptiles/Amphibians: wood frog, American toad, Eastern box turtle, brown snake, red-backed salamander
Rangeland Cover Types:		Plants: arrowwood, spice bush, multiflora rose, poison ivy, goldenrod, garlic mustard, broomsedge, Japanese honeysuckle
Herbaceous	17.99 ha (44.46 ac)	
Shrub and Brush	1.71 ha (4.22 ac)	Mammals: Eastern cottontail, white-tailed deer, red fox, white-footed mouse, groundhog, Northern short-tailed shrew, Eastern mole
Mixed	15.72 ha (38.84 ac)	Birds: mourning dove, red-tailed hawk, field sparrow, song sparrow, American woodcock, Eastern bluebird
		Reptiles/Amphibians: black racer, American toad, common garter snake
Wetland Cover Type:		Plants: sensitive fern, jewelweed, skunk cabbage, reed canary grass, purple loosestrife, broad-leaf cattail
Palustrine Emergent	4.32 ha (10.66 ac)	Mammals: raccoon, meadow vole, muskrat, star-nosed mole
		Birds: common yellow throat, red-winged blackbird, swamp sparrow, mallard duck, green backed heron, Canada goose
		Reptiles/Amphibians: common garter snake, brown snake, bull frog, northern water snake
Wetland Cover Type:		Plants: silky dogwood, arrowwood, spice bush, highbush blueberry
Palustrine Scrub/Shrub	1.68 ha (4.15 ac)	Mammals: meadow vole, white-tailed deer, white-footed mouse, raccoon
		Birds: yellow warbler, American woodcock, song sparrow, brown thrasher
		Reptiles/Amphibians: Eastern box turtle, common garter snake, brown snake, American toad
Wetland Cover Type:		Plants: red maple, sweet gum, green ash, silver maple, pin oak
Palustrine Forested	14.28 ha (35.26 ac)	Mammals: white-tailed deer, white-footed mouse, red fox, raccoon
		Birds: great horned owl, downy woodpecker, wood thrush, red-eyed vireo
		Reptiles/Amphibians: Eastern box turtle, common garter snake, brown snake, American toad

Sources: Anderson, et. al., 1976; Carmichael, undated; Pennsylvania Game Commission, 1993.

2. Impacts

The No-Build Alternative would not impact existing vegetation and wildlife.

Impacts to terrestrial ecology from the Build Alternatives would be limited to construction activities within the existing ROW and strip takes of additional properties along the existing roadway, as listed in **Table IV-32**.

Impacts to wildlife are directly related to the loss or alteration of the existing terrestrial and aquatic habitats. Wildlife impacts are therefore expected to be minimal due to the limited habitat impacted by project construction, the fragmented condition of existing habitat to be impacted, and the type of wildlife within the study area.

The increased capacity on the highways will lead to increased noise, as described in **Section O**. Noise abatement is not evaluated based on the affect of noise on wildlife, however, several parklands that support wildlife habitat, such as Silver Lake Park and Black Ditch Park, warrant noise abatement consideration. Potential noise abatement for these areas (subject to noise re-evaluation during Final Design) would indirectly benefit wildlife. Therefore, it is not anticipated that the project would adversely impact wildlife.

Impacts to vegetation and wildlife considered threatened or endangered are described in **Section IV-L.2**. Wetland impacts are described in **Section IV-K.4**. **Table IV-32** provides a summary of terrestrial ecology impacts.

TABLE IV-32
FORESTLAND AND RANGELAND IMPACTS

Category	Forestland		Rangeland	
	Hectares	Acres	Hectares	Acres
Existing Conditions in the Study Area				
Total Forestland or Rangeland	100.19	247.56	30.87	76.27
Pennsylvania	87.46	216.10	25.59	63.23
New Jersey	12.73	31.45	5.28	13.04
Total Wetlands in Forestland or Rangeland	12.19	30.12	2.25	5.57
Pennsylvania	12.04	29.76	2.25	5.57
New Jersey	0.15	0.36	0.0	0.0
Total Forestland or Rangeland excluding Wetlands	88.00	217.44	28.62	70.70
Pennsylvania	75.42	186.34	23.34	57.66
New Jersey	12.58	31.10	5.28	13.04
Impacts per Alternative				
Split Toll Plaza East	3.54	8.75	4.39	10.85
Modified Plaza West	1.93	4.78	1.57	3.87
Flyover A Interchange	5.52	13.65	0.81	2.01
Single Loop A Interchange	5.18	12.80	0.81	2.01
Bridge North (Total)	3.18	7.87	0.0	0.0
Pennsylvania	1.84	4.56	0.0	0.0
New Jersey	1.34	3.31	0.0	0.0
Bridge South (Total)	3.38	8.35	0.0	0.0
Pennsylvania	2.11	5.20	0.0	0.0
New Jersey	1.27	3.14	0.0	0.0

Note: The identified alternative impacts incorporate the associated side road/bridge improvements, stormwater management facilities, and construction of the park and ride/pool sites. The No-Build Alternative associated with each element does not impact the identified resources.

a. Toll Plaza Element (Figure IV-9A, Plate 2)

The Split Plaza East Alternative would have greater terrestrial ecology impacts compared to Modified Plaza West, as described in **Table IV-32**.

b. Interchange Element (Figure IV-9B, Plate 2)

Due to their similar alignments, the Flyover A and Single Loop A Alternatives would have similar terrestrial ecology impacts, however, Flyover A has more impact to forestland, as noted in **Table IV-32**.

c. Bridge Element (Figure IV-9C, Plate 2)

The Bridge South Alternative would have a greater impact to terrestrial ecology when compared to the Bridge North Alternative, as indicated in **Table IV-32**.

3. Mitigation

Minimization measures to reduce project impacts will continue to be developed and will be detailed in the Mitigation Report to be prepared during Final Design. Mitigation measures would be designed to complement mitigation measures identified for other natural resources such as wetlands, surface waters, and threatened and endangered species. These measures may include engineering of slopes and construction of retaining walls to minimize ROW requirements; seeding and stabilizing disturbed areas; providing landscaping with high wildlife value in sensitive areas (e.g. wetlands and floodplains); creation, enhancement, and restoration of forested habitat as a priority within ROW or adjacent to wetland mitigation areas as upland buffers; replacement of herbaceous and rangeland habitat within ROW areas; and preservation and/or enhancement of existing habitat in the study area that are likely to be conserved and managed for wildlife.

Specific mitigation measures being considered in the Interchange Element include improvements to the I-276 Bridge over Mill Creek. This stream crossing acts as a wildlife corridor between Black Ditch Park and Silver Lake Park. One potential strategy for improving the function of this corridor is to remove some of the excess sediment deposits that have accumulated between the creek and the bridge wing wall, thereby creating a wider corridor of passage. Construction timing restrictions are being considered to avoid impacts to aquatic biota (**Section IV-H.4**) and threatened and endangered species (**Section IV-L.3**).

In accordance with Executive Order 13112 *Invasive Species*, measures will be taken to prevent the introduction and spread of invasive species. Specific commitments to control invasive species will be developed during Final Design. Potential measures to control the spread of invasive species such as the Eurasian water milfoil (*Myriophyllum spicatum*) could include harvesting, roto-tilling, herbicides, and biological controls such as the aquatic weevil (*Euhrychiopsis lecontei*). Additional measures generally used to control the spread of invasive species include:

- ✓ Utilize native, non-invasive species for landscaping
- ✓ Minimize earth disturbance
- ✓ Protect healthy native plant communities
- ✓ Remove and replace invasive species with native, non-invasive species
- ✓ Implement a land management and maintenance plan

PADCNR developed pamphlets suggesting how to landscape with Native Plants in Pennsylvania. These guidelines may be used during roadside landscaping.

N. AIR QUALITY

More detailed air quality information is located in the Air Quality Technical Support Data as well as:
* *Final Air Quality Technical Report, I-276/I-95 Interchange Project, Bucks County, Pennsylvania and Burlington County, New Jersey, 2001.*
* *Technical Support Data Index is located in Section XII (Appendix C).*

An air quality assessment was performed for the I-276/I-95 Interchange Project following FHWA, USEPA, and PENNDOT guidelines. The USEPA has classified Bucks County as being in attainment (below USEPA National Ambient Air Quality Standards (NAAQS)) for particulate matter, sulfur dioxide, nitrous oxides (NOx), carbon monoxide (CO), and lead. Bucks County is currently a non-attainment area for ozone. PENNDOT guidelines, *Publication 321, Project Level Air Quality Handbook* (PENNDOT, 1996) dictate the type of air quality assessment required based on the project's regional significance and the air quality attainment status of the project area. Since the I-276/I-95 Interchange Project is classified as regionally significant and is located in an ozone non-attainment area, a localized carbon monoxide analysis and regional conformity analysis is required.

1. Regional Conformity Analysis

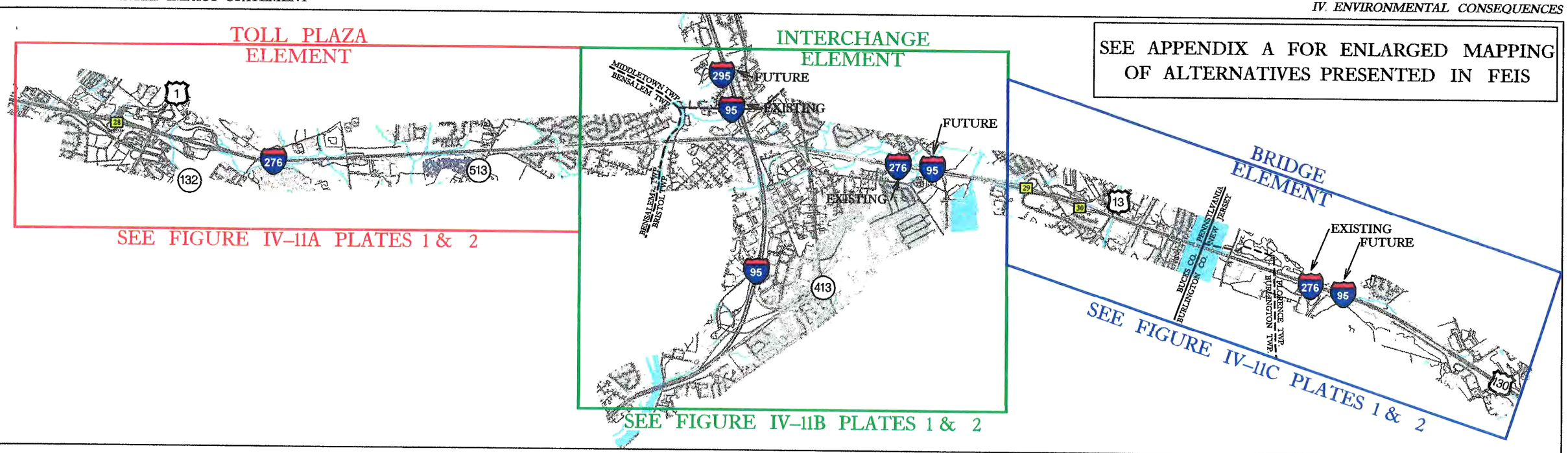
The project is located in Bucks County, classified by the USEPA as a sever-15 non-attainment area for ozone, meaning that Bucks County is mandated by the USEPA to be within NAAQS for ozone by the year 2006. The Delaware Valley Regional Planning Commission (DVRPC) is the responsible agency for demonstrating that the growth and development of the Delaware Valley conforms to the Clean Air Act of 1990.

The DVRPC conducted a regional conformity analysis that included the pollutants NOx and volatile organic compounds (VOCs), the principle components of ground-level ozone. The analysis years for the DVRPC regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which volatile organic compounds emissions budgets have been established), 2006 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan.)

This analysis demonstrated that levels of NOx and VOCs in the region that includes Lower Bucks County would be below baseline conditions and within standards set by the USEPA by the year 2006. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within USEPA standards in the years 2006 and 2020 for the region that includes Lower Bucks County. The executive summary of the latest DVRPC regional air quality conformity demonstration that includes the I-276/I-95 Interchange Project is included in **Appendix E**.

2. Localized Carbon Monoxide (CO) Analysis

An air quality analysis was performed to model the effect of existing and proposed highway traffic and roadway alignments on carbon monoxide (CO) concentrations at 29 sensitive receptors in the study area. Receptor locations are shown on **Figures IV-11** to **IV-11C.**



MANMADE ENVIRONMENT

AIR QUALITY



Vehicular congestion occurring on the local roadways and interchanges (pictured above) within the study area is one factor that contributes to elevated carbon monoxide (CO) concentrations. To compare the impacts of the Build and No-Build Alternatives on CO concentrations, an air quality analysis was performed to model the effect of existing and proposed highway traffic volumes and roadway alignments on CO concentrations at 29 sensitive receptors located throughout the study area.

NOISE



Noise levels were monitored at 40 representative receptor sites within the study area. The 40 receptor sites selected were representative of the 27 Noise Sensitive Areas (NSAs) within the study area. By comparing monitored existing noise levels and future noise levels at NSAs to Noise Abatement Criteria (NAC), areas were identified that would warrant noise abatement consideration. The construction of noise barriers, like the one pictured above, is an example of a noise abatement alternative considered for use throughout the study area.

SENSITIVE WASTE



Sensitive waste sites identified in the study area include underground storage tanks (commonly found at gas stations pictured above), salvage areas and producers of hazardous materials. Several Preliminary Area Reconnaissance (PAR) and Initial Site Assessment (ISA) reports were prepared for the study area. The PAR report is intended as the initial investigation to identify potential hazardous or sensitive waste sites throughout the study area. ISA reports assess the presence and type of contamination found at each site identified in the PAR.

More detailed information regarding the Manmade Environment topics can be found in **Sections IV-N, IV-O** and **IV-R**.

The location of potential sensitive waste sites, noise receptors, air receptors, NSA boundaries and potential noise abatement sites are identified on **Figures IV-11A Plate 2, IV-11B Plate 2** and **IV-11C Plate 2**.

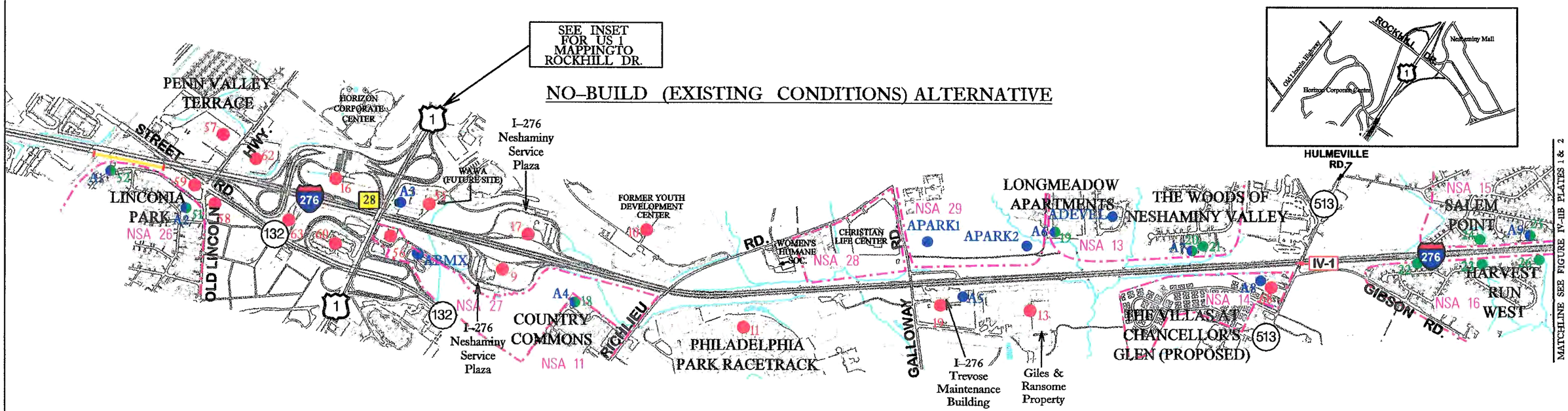
I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–11
MANMADE ENVIRONMENT

INDEX

1In = 3,600Ft (1 : 43,200)

0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M



MANMADE ENVIRONMENT FEATURES IN THE TOLL PLAZA ELEMENT



In the Toll Plaza Element, numerous noise receptors were evaluated in communities such as Linconia Park, The Woods of Neshaminy Valley, Salem Point, and Harvest Run West, which are located in close proximity to I-276. The picture above shows the location of the Harvest Run West community in relation to existing I-276. As part of the traffic noise analysis, noise levels in these communities were monitored.



Air quality and noise receptors were evaluated in the Harvest Run West Community (pictured above) and the Newportville Terrace neighborhoods located south of I-276 between Gibson Road and Bensalem Boulevard. I-276 is the primary traffic noise source affecting single-family residences located in these two communities.



The I-276 Neshaminy Service Plazas (pictured above), located north and south of I-276 just east of US 1, were both identified as sensitive waste sites in the Toll Plaza Element. The gas stations located in the service plazas contain underground fuel storage tanks that may be potentially impacted by the Build Alternatives. Impacts to sensitive waste sites would require further investigation to establish the extent of contamination.

LEGEND

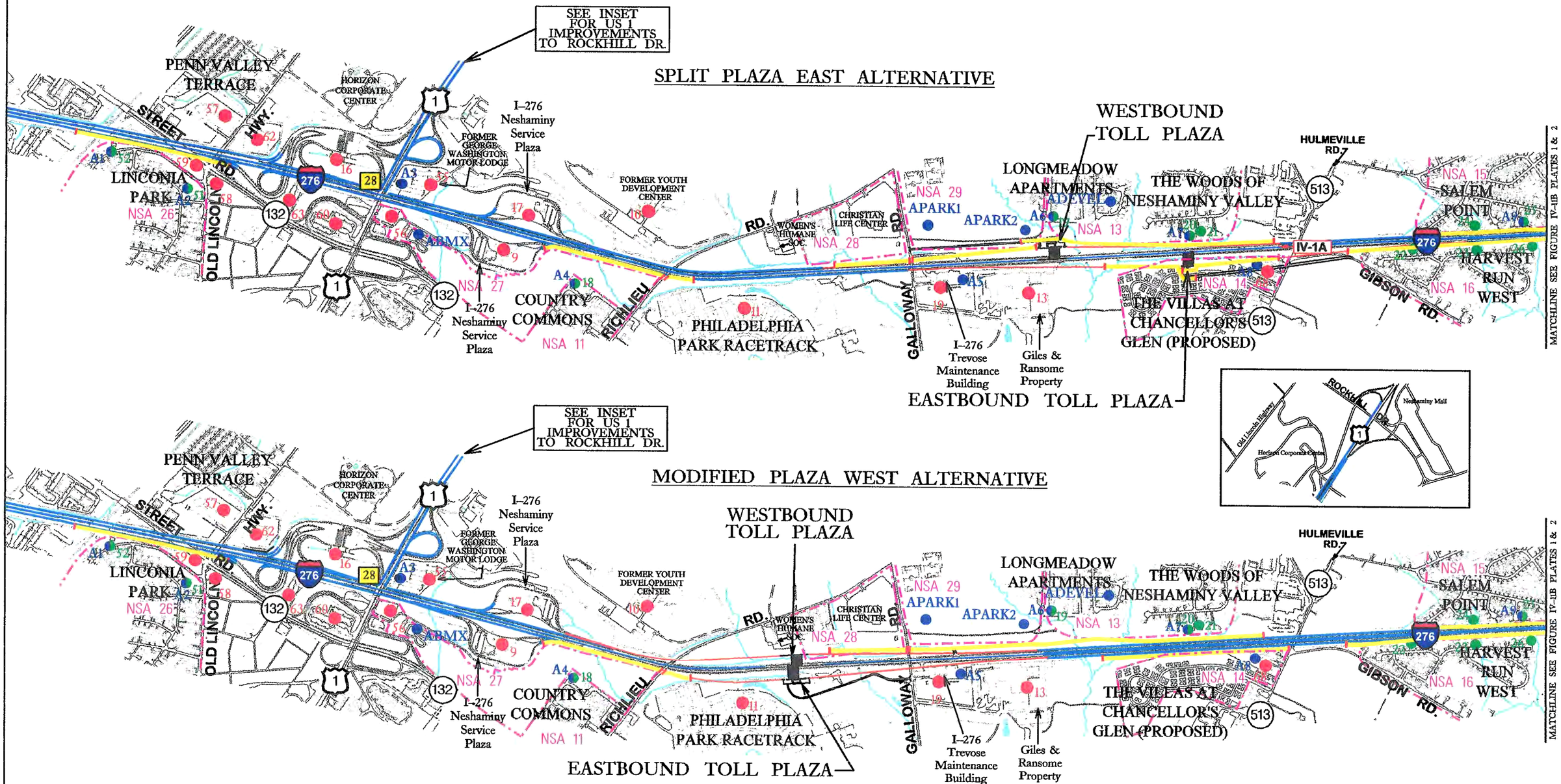
- Surface Water
- 28 — Existing I–276 Interchange
- 59 — Potential Sensitive Waste Site
- A3 — Air Receptor
- 53 — Noise Receptor (30 minute)
- A1 52 — Air and Noise Receptor
- Existing Noise Abatement
- NSA Boundary
- IV-1 — Visual Quality Photo Location

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–11A PLATE 1
MANMADE ENVIRONMENT
TOLL PLAZA ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



TOLL PLAZA ELEMENT BUILD ALTERNATIVES

None of the projected CO concentrations associated with the Build Alternatives exceeded the NAAQS.

Sensitive waste impacts for Split Plaza East may affect eight sites with an approximate remediation range of $80,000 to $400,000. Modified Plaza West may affect six sites with an approximate remediation range of $60,000 to $300,000. Impacts would require further investigation to establish the extent of potential contamination.

Eight NSAs (13, 14, 15, 16, 26, 27, 28, and 29) were found to warrant noise abatement consideration for both the Split Plaza East and Modified Plaza West Alternatives. The location of potential noise abatement that meets PennDOT's Warrant's, Feasibility, and Reasonableness Criteria are shown above and summarized in **Table IV-40**. A re-evaluation of the warrants, feasibility, and reasonableness of noise abatement will be performed during Final Design.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 59 Potential Sensitive Waste Site
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- Potential Noise Abatement
- NSA Boundary
- 28 Existing I-276 Interchange
- Surface Water
- IV-1 Visual Quality Photo Location

I-276 / I-95 INTERCHANGE PROJECT

FIGURE IV-11A PLATE 2

MANMADE ENVIRONMENT

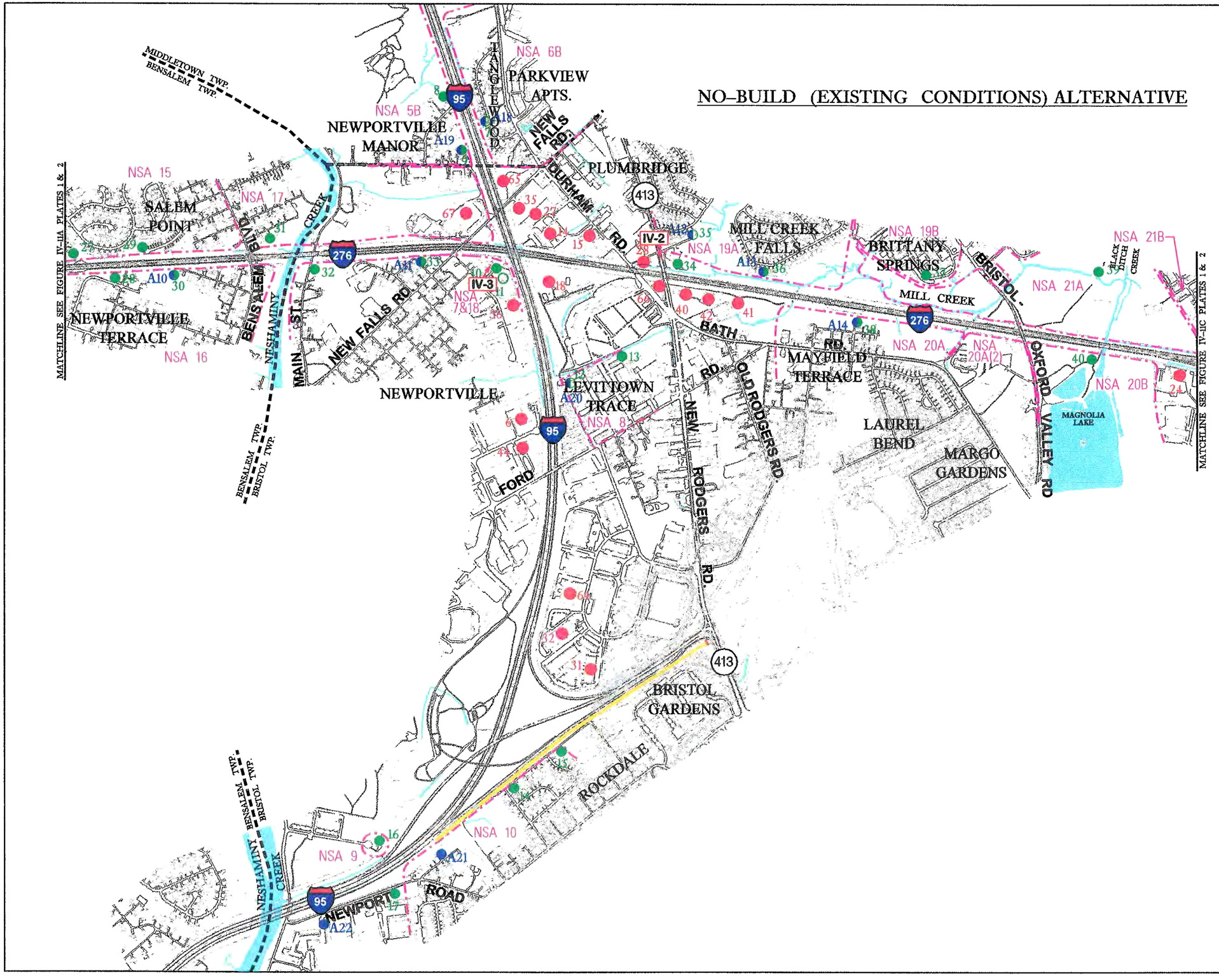
TOLL PLAZA ELEMENT

SPLIT PLAZA EAST & MODIFIED PLAZA WEST ALTERNATIVES

1In = 1/4Mi (1 : 15,840)

0Mi 1/4Mi 1/2Mi

0Km 0.15Km 0.3Km



LEGEND

- Surface Water
- 67 Potential Sensitive Waste Site
- A22 Air Receptor
- 27 Noise Receptor (30 minute)
- 11 Noise Receptor (24 hours)
- A10 30 Air and Noise Receptor
- NSA Boundary
- Existing Noise Abatement
- IV-1 Visual Quality Photo Location

MANMADE ENVIRONMENT FEATURES IN THE INTERCHANGE ELEMENT

There are ten sites in the Interchange Element that were identified as air quality receptors to monitor carbon monoxide levels in areas along I-276 and I-95. Key areas targeted as air quality receptor sites included residential communities such as Salem Point, Mill Creek Falls, and Mayfield Terrace, which are all in close proximity to either I-276 or I-95.

There are sixteen Noise Sensitive Areas (NSAs) that were identified in the Interchange Element. These NSAs are representative of one or more communities that are in close proximity to a highway noise source. The predominant traffic noise sources affecting communities in the Interchange Element are I-276 and I-95.

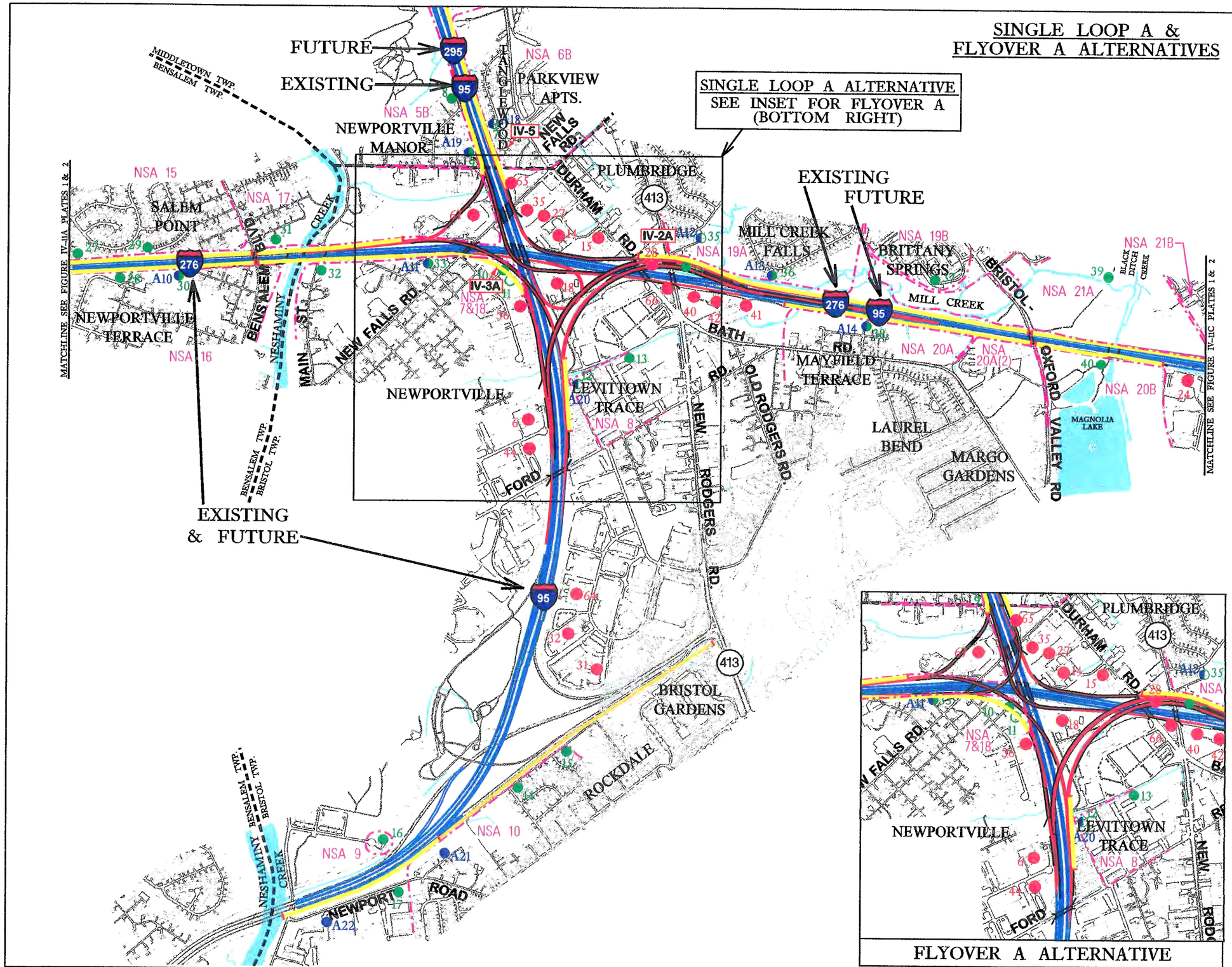
Sensitive waste sites in the Interchange Element are mainly located near the point-of-crossing of I-276 and I-95. This is due largely to the industrial or commercial properties located in this area. Twenty sensitive waste sites were identified in the Interchange Element. Some sites may require further investigations to establish the extent of potential contamination.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–11B PLATE 1
MANMADE ENVIRONMENT
INTERCHANGE ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km


SINGLE LOOP A & FLYOVER A ALTERNATIVES

FLYOVER A ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Surface Water
- 67 Potential Sensitive Waste Site
- A22 Air Receptor
- 27 Noise Receptor (30 minute)
- 11 Noise Receptor (24 hours)
- A10 30 Air and Noise Receptor
- NSA Boundary
- Potential Noise Abatement
- Existing Noise Abatement
- IV-1 Visual Quality Photo Location

INTERCHANGE ELEMENT BUILD ALTERNATIVES

None of the projected CO concentrations for the Single Loop A or Flyover A Alternatives exceeded the NAAQS.

Both the Single Loop A or Flyover A Alternatives would have the same impacts with respect to noise with NSAs 5b, 6b, 7&18, 8, 9, 10, 15, 16, 17, 19a, 19b, 20a, 20b, and 21a found to warrant noise abatement consideration. Each of these NSAs had receptors with noise levels approaching or exceeding PennDOT's NAC. The location of the noise barriers that met PennDOT's Warrants, Feasibility, and Reasonableness criteria are depicted at left and summarized in **Table IV-40**. A re-evaluation of the warrants, feasibility, and reasonableness of noise abatement will be performed during Final Design.

Thirteen sensitive waste sites would be potentially impacted for either the Single Loop A or Flyover A Alternatives. The approximate remediation range for the Single Loop A or Flyover A Alternatives would be $130,000 to $650,000. The potentially impacted sites would require further investigations to establish the extent of contamination.

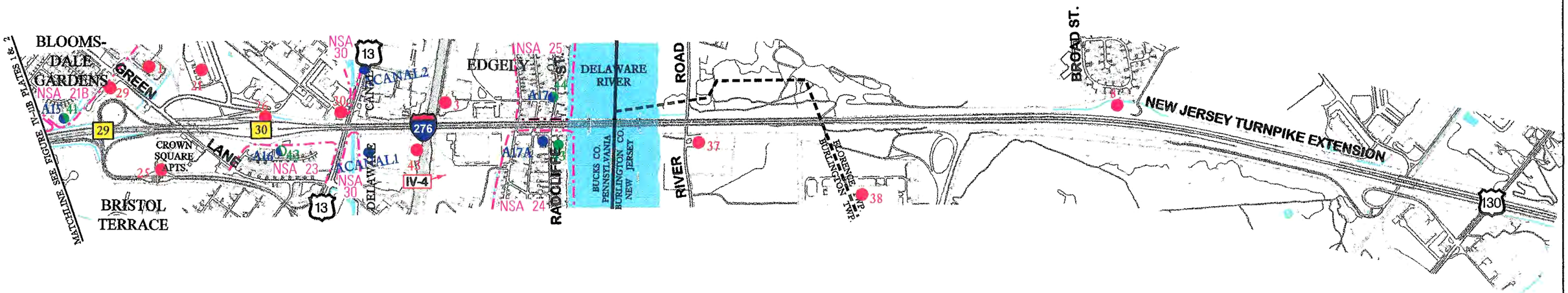
I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–11B PLATE 2
MANMADE ENVIRONMENT
INTERCHANGE ELEMENT

SINGLE LOOP A &
FLYOVER A ALTERNATIVES

1In = 1/4Mi (1 : 15,840) 0Mi 1/4Mi 1/2Mi 0Km 0.15Km 0.3Km

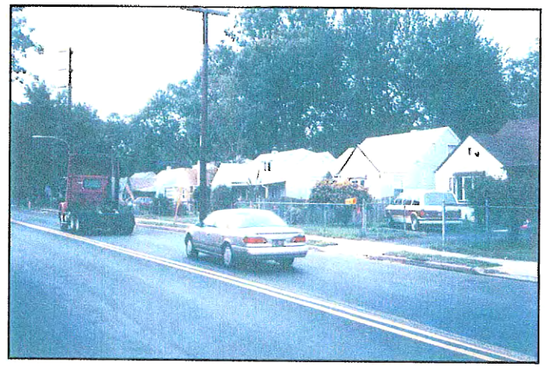
NO–BUILD (EXISTING CONDITIONS) ALTERNATIVE



MANMADE ENVIRONMENT FEATURES IN THE BRIDGE ELEMENT



The Bloomsdale Garden neighborhood, located north of I-276 and west of Green Lane, includes 68 single-family residences that make up NSA 21b. Existing traffic noise levels are dominated by I-276 and were measured at one site (receptor 41) within the neighborhood. Existing noise levels were modeled at 16 other locations and ranged from 53 to 64 dBA.



The homes pictured above are part of NSA 23, which is located south of I-276 between Green Lane and US 13. Noise levels in this area are primarily influenced by I-276 with US 13 and Interchange 29 access ramps acting as secondary sources. Existing noise levels were measured or modeled at 12 locations with levels ranging from 63 to 66 dBA.



Interchange 29, which contains an underground storage tank containing heating oil, an above ground storage tank, and trailers located in the rear of facility (pictured above), was identified as a sensitive waste site in the Bridge Element. This site would require further investigations of the storage tanks to establish the extent of potential contamination.

LEGEND

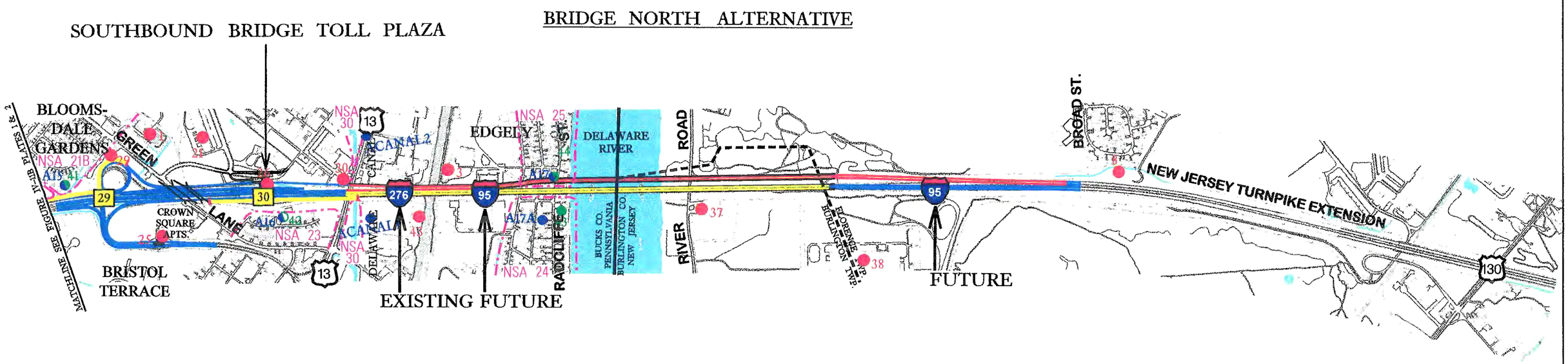
- Surface Water
- 29 Existing I–276 Interchange
- 29 Potential Sensitive Waste Site
- 43 Noise Receptor (30 minute)
- A15 41 Air and Noise Receptor
- A22 Air Receptor
- NSA Boundary
- IV-1 Visual Quality Photo Location

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–11C PLATE 1
MANMADE ENVIRONMENT
BRIDGE ELEMENT

NO–BUILD ALTERNATIVE

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



BRIDGE ELEMENT BUILD ALTERNATIVES

None of the projected CO concentrations associated with the Bridge Alternatives exceeded the NAAQS.

There are eleven potential sensitive waste sites within the Bridge Element. Either alternative would potentially impact five sites with an approximate remediation range of $50,000 to $250,000. Impacts would require further contamination investigations.

Three NSAs in the Bridge Element (NSAs 21b, 23, and 30) were found to warrant noise abatement consideration for both the Bridge North and Bridge South Alternatives. The location of the noise barriers that met PennDOT's Warrants, Feasibility, and Reasonableness criteria are depicted above and summarized in **Table IV-40**. A re-evaluation of the warrants, feasibility, and reasonableness of noise abatement will be performed during Final Design.

LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade of Existing Bridge
- Surface Water
- 29 Potential Sensitive Waste Site
- Potential Noise Abatement
- 43 Noise Receptor (30 minute)
- A15 41 Air and Noise Receptor
- A22 Air Receptor
- NSA Boundary
- 29 Existing I–276 Interchange
- IV-1 Visual Quality Photo Location

I–276 / I–95 INTERCHANGE PROJECT

FIGURE IV–11C PLATE 2
MANMADE ENVIRONMENT
BRIDGE ELEMENT
BRIDGE NORTH &
BRIDGE SOUTH ALTERNATIVES

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

In order to complete the localized CO analysis, the USEPA-approved MOBILE 5.0a_H mobile source emission factors model was used to generate the vehicle emission rates used in the CAL3QHC Version 2.0 line source dispersion model. DVRPC-approved parameters were included to run the emissions database, including project specific information such as vehicle mix, ambient air temperature, model years represented, and the use of Inspection and Maintenance Programs. The CAL3QHC analysis predicted 1-hour concentrations in both free-flow and queuing conditions, and considered such parameters as roadway geometry; lane widths and lengths; and link traffic and speeds.

To calculate total CO concentrations at a receptor, the CO concentration calculated by CAL3QHC was added to a background concentration, which was based on levels monitored at a residential air quality monitoring station at Roosevelt Junior High School on Rockview Lane in Bristol. Background concentrations were obtained from the USEPA Office of Air Planning and Standards' Airs database for the Year 1999. The 1-hour and 8-hour peak background CO concentrations are 6.8 parts per million (ppm) and 4.0 ppm, respectively. Total 8-hour average CO concentrations were calculated by subtracting the 1-hour background concentration from the total 1-hour CO concentration and multiplying the value by a persistence factor of 0.6 and then adding the 8-hour background concentration. Results were compared to the NAAQS of 35 ppm for 1-hour CO concentrations and 9 ppm for 8-hour CO concentrations for any exceedance.

Vehicle queuing lengths were calculated and applied to modeling in proximity to existing or planned toll plazas. Toll plaza geometry was modeled using the FHWA-approved Traffic Noise Model (TNM) because of its spreadsheet exporting function, which facilitates CAL3QHC file setup. The geometry was modeled to represent the queuing of vehicles and the use of both conventional and E-*ZPass* toll systems.

The following are the results of the localized CO analysis performed for the Existing (2000), No-Build (2025), and Build or Design Year (2025), conditions, as summarized in **Tables IV-33** to **IV-35**. Three additional scenarios were modeled for areas in proximity to toll plazas, the Opening Year (2006) with Slow Speed E-*ZPass*, Interim Year (2014) with Slow Speed E-*ZPass* and Interim Year (2014) with High Speed E-*ZPass*.

TABLE IV-33
MAXIMUM PEAK HOUR CONCENTRATIONS (in ppm) – TOLL PLAZA ELEMENT

Receptor No.	Existing Year 2000	No-Build Year 2025	Split Plaza East				Modified Toll Plaza West			
			Opening Year 2005 (Slow Speed E-*ZPass*)	Interim Year 2014 (Slow Speed E-*ZPass*)	Interim Year 2014 (High Speed E-*ZPass*)	Design Year 2025 (High Speed E-*ZPass*)	Opening Year 2005 (Slow Speed E-*ZPass*)	Interim Year 2014 (Slow Speed E-*ZPass*)	Interim Year 2014 (High Speed E-*ZPass*)	Design Year 2025 (High Speed E-*ZPass*)
	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)
A1	7.4 (4.4)	7.1 (4.2)	-	-	-	7.2 (4.2)	-	-	-	7.2 (4.2)
A2	7.3 (4.3)	7.0 (4.1)	-	-	-	7.2 (4.2)	-	-	-	7.2 (4.2)
BMX	7.1 (4.2)	7.0 (4.1)	-	-	-	7.2 (4.2)	-	-	-	7.2 (4.2)
A3	7.9 (4.7)	7.1 (4.2)	-	-	-	7.3 (4.3)	-	-	-	7.3 (4.3)
A4	7.1 (4.2)	7.0 (4.1)	6.8 (4.0)	7.0 (4.1)	6.8 (4.0)	6.8 (4.0)	8.1 (4.8)	7.5 (4.4)	7.0 (4.1)	7.0 (4.1)
A5	7.3 (4.3)	7.1 (4.2)	7.7 (4.5)	7.3 (4.3)	7.3 (4.3)	7.2 (4.2)	7.9 (4.7)	7.5 (4.4)	7.0 (4.1)	7.0 (4.1)
A6	7.0 (4.1)	6.9 (4.1)	7.2 (4.2)	6.9 (4.1)	6.9 (4.1)	6.9 (4.1)	7.3 (4.3)	7.2 (4.2)	6.9 (4.1)	6.9 (4.1)
A7	7.3 (4.3)	7.0 (4.1)	8.0 (4.7)	7.2 (4.2)	7.1 (4.2)	7.1 (4.2)	7.7 (4.5)	7.3 (4.3)	7.0 (4.1)	7.0 (4.1)
A8	7.2 (4.2)	7.1 (4.2)	7.8 (4.6)	7.2 (4.2)	7.2 (4.2)	7.1 (4.2)	7.9 (4.7)	7.4 (4.4)	7.0 (4.1)	7.0 (4.1)
PARK1	7.1 (4.2)	7.0 (4.1)	7.2 (4.2)	7.0 (4.1)	7.0 (4.1)	7.1 (4.2)	7.5 (4.4)	7.2 (4.2)	6.9 (4.1)	6.9 (4.1)
PARK2	7.1 (4.2)	7.0 (4.1)	7.5 (4.4)	7.2 (4.2)	7.2 (4.2)	6.9 (4.1)	7.5 (4.4)	7.3 (4.3)	7.0 (4.1)	7.0 (4.1)
DEVEL	7.1 (4.2)	7.0 (4.1)	7.4 (4.4)	7.0 (4.1)	6.9 (4.1)	7.0 (4.1)	7.4 (4.4)	7.2 (4.2)	7.0 (4.1)	7.0 (4.1)
A9	7.4 (4.4)	7.1 (4.2)	-	-	-	7.4 (4.4)	-	-	-	7.4 (4.4)

Notes: See Table IV-34 below

TABLE IV-34
MAXIMUM PEAK HOUR CONCENTRATIONS (in ppm) – INTERCHANGE ELEMENT

Receptor No.	Existing Year 2000	No-Build Year 2025	Flyover A 2025	Single Loop A 2025
	1 hour (8 hour)	1 hour (8 hour)	1 hour (8 hour)	1 hour (8 hour)
A10	7.3 (4.3)	7.1 (4.2)	7.3 (4.3)	7.3 (4.3)
A11	7.5 (4.4)	7.1 (4.2)	7.2 (4.2)	7.2 (4.2)
A12	7.0 (4.1)	6.8 (4.0)	7.0 (4.1)	7.0 (4.1)
A13	7.1 (4.2)	7.0 (4.1)	7.1 (4.2)	7.1 (4.2)
A14	7.4 (4.4)	7.0 (4.1)	7.1 (4.2)	7.1 (4.2)
A18	7.5 (4.4)	7.1 (4.2)	6.8 (4.0)	6.8 (4.0)
A19	7.4 (4.4)	7.1 (4.2)	6.8 (4.0)	6.8 (4.0)
A20	7.3 (4.3)	7.1 (4.2)	6.8 (4.0)	6.8 (4.0)
A21	8.2 (4.8)	7.2 (4.2)	7.2 (4.2)	7.2 (4.2)
A22	7.7 (4.5)	7.1 (4.2)	7.1 (4.2)	7.1 (4.2)

Notes: 1-hour CO concentrations include 5.7 ppm background concentration.
8-hour average CO concentrations were calculated by applying a persistence factor of 0.6 to the peak hour CO concentrations.
8-hour average CO concentrations include 3.6 ppm background concentration.
The NAAQS for the 1-hour average is 35.0 ppm.
The NAAQS for the 8-hour average is 9.0 ppm.

TABLE IV-35
MAXIMUM PEAK HOUR CONCENTRATIONS (in ppm) – BRIDGE ELEMENT

Receptor No.	Existing Year 2000	No-Build Year 2025	Bridge North				Bridge South			
			Opening Year 2005 (Slow Speed E-*ZPass*)	Interim Year 2014 (Slow Speed E-*ZPass*)	Interim Year 2014 (High Speed E-*ZPass*)	Design Year 2025 (High Speed E-*ZPass*)	Opening Year 2005 (Slow Speed E-*ZPass*)	Interim Year 2014 (Slow Speed E-*ZPass*)	Interim Year 2014 (High Speed E-*ZPass*)	Design Year 2025 (High Speed E-*ZPass*)
	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)	1-hour (8-hour)
A15	7.3 (4.3)	7.1 (4.2)	7.3 (4.3)	-	-	7.1 (4.2)	7.3 (4.3)	-	-	7.1 (4.2)
A16	7.2 (4.2)	7.0 (4.1)	7.5 (4.4)	7.3 (4.3)	7.1 (4.2)	7.0 (4.1)	7.7 (4.5)	7.4 (4.4)	7.2 (4.2)	7.1 (4.2)
A17	7.2 (4.2)	7.1 (4.2)	7.4 (4.4)	7.3 (4.3)	7.2 (4.2)	7.1 (4.2)	7.2 (4.2)	7.2 (4.2)	7.1 (4.2)	7.0 (4.1)
CANAL1	8.0 (4.7)	8.2 (4.8)	7.9 (4.7)	7.6 (4.5)	7.5 (4.4)	7.4 (4.4)	8.4 (5.0)	7.9 (4.7)	7.5 (4.4)	7.4 (4.4)
CANAL2	7.7 (4.5)	7.8 (4.6)	7.6 (4.5)	7.4 (4.4)	7.2 (4.2)	7.1 (4.2)	7.8 (4.6)	7.6 (4.5)	7.3 (4.3)	7.2 (4.2)
A17A	6.8 (4.0)	6.8 (4.0)	7.3 (4.3)	7.2 (4.2)	7.2 (4.2)	7.1 (4.2)	8.6 (5.1)	8.1 (4.8)	7.7 (4.5)	7.6 (4.5)

Notes: 1-hour CO concentrations include 6.8 ppm background concentration.
8-hour average CO concentrations were calculated by subtracting the background 1-hour concentration from total concentration, applying a persistence factor of 0.6, then adding the 8-hour background concentration.
8-hour average CO concentrations include 4.0 ppm background concentration.
The NAAQS for the 1-hour average is 35.0 ppm.
The NAAQS for the 8-hour average is 9.0 ppm.

a. Existing Conditions

The existing highest 1-hour and 8-hour CO concentrations were 8.2 ppm and 4.8 ppm, respectively, at receptor A21 (Interchange Element) and the lowest concentrations were 6.8 ppm and 4.0 ppm respectively, for receptor A17A (Bridge Element). None of these CO concentrations exceed the NAAQS.

b. Impacts

(1) No-Build Conditions

For the 2025 No-Build condition, the highest and lowest 1-hour and 8-hour CO concentrations ranged from 8.2 ppm and 4.8 ppm, respectively, for receptor CANAL1 (Bridge Element) to 6.8 ppm and 4.0 ppm, respectively, for Sites A12 (Interchange Element) and A17A (Bridge Element). Therefore, none of the projected CO concentrations in the 2025 No-Build condition exceeded the NAAQS.

(2) Toll Plaza Element (Figure IV-11A, Plate 2)

For each alternative in the Toll Plaza Element, four scenarios were studied: an Opening Year (2006) scenario with a Slow Speed E-Z*Pass* System, an Interim Year (2014) scenario with a Slow Speed E-Z*Pass* System, an Interim Year (2014) scenario with a High Speed E-Z*Pass* System, and the Design Year (2025) scenario with a High Speed E-Z*Pass* System.

For the Split Plaza East Alternative (**Table IV-33**), the highest 1-hour and 8-hour CO concentrations occurred in the Opening Year 2006 scenario at receptor A7 with a concentration of 8.0 ppm and 4.7 ppm, respectively. The lowest CO concentrations for the Design Year 2025 occurred at receptor A4 with 1-hour and 8-hour CO concentrations of 6.8 ppm and 4.0 ppm, respectively. None of the projected CO concentrations in the Split Plaza East Alternative exceeded the NAAQS.

For the Modified Plaza West Alternative (**Table IV-33**), the highest CO concentrations occurred at receptor A4 in the Opening Year 2006 scenario, with 1-hour and 8-hour CO concentrations of 8.1 ppm and 4.8 ppm, respectively. The lowest CO concentrations occurred at receptors A6 and PARK 1 in the Interim Year 2014 with High Speed E-Z*Pass* and Design Year 2025 with 1-hour and 8-hour CO concentrations of 6.9 ppm and 4.1 ppm, respectively. Therefore, none of the projected CO concentrations in the Modified Plaza West Alternative exceeded the NAAQS.

In general, Opening Year (2006) scenario CO concentrations were found to be the highest because catalytic converter technologies (which converts carbon monoxide to carbon dioxide) and car engines are not expected to be as efficient as compared to twenty-five years into the future. Another consideration is anticipated fuel and emission regulatory changes.

(3) Interchange Element (Figure IV-11B, Plate 2)

For both the Flyover A and Single Loop A Alternatives, only the Design Year (2025) scenario was studied.

For the Flyover A Alternative (**Table IV-34**) in Design Year 2025, the highest CO concentrations occurred at receptor A10 with 1-hour and 8-hour CO concentrations of 7.3 ppm and 4.3 ppm, respectively. The lowest CO concentrations occurred at receptors A18, A19 and A20, at 6.8 ppm for the 1-hour CO concentration and 4.0 ppm for the 8-hour CO concentration. None of the projected CO concentrations for the Flyover A Alternative exceeded the NAAQS.

For the Single Loop A Alternative (**Table IV-34**) in Design Year 2025, the highest CO concentrations again occurred at receptor A10 with 1-hour and 8-hour CO concentrations of 7.3 ppm and 4.3 ppm, respectively. The lowest CO concentrations occurred again at receptors A18, A19 and A20 with 1-hour and 8-hour CO concentrations of 6.8 ppm and 4.0 ppm, respectively. Therefore, none of the projected CO concentrations for the Single Loop A Alternative exceeded the NAAQS.

(4) Bridge Element (Figure IV-11C, Plate 2)

For each alternative in the Bridge Element, four scenarios were studied: an Opening Year (2006) scenario with a Slow Speed E-Z*Pass* System, an Interim Year (2014) scenario with a Slow Speed E-Z*Pass* System, an Interim Year (2014) scenario with a High Speed E-Z*Pass* System, and Design Year (2025) scenario with a High Speed E-Z*Pass* System.
For the Bridge North Alternative, the highest CO concentrations occurred at receptor CANAL1 in the 2006 Opening Year with 1-hour and 8-hour CO concentrations of 7.9 ppm and 4.7 ppm, respectively. The lowest CO concentrations occurred at receptor A17A with 1-hour and 8-hour CO concentrations of 7.3 ppm and 4.3 ppm, respectively. None of the projected CO concentrations for the Bridge North Alternative exceeded the NAAQS.

For the Bridge South Alternative (**Table IV-35**), the highest CO concentrations occurred at Receptor A17A in the Opening Year 2006 with 1-hour and 8-hour CO concentrations of 8.6 and 5.1 ppm, respectively. The lowest CO concentrations occurred at Receptor A17 in the Design Year 2025 scenario with 1-hour and 8-hour CO concentrations of 7.0 ppm and 4.1 ppm, respectively. None of the projected CO concentrations for the Bridge North Alternative exceeded the NAAQS.

In general, Opening Year (2006) scenario CO concentrations were found to be the highest because catalytic converter technologies and car engines are not expected to be as efficient as compared to twenty-five years into the future. Anticipated fuel and emission regulatory changes are other considerations.

3. Mitigation

None of the predicted CO concentrations exceeded the NAAQS at any receptor for the Existing (2000), No-Build or Build Alternatives (2025), the Opening Year (2006) and Interim Year (2014) for the Split Plaza East and Modified Plaza West Alternatives in the Toll Plaza Element; the Flyover A and Single Loop A Alternatives in the Interchange Element; and Bridge North and Bridge South Alternatives in the Bridge Element. Therefore, no mitigation measures are warranted.

4. Conformity Statement

The proposed I-276/I-95 Interchange Project is included in the region's FY 2003-2006 Transportation Improvement Program (TIP) (DVRPC, 2002) (**Appendix E**) and 2025 Long Range Plan (LRP)(DVRPC, 2001), and is included on the List of Regionally Significant Projects in the DVRPC Region. The TIP conforms to the current State Implementation Plans (SIP) of Pennsylvania and New Jersey, and satisfied the Final Conformity Rule issued on November 23, 1993, as amended.

O. NOISE ANALYSIS

More detailed noise information is located in the Noise Technical Support Data as well as:
* *Technical Support Data Index is located in Section XII (Appendix C).*

An assessment of traffic noise levels was conducted in accordance with FHWA standards (23 CFR 772) and PENNDOT guidelines (PENNDOT, 1996), which are comparable to PTC guidelines. Traffic noise levels in this analysis are discussed in terms of the hourly, A-weighted equivalent sound level in decibels (dBA).

A total of 40 receptor sites representing 27 Noise Sensitive Areas (NSAs) were chosen in accordance with FHWA guidelines (FHWA DP-45-1R) to represent areas potentially affected by the project. These receptor locations and NSAs are identified on **Figures IV-11A** to **IV-11C**. Areas that warrant noise abatement consideration can be identified by comparing monitored existing noise levels and future noise levels at representative locations to Noise Abatement Criteria (NAC). Monitored Existing Noise Levels (MENLs) were obtained from short-term (30-minutes) field measurements in June 1995 and May 1998. At these locations, worst-case noise hours were identified during six 24-hour noise measurements.

The FHWA noise prediction model STAMINA 2.0 was used to predict existing and future noise levels at the 40 noise monitoring locations. A validation model was created using traffic levels, speeds, and topographic information obtained during field monitoring. The STAMINA noise model was again used to generate both validation model noise levels, as well as predicted existing noise levels (PENL). The validation model output was compared to the MENLs to validate the noise model. Appropriate adjustments, including shielding and surface roughness assumptions, were made to the model if output differed more than 3 dBA from the MENLs. After adjustment, the PENLs were found to be within 3 dBA for all monitoring locations. Predicted Future Noise Levels (PFNL) for the No-Build and Build Alternatives were then determined for additional locations to supplement the monitored locations within each NSA using future roadway geometry, future traffic volumes, and speeds associated with each alternative. Future Noise Levels (FNL) were determined by adding the difference (if any) between

the MENL and PENL to the PFNL as follows: FNL = PFNL + (MENL – PENL). The FNL was compared to appropriate NAC to determine project noise impacts.

The FHWA has established NAC for five Activity Category land uses **(Table IV-36)**. Land uses within the study area were found to correspond to FHWA Activity Category B land uses. These land uses include residences, schools, churches, parks and health care facilities. FHWA and PENNDOT guidelines recommend noise abatement consideration for Activity Category B land uses when 67 dBA is approached or exceeded. PENNDOT defines 66 dBA to be the level at which 67 dBA is approached and when traffic noise is considered to be an impact. FHWA also states that noise abatement must be considered when future noise levels cause substantial increases over existing noise levels. PENNDOT has incorporated these two criteria into one chart **(Figure IV-12)** that can be used to determine where noise abatement considerations are warranted for Activity Category B land uses.

Where warranted, noise abatement was evaluated using the FHWA OPTIMA noise barrier design program in conjunction with OPTIMA for Windows, an interactive barrier design tool designed by the Virginia Department of Transportation (VDOT). Noise barriers were evaluated based on PENNDOT's feasibility and reasonableness criteria as discussed in the Mitigation Section.

A re-evaluation for the noise sensitive land uses within the I-276/I-95 Interchange Project study area will occur during Final Design of the selected alternative using the applicable abatement analysis and design guidelines. Commitments regarding the exact abatement measure locations, heights, and types (or approved alternatives) will also be made during Final Design.

1. Existing Conditions

To more easily identify affected groups or neighborhoods, the study area was divided into 27 NSAs **(Figures IV-11A to IV-11C)**. Preliminary investigation of the study area identified NSAs 1, 2, 3, 4, 5a and 6a. However, these six NSAs are not included in the current study area and were not analyzed for traffic noise impacts.

The area initially identified as NSA 12 was determined, upon review, to include buildings associated with the Philadelphia Park Racetrack since it is not considered a noise sensitive site, therefore, NSA 12 was eliminated from the analysis. NSA 22, identified during preliminary project investigation, similarly, had no noise sensitive land uses associated with it and was eliminated from the analysis. This section describes the location and existing traffic noise environment of each of the NSAs included in the traffic noise analysis. **Tables IV-37, IV-38** and **IV-39** summarize the existing noise levels for each NSA in the Toll Plaza, Interchange, and Bridge Elements.

NSA 5b (Figure IV-11B) is comprised of 68 single-family homes in the Henry's Run and Hulmeville Terrace neighborhoods. The northern limit of the NSA is set by the study area boundary. The homes within the NSA are affected by traffic noise from I-95, I-276, and New Falls Road with I-95 as the primary source. Existing traffic noise levels were measured at two sites (Receptors 8 and 9). Existing traffic noise levels were computer modeled at 35 locations within NSA 5b and ranged from 52 to 71 dBA. This area currently has receptors with noise levels that approach or exceed PENNDOT NAC.

NSA 6b (Figure IV-11B) is located on the east side of I-95 in the northern portion of the study area opposite NSA 5b. NSA 6b represents 53 single-family residences in the Tanglewood and Parkview Apartments area. I-95 is the primary traffic noise source for these neighborhoods. Existing traffic noise levels were measured at one site (Receptor 7). Existing traffic noise levels were modeled at 23 locations and ranged from 54 to 72 dBA. This area currently has receptors with noise levels that approach or exceed PENNDOT NAC.

NSA 7 & 18 (Figure IV-11B) includes 46 single-family residences and the Bristol-Bensalem Human Services Center in the southwest quadrant of the I-276 and I-95 point-of-crossing in Newportville. Traffic noise levels in the area are substantially influenced by traffic from both I-276 and I-95. Existing traffic noise levels were monitored at several sites (Receptors 10, 11, 32, and 33) and ranged from 64 to 67 dBA. Existing noise levels were modeled at 26 locations and ranged from 64 to 74 dBA. This area currently has receptors with noise levels that approach or exceed PENNDOT NAC.

NSA 8 (Figure IV-11B) represents 240 first floor apartment units in the Levittown Trace area located east of I-95 and north of Ford Road. Traffic noise levels within the NSA are dominated by I-95. Existing traffic noise levels are influenced by several factors including the layout of a self-storage facility and the apartment buildings that shield some of the traffic noise. Existing traffic noise levels ranged from 54 to 67 dBA within NSA 8. This area currently has receptors with noise levels that approach or exceed PENNDOT NAC.

NSA 9 (Figure IV-11B) includes one residence at the eastern terminus of Grundy's Lane, west of I-95 in the southern portion of the study area. The primary traffic noise source is I-95. Existing traffic noise levels measured 73 dBA at Receptor 16. Noise levels at this receptor currently approach or exceed PENNDOT NAC.

NSA 10 (Figure IV-11B) includes 97 single and multi-family units located east of I-95 in the southern portion of the study area. Traffic noise from I-95 and PA 413 connector affects overall existing noise levels in the Rockdale and Maple Shade neighborhoods. Three existing traffic noise level measurements (Receptors 17, 14 and 15) were performed within the neighborhoods. Existing traffic noise levels were modeled at 22 sites within NSA 10 ranging from 61-72 dBA. An existing 4,000 ft (1,219 m) barrier was modeled along PA 413's northbound lanes to determine noise levels in proximity to Receptors 14 and 15. NSA 10 currently has receptors with noise levels that approach or exceed PENNDOT NAC.

NSA 11 (Figure IV-11A) represents the Country Commons neighborhood and is located south of I-276 west of the Philadelphia Racetrack. I-276 is the primary traffic noise source. Eleven modeled sites and one noise-monitoring site (Receptor 18) were used to evaluate the existing traffic noise levels within NSA 11. Existing noise levels ranged from 57 to 62 dBA. Existing levels at this area do not approach or exceed PENNDOT NAC.

NSA 13 (Figure IV-11A) represents 75 single-family homes in both The Woods of Neshaminy Valley and Barnsleigh neighborhoods and 48 apartments in eight buildings in the Longmeadow Apartments. The NSA is located north of I-276, east of Galloway Road. Existing traffic noise levels were measured at three locations (Receptors 19, 20 and 21) and modeling indicated existing noise levels ranging from 57 to 68 dBA at 23 modeling locations. This area currently has receptors with existing noise levels that approach or exceed PENNDOT NAC.

NSA 14 (Figure IV-11A) includes three single-family homes and 172 first-floor residential units of the proposed Villas of Chancellor's Glen development located in the southwest quadrant of the I-276/PA 513 crossing, where I-276 is the primary noise source. The modeled existing traffic noise level at the home closest to I-276 was 73 dBA, while receptors approximating the first row of homes fronting I-276 in the proposed development have existing noise levels ranging from 72 to 68. This area has noise levels that currently approach or exceed PENNDOT NAC.

NSA 15 (Figures IV-11A and **IV-11B)** is located north of I-276 west of Bensalem Boulevard. The NSA represents 246 homes in the Salem Farm and Salem Point neighborhoods. The primary source of traffic noise is I-276. Existing traffic noise levels were measured at four locations (Receptors 24, 25, 27 and 29) and modeled at 36 locations. Existing traffic noise levels ranged from 46 to 73 dBA. This area currently has receptors that approach or exceed PENNDOT NAC.

NSA 16 (Figures IV-11A and **IV-11B)** represents 150 single-family residences in the Harvest Run West and Newportville Terrace neighborhoods located south of I-276 between Gibson Road to the west and Bensalem Boulevard to the east. The primary traffic noise source is I-276. Existing traffic noise levels were measured at five locations (Receptors 22, 23, 26, 28 and 30). Existing traffic noise levels were modeled at 32 locations within the neighborhoods and ranged from 53 to 72 dBA. This area currently has noise levels that approach or exceed PENNDOT NAC.

NSA 17 (Figure IV-11B) represents 52 single-family residences located north of I-276 between Bensalem Boulevard to the west and the Neshaminy Creek to the east. Existing traffic noise levels were measured at one site (Receptor 31) and modeled at 15 sites within the NSA. Modeled existing traffic noise levels ranged from 52 to 70 dBA. This area has receptors with noise levels that currently approach or exceed PENNDOT NAC.

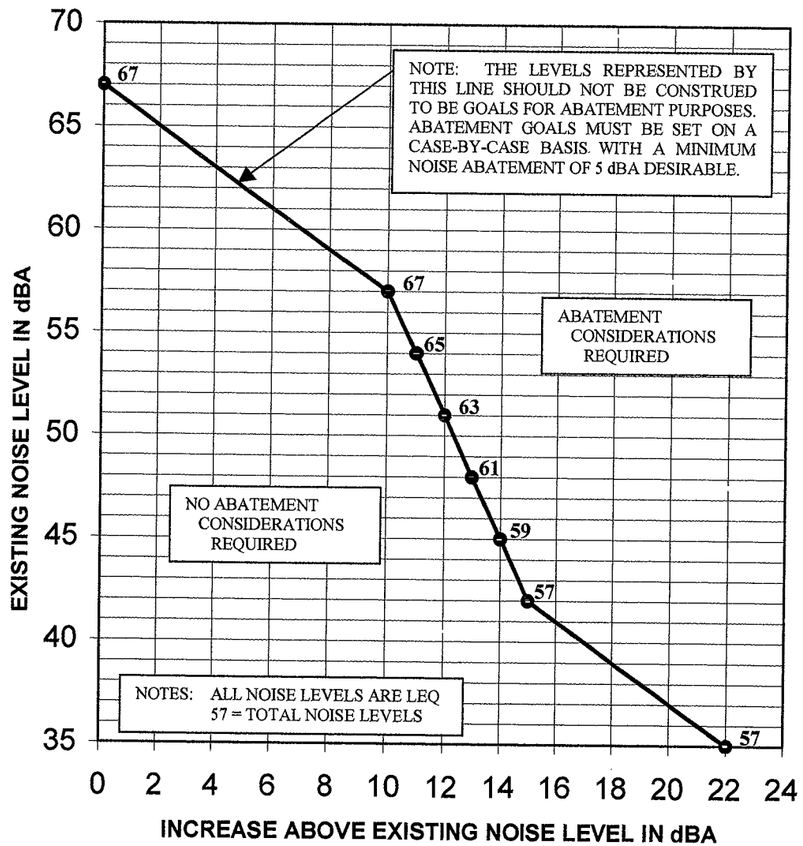
NSA 19a (Figure IV-11B) includes the neighborhoods of Plumbridge and Westwood and is located north of I-276 and east of New Rodgers Road. The 63 single-family homes in this NSA have traffic noise levels primarily influenced by I-276, with New Rodgers Road and I-95 acting as secondary

TABLE IV-36
FHWA NOISE ABATEMENT CRITERIA

Activity Category	Leq (1h) dBA	Description of Activity
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above
D	--	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: 23 CFR 772

FIGURE IV-12
PENNDOT ABATEMENT CRITERIA
ACTIVITY CATEGORY B



Source: PENNDOT Design Manual, Part 1A, Chapter 8, 1996.

traffic noise sources. Existing traffic noise levels were measured at three sites (Receptors 34, 35 and 36). Existing traffic noise levels were modeled at 22 locations in the NSA and ranged from 54 to 75 dBA. This area has existing noise levels that currently approach or exceed PENNDOT NAC.

NSA 19b (Figure IV-11B) represents 84 first floor residential multi-family units in the Brittany Springs neighborhood located north of I-276 and west of Bristol-Oxford Valley Road. The primary traffic noise source for NSA 19b is I-276. Existing traffic noise levels were measured at one site (Receptor 37) and modeled at seven locations within the NSA. Existing traffic noise levels ranged from 56 to 65 dBA. In the existing condition, noise levels do not approach or exceed PENNDOT NAC.

NSA 20a (Figure IV-11B) includes 70 single-family residences located off of Bath Road in the Mayfield Terrace neighborhood south of I-276 between New Rodgers Road and Bristol-Oxford Valley Road. The primary traffic noise sources are I-276 and Bath Road. Existing traffic noise levels were measured at one site (Receptor 38). Existing traffic noise levels were modeled at 23 locations and ranged from 65 to 72 dBA. This area has existing noise levels that currently approach or exceed PENNDOT NAC.

NSA 20a (2) (Figure IV-11B) includes the Bristol Township Municipal Building and Community Center. The park adjacent to the township building, the building itself, the community center, and nearby softball field are each represented by a noise modeling receptor. The primary noise sources in this area are Bath Road, Bristol-Oxford Valley Road, and I-276. Existing predicted levels ranged from 67 to 72 dBA. These noise levels currently approach or exceed PENNDOT NAC.

NSA 20b (Figure IV-11B) represents the park located near the Langenfelder Lake in Silver Lake Park. The park is located east of Bristol-Oxford Valley Road adjacent to the southern ROW of I-276. The park contains hiking trails, fishing, and picnicking opportunities. The primary traffic noise source is I-276, with Bristol-Oxford Valley Road contributing as a secondary source. Existing traffic noise levels were measured at one site (Receptor 40) and modeled at four locations. Existing traffic noise levels at the four modeled locations ranged from 63 to 70 dBA. This area has existing noise levels that currently approach or exceed PENNDOT NAC.

NSA 21a (Figure IV-11B) includes Black Ditch Park located north of I-276, east of Bristol-Oxford Valley Road. Existing traffic noise levels are dominated by I-276 and were measured at one site (Receptor 39). Existing traffic noise levels were modeled at five locations in the park and ranged from 55 dBA to 65 dBA. Existing noise levels at this NSA do not currently approach or exceed PENNDOT NAC.

NSA 21b (Figure IV-11C) includes 68 single-family residences in the Bloomsdale Gardens neighborhood located north of I-276, west of Green Lane. Existing traffic noise levels are dominated by I-276 and were measured at one site (Receptor 41) within the neighborhood. Existing traffic noise levels were modeled at 16 locations and ranged from 53 to 64 dBA. Existing noise levels at this NSA do not currently approach or exceed PENNDOT NAC.

NSA 23 (Figure IV-11C) represents 50 single-family homes located south of I-276 between Green Lane to the west and US 13 to the east. Existing traffic noise levels were measured at one site (Receptor 42) and are primarily influenced by I-276, with US 13 and the I-276 Interchange 29 access ramp acting as secondary sources. Existing traffic noise levels were modeled at 12 locations and ranged from 63 to 66 dBA. This area has existing noise levels that currently approach or exceed PENNDOT NAC.

NSA 24 (Figure IV-11C) represents 47 single-family homes located south of I-276 and west of Radcliffe Street. Existing traffic noise levels are primarily influenced by I-276 and were measured at one site (Receptor 43). Existing traffic noise levels ranged from 58 to 63 dBA at nine modeled locations within the NSA. Because the vertical distance from these receptors to the bridge is nearly 39.6 m (130 ft), noise levels do not currently approach or exceed PENNDOT NAC.

NSA 25 (Figure IV-11C) includes 48 single-family residences located north of I-276 and west of Radcliffe Street. Existing noise levels, dominated by I-276, were measured at one site (Receptor 44). Existing traffic noise

levels ranged from 58 to 62 dBA at eight modeled locations. Because the vertical distance from these receptors to the bridge is nearly 39.6 m (130 ft), noise levels do not currently approach or exceed PENNDOT NAC.

NSA 26 (Figure IV-11A) includes single-family homes in the Linconia Park neighborhood located at the western boundary of the project study area. Existing traffic noise levels were measured at two sites (Receptors 51 and 52). Currently, residences within NSA 26 are protected from highway noise by a 4.9 m (16 ft) high, 289.6 m (950 ft) long sound barrier along the northbound shoulder of I-95 extending from the railroad overpass to the PA 132 overpass. Existing traffic noise levels at the 22 modeled sites ranged from 60 to 67 dBA within the NSA. This area has noise levels that approach or exceed PENNDOT NAC.

NSA 27 (Figure IV-11A) includes the BMX Raceway on the Bensalem Township Parcel located south of I-276 and east of US 1, and the park adjacent to NSA 11. Predictive modeling indicated an existing noise level of 69 dBA at the Bensalem Township Parcel. This area has existing noise levels that currently approach or exceed PENNDOT NAC.

NSA 28 (Figure IV-11A) includes the new Christian Life Center, located north of I-276 and west of Galloway Road. This was considered because of its planned educational and recreational uses. Predictive modeling indicated an existing noise level of 64 dBA at each of the two modeling locations. This area does not have noise levels that currently approach or exceed PENNDOT NAC.

NSA 29 (Figure IV-11A) represents the Bensalem Community Park, located north of I-276 and to the east of Galloway Road. Two modeling receptors indicated an existing noise level of 63 dBA for the eastern side of the park and 64 dBA for the western side of the park. This area has existing noise levels that do not currently approach or exceed PENNDOT NAC.

NSA 30 (Figure IV-11A) represents the Delaware Canal State Park. The northern side of the canal had a predicted existing noise level of 69 dBA, while the southern side had a predicted level of 74 dBA. This area's existing noise levels currently approach or exceed PENNDOT NAC.

2. Impacts

This section identifies those NSAs that have areas with design year Build noise levels predicted to approach or exceed FHWA and PENNDOT NAC. **Tables IV-37** to **IV-39** summarize the future noise levels and impacts for each NSA for the Project Elements.

Areas that have receptors with predicted noise levels that approach or exceed the NAC are said to **warrant** noise abatement consideration.

a. Toll Plaza Element (Figure IV-11A, Plate 2)

Eight NSAs (NSAs 13, 14, 15, 16, 26, 27, 28 and 29) were found to warrant noise abatement consideration in both the Split Plaza East and the Modified Plaza West Alternatives. Therefore, Predicted Future Noise Levels at receptors within these NSAs approached or exceeded PENNDOT NAC.

b. Interchange Element (Figure IV-11B, Plate 2)

For the Flyover A and Single Loop A Alternatives, NSAs 5b, 6b, 7 & 18, 8, 9, 10, 15, 16, 17, 19a, 19b, 20a, 20a (2), 20b, and 21a were found to warrant noise abatement consideration. Each of these NSAs had receptors with Predicted Future Levels approaching or exceeding PENNDOT NAC.

c. Bridge Element (Figure IV-11B, Plate 2)

Three NSAs (NSAs 21b, 23 and 30) were found to warrant noise abatement consideration in both the Bridge North and Bridge South Alternatives. Predicted Future Levels at receptors within these NSAs approached or exceeded PENNDOT NAC.

3. Mitigation

Mitigation features such as berms, traffic management measures, and roadway alignment shifts were evaluated, but not found to be practical for this project. The most practical form of noise abatement is a concrete barrier. A noise abatement analysis was performed to evaluate the feasibility and reasonableness of the construction of concrete barriers for NSAs that warranted noise abatement consideration, as identified in the previous subsection. A summary of the warrants, feasibility, and reasonableness of noise abatement for this project can be found in **Table IV-40**. **Figures IV-11A, Plate 2; IV-11B, Plate 2;** and **IV-11C, Plate 2** show the location of potential noise abatement that meet PENNDOT's Warrants, Feasibility, and Reasonableness Criteria.

TABLE IV-37
EXISTING AND FUTURE NOISE LEVELS – TOLL PLAZA ELEMENT

NSA	Monitored Receptor No.	Monitored Existing Noise Level (dBA)	Future (2025) Noise Levels (dBA)		
			No-Build	Split Plaza East	Modified Plaza West
11	18	59	63	65	65
13	19	56	57	63	64
	20	65	67	70	70
	21	57	66	66	66
14	- [1]	68 [2]	69	68	70
	- [1]	72 [2]	73	74	73
	- [1]	70 [2]	71	72	71
15 [3]	24	67	73	74	74
	25	66	74	75	75
16 [3]	22	64	74	75	75
	23	63	74	75	75
	26	64	73	74	74
26	51	62	65	68	68
	52	62	61	69	69
27	- [1]	68 [2]	65	66	68
28	- [1]	65 [2]	65	66	66
	- [1]	64 [2]	65	66	66
29	- [1]	64 [2]	69	70	70

Note: A shaded noise level represents an impact according to FHWA and PENNDOT criteria
1 Noise monitoring was not performed within this NSA. Noise levels for receptors in this NSA were calculated with predictive modeling.
2 "Modeled" existing noise level
3 NSA is located in both the Toll Plaza Element and the Interchange Element

The **feasibility** analysis is based on three criteria:

- ✓ Can a noise reduction (insertion loss) of at least 5 dBA be achieved with noise abatement measures at a majority of the impacted land uses?
- ✓ Does the barrier obstruct or deny access to local vehicular and/or pedestrian travel?
- ✓ Are there any safety or engineering problems associated with the barrier, which preclude construction?

At warranted areas where noise barriers were determined to be feasible, concrete noise barriers were evaluated for reasonableness. **Reasonableness** most importantly deals with total and unit cost of the barrier, but also deals with the following issues:

- ✓ Number of units protected, number of people protected, and the average noise reduction
- ✓ Defining type of noise impact
- ✓ Percent of community that desire noise abatement
- ✓ Cost per residence and acoustic benefits
- ✓ Difficulties of barrier construction and maintenance
- ✓ Utility and drainage impacts
- ✓ Land-use planning controls

A benefited dwelling unit is defined as a residential property receiving at least a 3 dBA reduction. A $25.00 per square foot cost for noise walls was used in evaluating noise abatement cost. In Pennsylvania, the cost per dwelling unit threshold is $50,000.

TABLE IV-38
EXISTING AND FUTURE NOISE LEVELS – INTERCHANGE ELEMENT

NSA	Monitored Receptor No.	Monitored Existing Noise Level (dBA)	Future (2025) Noise Levels (dBA)		
			No-Build	Flyover A	Single Loop A
5b	8	69	72	73	73
	9	64	69	70	70
6b	7 (24-hour)	70	70	70	70
7 & 18	10	67	76	77	77
	R11 (24-hour) [5]	67	77	77	77
	32	64	68	70	70
	33	64	74	71	71
8	12	66	70	69	69
	13	58	63	64	64
9	16	73	74	74	74
10	14	67	60 [4]	63 [4]	63 [4]
	15	66	65 [4]	63 [4]	63 [4]
	17	66	69	69	69
15[3]	27	65	74	75	75
	29	66	72	73	73
16[3]	28	67	73	74	74
	30	65	74	75	75
17	31	60	67	69	69
19a	34 [5]	64	77	80	80
	35 (24-hour)	59	60	60	60
	36	62	67	69	69
19b	37	57	67	68	68
20a	38	60	71	72	72
20a2	- [1]	69 [2]	71	72	72
20b	40	60	69	70	70
21a	39	48	55	55 [6]	55 [6]

Note: A shaded noise level represents an impact according to FHWA and PENNDOT criteria
1 Noise monitoring was not performed within this NSA. Noise levels for receptors in this NSA were calculated with predictive modeling.
2 "Modeled" existing noise level
3 NSA is located in both the Toll Plaza Element and the Interchange Element.
4 The No-Build and Build Scenarios were modeled with the recently built wall in proximity to these monitored locations.
5 This property would be acquired with the construction of either the Single Loop A or Flyover A Alternative.
6 Although future noise level predictions at the monitored location for NSA 21a do not warrant noise abatement consideration, there is a modeled receptor (not shown on graphics) within this NSA with noise levels that approach or exceed the NAC.

TABLE IV-39
EXISTING AND FUTURE NOISE LEVELS – BRIDGE ELEMENT

NSA	Monitored Receptor No.	Monitored Existing Noise Level (dBA)	Future (2025) Noise Levels (dBA)		
			No-Build	Bridge North	Bridge South
21b	41	61	66	67	67
23	42 (24-hour)	62	68	70	70
24	43	61	61	62	63
25	44	61	60	63	64
30	- [1]	69 [2]	76	73	73

Note: A shaded noise level represents an impact according to FHWA and PENNDOT criteria
1 Noise monitoring was not performed within this NSA. Noise levels for receptors in this NSA were calculated with predictive modeling.
2 "Modeled" existing noise level

As shown on **Table IV-40**, barriers were found to be both feasible and reasonable at NSAs 5b, 6b, 7 & 18, 8, 10, 13, 14, 15, 16, 17, 19a, 19b, 20a, 21b, 23, and 26 for the six Build Alternatives. The noise barrier modeled for NSA 9 was found to be feasible, but not reasonable, due to the high cost per residence. It should be noted that acoustic effectiveness of abatement at NSA 17 depends upon the construction of abatement for NSA 15 in which these two barriers act as a system. Therefore, if one of these two barriers is not constructed, then neither of these barriers will be feasible.

Construction of feasible and reasonable noise abatement measures at noise impacted locations identified in **Table IV-40** and on **Figures IV-11A, Plate 2; IV-11B, Plate 2;** and **IV-11C Plate 2** would be considered contingent upon the following conditions:

- ✓ Detailed noise analysis during the Final Design process using latest FHWA and PENNDOT guidelines and modeling techniques;
- ✓ Analysis and determination of the Feasibility and Reasonableness of noise abatement measures, methodology and criteria;
- ✓ Community input regarding desires, types, heights, and locations as well as aesthetic considerations;
- ✓ Preferences regarding compatibility with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses; and,
- ✓ Safety and engineering aspects as related to the roadway user and the adjacent property owner.

It is likely that the noise abatement measures for the identified noise impacted areas would be constructed if found to be feasible and reasonable based on the contingencies listed above. A re-evaluation for the noise sensitive land uses within the I-276/I-95 Interchange Project study area will occur during Final Design of the selected alternative using the applicable abatement analysis and design guidelines. Commitments regarding the exact abatement measure locations, heights, and types (or approved alternatives) will also be made during Final Design.

P. SENSITIVE WASTE

More detailed sensitive waste information is located in the Sensitive Waste Technical Support Data, as well as:

- *Bristol, Bensalem, Middletown Townships, Bucks County, Pennsylvania, Burlington County, New Jersey, Hazardous Waste Preliminary Area Reconnaissance, 1995.*
- *Bensalem Township, Bucks County, Pennsylvania, Hazardous Waste Investigation, Preliminary Area Reconnaissance/Initial Site Assessment, 1999.*
- *Park and Ride Facility Hazardous Waste Investigation Preliminary Area Reconnaissance/ Initial Site Assessment, 2000.*
- *Technical Support Data Index is located in Section XII (Appendix C).*

Several Preliminary Area Reconnaissance and Initial Site Assessment reports (PAR/ISA) were prepared for the study area. These reports can be found in the Technical Support Data. The PAR/ISA is an aggregate of two separate, but complementary, investigations. The PAR is intended as the initial investigation to identify potential hazardous or environmentally sensitive waste throughout the entire study area. The primary objective of the ISA is to assess the presence and type of contamination at specific sites identified during the PAR. The ISA establishes site-specific history and defines potential and existing sources of contamination verified by file review and other supplementary sources of information. The PAR/ISA does not generate separate reports, but at the completion of the investigative phase, a single comprehensive report is generated. The purpose of the PAR/ISA is to verify the potential presence of hazardous or other environmentally sensitive waste on a project-wide basis.

Since the preparation of the sensitive waste analysis for the I-276/I-95 Interchange Project, PENNDOT's *Publication 281, The Transportation Project Development Process, Waste Site Evaluation Procedures Handbook* (PENNDOT, 1999) has been revised. With the exception of two fundamental modifications, the new investigative procedures have changed little from the old procedures.

The first fundamental change with these procedures is the use of the terms Phase I, II, and III Environmental Site Assessment. Generally, Phase I Assessments are similar to the combined PAR/ISA's.

TABLE IV-40
NOISE ABATEMENT WARRANTS, FEASIBILITY, AND REASONABLENESS ANALYSES

NSA Community	WARRANTS ANALYSIS		FEASIBILITY ANALYSIS				REASONABLENESS ANALYSIS						NSA Potentially Receives Noise Barrier?
	Number of Impacted Dwelling Units	Warrants Noise Abatement Consideration?	Number of Impacted Dwelling Units Receiving ≥ 5 dBA IL	Does Barrier Restrict Access?	Safety Factors - Does Barrier Create Sight Distance Problem?	Barrier Meets Feasibility Criteria?	Number of Dwelling Units Protected (receiving ≥ 3 dBA IL)	Barrier Cost ($)	Cost per Dwelling Unit Protected ($)	Barrier Height m (ft)	Barrier Length m (ft)	Barrier Meets Reasonableness Criteria?	
5b Henry's Run Newportville Manor	8 10	**YES**	8 10	NO	NO	**YES**	28 21	560,000 520,000	20,000 24,762	4.88 (16) 4.88(16)	427 (1,400) 396 (1,300)	**YES**	**YES**
6b Tanglewood Parkview Apartments	24	**YES**	24	NO	NO	**YES**	46	1,208,250	26,460	5.49 (18)	818 (2,685)	**YES**	**YES**
8 Levittown Trace	29	**YES**	21	NO	NO	**YES**	36	450,000	12,500	5.49 (18)	305 (1,000)	**YES**	**YES**
9 Grundy's Lane	1	**YES**	1	NO	NO	**YES**	1	560,000	560,000	4.27 (14)	244 (800)	**NO**	**NO**
10 Rockdale, Maple Shade	41	**YES**	40	NO	NO	**YES**	107	1,175,000	10,980	6.1 (20)	717 (2,350)	**YES**	**YES**
11 Country Commons	0	**NO**[2]	Not Applicable – Area Does Not Warrant Noise Barrier Consideration (NSA 11 may benefit from Noise Abatement for NSA 27)										**NO**[2]
13 Longmeadow Apartments, The Woods of Neshaminy, Barnsleigh (Split Plaza East)	21	**YES**	21	NO	NO	**YES**	102	1,998,000	19,588	6.8 (22.2)	1097 (3,600)	**YES**	**YES**
13 Longmeadow Apartments, The Woods of Neshaminy, Barnsleigh (Modified Plaza West)	35	**YES**	24	NO	NO	**YES**	102	1,748,250	17,140	6.8 (22.2)	960 (3,150)	**YES**	**YES**
14 Southwest Quadrant of I-276/PA 513 (Split Plaza East)	72	**YES**	82	NO	NO	**YES**	136	1,241,460	9,128	6.0 (19.8)	764 (2,508)	**YES**	**YES**
14 Southwest Quadrant of I-276/PA 513 (Modified Plaza West)	66	**YES**	165	NO	NO	**YES**	177	1,210,250	6,838	5.7 (18.8)	785 (2,575)	**YES**	**YES**
15 Salem Farm, Salem Point	69	**YES**	69	NO	NO	**YES**	248	1,827,500	7,389	5.2 (17)	1,312 (4,300)	**YES**	**YES**
16 Harvest Run West, Newportville Terrace	61	**YES**	61	NO	NO	**YES**	161	2,465,000	15,310	5.2 (17)	1,769 (5,800)	**YES**	**YES**
17 Northeast Quadrant of 276 / Bensalem Blvd.	10	**YES**	6	NO	NO	**YES**	45	901,875	20,042	5.6 (18.5)	594 (1,950)	**YES**	**YES**
7 Newportville **18** Southeast Quadrant of I-276 /Main Street	37 and 1 community facility	**YES**	9 and 1 community facility	NO	NO	**YES**	36	1,785,000	49,583	6.4 (21)	1,036 (3,400)	**YES**	**YES**
19a Plumbridge, Westwood **19b** Brittany Springs	23	**YES**	23	NO	NO	**YES**	147	2,184,000	14,857	5.5 (18.2)	1,463 (4,800)	**YES**	**YES**
20a Mayfield Terrace	15	**YES**	15	NO	NO	**YES**	17	720,000	42,353	5.49 (18)	488 (1,600)	**YES**	**YES**
20a(2) Bristol Township Building	1 township building and 1 senior center	**YES**	1 township building and 1 senior center	NO	NO	**YES**	1 township building and 1 senior center	810,000	-	5.49 (18)	549 (1,800)	**YES**[1]	**YES**
20b Silver Lake Park	1 park	**YES**	1 park	NO	NO	**YES**	1 park	712,000	-	4.88 (16)	543 (1,780)	**YES**[1]	**YES**
21a Black Ditch Park	1 park	**YES**[3]	1 park	NO	NO	**YES**	1 park	1,305,000	-	5.49 (18)	884 (2,900)	**YES**[1]	**YES**
21b Bloomsdale Gardens	5	**YES**	5	NO	NO	**YES**	40	736,000	18,400	5.49 (18)	560 (1,840)	**YES**	**YES**
23 Green Lane south of I-276 Interchange 30 (Bridge North)	50	**YES**	12	NO	NO	**YES**	50	696,690	13,935	4.8 (15.7)	541 (1,775)	**YES**	**YES**
23 Green Lane south of I-276 Interchange 30 (Bridge South)	50	**YES**	12	NO	NO	**YES**	50	714,440	14,290	4.9 (16.1)	541 (1,775)	**YES**	**YES**
24 Southwest Quadrant of I-276/Delaware River	0	**NO**	Not Applicable – Area Does Not Warrant Noise Barrier Consideration										**NO**
25 Northwest Quadrant of I-276/ Delaware River.	0	**NO**	Not Applicable – Area Does Not Warrant Noise Barrier Consideration										**NO**
26 Linconia Park	21	**YES**	15	NO	NO	**YES**	34	945,000	27,795	5.5 (18)	641 (2,100)	**YES**	**YES**
27 Bensalem Township Parcel - BMX Raceway	1 Park	**YES**	1 Park	NO	NO	**YES**	1 Park	915,750	-	5.5 (18)	620 (2,035)	**YES**[1]	**YES**
28 Christian Life Center (Split Plaza East)	1 church	**YES**	1 church	NO	NO	**YES**	1 church	517,500	-	5.5 (18)	351 (1,150)	**YES**[1]	**YES**
28 Christian Life Center (Modified Plaza West)	1 church	**YES**	1 church	NO	NO	**YES**	1 church	679,000	-	5.9 (19.4)	427 (1,400)	**YES**[1]	**YES**
29 Bensalem Community Park (Split Plaza East)	1 park	**YES**	1 park	NO	NO	**YES**	1 park	686,250	-	5.49 (18)	465 (1,525)	**YES**[1]	**YES**
29 Bensalem Community Park (Modified Plaza West)	1 park	**YES**	1 park	NO	NO	**YES**	1 park	450,000	-	4.4 (14.4)	381 (1,250)	**YES**[1]	**YES**
30 Delaware Canal State Park	1 park	**YES**	1 park	NO	NO	**YES**	1 park	80,000	-	4.88 (16)	61 (200)	**YES**[1]	**YES**

Notes: IL Insertion Loss (Noise Reduction)
A shaded box represents a criterion that, together with other factors, caused the barrier to fail the PENNDOT Warrants, Feasibility or Reasonableness Test
The traffic noise analysis including warrants, feasibility, and reasonableness of potential noise barrier locations for all project area NSAs will be re-evaluated in Final Design using latest FHWA and PENNDOT guidelines and modeling techniques.

1 Although no Cost Per Dwelling Unit Protected can be calculated for the warranted land uses (e.g. parklands and community facilities), it has been determined that these barriers are reasonable based on the sensitive nature of the land uses protected.
2 Although this NSA does not warrant noise abatement consideration, this NSA may benefit from noise abatement for NSA 27.
3 Future noise level predictions at the monitored location within NSA 21a do not warrant noise abatement consideration. However, there is a modeled receptor within this NSA that does warrant noise abatement consideration.

The second fundamental change is the former policy of "avoidance" first and foremost. The Federal Highway Administration has adopted the "Brownfields Initiative" policy that encourages State DOT's to consider the use of abandoned and contaminated sites in the development and evaluation of design corridor alternatives. Similar remediation provisions are allowed under the Act 2 (The Land Recycling and Environmental Remediation Standards Act, July 18, 1995) Specialized Industrial Area site clean-up standard. Therefore, although the guidelines have been revised, the sensitive waste analysis for this project is in compliance with PENNDOT's policies.

1. Existing Conditions

Preliminary field reconnaissance initially identified 68 potentially hazardous or environmentally sensitive waste sites throughout the study area. Of these, 46 sites occur in the study area of the detailed alternatives. The location of the potentially impacted sensitive waste sites are mapped by their site identification numbers (ID #), which are identified on **Tables IV-41, IV-42,** and **IV-43**, and on **Figures IV-11A** to **IV-11C**. These tables list the potentially impacted sites, the concerns, recommended actions, and approximate remediation costs.

2. Impacts

The No-Build Alternative would not impact existing sensitive waste sites.

The Build Alternative impacts may involve 46 potential waste generator sites, or sites with storage tanks that might be affected by at least one of the six Build Alternatives in the study area. ROW widths and roadway cut and fill delineations, as designated on the preliminary engineering design, were used to calculate potential impacts on sensitive waste sites. The impacts of the Build Alternatives on the various sites in the study area, as well as the approximate cost range to clean up the individual sites, are presented in **Tables IV-41** to **IV-43**. Until actual clean-up occurs, the remediation costs are presented as a range. This range does not include property acquisitions.

TABLE IV-41
POTENTIAL IMPACTS TO POTENTIAL SENSITIVE WASTE SITES – TOLL PLAZA ELEMENT

Site ID #	Facility Name	Initial Concern	Potential Impacts due to the Split Plaza East	Potential Impacts due to the Modified Plaza West	Further Action Required[1]	Approximate Remediation Cost[2]
9	Neshaminy Plaza (South)	Storage tanks; Past violator	No structure impacts	No structure impacts	Storage Tank Investigation	$10,000 - $50,000
10	Buck County Youth Correctional Facility	Storage tanks	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
11	Philadelphia Park	Storage tanks; Past violator	No Impact	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
13	Giles & Ransome	Storage tanks; Past violator	No structure and less than 50% property acquisition	No Impact	Storage Tank Investigation	$10,000 - $50,000
16	PA Turnpike Interchange Exit 28	Storage tanks	No structure impacts	No structure impacts	Storage Tank Investigation	$10,000 - $50,000
17	Neshaminy Plaza (North)	Storage tanks	No structure impacts	No Impact	Storage Tank Investigation	$10,000 - $50,000
19	Trevose Maint. Facility	Storage tanks; Past violator	No structure impacts	No structure impacts	Storage Tank Investigation	$10,000 - $50,000
57	Faulkner Auto Dealership	Hazardous material storage and use	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
68	Bill Salmon's Auto Body	Hazardous material storage and use	Structure and full property acquisition	No Impact	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000

1 Discovery of contaminated soils and/or unknown underground storage tanks (USTs) is always a possibility during construction. A geophysical survey for unknown USTs in the ROW may be required. Interior investigations of structures may be required for asbestos and PCB containing materials.
2 Remediation cost will be contingent on the magnitude and type of contamination

TABLE IV-42
POTENTIAL IMPACTS TO POTENTIAL SENSITIVE WASTE SITES – INTERCHANGE ELEMENT

Site ID #	Facility Name	Initial Concern	Potential Impacts due to Flyover A	Potential Impacts due to Single Loop A	Further Action Required[1]	Approximate Remediation Cost[2]
6	Huls America, Inc.	Storage tanks; Past violator	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
14	Modern Handling	Storage tanks; Past violator	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
15	HA Perotti, Inc.	Storage tanks; Past violator	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
18	Former NIKE Missile Base	Storage tanks	Structure and full property acquisition	Structure and full property acquisition	Storage Tank Investigation	$10,000 - $50,000
27	Pennsalt Chemicals	Storage tanks	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
28	Summit Auto Center Inc.	Storage tanks	Structure and full property acquisition	Structure and full property acquisition	Storage Tank Investigation	$10,000 - $50,000
35	Thrift Drug / Treasury Drug	Trucking / distribution center	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
40	Strip Mall with Austins Mexican Restaurant	Storage / salvage area	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
41	Peter Lumber	Storage / salvage area	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
42	Wilson's Meats	Storage / salvage area	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
44	Burke Company	Storage tanks	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
65	Bush Trans. System	Trucking / distribution center	Structure and full property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
67	Triangle Express	Hazardous material storage and use	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000

1 Discovery of contaminated soils and/or unknown underground storage tanks (USTs) is always a possibility during construction. A geophysical survey for unknown USTs in the ROW may be required. Interior investigations of structures may be required for asbestos and PCB containing materials.
2 Remediation cost will be contingent on the magnitude and type of contamination

TABLE IV-43
POTENTIAL IMPACTS TO POTENTIAL SENSITIVE WASTE SITES – BRIDGE ELEMENT

Site ID #	Facility Name	Initial Concern	Potential Impacts due to Bridge North	Potential Impacts due to Bridge South	Further Action Required[1]	Approximate Remediation Cost[2]
3	Corell Steel	Hazardous material generator	No structure and less than 50% property acquisition	No Impacts	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000
25	PA Turnpike Interchange Exit 29	Storage tanks	Structure Impacts	Structure Impacts	Storage Tank Investigation	$10,000 - $50,000
26	PA Turnpike Interchange Exit 30	Storage tanks	Impacts near storage tanks	Impacts near storage tanks	Storage Tank Investigation	$10,000 - $50,000
29	Keith Auto Service	Storage tanks	No structure and less than 50% property acquisition	No structure and less than 50% property acquisition	Storage Tank Investigation	$10,000 - $50,000
30	Bruce's Auto Services	Storage tanks	Structure and full property acquisition	Structure and full property acquisition	Storage Tank Investigation	$10,000 - $50,000
37	East Trailer Services	Trucking / distribution center	No Impact	Structure and full property acquisition	Background investigation concerning hazardous material storage and disposal	$10,000 - $50,000

1 Discovery of contaminated soils and/or unknown underground storage tanks (USTs) is always a possibility during construction. A geophysical survey for unknown USTs in the ROW may be required. Interior investigations of structures may be required for asbestos and PCB containing materials.
2 Remediation cost will be contingent on the magnitude and type of contamination.

a. Toll Plaza Element (Figure IV-11A, Plate 2)

There are 16 potential sensitive waste sites within the Toll Plaza Element. The Split Plaza East Alternative would potentially impact eight sites (9, 10, 13, 16, 17, 19, 57, and 68, as described in **Table IV-41**). The approximate remediation cost for Split Plaza East would range between $80,000 and $400,000. The Modified Plaza West Alternative would potentially impact six sites. As described in **Table IV-41**, these sites are 9, 10, 11, 16, 19, and 57. Modified Plaza West would require an approximate remediation cost range of $60,000 to $300,000. Impacted sites would require further investigation to establish the extent of potential contamination.

b. Interchange Element (Figure IV-11B, Plate 2)

There are 20 potential sensitive waste sites in the Interchange Element. Both the Flyover A and Single Loop A Alternatives would potentially affect 13 sites (6, 14, 15, 18, 27, 28, 35, 40, 41, 42, 44, 65, and 67, as described in **Table IV-42**). The approximate cost of remediation range is $130,000 to $650,000. Impacts would require further investigation to establish the extent of potential contamination.

Impacts to three potential sensitive waste sites due to the construction of the park and ride/pool facilities have been identified and evaluated in **Section IV-A.5**. These impacts have been included as part of the Interchange Element in the overall impact summary tables throughout the FEIS.

c. Bridge Element (Figure IV-11C, Plate 2)

There are ten potential sensitive wastes sites within the Bridge Element. The Bridge North Alternative would potentially impact five sites (3, 25, 26, 29, and 30, as described in **Table IV-43**). The Bridge South Alternative would also potentially impact five sites (25, 26, 29, 30, and 37, as described in **Table IV-43**). Both the Bridge North and Bridge South Alternatives may require an approximate remediation range of $50,000 to $250,000. Impacts require further investigation to establish the extent of potential contamination.

3. Mitigation

For any of the Build Alternatives, further investigation would be required at impacted sites. Proper care would be taken at the sites where excavation would be performed, including the properties in which only ROW may be impacted by roadway construction. A geophysical survey in the required ROW may reduce the possibility of discovering a previously unknown underground storage tank. Any structures that would be acquired must be surveyed for asbestos and PCB-containing materials before they are demolished. In addition, any known and/or encountered sensitive waste sites would be properly remediated according to PADEP requirements.

Q. VIBRATION

More detailed vibration information is located in the Vibration Technical Support Data.
** Technical Support Data Index is located in Section XII (Appendix C).*

Traffic-induced vibration associated with urban highways, such as I-276 and I-95, may impact adjacent homes and businesses. Traffic-induced vibrations originate with the transfer of energy from the impact of vehicle wheels on the road surface which travels through the road, roadbed, and through the ground in all directions. The amount of vibration produced by highway traffic is a function of traffic volume and speed, the pavement surface roughness, subgrade characteristics, and the distance between the highway and the receiver. The energy of the vibration-induced impulse is inversely proportional to the distance. In essence, the farther from the vibration source (the vehicle tires), the less vibration is felt. Usually, vibration is a concern when buildings are located very close to the roadway. Typically, in structures located further than 7.6 m (25 ft) away from the highway, vibration is not an issue. For the I-276/I-95 Interchange Project, post-construction, there would be no structures located within 7 m (25 ft) of the highway.

Vibration effects are not cumulative. That is, an increase in the number of occurrences, as with an increase in traffic, would not increase the potential for structural damage. Because this project involves improvements to the existing highway, it is anticipated that the vibration from both I-276 and I-95 would not increase as a result of this project. Noise impacts and mitigation are described in **Section IV-O**.

R. VISUAL QUALITY

More detailed visual quality information is located in the Visual Quality Technical Support Data.
** Technical Support Data Index is located in Section XII (Appendix C).*

The viewsheds in the Pennsylvania study area are limited by extensive development and the relatively flat landform. Sight distance is restricted and filled with typical suburban visual components: highways, houses, commercial strips, and shopping centers. Viewsheds of interest include views from the banks of the Delaware River (**Photo IV-4**). The locations of the photos are identified on **Figures IV-11A** to **IV-11C**.

The visual environment of the New Jersey study area contains less development. There are sizable woodlands, large-scale manufacturing operations, and residential development in and near the town of Florence. The manufacturing industries are located along the Delaware River in Florence, mostly north of I-276. Scattered farmsteads are located further inland, east of US 130.

1. Existing Visual Environment

a. Toll Plaza Element

The visual environment of the Toll Plaza Element consists of a patchwork of large distinct parcels containing a horse racetrack, youth detention center, and an I-276 maintenance facility. A handful of open farm fields and rangeland distinguish this area from the rest of the study area. Residential development is less intensive here than in the rest of the study area. Primary developments north of I-276 include the Woods of Neshaminy Valley and Salem Point residential subdivisions, and the former Youth Development Center. Primary developments south of I-276 include the Philadelphia Park Racetrack, Giles & Ransome manufacturing facility, the I-276 Trevose Maintenance Facility, and the Harvest Run West residential subdivision.

Most of I-276 in the Toll Plaza Element is slightly depressed and a motorist's view is primarily lined with trees, except in the vicinity of Giles & Ransome and the I-276 Maintenance Facility. **Photo IV-1** (page IV-94) shows the existing view looking west from PA 513 (Hulmeville Road). This is existing I-276 with two lanes in each direction.

b. Interchange Element

The visual environment of the Interchange Element consists of commercial development surrounded by single-family residential subdivisions. **Photo IV-2** (page 94) shows a view looking south toward the point-of-crossing along PA 413 (New Rodgers Road). Established residential communities include Mill Creek Falls, Plumbridge, Tanglewood, Newportville Manor, and Newportville. **Photo IV-3** (page IV-94) shows the existing residential area on Nebraska Street, immediately north of the industrial park. The Bristol Plaza Shopping Center is adjacent to the I-276/I-95 point-of-crossing, and strip commercial development is located along PA 413 (New Rodgers Road) and Durham Road.

The view from I-276 and I-95 in this element is primarily lined with trees except at the I-276/I-95 point-of-crossing, where views of Bristol Plaza and Modern Handling are available.

c. Bridge Element

The visual environment of the Bridge Element consists of residential neighborhoods, industrial parks, and the US 13 (Bristol Pike) commercial corridor in Pennsylvania, and woodlands in New Jersey. Established residential communities include the Pacific Avenue and Edgely neighborhoods. This element also includes Delaware Canal State Park, which contains the Delaware Canal, a National Historic Landmark. The Delaware River waterfront is located in this element. **Photo IV-4** (page IV-94) shows the existing Delaware River Turnpike Bridge, looking south from Riverview Avenue.

The views from I-276 in this element consist of views from the highway and views from the bridge. The highway views are largely tree-lined and contain tollbooths on both the Pennsylvania and New Jersey sides. The bridge views are wide, expansive and reveal Bristol Township, Pennsylvania and Florence Township, New Jersey in the distance.

2. Impacts

a. Toll Plaza Element

The Split Plaza East Alternative would impact the visual environments of the Woods of Neshaminy Valley, Salem Point, and Harvest Run West residential developments. The construction of the toll barrier would change the visual nature of the development.

Photo IV-1A (page IV-94), looking west from PA 513, shows the proposed Split Plaza East Alternative. The photo shows the 10 lanes leaving the eastbound toll barrier and the westbound lanes widened to three lanes. The Modified Plaza West Alternative would be similar to the conventional plaza design typical of most toll roads.

In addition, I-276 widening near the Harvest Run West and Salem Point subdivisions to accommodate the toll barrier for Modified Plaza West would impact the subdivisions by changing their relationship to I-276. Although one dwelling would be displaced south of I-276, the visual environment of residences bordering I-276 may be slightly altered as a result of slope-steepening and other minimization techniques. The toll plaza area of the Modified Plaza West Alternative is not located near any residential developments.

The introduction of toll barriers would have minimal impacts on the visual environment of the motorist traveling I-276 in this location.

b. Interchange Element

Both Single Loop A and Flyover A Alternatives would impact the visual environments of Tanglewood, Newportville Manor, and Newportville. With regard to Tanglewood and Newportville Manor, Flyover A would require the displacement of approximately three residences currently bordering I-95. The removal of dwellings and construction of an elevated ramp would alter the visual nature of the Tanglewood development. To a lesser degree, Single Loop A would also impact Newportville Manor by displacing one residence to accommodate an at-grade ramp. **Photo IV-2A** (page IV-94) shows how the view from southbound PA 413 (New Rodgers Road) would be affected by Single Loop A.

With regard to Newportville, both Interchange Alternatives would have impacts to the northeastern area of Newportville. Flyover A would require the displacement of nine residences to accommodate elevated ramp structures. In addition, the construction of multi-level flyover ramps would cast a new visual presence on the remaining residences in the northeast corner of Newportville. Single Loop A would also visually impact Newportville by displacing seven residences and introducing an at-grade ramp in this area. **Photo IV-3A** (page IV-94) shows how the construction of Single Loop A would affect the visual nature of the homes along Nebraska Street.

Motorists that currently use PA 413 (New Rodgers Road) and US 13 (Bristol Pike) to connect between I-95 and I-276 may be positively impacted by the project since they may be able to avoid the commercial strip development that lines PA 413 (New Rodgers Road) and US 13 (Bristol Pike). With the completion of this connection, motorists would be able to make a direct connection between I-276 and I-95.

c. Bridge Element

Both the Bridge North and Bridge South Alternatives would impact the visual environments of the existing residential areas located in proximity to the bridge. The size and presence, as well as the shadow, of a second bridge would alter the visual environment in the residential neighborhoods either north or south of the bridge. In addition, the construction of a second bridge would displace seven residences for Bridge North and two residences for Bridge South.

Preliminary designs indicate the proposed bridge would be similar in appearance to the existing bridge, therefore, neither of the Bridge Alternatives would impact the study area's only viewshed of interest, the Delaware River waterfront. The viewshed currently contains a bridge and the addition of a similar, parallel bridge would not diminish the visual quality of the viewshed.

The addition of another parallel bridge structure should not adversely impact the view of I-276 over the Delaware River. Bridge North and Bridge South would similarly affect the viewshed. **Photo IV-4A** (page IV-94) shows the existing bridge and the proposed Bridge South Alternative.

The introduction of a new bridge would impact the visual environment of the motorist traveling I-276 in this location. A new bridge would screen the views of the motorist in one direction, thereby changing the visual nature of the bridge.

3. Mitigation

Mitigation measures may include tree and shrub plantings, where appropriate, to screen the views of at-grade and elevated ramps. Furthermore, in some areas, the construction of the noise abatement walls would screen the view of the highway from most residential communities and community facilities. **Photo IV-5** (page IV-94) shows an example of a noise barrier and landscaping in a study area neighborhood. Citizens and local public officials will have the opportunity to review more detailed engineering plans during the development of project design. Comments would then be taken into consideration and, where feasible, implemented into Final Design of the Toll Plaza, Interchange, and Bridge Element Alternatives.

S. ENERGY

More detailed energy information is located in the Traffic and Transportation and Energy Analysis Technical Support Data
* *Technical Support Data Index is located in Section XII (Appendix C).*

The No-Build and Build Alternatives for the I-276/I-95 Interchange Project were evaluated with respect to impacts to energy consumption by vehicles using the local highway network. Highway design features, such as design speed, level of service, curvature, and grade, affect energy consumption and efficiency.

1. No-Build Alternative

The No-Build Alternative would not require an initial investment in construction energy, but would result in continued congestion, travel delays, and inefficient travel

TOLL ELEMENT

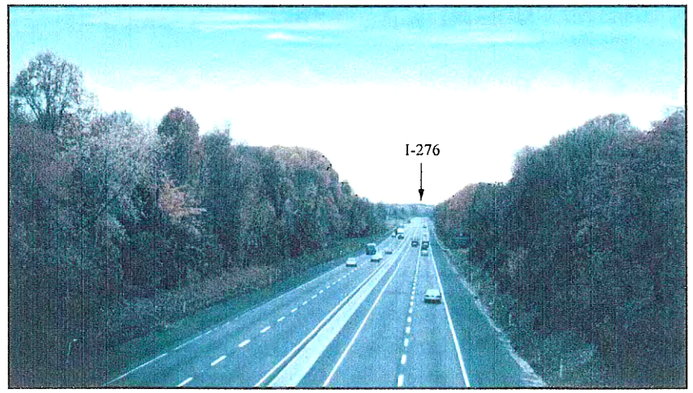


PHOTO IV-1: View looking west from PA 513 (Hulmeville Road) along existing I-276.

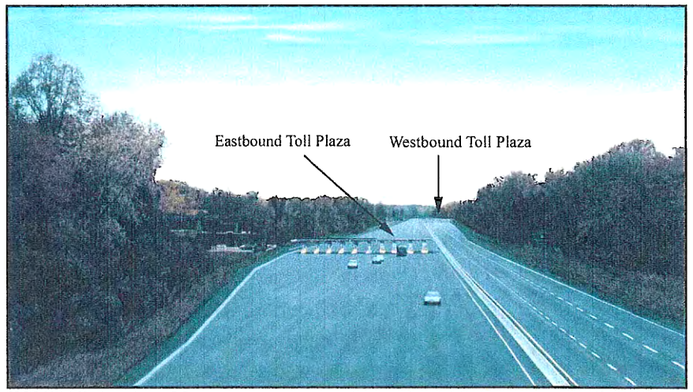


PHOTO IV-1A: View looking west from PA 513 (Hulmeville Road) along I-276 showing the Split Plaza East Alternative.

INTERCHANGE ELEMENT



PHOTO IV-2: View looking south along PA 413 (New Rodgers Road) toward the existing I-276 overpass.

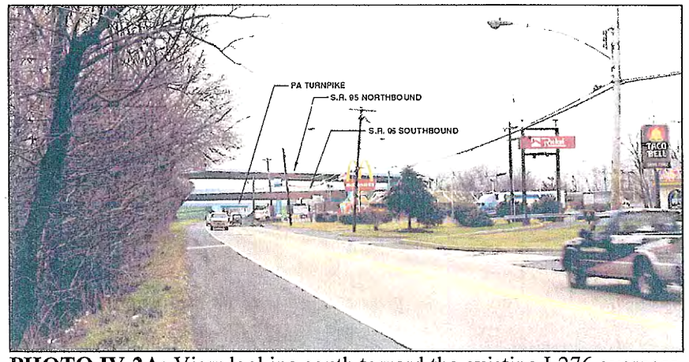


PHOTO IV-2A: View looking south toward the existing I-276 overpass of PA 413 showing the Single Loop A Alternative.



PHOTO IV-3: View looking northeast from Nebraska Street toward existing I-95.

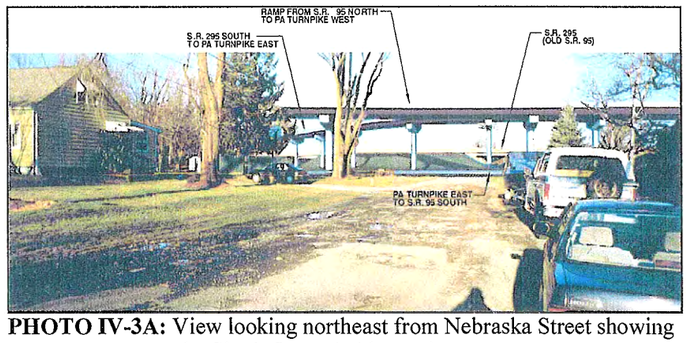


PHOTO IV-3A: View looking northeast from Nebraska Street showing the Single Loop A Alternative.

BRIDGE ELEMENT

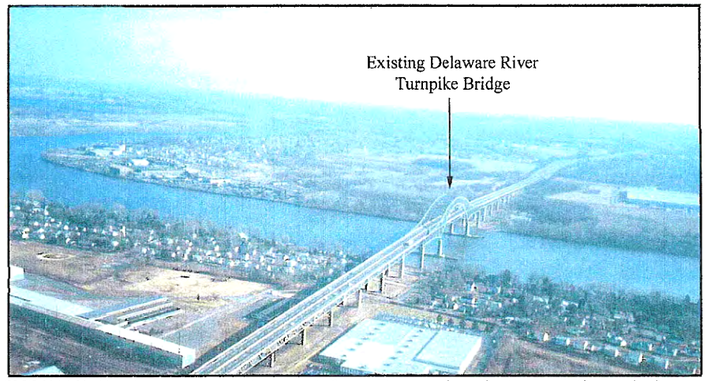


PHOTO IV-4: View looking east from Pennsylvania toward the existing Delaware River Turnpike Bridge.

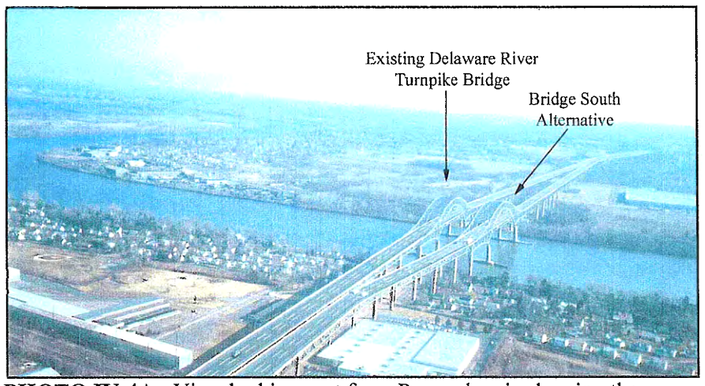


PHOTO IV-4A: View looking east from Pennsylvania showing the Bridge South Alternative.

VISUAL QUALITY MITIGATION

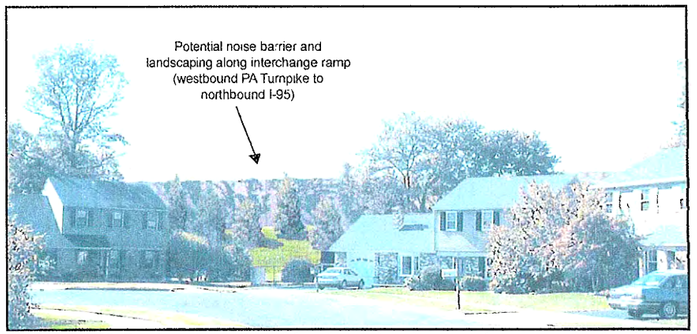


PHOTO IV-5: An example of landscaping in a study area neighborhood to mitigate for visual impacts from the project.

patterns on existing study area roads that would lead to increased energy consumption. The No-Build Alternative would not alleviate high traffic volumes on the study area roads and would result in increased traffic congestion and stop-and-go conditions, which reduce energy efficiency.

2. Build Alternative

Construction of the Build Alternative may provide improvements to vehicular energy consumption when compared to the No-Build Alternative. Overall decreases in vehicle hours traveled (VHT) and vehicle miles traveled (VMT) should provide energy consumption benefits from implementing either of the Build Alternative and Phase II CMS strategies presented in **Section IV-A**. Generally, it is expected that construction of the Build Alternative would result in improved energy consumption because vehicles currently using congested, local roads would be encouraged to use the Interstate Highway System. This would result in less stop-and-go traffic and improved traffic flow leading to an increased efficiency in energy consumption.

The initial energy expenditure required to construct the proposed I-276/I-95 Interchange Project would be offset, over time, by savings in vehicular energy consumption resulting from the implementation of the Build Alternative.

The Build Alternative would ease traffic congestion and provide additional capacity on existing study area roads such as US 1, US 13 (Bristol Pike), PA 132 (Street Road), PA 63, and PA 413 (New Rodgers Road) (**Figures IV-1** and **IV-2**). A reduction in traffic congestion and increased capacity on local roads is likely to result in reduced energy consumption because vehicles within the study area would be able to travel more efficiently by experiencing fewer delays and traveling at constant speeds.

The Build Alternatives, when compared to the No-Build Alternative, would provide a more direct connection between the two existing, grade-separated interstate highways. The Build Alternatives would allow for a constant speed of travel, which would increase overall energy efficiency. Also, a direct connection between the two highways would reduce the VMT when traveling between the two highways, resulting in less vehicular energy consumption.

Additionally, energy savings would result from the implementation of Phase II CMS strategies, as described in **Section IV-A.4**. Construction and operation of appropriate Phase II CMS strategies in conjunction with the Build Alternatives would result in lower traffic volumes, fewer VMT, and/or improved levels of service.

T. CONSTRUCTION IMPACTS AND MITIGATION

More detailed construction impacts information is located in the Manmade Environment Technical Support Data
* *Technical Support Data Index is located in Section XII (Appendix C).*

The No-Build Alternative would have no construction impacts and would not require mitigation. Construction activities for any of the Build Alternatives would temporarily impact local residents and travelers. The temporary impacts may be caused by the creation of soil borrow pits, use of staging areas, excavation, and blasting. It is likely that this project would require off-site fill material, rather than produce excess material through excavation. Impacts may include traffic detours, potential air and fugitive dust emissions, increased noise levels, increased vibration, and visual quality.

Construction activities associated with any of the Build Alternatives could result in disruptions to local residents and the traveling public. These disruptions would be temporary, localized, and of short duration occurring during the construction period. Construction would be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Contractors are required to adhere to the Occupational Safety and Health Administration (OSHA) guidelines to protect the life and health of employees, the safety of the public, and the integrity of adjacent properties.

FHWA's regulations (23 CFR 635.407) indicate that it is the contractor's responsibility to acquire state and federal permits and approvals for borrow, storage, and disposal sites for excavated material required during construction. The federal requirements for designating borrow and waste disposal sites are indicated in the Federal Aid Policy Guide (FAPG). The FAPG states that the designation of borrow areas would not occur unless there is a definite finding by the state highway agency, with concurrence of the FHWA, that it is in the public interest to require the contractor to use material furnished by the state highway agency or from sources designated by the state highway agency. The designation of waste disposal sites would not occur unless there is a finding by the state highway agency, with concurrence of the FHWA, that such placement of waste material is the most economical, except for instances that the designation of a site may be permitted based on environmental considerations, provided the environment would be substantially enhanced without excessive cost.

Potential construction staging areas will be identified during Final Design. These sites would be made available to the contractor, however, use of these areas by the contractor is not mandated. In addition, the appropriate environmental permitting and property owner coordination activities may be conducted at that time.

1. Traffic

Detours and road closures during construction would create temporary inconveniences for residents, business owners, and travelers. Maintenance and Protection of Traffic (MPT) plans would be developed during Final Design to facilitate access, minimize delays throughout the study area, minimize off-peak hour or nighttime work, and maintain adequate safety for the traveling public. These MPT plans would include appropriate signs, pavement markings, and media announcements for the applicable mainlines, ramps, streets, sidewalks, personal property entrances, and railroad traffic. Access to businesses, residences, and community facilities would be maintained throughout construction.

2. Air Emissions

The construction phase of the project would temporarily impact the ambient air quality of sensitive receptors located close to the construction zone. These impacts would be expected to be relatively short in duration at any one location along the study area. Methods for reducing impacts to ambient air quality include:

- ✓ Use of machinery outfitted with particulate filters
- ✓ Watering of loose soil to prevent fugitive dust
- ✓ Covering of stock piles during storage or transport
- ✓ Care in detour operations to reduce emissions without compromising safety
- ✓ Restoration of vegetation as soon as possible to prevent fugitive dust

3. Noise Levels

Temporary construction noise impacts may occur in the study area during project construction. The majority of construction noise is generated by the associated equipment, including vibratory rollers, front loaders, backhoes, jackhammers, compressors, etc. Receptors located near the construction zone [30.5 m (100 ft)] may experience noise levels in the 78 dBA to 83 dBA range. Noise from construction blasting activities may also occur. Measures taken to reduce construction noise levels include:

- ✓ Restriction of certain activities to specified hours
- ✓ Installation of working mufflers on construction equipment
- ✓ Modification of construction operations

4. Erosion and Sediment Control Measures

Erosion of soils may temporarily occur as construction activities disturb vegetation and expose soil. Erosion and sediment pollution control devices such as sediment traps, silt fence, sedimentation basins, interception channels, and seeding and mulching would be used to minimize the impacts of soil erosion. Detailed Erosion and Sediment Control Plans would be prepared during Final Design in accordance with the guidelines provided by PADEP; NJDEP; *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2002); the *Standards for Soil Erosion and Sediment Control in New Jersey* (New Jersey Department of Agriculture, 2000); and Bucks and Burlington Counties Conservation Districts. The Erosion and Sediment Control Plans would be included in the National Pollutant Discharge and Elimination System (NPDES) Permit. The permits prepared for the project would meet the requirements of Chapter 102, Chapter 105, and Chapter 106 of *Title 25 of the Pennsylvania Code*.

5. Water Resources

Temporary impacts to water resources, including wetlands and aquatic biota within the study area due to construction, would potentially occur. Temporary impacts could include permitted temporary stream crossings, dikes and cofferdams for pier construction, temporary channel relocations, and the addition of suspended solids from erosion and sedimentation into local waterways and wetlands. During construction, the following recommendations would be considered and

implemented, where appropriate, to avoid and minimize impacts to aquatic resources:

- ✓ Reduce vegetation clearing to that required for construction and safety; promptly re-vegetate disturbed areas to prevent accelerated erosion
- ✓ Minimize the need for in-stream work by heavy equipment
- ✓ Design sequencing to facilitate in-stream construction work during seasonal low flow periods
- ✓ Construct temporary erosion and sediment control ponds and permanent stormwater management facilities as soon as possible to prevent or minimize runoff
- ✓ Direct construction runoff through an erosion and sedimentation control device
- ✓ Designate equipment fueling and service areas away from aquatic habitats to minimize the damage potential from accidental petrochemical and other hazardous material spills
- ✓ Construct berms or dikes around fuel and other hazardous material storage tanks and facilities for spill protection and containment
- ✓ Supply on-site spill control equipment, materials, and trained staff

6. Construction Vibration

Construction equipment use and activities would result in ground vibrations that have the potential of affecting nearby structures and increasing perception of vibration and noise. It is difficult to project the degree to which vibrations would affect nearby structures and their foundations.

Ground vibrations resulting from construction activities should be controlled with respect to both frequency and magnitude (equipment types and energy output) to minimize vibrations. Furthermore, structures within a distance of 30.48 to 45.72 m (100 to 150 ft) of the proposed highway may need inspections before and after construction. Structures located 15.24 m (50 ft) or less from the proposed highway may be monitored periodically. Based on the vibration levels, construction activities may need to be altered to reduce the vibration.

7. Visual Quality

For residents in the vicinity of the construction site, some of the materials stored for construction activities could be visually displeasing. This would be a short-term impact, and should pose no substantial long-term problem. Lighting sources for any nighttime operations would be placed in the least disruptive location to the public as possible.

U. SECONDARY DEVELOPMENT AND CUMULATIVE IMPACTS

More detailed secondary development and cumulative impacts information is located in the Secondary and Cumulative Impacts Technical Support Data, and:

- ** The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange (PEL, EDRG, 2000).*
- ** Technical Support Data Index is located in Section XII (Appendix C).*

1. Secondary Development

Guidelines prepared by the Council on Environmental Quality (CEQ) for carrying out the National Environmental Policy Act (NEPA) broadly define secondary impacts as those that are "caused by an action and are later in time or further removed, but are still foreseeable" (40 CFR 1508.8). Secondary impacts are those normally associated with development that may result from the construction of a facility, such as a transportation improvement project, and differ from those impacts directly associated with the construction and operation of the facility itself. Secondary impacts are commonly referred to as induced development. Generally, these impacts are induced by the initial action and comprise a variety of secondary effects, such as changes in land use, development patterns, economic activity, utility service capacity, and population density. Secondary impacts may result in increased development pressures on open space, farmlands, and other natural resources.

The potential for secondary development to occur in any particular area is determined in great part by the individual municipal planning objectives of the local area. Factors that typically induce secondary development are improved transportation access, utility capacity, existing development plans, suitable terrain, and economic incentives.

The Pennsylvania Economy League (PEL) and the Economic Development Research Group (EDRG) conducted an Economic Impact Study of the No-Build and Build Alternatives for the proposed I-276/I-95 Interchange Project. The results of this analysis are documented in the report entitled *The Value of Connections: The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange* (PEL, EDRG, 2000). This study utilized an economic model to simulate the influence that the project would have on the local economy, utilizing past and predicted levels of economic activity and interaction. The Economic Impact Study provided a general understanding of how the project would influence and affect the local and regional economy (**Section IV-C.1**), and projections contained in the study provided input to the Secondary Impact evaluation.

It is important to note that this project will not provide any new direct local access from I-95 and I-276. The economic growth patterns and ongoing revitalization efforts identified in the project area would proceed regardless of project construction. The I-276/I-95 Interchange Project would, however, support existing plans to redevelop the areas surrounding the proposed interchange by providing a more efficient means to transport goods and people at both the local and regional level. Because a majority of the developable land is already built-out, the redevelopment of underutilized and abandoned properties has become the major focus of local officials and developers. To a large extent, much of the remaining undeveloped properties located in proximity to the proposed project fall into the two major categories of protected open space or publicly owned. Therefore, because the project would not directly provide new local access or directly affect existing physical access, it is reasonable to assume that there would be no definitive site-specific project induced secondary development in these areas.

a. Economic Impact Study and Modeling of the Project

The Economic Impact Study utilized the Regional Economic Models, Inc. (REMI) economic model, which allowed for comparison of the Build and No-Build Alternatives within a simulation of the local and regional economies. The model was used to estimate short-term and productivity impacts (i.e. construction spending and distance/time savings for existing travel), as well as potential economic market attractiveness impacts (i.e. tourism and business attraction). The model predicts future annual levels of employment and business output for standard industrial categories and detailed occupational categories. Also, the model predicts other variables such as changes in personal income, population, business competitiveness, wage rates, and value added at a similar detailed level. The REMI economic model was custom calibrated for the Greater Philadelphia region and it separately forecasted impacts for Bucks and Philadelphia Counties, Pennsylvania and Burlington County, New Jersey. The Delaware Valley Regional Planning Commission's (DVRPC) regional traffic model was used to provide the inputs of, and determine the effects of, vehicle miles traveled and vehicle hours traveled as a result of interchange construction. The following summarizes the results of the Economic Impact Study and modeling efforts.

b. Market Attraction and Economic Redevelopment Opportunities

Market attractiveness effects reflect changes in the customer markets which local businesses can serve (or access) from surrounding areas, due to the improvements between east-west and north-south routes. The I-276/I-95 Interchange Project will support economic developments and ongoing redevelopment by providing improved access to an area with the existing infrastructure to support industrial/commercial activities.

The Economic Impact Study used traffic data, case studies, and interviews to determine that the proposed interchange and additional Delaware River Bridge could change the market reach and competitiveness of lower Bucks County, Pennsylvania making it more attractive for business activity. Burlington County would also receive economic benefits from the project. The value of improved connections and direct connections to interstate highways is already in evidence. The recent opening of a new interchange between the New Jersey Turnpike and US 130 has spurred investment and redevelopment of warehouse and distribution facilities in the immediate area. Burlington County has also become a center for residential development and investment due to its access to the New Jersey Turnpike (and its connection to Pennsylvania) and I-295. Its position as a center of activity would be enhanced by the proposed interchange, as there would be a direct interstate connection between Burlington County and I-95.

(1) Additional Local Opportunities

With the construction of the proposed project, the area could become a more attractive location for service and finance-oriented firms that typically occupy office buildings close to interstates and other highways in order to maximize their range for attracting employees and providing connections to other office locations. In addition, the area's industrial properties near interchanges and along major roadways, such as I-95, I-276, and US 13 (Bristol Pike), should continue to see subtle changes, as facilities are built or redeveloped into flexible buildings that can serve the needs of a variety of industrial, distribution, or back-office operations. **Table IV-44** identifies areas within the study area municipalities and region that may experience economic growth and/or redevelopment opportunities concurrent with the project construction. In addition, PENNDOT's modernization of PA 132 through Bensalem Township and the new connection of PA 413 to I-95 from the north in Bristol Township have been completed, providing a new gateway with the potential to foster redevelopment of Bristol Township's PA 413 (New Rodgers Road) commercial corridor. This plan would be enhanced by the project because the I-95/PA 413 exit would be the first southbound exit from the proposed interchange. The USX site in Falls Township, Pennsylvania now has greater redevelopment potential due to the intermodal complement to the successful Novolog Marine Terminal that is bringing in new business to the area. In Middletown Township, Pennsylvania, the I-95/Business Route 1 interchange would be the first exit north of the new interchange between I-95 and I-276. This would provide Middletown Township the opportunity to evaluate the redevelopment opportunities for the existing and increasing number of vacant commercial/retail uses of the Lincoln Highway Corridor. The additional market access offers an opportunity to stabilize the existing retail market and diversify the commercial markets.

(2) Enterprise Zone and Industrial Properties

Local planning organizations have ongoing plans for the redevelopment of existing areas that already have established infrastructure to support these activities. Therefore, while the I-276/I-95 Interchange Project would not encourage new development, it would support the redevelopment efforts already underway. For instance, in 1995, the Commonwealth of Pennsylvania initiated a revitalization effort in Lower Bucks County to take advantage of its location, developed infrastructure, and work force. These efforts, and the areas identified for potential redevelopment, were referred to as the Enterprise Zone and were approved in 1997 by the Pennsylvania Department of Community and Economic Development. The Enterprise Zone incorporates portions of Bensalem, Falls, and Bristol Townships and portions of Bristol, Morrisville, and Tullytown Boroughs (**Figure IV-7**). The Enterprise Zone is intended to bring opportunities for economic development and encourage increased private sector investment with subsequent job creation and business expansion (Redevelopment Authority of the County of Bucks, 1999).

The proposed project will provide enhanced access to the Enterprise Zone via both PA 413 (New Rodgers Road) and US 13 (Bristol Pike). Furthermore, other, older industrial areas in the vicinity would also experience opportunities for redevelopment.

(3) US 130 Sub-Corridor

The US 130 Sub-Corridor is highway-oriented and serves as a pass-through corridor, conveying motorists from one end of Burlington County to the other. The corridor extends from Cinnaminson, through Burlington City, to Florence. Currently, there is a surplus of vacant and underutilized storefronts and commercial properties along US 130. Plans for this sub-corridor include the enhancement and creation of multiple destinations for various purposes along US 130 and the stabilization of suburban residential neighborhoods adjacent to the highway. The Burlington - Florence Segment would develop as a major industrial employment center, home to a host of light industrial and distribution facilities. Strategies have been investigated to aid in accomplishing the vision of the redevelopment of the US 130 Sub-Corridor (Burlington County Board of Chosen Freeholders, et. al., 1998). The I-276/I-95 Interchange Project would support the US 130 Sub-Corridor plans for redevelopment by improving interstate access to US 130.

(4) Office Development and Employment Opportunities

Based on the expected traffic improvements and an analysis of regional and local office development, it is estimated that the additional office attraction to Bucks County could grow by 100 jobs in 2010, to over 1,800 more jobs in 2025 (PEL, EDRG, 2000). The estimates for office sector growth in Bucks County show that just by capturing a slightly larger proportion of the region's office growth, Bucks County employment could grow by as much as 3,000 jobs in 2025 (equal to approximately 1 percent of the total projected Bucks County employment in 2025). A much slower rate of office growth is projected for the whole of the Greater Philadelphia Region, as the interchange is a smaller factor in the region's attractiveness as an office location.

Locally, it is reasonable to expect that a large majority of the new office-based employment will be located in Bensalem, Bristol, and Middletown Townships, as indicated in **Table IV-44**. The sites for these proposed office parks also fall predominantly into the reuse or redevelopment category, as most are former large tract state and industrial facilities. In addition, local residents will have increased office-based employment opportunities closer to their homes.

c. Quality of Life

Quality of Life effects reflect changes in travel times for personal trips as well as changes in ambient noise and air quality levels (non-money benefits which can make an area more or less attractive as a place to live and work). Because the project shifts through-traffic off of local roads and onto the interstate highway system, there is the potential for reducing future congestion levels and stop-and-go traffic on local roads. The reduced congestion and traffic would induce reductions in noise and air pollution in the vicinity of local roadways. Other benefits, rather than impacts, include personal travel time savings and positive effects on government revenues, and residential property values.

The interchange project results in reductions in travel time for non-work (shopping, recreation, and personal) trips. Less time would be spent on roads completing normal every day activities if the project is constructed than if it is not built, resulting in intangible benefits that cannot be measured in an economic study.

From the governmental perspective, there is a great deal of concern as to how local governments would be able to replace lost property tax revenues that would occur due to property condemnation to make way for new and expanded highway facilities (**Section IV-B**). However, as this project is a connection of two existing interstates with ROWs generally allowing for expansion, the actual loss of property tax ratables is anticipated to be small. Tax base impacts are discussed in more detail in **Section IV-C**. While not guaranteed, the likelihood is that there would be increased investment in existing properties and new development tied to the connection of I-95 and I-276, potentially off-setting the loss in tax base due to the project property acquisitions.

Efforts have been made to minimize the number of displacements associated with the project. History shows that property values increase with increased access to highway interchanges, although they go down for properties abutting highways. In this case, however, the highways are already in place and the existing access will be improved, and most of the affected properties are already abutting them. Consequently, the primary impacts would likely be positive since many local residents and businesses would have improved accessibility as a result of new proximity to one or the other major interstates and/or reductions in local congestion.

Other factors affecting property values include:

- ✓ *Design of the project*: aesthetic sensitivity and mitigation of impacts are considerations in the design of the project.
- ✓ *Placement of sound barriers*: installation of sound barriers as a result of this project could result in reduced noise levels for most properties in 2025 compared to existing noise levels.
- ✓ *Removal of traffic*: the project shifts through-traffic off of local roadways and onto the interstate highway system, potentially reducing future congestion levels and traffic, and the associated noise and air pollution.
- ✓ *Local property tax rates*: an increased commercial property tax base could lower the proportion of local property taxes that are required to be paid by homeowners. This may also lead to diversifying the tax base supporting the schools and local government services.

TABLE IV-44
POTENTIAL LOCAL OPPORTUNITIES

Market Area	Areas Of Opportunity	Areas Potentially Affected
Bensalem Township, Pennsylvania	Office development Tourism	Eastern State Site/Youth Development Center Bucks County Tourism Center Saint Katharine Drexel Shrine Archdiocese of Philadelphia site (I-95/PA 132)
Bristol Township, Pennsylvania	Redevelopment of industrial properties Development of flex space Repositioning aging highway corridors	Enterprise Zone PA 413 Corridor US13 Corridor
Middletown Township, Pennsylvania	Retail infill Diversification of commercial property mix	Lincoln Highway corridor Matrix site
Other Bucks County Areas, Pennsylvania	Industrial revitalization Office development (Newtown/Yardley) Retail redevelopment	Levittown Shopping Center Enterprise Zone Novolog Port
Philadelphia, Pennsylvania	Industrial redevelopment Corridor improvements Tourism	Roosevelt Blvd. (Byberry site) Cornwells Heights/Amtrak (potential new service) Franklin Mills
Burlington County, New Jersey	Warehouse and distribution	Redevelopment of US 130 Sub-Corridor

Source: PEL, EDRG, 2000

d. Tourism

The lack of a connection between the region's two major interstate highways has hampered Greater Philadelphia's development as a tourist destination. The proposed interchange would provide the opportunity for the additional activity at existing local tourist attractions like Washington's Crossing, Sesame Place, and Pennsbury Manor; the Bucks County Tourism Center and the Saint Katharine Drexel Shrine; and shopping attractions such as Peddler's Village, the Neshaminy, Oxford Valley, and Franklin Mills Malls. Incidentally, most of these destinations are landlocked and cannot easily be expanded to accommodate increased attendance.

The Economic Impact Study predicts that a direct connection between I-95 and I-276 would show a slow but steady increase in day visitors, growing to an additional 225,000 day visitors to the region per year (or about 600 per day) by 2010. The suburban growth should be more heavily weighted toward Bucks County, given the fact that the connection would draw people into and through Bucks County. In addition, a number of those day-visitors will make future decisions to return and stay overnight, resulting in an increase of about 11,000 overnight visitors per year by 2010. Seasonal and year-round occupancy rates at the existing study area motels/hotels are expected to increase as a result, but capacity is expected to remain sufficient.

The expected increase in visitor days and spending translates into an increase of 230 new regional jobs by 2025 in the region, with over 50 in Bucks County. The visitor increase will also support $12 million in regional business sales and nearly $9 million in regional personal income.

TABLE IV-45
SUMMARY OF DIRECT NATURAL RESOURCE IMPACTS[1]

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Modified Plaza West	Flyover A	Single Loop A	Bridge North	Bridge South
Federal Threatened and Endangered Species (**Section IV-L**)	0	0	0	0	1[a]	1[a]
State Threatened and Endangered Species(**Section IV-L**)	0	0	7	7	3	4
Wetlands (ha/ac) (**Section IV-K**)	0.35 / 0.86	0.47 / 1.16	0.61 / 1.52	0.40 / 1.00	0.15 / 0.36	0.03 / 0.06
100 Year Floodplain (ha/ac) (**Section IV-J**)	0.27 / 0.68	0.20 / 0.49	1.84 / 4.54	1.84 / 4.54	0.11 / 0.28	0.11 / 0.28
Forestland (ha/ac) (**Section IV-M**)	3.54 / 8.75	1.93 / 4.78	5.52 / 13.65	5.18 / 12.80	3.18 / 7.87	3.38 / 8.35
Rangeland (ha/ac) (**Section IV-M**)	4.39 / 10.85	1.57 / 3.87	0.81 / 2.01	0.81 / 2.01	0 / 0	0 / 0
Surface Water (crossings) (**Section IV-H**)	6	6	7	6	2	2
Perennial Stream Impacts (m/ft) (**Section IV-H**)	194 / 635	965 / 3,165	241 / 790	210 / 690	190 / 624	79 / 260
Intermittent Stream Impacts (m/ft) (**Section IV-H**)	363 / 1,190	346 / 1,134	966 / 3,169	957 / 3,139	204 / 669	198 / 651

[1] - Includes roadway construction, structures, right-of-way, utilities, mitigation, engineering design and inspection.
[a] - The federally listed Shortnose sturgeon is also included in the state Threatened and Endangered Species total because it is listed as Pennsylvania and New Jersey Endangered.
[b] - This estimate does not include the costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.

e. Travel Benefits

Travel benefits include cost savings of existing businesses and households due to reduced travel distances and times, and increased safety. The total value of time, expense, and crash cost savings for affected travelers was computed using the region's transportation network, based on studies of how people value time and what expenses they incur from traffic crashes. The total value of these cost savings to businesses is estimated to be $5.9 million in the opening year (2010), rising to $38.7 million in 2025. The additional value of the "out-of-pocket" expense savings to households is estimated to be $1.4 million in the opening year (2010), rising to $11.6 million in 2025. As an additional consequence, it is anticipated that crash rates would decrease due to roadway network improvements and congestion relief.

In addition, there would be regional benefits to a continuous I-95 through the mid-Atlantic region. Interstate travelers would be able to complete their trips without the exiting the interstate highway system. This would result in decreased travel times, as well as decreased vehicle miles traveled.

f. Effects on Natural Resources

As discussed in previous sections of this FEIS, the I-276/I-95 Interchange Project would have direct impacts to natural resources, as shown in **Table IV-45**.

As previously addressed, because the project would not directly provide new local access or directly affect existing physical access, it is reasonable to assume that there would be no definitive site-specific project induced development in undeveloped portions of the project area. Consequently, secondary effects to natural resources, including development pressures on sensitive areas such as Silver Lake Park, Black Ditch Park, and Delhaas Woods are not anticipated. Additionally, much of the planned redevelopment activity in the study area would occur regardless of the construction of the project. This consists of the redevelopment of existing industrial parks, office parks, and vacant commercial buildings.

Moreover, if the project were constructed, local roadway traffic adjacent to the developed and undeveloped sections of the project area would be reduced. Also, noise walls could be constructed to shield sensitive areas, such as residential developments and parkland, from highway noise. This would also potentially benefit the public park areas.

Bucks County has an Open Space Program, which encourages the expansion of County-owned parkland and agricultural preservations. The project monetarily supports the local municipalities acquisition of properties to be utilized for open space, natural resource preservation, agricultural preservation, community facilities, and recreations.

The *Natural Areas Inventory of Bucks County, Pennsylvania* (Rhoads & Block 1999) was conducted to identify and prioritize the most significance remaining natural features in Bucks County. This report was intended to provide guidance for the implementation of the natural areas protection component of the Bucks County Open Space initiative and other land protection efforts. None of the priority, privately owned sites identified, that may be targeted by Bucks County for protection, are located in proximity to the project.

Also, as stated previously, much of the undeveloped properties located in proximity to the proposed project are already protected as open space, or are publicly owned parks. The construction of the I-276/I-95 Interchange Project would not require land that would be considered valuable as an addition to the county/municipal open space program. Therefore, it is expected that the construction of the project would not affect implementation of the Bucks County Open Space Program.

2. Cumulative Impacts

The objective of the cumulative impacts evaluation is to determine the impact of the project when combined with other major infrastructure improvement projects that are either planned or have been recently completed in the study area and region. This may affect future land uses and environmental and/or socioeconomic resources.

The Council of Environmental Quality's (CEQ) regulations (40 CFR 1500–1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321 et seq.), define cumulative effects as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7).

a. Past Actions/Development Trends

Since the 1950's, Bucks County, Pennsylvania has been growing at a rapid pace, attributed to its proximity to major metropolitan areas, accessibility to regional highway rail and port facilities, land availability, environmental and cultural resources, local and regional business and economic activity, and migration of population from the cities to suburbs. Historically, farms, villages, and country towns characterized Bucks County. In recent times, the county has developed into a diverse community with decentralized population and employment areas (Bucks County Planning Commission, 1993). For example, subsequent to World War II, a large suburban residential community known as Levittown was developed in Lower Bucks County.

In Burlington County, New Jersey, early settlement and economic activities such as trade and manufacturing initially took place in communities along the Delaware River. Furthermore, Burlington County historically has been a center of agricultural activity. During the World Wars, the presence of military installations also began to exert a sizable impact on the economy. Within the last two decades, economic changes in Burlington County have paralleled the trends throughout the mid-Atlantic region. Industry and business relocated from the urban centers to suburban and semi-rural settings, the use of rail facilities for passenger and goods movement declined, and there was a shift in manufacturing and farming to services, communications, finance, and information processing (Triad Assoc., 1996).

b. Recent/Current Actions

Since approximately 1970, the trends of suburbanization and decentralization have both continued and accelerated as population and employment growth in the suburbs have been matched with population and employment decline in the City of Philadelphia, Pennsylvania. While Philadelphia still has the region's largest concentration of jobs, new suburban centers are competing successfully with older urban places for employment, housing, and shopping (DVRPC, 1995). Presently, as described in **Section IV-A**, both Bucks and Burlington Counties population and employment is experiencing a growth trend that is projected to continue through 2025.

c. Other Actions

In addition to the I-276/I-95 Interchange Project, there are other major infrastructure improvement projects in the study area and region that have either recently been completed or are in various stages of planning and construction. These projects are identified on **Figure IV-13**.

Bensalem Township is dominated by residential and commercial development. However, there are available planned development sites, mainly industrial parks, within the designated Enterprise Zone (**Figure IV-7**).

The following major transportation projects are scheduled, or have recently been completed, in Bensalem Township (**Figure IV-13**):

- ✓ US 1 Bridge Rehabilitation
- ✓ US 1 Improvements
- ✓ I-95 Pavement Restoration
- ✓ PA 513 Corridor Improvements
- ✓ PA 132 Improvements (State Road to US 1 and I-95 Interchange)
- ✓ US 13 Improvements

Completion of the PENNDOT improvements to PA 132 and PA 513 would support the potential redevelopment of properties located along PA 132 and US 1. For instance, the former George Washington Motor Lodge, located off of US 1, northeast of Interchange 28, may be redeveloped for retail use, a convenience store and gas station. The former Eastern State School and Hospital is proposed as the new Horizon Corporate Center; and the former Youth Development Center may be developed as an office park or commercial business. The construction of the I-276/I-95 Interchange Project would improve also local access and support such redevelopment.

In addition, PENNDOT improvements to US 13 (Bristol Pike) may encourage redevelopment of the existing industrial land uses and vacant ground (**Figure IV-7**) along US 13 (Bristol Pike) near PA 132 (Street Road).

Bristol Township is dominated by residential and commercial development, with available planned development sites (mainly existing industrial parks) within the designated Enterprise Zone (**Figure IV-7**). Currently, the ACOE is considering the possibility of dredging the Delaware River from its mouth to just south of Trenton, New Jersey. This would benefit the ports along the river, such as the Novolog Marine Terminal. This Delaware River dredging project would be completed in approximately 2006, prior to the construction of the I-276/I-95 Interchange Project and the associated Delaware River Turnpike Bridge.

The following major transportation projects are scheduled or underway in Bristol Township (**Figure IV-13**):

- ✓ I-95 Southbound Ramp to PA 413 (recently completed)
- ✓ PA 413 Widening/Improvements (under construction)
- ✓ US 13 Improvements
- ✓ Green Lane/US 13/Interchange 29 Improvements

Bristol Township is currently debating the future of the PA 413 (New Rodgers Road) corridor between the new southbound I-95 exit ramp and New Falls Road. PENNDOT will be expanding portions of the corridor to five lanes, including center turn lanes and streetscape beautification, causing local officials to consider how the improved roadway can remake the image of Bristol Township's commercial corridor. Whether the area is redesignated as a town center or overlay zoning is applied for expanded uses, the new interchange between I-95 and I-276 could enhance the marketability of that area for a variety of uses. The I-95/PA 413 exit will be positioned as the first southbound exit from the newly connected interstates, providing the township with an opportunity to upgrade the image of this corridor via accessibility. The US 13 Improvements and the Green Lane/US 13/ Interchange 29 Improvements would support the planned redevelopment of the area beneath the Delaware River Turnpike Bridge, in the vicinity of Radcliffe Street and the Edgely neighborhood, as an industrial park. This plan is proposed by the Bucks County Redevelopment Authority and would include the Kohler/Roburn plant and the Corel Steel plant. The increased value of these properties is likely to result in new uses, with other older and outdated properties being redeveloped into various uses. This area has a key advantage of being central to the King of Prussia/Princeton markets, with abundant local workforce resources and market availability.

Middletown Township is dominated by residential and commercial development (**Figure IV-7**). The following major transportation projects are scheduled or underway in Middletown Township (**Figure IV-13**):

- ✓ I-95 Pavement Restoration
- ✓ Woodbourne Park and Ride (under construction)
- ✓ SEPTA Cross County Corridor (planning study)
- ✓ Business Route 1/Oxford Valley Road Intersection Modifications

PENNDOT ACTIVITIES IN THE STUDY AREA

(1) ***US 13 Revitalization Study***. Bucks County study of Revitalization strategies for US Route 13 from Bucks County line to Levittown Parkway. To be completed in 2003.

(2) ***Bristol Pike Improvements.*** Signals will be coordinated and upgraded along Bristol Pike from Beaver Dam Road to the Philadelphia County line. Also, the intersection of Bristol Pike and Beaver Dam Road will be reconstructed. Construction to begin in 2003.

(3) ***US 13 Reconstruction***. Preliminary/final design for the reconstruction of US Route 13 through Bristol Township and Bristol, Tullytown Boroughs from PA 413 to Levittown Parkway. Design underway.

(4) ***PA 132/Bristol Pike Interchange.*** Environmental studies and preliminary engineering for the replacement of ramps/bridges in the interchange area, possibly including access ramps to/from Bristol Pike (US 13).

(5) ***Bristol Road Widening***. Preliminary/final design for the widening of Bristol Road to provide a center-left turn lane between Hulmeville Road and Old Lincoln Highway in Bensalem Township. Design ongoing.

(6) ***Route 1 Bridge Rehabilitation Project from PA 132 to PA 213.*** This project consists of bridge deck rehabilitation of approximately eight structures and interchange studies ongoing/ capacity upgrades ongoing.

(7) ***I-95 Southbound to PA 413 (New Rodgers Road) Ramp Improvements.*** Completed in September 1999.

(8) ***PA 413 Improvements.*** PA 413 will be widened through Middletown and Bristol Townships to provide a center lane for left turns between Bath Road and Old Lincoln Highway. Final Design ongoing.

(9) ***PA 413 (New Rodgers Road) Widening.*** PA 413 will be widened to five lanes between US 13 and I-95, and widened to four lanes between I-95 and Ford Road. Under construction.

(10) ***Green Lane/Route 13/Interchange 29 (PA Turnpike).*** Provide safety and mobility improvements with regard to truck traffic and turning movements. Bristol Township/PENNDOT coordination ongoing.

(Off Mapping) ***I-95 Reconstruction in Philadelphia.*** Intelligent transportation system elements such as variable message signs and closed-circuit television cameras have been placed along I-95 between Girard Avenue and Academy Road.

Multi-year, Multi-phase I-95 Reconstruction through Philadelphia has begun and will continue through the next decade.

NJDOT ACTIVITIES IN THE STUDY AREA

(11) ***US 130 from Airport Circle to CR 541.*** Corridor Rehabilitation and Operational Improvements are planned for US 130 south of CR 541. Completed.

(12) ***US Route 130 Senator William Haines Industrial Center Roadway Improvements.*** Construction of access points at Cedar Lane, Florence Township and US Route 130 along with associated roadway and operational improvements. Completed.

SEPTA ACTIVITIES IN THE STUDY AREA

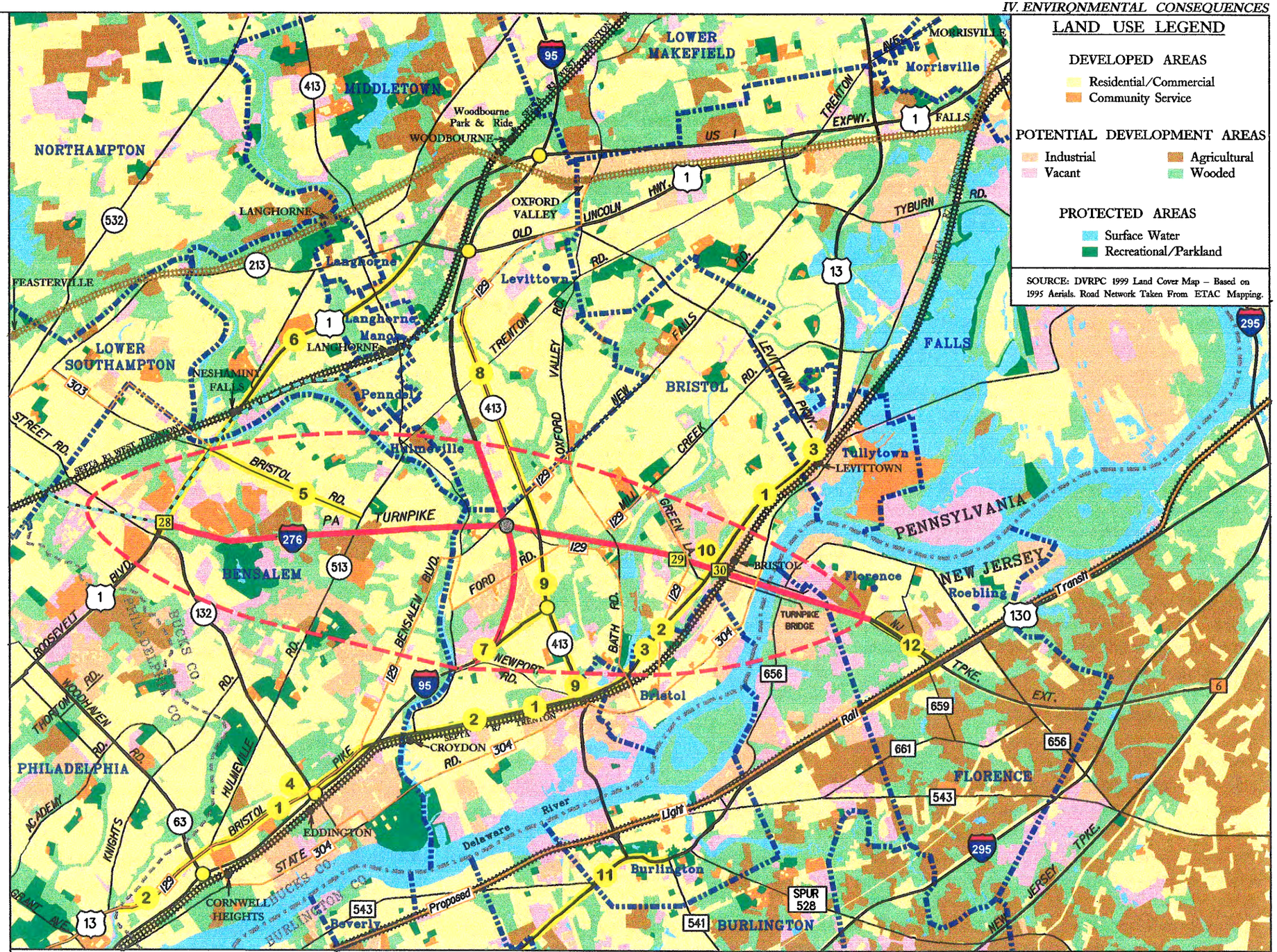
SEPTA Cross County Metro (SEPTA CCM). SEPTA is currently studying the use of the existing Norfolk Southern–owned and operated Morrisville freight line as a regional east-west commuter rail between Bucks and Chester Counties. DEIS to be completed in 2003.

Street Road Connector. SEPTA is studying the creation of a new bus primarily connecting to the R3 and R7 lines along Street Road in Warminster, Lower Southampton and Bensalem Townships. Study underway.

SEPTA Station Upgrades. Preliminary design for R7 station upgrades at Croydon and Tullytown stations. To begin in 2003.

NJ TRANSIT ACTIVITIES IN THE STUDY AREA

Rail Transit Service from Trenton to Camden. New Jersey Transit is construction passenger service on an existing rail line, known as the Bordentown Secondary, to provide light rail transit service from Trenton to Camden.



Middletown Township has the potential for development along, and in the vicinity of, the US 1 corridor. Nearby, SEPTA's R3 West Trenton Regional Rail includes a recently expanded Park and Ride Lot. In addition, SEPTA is currently studying the use of the existing Norfolk Southern-owned and operated Morrisville freight line for regional east-west commuter rail. With these two projects, the Oxford Valley (**Figure IV-13**) area becomes very accessible and attractive for additional office park development. The recent Woodbourne Park and Ride expansion and potential new transit line (**Figure IV-13**), in addition to the I-276/I-95 Interchange Project, may serve existing and proposed residential developments. The study area is an ideal location for employees commuting to employment centers outside the study area, such as Plymouth Meeting and King of Prussia, Pennsylvania, as well as the Trenton/Princeton, New Jersey area.

Burlington and Florence Townships have the highest acreage of potential development area (**Figure IV-7**), with some of the potential development land being agricultural and wooded. The following major transportation projects are scheduled for or are underway in Burlington and Florence Townships (**Figure IV-13**):

- ✓ US Route 130 Improvements South of County Road 541
- ✓ Access Improvements to Senator C. William Haines Center
- ✓ Light Rail Transit along Existing Bordentown Secondary Rail Line
- ✓ US 130/New Jersey Turnpike Interchange (recently completed)

These projects, as well as the I-276/I-95 Interchange Project, serve the interest of the vision of the US 130/Delaware River Corridor. Two areas near the I-276/I-95 Interchange Project in Burlington County have been identified in the US 130/Delaware River Corridor Strategic Plan (Burlington County Board of Chosen Freeholders et. al., 1998) as having corridor-wide (US 130/Delaware River) significance. These two areas are the Roebling Village and Steel Mill in Florence Township and the Senator C. William Haines Industrial Center/US 130 area in Burlington and Florence Townships (**Figure IV-7**). The vision identified several common challenges for the targeted areas, including the following: encourage compatible land uses, revitalize industrial and commercial sites, rehabilitate existing neighborhoods, preserve historic sites and landscapes, encourage tourism and recreation, and enhance aesthetics.

These infrastructure projects, in both Pennsylvania and New Jersey, involve improvements to existing transportation facilities and, therefore, their impacts to natural resources would be anticipated to be minimal.

No other projects have been identified as actions by others that have the potential to impact resources in the study area.

d. Future Trends

As discussed in the Secondary Development and Cumulative Impacts section, many of the local planning organizations have plans and visions for the redevelopment of existing industrial and commercial areas. The transportation network would be enhanced by the I-276/I-95 Interchange Project, although no new direct local access would be created.

Economic growth patterns and the ongoing revitalization efforts identified in the project area would proceed regardless of the project, yet overall, the project would continue to support the revitalization efforts of the region by enhancing mobility for motorists traveling in and through the region.

The future land use changes and redevelopment initiatives anticipated to occur within the I-276/I-95 Interchange Project region would likely be limited to existing roadway corridors in or near areas that have already been developed. The infrastructure to support economic growth is already well established and in place. This includes an extensive transportation network (which would be improved by the proposed interchange), water, sewer, and other utilities. This would diminish the need for new development of vacant areas, as the costs/market appeal of redevelopment is advantageous. This, in turn, would likely minimize potential impacts to remaining farming operations, wildlife habitats, open-space corridors, and water quality. Existing state and federal laws protecting these resources will regulate impacts to sensitive natural resources such as wetlands, streams, or habitat for threatened and endangered species. Furthermore, as indicated in the Secondary Development discussion, because this project would direct resources and investments into established communities, the project would likely not encourage the expansion of incompatible development or land use changes in Bucks and Burlington Counties.

The responsibility for managing future land uses is that of the individual townships and boroughs within the study area and region. One vision for the Enterprise Zone in lower Bucks County is to audit vacant lands and to plan and prepare for their reuse. A major vision for the US 130/Delaware River Corridor, New Jersey, is to preserve the stable, close-knit neighborhoods within the corridor and take advantage of the waterfront for tourism and recreational development.

3. Conclusions

Orderly growth in well-planned locations, which is sensitive to both the area's environmental resources and the carrying capacity of the local utilities and community facilities, results in truly livable communities which become an asset to the economies of local and state governments. Enforcement of zoning ordinances and land development regulations instituted by the study area municipalities should provide the tools to effectively manage anticipated growth. The I-276/I-95 Interchange Project would complement orderly growth in these planned locations with a focus on reuse and redevelopment lands and supporting resources.

V. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

More detailed information is located in the Traffic and Transportation and Energy Analysis Technical Support Data:
* *Technical Support Data Index is located in Section XII (Appendix C).*

The local short-term impacts and use of resources by the construction of the Build Alternative are consistent with maintenance and enhancement of long-term productivity for the local area, state, and region. The construction of an interchange between I-276 and I-95, at their point-of-crossing in Bucks County, has been anticipated and studied for several years and is consistent, therefore, with local comprehensive plans and state regulatory requirements (e.g. Pennsylvania Act 61). The transportation improvements addressed in this document have been considered and proposed in accordance with these plans. Current traffic conditions warrant improvements to the existing transportation infrastructure in order for it to become more efficient.

W. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

More detailed information is located in the Technical Support Data:
* *Technical Support Data Index is located in Section XII (Appendix C).*

The construction of the Build Alternative would involve the irreversible and irretrievable commitment of various natural, human, and fiscal resources. Although highway construction is usually considered an irreversible commitment of land, it is possible to re-convert the property to another use, should a greater need for the land be proven or the highway proven to no longer be necessary. It is not anticipated, however, that either of these two situations would occur.

Fossil fuels, labor, and construction materials would be used should the Build Alternative be constructed. Labor and natural resources are also used in the manufacturing and production of the construction materials. This may include, but is not limited to, quarrying, mixing, and transporting of goods. These can also generally be considered irretrievable. The materials used in the highway construction process are not in short supply. The use of them should not have an adverse effect on continued availability of these resources. An additional irretrievable resource includes the investment of federal and state funds.

The commitment of these resources is established on the premise that the local and regional residents, commuters, and business community would benefit from the improvements to the transportation infrastructure. Benefits that are anticipated to outweigh the commitment of these resources may consist of improvements to traffic flow, increased safety, crash reduction, reduction in travel time, and increased availability of services.

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V. SECTION 4(f) EVALUATION

V. SECTION 4(f) EVALUATION
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V. SECTION 4(f) EVALUATION

More detailed Section 4(f) information is located in the Section 4(f) Evaluation Technical Support Data. Agency Correspondence is listed in Table V-12. Cultural Resource Eligibility Reports are identified in Section IV-D. Technical Support Data Index is located in Section XII (Appendix C).

A. INTRODUCTION

The Pennsylvania Turnpike Commission (PTC), the Pennsylvania Department of Transportation (PENNDOT), and the Federal Highway Administration (FHWA) propose to design and construct a direct connection between I-95 and the Pennsylvania Turnpike (I-276) in lower Bucks County, Pennsylvania with interstate improvements extending east into Burlington County, New Jersey. This Section 4(f) Evaluation is part of a Final Environmental Impact Statement (FEIS) that has been prepared to detail the potential impacts on socioeconomic, environmental, and cultural resources due to a total of six reasonable Build Alternatives. This includes two alternatives in each of the three project elements (Toll Plaza, Interchange, and Bridge). The FEIS provides detailed descriptions of Purpose and Need (**Section I**), Affected Environment (**Section II**), Alternatives (**Section III**), and identifies Environmental Consequences (**Section IV**) and recommended mitigation.

This FEIS has been prepared pursuant to Section 4(f) of the US Department of Transportation Act (USDOT) of 1966 as amended (49 United States Code [USC] 303) and Section 138 of the Federal-Aid Highway Act of 1968 (23 USC 138). Following the effective date of the Federal-Aid Highway Act of 1968, the policy regarding Section 4(f) was implemented, as stated below. The FHWA has adopted similar language in their regulations (23 CFR 771.135) that states:

The Secretary shall not approve any program or project which requires the use of any publicly-owned land from a public park, recreational area, or wildlife and waterfowl refuge of national, state, or local significance as determined by the federal, state, or local officials having jurisdiction thereof, or any land from a historic site of national, state, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational areas, wildlife and waterfowl refuge, or historic site resulting from such use.

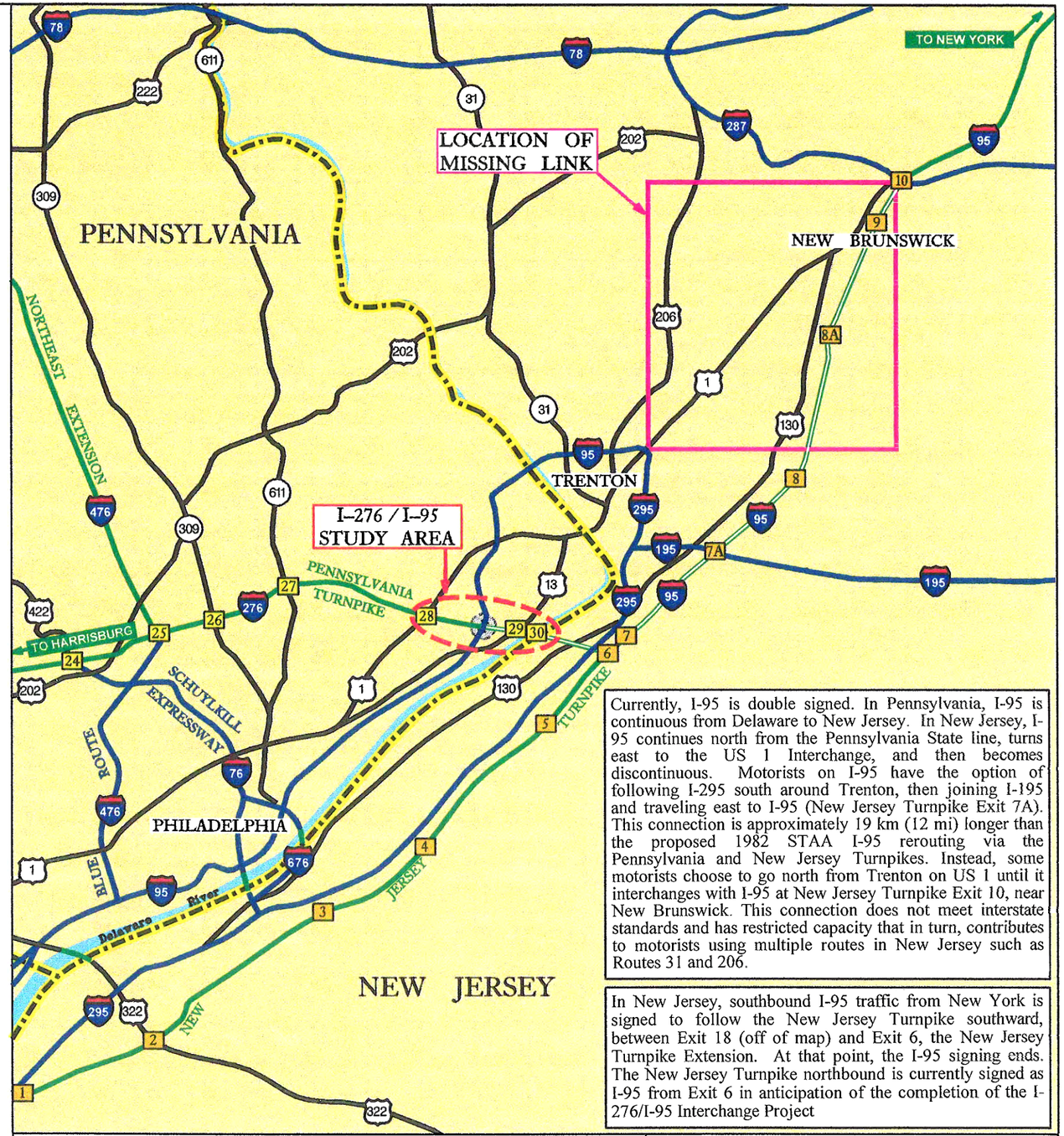
This Section 4(f) Evaluation includes a brief description of the proposed action; a summary of the project purpose and need; a brief description of the 20 Section 4(f) properties in the I-276/I-95 study area, including three properties that may be impacted; an impact analysis including discussions of avoidance alternatives and design measures to further minimize harm; and a summary of project coordination.

B. DESCRIPTION OF PROPOSED ACTION

The purpose of the project is to satisfy the five project needs **(Section I)** listed on **Page V-3**. To do so, the I-276/I-95 Interchange Project involves construction of a high-speed, full interchange connection between these two major interstates **(Figure V-1)**. The project also includes relocation of the eastern terminus of the Pennsylvania Turnpike Toll System, widening of I-276 from four to six lanes between Interchange 28 and the New Jersey Turnpike Extension and construction of an additional parallel bridge across the Delaware River to allow three lanes in each direction. I-95 would also be widened to accommodate ramp and merge lanes from the direct interchange connection to produce an acceptable level of service in the Design Year (2020 updated to 2025).

The I-276/I-95 study area limits extend approximately 15 km (9.2 mi) along I-276 from a point west of Interchange 28 in Bensalem Township, Pennsylvania, east approximately 2 km (1.25 mi) through Burlington and Florence Townships, New Jersey. The study area limits along I-95 extend 5.2 km (3.2 mi) south from just south of Trenton Road in Middletown Township, Pennsylvania south to the east bank of the Neshaminy Creek in Bristol Township, Pennsylvania (**Figures V-1** and **V-2**). The detailed study area consists of a 304.8 m (1,000 ft) wide study area centered along both I-276 and I-95 within the limits described above.

The I-276/I-95 study area is characterized by extensive urban and suburban development. Dense residential and commercial development occurs along the I-276 and I-95 corridors (**Figures II-2** and **II-3** of this FEIS). Both I-276 and I-95 have contributed to regional growth by improving interstate access to major urban centers both locally, between Trenton and Philadelphia via I-95, and regionally, between Harrisburg and New York City via I-276 and I-95 **(Figure V-1)**.



C. PROJECT PURPOSE AND NEED

1. Project History

Construction of the I-95 interstate system over the past three decades has resulted in a gap in I-95 between I-295, near Trenton, New Jersey and I-287 in Northern New Jersey near New Brunswick. This gap became known as the "missing link" of I-95 (**Figure V-1**). Several studies have evaluated ways to complete the "missing link" and join I-95 and I-276. In the late 1970s, PENNDOT studied a direct connection between I-95 at PA 413 and I-276 near Interchange 29, known as the LR 1000 Spur F Study (**Figure V-2**). This alternative was abandoned due, in part, to the environmental impacts at Delhaas Woods and Section 4(f) use of Silver Lake Park. Both are now publicly owned and, therefore, protected under provisions of Section 4(f).

Two pieces of legislation that also helped to establish the need for a direct I-276/I-95 interchange connection include: (a) the 1982 Federal Surface Transportation Assistance Act (STAA), which specified that I-95 be rerouted onto I-276 via a proposed new interchange then across the Delaware River Turnpike Bridge, where it would join the New Jersey Turnpike, and ultimately I-95 (**Figure V-1**); and (b) the 1985 Pennsylvania Act 61, which authorized the PTC to build an interchange between I-95 and I-276.

In response to the 1985 Pennsylvania Act 61, the PTC evaluated a direct connection between I-276 and I-95 in 1988, in an area north of I-276 and west of I-95 (**Figure V-2**). This alternative consisted of a conventional type interchange; however, it was eliminated from consideration primarily because traffic information from the Delaware Valley Regional Planning Commission (DVRPC) demonstrated that this type of low-speed connection could not adequately handle the increased traffic volumes projected for the I-276/I-95 Interchange Project region. In 1992, the PTC initiated the current I-276/I-95 study.

2. I-276/I-95 Interchange Project Needs Study

A detailed discussion of the study area transportation deficiencies and the need for a proposed direct connection of I-276 and I-95 is contained in the *Pennsylvania Turnpike/ Interstate 95 Interchange Project Needs Study* (PTC, 1993).

As summarized in **Section I** of this FEIS (Purpose and Need), the identified transportation deficiencies (Project Need) for Design Year 2025 include:

- ✓ Inadequate linkage between I-95 and I-276 for system continuity
- ✓ Lack of I-95 continuity through Mid-Atlantic Region
- ✓ Inadequate capacity of current connections between I-95 and I-276
- ✓ Inadequate capacity of I-95 and I-276
- ✓ Prolonged study area travel times and delays

3. Congestion Management Systems (CMS) Evaluation

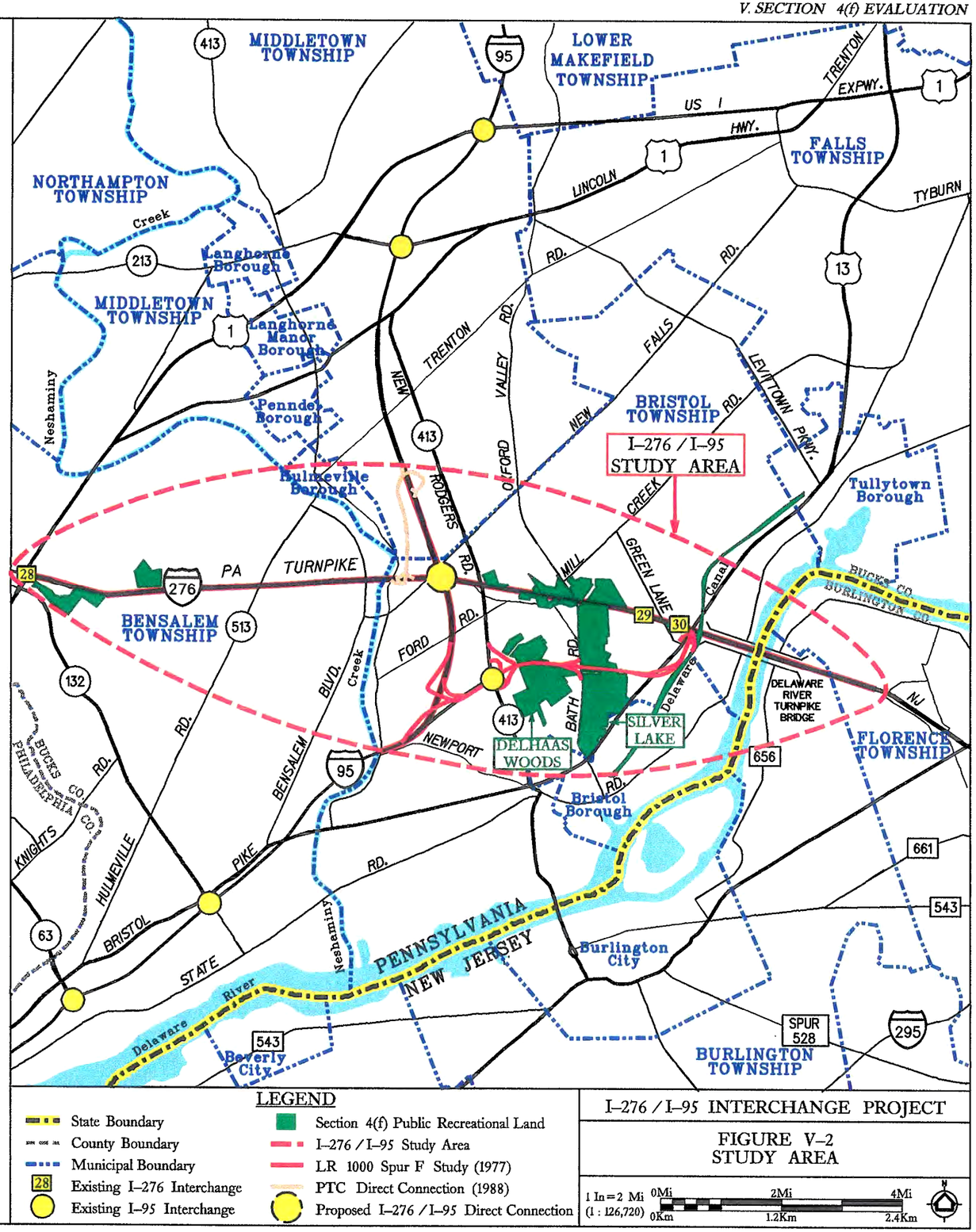
A CMS Evaluation was conducted for the project in 1995 to examine feasible CMS strategies, singularly or combined, to determine if they would meet the above identified project needs. The *Pennsylvania Turnpike/Interstate 95 Interchange Project Congestion Management Strategy Evaluation* (PTC, 1995) concluded that implementing CMS strategies, in conjunction with a direct interchange, did not eliminate the need for widening I-276 to six lanes and widening I-95 for the ramp and merge lanes.

4. Major Investment Study (MIS)

A MIS was conducted during the mid 1990s and determined there are no reasonable regional transportation or transit options to the proposed highway improvement project. The MIS included both quantitative and qualitative analysis of project costs, benefits and impacts for each transportation alternative studied. Evaluation of project elements, including cost-effectiveness, identification of funding sources, public involvement and presentation to DVRPC, are documented in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Major Investment Study,* (PTC, 1997).

5. Summary

As concluded in the above-described 1995 CMS Evaluation and 1997 MIS and further discussed in **Section I**, various transportation modes were considered for their feasibility in meeting the project need. The No-Build, Mass Transit, and Transportation Systems Management (TSM) Alternatives were evaluated and determined to not meet the project need. The "Build with Widening" Alternative, consisting of a direct connection between I-276 and I-95 (**Figure V-2**) along with I-95 and I-276 widening, proved to be the only reasonable transportation alternative that satisfies the five project needs identified above.



D. IDENTIFICATION AND DESCRIPTION OF SECTION 4(f) PROPERTIES

1. Section 4(f) Resources in Study Area

This section identifies and describes the resources within the study area that are protected by Section 4(f) of the USDOT Act of 1966 codified in 49 USC 303. There are no wildlife and waterfowl refuges in the vicinity of the proposed project. The FEIS for the I-276/I-95 Interchange Project has identified a total of ten public recreational areas and ten historic properties within the study area, including one National Historic Landmark, one resource previously determined eligible for the National Register of Historic Places (NRHP) and eight resources evaluated during the study as NRHP eligible. **Figure V-3** locates and describes these 20 Section 4(f) properties. Additional information related to these properties may be found in **Section IV** of this FEIS and in the Technical Support Data.

2. Impacted Section 4(f) Resources

The six project alternatives carried forward for detailed study, listed on **Figures V-4** and **V-5**, and evaluated in detail in **Section III** of the FEIS, will require the use of three properties protected under Section 4(f) - Black Ditch Park, the historic Pennsylvania Railroad (between Philadelphia and New York) and the Delaware Canal National Historic Landmark.

a. Black Ditch Park

Black Ditch Park is located in Bristol Township, Pennsylvania and is owned by the Bucks County Department of Parks and Recreation **(Figure V-3)**. Black Ditch Park totals 47.33 ha (116.96 ac) and is comprised of seven parcels acquired by Bucks County starting in the early 1960s. These parcels are part of a comprehensive open space system associated with the preservation and protection of the Mill Creek Valley Drainage System.

The Director of the Bucks County Department of Parks and Recreation indicated that Black Ditch Park is an important public recreational amenity that has no access restrictions (Mitchell, 1999). Consultation included review of park maps and master plans, many of which date to the 1950s. For example, the Mill Creek Valley Park Plan, dated November 1959 and revised July 1961, depicts a continuous greenbelt plan along Mill Creek linking county parks, township parks and schools. This plan illustrates a variety of active and passive recreational facilities for the greenbelt system, many already exist today.

As a result of this consultation, FHWA has determined that of the seven parcels comprising Black Ditch Park, five parcels (tax parcels 05-021-305, 05-025-082-003, 05-029-159, 05-029-160-001, and 05-040-037) are within the 304.8 m (1,000 ft) wide I-276/I-95 study area, qualifying Black Ditch Park as a single Section 4(f) property. As summarized in **Table IV-9** of this FEIS, only Parcel 05-021-305, the westernmost parcel, is impacted by the project alternatives in the Interchange Element **(Figure V-3)**.

b. Pennsylvania Railroad between Philadelphia and New York

This linear railroad property passes under the approach span for the existing Delaware River Turnpike Bridge in Bristol **(Figure V-3)**, and includes the former Pennsylvania Railroad right-of-way now owned by AMTRAK.

The Pennsylvania State Historic Preservation Office (PASHPO) determined the Pennsylvania Railroad to be eligible for the NRHP as a district on August 11, 1994. The Pennsylvania Railroad between Philadelphia and New York was nominated for the NRHP as being significant, under Criteria A and C (36 CFR 60.4), for connecting two major cities; allowing the Pennsylvania Railroad to compete for rail traffic moving west out of New York; providing an elevated route out of Philadelphia by circa 1910; and, for being completely electrified by 1935.

The NRHP nomination was completed prior to the I-276/I-95 Interchange Project cultural resource inventories, and NRHP boundaries were not mapped. Therefore, additional surveys occurred as part of the I-276/I-95 Interchange Project, and the Grundy Signal Tower and the Green Lane Viaduct were found eligible for the NRHP as contributing to the Pennsylvania Railroad property (Pennsylvania Historical and Museum Commission [PHMC], April 1999). As a result, contributing resources to the NRHP eligible Pennsylvania Railroad include the two-story, brick, Grundy Signal Tower (Circa 1920) and the concrete Green Lane Viaduct (Circa 1931). Neither contributing resources will be impacted, as the Section 4(f) use of the linear railroad property will be limited to extensions of existing piers for a new parallel Delaware River Turnpike Bridge within the Pennsylvania Railroad right-of-way.

c. Pennsylvania Division of the Delaware Canal

This linear resource, listed as a National Historic Landmark on December 8, 1976, crosses through the project area in Bristol Township (**Figure V-3**). The Commonwealth of Pennsylvania constructed and operated the Delaware Canal from 1827 to 1858. It was then sold and operated by private companies. Section 4(f) use of this property would be limited to the addition of one of the proposed piers for the Bridge North Alternative that extends just outside the PTC right-of-way on the north side of the existing bridge.

E. ALTERNATIVES ANALYSIS

A broad range of alternatives, listed on **Figures V-4** and **V-5**, and described in detail in **Section III** of the FEIS were considered and are summarized in this Section 4(f) Evaluation. These alternatives include those considered as part of the Preliminary Alternatives Analysis (PAA) and the Detailed Alternatives Analysis that included further analysis of alignment and design alternatives developed to avoid and/or minimize Section 4(f) uses **(Section V-E.6)**. This resulted in six Build Alternatives, in addition to the No-Build Alternative carried forward in the FEIS for detailed evaluation as presented in **Section IV** of this FEIS.

1. Identification and Evaluation of Alternatives that Avoid All Section 4(f) Properties

Alternatives to avoid the 20 identified Section 4(f) resources must meet the project needs and be reasonably within the general physical area of the proposed project. Alternatives must also connect logical termini for the project. For those reasons, options of not providing an interstate connection between I-276 and I-95, or evaluating a new alternative interchange connection outside the study area have not been evaluated for Section 4(f) avoidance because they do not meet the project needs as identified on **Page V-3** and explained in the following subsections. As illustrated on **Figure V-3**, the total number of Section 4(f) resources (20), their size (i.e., Black Ditch Park, Silver Lake/Delhaas Woods), and linear north-south orientation (Delaware Canal, Pennsylvania Railroad) preclude total avoidance of Section 4(f). Total avoidance alternatives are limited to No-Build, Redesignate Interstate System, or Improve Local Roadways.

a. No-Build

The No-Build Alternative would consist of only routine maintenance activities and would not result in any changes to the physical conditions of I-276 and I-95. No changes would occur to the local roadway network connecting both interstates. The No-Build avoids Section 4(f) protected properties, yet it does not meet the five project needs identified on **Page V-3**; and this is not a prudent alternative.

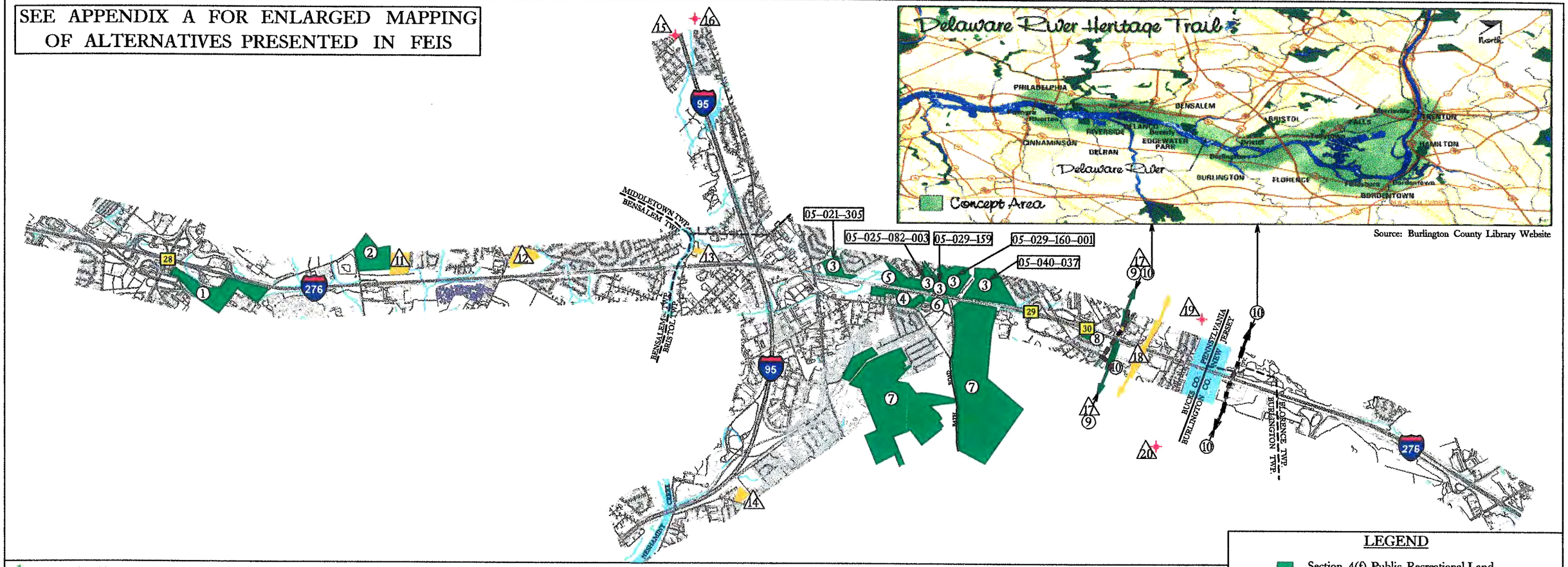
b. Redesignate Interstate System

Instead of an I-276/I-95 interchange in Pennsylvania, this option would consist of re-signing I-295 and I-195 in New Jersey to redesignate the interstate system with no substantial upgrading of I-95 in Pennsylvania, and I-295 and I-195 in New Jersey **(Figure V-1)**. Although it would continue I-95 through the Mid-Atlantic Region, this alternative would not provide adequate capacity on I-95, I-276, and local connections, and prolonged study area travel times and delays would continue. Redesignating the interstate system without interstate improvements would be similar to the No-Build. **Figures IV-1** and **IV-2** can be used to identify local roadway capacity needs that would not be met by redesignating the interstate system without major improvements. Under this alternative, the requirements of the 1982 STAA and the 1985 Pennsylvania Act 61 would also not be met. In addition, any potential interstate upgrades could impact other Section 4(f) properties. For these reasons, redesignating I-295 and I-195 within New Jersey as I-95 is not a prudent alternative.

c. Improve Local Roadways

This would consist of upgrading the existing local roadway network that connects the I-95 and I-276 interchanges identified on **Figure V-2**. **Table I-1** and **Figure I-3** identify existing and projected traffic volumes, respectively, and corresponding levels of service on local roadways. By upgrading local roadways only, this alternative would meet the need to improve prolonged study area travel times and delays. It may meet the need of inadequate capacity of the current connections between I-95 and I-276. It would not meet the remaining project needs of inadequate linkage between I-95 and I-276, lack of I-95 continuity through the Mid-Atlantic Region, and inadequate capacity of I-95 and I-276. **Figures IV-1** and **IV-2** can be used to compare No-Build versus Build interstate connection conditions. Upgrading the local roadways could impact other Section 4(f) properties. Therefore, it is not a prudent alternative.

SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS



SECTION 4(f) PROPERTY DESCRIPTIONS

1 Bensalem Township Parcel
Bensalem Township owns this 16.48 ha (40.71 ac) parcel, existing in its natural state. Township residents and the American Bicycle Association use a small portion of the parcel (near US 1) as a Bicycle Motorcross (BMX) Raceway.

2 Bensalem Community Park (Formerly Richlieu Park)
This 12.10 ha (29.90 ac) park provides local public recreation use including the township's soccer, baseball, and football programs.

3 Black Ditch Park
Bucks County owns and operates this 47.33 ha (116.96 ac) park that includes five parcels north of I-276, one of which would be impacted by the project. Future plans for Black Ditch Park include development of trails and enhancement of existing facilities. Additional discussions are in **Section V-E**.

4-5 Green Trees Park A and B
This 6.32 ha (15.62 ac) park is owned by Bristol Township and is located along both sides of I-276. Green Trees Park Section A includes: (5.4 ha/13.4 ac south of I-276), proposed for nature study/fitness trails); and Section B (0.9 ha/2.22 ac north of I-276), proposed to be maintained as open space.

6 Bristol Township Municipal Campus Park
This combined 14 ha (34.5 ac) park includes 4.7 ha (11.6 ac) under township ownership. Future plans (*Bristol Township 1997 Park and Recreation Plan)* identify the complex as a focal point for community-wide functions including a feasibility study for constructing an outdoor amphitheater for performing arts.

7 Silver Lake Park & Nature Center
Owned and operated by Bucks County, this 297.45 ha (735 ac) park includes Silver Lake, Magnolia Lake, Delhaas Woods, and a 95 ha (235 ac) Nature Center. Available facilities include bike trail, fishing, hiking, boating, picnicking, ballfield, basketball, ice-skating, and nature study.

8 Pacific Park
This 0.85 ha (2.10 ac) park, owned and operated by Bristol Township, includes a tot lot, basketball courts, volleyball courts, and picnicking.

9/17 Pennsylvania Division of the Delaware Canal/Delaware Canal State Park
This state owned park is a linear resource approximately 122 m (400 ft) wide, starting in Bristol Township and extending north for approximately 96 km (60 mi) to Easton. The NRHP listed Delaware Canal is a National Historic Landmark and is a key element on the Delaware and Lehigh Navigation Canal Heritage Corridor. The towpath is a National Heritage Trail. However, the park is not continuous in some areas including the area owned by the Pennsylvania Turnpike Commission under the existing Delaware River Turnpike Bridge. This area is considered by the National Park Service to be a non-contributing element to the historical significance of the National Historic Landmark.

10 Delaware River Heritage Trail (Proposed)
The National Park Service is creating a multi-use pathway close to the Delaware River waterfront that will connect communities with parks, historical sites and natural assets. This heritage trail is envisioned as a loop, extending from Morrisville to Philadelphia in Pennsylvania and Trenton to Palmyra in New Jersey, crossing the river via the Tacony-Palmyra and Calhoun Street Bridges. In the project study area, the proposed trail would use the existing Delaware Canal towpath. Although the trail has not been designated/constructed in Pennsylvania, and currently has not received an official Section 4(f) determination by FHWA, the trail has been included in this resource inventory because it may exist prior to construction of project elements.

11 Thomas F. Ennis Farm
The Thomas F. Ennis Farm is a locally significant representative of a nineteenth/early-twentieth-century farmstead associated with agricultural development in Bensalem Township.

12 William Simmons/Margaret York Farmstead
The William Simmons/Margaret Martin York farmstead is a locally significant example of Craftsman-era alterations to a historic dwelling in Bensalem Township.

13 Edgar A. Smith House
The Edgar A. Smith House is a locally significant example of Craftsman design in Bristol Township.

14 Lawrence Johnson House Property/Lansdowne
The Lawrence Johnson House/Lansdowne is a locally significant example of a country house estate developed by nineteenth-century Philadelphians in lower Bucks County.

15 Daniel LaRue, Jr., House
The Daniel Larue, Jr. House is a locally significant example of late-eighteenth-century/early-nineteenth-century affluent farmhouses found in Lower Bucks County.

16 Middletown Cross Roads Hotel
The Middletown Cross Roads Hotel is locally significant for its association with the development of the late-eighteenth-and early-nineteenth-century greater Philadelphia road system and their related resources.

18 Pennsylvania Railroad between Philadelphia and New York (including the Grundy Signal Tower and the Green Lane Viaduct)
This linear property includes the former Pennsylvania Railroad right-of-way now owned and operated by AMTRAK. Contributing resources include the two-story, brick, Grundy Signal Tower (Circa 1920) and the concrete Green Lane Viaduct (1931) surveyed as part of the I-276/I-95 Interchange Project and found eligible for the NRHP as contributing to the Pennsylvania Railroad property.

19 Shady Side
Shady Side is eligible for the NRHP as a locally significant, well-preserved example of Italian-Villa architecture style.

20 Old Stone Tavern/Bloomsdale Ferry House
The Old Stone Tavern/Bloomsdale Ferry House is locally significant for its association with early transportation, agricultural development, and architecture in Bristol Township.

LEGEND

- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Proposed Multi-Use Trail
- National Register Eligible Property Location (Outside Of Detailed Mapping Coverage Area)
- 28 Existing I-276 Interchange
- Surface Water

The existing and proposed resources identified within the 304.8 m (1,000 ft) study area include ten public recreational lands and ten National Register of Historic Places listed and eligible historic properties, as described and located on this figure. The majority of these resources are protected by Section 4(f) of the USDOT Act of 1966 codified in 49 USC 303 and the Federal-Aid Highway Act of 1968 (23 USC 138).

I-276 / I-95 INTERCHANGE PROJECT

FIGURE V-3

SECTION 4(f) RESOURCE INVENTORY

1 In = 3,600 Ft (1 : 43,200)
0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M
N

2. Identification and Evaluation of Other Alternatives Considered

As discussed in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Major Investment Study* (PTC, 1997) and in **Section III** of the FEIS, four alternative transportation modes were initially considered (No-Build, TSM, CMS, and Build) for the I-276/I-95 Interchange Project Preliminary Alternatives Analysis **(Figure V-4)**.

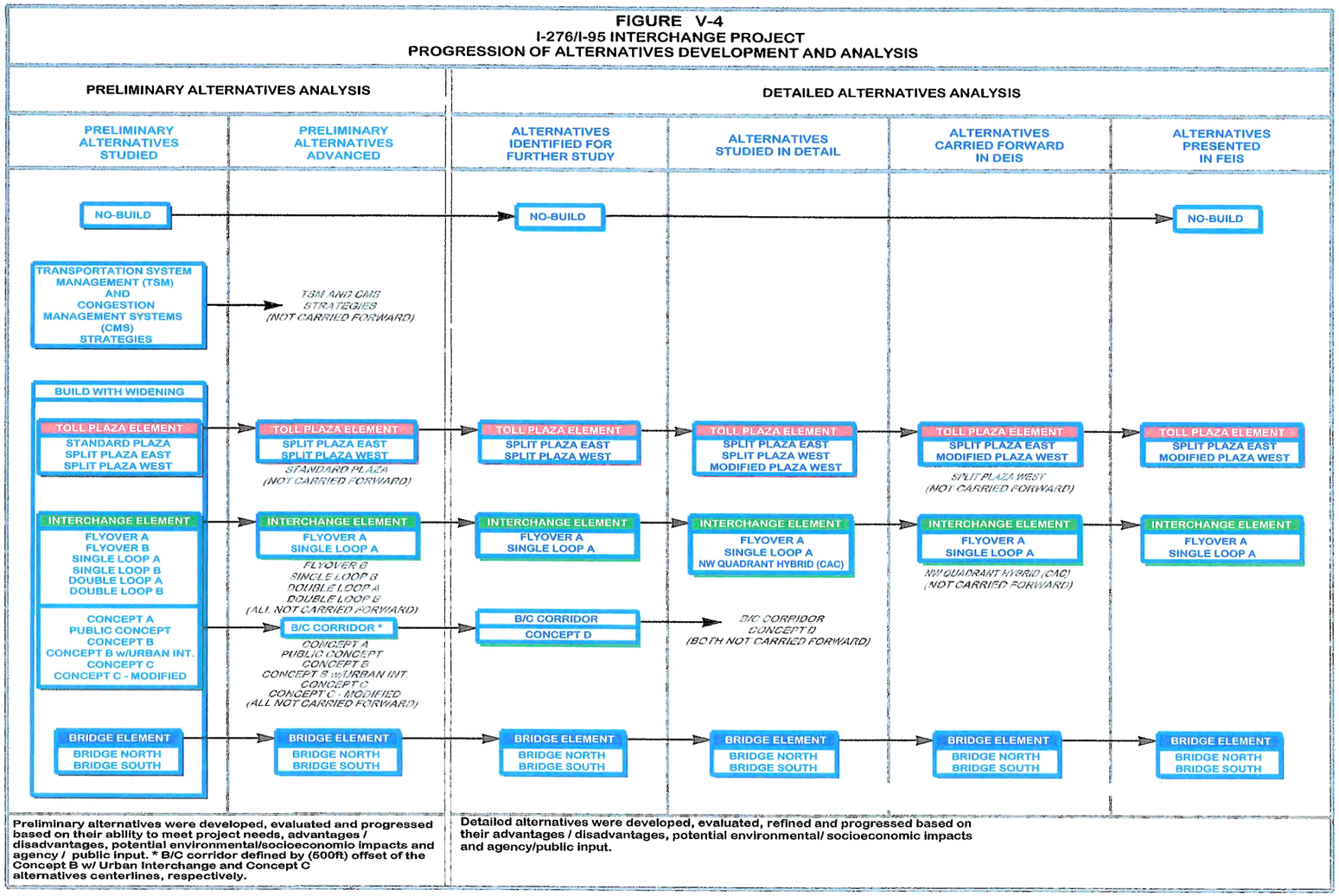
a. Congestion Management System (CMS) and Transportation Systems Management (TSM) Alternatives

The CMS and TSM Alternatives, as described in detail in **Sections III-C.1** and **III-C.2.c** of the FEIS, consist of improvements to the existing transportation facilities (i.e., ride sharing, mass transit, parking management, high occupancy vehicle lanes, and traffic signal improvements), which either reduce traffic volumes or increase the roadway capacity with limited new construction. CMS strategies, ranging from Transportation Demand Management (TDM), Operational Management Strategies, and TSM to a direct I-276/I-95 interchange without additional interstate travel lanes could possibly meet four of the defined project needs but would not address the regional capacity needs for I-276 and I-95. In addition, both I-276 and I-95 would require substantial widening in the vicinity of the proposed interchange where Section 4(f) resources exist. As a result, the CMS and TSM alternatives alone are not prudent, and, in conjunction with an I-276/I-95 interchange without substantial interstate widening, may be prudent but are not feasible.

b. Build with Widening Alternative

An analysis of the reasonable transportation alternatives studied during the MIS yielded a particular development strategy. Due to the fact that an interchange would connect two existing grade-separated interstate highways, the range of reasonable MIS alternatives was limited to one alternative. This was identified in the 1997 MIS as the "Build with Widening" highway alternative because it would provide a direct interchange with associated widening of I-276 and I-95. This alternative mode and alignment received consensus of agency concurrence at the August 22, 1995 MIS Interagency Coordination Meeting, with no additional comments or objections noted. The "Build with Widening" Alternative produces acceptable levels of service in the design year and meets the five project needs listed in **Section V-C** of this FEIS. The "Build with Widening" Alternative incorporates three separate project elements: I-276 Mainline Toll Plaza; I-276/I-95 Interchange; and a new, parallel Delaware River Turnpike Bridge structure (**Figure V-5**). The division points between project elements were chosen so the elements would be independent and compatible with one another in the development of conceptual engineering for the preliminary and detailed study alternatives.

FIGURE V-4
I-276/I-95 INTERCHANGE PROJECT
PROGRESSION OF ALTERNATIVES DEVELOPMENT AND ANALYSIS

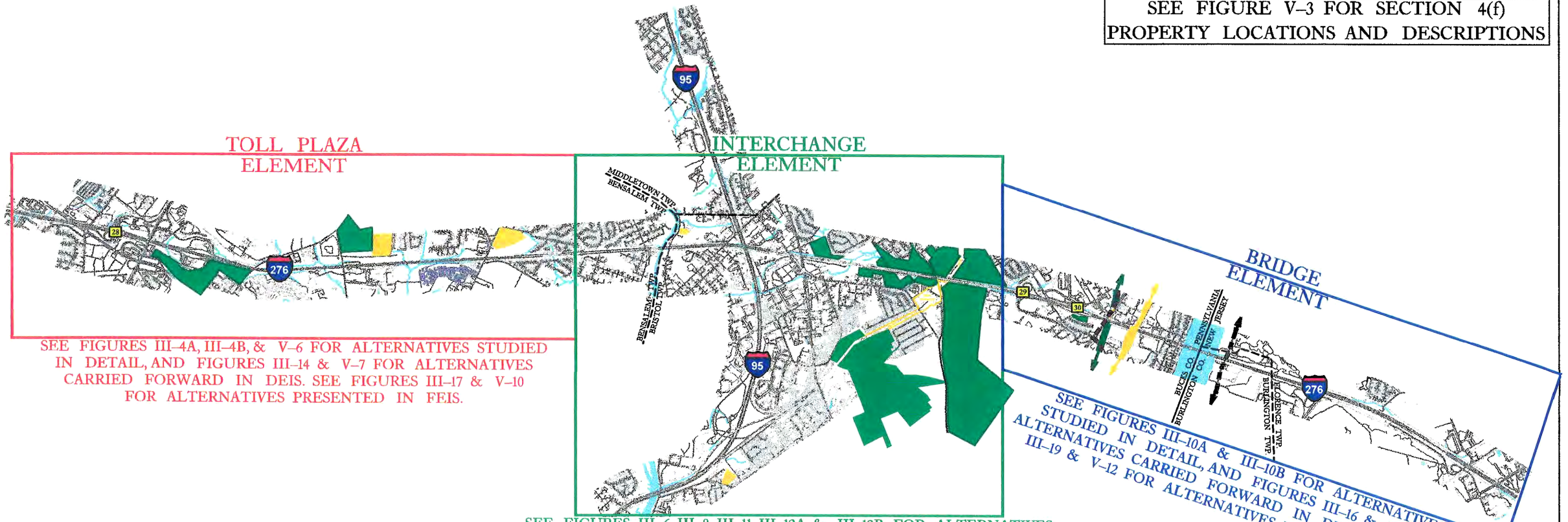


3. Preliminary Alternatives Advanced

Preliminary alternatives were developed and impact analyses were completed, the results of which are summarized in **Table V-1**. As indicated, three Build Alternatives were considered in the Toll Plaza Element, 12 in the Interchange Element, and two in the Bridge Element. These 17 PAA Build Alternatives are described and illustrated in **Section III** of this FEIS as referenced on **Figure V-5**. **Table V-1** lists preliminary impact comparisons and Section 4(f) uses based on preliminary engineering and results of initial consultations with jurisdictional officials of Section 4(f) protected properties known at the time.

SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS

SEE FIGURE V–3 FOR SECTION 4(f) PROPERTY LOCATIONS AND DESCRIPTIONS



SEE FIGURES III–4A, III–4B, & V–6 FOR ALTERNATIVES STUDIED IN DETAIL, AND FIGURES III–14 & V–7 FOR ALTERNATIVES CARRIED FORWARD IN DEIS. SEE FIGURES III–17 & V–10 FOR ALTERNATIVES PRESENTED IN FEIS.

SEE FIGURES III–6, III–8, III–11, III–12A, & III–12B FOR ALTERNATIVES STUDIED IN DETAIL, AND FIGURES III–15 & V–8 FOR ALTERNATIVES CARRIED FORWARD IN DEIS. SEE FIGURES III–18 & V–11 FOR ALTERNATIVES PRESENTED IN FEIS.

SEE FIGURES III–10A & III–10B FOR ALTERNATIVES STUDIED IN DETAIL, AND FIGURES III–16 & V–9 FOR ALTERNATIVES CARRIED FORWARD IN DEIS. SEE FIGURES III–19 & V–12 FOR ALTERNATIVES PRESENTED IN FEIS.

TOLL PLAZA ELEMENT

STANDARD TOLL PLAZA ALTERNATIVE (Figure III–4A)

SPLIT PLAZA WEST ALTERNATIVE (Figures III–4B & V–6)

SPLIT PLAZA EAST ALTERNATIVE (Figures III–4B, III–14, III–17, V–6, V–7, & V–10)

MODIFIED PLAZA WEST ALTERNATIVE (Figures III–14, III–17, V–7, & V–10)

INTERCHANGE ELEMENT

POINT–OF–CROSSING ALTERNATIVES

FLYOVER A ALTERNATIVE (Figures III–6A, III–15, III–18, V–8, & V–11)

FLYOVER B ALTERNATIVE (Figure III–6A)

SINGLE LOOP A ALTERNATIVE (Figures III–6B, III–15, III–18, V–8, & V–11)

SINGLE LOOP B ALTERNATIVE (Figure III–6B)

DOUBLE LOOP A ALTERNATIVE (Figure III–6C)

DOUBLE LOOP B ALTERNATIVE (Figure III–6C)

NW QUADRANT HYBRID ALTERNATIVE (Figures III–12A & III–12B)

NEW ALIGNMENT ALTERNATIVES

CONCEPT A ALTERNATIVE (Figure III–8A)

PUBLIC CONCEPT ALTERNATIVE (Figure III–8B) *

CONCEPT B ALTERNATIVE (Figure III–8C)

CONCEPT B WITH URBAN INTERCHANGE ALTERNATIVE (Figure III–8D)

CONCEPT C ALTERNATIVE (Figure III–8E)

CONCEPT C MODIFIED ALTERNATIVE (Figure III–8F)

CONCEPT D ALTERNATIVE (Figure III–11)

* Developed in February 1998 and presented but dismissed in the August 1998 PAA Report.

BRIDGE ELEMENT

BRIDGE NORTH ALTERNATIVE (Figures III–10B, III–16, III–19, V–9, & V–12)

BRIDGE SOUTH ALTERNATIVE (Figures III–10B, III–16, III–19, V–9, & V–12)

LEGEND

- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Proposed Multi–Use Trail
- 28 Existing I–276 Interchange
- Surface Water

A No-Build and a total of 20 Build Alternatives for the three project elements (Toll Plaza, Interchange, and Bridge) were evaluated throughout the combined Preliminary and Detailed Alternatives Analysis phases. Descriptions of the preliminary Build Alternatives and detailed study alternatives within the three project elements, as identified on this figure, are included on the referenced figures in **Section III** of this FEIS. The six Build Alternatives carried forward for detailed study in **Section IV** of the FEIS are shown in **bold lettering**.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–5
ALTERNATIVES INDEX

NO–BUILD ALTERNATIVE SEE FIGURES III–4A, III–6, III–8 AND III–10A

1 In = 3,600 Ft (1 : 43,200)

0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M

TABLE V-1
PRELIMINARY ALTERNATIVES ANALYSIS IMPACT SUMMARY (OCTOBER 1997)

Resource	Toll Plaza Element			Interchange Element											Bridge Element	
				Point-of-Crossing Alternatives						New Alignment Alternatives						
				Flyover Interchange		Single Loop Interchange		Double Loop Interchange		Concept A	Concept B	Concept B w/ Urban Interchange	Concept C	Concept C-Modified		
	Standard Plaza	Split Plaza East	Split PlazaWest	A	B	A	B	A	B						Bridge North	Bridge South
Threatened and Endangered Species Populations	0	0	2	5	5	5	5	5	5	N/A	N/A	N/A	N/A	N/A	2	2
Wetlands (ha/ac)	1.3 / 3.3	1.2 / 3.0	2.4 / 5.9	2.0 / 4.9	3.0 / 7.5	2.0 / 4.8	3.0 / 7.3	2.0 / 4.9	3.0 / 7.5	11.3 / 8.0	7.3 / 18.0	6.5 / 16.0	2.3 / 5.7	3.8 / 9.3	0.30 / .76	0.06 / .14
100-Year Floodplain (ha/ac)	0.4 / 0.9	0.4 / 1.0	0.1 / 0.2	2.8 / 7.1	2.6 / 6.6	2.8 / 7.1	2.6 / 6.6	2.8 / 7.1	2.6 / 6.6	N/A	N/A	N/A	N/A	N/A	1.2 / 2.9	1.1 / 2.8
Surface Water (crossings)	4	4	4	9	9	9	9	9	9	N/A	N/A	N/A	N/A	N/A	2	2
Perennial Stream Impacts (m/ft)	203.7/668.2	140.5/461.1	549.9/1,785	440/1,445	587/1,925	433/1,420	594/1,950	436/1,430	588/1,930	N/A	N/A	N/A	N/A	N/A	43/140	43/140
Intermittent Stream Impacts (m/ft)	263.6/864.8	263.6/864.8	45.7/149.9	259/850	264/865	259/850	270/885	262/860	267/875	N/A	N/A	N/A	N/A	N/A	111/365	0/0
Farmland (ha/ac)	5.3 / 12.9	5.1 / 12.4	1.0 / 2.4	0	0	0 / 0	0 / 0	0 / 0	0 / 0	N/A	N/A	N/A	N/A	N/A	0	0
Potential Archaeological Resources Sites (ha/ac)	4.6 / 11.4	3.7 / 9.3	3.4 / 8.5	8.2 / 20.3	7.7 / 19.3	8.2 / 20.3	7.7 / 19.3	8.2 / 20.3	7.7 / 19.3	N/A	N/A	N/A	N/A	N/A	.92 / 2.3	2.2 / 5.5
Eligible Historic Architectural Resources	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	0	0
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	**0 / 0**	**0 / 0**	**0 / 0**	**6 / 0**	**6 / 0**	**6 / 0**	**6 / 0**	**6 / 0**	**6 / 0**	**6 / 0**	**5 / 0**	**7 / 0**	**6 / 0**	**6/ 0**	**2 / 0**	**2 / 0**
Area of Section 4(f) Resource Use (ha/ac)	**0 / 0**	**0 / 0**	**0 / 0**	**1.6 / 3.9**	**1.6 / 3.9**	**1.6 / 3.9**	**1.6 / 3.9**	**1.6 / 3.9**	**1.6 / 3.9**	**12.4 /30.7**	**8.2 / 20.3**	**5.8 / 14.4**	**3.2 / 8.0**	**3.2 / 8.0**	**0.62 / 1.6**	**1.1 / 2.8**
Potential Sensitive Waste Sites	0	0	0	11	11	11	11	11	11	N/A	N/A	N/A	N/A	N/A	4	4
Public Facilities and Services	0	0	0	1	1	1[1]	1[1]	1[1]	1[1]	N/A	N/A	N/A	N/A	N/A	0	0
Commercial Property Displacements	2	2	2	13	13	14	14	14	14	3	1	0	0	1	4	3
Residential Property Displacements	15	10	1	29	29	12	12	18	18	56	41	42	57	58	8	3
Total Section Cost Estimate (million $)[2]	104	91	90	282	279	275	273	276	274	269	260 ±	260 ±	260 ±	260 ±	172[3]	180[3]

Table developed for October 16, 1997 ACM Field View and modified for use in the August 1998 PAA that identified preliminary impacts to resources known at the time. It does not include the Public Concept developed in February 1998 and presented but not carried forward in the August 1998 PAA Report. Concept A, Concept B, Concept B with Urban Interchange, Concept C and Concept C-Modified were not evaluated in every resource category as the other alternatives due to the fact that they are outside of the detailed study area.
However, these alternatives were evaluated to a level of detail for areas of most concern (wetlands, Section 4(f), displacements and cost) to allow their recommendation or elimination from further study.
N/A This information is not available at the same level of detail as that information developed for other project alternatives.
1 Partial property use - no structure taking
2 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection
3 This cost estimate does not include the costs associated with re-decking and painting the existing Delaware River Turnpike Bridge.

Of the 16 Build Alternatives and No-Build Alternative evaluated at the time **(Table V-1)**, the 1998 PAA recommended advancing seven Build Alternatives into the alternatives identified for further study phase. These included two alternatives in the Toll Plaza Element (Split Plaza East and Split Plaza West), three alternatives in the Interchange Element (Single Loop A, Flyover A and an interchange alternative on new alignment that was developed as Concept D), and two alternatives in the Bridge Element (Bridge North and Bridge South), along with the No-Build in each element.

4. Alternatives Identified for Further Study

The seven Build Alternatives identified for further study **(Table V-2)** were generally found to be the most feasible. The build alternatives not identified for further study had significant environmental and socioeconomic impacts when compared to the alternatives advanced **(Table V-1)**. Concept D **(Table V-2)** was the only interchange alternative on new alignment recommended in the PAA Report (PTC, 1998). Although Concept D had large impacts when compared to the Point-of-Crossing Alternatives **(Table V-1)**, it was identified as the best of the new alignment alternatives. These seven alternatives identified for further study were consistent with the general public, Community Advisory Committee (CAC), public official and transportation and environmental agency input received to that point in the analysis process. **Table V-1** includes preliminary impacts calculated for use in the 1998 PAA Report.

Along with the No-Build Alternative, each of the seven Build Alternatives was further evaluated for potential impacts to socioeconomic, cultural and natural resources. **Table V-2** is a modified version of **Table V-1**, in that it only lists the impacts of these seven Build Alternatives, including Concept D, selected for further study. **Table V-2** also differs from **Table V-1** in that the impact quantities reflect results of minor alignment adjustments and engineering modifications (reduced slopes, retaining walls, etc.) developed to avoid and minimize resource impacts, including Section 4(f). As a result of the analysis, it was recommended that Concept D not be carried forward for further study due to its extraordinary socioeconomic impacts, including 57 displacements, and the greatest environmental impacts, especially the highest acreage of wetlands (3.2 ha / 8.1 ac) and Section 4(f) uses (3 ha/7.5 ac).

5. Alternatives Studied in Detail

As a result of the alternatives development process and dismissal of Concept D, six Build Alternatives and the No-Build Alternative were carried forward for detailed engineering and environmental impact analysis in the detailed study phase of the project. The Build Alternatives selected for detailed study included the Split Plaza East and Split Plaza West in the Toll Plaza Element; Flyover A and Single Loop A in the Interchange Element; and Bridge South and Bridge North in the Bridge Element, as listed in **Table V-3**. This table differs from **Table V-2** in that it does not include the Concept D Alternative. Impact quantities also differ based on additional engineering and more detailed studies involving natural, socioeconomic, and Section 4(f) resources. **Figure V-4** can be used as a guide to summarize the progression of alternatives studied in detail.

a. Toll Plaza Element Alternatives

The Split Plaza East and Split Plaza West Alternatives **(Figure V-6)** were initially selected for more detailed study. No Section 4(f) impacts were identified at the time of the 1998 PAA evaluations **(Table V-1)** and during further study of these two alternatives **(Table V-2)**. Split Plaza East staggers the location of the eastbound and westbound toll plazas compared to a more conventional wider Standard Toll Plaza, which was evaluated and not carried forward in the 1998 PAA, as explained in **Section III**. Split Plaza West was developed in response to public input. As with Split Plaza East, Split Plaza West has a "staggered" toll plaza configuration to reduce its width or "footprint".

Split Plaza West was also selected for detailed study at the time because it would minimize potential impacts to residential properties compared to Split Plaza East (1 displacement versus 8 in **Table V-2**), which was a public concern. However, when compared to Split Plaza East, Split Plaza West would have increased wetland impacts (1.9 ha/4.7 ac versus 0.6 ha/1.4 ac in **Table V-2**), which became a resource agency concern.

TABLE V-2
ALTERNATIVES IDENTIFIED FOR FURTHER STUDY IMPACT SUMMARY (AUGUST 1998)

Resource	Toll Plaza Element		Interchange Element			Bridge Element	
	Split Plaza East	Split Plaza West	Flyover A	Single Loop A	Concept D	Bridge North	Bridge South
Threatened and Endangered Species Populations	0	2	5	5	5	2	2
Wetlands (ha/ac)	0.6 / 1.4	1.9 / 4.7	1.5 / 3.8	1.5 / 3.8	3.2 / 8.1	0.44 / 1.1	0.12 / 0.30
100-Year Floodplain (ha/ac)	0.6 / 1.4	0.1 / 0.3	2.8 / 7.1	2.8 / 7.1	4.9 / 12.0	1.2 / 2.9	1.1 / 2.8
Forestland (ha/ac)	4.5 / 11.2	2.1 / 5.1	5.7 / 14.2	5.7 / 14.2	6.2 / 15.4	1.0 / 2.5	1.3 / 3.3
Rangeland (ha/ac)	2.7 / 6.6	2.3 / 5.8	0.2 / 0.4	0.2 / 0.4	0.5 / 1.3	0 / 0	0 / 0
Surface Water (crossings)	4	4	9	9	6	2	2
Perennial Stream Impacts (m/ft)	140 / 461	550 / 1786	440 / 1445	433 / 1420	485 / 1590	43 / 140	43 / 140
Intermittent Stream Impacts (m/ft)	264 / 865	46 / 150	259 / 850	259 / 850	285 / 935	111 / 365	0 / 0
Farmland (ha/ac)	5.0 / 12.2	1.5 / 3.7	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites (ha/ac)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Eligible Historic Architectural Resources	0	0	0	0	0	N/A	N/A
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	**0 / 0**	**0 / 0**	**3 / 0**	**3 / 0**	**3 / 0**	**1 / 1**	**1 / 1**
Area of Section 4(f) Resource Use (ha/ac)	**0 / 0**	**0 / 0**	**1.2 / 3.1**	**1.2 / 3.1**	**3.0 / 7.5**	**0.52 / 1.3**	**0.6 / 1.5**
Potential Sensitive Waste Sites	1	3	12	12	14	4	4
Public Facilities and Services	0	0	1 [1]	1 [1]	1	0	0
Commercial Property Displacements	1	0	5	4	6	2	2
Residential Property Displacements	8	1	11	7	57	7	2
Institutional Property Displacements	0	0	1	1	0	0	0
Major Utility Relocations (PECO Towers)	0	3	1	1	0	0	0
Total Section Cost Estimate (million $) [2]	92	88	282	296	285	172 [2]	180 [2]

Table developed for August 1998 ACM - It does not include Public Concept developed in February 1998 and presented but not carried forward in August 1998 PAA that identified preliminary impacts to resources known at the time. Concept A, Concept B, Concept B with Urban Interchange, Concept C and Concept C-Modified were not evaluated in every resource category as the other alternatives due to the fact that they are outside of the detailed study area. However, these alternatives were evaluated to a level of detail for areas of most concern (wetlands, Section 4(f), displacements and cost) to allow their recommendation or elimination from further study.
N/A This information is not available at the same level of detail as that information developed for other project alternatives.
1 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
2 This cost estimate does not include costs associated with the existing Delaware River Turnpike Bridge.

Although public parklands (Bensalem Community Park) and eligible NRHP properties (Thomas Ennis Farm and William Simmons/Margaret Martin York Farmstead) are in the vicinity, there were no Section 4(f) impacts identified at the time for either the Split Plaza East Alternative or the Split Plaza West Alternative **(Table V-2)**.

(1) Introduction of Modified Plaza West Alternative

Project alternatives were originally based on Year 2020 traffic projections provided by the DVRPC **(Section I)**. Due to the timetable to complete the various engineering and environmental studies, it became necessary to re-evaluate the previous traffic and engineering based on DVRPC's Year 2025 traffic projections completed by DVRPC in early 2000. Analysis of Year 2025 traffic projections showed only slight deviations from the Year 2020 traffic projections due to the use of an upgraded traffic model based on the latest population and employment data. However, unlike the 2020 traffic model, the 2025 traffic model was able to incorporate recent technology changes such as the addition of electronic toll collection (E-Z*Pass*) at I-276 toll facilities. Traffic and engineering analyses in the Toll Plaza and Bridge Elements resulted in modification of previous plaza engineering that would reduce the number of lane requirements, based largely on the usage of low-speed/high-speed E-Z*Pass* lanes. This, in turn, would modify the previous toll plaza "footprints" and required impacts to socioeconomic, natural, and Section 4(f) resources to again be re-evaluated. This resulted in the re-evaluation of the Alternatives Studied in Detail in the Toll Plaza and Bridge Elements identified in **Table V-3**.

During the two to three year timeframe to update the traffic and engineering analyses, re-evaluate alternatives, modify the toll plaza requirements and recalculate impacts, two additional Section 4(f) properties were identified. These included the Bensalem Township Parcel in the Toll Plaza Element and the proposed Delaware River Heritage Trail in the Bridge Element, as addressed below.

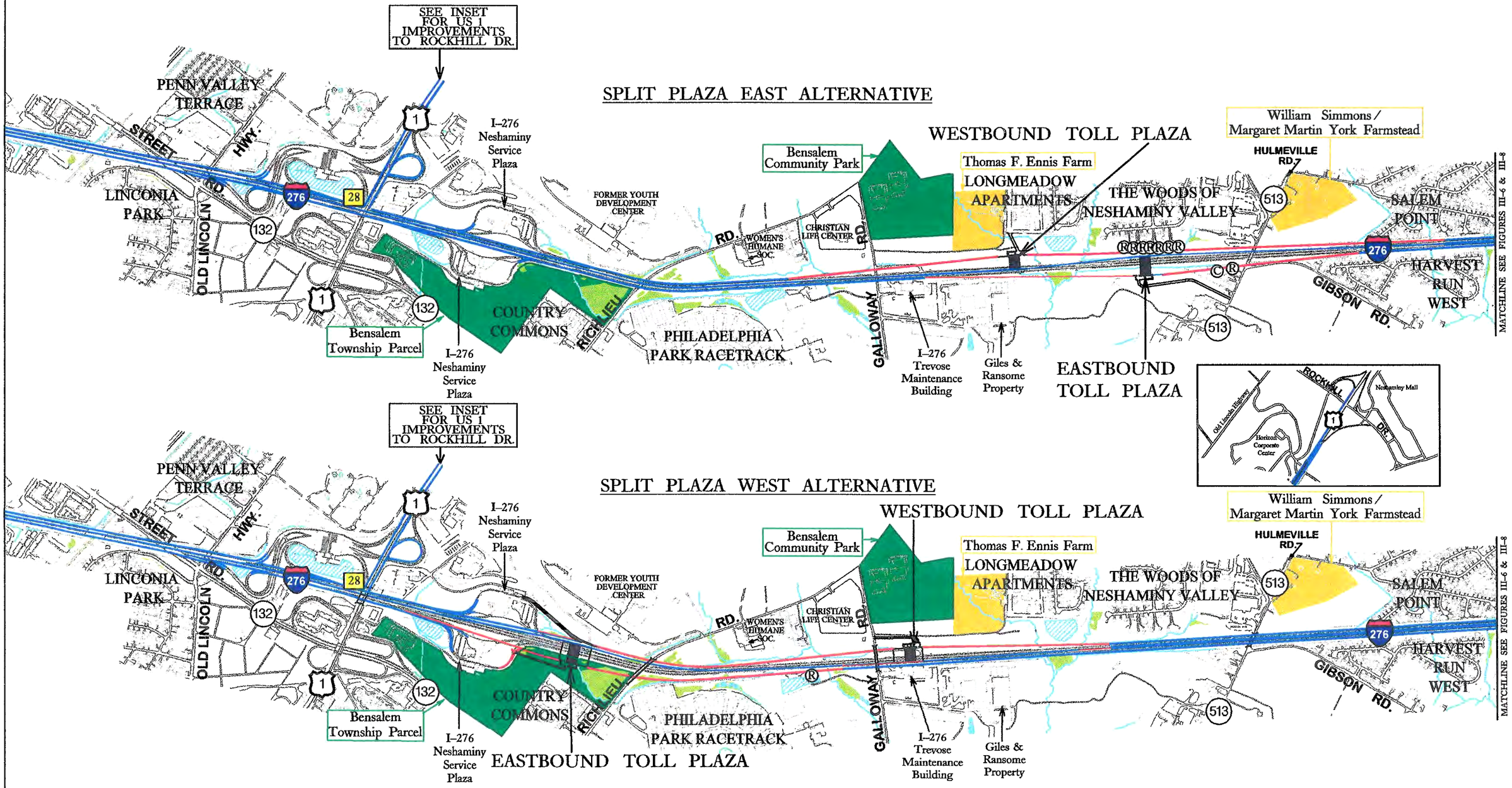
Previous correspondence with Bensalem Township officials did not identify the Bensalem Township Parcel **(Figure V-6)** as a township owned park. Field investigations revealed bicycling activities on a cleared parcel located along the PA 132 ramp to US 1 north near Interchange 28. Township officials confirmed the parcel is part of a larger undeveloped township owned wooded property and that Bensalem BMX, a non-profit organization, maintains the raceway and organizes bicycle events and races. Bensalem BMX is allowed free use and does not lease the property from the township. Raceway use is restricted to township residents or American Bicycle Association (ABA) members.

The raceway was built on lands conveyed 20 years ago by the Commonwealth of Pennsylvania to Bensalem Township. Deed research identified conditions stipulating that the lands conveyed be used for recreational purposes; and, if at any time Bensalem Township ceases to use the land for recreational purposes, the title reverts back to the Commonwealth.

On the basis that this parcel is publicly owned with public access for township residents and deeded for recreational purposes, it was determined that this parcel meets Section 4(f) criteria. The Bensalem Township Parcel was added to the I-276/I-95 Section 4(f) Inventory **(Figure V-3)**. As explained previously and illustrated on **Figures V-6** and **V-7**, Modified Plaza West was developed to avoid the Bensalem Township Parcel and reduce resource impacts. More details regarding the development of the Modified Plaza West Alternative is located in **Section III-H** of this FEIS. **Table V-3** identifies the Section 4(f) use (2.26 ha/5.58 ac) associated with the Split Plaza West.

b. Interchange Element Alternatives

Eleven Build Alternatives were initially considered in the Interchange Element **(Table V-1)**. Based on initial engineering and resource information known at the time of the 1998 PAA, Section 4(f) impacts ranged from 5 to 7 uses of Section 4(f) protected public parks with a minimal use of 1.6 ha (3.9 ac) as listed in **(Table V-1)**. Nine alternatives were not carried forward **(Figure V-4)** due mainly to substantially higher residential and commercial displacements and Section 4(f) uses **(Table V-1)**. As a result, Flyover A and Single Loop A were identified for further study along with Concept D, which was further studied as the single New Alignment Alternative **(Table V-2).** After engineering refinements to minimize Section 4(f) use, it was determined that the Flyover A and Single Loop A Alternatives would have a similar range of environmental impacts, including the same use of 1.2 ha (3.1 ac) of three parcels within the Section 4(f) protected Black Ditch Park **(Table V-2)**. In comparison, Concept D **(Figure III-11)** would also impact three Section 4(f) protected parcels, however, the Section 4(f) use would more than double (3.0 ha/7.5 ac versus 1.2 ha/3.1 ac) when compared to Flyover A and Single Loop A **(Table V-2).** For this reason and because of substantially higher (57 versus 7) residential displacements and wetland impacts (3.2 ha/8.1 ac versus 1.5 ha/3.8 ac) when compared to Single Loop A, Concept D was not carried forward **(Figure V-4)**. This resulted in Flyover A and Single Loop A being selected for detailed study in the DEIS, at which time engineering refinements occurred and Section 4(f) use was reduced to a single parcel in Black Ditch Park. As explained in subsequent discussions, it was calculated that both alternatives would require a single use of 1.10 ha (2.74 ac) of Black Ditch Park for ramp construction/stormwater management **(Table V-3)**.



REFER TO FIGURE V–3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

ALTERNATIVES STUDIED IN DETAIL – TOLL PLAZA ELEMENT

Split Plaza East and Split Plaza West were the two Build Alternatives initially identified for detailed study as recommended in the August 1998 PAA Report. It was subsequently determined that the Section 4(f) protected Bensalem Township Parcel would be impacted by the Split Plaza West Alternative. Concurrent with the re-evaluation of the toll plaza design that was necessitated by the Year 2025 traffic analysis, additional engineering began to evaluate avoidance of the Section 4(f) property. Although implementation of E-*ZPass* reduced the width of the initially proposed toll plazas, Split Plaza West would still impact the Bensalem Township Parcel.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Existing I–276 Interchange
- Surface Water
- Wetland
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Proposed Stormwater Management

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FIGURE V–6
ALTERNATIVES STUDIED IN DETAIL
TOLL PLAZA ELEMENT

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE V-3
ALTERNATIVES STUDIED IN DETAIL IMPACT SUMMARY (JULY 2000)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Split Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Threatened and Endangered Species Populations	0	0	8	8	4	6
Wetlands (ha/ac)	0.33 / 0.82	1.00 / 2.48	1.03 / 2.55	0.87 / 2.14	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.37 / 0.92	0.10 / 0.22	2.70 / 6.70	2.70 / 6.70	0	0
Forestland (ha/ac)	4.99 / 12.33	4.86 / 12.02	5.90 / 14.57	5.56 / 13.74	3.01 / 7.45	3.55 / 8.76
Rangeland (ha/ac)	3.07 / 7.58	3.61 / 8.92	0.53 / 1.30	0.52 / 1.29	0 / 0	0.14 / 0.34
Surface Water (crossings)	7	8	6	5	1	1
Perennial Stream Impacts (m/ft)	337 / 1,107	807 / 2,646	287 / 941	256 / 841	181 / 594	70 / 230
Intermittent Stream Impacts (m/ft)	905 / 2,968	970 / 3,183	1,614 / 5,296	1,280 / 4,198	206 / 677	206 / 677
Farmland (ha/ac)	2.31 / 5.71	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites (ha/ac)	0	0	3	3	0	0
Eligible Historic Architectural Resources	0	0	0	0	0	0
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	**0 / 0**	**1 / 0 [2]**	**1 / 0**	**1 / 0**	**0 / 1 [3]**	**0 / 1 [3]**
Section 4(f) Resource Use (ha/ac)	**0 / 0**	**2.26 / 5.58 [2]**	**1.10 / 2.74**	**1.10 / 2.74**	**0.026 / 0.064**	**0.032 / 0.080**
Potential Sensitive Waste Sites	7	7	13	13	5	5
Public Facilities and Services	0	0	0	0	0	0
Commercial Property Displacements	3	0	7	6	2	2
Residential Property Displacements	9	1	12	8	7	2
Institutional Property Displacements	0	0	1	1	0	0
Utility Relocations (PECO)	0	3	1	1	0	0
Total Interchange Section Cost Estimate (million $) [4]	92	88	296	282	177 [5]	180 [5]

1 The Alternatives Studied in Detail impacts Black Ditch Park parcel 005-021-305 (impact due to ramp construction on fill embankment) and parcel 005-029-160-001 (impact due to stormwater management)
2 Includes Section 4(f) use of Bensalem Township Parcel unknown at time of the PAA Report
3 Includes Section 4(f) use of NRHP eligible Pennsylvania Railroad
4 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
5 This cost estimate does not include costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.

In addition to the six alternatives studied in detail, another new interchange alternative, the Northwest Quadrant Hybrid Alternative (NWQHA), was developed based on CAC member suggestions during later stages of the detailed study phase. This is illustrated on **Figure III-12A** of the FEIS. The NWQHA had greater Section 4(f) and wetland impact and did not meet the defined project needs as adequately as the Flyover A and Single Loop A Alternatives. For these reasons, the NWQHA was not carried forward for additional engineering and environmental impact analysis.

c. Bridge Element Alternatives

Existing I-276 presently connects to the New Jersey Turnpike Extension via a four-lane bridge across the Delaware River that was built during the mid-1950s. The 1998 PAA Report concluded that a six lane bridge would be needed based on Design Year 2020 capacity requirements and that design constraints preclude widening of the existing Delaware River Turnpike Bridge to meet interstate standards. The Bridge North and Bridge South Alternatives were both recommended for detailed evaluation in the 1998 PAA **(Section III)**. Each would be a new three lane one-directional structure to the north or south of the existing bridge. The existing bridge would remain in use as a three-lane one-directional bridge with shoulders designed to meet interstate standards.

Table V-2 indicates how both Bridge North and Bridge South originally had the potential for involving use of two Section 4(f) properties due to the presence of the linear Delaware Canal State Park and the Pennsylvania Railroad **(Figure V-3)**. This potential use required additional engineering investigations, followed by consultations with jurisdictional officials to determine Section 4(f) property boundaries. At the time of the detailed study phase, it was determined that both the Bridge North and Bridge South Alternatives could avoid the National Historic Landmark/NRHP listed Delaware Canal within the Delaware Canal State Park by use of PENNDOT and PTC owned right-of-way, but could not avoid use of the linear NRHP eligible Pennsylvania Railroad property protected by Section 4(f) **(Table V-3** and **Figure V-3)**.

(1) Additional Section 4(f) Coordination

Additional coordination identified another resource that would potentially merit Section 4(f) protection upon inception. The Delaware River Heritage Trail, proposed by the National Park Service (NPS), has not yet been designated/constructed, and currently has not received an official Section 4(f) determination by FHWA, however the trail has been included in the Section 4(f) resource inventory at this time. The proposed trail would extend from Morrisville to Philadelphia in Pennsylvania and Trenton to Palmyra in New Jersey, crossing the Delaware River via the Tacony-Palmyra and Calhoun Street Bridges **(Figure V-3)**. Sections of this multi-use pathway exist outside of the study area; however, the NPS has identified conceptual plans for a trail in the vicinity of the Delaware River Turnpike Bridge that would use the US 13 corridor to connect future trails along the Delaware Canal within the Delaware Canal State Park. Consultation with the NPS and the Delaware Canal State Park officials will continue as trail development plans are finalized in the study area. Based on available information, there would be no impact to the proposed Delaware River Heritage Trail.

6. Alternatives Carried Forward in DEIS

As a result of the additional engineering and traffic analyses previously described, a total of six Build Alternatives (two Build Alternatives for each project element) were carried forward for detailed impact evaluation in **Section IV** of the DEIS. Although the No-Build Alternative does not meet the project need, it was used in **Section IV** of the DEIS as a comparison of impacts with the six Build Alternatives.

Results of the updated impact summaries for the re-engineered alternatives carried forward in the DEIS are listed in **Table V-4**. These can be compared to **Table V-3** to show the overall reduction of environmental impacts throughout the project area and minimization of Section 4(f) uses in the Toll Plaza and Interchange Elements. Discussions of how environmental impacts were reduced are included in **Section III-H** and **III-I** of this FEIS.

a. Toll Plaza Element - Section 4(f) Impacts

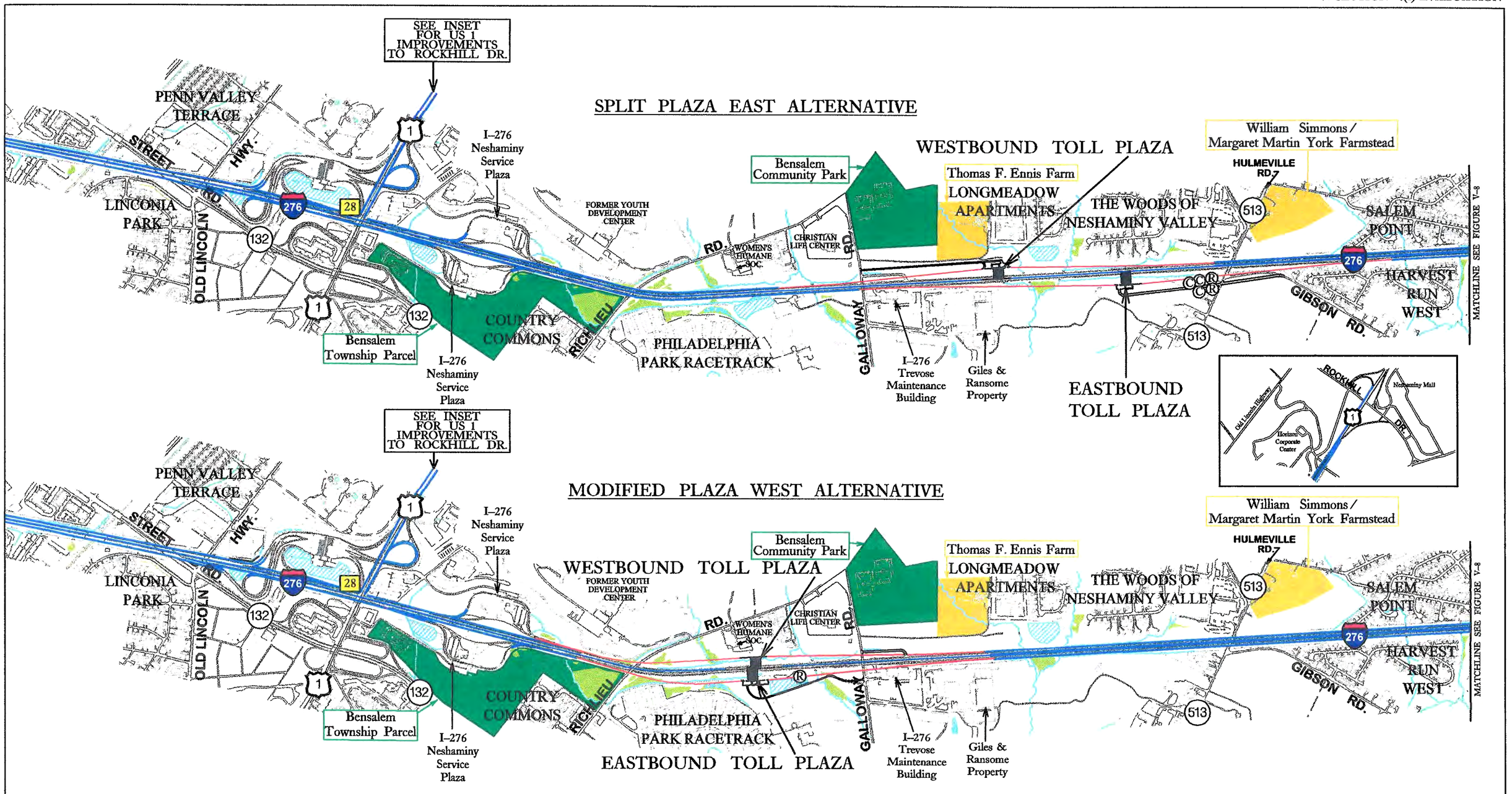
There are no Section 4(f) uses in the Toll Plaza Element **(Figure V-7)**.

b. Interchange Element - Section 4(f) Impacts

Flyover A and Single Loop A would require use of 0.038 ha (0.094 ac) of public parkland from Black Ditch Park **(Table V-4)** to connect future I-95 northbound and southbound as part of the I-276/I-95 interchange **(Figure V-8)**. Previous Section 4(f) use of 1.10 ha (2.74 ac) **(Table V-3)** is reduced **(Table V-4)** due to two design modifications. These include use of piers instead of fill embankment and removal of the stormwater management facility. The 0.038 ha (0.094 ac) use of the Section 4(f) property is a partially wooded floodplain between Mill Creek and I-276, and is part of a 3.41 ha (8.43 ac) parcel acquired by Bucks County in 1971.

c. Bridge Element - Section 4(f) Impacts

The need to build a new parallel bridge across the Delaware River requires Section 4(f) use of the linear NRHP eligible Pennsylvania Railroad, owned by AMTRAK **(Figure V-9)**. The NRHP boundaries would be spanned and Section 4(f) impacts would be limited to extensions of existing concrete piers **(Figure V-9)**. The Bridge North Alternative would require use of 0.026 ha (0.064 ac) and the Bridge South Alternative would require use of 0.032 ha (0.080 ac) to extend the three existing piers that currently occupy 0.033 ha (0.082 ac) of AMTRAK-owned land within the NRHP nominated property **(Figure V-9)**.



REFER TO FIGURE V–3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

ALTERNATIVES CARRIED FORWARD IN DEIS – TOLL PLAZA ELEMENT

Engineering efforts to avoid the Section 4(f) protected Bensalem Township Parcel focused on locating the eastbound and westbound plazas together in the form of a conventional toll plaza. This modified toll plaza was shifted east of Richlieu Road and avoided the Bensalem Township Parcel, a Section 4(f) property. Additional modifications occurred in response to resource agency requests to reduce natural resource impacts as explained in **Section III**. As a result, the Split Plaza West Alternative **(Figure V-6)** was not studied further and the Modified Plaza West Alternative was carried forward in the DEIS, with updated impacts listed on **Table V-4**.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Existing I–276 Interchange
- Surface Water
- Wetland
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–7
ALTERNATIVES CARRIED FORWARD IN DEIS
TOLL PLAZA ELEMENT

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

SINGLE LOOP A & FLYOVER A ALTERNATIVES

SINGLE LOOP A ALTERNATIVE
SEE INSET FOR FLYOVER A (BOTTOM RIGHT)

EXISTING & FUTURE

EXISTING

FUTURE

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I-95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I-95 / PA 413 PROJECT).

NOTE: SEE FIGURE IV-5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV-A.5.

FLYOVER A ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Structure
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- Wetland
- I-95 / PA 413 Project Wetland Replacement Site
- Proposed Stormwater Management
- PECO Property
- State-Owned Property (Outside of Hwy. R.O.W.)
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Ⓤ Utility Relocation
- Proposed Bridge Deck

REFER TO FIGURE V-3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

SINGLE LOOP A ALTERNATIVE

The Single Loop A Alternative differs from the Flyover A Alternative in that the I-276 eastbound to future I-295 northbound ramp is changed from a flyover ramp to a loop ramp in the southeast quadrant. Since this is the only loop ramp in this alternative, it is appropriately named Single Loop A. An at-grade loop ramp is less expensive to build than a flyover ramp, but it requires more area. In this case, the landlocked property behind the Bristol Plaza would become required right-of-way and an ideal location for the loop ramp. The First Baptist Church of Bristol would be impacted as well as the eight commercial properties and eight residential properties located on the figure.

The Single Loop A Alternative would impact Black Ditch Park. Section 4(f) use would include 0.038 ha (0.094 ac) of public parkland to place two piers to support structures for I-95 and I-276 ramp connections.

FLYOVER A ALTERNATIVE

The main design characteristic of the Flyover A Alternative is that all ramps would make direct connections between I-95 and I-276, including those that "fly over" both interstates to make a connection. Flyover ramps tend to be more expensive than at-grade ramps primarily because of the required bridge structures. The Flyover A Alternative would impact the First Baptist Church of Bristol as well as nine commercial properties and 12 residential properties.

Flyover A would impact Black Ditch Park the same as Single Loop A, including Section 4(f) acquisition of 0.038 ha (0.094 ac) of public parkland to place support structures for I-95 and I-276 ramp connections.

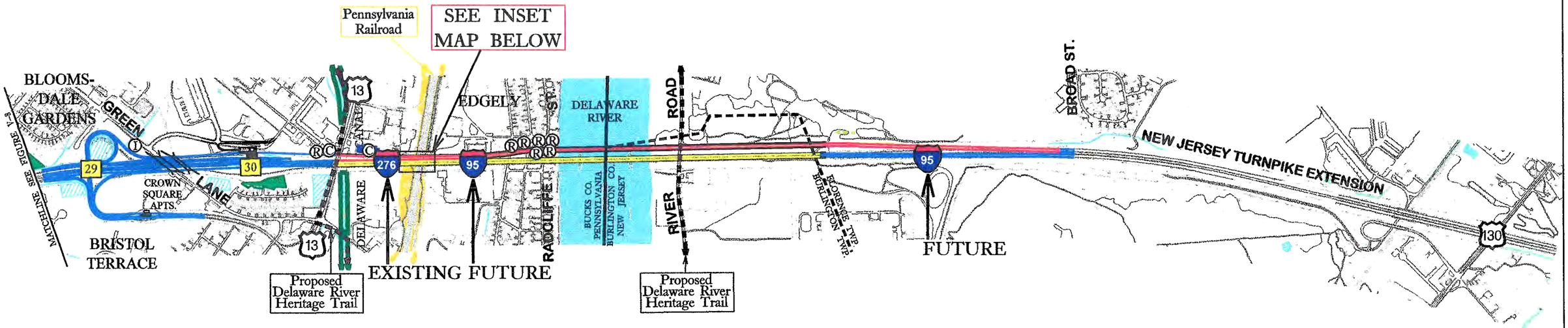
PIER SUPPORT AND BRIDGE DECK DESIGN CARRIED FORWARD IN DEIS

I-276 / I-95 INTERCHANGE PROJECT

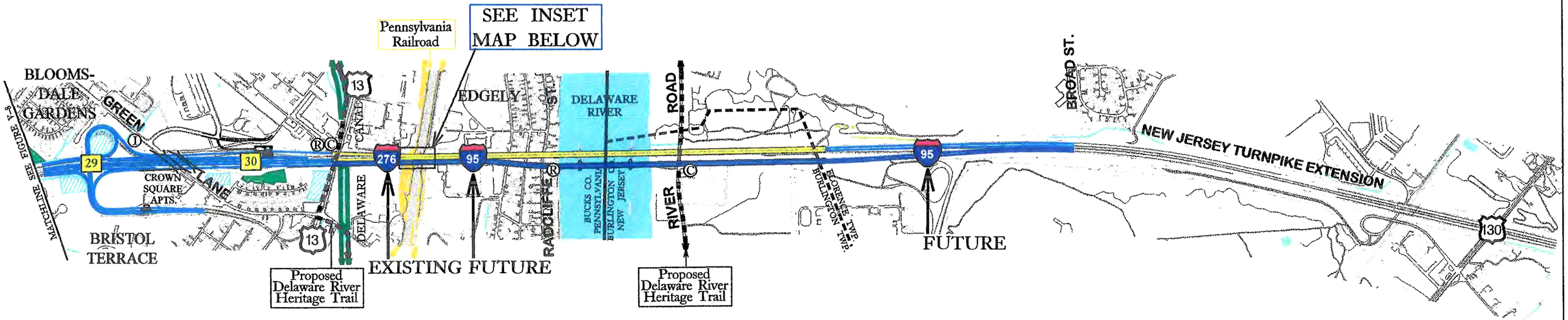
FIGURE V-8
ALTERNATIVES CARRIED FORWARD IN DEIS
INTERCHANGE ELEMENT

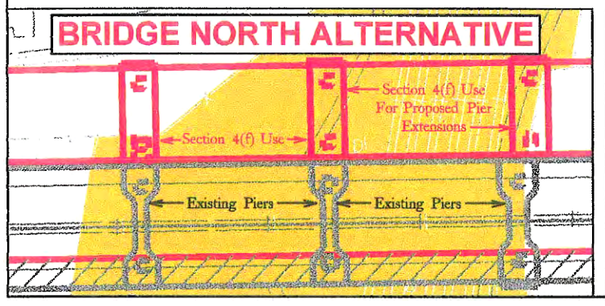
1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

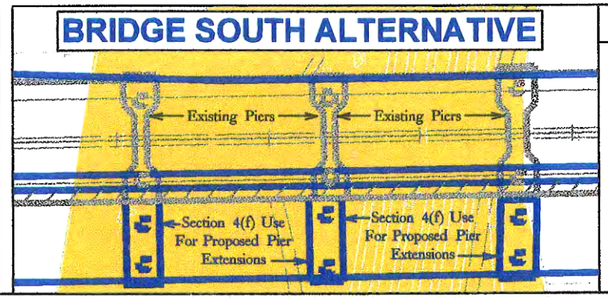
BRIDGE NORTH ALTERNATIVE



BRIDGE SOUTH ALTERNATIVE







REFER TO FIGURE V–3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade of Existing Bridge
- 29 Exisiting I–276 Interchange
- Surface Water
- Proposed Multi–Use Trail
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–9
ALTERNATIVES CARRIED FORWARD IN DEIS
BRIDGE ELEMENT

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE V-4
ALTERNATIVES CARRIED FORWARD IN DEIS IMPACT SUMMARY (APRIL 2001)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Modified Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Federal Threatened and Endangered Species	0	0	0	0	1 [2]	1 [2]
State Threatened and Endangered Species	0	0	6	6	3	4
Wetlands (ha/ac)	0.35 / 0.86	0.47 / 1.16	1.03 / 2.55	0.84 / 2.09	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.27 / 0.68	0.20 / 0.49	1.84 / 4.54	1.84 / 4.54	0.11 / 0.28	0.11 / 0.28
Forestland (ha/ac)	3.54 / 8.75	1.93 / 4.78	5.88 / 14.53	5.54 / 13.70	3.18 / 7.87	3.38 / 8.35
Rangeland (ha/ac)	4.39 / 10.85	1.57 / 3.87	0.81 / 2.01	0.81 / 2.01	0 / 0	0 / 0
Surface Water (crossings)	6	6	7	6	2	2
Perennial Stream Impacts (m/ft)	194 / 635	965 / 3,165	241 / 790	210 / 690	229 / 750	118 / 386
Intermittent Stream Impacts (m/ft)	363 / 1,190	346 / 1,134	966 / 3,169	957 / 3,139	204 / 669	198 / 651
Farmland (ha/ac)	1.65 / 4.08	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites	0	0	3	3	0	0
Eligible Historic Architectural Resources	0	0	0	0	0	0
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	**0 / 0**	**0 / 0**	**1 / 0**	**1 / 0**	**0 / 1**	**0 / 1**
Section 4(f) Resource Use (ha/ac)	**0 / 0**	**0 / 0**	**0.038 / 0.094**	**0.038 / 0.094**	**0.026 / 0.064**	**0.032 / 0.08**
Potential Sensitive Waste Sites	8	6	16	16	5	5
Public Facilities and Services	0	0	0	0	0	0
Commercial Property Displacements	3	0	9	8	2	2
Residential Property Displacements	2	1	12	8	7	2
Institutional Property Displacements	0	0	1	1	1	1
Major Utility Relocations (PECO)	0	0	1	1	0	0
Total Section Cost Estimate (million $) [3]	116	107	332	310	208 [4]	223 [4]

1 The Alternatives Carried Forward in the DEIS impact Black Ditch Park parcel 005-021-305 (impact from ramp construction). Design for ramp construction includes pier work rather than fill embankment.
2 The federally listed Shortnose Sturgeon is also included in the state threatened and endangered species total because it is listed as Pennsylvania and New Jersey Endangered.
3 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
4 This cost estimate does not include costs associated with re-decking and painting of the existing Delaware River Turnpike Bridge.

7. Alternatives Presented in FEIS

On May 11, 2001 the Draft Environmental Impact Statement (DEIS)/Draft Section 4(f) Evaluation was filed with the US Environmental Protection Agency and was made available for public review. The availability of the DEIS was advertised through the Federal Register, press releases, newsletters distributed to local citizens throughout the study area and display advertisements in local newspapers.

Copies of the DEIS were distributed to Federal, State, and local agencies, public officials, libraries and others. Comments were requested concerning the DEIS and the proposed project alternatives. The deadline for receipt of comments was July 2, 2001.

As discussed in the **Preface** of this FEIS, the comments from the DEIS comment period including the Public Hearing on June 12, 2001, and changes that occurred in the study area since the distribution of the DEIS resulted in slight modifications to the Alternatives Carried Forward in the DEIS. The changes that have occurred since the distribution of the DEIS are as follows:

- ✓ Conversion of farmlands to residential development in the Toll Plaza Element
- ✓ One additional residential displacement and two additional commercial displacements in the Interchange Element
- ✓ Inclusion of additional state listed rare, threatened and endangered species in the study area
- ✓ Reconfiguration of proposed stormwater management facilities to reduce wetland impacts in the study area
- ✓ Revisions to candidate wetland replacement sites in the study area
- ✓ Additional coordination with the Pennsylvania and New Jersey State Historic Preservation Offices in the Bridge Element
- ✓ Revisions to floodplain limits in the study area
- ✓ Coordination with the Keeper of the National Register of Historic Places resulted in the determination that the section of the Delaware Canal buried under US 13 and adjacent parking area, outside the PTC right-of-way, retains integrity and contributes to the historic significance of the Delaware Canal Historic Landmark. Since one of the proposed piers for the Bridge North Alternative is just outside the PTC right-of-way on the north side of the existing bridge, a Section 4(f) impact may be determined for Bridge North, as well as an historic architectural impact (see **Section V-F**).

The incorporation of the modifications to the Alternatives Carried forward in the DEIS are represented as the Alternatives Presented in the FEIS. Although these modifications are slight, an updated impact summary table is presented in **Table V-5**. Updated graphics of the Alternatives Presented in the FEIS are shown in **Figures V-10, V-11,** and **V-12.** These alternatives form the basis for the Section 4(f) Evaluation that follows in the assessment of least harm.

8. Assessment of Least Harm

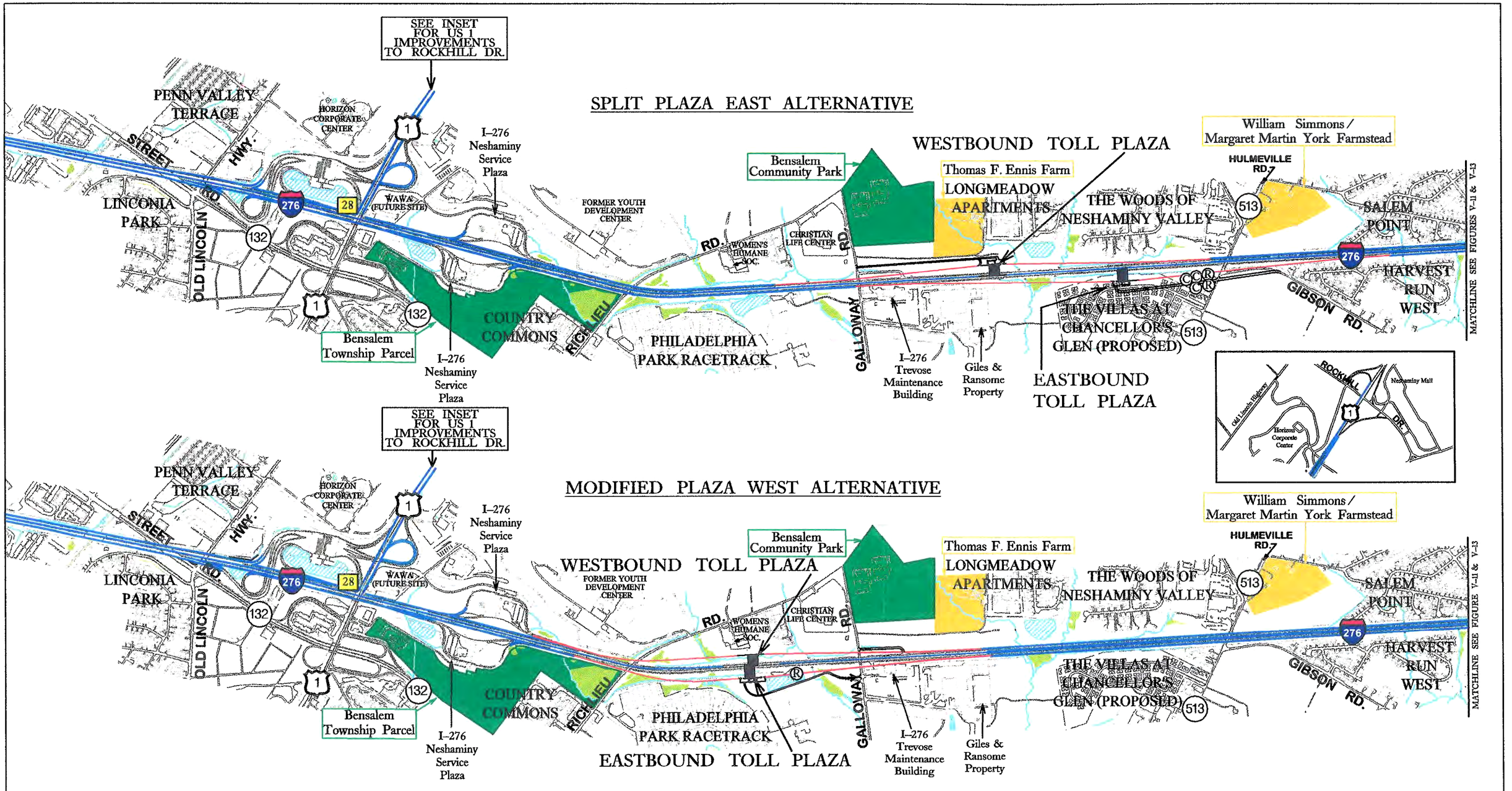
The detailed study analysis and evaluation of alternatives presented in the FEIS determined that the project requires use of three properties protected by Section 4(f). The Flyover A and Single Loop A Alternatives in the Interchange Element require the same use of one Section 4(f) property (Black Ditch Park). In the Bridge Element, both the Bridge North and Bridge South Alternatives require use of the NRHP eligible Pennsylvania Railroad. The Bridge North Alternative also requires the use of the Delaware Canal National Historic Landmark.

a. Shifts/Design Modifications to Avoid or Minimize Use of Section 4(f) Resources

Section III describes and illustrates the preliminary alternatives considered in 1997 **(Table V-1)**, followed by descriptions and illustrations of the alternatives further studied in 1998 **(Table V-2)**, the alternatives studied in detail in 2000 **(Table V-3)**, the alternatives carried forward in the DEIS in 2001 **(Table V-4)** and finally the alternatives presented in the FEIS in 2002 **(Table V-5)**. As listed on **Figure V-4**, this process resulted in the development and evaluation of 20 Build Alternatives as well as the No-Build, Transit, TSM and CMS strategies. The rationale for the Section 4(f) avoidance and minimization is as follows:

Where any Section 4(f) resources were potentially involved with the Build Alternatives, minor shifts and design modifications were considered to avoid such resources, as well as to avoid or minimize adverse social, economic, and environmental impacts. Where such shifts met the project need, were prudent and feasible, and reduced Section 4(f) uses, these shifts were incorporated into alternative alignments further refined, six of which were ultimately carried forward in the DEIS **(Tables V-1, V-2, V-3** and **V-4)**. **Table V-5** lists the overall impacts including Section 4(f) uses of the Build Alternatives presented in the FEIS.

In total, the alignment shifts and design modifications resulted in the avoidance of seven Section 4(f) properties throughout the study area **(Tables V-1, V-2, V-3** and **V-4)**. The overall number of Section 4(f) uses was reduced from a high range of 8 to 9 **(Table V-1)** to 3 **(Tables V-3** and **V-4).** These include Black Ditch Park, the Pennsylvania Railroad, and the Delaware Canal National Historic Landmark. Details of efforts to avoid and minimize use of Section 4(f) properties are discussed on **Pages V-19** to **V-28**.



REFER TO FIGURE V–3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

ALTERNATIVES PRESENTED IN FEIS – TOLL PLAZA ELEMENT

The Split Plaza East and Modified Plaza West Alternatives have not changed since the distribution of the DEIS, and remain as the alternatives chosen for detailed study in **Section IV**. However, since the DEIS distribution, land that was classified as farmland has been converted to a residential land use. A proposed residential development (The Villas at Chancellor's Glen) is located southwest of the Hulmeville Road crossing of I-276. For the Split Plaza East Alternative, the development, as proposed, would eliminate farmland impacts but have the potential to substantially increase residential displacements. The Modified Plaza West Alternative would have no change in displacements due to the proposed residential development.

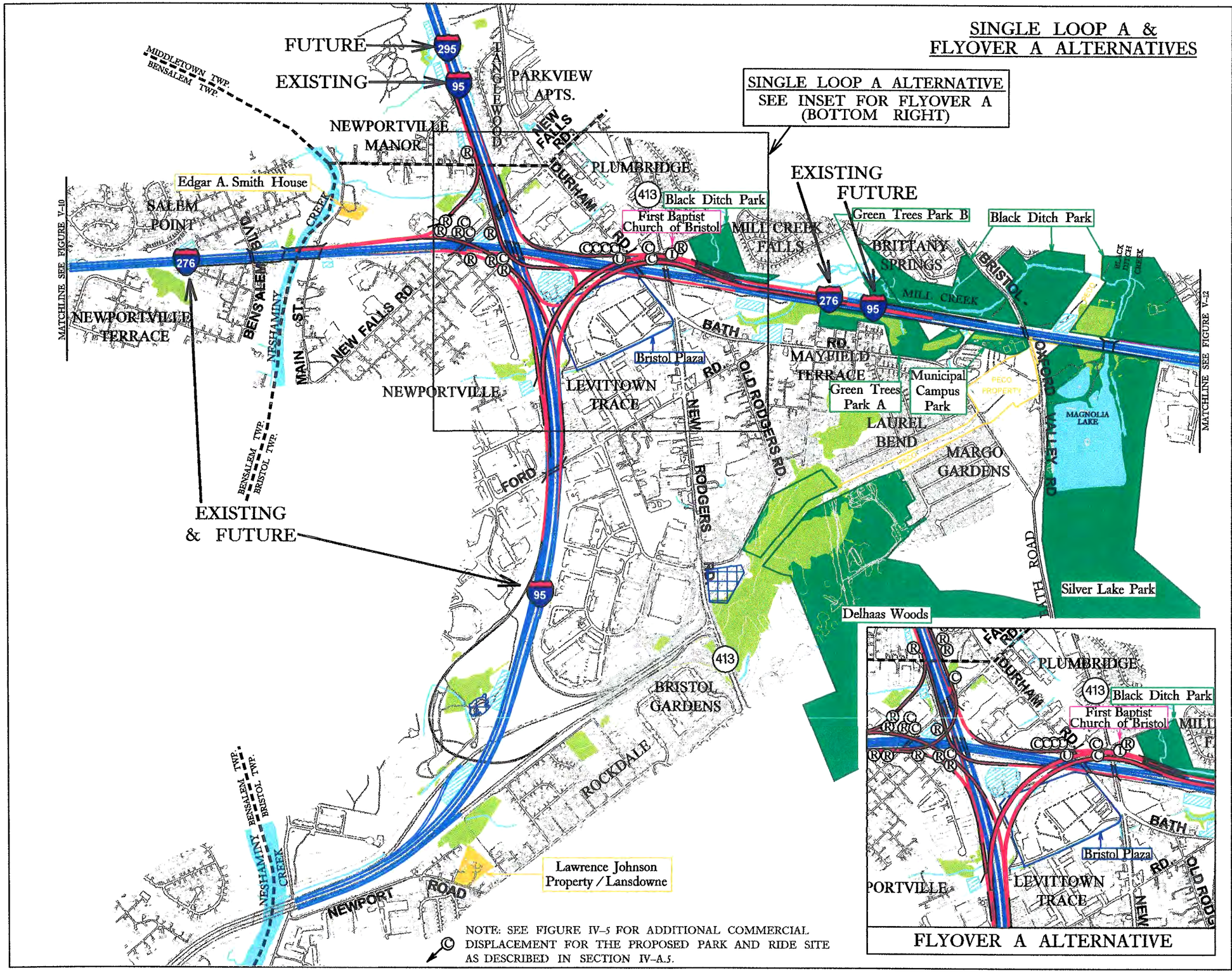
LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- 28 Existing I–276 Interchange
- Surface Water
- Wetland
- Section 4(f) Public Recreational Land
- NRHP Eligible / Listed Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–10
ALTERNATIVES PRESENTED IN FEIS
TOLL PLAZA ELEMENT

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Proposed Stormwater Management
- PECO Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Ⓤ Major Utility Relocation
- Proposed Bridge Deck

REFER TO FIGURE V-3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

ALTERNATIVES PRESENTED IN FEIS – INTERCHANGE ELEMENT

The Flyover A and Single Loop A Alternatives have not changed since the distribution of the DEIS and remain as alternatives chosen for detailed study in **Section IV**.

Since the DEIS, several SWM facilities were reconfigured in the Interchange Element to avoid wetland impacts as a result of comments received from natural resource agencies during the Public Comment Period. This change also reduced impacts to forestlands.

Also as part of the DEIS review, various environmental agencies were concerned with the survey results for threatened and endangered (T&E) species. To address these concerns, project team scientists conducted additional surveys for T&E plants and animals from August through November 2001. In addition to other known species, the Eastern mudminnow, a species not previously reported in the DEIS, was found at Magnolia Lake in the Silver Lake Nature Center and in the Mill Creek corridor.

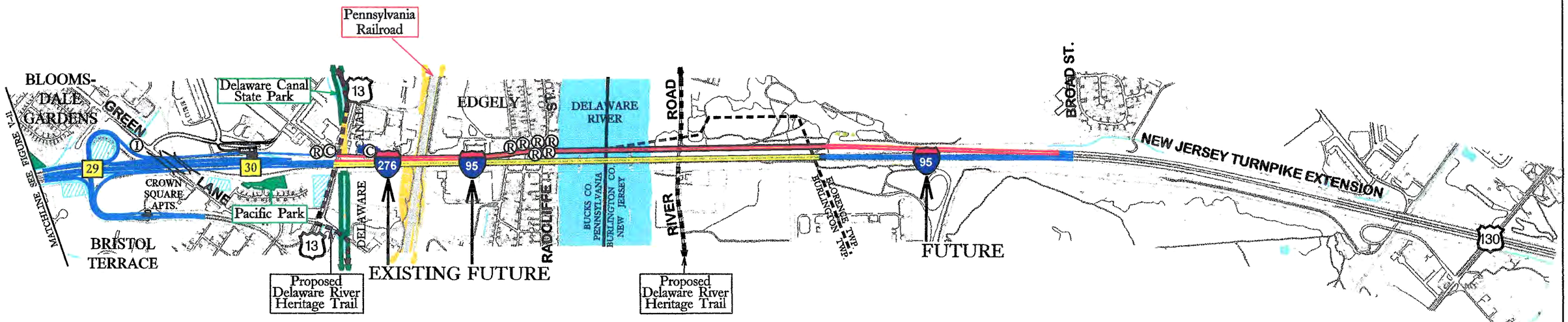
Since the DEIS, the decision was made to displace an additional property containing one residence and two commercial businesses in both the Single Loop A and Flyover A Alternatives. The property is located on New Falls Road in the northwest quadrant of the I-276/I-95 point-of-crossing and has unique zoning allowing for both residential and commercial uses.

I–276 / I–95 INTERCHANGE PROJECT

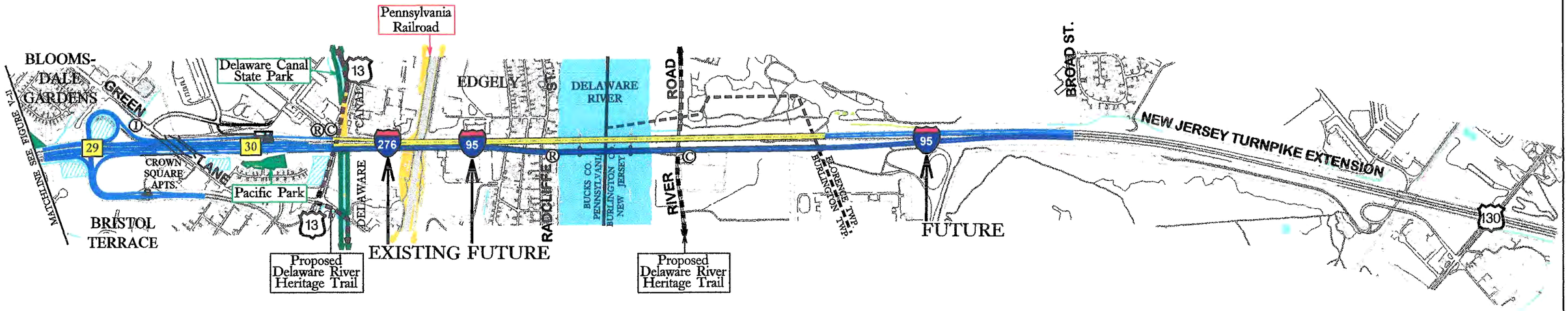
FIGURE V–11
ALTERNATIVES PRESENTED IN FEIS
INTERCHANGE ELEMENT

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

BRIDGE NORTH ALTERNATIVE



BRIDGE SOUTH ALTERNATIVE



REFER TO FIGURE V–3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

ALTERNATIVES PRESENTED IN FEIS – BRIDGE ELEMENT

The Bridge North and the Bridge South Alternatives have not changed since the distribution of the DEIS, and remain as the alternatives chosen for detailed study in **Section IV**. However, since the DEIS distribution, coordination continued with the Pennsylvania Historic Preservation Office concerning the project's potential impact on the Delaware Canal.

In addition, coordination with the New Jersey Historic Preservation Office resulted in the identification of one potential archaeological resource site in the Bridge Element study area. As shown in **Table V-5**, the Bridge North and Bridge South Alternatives potentially impact one archaeological site.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade of Existing Bridge
- 29 Exisiting I–276 Interchange
- Surface Water
- Proposed Multi–Use Trail
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Proposed Stormwater Management

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–12
ALTERNATIVES PRESENTED IN FEIS
BRIDGE ELEMENT

1 In = 1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

TABLE V-5
ALTERNATIVES PRESENTED IN FEIS IMPACT SUMMARY (JUNE 2003)

Resources	Toll Plaza Element		Interchange Element		Bridge Element	
	Split Plaza East	Modified Plaza West	Flyover A [1]	Single Loop A [1]	Bridge North	Bridge South
Federal Threatened and Endangered Species	0	0	0	0	1 [2]	1 [2]
State Threatened and Endangered Species	0	0	7	7	3	4
Wetlands (ha/ac)	0.35 / 0.86	0.47 / 1.16	0.61 / 1.52	0.40 / 1.00	0.15 / 0.36	0.03 / 0.06
100-Year Floodplain (ha/ac)	0.27 / 0.68	0.20 / 0.49	1.84 / 4.54	1.84 / 4.54	0.11 / 0.28	0.11 / 0.28
Forestland (ha/ac)	3.54 / 8.75	1.93 / 4.78	5.52 / 13.65	5.18 / 12.80	3.18 / 7.87	3.38 / 8.35
Rangeland (ha/ac)	4.39 / 10.85	1.57 / 3.87	0.81 / 2.01	0.81 / 2.01	0 / 0	0 / 0
Surface Water (crossings)	6	6	7	6	2	2
Perennial Stream Impacts (m/ft)	194 / 635	965 / 3,165	241 / 790	210 / 690	190 / 624	79 / 260
Intermittent Stream Impacts (m/ft)	363 / 1,190	346 / 1,134	966 / 3,169	957 / 3,139	204 / 669	198 / 651
Farmland (ha/ac)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites	0	0	3	3	1	1
Eligible Historic Architectural Resources	0	0	0	0	1	0
Section 4(f) Use of Public Parks and Historic Resources (Parks/Historic)	0 / 0	0 / 0	1 [3] / 0	1 [3] / 0	0 / 2 [4,5]	0 / 1 [4]
Section 4(f) Resource Use (ha/ac)	0 / 0	0 / 0	0.038 / 0.094	0.038 / 0.094	0.031 / 0.077	0.032 / 0.08
Potential Sensitive Waste Sites	8	6	16	16	5	5
Public Facilities and Services	0	0	0	0	0	0
Commercial Property Displacements	3	0	11	10	2	2
Residential Property Displacements	2 [6]	1	13	9	7	2
Institutional Property Displacements	0	0	1	1	1	1
Major Utility Relocations (PECO)	0	0	1	1	0	0
Total Section Cost Estimate (million $) [7]	116	107	332	310	208 [8]	223 [8]

1 The Alternatives Presented in the FEIS impact Black Ditch Park parcel 005-021-305 (impact from ramp construction). Design for ramp construction includes pier work rather than fill embankment.
2 The Federally listed Shortnose Sturgeon is also included in the State Threatened and Endangered Species total because it is listed as Pennsylvania and New Jersey Endangered.
3 Black Ditch Park.
4 Pennsylvania Railroad.
5 Delaware Canal National Historic Landmark.
6 The potential exists for a substantial number of displacements at the proposed Villas at Chancellor's Glen residential development in the Split Plaza East Alternative (**Figure ES-5**).
7 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
8 This cost estimate does not include costs associated with re-decking and painting of the existing Delaware River Turnpike Bridge.

(1) Interchange Element – Black Ditch Park Section 4(f) Avoidance and Minimization

Alignment shifts and design modifications using retaining walls instead of fill embankment along I-276 resulted in avoidance of five public parkland parcels (Black Ditch Park, Greentrees Park A and B, Bristol Township Municipal Campus and Silver Lake Park) within the Interchange Element. In addition, strategic placement of stormwater management basins outside of Black Ditch Park avoided another Section 4(f) use in Black Ditch Park. This resulted in Flyover A and Single Loop A being the two Build Alternatives in the Interchange Element presented in the FEIS **(Table V-5)**, with each having only one, identical Section 4(f) use (0.038 ha/0.094 ac) of Black Ditch Park.

A Section 4(f) avoidance alignment of Black Ditch Park was developed that shifts the Flyover A and Single Loop A Alternatives entirely out of Black Ditch Park **(Figure V-13)**. **Table V-6** compares the Section 4(f) Avoidance Alternative with the two Build Alternatives presented in the FEIS **(Table V-5)**, which include removal of the stormwater management facility and the use of piers to reduce Section 4(f) use in Black Ditch Park as noted in **Tables V-5** and **V-6**. It is noted in **Table V-6** that the initial DEIS Alternatives prior to minimization efforts included use of fill embankment for ramp construction in Parcel 005-021-305 and located stormwater management facilities in Parcel 005-029-160-001. Removal of the stormwater facilities and the use of piers to carry ramps reduced Section 4(f) use in Black Ditch Park from 1.10 ha (2.74 ac) to 0.038 ha (0.094ac). As a result, the initial DEIS Alternatives (pre-minimization) identified in **Table V-6** were not carried forward. For this reason, the FEIS Alternatives (post-minimization) in **Table V-6** are considered feasible and prudent and became the alternatives presented in the FEIS **(Table V-5)**.

By comparing the Section 4(f) Avoidance columns to the FEIS Alternatives (post-minimization) columns in **Table V-6,** an additional 12 commercial displacements (23 versus 11 and 22 versus 10) and 14 residential displacements (27 versus 13 and 23 versus 9) would occur in Newportville in order to avoid Section 4(f) impacts to Black Ditch Park. This translates to a potential annual tax base loss of about $475,400 to Bristol Township when compared to Flyover A and Single Loop A **(Table V-7)**. As mentioned previously, residential and commercial displacements and tax base loss have been a major concern to local businesses and public officials. Therefore, these Section 4(f) Avoidance Alternatives are considered not to be prudent due to their extraordinary socioeconomic impacts to Newportville.

As part of the Section 4(f) Avoidance Evaluation, additional engineering indicated the Flyover B **(Figure III-6A)**, Single Loop B **(Figure III-6B)** and Double Loop B **(Figure III-6C)** Alternatives are capable of Section 4(f) avoidance, considering the alignments of the proposed I-95 mainline ramps, by use of retaining walls along I-276. However, commercial properties **(Figure V-13)** would continue to be impacted similarly to that in the 1998 PAA **(Table V-1)**. Commercial displacements would range from 22 to 23, and further economic analysis using tax base data from **Table V-7** estimated that the additional tax base loss to Bristol Township would exceed $420,160 when compared to Flyover A and Single Loop A. These are considered to be extraordinary socioeconomic impacts to the local business community and to Bristol Township. As a result, consideration of Flyover B, Single Loop B, and Double Loop B as Section 4(f) Avoidance Alternatives is not prudent.

Section 4(f) avoidance and minimization of impacts have been coordinated with Bucks County, the owner of Black Ditch Park. Coordination with Bucks County officials was originally initiated to determine the extent of county owned parkland within the study area. In 1994, initial correspondence with Bucks County's Department of Parks and Recreation indicated the importance of a linear park along Mill Creek (initially identified as the Mill Creek Valley Drainage System) linking a variety of state, county and community parks through Falls, Bensalem, and Bristol Townships. The purposes of the parks are to link and protect watercourses, wetland, wildlife, sensitive ecosystems, and to provide recreational opportunities to the public.

Meetings were held on July 21, 1999, August 8, 1999, and March 14, 2000 with the Bucks County Department of Parks and Recreation. Impacts due to the project were discussed, including a review of Section 4(f) avoidance and minimization alternatives. It was explained how engineering efforts to reduce impacts included the use of engineered slopes, retaining walls to keep the area of impacts within the existing PTC owned right-of-way, and how the stormwater management basin was moved from Black Ditch Park into the adjoining PECO property.

SECTION 4(f) AVOIDANCE FOR THE SINGLE LOOP A & FLYOVER A ALTERNATIVES

SECTION 4(f) AVOIDANCE FOR THE SINGLE LOOP A ALTERNATIVE
SEE INSET FOR SECTION 4(f) AVOIDANCE FOR FLYOVER A (BOTTOM RIGHT)

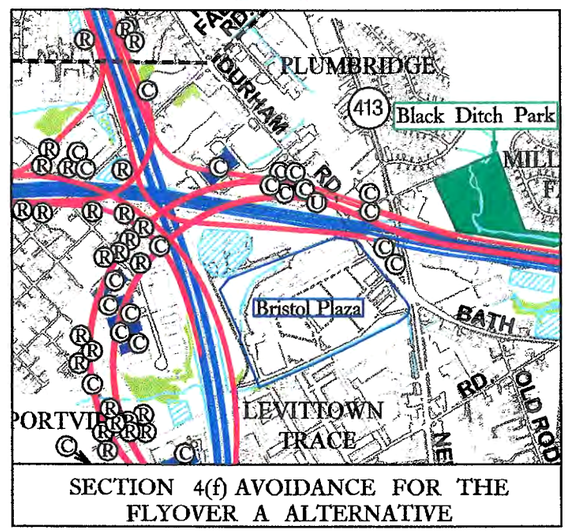
FUTURE
EXISTING
EXISTING & FUTURE
EXISTING
FUTURE

MIDDLETOWN TWP.
BENSALEM TWP.
PARKVIEW APTS.
NEWPORTVILLE MANOR
PLUMBRIDGE
Edgar A. Smith House
SALEM POINT
NEWPORTVILLE TERRACE
MILL CREEK FALLS
Black Ditch Park
Green Trees Park B
BRITTANY SPRINGS
MILL CREEK
Bristol Plaza
LEVITTOWN TRACE
MAYFIELD TERRACE
Green Trees Park A
Municipal Campus Park
LAUREL BEND
MARGO GARDENS
MAGNOLIA LAKE
Delhaas Woods
Silver Lake Park
BRISTOL GARDENS
ROCKDALE
Lawrence Johnson Property / Lansdowne
BENSALEM TWP.
BRISTOL TWP.

NOTE: NO DIRECT ACCESS FROM FUTURE I–95 SB TO SR 0413

NOTE: SEE FIGURE IV–5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV–A.5

MATCHLINE SEE FIGURE V–10
MATCHLINE SEE FIGURE V–12



SECTION 4(f) AVOIDANCE FOR THE FLYOVER A ALTERNATIVE

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Surface Water
- Major Economic Center
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Wetland
- I–95 / PA 413 Wetland Replacement Site
- Proposed Stormwater Management
- PECO Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓤ Major Utility Relocation

REFER TO FIGURE V–3 FOR SECTION 4(f) PROPERTY DESCRIPTIONS

SINGLE LOOP A SECTION 4(f) AVOIDANCE ALTERNATIVE

(versus Single Loop A Presented in FEIS)

Key Advantages:

- ✓ Section 4(f) Impacts to Individual Parks are reduced from one impact (Black Ditch Park - 0.038 ha / 0.094 ac) to no impacts
- ✓ Potential Institutional Property Displacements are reduced from one displacement (First Baptist Church of Bristol) to no displacements

Key Disadvantages:

- ✓ Potential Commercial Property Displacements are increased from 10 to 22
- ✓ Potential Residential Property Displacements are increased from 9 to 23
- ✓ Potential Annual Tax Base Loss of $475,400

FLYOVER A SECTION 4(f) AVOIDANCE ALTERNATIVE

(versus Flyover A Presented in FEIS)

Key Advantages:

- ✓ Section 4(f) Impacts to Individual Parks are reduced from one impact (Black Ditch Park - 0.038 ha / 0.094 ac) to no impacts
- ✓ Potential Institutional Property Displacements are reduced from one displacement (First Baptist Church of Bristol) to no displacements

Key Disadvantages:

- ✓ Potential Commercial Property Displacements are increased from 11 to 23
- ✓ Potential Residential Property Displacements are increased from 13 to 27
- ✓ Potential Annual Tax Base Loss of $475,400

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–13
SECTION 4(f) AVOIDANCE INTERCHANGE ELEMENT

1 In=1/4 Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km
N

TABLE V-6
SECTION 4(f) IMPACTS SUMMARY – INTERCHANGE ELEMENT

Resources	Flyover A Alternatives			Single Loop A Alternatives		
	DEIS Alternative - pre-minimization (July 2000) [1]	Section 4(f) Avoidance [2]	FEIS Alternative- post-minimization (June 2003) [3]	DEIS Alternative - pre-minimization (July 2000) [1]	Section 4(f) Avoidance [2]	FEIS Alternative- post-minimization (June 2003) [3]
Threatened and Endangered Species Populations	8	8	7	8	8	7
Wetlands (ha/ac)	1.03 . 2.55	2.10 / 5.20	0.61 / 1.52	0.87 / 2.14	2.00 / 4.94	0.40 / 1.00
100-Year Floodplain (ha/ac)	2.70 / 6.70	2.64 / 6.53	1.84 / 4.54	2.70 / 6.70	2.64 / 6.53	1.84 / 4.54
Forestland (ha/ac)	5.90 / 14.57	5.75 / 14.21	5.52 / 13.65	5.56 / 13.74	5.41 / 13.39	5.18 / 12.80
Rangeland (ha/ac)	0.53 / 1.30	1.82 / 4.50	0.81 / 2.01	0.52 / 1.29	1.82 / 4.50	0.81 / 2.01
Surface Water (crossings)	6	7	7	5	6	6
Perennial Stream Impacts (m/ft)	287 / 941	305 / 1001	241 / 790	256 / 841	275 / 901	210 / 690
Intermittent Stream Impacts (m/ft)	1,614 / 5,296	1,682 / 5,517	966 / 3,139	1,280 / 4,198	1,347 / 4,420	957 / 3,139
Farmland (ha/ac)	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Potential Archaeological Resources Sites	3	2	3	3	2	3
Eligible Historic Architectural Resources	0	0	0	0	0	0
Section 4(f) Use of Public Parks	**1 / 0**	**0 / 0**	**1 / 0**	**1 / 0**	**0 / 0**	**1 / 0**
Area of Section 4(f) Resource Use (ha/ac)	**1.10 / 2.74**	**0 / 0**	**0.038 / 0.094**	**1.10 / 2.74**	**0 / 0**	**0.038 / 0.094**
Potential Sensitive Waste Sites	13	N/A	16	13	N/A	16
Public Facilities and Services	0	0	0	0	0	0
Commercial Property Displacements	7	23	11	6	22	10
Residential Property Displacements	12	27	13	8	23	9
Institutional Property Displacements	1	0	1	1	0	1
Major Utility Relocations (PECO Substations)	1	1	1	1	1	1
Total Section Cost Estimate (million $) [4]	296	N/A	332	282	N/A	310

1 These initial DEIS Alternatives impact Black Ditch Park parcel 05-021-305 (impact due to ramp construction on fill embankment) and impacts to parcel 05-029-160-001 (due to stormwater management).
2 The Section 4(f) Avoidance Alternatives remove all impacts to Black Ditch Park.
3 The Section 4(f) Post Minimization Alternatives include removal of SWM and use of pier supports instead of fill embankment for ramp construction. These alternatives were presented in the FEIS.
4 Includes roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design and inspection.
N/A This information for these resources was not needed to evaluate the alternatives and is not at the same level of detail as that information developed for other project alternatives.

TABLE V-7
SOCIOECONOMIC IMPACTS – INTERCHANGE ELEMENT
SECTION 4(f) AVOIDANCE AND ALTERNATIVES PRESENTED IN FEIS

Resource	Flyover A Section 4(f) Avoidance	Flyover A	Single Loop A Section 4(f) Avoidance	Single Loop A
Commercial Displacements	23	11	22	10
Residential Displacements	27	13	23	9
Total Tax Base Impacts to Bristol Township [1] (Residential and Commercial)	$655,020 (0.639%)	$179,620 (0.1753%)	$617,950 (0.603%)	$142,550 (0.1391%)
Total Tax Base Impact to Middletown Township [2] (Residential and Commercial)	$19,320 (0.0156%)	$19,320 (0.0156%)	$2,920 (0.0024%)	$2,920 (0.0024%)
Total Tax Base Impact to Bucks County [3] (Residential and Commercial)	$674,340 (0.038%)	$198,940 (0.0112%)	$620,870 (0.035%)	$145,470 (0.0082%)

Bucks County Assessment Board (1/2000)
1 Bristol Township Total Assessed Value for 2001 was $102,483,500
2 Middletown Township Total Assessed Value for 2001 was $123,970,025
3 Bucks County Total Assessed Value for 2001 was $1,771,896,388

The proposed I-95 mainline ramps were originally designed to place the ramp on fill with a retaining wall that impacted Black Ditch Park and Mill Creek. Park officials expressed support for the design minimization efforts that included replacing the retaining wall with a bridge structure and two piers, which would reduce impacts to the floodplain of Mill Creek and to the park property **(Figure V-15)**. Bucks County officials were also interested in reducing stormwater flows and associated flooding in the Mill Creek Watershed. Impacts to the floodplain would require design mitigation because Mill Creek experiences severe flooding and future project design could aggravate existing problems. Possible mitigation of potential floodplain related impacts were discussed **(Section IV-J.4)**. Bucks County officials also supported consideration of noise attenuation in Black Ditch Park but expressed concern about maintenance agreements for maintaining the noise and retaining walls and also construction easements. The length, height and type of noise walls along Black Ditch Park and Silver Lake Park were discussed **(Section IV-O.3)**. Other issues discussed related to Section 4(f) impacts, mitigation and minimization opportunities included:

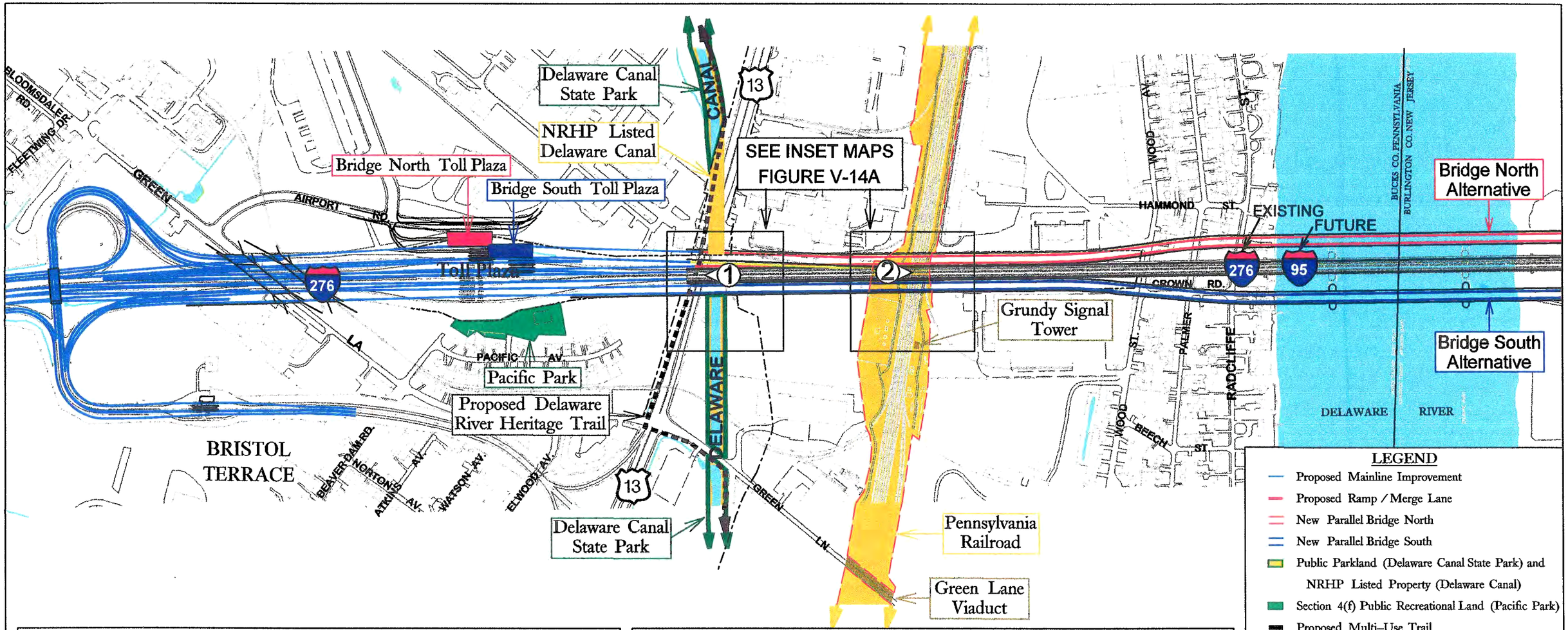
- ✓ Occurrence of wetlands along the project ROW in Black Ditch Park and Silver Lake Park **(Section IV-K.7)**.
- ✓ Potential wetland mitigation sites in county parkland.
- ✓ Potential visual impacts from both retaining walls and noise barriers **(Section IV-R.3)**.
- ✓ Potential property displacement (residential and commercial) to avoid Section 4(f) **(Section V-B.3)**.

(2) Bridge Element - Pennsylvania Railroad Section 4(f) Avoidance and Minimization

The NRHP eligible Pennsylvania Railroad is spanned by the Delaware River Turnpike Bridge. As previously discussed, strategic placement of pier supports within PTC and PENNDOT owned right-of-way resulted in the avoidance of impact to the Delaware Canal State Park and minimization of impacts to the Pennsylvania Railroad in the Bridge Element **(Figures V-14, V-14A** on **Pages V-22, V-23)**.

Total Section 4(f) avoidance is not prudent and feasible because three pier extensions are needed to span the Pennsylvania Railroad, which is a linear resource **(Figures V-14** and **14A)** that cannot be avoided by any project alternative other than No-Build. Three piers presently exist within the NRHP eligible property, which are positioned 37 m (120 ft) apart. The new parallel bridge would be designed to appear similar to the existing bridge. Any design that would span the entire NRHP eligible property is not feasible from an engineering perspective. As a result, there are no prudent and feasible Section 4(f) avoidance alternatives that meet the project need and can be engineered, respectively. Aligning the new bridge piers with the existing bridge piers **(Figures V-14** and **V-14A)** will minimize Section 4(f) use.

The Pennsylvania State Historic Preservation Office (PASHPO) is the agency with jurisdiction over the NRHP listed and eligible cultural resources, including the Pennsylvania Railroad. The PASHPO has reviewed the *Revised Draft I-276/I-95 Interchange Project Assessment of Effects on Historic Architectural Resources Report* (PTC, 2003) per 36 CFR 800. This report concludes with a finding of no adverse effect on the Pennsylvania Railroad property and the two nearby contributing elements (Grundy Signal Tower and Green Lane Viaduct) shown on **Figures V-14** and **V-14A**. The PASHPO concurrence with the finding of no adverse effect on the Pennsylvania Railroad also provides support that the proposed pier supports and bridge design minimizes Section 4(f) uses.



LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- New Parallel Bridge North
- New Parallel Bridge South
- Public Parkland (Delaware Canal State Park) and NRHP Listed Property (Delaware Canal)
- Section 4(f) Public Recreational Land (Pacific Park)
- Proposed Multi–Use Trail (Delaware River Heritage Trail)
- NRHP Eligible / Listed Property (Penna. Railroad)
- NRHP Contributing Element (Penna. Railroad)
- AMTRAK Right–Of–Way
- PENNDOT Right–Of–Way
- PTC Right–Of–Way
- Surface Water
- ① Photo Location

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–14
SECTION 4(f) AVOIDANCE AND MINIMIZATION BRIDGE ELEMENT

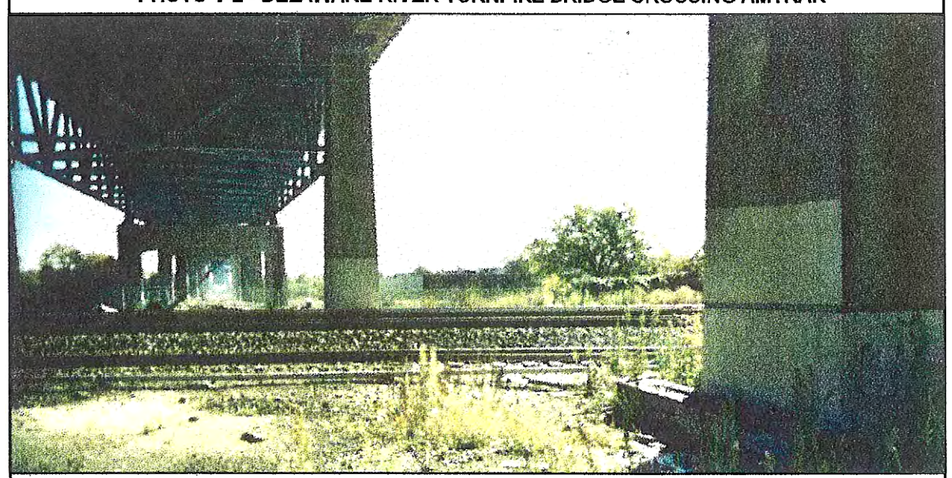
1In = 500Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

PHOTO V-1 - DELAWARE RIVER TURNPIKE BRIDGE CROSSING US 13

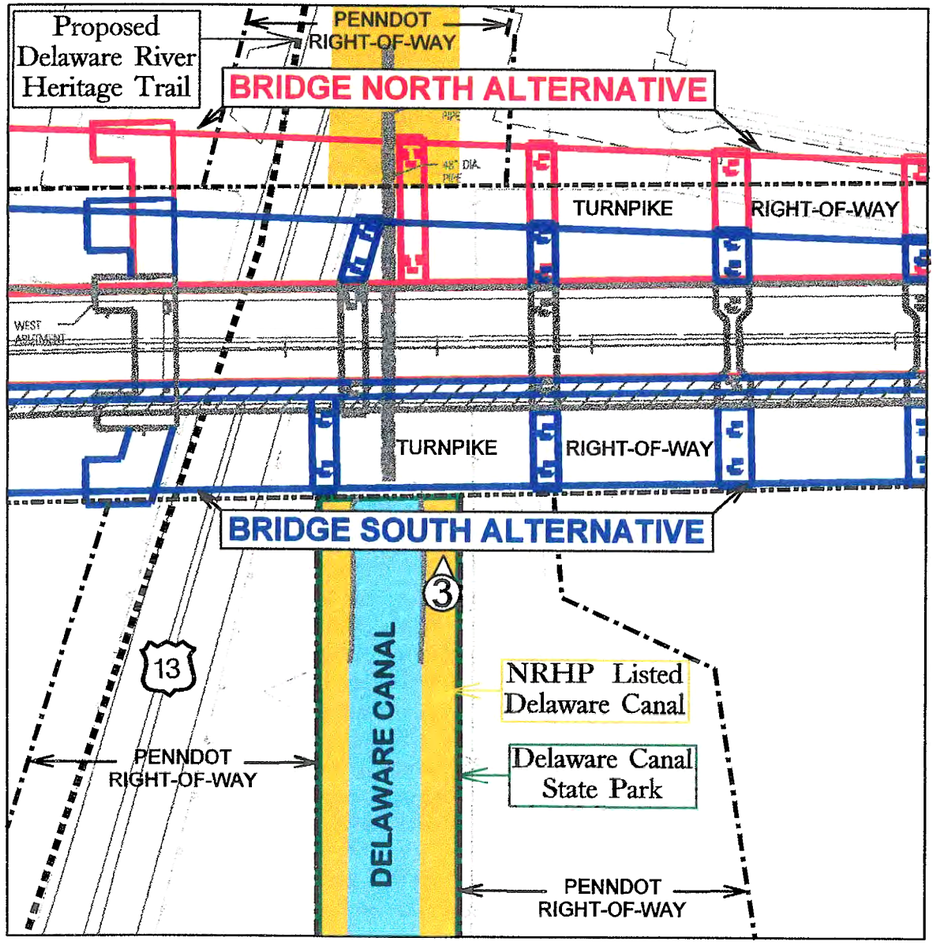


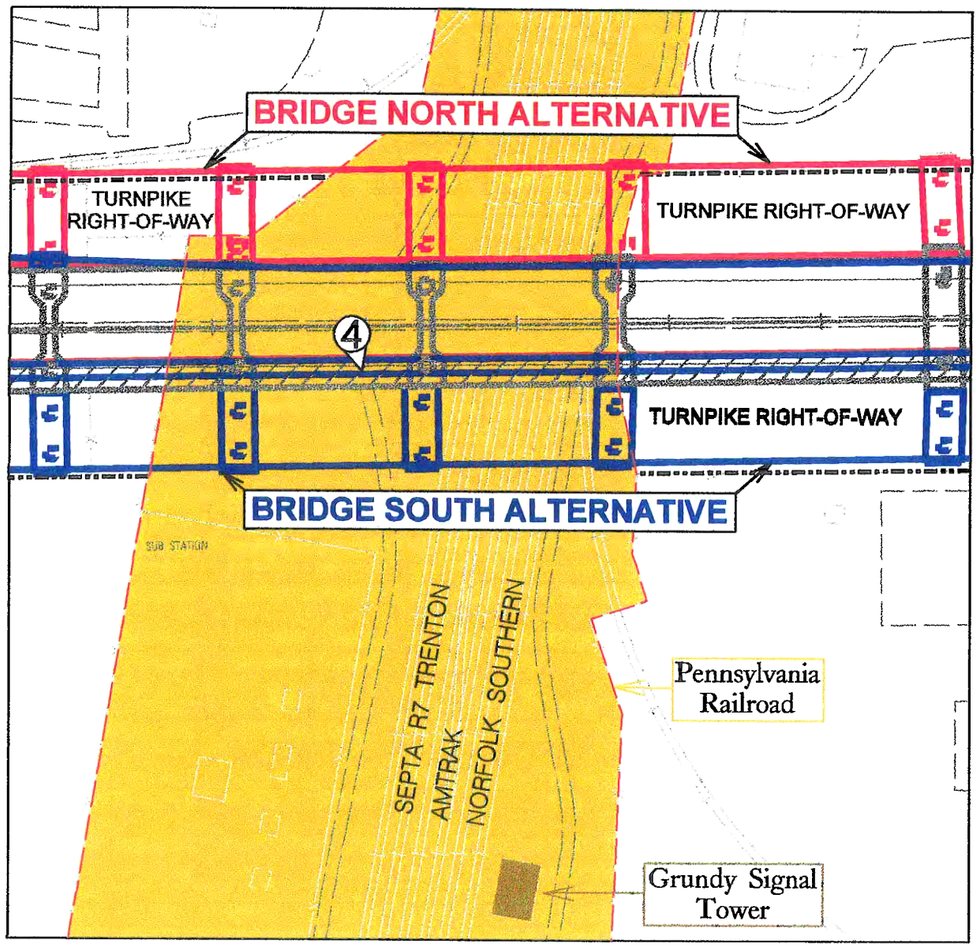
Existing conditions showing Delaware River Turnpike Bridge support columns and pier abutment along US 13

PHOTO V-2 - DELAWARE RIVER TURNPIKE BRIDGE CROSSING AMTRAK



Existing conditions where Delaware River Turnpike Bridge crosses NRHP eligible Pennsylvania Railroad property owned by AMTRAK

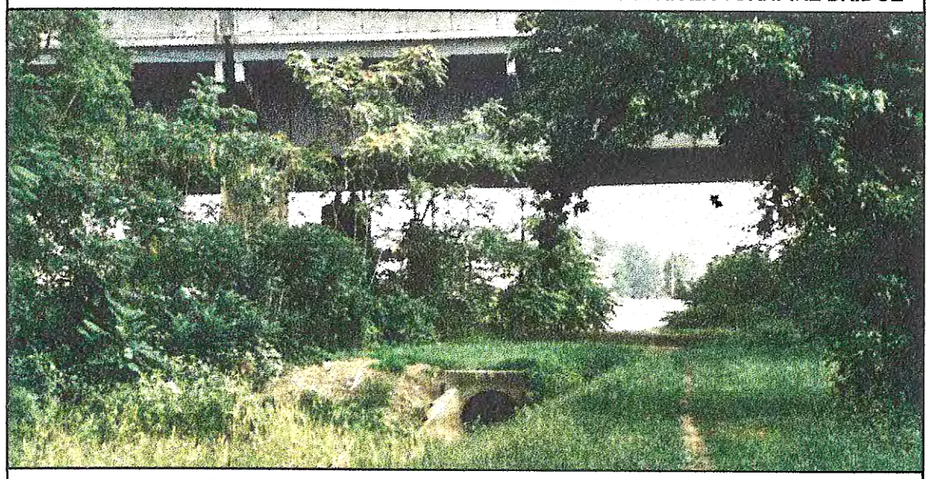




LEGEND

- Public Parkland (Delaware Canal State Park) and NRHP Listed Property (Delaware Canal)
- Proposed Multi–Use Trail (Delaware River Heritage Trail)
- NRHP Eligible / Listed Property (Penna. Railroad)
- NRHP Contributing Element (Penna. Railroad)
- AMTRAK Right–Of–Way
- PENNDOT Right–Of–Way
- PTC Right–Of–Way
- Existing Bridge Deck Work
- Existing Bridge Footer
- Existing Bridge Support Columns
- Portion of Existing Bridge to be Modified
- Bridge North Alternative Deck Work
- Bridge North Alternative Footer
- Bridge North Alternative Support Columns
- Bridge South Alternative Deck Work
- Bridge South Alternative Footer
- Bridge South Alternative Support Columns
- Bridge North Alternative Section 4(f) Use
- Bridge South Alternative Section 4(f) Use
- 3 Photo Location

PHOTO V-3 - DELAWARE CANAL ADJACENT TO THE DELAWARE RIVER TURNPIKE BRIDGE



Looking north below Delaware River Turnpike Bridge where dry channel ends and drainage is piped under US 13.

PHOTO V-4 - GRUNDY SIGNAL TOWER ADJACENT TO THE DELAWARE RIVER TURNPIKE BRIDGE



View of electric catenary and Grundy Signal Tower from vicinity of support column below existing Delaware River Turnpike Bridge.

SECTION 4(f) AVOIDANCE AND MINIMIZATION – BRIDGE ELEMENT

These graphics illustrate how design modifications avoid the Delaware Canal State Park, but would impact the NRHP listed Delaware Canal (Bridge North) and NHRP eligible Pennsylvania Railroad right-of-way (Bridge North and Bridge South). The Delaware Canal State Park is avoided by use of existing PENNDOT right-of-way along US 13 and PTC owned right-of-way below the Delaware River Turnpike Bridge. The PTC does not own the NHRP eligible property along the Pennsylvania Railroad below the Delaware River Turnpike Bridge. The need to extend existing piers requires Section 4(f) use for either the Bridge North or Bridge South Alternatives.

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–14A (INSET)
SECTION 4(f) AVOIDANCE
AND MINIMIZATION
BRIDGE ELEMENT

1 In = 100 Ft (1 : 1,200)
0Ft 100Ft 200Ft
0M 30M 60M

(3) Bridge Element - Delaware Canal National Historic Landmark Section 4(f) Avoidance and Minimization

The National Park Service Keeper of the National Register of Historic Places determined the portion of the Delaware Canal located within PTC's ROW, within Bristol Township, no longer contributes to the historical importance of the Delaware Canal. This determination was based upon a site visit as well as photographs and construction drawings documenting the destruction of this portion of the Delaware Canal prism during construction of the Delaware Turnpike Bridge in 1954. However, the structural pier for the Bridge North Alternative is proposed for an area outside the PTC ROW, but within the PENNDOT ROW for US 13. The proposed pier would be constructed through a backfilled portion of the Delaware Canal dating from the construction of US 13 over the Delaware Canal during the 1940s. The effect would be adverse, and there would be a Section 4(f) use of the Delaware Canal, if it is demonstrated that the buried canal prism located within PENNDOT's US 13 ROW remains intact and that the construction of a new Bridge North pier in this location would diminish the integrity of the historic property **(Figures V-14** and **V-14A)**. The Bridge South Alternative serves as a prudent and feasible Section 4(f) Avoidance Alternative for this resource, as the piers for the Bridge South fall within the PTC ROW and do not require a Section 4(f) use of the Delaware Canal.

b. Measures to Minimize Harm to Section 4(f) Resources

Measures to minimize harm for project-related impacts to Section 4(f) properties have been described and will continue to be developed for Black Ditch Park in consultation with the Bucks County Department of Parks and Recreation, and the PASHPO for the NRHP eligible Pennsylvania Railroad. As the project progressed, options to minimize impacts to Section 4(f) properties were included in the preliminary design process. Wherever possible, the project alignments were designed/shifted to avoid or minimize impacts. Alternatives to avoid individual Section 4(f) resources have been discussed previously.

Section 4(f) requires that a project requiring the use of protected properties may only be approved if "*the program or project includes all possible planning to minimize harm resulting from such use.*" The preceding portions of this Section 4(f) Evaluation identify the substantial efforts to minimize harm to Section 4(f) properties and satisfy Section 4(f) criteria. The remaining sections discuss proposed measures to minimize harm to both Section 4(f) resources that cannot be avoided, and includes mitigation measures for each impacted Section 4(f) property. Since the Bridge North impacts to the Delaware Canal National Historic Landmark can be avoided with the selection of the Bridge South Alternative, an Assessment of Least Harm was not conducted for Bridge North.

TABLE V-8
IMPACTS OF EXTRAORDINARY MAGNITUDE – INTERCHANGE ELEMENT

Alternative	Studied in Detail	Meets Project Need	Impacts Extraordinary Magnitude	Feasible/Prudent
Total Avoidance Alternatives				
No-Build	Yes	No	No	No [1]
Redesignate Interstate System	No	No	--	No [1]
Improve Local Roadways	No	No	--	No [1]
Alternatives Considered Prior to Detailed Analysis				
Mass Transit	No	No	--	No [1]
TSM/CMS	No	No	--	No [1]
Point-of-Crossing Interchange Alternatives				
Flyover A	Yes	Yes	No	Yes
Flyover B	No	Yes	Yes	No [2]
Single Loop A	Yes	Yes	No	Yes
Single Loop B	No	Yes	Yes	No [2]
Double Loop A	No	Yes	No	Yes
Double Loop B	No	Yes	Yes	No [2]
New Alignment Interchange Alternatives				
Concept A	No	Yes	Yes	No [2]
Concept B	No	Yes	Yes	No [2]
Concept B with Urban Interchange	No	Yes	Yes	No [2]
Concept C	No	Yes	Yes	No [2]
Concept C-Modified	No	Yes	Yes	No [2]
Additional Interchange Alternatives Considered				
Concept D	No	Yes	Yes	No [2]
Northwest Quadrant Hybrid	No	Yes	Yes	No [2]
Interchange Alternatives Studied in Detail				
Flyover A (fill embankment)	Yes	Yes	No	Yes
Single Loop A (fill embankment)	Yes	Yes	No	Yes
Interchange Alternatives Carried Forward in DEIS / Interchange Alternatives Presented in FEIS				
Flyover A (pier supports)	Yes	Yes	No	Yes
Single Loop A (pier supports)	Yes	Yes	No	Yes
Section 4(f) Avoidance Alternatives				
Flyover A	Yes	Yes	Yes	No [2]
Single Loop A	Yes	Yes	Yes	No [2]
Section 4(f) Design Minimization				
Flyover A (pier support)	Yes	Yes	No	Yes
Single Loop A (pier support)	Yes	Yes	No	Yes

1 Does not meet project need
2 Due to extraordinary magnitude of impacts

TABLE V-9
LEAST HARM SUMMARY – INTERCHANGE ELEMENT

Alternative	Meets Project Need	Section 4(f) Impacts				Harm After Mitigation
		Design Feature	Area of Take and Use (ha/ac)	Feature/ Function Impacts	Avoidable	
Flyover A Alternative	Yes	Fill Embankment	0.69 / 1.71	Stream relocation/ change in floodway width	No	Moderate
		Pier Supports	0.038 / 0.094	Piers within floodplain	No	Minor
Single Loop A Alternative	Yes	Fill Embankment	0.69 / 1.71	Stream relocation/ change in floodway width	No	Moderate
		Pier Supports	0.038 / 0.094	Piers within floodplain	No	Minor

(1) Interchange Element Assessment of Least Harm

Table V-8 summarizes the prudence and feasibility of the alternatives considered for the Interchange Element where Section 4(f) uses would occur. None of the Total Avoidance Alternatives or Alternatives Considered Prior to the Detailed Analysis is prudent because project need is not met. The six Point-of-Crossing Interchange Alternatives meet the project needs, as do the five New Alignment Interchange Alternatives along with Concept D **(Table V-8)**, which use new alignments to connect I-276 and I-95. Of the six Point-of-Crossing Alternatives, Flyover B, Single Loop B and Double Loop B are not prudent due to extraordinary socioeconomic impacts **(Table V-1)**. The Flyover A and Single Loop A Alternatives were recommended to be studied in detail because both had similar Section 4(f) uses but fewer environmental and socioeconomic impacts when compared to Double Loop A **(Table V-1)**. This is also why the Double Loop A Alternative was not carried forward in the DEIS **(Table V-4)**.

The five New Alignment Alternatives and Concept D are not prudent due to impacts of extraordinary magnitude **(Table V-1)**. The Northwest Quadrant Hybrid Alternative (NWQHA), requested by two CAC members and discussed in **Section III-H** and illustrated on **Figures III-14** and **III-14B**, would meet the project need but is not prudent when compared to the Flyover A and Single Loop A Alternatives. Although this alternative combined design features of the Interchange and Toll Plaza Elements and its impacts were minimized as in the Flyover A and Single Loop A Alternatives, the NWQHA would have greater combined impacts. This is because it would require a larger number (5 versus 1) and magnitude (requires use of a National Historic Landmark - Delaware Canal) of Section 4(f) uses.

Two design options (fill embankment versus pier supports) were considered. The Section 4(f) Avoidance Alternatives are not prudent because of extraordinary impacts to socioeconomic resources when compared to Flyover A and Single Loop A **(Tables V-6** and **V-7)**. As a result, the Section 4(f) Design Minimization which includes pier support design for the Flyover A and Single Loop A Alternatives were carried forward in the DEIS **(Table V-8)**.

Flyover A and Single Loop A Alternatives

Two Build Alternatives and the No-Build Alternative were presented in the FEIS in the Interchange Element. The two Interchange Alternatives, Flyover A and Single Loop A, are both feasible and prudent alternatives. Both alternatives have the same impact to a public parkland, Black Ditch Park, which is protected by Section 4(f). Two design options (fill embankment versus pier supports) requiring use of Section 4(f) lands for the Flyover A and Single Loop A Alternatives are compared in this Assessment of Least Harm **(Table V-9)**. The No-Build Alternative was determined to not meet the project needs and is not considered in this comparison since it is not a prudent alternative.

SINGLE LOOP A & FLYOVER A INTERCHANGE ALTERNATIVES

Black Ditch Park

First Baptist Church of Bristol

SEE INSET MAPS BELOW

MILL CREEK FALLS

FUTURE

Parcel 05-021-305

Green Trees Park B

BRITTANY SPRINGS

Black Ditch Park

Parcel 05-029-160-001

BRISTOL

PECO

Parcel 05-025-082-003

Black Ditch Park

Parcel 05-029-159

Black Ditch Park

Parcel 05-040-037

EXISTING

FUTURE

MILL CREEK

PTC

PTC

PTC

BATH RD.

NEW RODGERS RD.

Green Trees Park A

MAYFIELD TERRACE

Municipal Campus Park

PECO PROPERTY

OXFORD VALLEY RD.

LAUREL BEND

MAGNOLIA LAKE

MATCHLINE SEE FIGURE V-16

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Proposed Retaining Wall / Structure
- Proposed Bridge Deck
- Proposed Bridge Support Column / Footer
- Proposed Cut / Fill Limit
- Proposed Right-Of-Way
- Section 4(f) Public Recreational Land
- Wetland
- Proposed Stormwater Management
- PECO Parcel
- Ⓡ Residential Displacement
- Ⓘ Institutional Displacement
- Potential Noise Abatement
- Floodplain Limits
- ⑤ Photo Location

Section 4(f) Use of 0.69 ha (1.71 ac)

I-95 SOUTHBOUND

I-95 NORTHBOUND

I-276 WESTBOUND

EASTBOUND I-276 TO I-95 NORTHBOUND

RETAINING WALL WITH FILL EMBANKMENT DESIGN EVALUATED DURING DETAILED STUDY

Section 4(f) Use of 0.038 ha (0.094 ac)

I-95 SB

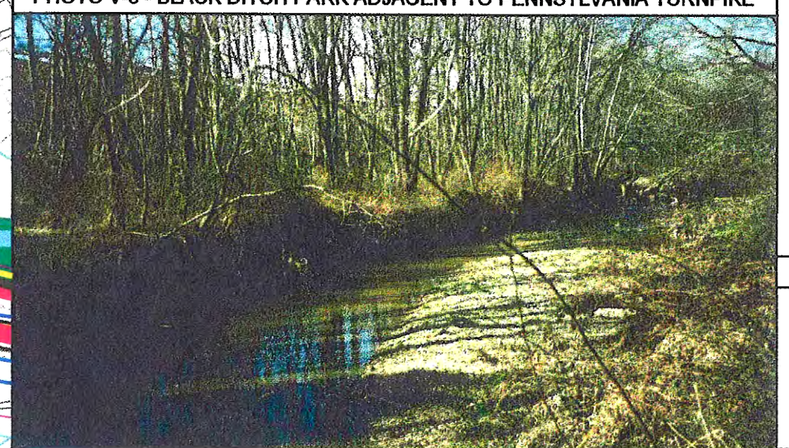
I-95 NORTHBOUND

I-276 WESTBOUND

EASTBOUND I-276 TO I-95 NORTHBOUND

PIER SUPPORT AND BRIDGE DECK DESIGN PRESENTED IN FEIS

PHOTO V-5 - BLACK DITCH PARK ADJACENT TO PENNSYLVANIA TURNPIKE



Black Ditch Park looking west where future bridge piers will be located to carry I-95 ramps over Mill Creek.

I-276 / I-95 INTERCHANGE PROJECT

FIGURE V-15
SECTION 4(f) DESIGN MINIMIZATION / ALTERNATIVES RESULTING IN LEAST HARM INTERCHANGE ELEMENT

1 In = 500 Ft (1 : 6,000)

0Ft 500Ft 1,000Ft

0M 152M 304M

N

The impacts to Black Ditch Park resulting from the two Build Alternatives in the Interchange Element are identified and quantified in **Table V-9**. Both alternatives require use of 0.038 ha (0.094 ac) of Black Ditch Park (**Table V-8**) from a 3.4 ha (8.4 ac) parcel of public parkland that would remain, in part, floodplain and streambank after the construction. The impact location is in a wooded floodplain section (Parcel 05-021-305) of Black Ditch Park between Mill Creek and I-276 **(Figure V-15)**. This location was selected because it is at the western edge of the Black Ditch Park parcel and has topography that would permit an interstate overpass to be built on structure rather than fill embankment to reduce the impact.

The proposed location of the Flyover A and Single Loop A Alternatives would require this small portion of the streambank, however, future design criteria to be applied would enhance the function of the floodplain by improving the stability of the streambank. This would help preserve the resource as requested by the park owners. Originally, the floodplain beneath the proposed future I-95 connection was to be constructed by fill embankment for both the Flyover A or Single Loop A Alternatives. This would have had moderate harm that has since been reduced to minor harm after application of design mitigation (**Table V-9**).

I-276 would continue to be visible from Black Ditch Park but would be partially screened by proposed noise walls **(Figure V-15)**. The proposed structure carrying both directions of future I-95 would be elevated with pier work and retaining walls visible from the park **(Figure V-15)**. Mainline I-276 would maintain its existing horizontal alignment and mainline widening of the interstate would occur within existing PTC right-of-way. The pier supported bridge structure would be designed to help alleviate existing severe flooding problems. The proposed retaining walls would be designed to fit in with the setting.

Other mitigation measures would include noise abatement **(Section IV-O.3)**. Noise walls are proposed along the entire length of Black Ditch Park **(Figure V-15),** which would also screen the view of I-276 from the park. Landscaping would also be provided on embankments of I-276 in this vicinity. Given the conscious effort to design with the environment in selecting this location and to provide mitigation to maintain the setting of the park, the recommended pier support design would have a minor impact on the Section 4(f) protected resource compared to the fill embankment which would be moderate (**Table V-9**). Both the Single Loop A and Flyover A Alternatives with pier supports in Black Ditch Park result in identical impacts to Section 4(f) resources **(Table V-9)** in the Interchange Element of the I-276/I-95 Interchange Project **(Figure V-15)**, and both result in least harm.

In conclusion, there is no prudent and feasible alternative that would avoid the Section 4(f) use of Black Ditch Park. The Single Loop A and Flyover A Interchange Alternatives, which have identical impacts to Black Ditch Park, with the implementation of design minimization measures and mitigation, represent the feasible and prudent alternatives with the least harm to Black Ditch Park.

(2) Bridge Element Assessment of Least Harm to the Pennsylvania Railroad

Table V-10 summarizes the prudence and feasibility of the alternatives considered in the Bridge Element where Section 4(f) uses to the Pennsylvania Railroad would occur. None of the total avoidance alternatives in the Bridge Element are prudent because the project need is not met. For the same reason, neither the Mass Transit nor TSM/CMS Alternatives considered prior to the detailed alternatives analysis are prudent. The Bridge North and Bridge South Alternatives in the Bridge Element are prudent and feasible and do meet the project needs. These alternatives which were studied in detail, carried forward in the DEIS and presented in FEIS are also considered as Section 4(f) Minimization Alternatives **(Table V-10** and **Figure V-16)** because there are no Section 4(f) Avoidance Alternatives to the use of the Pennsylvania Railroad that are prudent (meet the project need) and feasible from an engineering perspective as explained on **Page V-21**.

Both the Bridge North and Bridge South Alternatives have Section 4(f) uses of an existing railroad right-of-way and tracks. These would remain a railroad right-of-way and tracks after construction of the project. The Pennsylvania Railroad right-of-way, which constitutes the NRHP boundary, is not considered a pristine setting **(Figures V-14** and **V-14A)**. Since the era of the original Pennsylvania Railroad between Philadelphia and New York City, there have been many changes to the facility and its surrounding environment. The NRHP eligible property has been widened to accommodate growth in rail traffic as well as modern vehicles. The railroad is owned by AMTRAK and provides passenger rail service known as the Northeast Corridor. The original segment of the Pennsylvania Railroad in the study area has been widened to six tracks (**Photo V-2** on **Figure V-14**). The additional tracks include a Norfolk-Southern operated freight line and a SEPTA operated commuter line. Neither of the proposed new parallel bridges and piers within the Pennsylvania Railroad would damage the use and/or function of the facility nor the nearby Grundy Signal Tower and Green Lane Viaduct, which are considered as contributing resources to the NRHP eligible Pennsylvania Railroad. For these reasons, the harm to the Pennsylvania Railroad and nearby contributing resources caused by either Bridge Alternative would be minor. The uses and minor harm to the Section 4(f) resource, the Pennsylvania Railroad, are listed in **Table V-11** and summarized for each alternative as follows:

TABLE V-10
IMPACTS OF EXTAORDINARY MAGNITUDE – BRIDGE ELEMENT

Alternative	Studied in Detail	Meets Project Need	Impacts Extraordinary Magnitude	Feasible/Prudent
Total Avoidance Alternatives				
No-Build	Yes	No	No	No [1]
Redesignate Interstate System	No	No	--	No [1]
Improve Local Roadways	No	No	--	No [1]
Alternatives Considered Prior to Detailed Analysis				
Mass Transit	No	No	--	No [1]
TSM/CMS	No	No	--	No [1]
Bridge North	Yes	Yes	No	Yes
Bridge South	Yes	Yes	No	Yes
Bridge Alternatives Studied in Detail				
Bridge North	Yes	Yes	No	Yes
Bridge South	Yes	Yes	No	Yes
Bridge Alternatives Carried Forward in DEIS / Bridge Alternatives Presented in FEIS				
Bridge North	Yes	Yes	No	Yes
Bridge South	Yes	Yes	No	Yes
Section 4(f) Avoidance Alternative				
Section 4(f) Avoidance - Pennsylvania Railroad	No	No	--	No [1]
Section 4(f) Avoidance - Delaware Canal	Yes	Yes	No	Yes [2]
Section 4(f) Design Minimization for the Pennsylvania Railroad				
Bridge North	Yes	Yes	No	Yes
Bridge South	Yes	Yes	No	Yes

1 Does not meet the project need

2 - Bridge South is an Avoidance Alternative for the Delaware Canal

TABLE V-11
LEAST HARM SUMMARY – BRIDGE ELEMENT

Alternative	Meets Project Need	Section 4(f) Impacts to the Pennsylvania Railroad				Harm After Mitigation
		Design Feature	Area of Use (ha /ac)	Feature/ Function Impacts	Avoidable	
Bridge North Alternative	Yes	Extend three bridge piers to the north	0.026 / 0.063	Changes in pier width	No	Minor
Bridge South Alternative	Yes	Extend three bridge piers to the south	0.032 / 0.080	Changes in pier width	No	Minor

Bridge North Alternative Railroad Crossing

The proposed bridge crossing over the Pennsylvania Railroad by the Bridge North Alternative would have minor harm after application of mitigation. Bridge North use of the NRHP eligible Pennsylvania Railroad would occur from the construction of a new parallel bridge carrying future southbound I-95 over the railroad **(Figure V-16)**. Bridge North would require Section 4(f) use of 0.026 ha (0.063 ac) due to extensions of piers (**Table V-11** and **Figure V-16**). The nearby contributing elements to the NRHP eligible railroad include the Grundy Signal Tower and Green Lane Viaduct **(Figure V-14A** and **Figure V-16**). Both are located on the south side of the existing Delaware River Turnpike Bridge. The new parallel bridge would maintain the existing vertical and horizontal alignment of the existing railroad crossing. The bridge structure design would extend the three existing bridge piers northward and maintain the existing character of the railroad setting. This would be accomplished by designing the proposed bridge to look similar to the existing bridge, which would be upgraded to current design standards but look the same. Given the conscious effort to design with the environment in implementing this crossing and to provide mitigation to

MATCHLINE SEE FIGURE V-15

NRHP Listed Delaware Canal

Delaware Canal State Park

SEE INSET MAPS BELOW

Toll Plaza

Grundy Signal Tower

Pacific Park

Proposed Delaware River Heritage Trail

BRISTOL TERRACE

Delaware Canal State Park

Pennsylvania Railroad

Green Lane Viaduct

EXISTING

FUTURE

DELAWARE RIVER

BUCKS CO. PENNSYLVANIA

BURLINGTON CO. NEW JERSEY

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade of Existing Bridge
- 30 Existing I–276 Interchange
- Public Parkland (Delaware Canal State Park) and NRHP Listed Property (Delaware Canal)
- Section 4(f) Public Recreational Land (Pacific Park)
- Proposed Multi–Use Trail (Delaware River Heritage Trail)
- NRHP Eligible Property (Penna. Railroad)
- NRHP Contributing Element (Penna. Railroad)
- AMTRAK Right–Of–Way
- PENNDOT Right–Of–Way
- PTC Right–Of–Way
- Surface Water
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Potential Noise Abatement
- Proposed Stormwater Management

Section 4(f) Use of 0.026 ha (0.063 ac) For Pier Extensions

TURNPIKE RIGHT-OF-WAY

Existing Piers

Pennsylvania Railroad

SUB STATION

BRIDGE NORTH ALTERNATIVE

BRIDGE SOUTH ALTERNATIVE

Existing Piers

Section 4(f) Use of 0.032 ha (0.08 ac) For Pier Extensions

I–276 / I–95 INTERCHANGE PROJECT

FIGURE V–16
SECTION 4(f) DESIGN MINIMIZATION / ALTERNATIVES RESULTING IN LEAST HARM BRIDGE ELEMENT

1 In = 500 Ft (1 : 6,000)

0Ft 500Ft 1,000Ft

0M 152M 304M

maintain the setting of the Pennsylvania Railroad, the crossing would result in minor harm on the Section 4(f)-protected resource. This is supported by the *Revised Draft I-276/I-95 Interchange Project Assessment of Effects on Historic and Architectural Resources Report* (PTC, 2003). The PASHPO has concurred with this report's recommendation of No Adverse Effect for the Bridge North Alternative to the Pennsylvania Railroad.

Bridge South Alternative Railroad Crossing

The proposed bridge crossing of the Pennsylvania Railroad by the Bridge South Alternative would also have minor harm to the Section 4(f) resource. This crossing would also require the use of NRHP eligible railroad property to build pier extensions. The total area of Section 4(f) impact from within the NRHP boundary would be 0.032 ha (0.08 ac). The uses of the Pennsylvania Railroad would occur from the construction of the new bridge carrying future northbound I-95 traffic over the railroad just south of the existing bridge **(Photos V-2, V-4** on **Figures V-14, V-14A)**. On the south side of the existing bridge and the east side of US 13, there is a NRHP contributing element, Grundy Signal Tower, visible from the existing bridge. The proposed construction would extend the existing piers to support a new bridge that would be designed to look similar to the existing bridge, which would be upgraded to current design standards but look the same. The new bridge would be closer to the Grundy Signal Tower than the Bridge North Alternative. The overhead electric and catenary wires shown on **Photo V-4** on **Figure V-14A** would be spanned. The Bridge South Alternative would have a slightly larger area of Section 4(f) use of the Pennsylvania Railroad than the Bridge North Alternative (0.006 ha/0.017 ac difference). As explained previously, the area below the existing bridge and along the railroad tracks towards the Grundy Signal Tower is not considered pristine (**Figures V-14** and **V-14A**).

Although the area is not pristine, care would be taken to minimize the removal of existing vegetation to the west of the railroad property. With mitigation applied, the Bridge South Alternative crossing of the Pennsylvania Railroad would have minor harm to the Section 4(f) protected resources **(Table V-11)**. This is supported by the *Revised Draft I-276/I-95 Interchange Project Assessment of Effects on Historic and Architectural Resources Report* (PTC, 2003), and its recommendation of No Adverse Effect to the Pennsylvania Railroad. The PASHPO has concurred with the assessment of effects on the Pennsylvania Railroad. For these reasons, the Bridge North and Bridge South Alternatives have similar Section 4(f) uses and Section 106 effects (36 CFR 800) on the Pennsylvania Railroad and result in both having the least harm in the Bridge Element of the I-276/I-95 Interchange Project **(Figure V-16).**

In conclusion, there is no prudent or feasible alternative to the Section 4(f) use of the Pennsylvania Railroad. The Bridge North and Bridge South Alternatives have very similar Section 4(f) uses of this resource, and with the implementation of minimization measures and mitigation, both alternatives are prudent and feasible with the least harm to the Pennsylvania Railroad.

F. COORDINATION WITH OFFICIALS HAVING JURISDICTION OVER SECTION 4(f) RESOURCES

Early coordination was conducted with the regulatory and resource agencies (**Section VII** of this FEIS). The project was introduced to the appropriate federal, state and local agencies at an Agency Coordination Meeting on January 6, 1993 **(Section VII, Table VII-5)**. Shortly thereafter, correspondence began with local officials having jurisdiction over potential Section 4(f) resources throughout the I-276/I-95 Interchange Project study area. All Section 4(f) correspondence is located in the project's Technical Support Data. **Table V-12** lists key Section 4(f) resource agency correspondence.

Coordination regarding project purpose and need was accomplished through agency review and concurrence with the *Pennsylvania Turnpike/Interstate 95 Interchange Project Need Study* (PTC, 1993). Project alternatives were reviewed by the agencies in the *Preliminary Alternatives Analysis Report* (PTC, 1998). As more detailed alternatives were developed, coordination was initiated with representatives from Bucks County Parks and Recreation Department regarding Black Ditch Park **(Table V-12)**. Discussion focused on potential impacts to Section 4(f) resources, avoidance alternatives, design minimization and mitigation measures as addressed in the preceding sections.

Coordination with the PASHPO and other jurisdictional agencies regarding Section 4(f) related requirements, such as 36 CFR 800 (Section 106) was conducted and continued after the DEIS publication. **Table V-12** lists the correspondence with resource agencies having jurisdiction over cultural resources.

Additional coordination occurred with the Pennsylvania Department of Conservation and Natural Resources (PADCNR) and the US Department of the Interior, National Parks Service with regard to the proposed Delaware River Heritage Trail and Delaware Canal State Park, which includes the Delaware Canal National Historic Landmark.

Since the publication of the DEIS, state agency jurisdiction of the Delaware Canal beneath the existing Delaware River Turnpike Bridge has been re-evaluated. The area in question was the property beneath the existing Delaware River Turnpike Bridge that was the former path of the Delaware Canal. At the time of the construction of the Turnpike Bridge in the early 1950's, the segment of the canal in this area was excavated to allow the construction of footings for the first pier of the new bridge. A culvert was then placed adjacent to the bridge pier to allow continuous flow of water between the remaining canal segments. This culverted segment of the canal was connected to the existing culvert at US 13 to the north (the canal segment there initially being culverted for the construction of US 13) and would extend to the edge of the PTC right-of-way on the south side of the Turnpike Bridge (**Figure V-14A**).

Early coordination with PADCNR concluded that the boundary of the Delaware Canal State Park, which was mapped to the edge, but outside the PTC right-of-way of the parcel, was accurately mapped in the DEIS and therefore no impacts to the park were listed in the Draft Section 4(f) Evaluation. However, both PADCNR and the PTC were unable to produce standard right-of–way documentation indicating deeded ownership of the canal segment. Subsequent to the distribution of the DEIS, additional steps were then taken to resolve the issues of jurisdiction through deed searches and coordination with PADCNR.

Furthermore, at a meeting with PTC and PENNDOT staff on April 5, 2002, PADCNR staff expressed the opinion that the portion of the Delaware Canal extending under the existing Delaware River Turnpike Bridge is within their jurisdiction as part of the Delaware Canal State Park. Ultimately, the PTC provided to PADCNR documentation of PTC jurisdiction under cover letter dated June 11, 2002. This correspondence contained copies of letters signed by the Pennsylvania Governor and the Secretary of the Department of Highways approving the condemnation of lands for the construction of the existing Delaware River Turnpike Bridge. Since the boundary of the park was not adjusted from that presented in the Draft Section 4(f) Evaluation, the determination of no impact to the park has been carried forward into the Final Section 4(f) Evaluation.

With respect to the historic eligibility of the property, subsequent correspondence and meetings between the PTC, FHWA, and PASHPO occurred after the DEIS publication (**Table V-12**). After meeting in December 2001, the FHWA and PASHPO decided to forward their respective opinions to the National Park Service, in its capacity as Keeper of the National Register of Historic Places (NRHP), so that an official eligibility determination could be made.

Correspondence between the agencies during the subsequent months produced the need for a field view and discussion by the agencies in the project area. Following the field view held on October 4, 2002, the Keeper of the NRHP replied to the FHWA in a letter dated October 25, 2002. The Keeper of the NRHP indicated their determination, that due to disturbance during the initial construction of the existing Pennsylvania Turnpike Bridge the section (approximately 61 m/200 ft) beneath the bridge does not contribute to the Delaware Canal National Historic Landmark.

Based on the Keeper of the National Register's determination that the portion of the Delaware Canal under the Turnpike Bridge is not eligible for the National Register, and the prior and continuing jurisdiction over the Turnpike Bridge right-of-way by the PTC, the FHWA has determined, in a letter dated November 1, 2002, that the section of abandoned and disturbed canal within the PTC right-of-way is not protected by Section 4(f) of the US Department of Transportation Act of 1966.

G. CONCLUSION

Based on the results of this Section 4(f) Evaluation, there is no feasible and prudent alternative to the use of land from the Pennsylvania Railroad and/or Black Ditch Park and the proposed action includes all possible planning to minimize harm to the Section 4(f) properties resulting from such use. The Preferred Alternative, including mitigation, represents the feasible and prudent alternative with the least harm on Section 4(f) properties.

TABLE V-12
SUMMARY OF KEY SECTION 4(f) RESOURCE AGENCY CORRESPONDENCE

RESOURCE AGENCY	DATE	ISSUES AND CONCERNS
Cultural Resources		
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	November 7, 1995	Historic Resources Survey/Determination of Eligibility
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	October 27, 1997	Phase I Management Summary and Phase II Work Plan
NJDEP, Division of Parks and Forestry, New Jersey Historic Preservation Office	September 14, 1998	Section 106 Review and Concurrence of Historic Architectural Survey
NJDEP, Division of Parks and Forestry, New Jersey Historic Preservation Office	November 2, 1998	Revised Area of Potential Effect Determination
NJDEP, Division of Parks and Forestry, New Jersey Historic Preservation Office	November 10, 1998	Conversation Record Regarding Clarification of Historic Resources
New Jersey Historic Preservation Office	March 3, 1999	Memo Regarding Delaware River Marine Archaeological File Review
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	April 16, 1999	Determination of Eligibility Report, Addendum PA-2
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	April 20, 1999	Archaeological Investigations Regarding Project Extension Area
NJDEP, Division of Parks and Forestry, New Jersey Historic Preservation Office	August 24, 1999	Final Historic Architectural Resources Report
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	September 13, 1999	Final Historic Architectural Resources Report
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	May 2001	Revised Assessment of Effects on Historic Architectural Resources Report
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	August 1, 2001	Revised Assessment of Effects on Historic Architectural Resources Report
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	November 21, 2001	Historic Delaware Canal Eligibility
United States Department of Transportation, Federal Highway Administration	December 27, 2001	Historic Delaware Canal Eligibility
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	January 16, 2002	Historic Delaware Canal Eligibility
United States Department of the Interior, National Park Service	February 11, 2002	Historic Delaware Canal Eligibility
NJDEP, Division of Parks and Forestry, New Jersey Historic Preservation Office	March 6, 2002	New Jersey Archaeological Resources - Concurrence
United States Department of Transportation, Federal Highway Administration	July 3, 2002	Historic Delaware Canal Eligibility
United States Department of the Interior, National Park Service	October 25, 2002	Historic Delaware Canal Eligibility
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	January 8, 2003	Revised Assessment of Effects on Historic Architectural Resources Report
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	March 11, 2003	Revised Assessment of Effects on Historic Architectural Resources Report
National Natural Landmarks and Natural Areas		
NJDEP, Division of Parks and Forestry, State Forestry Services	March 16, 1993	State-owned Park or Forest Lands
NJDEP, Division of Parks and Forestry, Office of Natural Lands Management	May 26, 1993	State Natural Areas
US National Parks Service, Mid-Atlantic Region	July 1, 1993	National Natural Landmarks
Public Parklands		
Township of Middletown	February 22, 1993	Middletown Township Parklands and Natural Areas
NJDEP, Division of Parks and Forestry	February 26, 1993	New Jersey State Parklands
Burlington County Cultural and Heritage	May 3, 1993	Burlington County Parks
Pennsylvania Department of Environmental Resources, Bureau of State Parks	May 17, 1993	Pennsylvania State Park Lands and Natural Areas
Bucks County Department of Parks and Recreation	June 16, 1993	Bucks County Parks
Bucks County Department of Parks and Recreation	June 23, 1993	Silver Lake Nature Center Flora and Fauna
Pennsylvania Department of Environmental Resources, Bureau of State Parks	February 1, 1994	Delaware Canal State Park
Bucks County Department of Parks and Recreation	February 17, 1994	Silver Lake Park & Nature Center, Black Ditch Park and Neshaminy Creek Area
Middletown Township	February 25, 1994	Recreation in Oaklihurst Gables, Sycamore Ridge and Deep Dale Greenbelts
Burlington Township Department of Engineering	March 3, 1994	Burlington Township Recreation Sites
Bucks County Department of Parks and Recreation	March 9, 1994	Bucks County Parks
PADCNR, Bureau of Recreation and Conservation	March 4, 1997	Green Trees Park A
Bucks County Department of Parks and Recreation	April 1, 1997	Delhaas Woods
Bristol Township	August 15, 1997	Re-classification of Bristol Township Owned 4(f) Properties
PADCNR, Bureau of Recreation and Conservation	March 11, 1998	Re-classification of Bristol Township Owned 4(f) Properties
PECO Energy Real Estate Division	March 12, 1998	PECO Agreements with Bristol Township
Pennsylvania Department of Conservation and Natural Resources	March 27, 1998	Delaware Canal State Park
Heritage Conservancy	April 2, 1998	Delaware Canal
Delaware & Lehigh National Heritage Corridor	April 14, 1998	Delaware Canal
Friends of the Delaware Canal	April 16, 1998	Delaware Canal
Lower Bucks County Canal Conservation Committee	April 20, 1998	Delaware Canal
Bensalem Township Department of Parks and Recreation	August, 1998	Concord Park
PADCNR, Grant Project Management Division	January 8, 1999	Green Trees A & B Properties
Bucks County Department of Parks and Recreation	January 27, 1999	Confirmation of Bucks County Section 4(f) Properties
United States Department of Transportation, Federal Highway Administration	May 17, 1999	FHWA's Determination of Applicability of Section 4(f)
Bensalem Township Department of Parks and Recreation	September 10, 1999	Bensalem Township Parcel
Bensalem Township Department of Parks and Recreation	October 15, 1999	Bensalem Township Parcel
Bensalem Township Department of Parks and Recreation	October 19, 1999	Bensalem Township Parcel
Bensalem BMX Corporation	October 22, 1999	Bensalem Township Parcel
Bensalem Township	October 29, 1999	Bensalem Township Parcel
Pennsylvania Department of Conservation and Natural Resources	November 18, 1999	Delaware Canal State Park
Pennsylvania Department of Conservation and Natural Resources	August 6, 2000	Delaware Canal State Park Boundary
Park and Ride Site (Croydon Station)		
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	May 1, 2000	Historic Resources Survey/Determination of Eligibility
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation	December 7, 2000	Draft Criteria of Effect Report/Assessment of Effects

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VI. CONCLUSIONS AND RECOMMENDATIONS

VI. CONCLUSIONS AND RECOMMENDATIONS

More detailed conclusions and recommendations information is located in the Project Need, Alternatives, Traffic and Transportation, Socioeconomic Analysis, Natural Resources, Cultural Resources, Manmade Environment and Public Involvement sections of the Technical Support Data.

* *Technical Support Data Index is located in Section XII (Appendix C).*

For the purposes of evaluating alternatives, the study area was divided into three geographic elements: Toll Plaza, Interchange, and Bridge. The impacts and costs of the alternatives studied within these elements were quantified and compared throughout the alternatives analysis period to determine those that would require detailed evaluation in **Section IV**, the Environmental Consequences section of the FEIS. The alternatives were evaluated within these same element boundaries and assembled to form eight possible combinations of project alternatives **(Table VI-1)**, all of which meet the defined project needs. The comparison of impacts for the project alternatives led to the identification of the Federal Highway Administration (FHWA), the Pennsylvania Turnpike Commission (PTC), and the Pennsylvania Department of Transportation's (PENNDOT) Recommended Preferred Alternative, which was presented in the DEIS to the public and resource agencies and at the June 12, 2001 Public Hearing. During the DEIS Public Comment Period (Section VII), no substantial comments regarding the Recommended Preferred Alternative, hereafter referred to as the Preferred Alternative, were received.

Transportation analyses identified that the No-Build Alternative will not meet the defined project needs identified in **Section I**. However, the No-Build Alternative is repeatedly depicted in this FEIS to emphasize that it is one of the alternatives to be reasonably considered. The No-Build Alternative was included throughout the alternatives analysis to provide a basis of comparison to each of the Build Alternatives carried forward for detailed study in **Section IV**, the Environmental Consequences section.

The combined impacts and costs for each of these eight project alternatives are summarized in **Table VI-2**. Detailed below is the rationale for the recommendation of Project Alternative 1, which combines one alternative from each element, as the Preferred Alternative for the I-276/I-95 Interchange Project.

In the Toll Plaza Element (**Figure VI-1**), the ***Modified Plaza West*** Alternative is preferred by the FHWA, PTC and PENNDOT. This alternative locates the toll plaza further away from residential and commercial areas. With its standard (rather than split) plaza configuration, the Modified Plaza West Alternative has greater construction and operational flexibility, while reducing overall socioeconomic and some environmental impacts. The Modified Plaza West Alternative has one residential displacement and no commercial displacements, while the Split Plaza East Alternative has two residential displacements, three commercial displacements, and locates the plazas adjacent to several housing developments. Compared to Split Plaza East, Modified Plaza West has fewer impacts to forested wetlands as well as fewer impacts to the remaining environmental resources, except that the total wetland impacts and perennial stream impacts are greater for Modified Plaza West compared to Split Plaza East. **Section IV** of the FEIS contains more detailed descriptions of impacts associated with both toll plaza alternatives. **Section VII** describes the public's concerns regarding the placement and configuration of the toll plazas in the Toll Plaza Element. Furthermore, **Section VII** describes discussions at public and public officials meetings, which indicate that both are in favor of Modified Plaza West over Split Plaza East due to the decrease in socioeconomic impacts. Moreover, the Mayor of Bensalem Township has recently sent a letter of support for Modified Plaza West to the PTC.

In the Interchange Element (**Figure VI-2**), the ***Single Loop A*** Alternative is preferred by the FHWA, PTC, and PENNDOT because it has lower costs and less socioeconomic impacts than the Flyover A Alternative, without sacrificing highway operations. Overall, both Interchange Alternatives would have a similar range of environmental impacts as the majority of the surrounding socioeconomic, environmental, and cultural resource features are avoided, although Single Loop A has less forested wetland impacts. Both also have identical Section 4(f) impacts, which were minimized as a result of engineering refinements. The Single Loop A Alternative would have less commercial (10 versus 11) and residential property (9 versus 13) displacement impacts compared to the Flyover A Alternative. Another difference between these two alternatives is the difference in the height and number of elevated ramps, which changes the visual impacts between the two alternatives. In general, the Flyover A ramps are higher than the Single Loop A ramps. Two ramps for the Single Loop A are at grade for their entire length, and the elevated ramps are lower than Flyover A. **Section VII** identifies the public and public officials concerns regarding the interchange element, as well as discussions that indicate that both are in favor of Single Loop A, due to the decrease in socioeconomic impacts. **Section IV** of the FEIS contains a more detailed description of impacts associated with both interchange alternatives.

In the Bridge Element (**Figure VI-3**), the ***Bridge South*** Alternative is preferred by the FHWA, PTC, and PENNDOT. This alternative has lower socioeconomic impacts compared to the Bridge North Alternative. The environmental resource impacts, costs, and operations of the two Bridge Element alternatives are similar. Analysis has revealed that the Bridge South Alternative would require a fewer number of residential displacements (2 versus 7). It would have slightly lower impacts to wetlands (0.03 ha/0.06 ac versus 0.15 ha/0.36 ac), would avoid forested wetlands, and have lower impacts to perennial streams (79 m/260 ft versus 190 m/624 ft). The Bridge South would only require the use of one Section 4(f) resource (Pennsylvania Railroad), while the Bridge North would require use of two Section 4(f) resources (Pennsylvania Railroad and the Delaware Canal). As described in **Section VII**, discussions at public and public officials meetings indicate that both are in favor of Bridge South when compared to Bridge North, due to the decrease in socioeconomic impacts. **Section IV** of the FEIS contains more detailed discussions of impacts associated with both bridge alternatives.

After evaluation of preliminary and detailed alternatives, resultant socioeconomic, environmental and cultural resource impacts, and proposed mitigation, the FHWA, PTC, and PENNDOT recommend that the *Modified Plaza West*, *Single Loop A*, and *Bridge South* Alternatives be combined into ***Project Alternative 1*** (**Figure VI-4** and **Table VI-2**) as their Preferred Alternative.

TABLE VI-1
LIST OF PROJECT ALTERNATIVES

Project Alternative 1 (Preferred Alternative)
Modified Plaza West Single Loop A Bridge South
Project Alternative 2
Modified Plaza West Single Loop A Bridge North
Project Alternative 3
Modified Plaza West Flyover A Bridge South
Project Alternative 4
Modified Plaza West Flyover A Bridge North
Project Alternative 5
Split Plaza East Single Loop A Bridge South
Project Alternative 6
Split Plaza East Single Loop A Bridge North
Project Alternative 7
Split Plaza East Flyover A Bridge South
Project Alternative 8
Split Plaza East Flyover A Bridge North

Project Alternative 1 has the following advantages when compared to the other project alternatives:

- ✓ Moderate impacts to wetlands, lowest impacts to forested wetlands
- ✓ Lowest impacts to floodplains
- ✓ Moderate impacts to forestland
- ✓ Lowest impacts to rangeland
- ✓ Lowest number of surface water crossings
- ✓ Lowest impacts to intermittent streams
- ✓ No impacts to farmlands
- ✓ Minor impacts to Section 4(f) properties
- ✓ Lowest number of commercial property displacements
- ✓ Lowest number of residential property displacements

Moderate impact is defined as an impact quantity that is exceeded by at least four other project alternatives. The term minor, as associated with the Section 4(f) impacts, has been defined as minimized impacts causing the least use and harm of the resources.

When compared to the other build alternatives, formal and informal feedback in the numerous public involvement events to date has shown that the Preferred Alternative (Project Alternative 1) is:

- ✓ Favored by a majority of the public officials and the general public
- ✓ Favored by a majority of the CAC
- ✓ Favored by a majority of the CEIRG

In conclusion, the FHWA, PTC, and PENNDOT recommend Project Alternative 1 (**Figure VI-4**) as their Preferred Alternative because Project Alternative 1 is generally preferred by the general public and public officials, and has impact advantages (**Table IV-2**) compared to the other Project Alternatives.

TABLE VI-2
PROJECT ALTERNATIVES IMPACT SUMMARY

	Project Alternative 1 Preferred Alterative	Project Alternative 2	Project Alternative 3	Project Alternative 4	Project Alternative 5	Project Alternative 6	Project Alternative 7	Project Alternative 8	No-Build [1]
Toll Plaza Element	*Modified Plaza West*	Modified Plaza West	Modified Plaza West	Modified Plaza West	Split Plaza East	Split Plaza East	Split Plaza East	Split Plaza East	
Interchange Element	*Single Loop A*	Single Loop A	Flyover A	Flyover A	Single Loop A	Single Loop A	Flyover A	Flyover A	
Bridge Element	*Bridge South*	Bridge North	Bridge South	Bridge North	Bridge South	Bridge North	Bridge South	Bridge North	
Resources									
Federal Threatened & Endangered Species	*1*	1	1	1	1	1	1	1	0
State Threatened and Endangered Species	*11*	10	11	11	10	10	11	10	0
Wetlands (ha/ac)	*0.90 / 2.22*	1.02 / 2.51	1.11 / 2.73	1.23 / 3.03	0.77 / 1.91	0.90 / 2.21	0.98 / 2.43	1.10 / 2.73	0
100 Year Floodplain (ha/ac)	*2.15 / 5.31*	2.15 / 5.31	2.15 / 5.31	2.15 / 5.31	2.22 / 5.50	2.22 / 5.50	2.22 / 5.50	2.22 / 5.50	0
Forestland (ha/ac)	*10.49 / 25.92*	10.30 / 25.44	10.83 / 26.77	10.64 / 26.29	12.10 / 29.89	11.90 / 29.41	12.44 / 30.74	12.25 / 30.26	0
Rangeland (ha/ac)	*2.38 / 5.88*	2.38 / 5.88	2.38 / 5.88	2.38 / 5.88	5.20 / 12.86	5.20 / 12.86	5.21 / 12.86	5.21 / 12.86	0
Surface Water (crossings)	*14*	14	15	15	14	14	15	15	0
Perennial Stream Impacts (m/ft)	*1,254 / 4,115*	1,365 / 4,479	1,285 / 4,215	1,396 / 4,579	483 / 1,585	594 / 1,949	514 / 1,685	625 / 2,049	0
Intermittent Stream Impacts (m/ft)	*1,501 / 4,924*	1,506 / 4,942	1,510 / 4,954	1,515 / 4,972	1,518 / 4,980	1,523 / 4,998	1,527 / 5,010	1,533 / 5,028	0
Farmland (ha/ac)	*0 / 0*	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0
Potential Archaeological Resources Sites	*4*	4	4	4	4	4	4	4	0
Eligible Historic Architectural Resources	*0*	1	0	1	0	1	0	1	0
Section 4(f) Use of Public Parks and Historic Resources (public parks/historic resources) [2]	*1 / 1*	1 / 2	1 / 1	1 / 2	1 / 1	1 / 2	1 / 1	1 / 2	0
Area of Section 4(f) Resource Use (ha/ac)	*0.070 / 0.174*	0.069 / 0.171	0.070 / 0.174	0.069 / 0.171	0.070 / 0.174	0.069 / 0.171	0.070 / 0.174	0.069 / 0.171	0
Potential Sensitive Waste Sites	*27*	27	27	27	29	29	29	29	0
Public Facilities and Services	*0*	0	0	0	0	0	0	0	0
Commercial Displacements	*12*	12	13	13	15	15	16	16	0
Residential Property Displacements	*12*	17	16	21	13 [3]	18 [3]	17 [3]	22 [3]	0
Institutional Property Displacements	*2*	2	2	2	2	2	2	2	0
Utility Relocations (PECO Substations)	*1*	1	1	1	1	1	1	1	0
Total Project Alternative Cost Estimate ($million) [4]	*640 [5]*	625 [5]	662 [5]	647 [5]	649 [5]	634 [5]	671 [5]	656 [5]	0

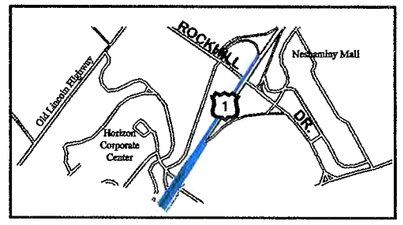
Notes: The identified alternative impacts incorporate the associated side road/ bridge improvements, storm water management facilities, and construction of the park and ride/pool sites. See **Table ES-1** for impacts to the defined resources associated with the alternatives in each of the project elements.
1 The No-Build does not meet the project need; used for comparison purposes only.
2 The resources referred to are Black Ditch Park in the Interchange Element / Pennsylvania Railroad and the Delaware Canal in the Bridge Element.
3 The potential exists for a substantial number of displacements at the Proposed Residential Development in the Split Plaza East Alternative **(Figure VI-1)**.
4 Cost estimates include roadway construction, structures, right-of-way, utilities, mitigation, noise abatement, engineering design, and inspection.
5 This estimate does not include the costs associated with the re-decking and painting of the existing Delaware River Turnpike Bridge.

SEE INSET FOR US 1 IMPROVEMENTS TO ROCKHILL DR.

SPLIT PLAZA EAST ALTERNATIVE

PENN VALLEY TERRACE
HORIZON CORPORATE CENTER
I–276 Neshaminy Service Plaza
Bensalem Community Park
Thomas F. Ennis Farm
WESTBOUND TOLL PLAZA
William Simmons / Margaret Martin York Farmstead
HULMEVILLE RD.
LINCONIA PARK
NSA 26
Concord Park
OLD LINCOLN RD.
WAWA (FUTURE SITE)
FORMER YOUTH DEVELOPMENT CENTER
WOMEN'S HUMANE SOC.
CHRISTIAN LIFE CENTER
NSA 28
NSA 29
LONGMEADOW APARTMENTS
THE WOODS OF NESHAMINY VALLEY
NSA 13
NSA 15
SALEM POINT
NSA 27
COUNTRY COMMONS
NSA 11
RICHLIEU
PHILADELPHIA PARK RACETRACK
GALLOWAY
NSA 14
THE VILLAS AT CHANCELLOR'S GLEN (PROPOSED)
GIBSON RD.
NSA 16
HARVEST RUN WEST
Bensalem Township Parcel
I–276 Neshaminy Service Plaza
I–276 Trevose Maintenance Building
Giles & Ransome Property
EASTBOUND TOLL PLAZA

MATCHLINE SEE FIGURE VI-2



PREFERRED ALTERNATIVE
MODIFIED PLAZA WEST ALTERNATIVE

SEE INSET FOR US 1 IMPROVEMENTS TO ROCKHILL DR.
PENN VALLEY TERRACE
HORIZON CORPORATE CENTER
I–276 Neshaminy Service Plaza
Bensalem Community Park
Thomas F. Ennis Farm
WESTBOUND TOLL PLAZA
William Simmons / Margaret Martin York Farmstead
HULMEVILLE RD.
LINCONIA PARK
NSA 26
Concord Park
OLD LINCOLN RD.
WAWA (FUTURE SITE)
FORMER YOUTH DEVELOPMENT CENTER
WOMEN'S HUMANE SOC.
CHRISTIAN LIFE CENTER
NSA 28
NSA 29
LONGMEADOW APARTMENTS
THE WOODS OF NESHAMINY VALLEY
NSA 13
NSA 15
SALEM POINT
NSA 27
COUNTRY COMMONS
NSA 11
RICHLIEU
PHILADELPHIA PARK RACETRACK
GALLOWAY
NSA 14
THE VILLAS AT CHANCELLOR'S GLEN (PROPOSED)
GIBSON RD.
NSA 16
HARVEST RUN WEST
Bensalem Township Parcel
I–276 Neshaminy Service Plaza
I–276 Trevose Maintenance Building
Giles & Ransome Property
EASTBOUND TOLL PLAZA
MATCHLINE SEE FIGURE VI-2

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Railroad
- 28 Existing I–276 Interchange
- Potential Noise Abatement
- NSA Noise Sensitive Area
- NSA Boundary
- Potential Sensitive Waste Site
- Air Receptor
- Noise Receptor (0.5 hour)
- Air and Noise Receptor
- Surface Water
- Floodplain Limits
- Proposed Stormwater Management
- Wetlands
- Farmlands
- Forest
- Rangeland
- Coastal Zone Boundary
- NRHP Eligible Property
- Section 4(f) Public Recreational Land
- Residential Displacement
- Commercial Displacement
- 130 SEPTA Bus Route
- 14 SEPTA Bus Route (Peak Hour)
- School
- Church
- Cemetery with Boundary
- Police
- Private Recreational Land with Boundary
- Public Water / Sewage Facility
- PENNDOT Facility
- Power Facility
- Major Economic Center with Boundary

I–276 / I–95 INTERCHANGE PROJECT

FIGURE VI–1
PREFERRED ALTERNATIVE
TOLL PLAZA ELEMENT

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

PREFERRED ALTERNATIVE
SINGLE LOOP A ALTERNATIVE

SEE INSET (Bottom Right) FOR FLYOVER A

FUTURE
EXISTING

EXISTING & FUTURE

EXISTING
FUTURE

MIDDLETOWN TWP.
BENSALEM TWP.

BENSALEM TWP.
BRISTOL TWP.

BENSALEM TWP.
BRISTOL TWP.

NSA 5B
NEWPORTVILLE MANOR
NSA 6B
PARKVIEW APTS.
LANGLEWOOD
NEW FALLS RD.
DURHAM
PLUMBRIDGE
413
Black Ditch Park
First Baptist Church of Bristol
MILL CREEK FALLS
NSA 19A
NSA 15
Edgar A. Smith House
NSA 17
SALEM POINT
GATE
CREEK
276
NEWPORTVILLE TERRACE
NSA 16
BENSALEM
NESHAMINY
MAIN ST.
NEW FALLS RD.
NSA 7&18
Bristol Plaza
BATH RD.
OLD RODGERS RD.
NEW RODGERS RD.
NEWPORTVILLE
LEVITTOWN TRACE
NSA 8
FORD
129
RODGERS RD.
95
BRISTOL GARDENS
ROCKDALE
NSA 10
NSA 9
NESHAMINY CREEK
NEWPORT ROAD
Lawrence Johnson Property / Lansdowne
MATCHLINE SEE FIGURE VI-1
MATCHLINE SEE FIGURE VI-3
NSA 19B
BRITTANY SPRINGS
Green Trees Park B
Black Ditch Park
NSA 21B
NSA 21A
MILL CREEK
BRISTOL
129
276
95
NSA 20A
NSA 20A(2)
MAYFIELD TERRACE
Municipal Campus Park
Green Trees Park A
PECO PROPERTY
OXFORD VALLEY RD.
NSA 20B
MAGNOLIA LAKE
LAUREL BEND
MARGO GARDENS
Silver Lake Park
Delhaas Woods
BLACK DITCH CREEK

NOTE: SEE FIGURE IV-5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV.A.5.

FLYOVER A ALTERNATIVE

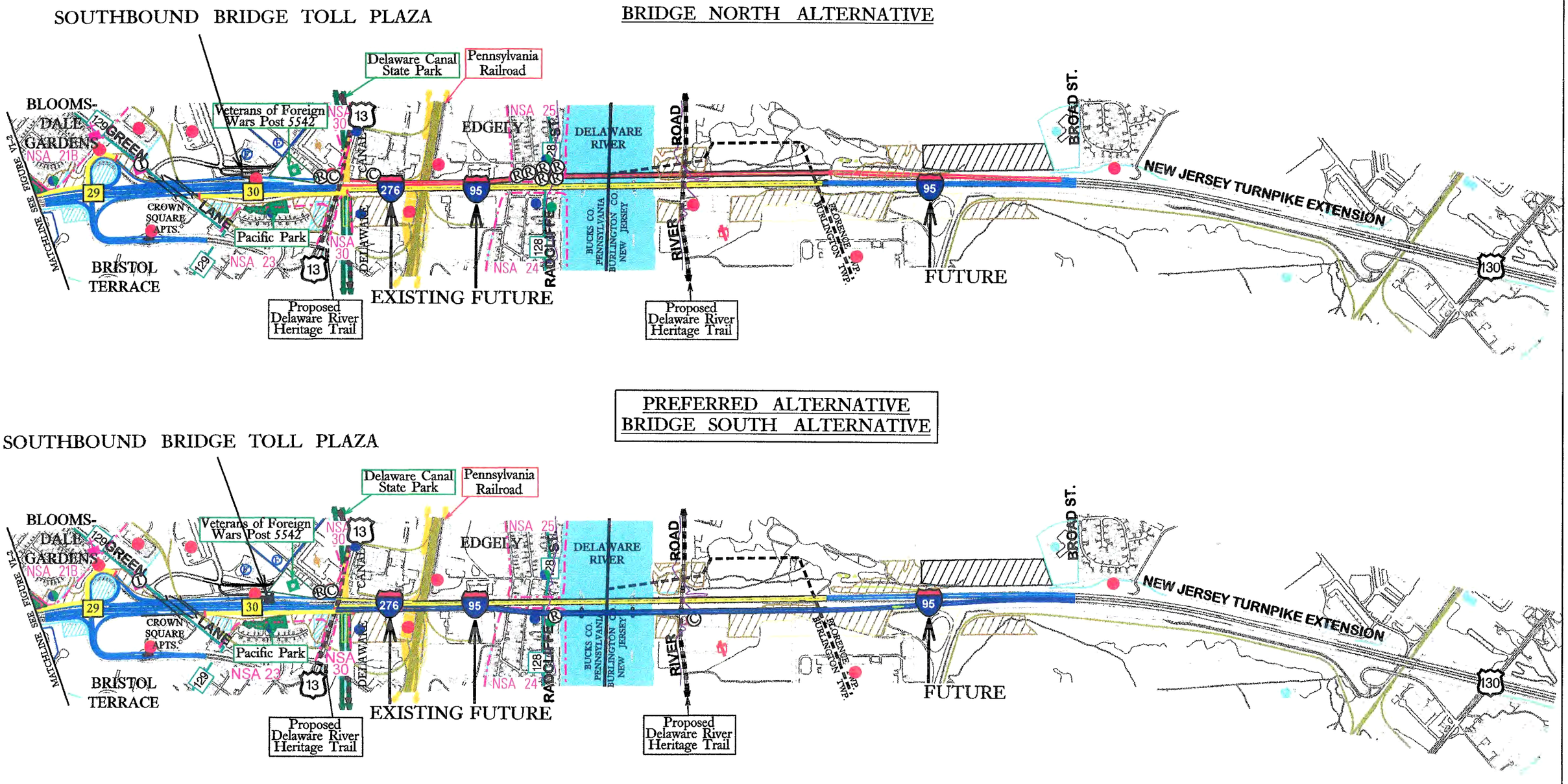
LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Merge Lane
- Existing Noise Abatement
- Potential Noise Abatement
- NSA Noise Sensitive Area
- NSA Boundary
- Potential Sensitive Waste Site
- Air Receptor
- Noise Receptor (0.5 hour)
- Noise Receptor (24 hour)
- Air and Noise Receptor
- Surface Water
- Floodplain Limits
- Wetlands
- Farmlands
- Forest
- Rangeland
- Proposed Stormwater Management
- PECO Parcel
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Ⓡ Residential Displacement
- Ⓒ Commercial Displacement
- Ⓘ Institutional Displacement
- Ⓤ Major Utility Relocation
- 129 SEPTA Bus Route
- Church
- Municipal Building
- Ⓕ Fire / Ambulance Service
- Health Care Facility
- Health and Human Service with Boundary
- Military Facility with Boundary
- Police
- Private Recreational Land with Boundary
- Public Water / Sewage Facility
- Power Facility
- Ⓔ Major Economic Center with Boundary

I–276 / I–95 INTERCHANGE PROJECT

FIGURE VI–2
PREFERRED ALTERNATIVE
INTERCHANGE ELEMENT

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km



LEGEND

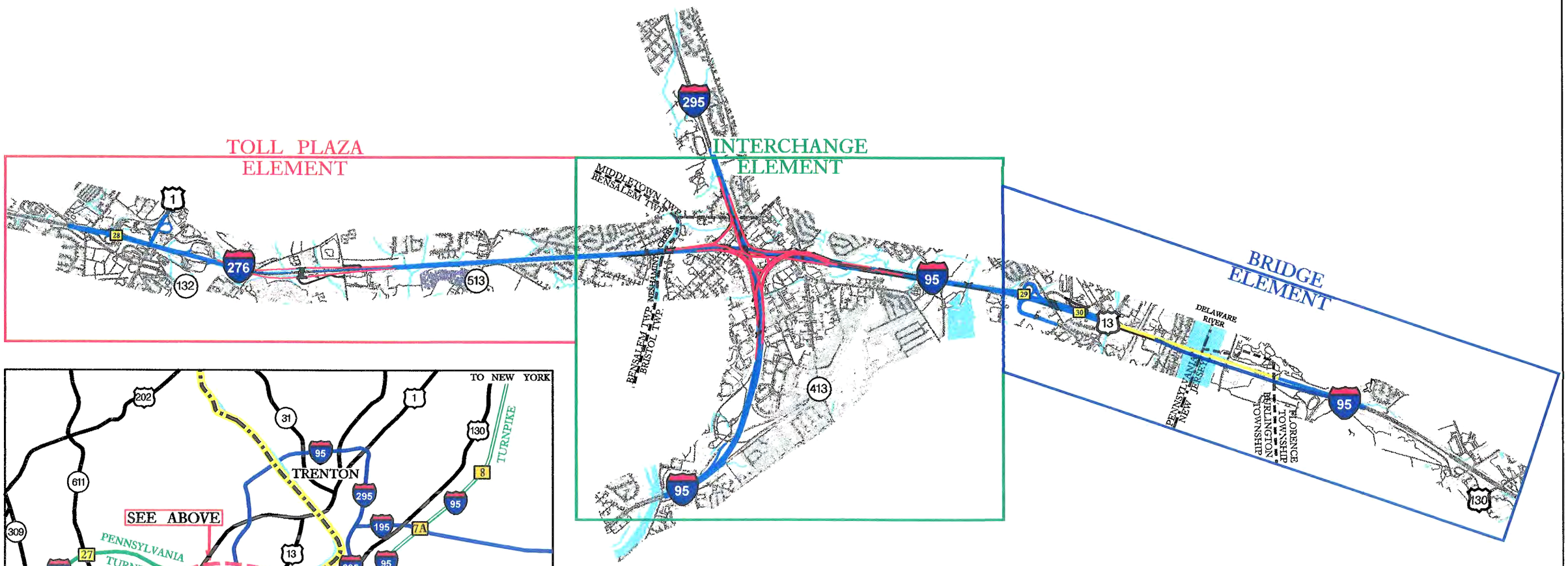
- Proposed Mainline Improvement
- New Parallel Bridge North
- New Parallel Bridge South
- Upgrade Of Existing Bridge
- 29 Existing I–276 Interchange
- Railroad
- Potential Sensitive Waste Site
- NSA Noise Sensitive Area
- NSA Boundary
- Air Receptor
- Noise Receptor (0.5 hour)
- Air and Noise Receptor
- Potential Noise Abatement
- Floodplain Limits
- Wetlands
- Farmlands
- Forest
- Rangeland
- Proposed Stormwater Management
- Surface Water
- Proposed Multi–Use Trail
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- (R) Residential Displacement
- (C) Commercial Displacement
- (I) Institutional Displacement
- Church
- Cemetery with Boundary
- Private Recreational Land with Boundary
- Public Water / Sewage Facility
- Health and Human Service with Boundary
- Major Economic Center with Boundary
- 128 SEPTA Bus Route

I–276 / I–95 INTERCHANGE PROJECT

FIGURE VI–3
PREFERRED ALTERNATIVE
BRIDGE ELEMENT

1In = 1/4Mi (1 : 15,840)
0Mi 1/4Mi 1/2Mi
0Km 0.15Km 0.3Km

SEE APPENDIX A FOR ENLARGED MAPPING OF ALTERNATIVES PRESENTED IN FEIS



TOLL PLAZA ELEMENT

MODIFIED PLAZA WEST ALTERNATIVE

- ✓ I–276 WIDENING FROM FOUR TO SIX LANES
- ✓ INTERCHANGE 28 / US 1 IMPROVEMENTS
- ✓ NEW TOLL PLAZA INCLUDING E–ZPASS

INTERCHANGE ELEMENT

SINGLE LOOP A ALTERNATIVE

- ✓ I–276 / I–95 WIDENING
- ✓ NEW I–276 / I–95 INTERCHANGE
- ✓ I–276 / I–95 REDESIGNATION

BRIDGE ELEMENT

BRIDGE SOUTH ALTERNATIVE

- ✓ I–276 (FUTURE I–95) WIDENING
- ✓ INTERCHANGE 29 / E–ZPASS IMPROVEMENTS
- ✓ NEW DELAWARE RIVER BRIDGE AND BRIDGE TOLL PLAZA INCLUDING E–ZPASS

I–276 / I–95 INTERCHANGE PROJECT

FIGURE VI–4
PREFERRED ALTERNATIVE
PROJECT ALTERNATIVE 1

1In = 3,600Ft (1 : 43,200)
0Ft 3,600Ft 7,200Ft
0M 1,097M 2,194M

VII. COMMENTS AND COORDINATION

VII. COMMENTS AND COORDINATION

More detailed agency and public involvement information can be found in the Comments and Coordination Technical Support Data.
* *Technical Support Data Index is located in Section XII (Appendix C).*

A. EARLY COORDINATION ACTIVITIES

Pennsylvania Act 61, enacted in 1985, authorized the Pennsylvania Turnpike Commission (PTC) to study and build an interchange between the Pennsylvania Turnpike (I-276) and Interstate 95 (I-95), and to widen I-276 to six lanes through the current study area.

A comprehensive process, the Pennsylvania Department of Transportation (PENNDOT) Transportation Project Development Process, was established in 1985 to coordinate activities among planning, transportation, and environmental agencies along with local officials and the public. For a more detailed description of the project development process, refer to the Public Involvement Technical Support Data.

Meetings were held with the local municipalities and organizations to introduce the project and to become more familiar with the study area and the local concerns. A summary of public involvement meetings can be found in **Table VII-1**.

B. PUBLIC INVOLVEMENT

A variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project. Efforts included establishing a local project office; holding general public meetings and public officials meetings; organizing special interest group meetings; facilitating the organization of a Community Advisory Committee (CAC) and the Community Economic Impact Review Group (CEIRG); distributing public questionnaires, project newsletters and fact sheets; creating a project specific website; providing informational binders to local libraries; and releasing press/public notices.

Meeting minutes to the public meetings can be found in the Public Involvement Technical Support Data. Public comments have been given consideration throughout the planning process and were instrumental in the selection and dismissal of alternatives. **Tables VII-1** through **VII-8** include a list of public and agency meetings and coordination activities held throughout the project development process.

The project was inactive for a period in 1996 while PENNDOT formulated its transportation budget, which allocates federal/state funding for projects in Pennsylvania. During this time, the PTC chose not to proceed with the I-276/I-95 Interchange Project until the PENNDOT budget was finalized. In October of 1996, PENNDOT's commitment of federal funding was provided to the current project, which enabled it to proceed.

1. Project Office

At the outset of the I-276/I-95 Interchange Project, a project office was established in the project area at 3220 Tillman Drive, Suite 104, in Bensalem, Pennsylvania. The office is open daily and project representatives are available to answer questions and discuss the project with interested residents, either by phone or in person.

2. Public Meetings and Public Officials Meetings

Public meetings were held at various stages of the project development to present information to the public, discuss project progress, and obtain public opinions, needs and concerns. Public officials meetings were held prior to each public meeting and at times of new project developments. Public officials were updated on the status of the project and received copies of newspaper advertisements and press releases.

Throughout the project development process, the public and public officials have raised many concerns about the project, including concerns about safety, residential and commercial displacements, project cost, and highway design issues. This input was utilized by project planners during alternatives development.

TABLE VII-1
GENERAL PUBLIC MEETINGS AND PUBLIC OFFICIALS MEETINGS

Meeting	Date	Summary
Public Officials Meeting #1	2/2/93	This meeting was held to introduce the officials to the project and to provide the officials with information necessary for public dissemination.
General Public Meeting #1	2/3-4/93	Introductory meeting held during the collection phase of the Needs Analysis. The meeting was used to gather information and to measure public opinion about the project.
Public Officials Meeting #2	11/9/93	This meeting was held to present the Needs Study, to give the Public Officials an update on project progress, and to announce that a CAC was being formed. The officials were asked to nominate key citizens to serve on the committee.
Public Officials Meeting #3	2/4/97	This meeting was held to present the alternatives associated with the project elements: the toll plaza, interchange, and bridge options, and to review the materials for the upcoming public meeting.
General Public Meeting #2	2/13/97	This meeting had an open-house format where the attendees were updated on the project's progress. Project videos, handouts, and presentation graphics were presented to explain the alternatives under consideration for detailed analysis and their environmental features.
Public Officials Meeting #4	6/4/98	At this meeting the alternatives suggested for detailed analysis were presented. The Public Officials relayed the expectation to have full access to PA 413 from both highways (I-95 and I-276). The Project Team has since designed the alternatives to have full access to PA 413.
General Public Meeting #3	6/16/98	At this meeting the alternatives suggested for detailed analysis were presented. Questionnaires were distributed to gather the public's input on the presented alternatives.
Public Officials Briefing	11/12/98	This meeting involved an overview of project coordination activities, the development of the detailed alternatives, and a review of the recent Public Meeting. Some officials in attendance expressed a desire to call a joint meeting between local, state, and federal officials to discuss the project.
Public Hearing	6/12/01	The formal public hearing was held to provided citizens an opportunity to present oral, recorded, and written testimony on the DEIS. An open house/plans display was set up with a video and presentation boards, which highlighted the project background, alternatives considered, and various environmental and socioeconomic issues.
Public Officials/Community Leaders Meeting	4/4/03	This meeting was held to present the project's activities since the DEIS distribution, provide an update on the FEIS, and to describe future public involvement activities.

A summary of the general public meetings, public officials meetings, and the formal public hearing is provided in **Table VII-1**. These meetings were broad-based, involved individuals and elected representatives of the project study and regional areas, and occurred near the completion of defined steps in the transportation project development process.

The meetings were advertised in the project newsletter, local newspapers, print and electronic media, display advertisements, public service announcements, and news releases. Furthermore, many of the municipalities televised their public meetings on the local municipal cable channel. A discussion of the formal public hearing held on June 12, 2001 is included in **Section VII-B.14**.

Additional, focused meetings and briefings were held with the local municipalities, communities, and public officials as described in **Tables VII-6** and **VII-8**. Many members of the Community Economic Impact Review Group (CEIRG), which is described in the upcoming sub-sections, were federal, state, county, and local elected officials.

3. Municipal/Special Group Meetings

Project updates have been provided to the public officials and residents of the nearby municipalities in addition to numerous special group meetings with study area interests, such as the Newportville-Fergusonville Historical Committee and the Lin-Park Community. Summaries of these meetings can be found in **Table VII-8**.

4. Informational Video

Informational videos regarding the project were produced for the public meetings and the Public Hearing and were made available for viewing at the project office. These videos contained introductory information about the project, including location, project needs, and alternatives, as well as public meeting format orientation.

5. Questionnaires

At the first public meeting, held on February 3 and 4 of 1993, questionnaires were distributed to determine the main concerns of the public regarding the project. Generally, the public was concerned about the impacts to the communities within the study area. Specifically, residents were worried about potential noise level increases and air quality degradation. Many residents were worried that not all of the project information was being relayed to the public. Furthermore, many respondents suggested that the early plan of creating the I-95 link near Princeton, New Jersey should be re-evaluated.

At the February 13, 1997 public meeting, attendees were asked to provide their opinion on the various alternatives presented. The Single Loop A Alternative in the Interchange Element was marginally favored, although many respondents did not prefer a specific interchange alternative, or did not like any of the alternatives presented. Furthermore, the residents did not have an overwhelming preference for the Toll Plaza Element alternatives, nor for the Bridge Element alternatives. The major concerns involved residential and commercial property displacements.

At the June 16, 1998 public meeting, completed questionnaires indicated that the respondents preferred those alternatives with the least amount of residential impacts: Split Plaza West, Single Loop A Interchange, and Bridge South. Interchange Concept D received very little public support due to the excessive socioeconomic and environmental impacts. Furthermore, the questionnaires showed the public's support of fully directional access between the proposed interchange and PA 413 (New Rodgers Road) via both interstates.

6. Informational Question and Answer Sheets

Informational handouts were provided to the attendees of several public and municipal meetings. The handouts included the most common questions about the project, its alternatives, and how it will affect the local communities, and the answers to these inquiries.

7. Project Newsletter and Fact Sheets

A project newsletter, *New Connections*, was developed in the winter of 1993. Twelve issues have been distributed to a mailing list of over 4,000 interested citizens. The newsletter provides periodic project updates to property owners/tenants, agencies, public officials, and other interested citizens. Summaries of the project newsletters are contained in **Table VII-2**.

Project fact sheets were developed to keep the public informed of singular activities and issues surrounding the project. A summary of the fact sheets, known as *Topic Updates*, can be found in **Table VII-3**.

8. Media Coordination

A press kit/information kit was developed and is periodically updated for use at editorial board meetings and various other functions. Editorial board meetings were conducted with area print and electronic media. The first meetings were held on January 26 and 27, 1993 prior to the first public meeting. The meetings were held to introduce the project and to discuss the first public meeting with the *Philadelphia Inquirer, Bucks County Courier Times*, KYW News Radio, and the *Trenton Times* in New Jersey.

In November 1993, following the second public officials meeting, a second round of editorial board meetings were scheduled to provide the media with a project update and to announce the formulation of a CAC. The PTC met with the *Bucks County Courier Times*, KYW News Radio, and the *Trenton Times* in New Jersey, and participated in a Lower Bucks Cablevision call-in talk show, "Lower Bucks Live." On December 16, 1999, a media briefing was held to discuss the current alternatives, air and noise analyses, the progress of the Economic Impact Study, and the project schedule.

Large block advertisements and press releases describing DEIS availability and the Public Hearing was placed in project area newspapers including *Bristol Pilot, Bucks County Courier Times, Burlington County Times, Philadelphia Inquirer, and Trenton Times* starting May 11,

TABLE VII-2
I-276/I-95 INTERCHANGE PROJECT NEWSLETTER- *NEW CONNECTIONS*

Newsletter	Summary
No. 1 Winter 1993	This issue introduced the Project Team members and their responsibilities; outlined the project schedule; and described the project process, including the 'Needs Study.' Discussed the initial development and construction of I-276 and I-95.
No. 2 Fall 1993	Addressed issues raised at the February 1993 Public Meeting. Reviewed an Origination/Destination Analysis and the conclusion of the Needs Study, which identified deficiencies in the local roadways. Explained the DVRPC studies indicated that future population and employment should increase in the study area. Reviewed DVRPC's analysis that examined how roadway use would change if I-276 and I-95 were directly connected. The newsletter also described the future LOS for study area roadways with and without the construction of the interchange.
No. 3 Summer 1994	This issue provided updates on public involvement issues, and the environmental and engineering studies. The preliminary environmental studies were near completion. Improvement strategies considered under the Congestion Management System (CMS) Analysis were identified. Introduction of the Community Advisory Community (CAC) and members.
No. 4 Summer 1995	Described the activities associated with the CMS analysis and the Project Needs. Provided a briefing of CAC activities. Outlined the Transportation Project Development Process and discussed the Preliminary Alternatives Development and Review, in greater detail. Also, this issue described the process used to determine future roadway efficiency.
No. 5 Winter 1997	First newsletter released after the period of inactivity; described the October 1995 CAC meeting. Announced the public meeting to be held on February 13, 1997 Contained an overview of the process of designing an interchange; an update on the environmental studies; and conclusions of the CMS analysis. Announced the initiation of the Major Investment Study.
No. 6 Summer 1997	Provided a project update, an overview of public involvement activities, and identified new alternatives, such as Concepts A, B, and C, and Split Plaza West, that were developed in response to public input. Discussed the public response to concepts recorded at the February 13, 1997 public meeting. Overview of the June 1997 CAC meeting that recommended the Split Plaza West, Single Loop A, Concepts B and C, and the Bridge North and South Alternatives for further study.
No. 7 Spring 1998	Described the alternatives selected for detailed study in Step 5 of the Transportation Project Development Process, Detailed Alternatives Development and Review. Reviewed the September 29, 1997 meeting between the Project Team and the 'Canal Kids' of Franklin Delano Roosevelt Middle School (Bristol Township). Identified federally protected parks in the study area. Noted that US Senator Spector and US Congressman Greenwood announced their support for the project at a February 2, 1998 press conference. Announced the upcoming June 16, 1998 public meeting.
No. 8 Fall 1998	Announced the dismissal of Concept D and identified the remaining alternatives to be carried into Step 6 of the Transportation Project Development Process, the Draft Environmental Impact Statement. The process of developing the Environmental Impact Statement was defined. Presented the results of the June 16, 1998 public meeting and the alternatives the public preferred based on the questionnaires from the public meeting. It was noted that US Congressman Greenwood and US Senator Spector secured funds from the Transportation Equity Act of the 21st Century (TEA-21) for the project.
No. 9 Spring 1999	Discussed the potential effect of the project on transportation in the Lower Bucks County. Provided a detailed description of Level of Service (LOS) for roadways. Discussed the viability of the suggested use of I-195 and I-295 in New Jersey as an alternative to building an I-276/I-95 interchange. Identified the transportation investment costs of the project, and reviewed PENJERDEL and the Project Team's presentation to the Lower Bucks County Chamber of Commerce. Discussed concerns about air pollution, and described how residents and business owners have influenced the project process.
No. 10 Fall 2000	Discussed the status of the six alternatives considered for detailed study in the Draft Environmental Impact Statement (DEIS), the use of updated traffic projections, the noise study and criteria for noise barriers, the upcoming release of the economic impact study, and the development of the project website.
No. 11 Winter 2000	This issue announced that the environmental studies for the DEIS are nearly completed. It discussed the review procedures for the DEIS and identified the current alternatives being studied. The issue included brief discussions of traffic benefits, noise quality benefits, local economic benefits, air quality compliance, and representative project impacts. Additionally, the concept of the DEIS containing a Recommended Preferred Alternative was introduced.
No. 12 Fall 2001	This issue presented the Recommended Preferred Alternative, provided a brief summary of the June 12, 2001 Public Hearing, and discussed the final steps of the Transportation Project Development Process.

TABLE VII-3
I-276/I-95 INTERCHANGE PROJECT FACT SHEET- *TOPIC UPDATE*

Issue	Summary
No. 1 October 1999	This issue summarized the initiation of the Economic Impact Study and the components of the study. The consulting team selected to conduct the study was introduced, as well as the CEIRG and its purpose.
No. 2 May 2000	This issue discussed the results of the Economic Impact Study and the predictions of development opportunities related to the project. Benefits to residents of the study area were highlighted, such as travel cost savings and tourism prospects.
No.3 August 2000	This issue discussed the development of the Modified Plaza West Alternative as a replacement for the Split Plaza West Alternative due to Section 4(f) impacts, Year 2025 traffic projections and E-Z*Pass* toll collection criteria.
No. 4 May 2001	This issue announced the release of the DEIS and details of the upcoming public hearing. The topic update sheet also identified the locations where the DEIS could be reviewed, where to send written DEIS comments, the project website, and how to purchase a copy of the DEIS.
No. 5 March 2002	This issue described the Project Team's efforts to review and address all substantive public and agency comments received during the DEIS Public Hearing and Comment Period, and the additional analyses needed for the FEIS (i.e., noise quality, threatened and endangered species and historic resources). The Recommended Preferred Alternative remains the same as the DEIS with minor changes to further minimize environmental impacts.

2001. The Bucks County Courier Times responded to the press release and wrote an article on Sunday, May 13, 2001. In addition, newspaper reporters routinely contacted the project office to obtain updated project information. Similar methods were employed to advertise the FEIS publication.

9. Project Website

An interactive project website was designed to convey project information to the public as well as to receive questions and comments from the public. The website is intended to complement other project information such as project newsletters, news releases, informational videos, and technical reports. The website offers information on public involvement, project history, current studies and activities, the Economic Impact Study, current alternatives considered and impacts, project costs, and news related items. At the time the DEIS was made available for public review, the Executive Summary, a brief summary of the DEIS, was added to the website along with a summary of the public hearing. This website, which was made available in February 2000, can be accessed at www.paturnpike.com/i95. There have been approximately 175 users per week since the website's initiation. Each e-mail information inquiry or question receives a prompt response and explanation from a Project Team member.

10. Community Advisory Committee (CAC)

A CAC was formed in January 1994 to facilitate public involvement in the Interchange Project. The intent of the CAC is for representatives of study area municipalities, civic associations, environmental interests, and business interests to come together and serve as a project liaison for local interests. The CAC also provided input for the selection of project alternatives to be carried into Step 6 (Detailed Alternatives Analysis and Review) of the PENNDOT Transportation Project Development Process.

The CAC encouraged developing Toll Plaza Alternatives that minimize residential impacts and to study Interchange Alternatives which incorporate full access to PA 413, and the production of visual quality graphics of the project elements to aid in the visualization of the project. The committee has met more than 20 times throughout the project development process and has effectively represented community related issues (**Table VII-4**).

The CAC also received and discussed project information to be relayed to the local communities. The CAC, which has been primarily concerned with reducing the number of socioeconomic impacts, preferred the Modified Plaza West in the Toll Plaza Element; Single Loop A in the Interchange Element; and Bridge South in the Bridge Element.

Upon the request of the CAC, information project binders were provided to local libraries in Bucks County and Burlington County to be available to the public. The binders are periodically updated to reflect current project information, such as project alternatives, schedule and public involvement issues.

11. Congestion Management System (CMS) Committee and Coordination Meetings

A CMS Committee was formed to coordinate the completion of the CMS Evaluation. This committee was comprised of representatives from the following agencies: Delaware Valley Regional Planning Commission (DVRPC), Southeastern Pennsylvania Transportation Authority (SEPTA), PENNDOT, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Bucks County Planning Commission, New Jersey Transit, New Jersey Turnpike Authority (NJTA), and the New Jersey Department of Transportation (NJDOT). **Table VII-5** lists the significant CMS meetings.

The results of the Phase I CMS Analysis were presented to, and accepted by, the Regional Transportation Committee (RTC) of DVRPC on October 10, 1995. The Phase I CMS Report was approved at the Agency Coordination Meeting (ACM) in September of 1995 and approved by FHWA in January of 1996. More detailed information regarding CMS is located **Section III-C.1**.

12. Major Investment Study (MIS) Committee and Coordination

A MIS Committee, consisting of the members of the CMS Committee, was formed to assist in the development of the MIS. As part of this process, MIS Coordination Meetings were held to review the progress of the document and address issues associated with the development of the MIS Study. The *Pennsylvania Turnpike/Interstate 95 Interchange Project Major Investment Study* (PTC, 1997) and its recommendations were presented to, and approved by, DVRPC's Regional Transportation Committee (July 8, 1997) and Regional Citizen's Committee (July 15, 1997). On July 24, 1997, the DVRPC Board resolved and adopted the MIS preferred alternative. This alternative states that "Build with Widening" should be retained on the region's long-range transportation plan as the most prudent investment for effectively addressing the defined transportation needs. A copy of the DVRPC resolution is included in **Appendix E**. **Table VII-5** lists the significant MIS meetings. More detailed information regarding the MIS is located **Section III-C.2**.

13. Community Economic Impact Review Group (CEIRG)

The CEIRG is an advisory group comprised of local stakeholders formed to assist in monitoring the progress of the I-276/I-95 Interchange Project Economic Impact Study. The Pennsylvania Economy League (PEL), in association with the Economic Development Research Group (EDRG), performed the study. The CEIRG is made up of elected officials, representatives of non-profit organizations, local employers and business leaders, a CAC representative, and an opposition group representative.

During monthly meetings, as described in **Table VII-6**, the CEIRG provided the oversight and local perspective needed to maintain the focus, accuracy, and credibility of the economic study. How the project would affect the quality of life was a concern to the CEIRG. For example, because several members were concerned with the project's effect to air quality, presentations from representatives of Delaware Valley Regional Planning Commission, Pennsylvania Department of Environmental Protection, and US Environmental Protection Agency were held. These presentations clarified several issues regarding air pollution sources, regional air quality analyses, and project-specific air quality analyses and impacts.

This group agreed to meet regularly after completion of the Economic Impact Study for the purpose of obtaining regular project updates in advance of the DEIS distribution and public hearing. Currently, based on the results of the Economic Impact Study and the impact minimization strategies, the CEIRG is generally in favor of the project. Based on a comparison of the Build Alternatives, the CEIRG generally favors the Modified Plaza West in the Toll Plaza Element, Single Loop A in the Interchange Element, and Bridge South in the Bridge Element.

A CEIRG-Neighborhood Sub-Committee was also organized to address several communities' deficiencies, independent of the I-276/I-95 Interchange Project. The CEIRG-Neighborhood Sub-Committee acted as the steering committee for the Bucks County-sponsored Neighborhood Enhancement Study, which looked at other impacts including existing infrastructure deficiencies and local planning inconsistencies.

TABLE VII-4
COMMUNITY ADVISORY COMMITTEE (CAC) MEETINGS

CAC Meeting	Date	Summary
Meeting # 1	1/11/94	Introduction of the Community Advisory Committee (CAC), focus on organizational issues of the CAC, review of the Draft Ground Rules, a report on project status.
Meeting # 2	3/8/94	Report on the project status, screening of video from first workshop, introduction of TSM and CMS alternatives, and environmental constraints mapping. The CAC requested a summary of the questionnaire responses from the public meeting.
Meeting # 3	4/12/94	Adoption of Ground Rules for CAC, screening of video from first workshop, review of TSM and CMS alternatives, and environmental constraints mapping. The CAC asked for a re-compilation of questionnaire responses from the public meetings. Also, the CAC suggested that TSM and CMS strategies should be investigated. The CAC also requested a FHWA, DVRPC, and a SEPTA representative be invited to attend the CAC meeting.
Meeting # 4	10/11/94	PENNDOT report on current study area transportation improvement projects, summary of CMS strategies, and the role of the DVRPC and planning studies for the region. The CAC provided comments on the Phase I Alternative Analysis Summary Chart. Information about truck traffic percentages traveling the study area was requested.
Meeting # 5	1/17/95	PENNDOT report on current study area transportation improvement projects, Traffic Capacity Analysis Summary and discussion of future activities.
Meeting # 6	5/9/95	Review of the legislation requiring the interchange and why a "full" interchange is necessary. Status updates on the local PENNDOT projects. Introductory discussion on interchange design. The CAC requested information regarding the proposed ramp speeds and the radii of ramps.
Meeting # 7	8/8/95	Summary of the conclusion of CMS and the initiation of the development of alternative interchange concepts. Presentation of preliminary interchange concepts. The CAC requested information about the vehicles per day that are projected to use the proposed interchange.
Meeting # 8	10/24/95	Review of research on safety of single vs. split ramps; the single exit proved superior. The number of vehicles per day projected to use the interchange in the Year 2020 was discussed. Review of the CMS Study that will run concurrently with the study of the alternatives. Presentation of preliminary concepts for proposed toll plaza, I-276 widening, I-95 widening, and the Delaware River Bridge Alternatives.
Meeting # 9	2/4/97	Explanation of the period of inactivity, review of material and detail for the public meeting, updates of PENNDOT projects, and a summary of the public officials meeting also held that day. Video presentation of the project status and the division of the study area into three project elements: Toll Plaza, Interchange, and Bridge Elements.
Meeting # 10	6/18/97	Review of the Feb. 13, 1997 public meeting and community meetings. Introduction of the Split Plaza West, which was developed in response to the Public Meeting. Presentation of a Revised Direction Associates interchange alternative and a request for input from the CAC concerning alternatives to be further evaluated in Phase II, Detailed Alternatives. The CAC endorsed the following alternatives for further study: Split Plaza West, Single Loop A, a combination of Direction Associates Concept B with an Urban Interchange and Concept C, and both the Delaware River Bridge North and South Alternatives.
Meeting # 11	2/17/98	Discussion of the Oct. 16, 1998 ACM field view. Summary of alternatives the CAC previously recommended for additional study, Single Loop A, Concept D, the Delaware River Bridge Concepts, the Split Plaza West, and Split Plaza East. A noise video presentation and the introduction of the computerized rendering of Single Loop A and Concept D. The CAC requested computer-generated renderings showing the highly affected area in the interchange element. Also, a list of meetings between the project team and public agencies will be kept at the project office for the CAC access.
Meeting # 12	5/21/98	Project Status Update - FHWA comments on the PAA report and their suggestion of Flyover A Interchange for further study. Presentation of additional computer-generated renderings for all project elements. The CAC expressed their disapproval of any interchange that would not provide access from the southbound re-designated I-95 to PA 413. A presentation of the June 1998 Public Meeting materials.
Meeting # 13	11/12/98	Review of the project coordination activities, development of detailed alternatives, and a discussion of the recent public meeting and CAR meeting. Alternatives chosen for review in Phase II were discussed; Interchange Alternatives Flyover A and Single Loop A have been redesigned to provide a full connection at PA 413. CAC recommended creating a project website and requested Project Informational Binders be distributed to local municipal buildings and libraries in Bucks and Burlington Counties.
Meeting # 14	4/12/99	Involved the review of local PENNDOT activities, the DEIS materials per chapter, report on project status and meetings held with local organizations. There was a discussion of House Bill 475 introduced by Representative Gene DiGirolamo, which would remove enabling state legislation for the project. The steps toward having the Bill ratified were discussed. Also, a CAC member introduced an alternative that would place the toll barrier in the northwest quadrant of the point-of-crossing, and retain free flowing movements on I-95. This was later termed the Northwest Quadrant Hybrid Alternative.
Meeting # 15	9/14/99	PEL, the consultant selected to conduct the Economic Impact Study, outlined the project definition, key assumptions, potential interviews, case studies of similar projects, and the economic modeling process. Also discussed were the local roadway improvements associated with the project, the noise abatement process and potential location of noise barriers, and an impact comparison between the Northwest Quadrant Hybrid Alternative to the other alternatives.
Meeting # 16	12/15/99	Review of recent CEIRG Meetings. Discussion of the air quality analysis, EPA's National Ambient Air Quality Standards (NAAQS) and the NAAQS review process. Presentation of project mapping identifying the location of Noise Sensitive Areas (NSAs) and the tentative locations of noise barriers analyzed for the noise study. Review of CAC membership strategies toward improving attendance. Discussion of the project schedule including timelines for the Economic Impact Study and DEIS.
Meeting # 17	3/1/00	Discussion of the need for 2025 traffic volume projections, including an explanation of the DVRPC traffic modeling process and related issues. Status update of the DEIS identifying changes made using 2025 traffic volume projections. Review of the CAC membership and attendance. Discussion of the project website completion.
Meeting # 18	6/15/00	Included discussion of CAC membership and the status of the DEIS and introduction of the Modified Plaza West Alternative designed as a Section 4(f) avoidance alternative. Also discussed was the project website.
Meeting # 19	9/12/00	Included discussion on the updated air quality and noise studies, the status of the DEIS, and the upcoming DEIS distribution and public hearing schedule.
Meeting # 20	12/12/00	The CAC was provided with an overview of the current alternatives and discussed the planned roadway improvements, project cross sections, air quality, the DEIS schedule, and the DEIS public hearing. Additionally, the concept of the DEIS containing a Recommended Preferred Alternative was introduced. Members were also provided a questionnaire to obtain feedback on their preferences of alternatives, should the project be built. The CAC, which has been primarily concerned with reducing the number of socioeconomic impacts, preferred the Modified Plaza West in the Toll Plaza Element; Single Loop A in the Interchange Element; and Bridge South in the Bridge Element.
Meeting # 21	5/8/01	At this meeting the CAC was informed that the DEIS has been completed and distributed to various locations for public review. There was discussion of the DEIS comment period, the DEIS Executive Summary, and public outreach methods. There was also a discussion of the DEIS Public Hearing including the formal hearing schedule, pre-registration requirements, room layout, and presentation boards and handouts.
Meeting # 22	11/14/01	This meeting provided attendees an overview of the Public Hearing and a summary of written and oral comments. There was discussion of how DEIS comments would be addressed, the preparation and distribution of the FEIS, the Record of Decision, and the Mitigation Report. There was also discussion of public involvement issues including the release of a new project fact sheet and updates to the project website and information binders.

Note: The project was inactive for most of 1996.

14. DEIS Comment Period and Public Hearing

With the availability of the DEIS to the public, the DEIS was distributed to federal, state, and local agencies and officials, and has been made available in municipal buildings, libraries, and the project office. The release of the DEIS and the public hearing was publicized in the *Federal Register*, various media notices, direct mail, a project newsletter, website notices, and miscellaneous outlets. The DEIS comment period, and the associated public hearing, provided citizens an opportunity to present oral, recorded, and written testimony on the DEIS and the application submitted by PTC for a USACOE permit to fill federally regulated waters of the US, including wetlands, to construct the Recommended Preferred Alternative. The formal public hearing was held on June 12, 2001 at the Harry S. Truman High School. An open house/plans display was set up with a video and presentation boards, which highlighted the project background, alternatives considered, and various environmental and socioeconomic issues.

Approximately 259 people attended the public hearing. Of those who attended, 32 people gave formal public testimony and three gave private oral testimony. During the DEIS comment period, which ran from May 11 through July 2, 2001, there were approximately 51 written comments received. All comments received were reviewed to identify the substantive issues and responses were developed to address those issues. **Appendix I** contains the official transcript from the public hearing, the written comments received, and responses developed to address issues raised during the DEIS comment period.

C. PUBLIC INVOLVEMENT HIGHLIGHTS

1. 1992

a. October 1992

The first in a series of community/special interest group meetings/briefings on the project was held. The team met with the Newportville/Fergusonville Civic Association (NFCA) to introduce the project. This particular group voiced its opinion at this and subsequent meetings that the public involvement process should be fully open and comprehensive. Later, contentions by the NFCA that the Sunshine Law was being violated by the transportation agencies was not carried forward based on opinion by PENNDOT and PTC legal counsel.

b. December 1992

Middletown Township Board of Supervisors adopted a resolution opposing the proposed interchange between the Pennsylvania Turnpike and I-95 because, they contended, it would provide little or no benefit to interstate or local traffic, divert scarce government funds, adversely impact historic resources, disrupt established residential neighborhoods, and degrade residential quality of life.

2. 1993

a. February 1993

The first general public meeting (two consecutive days) was held. This was an introductory meeting held during the collection phase of the Needs Study and was used to gather information and gauge public opinion.

b. March 1993

A notice-of-intent was published in the *Federal Register*, which advised the public of FHWA's intention to prepare an EIS for the I-276/I-95 Interchange Project.

c. Spring/Summer/Fall, 1993

Numerous meetings were held with Pennsylvania and New Jersey state, county, and local officials, as well as community groups. Project briefings and an assessment of public concerns were the goals of these meetings.

d. August 1993

The Needs Analysis was completed and presented and the Preliminary Alternatives Phase (PAA) began. The Needs Study Report summarized five defined project needs that will be used in the development and evaluation of Alternatives. The intent of the PAA was to develop and evaluate a broad range of reasonable alternatives based on their ability to meet the project needs, their advantages/disadvantages, potential environmental/ socioeconomic impacts and agency input.

e. October 1993

Coordination was initiated with Direction Associates (DA), a Bristol Township consultant responsible for community plans for the Newportville/Fergusonville neighborhoods and development of interchange alternatives that addressed community impact concerns.

3. 1994

a. January 1994

After formation in late 1993, the Community Advisory Committee (CAC) had its first meeting. Organizational issues, ground rules and project status were discussed. More than twenty meetings were held with this group before the public release of the DEIS in May of 2001 **(Table VII-4)**.

b. September 1994

A meeting with Direction Associates yielded that they have developed a new alignment interchange alternative (later termed Concept A) that has decreased potential commercial impacts at the expense of environmental and socioeconomic resources.

4. 1995

Four meetings were held with the CAC to discuss project topics, among them the review of Phase I CMS Analysis and the preliminary alternatives developed for toll plaza, interchange, and bridge elements. Specifically, numerous toll plaza alternatives were developed and analyzed at the request of the CAC.

TABLE VII-5
SUMMARY OF CONGESTION MANAGEMENT SYSTEM ANALYSIS & MAJOR INVESTMENT STUDY MEETINGS

Activity	Date	Summary
CMS Coordination Meeting	6/8/94	Discussions between the transportation planning and resource agencies relative to the Phase I CMS Analysis. Appropriate strategies for consideration and the method of documenting results was discussed. The goal of the analysis was to identify alternatives that would satisfy the project needs and eliminate the need for an interchange and interstate widening.
MIS Interagency Coordination Meeting	8/22/95	Discussions included the range of alternatives to be studied in the MIS phase, the roles of the transportation planning and resource agencies, and the methods of documenting the results. A decision was made to limit the range of MIS alternatives to one reasonable alternative, "Build with Widening."
ACM #3	9/27/95	Presentation of the Congestion Management Strategies Analysis and review of the results. Concurrence was given in the CMS Report's findings recommendation.
DVRPC Regional Transportation Committee (RTC)	10/10/95	The results of the Phase I CMS Analysis were presented. The RTC expressed their approval of the Phase I CMS Analysis results.
DVRPC Regional Transportation Committee (RTC)	7/8/97	The results of the MIS Analysis were presented. The RTC expressed their approval of the MIS Preferred Alternative.
DVRPC Regional Citizen's Committee (RCC)	7/15/97	The results of the MIS Analysis were presented. The RCC expressed their approval of the MIS Preferred Alternative.
DVRPC Board	7/24/97	The results of the MIS Analysis were presented. The DVRPC Board approved the results and passed a resolution supporting the MIS preferred alternative, "Build with Widening Alternative."
Phase II CMS ITS Coordination Meeting	8/9/99	This meeting included discussions of specific strategies and commitments to be pursued as part of the Phase II CMS analysis. Also discussed were existing and planned Intelligent Transportation System (ITS) Management programs along I-276 and I-95.

TABLE VII-6
SUMMARY OF COMMUNITY ECONOMIC IMPACT REVIEW GROUP (CEIRG) MEETINGS

Activity	Date	Summary
CEIRG Meeting # 1	7/9/99	This meeting included a project history and an overview of the economic study. The Pennsylvania Economy League (PEL) gave a presentation describing the scope of the proposed Economic Impact Study. The objective of the study was to determine the benefits or adverse impacts to the local economy as a result of the I-276/I-95 Interchange Project. This meeting established the role of the CEIRG in the Economic Impact Study to review and comment on the study's progress. A questionnaire was distributed to the CEIRG to allow for feedback on the scope of the Economic Impact Study, the consultant's qualifications, and the process of the study.
CEIRG Meeting # 2	8/13/99	This meeting included a review of first meeting, questionnaire results, and adoption of operating procedures for the CEIRG, Project Team, the media and general public. A detailed explanation of the economic study by PEL and Economic Development Research Group (EDRG) informed the CEIRG of the input/output used in the economic model and the level of analysis and results to expect.
CEIRG Meeting # 3	9/17/99	This meeting included a brief presentation outlining PEL's progress. The CEIRG conducted a roundtable discussion that focused on changes in local and regional traffic patterns resulting from the project, and how these changes will affect local businesses. Also, local real estate values and their change due to the project were discussed.
CEIRG Meeting # 4	10/15/99	This meeting included a project update to clarify issues related to traffic issues. New traffic volumes for the Year 2025 would be used in the economic model and reapplied to engineering and environmental studies. There was a short discussion regarding level of service designations and how they were applied to local roadways. PEL provided an update on the economic impact analysis and identified case studies that were being used to determine the impact of the project.
CEIRG Meeting # 5	11/12/99	PEL provided a presentation that included a progress report on the economic studies, a discussion of the construction costs of the project, presentation of the preliminary regional construction impacts and a report outlining the next steps to be taken.
CEIRG Meeting # 6	1/14/00	PEL, EDRG provided a status report on the economic impact study that included information on construction impacts at the township level and review of work completed on the selected case studies.
CEIRG Meeting # 7	2/11/00	The purpose of this meeting was to present the 2025 traffic projections which were provided by the Delaware Valley Regional Planning Commission (DVRPC). DVRPC made a presentation on the transportation modeling process and 2025 traffic projections for specific project area roadways.
CEIRG Meeting # 8	4/10/00	This meeting and press conference was used to present the final results of the economic impact study conducted by PEL, EDRG. Topics discussed in the presentation included construction impacts, productivity impacts, economic development impacts, and local opportunities.
CEIRG Meeting # 9	6/15/00	This meeting discussed the public reaction to the economic impact study. A subcommittee to address community issues was recommended. Other topics included the status of the DEIS, use of Year 2025 Traffic volumes, E-Z*Pass*, and the development of the Modified Plaza West Alternative.
CEIRG Neighborhoods Sub-Committee Meeting # 1	7/21/00	The sub-committee was formed to address neighborhood issues surrounding the project. After a brief project overview, a bus tour of the study area was conducted, which included viewing the impacted residences, businesses, and study area communities. Strategies to address negative impacts to the communities were identified.
CEIRG Neighborhoods Sub-Committee Meeting # 2	8/24/00	The sub-committee reviewed the summary of the first sub-committee meeting, heard community concerns, and discussed past and proposed ways to address impacted communities adjacent to the project, such as the Newportville section of Bristol Township. The Bucks County Planning Commission outlined various grant money sources to fund such planning and construction strategies.
CEIRG Meeting #10	9/8/00	This meeting included discussion on the updated air quality and noise studies, the status of the DEIS, the upcoming DEIS distribution, activities of the CEIRG Neighborhoods Sub-Committee, and the public hearing schedule. An air quality presentation, discussion, and questions/answer session was led by Ron Roggenburk, Manager of the Office of Air Quality Planning at DVRPC.
CEIRG Neighborhoods Sub-Committee Meeting # 3	10/20/00	The meeting included a general discussion of neighborhood issues, specific issues relating to the Newportville neighborhood, and potential solutions. Discussion included the concerns raised by residents attending the 10/19/00 meeting organized by Newportville residents, the use of federal and state funding to study neighborhood concerns, and air quality.
CEIRG Neighborhoods Sub-Committee Meeting # 4	12/1/00	The sub-committee was informed of the plan to conduct small neighborhood meetings to discuss specific issues with affected neighborhoods. There was discussion of potential funding options, including an update on federal funding for a neighborhood study for areas impacted by the project and state funding which could also provide the financial resources for a neighborhood study.
CEIRG Meeting #11	12/8/00	This meeting included an update on the CEIRG Neighborhoods Sub-Committee, federal and state funding options for a neighborhood impacts study, current project alternatives, DEIS schedule, public involvement initiatives, and air quality studies. Members were also provided a questionnaire to obtain feedback on their preferences of alternatives within each project element when compared to the other build alternatives. An air quality presentation, discussion, and question/answer session was led by Arleen Shulman, (Chief, Mobile Sources Section, Bureau of Air Quality) PADEP
CEIRG Neighborhoods Sub-Committee Meeting # 5	1/12/01	The sub-committee discussed issues related to conducting a Neighborhood Impact Study including grant applications, administrative issues, and the request for qualifications (RFQ). The meeting also included an air quality discussion and a presentation on project specific monitoring.
CEIRG Neighborhoods Sub-Committee Meeting #6	2/16/01	The sub-committee agreed to pursue additional funding for a study of air quality and real estate values in the project study area. There was also discussion of the request for qualifications (RFQ), local employment opportunities, and the concern of quarry truck traffic during the project's construction.
CEIRG Neighborhoods Sub-Committee Meeting #7	3/9/01	The committee discussed details of the upcoming Neighborhood Impact Study including the naming of additional municipal representatives to a newly formed Neighborhood Impacts Committee. Many CEIRG sub-committee members would also join this new committee, thus eliminating the need for the sub-committee to continue. Marcia Spink, Associate Director of Air Quality Programs from the USEPA gave a presentation regarding air quality impacts due to the project. This included a discussion of pollutants that are not currently regulated by USEPA, for which health-based standards do not yet exist.
CEIRG Meeting #12	5/4/01	This meeting was used to provide a project status update to CEIRG members as well as a broad group of public officials. The meeting included a discussion of the remaining steps in the transportation development process, an update on the Neighborhood Impacts Committee, overview of DEIS findings and conclusions, the DEIS comment period, the executive summary, the public hearing, and continuing public outreach methods.
CEIRG Meeting #13	7/13/01	At this meeting CEIRG members were provided with an update on the Neighborhood Impacts Committee, a review of the results of the public hearing, and a discussion of the remaining steps in the transportation development process.
CEIRG Meeting #14	11/9/01	This meeting provided an update on the Bucks County Neighborhood Impacts Study, a summary of the DEIS comments, and next steps in developing the FEIS. There was also discussion of public involvement issues including the release of a new project fact sheet and updates to the project website and information binders.

5. 1996

The project was inactive for most of this year due to the analysis of the state transportation budget. The funding for the EIS, as well as other transportation projects in the region, was re-evaluated. The project was re-activated during the latter part of this year.

6. 1997

a. February 1997

The CAC and public officials meetings were held in advance of the second general public meeting, which was held on February 13th. Interchange Concept A was presented as an alternative not recommended for further study due to its socioeconomic impacts. Questionnaire results showed that alternatives in the three project elements that had lower overall socioeconomic impacts were preferred.

The Bristol Township Council adopted a resolution that expressed disapproval of the six point-of-crossing interchange alternatives presented at the second general public meeting. While support for the interchange was expressed because of the increased highway access opportunities and potential economic benefits, they indicated displeasure with the number of commercial impacts and tax ratables loss associated with the six concepts. This, in part, led to the development of additional new alignment alternatives and efforts to minimize the impacts associated with the remaining point-of-crossing alternatives.

b. March 1997

In response to the recommended dismissal of Interchange Concept A, Bristol Township/Direction Associates offered a modified alignment termed Interchange Concept B to the Project Team for analysis and evaluation.

c. April 1997

The Bristol Township Council adopted a resolution that sets design and impact standards, which, if met, would allow the Township to support the construction of the interchange. Many of these objectives have been met through the observance of local, state and federal guidelines, as well as the minimization of environmental and socioeconomic impacts through the alternative development process.

d. May 1997

After meetings with Bensalem Township public officials and affected residential communities, an additional toll plaza concept was presented. Split Plaza West, which locates the plazas further west of the concerned residential communities near Hulmeville Road, allowed dismissal of the Standard Plaza concept from further study.

e. June 1997

Further analysis of Interchange Concept B impacts to homes, businesses, and environmental resources led to the development of Interchange Concept C, which again shifts the alignment further to the west in hopes of minimizing impacts in relation to the point-of-crossing alternatives.

A CAC meeting was held to review the results of the February general public meeting and other community meetings. The Split Plaza West Concept was introduced, as well as Interchange Concepts B and C. The CAC endorsed the following alternatives for further study: Split Plaza West, Single Loop A, a combination of Concept B with an Urban Interchange and Concept C, and both the Delaware River Bridge North and South Alternatives.

f. July 1997

Bristol Township Council voted to support the I-276/I-95 link that would provide a fully accessible interchange and displaces the least number of homes. They also requested that every effort be made to fully explore and study the issue of placing an additional bridge over the Delaware River.

g. August 1997

A town meeting was held at the Bristol Township Building to brief residents of the Mayfield Terrace, Margo Gardens, and Laurel Bend neighborhoods about the alignments and impacts associated with Interchange Concepts B and C. Significant dissatisfaction was expressed by the audience due to the numerous socioeconomic and environmental impacts of these interchange alternatives, which are partially on new alignment through the community.

h. September 1997

A presentation by the award-winning Canal Kids of FDR Middle School, Bristol Township was given to the Project Team. The Project Team told the students that the canal and associated Delaware Canal State Park is an important resource and that every effort would be made to minimize impact to it.

7. 1998

a. February 1998

US Senator Specter and US Congressman Greenwood held a press conference on the proposed interchange project near the site of the physical crossing of the PA Turnpike and I-95. Both elected officials emphasized their support of the project and their commitment to seek federal funding for its design and construction.

A briefing was held with Bensalem Township public officials to present a project update emphasizing the toll plaza element. It was explained that only the Split Plaza East and Split Plaza West toll concepts are still under study and that the Standard Plaza was not carried forward due to impacts. Township officials overwhelmingly expressed their preference for the Split Plaza West Alternative because of the reduced socioeconomic impacts.

b. April 1998

US Congressman Greenwood, PA Senator Tomlinson, PA Representative DiGirolamo and Bensalem Mayor DiGirolamo attended a meeting between the Project Team and Alex Udowenko, a Bensalem Township resident. Mr. Udowenko raised specific issues about: the project needs, traffic, cost, schedule, air/noise quality, and real estate values. Some of these concerns continued to be reflected by some members of the residential community. These issues, in part, served as the platform for organizing Citizens at Risk (CAR), the group that opposes construction of the project.

c. May 1998

A project presentation was given to the residents of the Linconia Park section of Bensalem Township. Because of the extension of project limits to just west of Interchange 28, it was appropriate to inform these residents about how the project affects their area. Many in attendance were relieved to hear that the proposed highway improvements in this vicinity of the project area can occur within existing PTC right-of-way and would not involve displacements. Attendees were also invited to the upcoming general public meeting.

A CAC meeting was held to review meeting materials for the upcoming June general public meeting. They were informed that FHWA suggested further evaluation of the Flyover A Interchange in addition to the Single Loop A Interchange and a B/C Corridor Concept, which had already been approved for further study. They expressed their opposition toward any interchange concept that would not provide full access between the proposed interchange and the PA 413/I-95 interchange.

d. June 1998

A public officials briefing and the third general public meeting were held, at which the results of the Detailed Alternatives Analysis were presented. As a result of the verbal feedback and written responses received, a large percentage of respondents expected to have full access between the PA 413 (New Rodgers Road) interchange of I-95 and the proposed I-276 interchange. Also, concepts in each of the three project elements that have the lowest overall socioeconomic impacts were preferred. At the time, these are the Split Plaza West Concept, the Single Loop A, and Bridge South. Concept D, which is the presented alternative in the B/C Corridor, was largely criticized due to its impacts to homes, businesses, and environmental resources. As a result of these impacts and the feedback received, Interchange Concept D was recommended to not be carried forward for further study.

e. October 1998

CAR invited the Project Team to a community meeting with the apparent goal of rallying opposition to the project. CAR members stated that the goal of the CAR is to unify the surrounding community, amend the law that places the interchange in Bucks County, and ultimately defeat the project. The leaders of CAR urged the citizens to write to their legislative officials to have the project removed from the Lower Bucks County area.

The meeting was followed by the sponsoring of a bill in the State legislature by a project area representative. The focus of the bill was an amendment of the Act 61 (1985) to remove the authority of studying and constructing an interchange between I-95 and I-276 from the PTC. This bill was never advanced by the House Transportation Committee.

While a few individuals who oppose the project continue to speak publicly about their affiliation with CAR, the Project Team is not aware of, nor has been invited to, any organized CAR meetings. The Project Team has no specific CAR membership information on record.

f. November 1998

A CAC meeting was held to brief the membership on the development of Detailed Alternatives and discuss the results of the June public meeting. They were told that the Flyover A and the Single Loop A interchanges have been redesigned to provide a full connection with PA 413 (New Rodgers Road). Also, the CAC recommended creating a project website and placing Project Informational binders in the local municipal buildings and libraries in both Bucks County and Burlington County. Both initiatives were incorporated into the public involvement inventory.

A special Bensalem Township Council meeting was held to brief the Council on the status of the project. Much of the tone of those in attendance was negative towards the project, particularly the B/C Corridor Interchange Concepts, with municipal officials suggesting state and federal legislative action to have the project stopped.

8. <u>1999</u>

a. January 1999

A Municipal Affairs Council meeting, hosted jointly by the PENJERDEL Council and Lower Bucks County Chamber of Commerce, was held to discuss the project. PENJERDEL announced a Regional Needs Assessment that is currently in development by them which identifies the I-276/I-95 Interchange Project as one of the top five regional transportation needs. Productive dialog on the pros and cons of the project followed a presentation regarding the project.

b. February 1999

The project status, costs, impacts, and potential benefits were discussed with the Executive Committee of the Enterprise Zone of Bucks County. Members of this committee expressed strong support for the project. They also resolved to request that a complete Economic Impact Study for the proposed project be performed.

c. March 1999

The Bensalem Township Mayor and Council adopted a resolution opposing the project because, they contend, it is unreasonably expensive, it is destructive to natural resources, it condemns homes and businesses, and it would only benefit a small number of long distance highway travelers.

A Bensalem Township Town Meeting was held for residents to express their concerns about the project. Bensalem, Bristol, and Middletown Township officials in attendance referred to past resolutions that opposed details of the project, with some of them being read aloud. Project Team members pointed out that those resolutions were based on alternatives which are no longer being studied, or which currently have reduced impacts to residences and businesses due to impact avoidance and mitigation. A request was made by the Bensalem Township Council for Congressman Greenwood to attend a future meeting to discuss the issue.

d. April 1999

A status meeting was held with the CAC. There was a discussion of PA House Bill 475, introduced by Representative DiGirolamo, which would remove enabling state legislation for the project. It was noted that this bill is in committee status and has not been advanced. Also, a CAC member suggested an interchange alternative that would remove the proposed barrier toll plaza from Bensalem Township, place it in a conventional interchange in the northwest quadrant of the point-of-crossing, and retain the two free-flowing high speed I-95 ramps behind Bristol Plaza. This concept was later termed the Northwest Quadrant Hybrid Alternative. The Project Team indicated they would study the alternative and report the results at a future meeting.

e. May 1999

Due to the public's concerns that the I-276/I-95 Interchange Project would adversely impact the local economy, US Congressman Greenwood urged transportation agency officials to conduct a special study of the project's potential economic effects. It was agreed to hire an independent consultant to perform this study. It was also agreed to establish a panel of elected officials and prominent local community representatives to oversee and assure the integrity of the economic study process. This led to the development of the Community Economic Impact Review Group (CEIRG) to serve as an advisory group for the economic study (further described in **Section VII-B.13**). A request for proposals is issued and the Pennsylvania Economy League (PEL)/Economic Development Research Group (EDRG) is selected to perform the study.

US Congressman Greenwood attended a Bensalem Township town meeting in response to the request at the march 1999 meeting. Again, concerns were expressed about the project. US Congressman Greenwood expressed his belief that the project would bring economic prosperity to the area and encouraged all in attendance to wait until the completion of an Economic Impact Study to determine if the project should be continued.

The Board of the PENJERDEL Council passed a resolution in support of the project. The resolution states that the project is a significant investment in highway infrastructure that will affect the future economic prosperity of the region. A copy of the resolution is contained on page I-134 of the written comments in **Appendix I**.

f. July 1999

The first meeting of the CEIRG was held. The Pennsylvania Economy League (PEL) gave a presentation describing the scope of the proposed Economic Impact Study. This meeting established the role of the CEIRG as stakeholders and reviewers of the study's progress. Monthly meetings throughout the development of the economic study will be held with this group. Also, this group later agreed to continue to meet after the completion of the Economic Impact Study to remain up to date and briefed on project developments as they occur.

g. August 1999

The first in a new series of meetings between the Project Team and study area municipal representatives was held. These meetings were facilitated by the Bucks County Transportation Management Association and offered the opportunity for municipal representatives to ask questions and express concerns about the project. A number of helpful suggestions in terms of project enhancements and alleviating residential concerns are expressed at these meetings.

h. September 1999

A CAC meeting was held to discuss the status of the Economic Impact Study and local roadway improvements associated with the project. Also, the noise abatement evaluation process and potential noise barrier locations were discussed. An analysis of the Northwest Quadrant Hybrid Alternative revealed that its environmental resource impacts, most importantly those impacts to Section 4(f) resources, led to the recommendation that this alternative not be carried forward for further study.

9. 2000

a. February 2000

A meeting was held with the CEIRG to present the 2025 traffic projections provided by the Delaware Valley Regional Planning Commission. DVRPC also made a presentation on the transportation modeling process. The Project Team noted that these 2025 traffic projections are being used in the Economic Impact Study process. They will also be used to re-evaluate the current engineering alternatives in the toll plaza, interchange, and bridge elements, and associated air and noise quality studies.

b. April 2000

A meeting and press conference were held to present the final results of the Economic Impact Study conducted by PEL. Topics discussed in the presentation include construction impacts, productivity impacts, economic development impacts, and local opportunities. US Congressman Greenwood indicated that the results of the economic study support his intuitive belief that construction of the interchange will be economically beneficial to Lower Bucks County. He urged the public officials and residents to await the results of the DEIS before rendering a judgment on the ultimate viability of the project.

c. May 2000

A meeting was held with Bensalem Township municipal and state officials to discuss the effects of incorporating 2025 traffic and E-Z*Pass* design criteria into the toll plaza concepts. A reduction of impacts with the Split Plaza East Concept was discussed, as well as a newly discovered potential Section 4(f) impact on a Bensalem Township Parcel associated with the Split Plaza West. The Project Team discussed the development of the Modified Toll Plaza West Concept, which avoids the Bensalem Parcel and places a standard plaza along the Turnpike opposite the Philadelphia Park racetrack. There was also continued discussion regarding the importance of US 1 widening improvements, which are included in the toll plaza designs. The officials requested a briefing of Bensalem Township residents in the near future to discuss the development of this new alternative.

d. June 2000

A meeting was held with the CEIRG to discuss public reaction to the Economic Impact Study. Other topics discussed include the status of the DEIS, use of the year 2025 traffic volumes, E-Z*Pass* criteria and the development of the Modified Plaza West Alternative. A sub-committee to address specific community issues was recommended. To date, this neighborhood sub-committee has toured the project study area and met numerous times with the goal of pursuing, via Bucks County, grant funding for planning studies and implementation.

A Bensalem Township town meeting was held to update residents on the toll plaza element alternatives. Topics discussed are the effects of the design year 2025 traffic volume forecasts on the toll plaza alternatives, air quality studies, and preliminary noise wall locations. Also, the replacement of the Split Plaza West Alternative with the Modified Plaza West Alternative was introduced and discussed. General opinion was that the Modified Plaza West Alternative was preferred over the Split Plaza East Alternative because of reduced socioeconomic impacts.

Resolutions from the Pennsylvania project area municipalities (Bensalem, Bristol, and Middletown Townships) were passed between 1992 and 1999 to oppose issues and/or impacts associated with the project and alternative study details available at that time. It is important to note that the composition and attitudes of these bodies has changed over time. While formal resolutions of support have not occurred, specific issues such as residential/commercial impacts, highway access, and funding have been addressed. Verbal approvals and acknowledgements have been received from the current members of these councils/boards concerning the elimination of controversial alternatives from further study and the avoidance and minimization that has been accomplished with respect to the remaining alternatives.

e. September 2000

A project overview and economic study presentation was given to the Lower Bucks County Chamber of Commerce Board. An announcement at the meeting indicated that a Chamber Task Force had met to discuss the project issues and benefits, resulting in their intention to forward a resolution of support to the chamber board for consideration.

The Mayor of Bensalem Township provided the Project Team with a written endorsement of the Modified Plaza West Alternative as the preferred alternative in the toll plaza element. This preference was based on the reduced socioeconomic impacts associated with this concept.

f. October 2000

A project overview and economic study presentation was given to the Executive Committee of the Bucks County Economic Development Corporation (BCEDC). Support for the transportation improvement project and the resulting economic benefits it can bring to Bucks County were voiced by those in attendance. The Project Team was later informed that a resolution of project support would be brought before the BCEDC Board in the near future.

g. November 2000

A Tanglewood Neighborhood Meeting was held to update the residents on the interchange element alternatives and potential impacts to their specific housing development. Topics discussed included the status of the environmental studies including noise and air quality studies, traffic issues, economic benefits, and public involvement initiatives.

A resolution was adopted by the Board of Directors of the Lower Bucks County Chamber of Commerce that supports the construction of an interchange between I-276 and I-95.

h. December 2000

Town meetings were held with Middletown and Bristol Townships. 1800 individual invitations, combined with website announcements and a press release, were used to publicize the meeting. The township residents were provided with an overview of the project that included a discussion of the current alternatives, planned roadway improvements, potential impacts, noise and air quality studies, public involvement, and the project schedule. Residents were also provided with a questionnaire to obtain feedback on their preferences of alternatives within each project element.

A meeting was held with Bristol Township officials to update them on the status of the project. Officials were also provided with information related to the public involvement program including the CAC, CEIRG, township public meetings, DEIS review period, and the DEIS public hearing.

10. 2001

a. May 2001

The DEIS comment period began on May 11th with the release DEIS for public review. The DEIS was distributed to federal, state, and local agencies and officials, and was made available in municipal buildings, libraries, and the project office. The release of the DEIS was publicized in the *Federal Register*, various media notices, direct mail, a project newsletter, website notices, and miscellaneous outlets.

b. June 2001

A formal public hearing was held on June 12, 2001 at the Harry S. Truman High School. An open house/plans display was set up with a video and presentation boards, which highlighted the project background, alternatives considered, and various environmental and socioeconomic issues. Approximately 259 people attended the public hearing. Of those who attended 32 people gave formal public testimony and two gave private oral testimony. Appendix I contains the official transcript from the public hearing and responses developed to address issues raised during the DEIS comment period.

c. July 2001

The close of the DEIS public comment period came on July 2, 2001. At the Public Hearing, 32 individuals gave public testimony and three individuals gave private testimony. Nine of the speakers handed in exhibits during the public testimony. During the course of the comment period and Public Hearing, 51 written comments were received.

Beginning in July 2001, the Project Team began work on **Appendix I** of this FEIS, which includes all comments and testimony to the DEIS offered by the general public, local officials and agencies during the Public Hearing, and during the DEIS comment period from May 11, 2001 to July 2, 2001. The intent of **Appendix I** is to respond to each and every substantive issue raised in each comment received during the course of the public comment period. Substantive issues were defined as those judged to have raised issues of fact, evaluation, interpretation or policy pertaining to the proposed improvements or to the DEIS.

11. 2002

a. March 2002

Topic Update #5 was mailed out to the public and public officials. This issue described the Project Team's efforts to review and address all substantive public and agency comments received during the DEIS Public Hearing and Comment Period, and the additional analyses needed for the FEIS (i.e., noise quality, threatened and endangered species and historic resources). It states that the Recommended Preferred Alternative would remain the same with minor changes to further minimize environmental impacts. The issue also informed the public of the ongoing coordination with the Pennsylvania State Historic Preservation Office regarding the Delaware Canal and notes that the *Assessment of Effects Report on Historic Architectural Resources* is available for review at local libraries and the project office.

b. December 2002

Informational update letters mailed to representatives of the CEIRG and the CAC. These letters discussed the status and release schedule of the FEIS. The letters noted that the Recommended Preferred Alternative would be identified as the Recommended Alternative in the FEIS and would remain the same with minor changes to further minimize environmental impacts. The CEIRG and CAC representatives were also informed that additional coordination would occur shortly before the public release of the FEIS.

D. AGENCY COORDINATION AND CONSULTATION

Throughout the project process, state and federal resource and regulatory agencies were encouraged to participate in the project development. These agencies included: Pennsylvania Department of Environmental Protection (PADEP), Pennsylvania Department of Agriculture (PADA), New Jersey Department of Environmental Protection (NJDEP), Pennsylvania Department of Conservation and Natural Resources (PADCNR), US Army Corps of Engineers (USACOE), US Geological Survey (USGS), US Environmental Protection Agency (USEPA), United States Coast Guard (USCG), National Park Service (NPS), US Fish and Wildlife Service (USFWS), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), National Oceanic and Atmospheric Administration - National Marine Fisheries Service (NOAA-NMFS), Pennsylvania State Historic Preservation Office (PASHPO), New Jersey State Historic Preservation Office (NJSHPO), and the Pennsylvania Historic Museum Commission (PHMC). The agencies participated in the project needs analysis, alternatives development, and preparation of the DEIS. Agency coordination was accomplished through correspondence, presentations at Agency Coordination Meetings (ACM), and during special field views of the study area, as summarized in **Table VII-7**. Copies of pertinent correspondence can be found in **Appendix B**.

1. Study Area Field View

Four field views were conducted with the regulatory and resource agencies, as listed in **Table VII-7**. The first field view was held on December 15, 1993 to introduce the agencies to the study area and the preliminary alternatives. The second field view was conducted on October 16, 1997 to update the agencies on the interchange alternatives, specifically the B/C Corridor (**Figure III-8F**). The third field view, held on September 19, 2000, was conducted to familiarize agency representatives with the study area, the current alternatives, and their associated impacts. The fourth field view held on December 18, 2001 was used to show agency representatives potential areas that may be used as candidate wetland replacement sites and/or stream mitigation areas.

2. Wetland Line Verification

Field views of the study area wetlands were conducted on May 24, 1999; September 29 and 30, 1999; and November 1, 1999 with PADEP, USACOE and NJDEP. A letter of verification indicating the USACOE's concurrence with the mapping of the study area wetlands for the purpose of DEIS preparation can be found in **Appendix F**, as well as the Letter of Interpretation/Line Verification from the NJDEP.

Currently, a formal USACOE Jurisdictional Determination (JD) for the Preferred Alternative is scheduled for November 2003. If necessary, the *Pennsylvania Turnpike/ Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report*, (PTC, 2000) will be updated to reflect associated wetland boundary changes. Wetland issues are addressed in more detail in **Section IV-K**.

TABLE VII-7
SUMMARY OF ENVIRONMENTAL RESOURCE AGENCY COORDINATION MEETINGS (ACM)

Meeting	Date	Summary
ACM #1 (TPDICM)	1/6/93	Introduction of the project to federal, state, and local agencies at the Transportation Project Development Interagency Coordination Meeting (TPDICM), which was subsequently renamed Agency Coordination Meeting (ACM). It was decided this project would follow the new NEPA-404 joint process.
ACM #2	8/25/93	Presentation of Needs Analysis, Concurrence Requested at ACM; Received ACM Concurrence (September 1993).
ACM Field View	12/15/93	Resource Agency Field View; Introduction of the study area.
ACM #3	9/27/95	Presentation of CMS Analysis and review of results, Concurrence was requested and received.
ACM #4	7/23/97	Presentation of Preliminary Alternatives, Concurrence Requested at ACM, Schedule Agency Fieldview.
ACM Field View	10/16/97	Study Area/Preliminary Alternatives Fieldview, Update B/C Corridor Environmental Data.
Mailing	2/18/98	Submitted B/C Corridor [Concept C (Modified)], Informational.
ACM #5	9/23/98	Presentation of the Phase II Detailed Alternatives Analysis and alternatives selected for evaluation in the Draft Environmental Impact Statement, Concurrence Requested at ACM; Received ACM Concurrence in November 1998.
ACM #6	12/1/99	Provided an informational update on the status of engineering/environmental studies, economic impact studies, project schedule and Draft Environmental Impact Statement preparation.
ACM #7	7/19/00	Informational briefing that provided an update on the status of the DEIS, the Year 2025 traffic volumes and the development of the Modified Plaza West Alternative.
Mailing	8/22/00	Provided additional information requested at the July 19, 2000 ACM meeting. The mailing contained a more detailed comparison of the Modified Plaza West and Split Plaza Alternatives as well as a modified concurrence form including the Modified Plaza West Alternative as a DEIS Alternative.
ACM Field View	9/19/00	Conducted to familiarize agency representatives with the study area, the current alternatives and their associated impacts.
ACM #8	12/5/01	This meeting was used to provide a summary of the June 12, 2001 Public Hearing, discuss comments and responses to the DEIS, provide an update on environmental activities, status of the FEIS, and request concurrence on the Recommended Preferred Alternative.
ACM Field View	12/18/01	The field view was used to show agency representatives potential areas that may be used as candidate wetland replacement sites and/or stream mitigation areas.
ACM #9	1/22/03	Agencies were provided an informational update on the status of the FEIS and engineering and environmental resource activities that occurred since the release of the DEIS. Concurrence on the Preferred Alternative was requested.

TABLE VII-8
LIST OF OTHER MEETINGS AND PUBLIC COORDINATION ACTIVITIES

Meeting	Date	Summary
Newportville - Fergusonville Civic Association (NFCA)	10/28/92	This meeting with the NFCA was held to develop initial contact and to discuss the project schedule and process, to determine local contacts, and to discover background information about the neighborhoods within the study area. NFCA leadership expressed concern that the Newportville-Fergusonville neighborhood will be further isolated and degraded by the project.
Hulmeville Borough	1/11/93	The meeting was held to introduce the project and to learn about Hulmeville Borough concerns. Hulmeville Borough supervisors stated that they recognized the need for the interchange and that the point-of-crossing is the most logical location.
Bensalem Township	1/19/93	The meeting was held to introduce the project and to learn about Bensalem Township concerns. The Project Team explained where the connection would be located and why the project was not completed in New Jersey as originally planned. The Township officials were concerned about noise impacts and adverse effects on community cohesion. Safety concerns, especially emergency vehicle access to the highways, were discussed.
Penndel Borough	1/20/93	The meeting was held to introduce the project and to learn about Penndel Borough concerns. The Borough officials hoped the interchange would remove some truck traffic from Business Route 1. The Penndel officials opposed any widening of PA 413 (New Rodgers Road) within the Borough limits.
NFCA, Newportville - Fergusonville Historical Committee	1/21/93	This meeting was used to introduce the project and to learn about the concerns of the Newportville - Fergusonville Historical Committee and the NFCA. Historic resources in the area were discussed. The main concern was any impacts of effects on the historical resources.
Burlington County Office, New Jersey	1/22/93	The meeting was held to introduce the project and to learn about the proposed developments and other issues in Burlington County, New Jersey. The US Route 130 improvements included a new interchange with the New Jersey Turnpike. Other development plans and opportunities in the County were discussed.
Delaware River Joint Toll Bridge Commission	1/22/93	The meeting was held to introduce the project and to learn about the concerns of the Transportation Committee, Lower Bucks County Chamber of Commerce. The transportation committee provided a listing of Highway Priorities Recommendation. There was some concern that linking the I-276 and I-95 would solve only a New Jersey problem. It was suggested to re-designate I-95 at the Delaware Bridge and change I-95 past Philadelphia to another interstate designation altogether. The project should consider the original proposal that linked the highways from PA 413 (New Rodgers Road) across to the I-276 Exit 29. Also, many members were worried about potential declines in property value.
NFCA	1/22/93	This was an informal visit by an official of the NFCA, who was concerned about the location of the project office and the forum of the public meetings; they did not allow a community to express opinions as a group. The NFCA inquired why they have been denied attendance to the Project Team meetings and access to meeting minutes. KCI responded that up-to-date information would be relayed to the public at the public meetings. It was noted that the public is encouraged to visit the project office. There was a request for funding for the NFCA to review the project, disperse information, and to secure legal council in an effort to gain access to project related meetings. It was suggested that the NFCA contact FHWA or PTC for funds. A field view was set up to allow the Project Team to become familiar with the Newportville Community and the community concerns.
NFCA Monthly Meeting	1/25/93	The NFCA was concerned that the community was not properly involved in the project process. The Bristol Township Mayor, Bob Lewis, and the NFCA stated they will remain opposed to the project until their public involvement issues were addressed. Information regarding the local project office location, descriptions of the Project Team, and preliminary design process and schedule was presented.
Transportation Solutions for Bucks County	2/18/93	This seminar was held to discuss transportation projects in Bucks County. A video presentation about the project was observed. The Central Bucks Transportation and Traffic Task Force favored the completion of the proposed interchange. Decreasing traffic volume on I-95 north of the interchange is a strong reason for the Newtown area to support the project.
NFCA Monthly Meeting	2/22/93	NFCA, Bristol Township, and the Citizens Transportation Crisis Committee opposed the project. Mr. Leone was going to visit local municipalities to determine their stance on the project. A tour of the proposed interchange location with Congressman Greenwood was planned for March 10, 1993. Discussions included concerns about the forum of the public meetings and information relayed to the public.
Bucks County Planning Commission/Bristol Borough Council	3/2/93	The purpose of this meeting was to introduce the project and to learn about Bristol Borough concerns at the monthly work session of the Bristol Borough Council. Documents containing information regarding land use and development trends in Lower Bucks County were acquired. PENNDOT's 12 year plan for Bucks County was acquired and reviewed. The Bucks County Planning Commission recommended that municipalities be contacted about local transportation plans.
Bristol Borough	3/3/93	The purpose of this meeting was to introduce the project and to learn about Bristol Borough concerns. The Borough officials were concerned about potential flooding and local access to the interchange.
NFCA Monthly Meeting	3/29/93	The status of the Needs Study was presented and was followed by a question and answer session about the project. The NFCA requested copies of project meeting minutes and questionnaires.
Representative Melio, Project Briefing	4/5/93	The purpose of this meeting was to update Representative Melio on the status of the project. Mr. Melio expressed his responsibility for representing the residents of the Bristol area and that he will make efforts to keep everyone informed with current project information. He expressed his belief that the residents are concerned over the number of displacements and fair market values.
Langhorne Manor Borough	4/6/93	The meeting was held to introduce the project and to learn about Langhorne Manor Borough local concerns and issues. A brief informal presentation about the project was made and a question and answer session was held.
City of Burlington, New Jersey	4/13/93	The purpose of this meeting was to update the Burlington City Council of the status of the project. A question and answer session was also conducted. The Burlington City Council was concerned about the traffic impact around the US 130 interchange and mentioned that the Council will help the Project Team as needed.
Newportville Community Tour	4/20/93	This fieldview was conducted to gather information regarding the Newportville community and many of the historic buildings. Sites viewed include the Hilltop Tot Lot, Queen Anne Creek, Hazel Park, Moose Lodge, and Keystone Park II. Poor access from side streets onto New Falls Road was noted. Many commercial businesses disregarded neighboring residents when disposing of construction debris. There appeared to be zoning violations.
NFCA Monthly Meeting	4/26/93	An update of the project status and the ongoing needs analysis was provided. The NFCA restated that it is, and will remain, opposed to the project until they are allowed attendance to the project status meetings.
NFCA Monthly Meeting	6/28/93	The NFCA felt the Sunshine Law was being violated and requested dates and topics of project meetings. Issues discussed included whether or not DVRPC projections included Clean Air Act Amendment assumptions, changes in emissions testing in 1995, and the proposed SEPTA Cross County Connector Project. Questions the NFCA were going to address to the PTC included: space in the *New Connections* newsletter for an NFCA article, what agencies have been contacted for information, and who is responsible for maintenance of Interchange 28.
NFCA Monthly Meeting	9/27/93	Direction Associates (DA), the consultants for the Newportville-Fergusonville community plan, encouraged the NFCA to cooperate in the development and evaluation of project alternatives. NFCA expressed concern about environmental impacts to Delhaas Woods. A project update was provided in addition to a question and answer session.
Direction Associates Coordination Meeting	10/5/93	This meeting was used to initiate coordination between Direction Associates (DA) and the Project Team. DA explained that they are retained by Bristol Township to prepare a community plan for the neighborhoods of Newportville and Fergusonville. DA was interested in working with the Project Team on developing project alternatives. DA wanted to represent the community's interests, and recognize the importance of the highway connection.

TABLE VII-8 *(continued)*
LIST OF OTHER MEETINGS AND PUBLIC COORDINATION ACTIVITIES

Meeting	Date	
Public Involvement Meeting, Bristol Township Community Center	10/8/93	NFCA and a representative for Senator Lewis visited the project office. The meeting included a project update, and discussions about the completion of the Needs Study, environmental resources, and PENNDOT's Transportation Project Development Process. NFCA was concerned that they were not fully involved with the project process, and about the lack of access to project meetings and that public workshops and newsletters are not adequate. NFCA suggested a meeting where people could hear each other's questions and concerns. A round table discussion to facilitate group involvement was suggested, as well as allowing space in the newsletters for the NFCA and other special interest groups. The Project Team agreed to develop modifications to the public involvement process.
NFCA Monthly Meeting	10/25/93	NFCA was notified that a Community Advisory Committee (CAC) was being considered. NFCA questioned why the ACM Needs Study Presentation Summary was not available to the public. It was explained that it is not yet available because it still had to be approved by all the resource agencies.
NFCA Monthly Meeting	11/29/93	The Project Team described the status of the CAC. NFCA approved of the CAC. The NFCA expressed displeasure in not being invited to the Public Officials Meeting. NFCA still felt that the project was in violation of the Sunshine Law because the status meetings were closed to the public. A request for an official interpretation of the law was made. There was concern that the Needs Study was not yet made available to the public.
Bristol Township/Direction Associates	9/26/94	An update on the project's process, the completion of the Needs Study, and the initiation of the Phase I Alternatives Analysis was provided. Direction Associates presented an interchange alternative. Although there were increased environmental impacts than KCI's alternatives, the Township hoped DA's alternative would bring more businesses to the area. DA's alternative would not impact Keystone Industrial Park, Bristol Plaza or other businesses.
Pennsylvania – New Jersey Coordination Meeting	9/22/95	Discussions included a project history, engineering feasibility and environmental study status, traffic studies, CMS and MIS study processes and results, scope of current project, and proposed joint state coordination activities. Coordination activities included a cooperative environmental impact study process, including the analysis of the Delaware River bridge alternatives; coordination of the I-276/I-95 Interchange Project and the New Jersey Turnpike/US Route 130 Interchange Project; joint support for inclusion of the current project's re-description and toll enabling language in the National Highway System Bill; participation in the collaboration of the Major Investment Study process.
Woods of Neshaminy Valley Community Meeting	3/20/97	The project was presented to Bensalem Township residents with specific emphasis on the toll plaza concepts. The period of inactivity in the process was explained. The CAC, Public Officials and the general Public Meetings were discussed. A video was shown to provide an overview of the project status. A question/answer session revealed concerns regarding property value, funding sources, legislative history, project schedule, noise and air quality.
Bristol Township/Direction Associates	3/21/97	There was a discussion about the alternatives proposed by DA, such as Concept A and Concept B. Also, the economic concerns of Bristol Township officials were considered. The Township Manager, Carmen Raddi, hoped that a link between I-276, I-95 and PA 413, with all movements, would stimulate a renewal for the commercial area along PA 413 (New Rodgers Road) in Bristol.
Bucks County Commissioners Meeting	3/26/97	A project update was provided. The following items were discussed: project status and elements, public involvement program, project video, special interest group meetings, Lower Bucks Cablevision call-in talk show, and project costs. There was also a question/answer session.
Bensalem Township Coordination Meeting	4/29/97	This meeting was held to brief Mayor DiGirolamo and Bensalem Township of the project's process, specifically the toll plaza concepts. The differences between the standard toll plaza and the split toll plaza were explained.
Alternative Toll Plaza Concept Status Meeting	5/30/97	This meeting was held to brief the political representatives, Bensalem Township Mayor, Congressman Greenwood's staff, and PA Senator Tomlinson on the progress of the Phase I PAA. An additional toll plaza concept was developed based on opinion gathered from through questionnaires, public officials and township residents.
Bucks County Board of Realtors	6/3/97	At this regularly monthly meeting of the Board of Bucks County Realtors, the I-276/I-95 Interchange Project was introduced. The discussion involved the three project elements; the schedule for the EIS, Final Design and construction; and who to contact for additional information on the project.
Bristol Township/ Direction Associates Meeting	6/4/97	The purpose of this meeting was to brief Bristol Township/Direction Associates on Concept B, Concept C, and impacts due to these alternatives. There was a discussion of commercial impacts, ROW acquisitions, and Section 4(f) issues. The Township agreed to supply tax information.
Pennsylvania Governor's Staff	6/11/97	This meeting was held to brief the governor's staff on the project status, schedule, and public involvement to date.
Town Meeting - Bensalem Township	6/12/97	Discussion included legislation enabling the project, funding sources, creation of the CAC, and project elements, followed by a question and answer session.
PA State Senator Tomlinson/ PA State Representative Thomas Corrigan, Bristol Township Councilman Sam Fenton	7/1/97	A project update was provided with emphasis on the Bridge Element. An explanation as to why a new, additional bridge was needed and that the existing bridge, for engineering reasons, can not be modified to accommodate the projected traffic volumes. The officials expressed their concern about the number of residential impacts and that more investigations need to be completed to minimize impacts.
New Jersey Transportation and Public Officials	7/16/97	This was a meeting with the New Jersey Transportation and state elected officials to outline and discuss a number of large transportation projects in the area. The focus of these projects was the desire to direct regional/interstate traffic onto the interstate highway system.
Town Meeting - Bristol Township	8/5/97	This meeting was held to present the project and its alternatives to the residents of the neighborhoods of Mayfield Terrace, Margo Gardens, Laurel Bend, and adjacent commercial areas, and to discuss residents' and business owners' concerns. Questionnaires were distributed to gain input from the attendees.
Bristol Township/Direction Associates Meeting	9/12/97	The purpose of the meeting was to brief Bristol Township/Direction Associates on the range of preliminary interchange alternatives, interchange alternatives recommended for Phase II studies, Section 4(f) issues and to discuss Bristol Township Financial Status Report. The Bristol Township "Facts, Events and Concerns Affecting the Economic Viability of Bristol Township" report to the PTC and PENNDOT states that the PA Department of Commerce designated Bristol Township as a distressed community; however, Bristol Township was not classified as a "distressed community" as defined by Department of Community and Economic Development (DCED).
Burlington County/Florence Township Public Officials	9/17/97	This meeting was held to update New Jersey representatives on the status of the project. The results of the Preliminary Alternatives Analysis and the continuation into the next phase of the project, the Detailed Alternatives Analysis, were discussed.
FDR Middle School	9/29/97	This was a presentation by the award-winning Canal Kids about their relationship to the Delaware Canal. The Canal Kids have learned about, studied, and cleaned parts of the canal. They are cautiously concerned about the effects of the project on the canal. The Project Team told the students that the canal and the entire Delaware Canal State Park is an important resource and that every effort would be made to minimize impact to it.

Note: The project was inactive from April 1996 through October 1996.

TABLE VII-8 *(continued)*
LIST OF OTHER MEETINGS AND PUBLIC COORDINATION ACTIVITIES

Meeting	Date	Summary
Bucks County Planning Commission Briefing	10/1/97	This meeting was held to update the Bucks County Planning Commission on the status of the project. Project alternatives and associated impacts were discussed.
Bucks County Housing Development Corporation	11/20/97	This meeting was held to discuss the proposed development of a property located adjacent to I-276 and US 1. The attendees included the Bucks County Housing Development Corporation, Bucks County Redevelopment Authority, and Bensalem Township Office of Community Development.
US Representative Pappas/ Congressman Greenwood/ NJ State Senator Schluter	12/17/97	An overall briefing, including the project elements, concepts, impacts, schedule, and public involvement was provided. Those in attendance specifically focused on the bridge section and the impact on the PA and NJ approaches to the existing/proposed bridges. This meeting included discussions about the truck problems on Routes 31 and 202 in New Jersey and the I-276/I-95 Interchange Project's potential to provide relief for the truck problems.
Bristol Township Officials Meeting	1/22/98	This meeting was held to brief Bristol Township officials on the status of the Detailed Interchange Alternatives Analysis and Section 4(f) determination issues.
US Senator Specter/ Congressman Greenwood	2/18/98	Press Conference on proposed project held on the PA Turnpike, near the I-95 crossing. US Congressman Greenwood and Senator Spector emphasized their support of the project and committed to seeking up to $120 million in Federal funds for the project.
Congressman Greenwood's Staff	2/19/98	A general project update was provided to a member of Congressman Greenwood's staff, including project elements, concepts, impacts, costs, and schedules.
Bensalem Public Officials Toll Plaza Briefing	2/24/98	An update regarding the project, emphasizing the toll plaza element, was presented to the Public Officials. Specific focus was placed on the fact that only the Split Plaza East and the Split Plaza West toll plaza concepts were still under study and that the Standard Plaza was not carried forward for further study due to impacts. Township Officials expressed their preference for the Split Plaza West alternative because of the reduced socioeconomic impacts.
Meeting with Mr. Alex Udewenko, resident (Congressman. Greenwood/ PA Senator Tomlinson/ PA Rep. DiGirolamo/ Bensalem Mayor DiGirolamo)	4/9/98	This was a presentation by Alex Udewenko opposing the project. Specific issues raised included project needs, traffic relief, project cost, schedule, air/noise quality, and real estate values.
Representative Melio's staff	4/30/98	A general project update was provided to a member of State Representative Melio's staff, including project elements, concepts, impacts, costs, and schedules.
Lin-Park Community Meeting	5/6/98	A presentation about the project was held for the residents of Linconia Park. The Notice of Intent to Enter for PTC Interchange 28 field studies was discussed. The attendees were informed that the project will be completed within the existing I-276 ROW adjacent to their community. The attendees were notified of the upcoming General Public Meeting.
Lower Bucks County Chamber of Commerce Transportation Committee	7/31/98	A general project update was provided to the Transportation Committee, including project elements, concepts, impacts, costs, and schedules.
Congressman Greenwood's Staff	9/11/98	A general project update was provided to a member of Congressman Greenwood's staff, including project elements, concepts, impacts, costs, and schedules.
Bucks County Board of Realtors Seminar	9/17/98	A general project update was provided to the Board of Realtors, including project elements, concepts, impacts, costs, and schedules. Support for the project was voiced, although some in the audience suggested that the process and project delays were negatively affecting home values.
Citizen's At Risk (CAR) Meeting	10/27/98	This meeting was held by the group to discuss the project and the reasons for CAR's opposition. CAR urged the citizens to write to the legislative officials to remove the project from the area.
Bensalem Township Special Meeting	11/30/98	The meeting was held to update the township on local highway projects. Discussion included legislative history of the project, why it was moved from New Jersey to Bucks County, and project costs. The tone of the meeting showed that the attendees did not want the project. Much of the focus was on how to stop the project. The attendees were informed that the process to stop the project included sending letters to legislators requesting the federal legislation to be rewritten, and sending letters to FHWA requesting the responsibility for the project be taken away from the PTC and given to PENNDOT.
Bristol Rotary Club	1/06/99	A general project update, including a discussion of the project elements, concepts, impacts, costs, and schedules was provided to the club members.
Meeting of PENJERDEL with the Lower Bucks County Chamber of Commerce	1/29/99	This meeting between PENJERDEL and the Lower Bucks Chamber of Commerce was part of PENJERDEL's ongoing municipal outreach efforts to discuss matters of regional importance with key local decision makers. A study currently under development by PENJERDEL identifies the I-276/I-95 Interchange Project as a top regional transportation need. The Project background and the current status was discussed. Also, there were discussions about the pros and cons of the project.
Levittown - Fairless Hills Rotary Club	2/9/99	A general project update, including a discussion of the project elements, concepts, impacts, costs, and schedules was provided to the club members.
Briefing with Executive Committee of the Enterprise Zone of Bucks County	2/23/99	The status, cost, impacts, and potential benefits of the project were discussed. The members of the Enterprise Zone expressed strong support for the project. The Executive Committee resolved to request that an Economic Impact Study be performed for the proposed project.
Bensalem Town Meeting	3/25/99	This was a municipal meeting for the residents to express their concerns about the project. Bensalem, Bristol, and Middletown Township mentioned their past resolutions to oppose the project.
Bensalem Town Meeting with Congressman Greenwood	5/10/99	This was another municipal meeting for the residents to express their concerns about the project to the Congressman. Congressman Greenwood expressed his belief that the project would bring economic prosperity to the area and encouraged the municipal officials and residents to wait until the completion of the Economic Impact Study to determine if the project should be discontinued.
Bucks County Parks and Recreation Department	7/21/99	The purpose of this meeting was to review and discuss Section 4(f) minimization and avoidance alternatives and efforts to reduce impacts to Black Ditch Park and other issues with Bucks County Department of Parks and Recreation.
Bucks County TMA Meeting	8/5/99	The Bucks County Transportation Management Association proposed this meeting to assure there is ongoing, open communication between the concerned municipalities and the Project Team. The Mayor of Bensalem felt the impact to Bensalem Township was not being adequately addressed. He was not sure if there would be any benefits as a result of the project. Improvements to local roads, such as the US 1/Street Road interchange, that are included in the I-276/I-95 Interchange Project were explained. The Mayor thought that this is the type of information that needs to be available to the citizens. The Project Team agreed to continue to meet with the municipalities and residents.
Congressman James Greenwood Briefing	9/1/99	This meeting provided a brief overview of the current status of the project to Congressman James Greenwood. Topics discussed included the economic impact study, the northwest quadrant hybrid alternative, local roadway improvements associated with the Interchange Project, preliminary noise barrier locations, the air quality analysis, potential stormwater management locations, public involvement initiatives, and the overall project schedule.

TABLE VII-8 *(continued)*
LIST OF OTHER MEETINGS AND PUBLIC COORDINATION ACTIVITIES

Meeting	Date	Summary
Bucks County TMA Meeting	9/2/99	The Bristol Township representative was briefed on the status of alternatives. Due to concerns about traffic at Interchange 28 and the US 1/Street Road interchange, graphics were presented showing the slight differences in traffic for the build and no-build scenarios. There would be a reduction of traffic exiting at Interchange 28 to the local road if the project is built. It was noted that the Street Road bridge needs improvements. Other local roadway improvements that would be implemented with the construction of the project were also discussed. The Northwest Quadrant Hybrid Alternative was also introduced. It was explained why this alternative was not carried forward for further study.
Bucks County TMA Board	8/26/99	A general project update, including a discussion of the project elements, concepts, impacts, costs, and schedules was provided to the board members.
Pennsylvania State Senators and State Representatives Briefing	09/10/99	This meeting provided a brief overview of the current status of the project to Pennsylvania State Senators and State Representatives. Topics discussed included the Economic Impact Study, the northwest quadrant hybrid alternative, local roadway improvements associated with the Interchange Project, preliminary noise barrier locations, the air quality analysis, potential stormwater management locations, public involvement initiatives, and the overall project schedule.
State Representative Gene DiGirolamo	9/13/99	The State representative came in as a follow-up meeting to the September 10, 1999 meeting to discuss specific issues and questions related to Bensalem Township and the Toll Plaza Element of the project.
Bucks County TMA Meeting	10/5/99	This meeting included a discussion of the air quality analysis being performed for the DEIS. The Mayor of Bensalem opened a discussion of the I-276 Interchange 28 area and how improvements to US 1 and Interchange 28 could be considered in the Transportation Improvement Plan (TIP) rather than just included in the I-276/I-95 Interchange Project. The meeting concluded with a discussion of the funding and priority of the US 1/Interchange 28 area improvements.
Lower Bucks County Chamber of Commerce Transportation Fair	10/6/99	A general project update including a discussion of the project elements, concepts, impacts, costs, and schedules was provided to fair attendees.
Delaware Valley Goods Movement Task Force	10/13/99	This meeting presented the Delaware Valley Goods Movement Task Force, part of the Delaware Valley Regional Planning Commission, with a brief overview and status of the I-276/I-95 Interchange Project. Representatives from the Project Team discussed the importance of the project with respect to regional goods movement and commerce.
Pennsylvania Department of Conservation and Natural Resources	10/27/99	The purpose of this meeting was to review and discuss Section 4(f) minimization and avoidance alternatives and efforts to reduce impacts to Black Ditch Park and other issues with Bucks County Department of Parks and Recreation.
Bucks County TMA Meeting	12/2/99	This meeting included an ongoing discussion of the municipal issues related to the project, such as noise/air studies, local road improvements, construction impacts, and socioeconomic concerns.
Meeting with Mr. Mike Aniloff (representative from St. Rep. DeGirolamo's office) and Mr. Alex Udewenko, concerned resident	12/27/99	This meeting was requested by state representative DiGirolamo's office to review the latest information related to the noise and air quality studies with respect to the project. Those in attendance reviewed and discussed air quality and noise study graphics representing Year 2020 build conditions. Attendees also received copies of a PENNDOT noise brochure, EPA website NAAQS levels/standards review process, DVRPC's regional air quality conformity plan, and a draft copy of air quality slides developed for an air quality presentation.
New Jersey Joint Permit Coordination Meeting	2/10/00	This meeting was held to update the New Jersey resource agencies on the status of the project and to discuss Joint NJDEP/USACOE permitting issues. Additional issues of concern were the proposed bridge design, navigability of the Delaware River, the endangered shortnosed sturgeon, peregrine falcon, and the joint NEPA/Section 404 document, public hearing, and public involvement.
Congressman Greenwood Economic Impact Study Briefing	3/2/00	This meeting was requested by Congressman Greenwood to receive an update on the Economic Impact Study, including preliminary results of the modeling and case studies.
Bucks County Parks and Recreation	3/14/00	The purpose of this meeting was to review and discuss Section 4(f) minimization and avoidance alternatives and efforts to reduce impacts to Black Ditch Park and other issues with Bucks County Department of Parks and Recreation. The possibility of conducting stream mitigation on Bucks County parkland and an adjacent PTC owned parcel was also discussed.
Bristol Township Public Officials	3/23/00	The Bristol Township Council requested a project update. Issues discussed included the status of the current alternatives, environmental studies, the 2025 traffic projects, air and noise evaluations, and current public involvement issues. Also discussed were the results of the Economic Impact Study. The township manager, one councilman, and the CAR Chairman were in attendance.
Bensalem Township/State Officials	3/31/00	The purpose of this meeting was to discuss the discovery of information supporting a Section 4(f) Determination of the Bensalem Township Parcel that is impacted by the Split Plaza West Alternative. Potential development of an avoidance alternative was discussed.
Lower Bucks County Chamber of Commerce Board Meeting	4/20/00	The Pennsylvania Economy League, KCI, and the CEIRG chairperson attended this meeting to present the findings of the Economic Impact Study for the project and provide a project overview.
Bensalem Township	4/20/00	Discussions of the results of the Economic Impact Study. State Senator Tomlinson and State Representative DiGirolamo were also in attendance.
Bensalem Township and State Representatives	4/27/00	This meeting was a coordination meeting to discuss utilization possibilities for the Bensalem Township Parcel. The meeting included discussion of potential Section 4(f) impacts to the park and development of an alternative to avoid the parcel.
Environmental Coordination Meeting, Morris Arboretum and Silver Lake Nature Center	5/1/00	This meeting was held to give a project overview to the representatives from Morris Arboretum and Silver Lake Nature Center. Concerns surrounding impacts to environmental resources, such as wetlands and sensitive plant and animal species, were discussed. Also, concerns about the spread of invasive plant species and the potential use of wildlife passages were discussed.
Bensalem Township, St. Rep. DiGirolamo and St. Senator Tomlinson	5/26/00	Bensalem Township Officials were briefed on the Modified Toll Plaza West Concept and the reduction of impacts for the Split Plaza East Concept as a result of new toll plaza designs incorporating E-Z*Pass* toll lanes. There was also continued discussion regarding the importance of Route 1 widening improvements to the township. The officials requested a briefing of Bensalem Township residents in the near future.
Congressional Briefing, Washington, D.C.	6/13/00	The briefing included a project overview and an economic impact summary was provided to the Pennsylvania and New Jersey delegation and their representatives.

TABLE VII-8 *(continued)*
LIST OF OTHER MEETINGS AND PUBLIC COORDINATION ACTIVITIES

Meeting	Date	Summary
PENJERDEL/Lower Bucks County Chamber of Commerce	6/16/00	A municipal affairs briefing was held to give a project overview and highlight the results of the Economic Impact Study. PENJERDEL voiced their overwhelming support for this regionally important project.
Bensalem Township	6/29/00	This meeting was used to provide an update on the Toll Plaza Element to Bensalem Township public officials, residents, and business owners. Topics discussed were the effects of the Design Year 2025 traffic volume forecasts on the toll plaza alternatives, air quality studies, and preliminary noise wall locations. The Modified Plaza West Alternative was introduced; this alternative avoids the Section 4(f) Bensalem Township Parcel that contains the Bensalem BMX Raceway.
Bucks County TMA Board Meeting	7/27/00	An update of the Toll Plaza Alternatives, including the Modified Plaza West, was given. This included a discussion of Design Year 2025 traffic volumes and E-Z*Pass* criteria.
Congressman Greenwood Staff Briefing	8/23/00	An update on the current status of the engineering and environmental studies, DEIS Alternatives/schedule, and public involvement was provided.
Lower Bucks County Chamber of Commerce	9/21/00	The Pennsylvania Economy League and KCI attended this meeting to present the findings of the Economic Impact Study for the project and provide a project overview. Support for the project is expressed and is expected to be formalized in the form of a board resolution in the near future. [On November 16, 2000, a resolution was adopted by the Board of Directors of the Lower Bucks County Chamber of Commerce in support of the project.]
Bucks County Economic Development Corporation	10/13/00	The Pennsylvania Economy League, KCI, and the CEIRG chairperson attended this meeting to present the findings of the Economic Impact Study for the project and provide a project overview. Support for the project and the potential resulting economic benefits is expressed. The Project Team was later informed that a resolution of project support will be brought before the BCEDC board in the near future.
Tanglewood Neighborhood Meeting	11/15/00	This meeting included a discussion of current project alternatives, status of the environmental studies including noise and air quality studies, traffic issues, economic benefits, and public involvement initiatives.
Meeting with Congressman Greenwood/ PA Senator Tomlinson/ PA Rep. DiGirolamo/ Bensalem Mayor DiGirolamo	11/16/00	Public officials were provided an update on the current status of the project and focused on the alternatives in the Toll Plaza Element. Discussion included the elected officials' preference of the concept with the least amount of socioeconomic impacts.
Middletown Township Town Hall Meeting	12/6/00	This meeting was designed to provide Middletown Township residents with an overview of the project which included a discussion of the current alternatives, planned roadway improvements, potential impacts, noise and air quality studies, public involvement, and the project schedule. Residents were also provided with a questionnaire to obtain feedback on their preferences of alternatives within each project element.
Bristol Township Officials Meeting	12/7/00	Township officials were provided with a project overview including a discussion of the design alternatives, environmental studies, noise and air quality studies, and economic impacts. Officials were also provided with information related to the public involvement program including the CAC, CEIRG, township public meetings, DEIS review period, and the DEIS public hearing.
Bristol Township Town Hall Meeting	12/13/00	This meeting was designed to provide Bristol Township residents with an overview of the project which included a discussion of the current alternatives, planned roadway improvements, potential impacts, noise and air quality studies, public involvement, and the project schedule. Residents were also provided with a questionnaire to obtain feedback on their preferences of alternatives within each project element.
Middletown Township Officials Meeting	1/25/01	Township officials were provided with a project overview including a discussion of the design alternatives, environmental studies, and economic impacts. In particular, discussion focused on direct/indirect impacts for township residents in the Interchange Element and traffic/infrastructure improvements for major corridors.
Lower Bucks County Chamber of Commerce Leadership Group Presentation	2/20/01	The project was the focus of this group's year-long, monthly examination of major factors influencing business in Lower Bucks County, in this case infrastructure. An overall briefing of the project's components and environmental/economic impacts, including County efforts, was delivered by the Project Team, the Pennsylvania Economy League, and the Bucks County Planning Commission.
PENJERDEL Transportation Committee Meeting	6/27/01	Project briefing on alternatives, impacts, cost, schedule, and economic impacts.
Florence Township, New Jersey Mayor/Council	7/18/01	Project briefing on alternatives, impacts, cost, and schedule.
First Baptist Church Meeting	8/21/01	Project briefing of Church Officials and congregation on the project status, potential impacts, schedule and right-of-way (ROW) acquisition procedures. PTC ROW officials were in attendance to answer specific questions as the church is shown as displaced with both interchange alternatives.
Lower Bucks County Chamber of Commerce	1/10/02	Provided attendees an overview of the project alternatives and impacts, preparation of the FEIS, public involvement activities, and the project development schedule.
Levittown/Fairless Hills Rotary Club Meeting	3/27/02	Provided attendees an overview of the project alternatives and impacts, preparation of the FEIS, public involvement activities, and the project development schedule.
East Coast Greenway Alliance	5/31/02	A meeting was held with Ken Edmonds, the Pennsylvania Coordinator of the East Coast Greenway Alliance. At this meeting Mr. Edmonds discussed the Pennsylvania segment of the proposed East Coast Greenway. Mr. Edmonds was provided an overview of the Interchange Project alternatives and impacts, preparation of the FEIS, public involvement activities, and the project development schedule.
New Jersey Department of Transportation/New Jersey Turnpike Authority/FHWA-New Jersey Briefing	2/11/03	Provided a summary of recent project activities and the schedule for review and distribution of the FEIS.
A Time of Refreshing Ministry	5/8/03	This meeting was held with church officials to discuss the project and potential impacts, including the potential displacement of the church.

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Master/City and Regional Planning
5 years experience
Public Involvement and Planning

Laura Blackstone
Master/Public Administration
7 years experience
Public Involvement

CHILTON ENGINEERING

Robert Lindenbaum
BS/Civil Engineering
37 years experience
Floodplain Evaluations

ENGINEERING AND ENVIRONMENTAL REVIEW CONSULTANTS

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BS/Civil Engineering
42 years experience
Engineering Manager

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BS/Landscape Architecture
22 years experience
Project Manager

Jack McCandless
BS/Forestry
22 years experience
Natural Resources

Denise Grantz
MA/Anthropology
MA/Cultural Resources Management
22 years experience
Historic/Architectural Resources

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BA/Geography
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Philadelphia, PA 19106-4404
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Philadelphia District
Regulatory Branch
The John Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3396
ATTN: Chief, Regulatory Branch

US Army Corps of Engineers
Philadelphia District
Environmental Resources Branch
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Philadelphia, PA 19107-3396
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US Coast Guard, 5th District
Bridge Administration Section
Federal Building, 4th Floor
431 Crawford Street
Portsmouth, VA 23704-5004
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US Department of Agriculture
Natural Resources Conservation Service
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Harrisburg, PA 17110-2993
ATTN: Water Resources Department

US Department of Commerce
Office of the Secretary
Herbert C. Hoover Building
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Washington, DC 20230
ATTN: General Counsel

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National Oceanic and Atmosphere Administration
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US Department of Commerce
National Oceanic and Atmosphere Administration
National Marine Fisheries Service
Howard Marine Science Lab, NEFSC
74 Magruder, Sandy Hook
Highlands, NJ 07732
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Centers for Disease Control & Prevention
National Center for Environmental Health
Special Programs Group
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Atlanta, GA 30341-3724
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Pennsylvania State Office
Office of Community Planning and Development
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Philadelphia, PA 19107-3380
ATTN: Environmental Officer

US Department of the Interior
Office of Environmental Policy and Compliance
Main Interior Building MS 2342
1849 C Street, NW
Washington, DC 20240
ATTN: Director

US Department of Transportation
Federal Transit Administration
Office of Planning and Program Development
1760 Market Street, Suite 903
Philadelphia, PA 19103-4124
ATTN: Transportation Program Specialist

US Environmental Protection Agency Headquarters
Office of Federal Activities
NEPA Compliance Division
EIS Filing Section, Room 7220
South Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20004

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290 Broadway, 25th Floor
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US Environmental Protection Agency
Region III (3ES30)
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Philadelphia, PA 19103-2029
ATTN: Chief, Environmental Assessment and Protection Division

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Bureau of Policy, Planning and Research
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Harrisburg, PA 17101-1919
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PA Department of Agriculture
Bureau of Farmland Protection
2301 N. Cameron Street, Room 404
Harrisburg, PA 17110-9408
ATTN: Director

PA Department of Community and
Economic Development
Office of Policy
Commonwealth Keystone Building
400 North Street, 4th Floor
Harrisburg, PA 17120
ATTN: Director

PA Department of Conservation and
Natural Resources
Office of Policy and Communications
Rachel Carson Office Building, 7th Floor
400 Market Street
Harrisburg, PA 17101-2301
ATTN: Director

PA Department of Conservation and
Natural Resources
Department of State Parks
11 Lodi Hill Road
Upper Black Eddy, PA 18972-9540
ATTN: Park Manager, Delaware Canal State Park

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PA Department of Environmental Protection
Southeast Regional Office
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
Attn: Water Management Program

PA Department of Environmental Protection
Office of Policy
Rachel Carson State Office Building
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PA Fish and Boat Commission
Environmental Services Division
450 Robinson Lane
Bellefonte, PA 16823-9620
ATTN: Chief, Environmental Services Division

PA Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
ATTN: Chief, Environmental Planning and Habitat Protection Division

PA Historical & Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
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Mary Roebling Building
20 West State Street, 12th Floor
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NJ Department of Environmental Protection
Division of Fish, Game and Wildlife
501 East State Street, 3rd Floor
Trenton, NJ 08625
ATTN: Director

NJ Department of Environmental Protection
Division of Parks and Forestry
Historic Preservation Office
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Trenton, NJ 08625-0404
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NJ Department of Environmental Protection
Land Use Regulation Program
Tidelands Resource Council, c/o Bureau of Tidelands
9 Ewing Street
Trenton, NJ 08625-0439
ATTN: Director

NJ Department of Environmental Protection
Office of Program Coordination
401 East State Street, 7th Floor
Trenton, NJ 08625
ATTN: Director

NJ Department of Transportation
1035 Parkway Avenue
Main Office Building, 2nd Floor
Trenton, NJ 08625
ATTN: Director

NJ Turnpike Authority
Engineering Department
191 Route 18 North
East Brunswick, NJ 08816
ATTN: Director

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ATTN: Jennifer Makaseah, Cultural Preservation Officer

Delaware Nation, Oklahoma
Anadarko, OK
ATTN: Bruce Gonzalez, Tribal President

Delaware Tribe of Indians, Oklahoma
Bartlesville, OK
ATTN: Joe Brooks, Chief

Oneida Tribe of Indians of Wisconsin
Oneida, WI
ATTN: Corina Williams, THPO

Onondaga Indian Nation
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ATTN: Robert Chicks, Tribal Chairman
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Tonawanda Band of Seneca Indians
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Bensalem, PA 19020
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2501 Bath Road
Bristol, PA 19007
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1260 Almshouse Road
Neshaminy Manor Center
Doylestown, PA 18901
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1900 Briggs Road
Mt. Laurel, NJ 08054
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Burlington Township Planning Commission
851 Old York Road
Burlington, NJ 08016
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111 South Independence Mall East
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711 Broad Street
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Middletown Township Planning Commission
3 Municipal Way
Langhorne, PA 19047
ATTN: Chair

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1350 Hornberger Avenue
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Bensalem, PA 19020-4449

Bucks County Free Library
Levittown Branch
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Levittown, PA 19055

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State Representative – Pennsylvania District 142
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Bristol, PA 19007

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Chair of Supervisors, Middletown Township
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Langhorne, PA 19047

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Mayor, Burlington Township
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Burlington, NJ 08016

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Florence, NJ 08518

COUNTY ORGANIZATIONS

Board of Chosen Freeholders of the
County of Burlington
Office of Land Use Planning
49 Rancocas Road
Mt. Holly, NJ 08060
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Bucks County Commissioners
County Courthouse
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Doylestown, PA 18901
ATTN: Commissioners

Community Economic Impact Review Group
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ATTN: Garney Morris *, Chair

Bucks County Transportation Management Association
3207 Street Road
Bensalem, PA 19020
ATTN: William Rickett *, Executive Director

Lower Bucks County Chamber of Commerce
409 Hood Boulevard
Fairless Hills, PA 19030
ATTN: Mr. Clark Shuster, Executive Director

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Maggie Fein
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Tony Stallworth
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Bristol Township:

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Middletown Township:

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Bill Tomlinson
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(Lower Bucks Hospital)

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Mr. Timothy A. Boyd
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Mr. David Campbell
Croydon, PA

Ms. Marcy Conti
Newtown, PA

Mr. & Mrs. Robert L. Delp
Bensalem, PA

Ms. Sylvia Farley
Bristol, PA

Mr. Terry S. Fedorchak
Manager, Township of Lower Makefield, PA

Mr. & Mrs. Ronald H. Fetzer
Ms. Lisa P. Fetzer
Bensalem, PA

Mr. Ronald Fetzer, Jr.
Bensalem, PA

Mr. George Flocco
Executive Director, Bensalem Township
Economic Development Corp., PA

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Newtown, PA

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Mrs. Susan Herman
Newtown, PA

Ms. Catherine Johnson
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Ms. Terry Koehler
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Greater Philadelphia Chamber of Commerce, PA

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President, PENJERDEL Council
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Mr. Bill Perry
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Ms. Ruth Tannock
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Mr. & Mrs. Alex Udowenko
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Vice President, Modern Group
Bristol, PA

Mr. & Mrs. Leonard Wieczezynski
Langhorne, PA

Mr. Larry Willard
Hanover, NH

Mr. Lee R. Winson
Yardley, PA

Mr. Ken Worthington
Bristol Township Councilman, PA

** Community Economic Impact Review Group Member*

X. REFERENCES

X. REFERENCES

Administrative Code of 1929. PA Act 1979-100.

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Delaware Valley Regional Planning Commission. 1992. *1990 Census, Selected Housing Characteristics By Municipality, Delaware Valley Data Bulletin No. 42.* Philadelphia, PA: Delaware Valley Regional Planning Commission.

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XI. GLOSSARY OF TERMS

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Abatement
Reduction in degree or intensity of a substance or quantity.

Above Ground Storage Tank (AST)
One or a combination of storage tanks with capacity in excess of 250 gallons, in which 90 percent or more of this volume is stored above the ground surface.

Advisory Council on Historic Preservation (ACHP)
One of the agencies that administers implementation of Section 106 of the National Historic Preservation Act primarily through State Historic Preservation Offices. The United States Army Corps of Engineers also has regulations for implementing Section 106.

Aerial Photography
Used in the initial data collection process to produce maps of a project corridor. Key landmarks, geographic conditions and environmental features are identified for review in the development of potential alternatives.

Affected Environment
Physical features, land area or areas to be influenced, affected or created by an alternative alignment under consideration; also includes social and environmental factors and conditions.

Agency Coordination Meeting (ACM)
Regularly scheduled project review meetings attended by representatives from state and federal resource and regulatory agencies, Federal Highway Administration and the Pennsylvania Department of Transportation. The ACM goal is to foster effective agency communications during the development of projects so that environmental issues are identified, clearly understood and properly addressed early in the process.

Agricultural Conservation Easement (ACE)
Development rights acquired by a government entity or conservation organization, via donation or purchase, for the purpose of preserving farmland.

Agricultural Development Area (ADA)
In New Jersey, property protected as agricultural use under the New Jersey Agriculture Retention and Development Act.

Agricultural Land Condemnation Approval Board (ALCAB)
A six person, independent administrative board with jurisdiction over the condemnation of productive agricultural lands in Pennsylvania. The Board reviews requests for condemnation made by the Pennsylvania Department of Transportation and determines whether there is a "reasonable and prudent alternative" to the use of such lands for transportation purposes.

Agricultural Land Preservation Policy (ALLP)
Agricultural policy that all Pennsylvania state agencies must support, which was developed to protect primary agricultural land from irreversible conversions to uses that result in its loss as an environmental and essential food production resource.

Agriculture Retention and Development Act (ARDA)
New Jersey regulation that provides protection for properties in agricultural use.

Agricultural Security Area (ASA)
Viable farmland approved as such by local governments according to the procedures in Pennsylvania Act 43 of 1981. Projects involving improvements to highways on or near existing facilities are exempt from this requirement.

Air Emissions
Physical, chemical or biological substance emitted into the ambient air that contains air pollutants as defined in Section 302 of the Clean Air Act.

Alternative
One of a number of specific transportation improvement proposals, alignments, options, design choices, etc. Following detailed analysis, one or no improvement alternative is chosen for implementation.

Alternatives Analysis
Preliminary engineering and environmental studies of a wide range of alternatives. The objective is to reduce the number of alternatives for more detailed study, and then, after substantial and detailed engineering and environmental studies, to identify a preferred alternative.

American Association of State Highway Transportation Officials (AASHTO)
As an advocate for multimodal and intermodal transportation, this group serves the United States Department of Transportation Congress, and member departments by providing leadership, technical services, information and advice as well as by contributing a national policy on transportation issues.

Anadromous
Migrating up rivers from the sea to breed in fresh water, as salmon do.

Annual Average Daily Traffic (AADT)
Total number of vehicles passing a point or segment of a highway facility, in both directions, for one year, divided by 365 days.

Area of Potential Effect (APE)
The geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if present.

Aquifer
Water-bearing bed or stratum of permeable rock, sand or gravel capable of yielding considerable quantities of water to wells or springs.

Atlantic States Marine Fisheries Commission (ASMFC)
Agency responsible for Management Plans for fish species (i.e., American shad, blueback herring and striped bass in Delaware River), which are of interest to Pennsylvania and New Jersey state environmental agencies.

Best Management Practices (BMPs)
Procedures, facilities or measures to minimize accelerated erosion and sedimentation to protect or improve water quality and aquatic environment.

Bicycle Motocross (BMX)
Sport where participants race 20" BMX bicycles over a structured dirt course, competing for trophies and points in the American Bicycle Association, which sanctions the program at the Bensalem BMX Raceway. Bensalem BMX is a volunteer, not for profit youth sports organization operation under the auspices of the Bensalem Township Parks and Recreation Department.

Build Alternative
If the project is constructed, an alternative for each of the project elements (Toll, Interchange, Bridge) would cumulatively be considered the Build Alternative.

Bureau of Design (BOD)
A major administrative unit of the Pennsylvania Department of Transportation, whose engineering staff administers design policy, oversees the Transportation Project Development Process, obtains federal approvals for specific projects, and performs various Quality Assurance functions.

Bureau of Environmental Quality (BEQ)
A major administrative unit of the Pennsylvania Department of Transportation (PENNDOT) responsible for managing transportation environmental programs, including developing and providing environmental policy procedures and technical guidance to other transportation offices.

CALINE3
Air quality line source dispersion model. Computer based model that predicts carbon monoxide concentrations from motor vehicles traveling in free-flow traffic conditions.

CAL3QHC
Air quality line source dispersion model. Computer based model that predicts carbon monoxide concentrations from motor vehicles progressing through signalized roadway intersections.

Capacity
Maximum rate of traffic flow expected to pass a certain point; usually expressed in vehicles per hour.

Carbon Monoxide (CO)
A colorless, odorless gas formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 60 percent of all carbon monoxide emissions nationwide.

Citizens at Risk (CAR)
Grass-roots organization comprised of local civic, townwatch, and neighborhood associations and local residents, which has expressed opposition to the I-276/I-95 Interchange Project.

Clean Air Act Amendments of 1990 (CAAA)
Sets air quality standards and establishes procedures for monitoring and improving existing air quality. Requires assessment of a project's impacts on ambient air quality standards established for mobile source pollutants.

Clean Water Act (CWA)
The 1977 amendment to the Federal Water Pollution Control Act of 1972, which set the basic structure for regulating discharges of pollutants to waters of the United States.

Coastal Area Facility Review Act (CAFRA)
New Jersey regulation that governs New Jersey coastal areas.

Coastal Zone Management Act (CZMA)
Under this act, coastal states are required to formulate a management program for the land and water resources of its coastal zone. Requires United States Army Corps of Engineers to coordinate permit review and federal projects with all state level coastal zone review agencies.

Coastal Zone Management Program (CZMP)
Pennsylvania state program that implement the rules set forth in the Coastal Zone Management Act.

Community Advisory Committee (CAC)
A group of residents, community leaders and public officials that meets regularly to represent community interests and contribute valuable information about the location, design and implementation of proposed transportation improvements.

Community Cohesion
The degree of attraction among individuals in groups within and between neighborhoods. Physical boundaries between neighborhoods are common, but boundaries resulting from differences in perception also exist and are expressed through daily social interactions, identification with the character of an area or an attitude toward an area.

Community Economic Impact Review Group (CEIRG)
Advisory group, comprised of elected officials, representatives of non-profit organizations, local employers, business leaders, Community Advisory Committee, and Community At Risk, which provides oversight of the I-276/I-95 Interchange Project Economic Impact Study.

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
(also known as Superfund)
Compilation of sites that the United States Environmental Protection Agency has investigated or is currently investigating for a release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Information Act.

Conformity
The Clean Air Act stipulates that any approved transportation project, plan or program must conform to the State Implementation Plan, a document that prescribes procedures for the implementation, maintenance and enforcement of primary and secondary pollutants.

Congestion Management Systems (CMS)
Systematic process that provides information on transportation system performance to decision makers for selecting and implementing cost effective strategies (i.e., improved transit, carpooling, etc.) to manage new and existing facilities so that traffic congestion is alleviated and the mobility of vehicles is enhanced.

Congestion Mitigation and Air Quality (CMAQ)
Section 149 of the Intermodal Surface Transportation Efficiency Act that directs funds toward transportation projects in Clear Air Act non-attainment areas for ozone and carbon monoxide, to contribute to meeting the attainment of national ambient area air quality standards.

Cooperating Agency
As defined in the Council on Environmental Quality's *Regulations for Implementing the Procedural Provisions of the NEPA*., a cooperating agency is any organization that has jurisdiction by law or with special expertise with respect to environmental impacts due to a major federal action that would affect the quality of the human environment.

Corridor
A band of determined width in which alternatives are located and studied.

Council on Environmental Quality (CEQ)
The agency responsible for the development of national environmental policy and the oversight of federal agencies implementing the National Environmental Policy Act.

Criteria of Effect
The Advisory Council on Historic Preservation definition of change to historic properties caused by federal actions [35CFR800.9(a)]: "An undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register of Historic Places.

Decibel (dB)
Unit for measuring relative loudness of sound.

Decibels in A-weighted Sound Level (dBA)
The sound pressure levels in decibels measured with a frequency weighting network corresponding to the A-scale on a standard sound level meter. The A-scale tends to suppress lower frequencies and best approximates the sound level as heard by the normal human ear.

Delaware River Basin Commission (DRBC)
Formed in 1961 by compact with the four basin states (Pennsylvania, New Jersey, New York and Delaware) and the federal government, agency responsible for water quality protection, watershed planning and conservation, water supply allocation, regulatory review, drought management, flood control and recreation in the Delaware River Watershed.

Delaware Valley Regional Planning Commission (DVRPC)
Works with member governments (city, county and state representatives) and others to foster regional cooperation in a nine-county two-state area regarding transportation, land use, environmental protection and economic development through planning analyses, data collection and mapping services.

Design Year
Future year for which a roadway facility is designed, normally 20 years in the future, used as a base for projections on a proposed project.

Detailed Alternatives Analysis (DAA)
Also known as Phase 2 Alternatives Analysis. Second sub-phase of preliminary design, in which the smaller range of alternatives is evaluated in greater detail. Impacts of each detailed alternative are identified and quantified; alternatives are compared on the basis of their consequences; and designs are refined to avoid, minimize, or mitigate impacts. These analyses are presented in the Environmental Impact Statement, and one alternative that satisfies project needs while balancing transportation, community, and environmental objectives is recommended as preferred.

Draft Environmental Impact Statement (DEIS)
Detailed study of the proposed alternatives and the impact of those alternatives. When published, there is a 45-day review and comment period for environmental agencies and the general public. A Public Hearing is held during the 45-day review period. All substantive comments are then addressed in the Final Environmental Impact Statements (FEIS).

Economic Development Research Group (EDRG)
An independent firm specializing in estimating economic impacts of transportation projects, that conducted the Economic Impact Study, along with the Pennsylvania Economy League, for the I-276/I-95 Interchange Project.

Endangered Species Act of 1973
Section 7 establishes a consultation process between federal agencies and the Secretaries of the Interior or Commerce for conducting programs for the conservation and protection of endangered species. Pursuant to this act, a biological assessment is performed to determine whether an endangered species or a critical habitat will be impacted by a proposed action.

Enterprise Zone
The Bucks County Enterprise Zone is a designation intended to bring new opportunities for economic development, encourage increased private sector investment with subsequent new job creation, and business expansion. Existing businesses in, or those relocating to, the Enterprise Zone will be eligible for low-interest loans, state tax credits, and other financial and technical assistance (Redevelopment Authority of the County of Bucks, 1999).

Environmental Impact Statement (EIS)
Document required by the National Environmental Policy Act of 1969 that assures that planners, engineers and environmental scientists have studied appropriate alternatives, and that citizens are fully aware of the environmental, social, cultural and economic effects of all alternatives.

Erosion
The wearing away, detachment or movement of soil or rock by water, wind, ice or gravity.

Essential Fish Habitat (EFH)
Habitat of marine, estuarine, and anadromous finfish, mollusks and crustaceans. Those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity.

E-Z*Pass* – Electronic Toll Collection
Electronic toll collection technology that offers discount programs, helps reduce congestion, auto emissions and fuel consumption.

Facultative Plant Species (FAC)
Plant species that is equally likely to occur in wetlands and non-wetlands.

Facultative Upland Plant Species (FACU)
Plant species that usually occur in non-wetlands, but occasionally are found in wetlands.

Facultative Wetland Plant Species (FACW)
Plant species that usually occur in wetlands, but occasionally are found in non-wetlands.

Farmland Assessment Report (FAR)
Produced for transportation projects for which an Agricultural Lands Condemnation Approval Board hearing is required to determine whether there is a prudent and reasonable alternative to the condemnation of productive agricultural land for transportation use.

Farmland Protection Policy Act of 1981 (FPPA)
Federal law designed to minimize the conversion of farmland to non-agricultural uses resulting from federally funded projects.

Fauna
Animal life, especially those of a specific region or period.

Federal Emergency Management Agency (FEMA)
Federal agency responsible for helping people before and after a disaster. Maintains nation-wide floodplain mapping databases.

Federal Highway Administration (FHWA)
The United States Department of Transportation Agency that oversees the process of planning, designing and constructing federally funded highway projects.

Federal Transit Administration (FTA)
Federal agency through which the federal government provides financial and technical assistance to local transit systems.

Final Conformity Rule
United States Environmental Protection Agency rule, adopted on November 24, 1993, that requires the State Department of Transportation's and Metropolitan Planning Organization's Long Range Transportation Plans and

Transportation Improvement Programs conform to the emissions budget and the implementation schedule of Transportation Control Measures established in the air quality State Implementation Plan.

Final Environmental Impact Statement (FEIS)
All substantive comments and questions on the Draft Environmental Impact Statement received during the review period and at the Public Hearing are addressed in this document that is prepared by transportation agencies.

Final Design Phase
The development of detailed drawings, specifications, and estimates for approved transportation projects. Final Design follows the receipt of necessary design and/or environmental approval, and includes ROW acquisition, utility relocation, and contract advertisement and award.

Floodplain
Any flat, or nearly flat lowland that borders a stream and is covered by its waters at flood stage.

Flora
Plant life, especially those of a specific region or period.

Functional Classification
The grouping of highways by the character of service they are intended to provide, such as access, mobility or both. The recognition that individual roads do not serve travel independently and most travel involves movement through a network of roads is basic to functional classification.

Future Noise Level(s) (FNL)
Future Noise Levels are compared to Noise Abatement Criteria to determine traffic noise impacts and areas that warrant noise abatement consideration according to Federal Highway and Pennsylvania Department of Transportation guidelines.

Geographic Area of Particular Concern (GAPC)
The Pennsylvania Coastal Zone Management Program focuses on locations deserving special management attention by nominating them as Geographical Areas of Particular Concern of which there are four types: areas of significant natural value; development opportunity areas; areas of significant recreational, historic or cultural value; overlap areas that contain elements of any of the other three.

Geographic Information System (GIS)
A collection of computer hardware, software, geographic data and personnel designed to efficiently capture, store, update, manipulate, analyze and display all forms of geographically referenced information.

Geometric
Vertical and horizontal configuration of a roadway.

Grade Separation
A crossing with an overpass or underpass.

Groundwater
Naturally occurring water that moves through the earth's crust, usually at a depth of several to several hundred below the earth's surface.

High Occupancy Vehicle (HOV)
A vehicle carrying a specified minimum number of people.

High Speed E-Z*Pass*
Electronic toll collection technology adjacent to toll plazas that processes the toll while allowing vehicles to travel in highway lanes without reducing speed.

Highway Capacity Manual (HCM)
Document developed by the Federal Highway Administration that calculates and analyses roadways operational characteristics.

Housing and Urban Development (HUD)
Federal agency responsible for national policy and programs that address America's housing needs, improve and develop the Nation's communities, and enforce fair housing laws.

Hydric Soil
Soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile.

Hydrophyte, Hydrophytic Vegetation
Plant(s) that grows in a moist habitat and requires large amounts of water for growth.

Insertion Loss
Decibel reduction associated with a noise abatement measure.

Intermittent Stream
A body of water flowing in a channel or bed composed primarily of substrates associated with flowing water, which, during periods of the year, is below the local water table and obtains its flow from both surface runoff and groundwater discharges.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
Federal law that gives transportation agencies and planners flexibility to use highway funds for mass transit, car pools, pedestrian/bicycle thruways, traffic management measures and environmental enhancement and research development of new technologies for transportation.

Interstate System
An interconnected system of over 4,000 miles of limited access highways across the United States. It was designated and funded under the Intermodal Surface Transportation Efficiency Act to focus federal resources on roads that are the most important to interstate travel and national defense, that connect with other modes of transportation, and that are essential for international commerce.

Jurisdictional Determination
A site survey performed by the United States Army Corps of Engineers to officially determine whether or not a given parcel of land is subject to federal wetlands regulations, and if so, the extent of the area.

L_{eq} – The Equivalent Steady-State Sound Level
A sound level, which, in a stated period of time, contains the same acoustic energy as the time-varying sound level during the same period.

Level of Service (LOS)
Operating conditions within a stream of traffic describing safety, traffic interruptions, speed, and freedom to maneuver, comfort and convenience. Six levels of service are defined, designated A through F, with A representing the best conditions and F the worst.

Limited Access
Access control with only grade separated interchanges and no driveway connections of any kind on the mainline or ramps.

Lithic
Pertaining to or typical of a given stage in the use of stone by human beings.

Long Range Transportation Plans (LRP)
The official intermodal metropolitan transportation plan that is developed through the metropolitan planning process for the metropolitan planning area that forecast at least 20 years.

Low-Income Population
Any readily identifiable group of low-income persons who live in geographic proximity and, if circumstances warrant geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed Department of Transportation program, policy or activity.

Major Investment Study (MIS)
Evaluates the effectiveness and cost-effectiveness of alternative transportation investments in attaining local, state and national goals and objectives for a metropolitan area. MIS integrates the planning and environmental processes so that reasonable alternatives, their performance, cost, financing and environmental effects, can be considered early in the project development process.

Major Metropolitan Transportation Investment (MMTI)
A high type highway or transit improvement of substantial cost that is expected to have a significant effect on capacity, traffic flow, level of service, or mode share at the transportation corridor or subarea scale.

Metropolitan Planning Organization (MPO)
The planning organization that is responsible under the Intermodal Surface Transportation Efficiency Act for regional planning of a major metropolitan area.

Migratory Fishes (MF)
A designation by PADEP regarding a watercourse's aquatic habitat. The MF designation indicates the passage, maintenance/ propagation of anadromous and catadromous fishes and other fishes, which ascend to flowing waters to complete their life, cycle (PADEP 1999).

Minority Population
Any readily identifiable groups of minority persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed Department of Transportation program, policy or activity.

Mitigation Measures
Specific design commitments made during the environmental evaluation that serve to moderate, lessen or replace impacts from the proposed action, such as noise barriers, retaining walls, etc.

MOBILE5a
Computer model that calculates pollutant emission rates from vehicles based on regional conditions.

MOBILE5a_H
Version of MOBILE5a developed by the Delaware Valley Regional Planning Commission that includes input parameters specific to that nine county region.

Monitored Existing Noise Level(s) (MENL)
Existing outdoor noise levels measured using noise monitoring equipment at specific noise sensitive areas (commonly, residential and community land uses) to determine ambient noise conditions.

National Ambient Air Quality Standards (NAAQS)
The United States Environmental Protection Agency uses six criteria pollutants (carbon monoxide, ozone, nitrogen dioxide, particulate matter, sulfur dioxide and lead) as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health occur.

National Environmental Policy Act of 1969 (NEPA)
Federal law that requires the preparation of an Environmental Impact Statement for major undertakings using federal funds. To comply, a Transportation Project Development Process has been developed to include public involvement and to address all potential environmental, cultural, social and economic impacts of a proposed project before decisions are reached on design.

National Highway System (NHS)
System of highways designated and funded under the Intermodal Surface Transportation Efficiency Act to focus federal resources on roads that are the most important to interstate travel and national defense, that connect with other modes of transportation, and that are essential for international commerce.

National Historic Landmark (NHL)
This designation is an official recognition by the Federal government of a historic property's national significance. They are places where significant historic events occurred that represent those ideas that shaped the nation, provide important information about the past, or are outstanding examples of design or construction.

National Marine Fisheries Service (NMFS)
Agency responsible for developing the Recovery Plan for the Shortnose Sturgeon, which is listed as a federal, Pennsylvania and New Jersey endangered species, and is located in the Delaware River.

National Priority List (NPL)
The United States Department of Environmental Protection Agency database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program.

National Register of Historic Places (NRHP)
United States Department of Interior list of historic and prehistoric sites having local, state or national significance.

Natural Heritage Program (NHP)
State agency within the New Jersey Department of Environmental Protection Division of Parks and Forestry responsible for identifying the state's most significant natural areas through a comprehensive inventory of rare, plant and animal species and representative natural communities.

Natural Resources
Land, fish, wildlife, water supplies and other assets belonging to, maintained by, or otherwise controlled by the federal, state or local government.

Natural Resources Conservation Service (NRCS)
Formerly the Soil Conservation Service, this agency is part of the United States Department of Agriculture and is responsible for identifying federal Farmland Protection Policy Act farmland, processing farmland conversion impact ratings, and providing soil data.

Needs Analysis
First phase of a project, which identifies problems in the existing transportation system and suggests improvements to fulfill specific transportation deficiencies.

New Jersey Department of Environmental Protection (NJDEP)
State agency responsible for preserving, sustaining, protecting and enhancing the environment to ensure the integration of high environmental quality, public health and economic vitality.

New Jersey Department of Transportation (NJDOT)
State agency funded by state and federal tax dollars that has jurisdiction, along with the Federal Highway Administration, over interstate highways in New Jersey.

New Jersey Turnpike Authority (NJTA)
State agency having jurisdiction over the operation of the New Jersey Turnpike and other roadways in New Jersey.

Nitrous Oxide (NO_x)
Colorless, sweet-tasting gas emitted directly by automobiles and trucks, which together with Volatile Organic Carbons and sunlight, plays a major role in complex reactions to produce ground level ozone.

No-Build Alternative
An alternative that serves as a baseline for comparison of alternatives considered. Option of maintaining the status quo by not building transportation improvements.

Noise Abatement
A solid wall, earth berm, or other methodology located between the roadway and receiver location, which breaks the line of sight between the receiver and roadway noise sources. Noise abatement is considered for warranted areas where predicted noise levels are expected to approach or exceed Noise Abatement Criteria or substantially exceed existing noise levels.

Noise Abatement Criteria (NAC)
Noise levels for various activities or land uses that represent the upper limit of acceptable traffic noise level conditions. These levels are to identify highway traffic noise impacts.

Noise Barrier Wall
Solid wall located between the roadway and receiver location, intended to reduce traffic noise levels.

Noise Sensitive Area (NSA)
A grouping of noise sensitive land uses such as residential communities.

Non-Attainment Area (NAA)
Areas of the country where air pollution levels persistently exceed National Ambient Air Quality Standards.

Obligate Wetland Plant Species (OBL)
Plant species that are found only in wetlands (e.g. cattail, *Typha latifolia*).

Ozone
While ozone in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of ozone at ground level are a major health and environmental concern. Ground level ozone is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of Volatile Organic Carbons and Nitrous Oxides in the presence of sunlight.

Palustrine Emergent Wetland (PEM)
A non-tidal wetland characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Perennial plants usually dominate these wetlands.

Palustrine Forested Wetland (PFO
A non-tidal wetland characterized by woody vegetation that is 6.0 m (18.3 ft) or taller and is at least 50 percent vegetative cover.

Palustrine Scrub/Shrub Wetland (PSS)
A non-tidal wetland dominated by woody vegetation less than 6.0 m (18.3 ft) tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.

Palustrine Wetlands
Non-tidal and freshwater tidal wetlands dominated by vegetation.

Park and Ride/Pool
Parking areas usually located near interchanges that provide the opportunity for ride sharing and transit service.

Peak Hour
The one-hour period of a typical day during which a highway carries its highest volume of traffic (generally described as AM peak hour or PM peak hour).

Pennsylvania Department of Agriculture (PADOA)
State agency responsible for encouraging and promoting agriculture and related industries throughout the Commonwealth.

Pennsylvania Department of Conservation and Natural Resources (PADCNR)
State agency responsible for the regulation of and protection of forestlands, state parks and river conservation.

Pennsylvania Department of Environmental Protection (PADEP)
State agency responsible for regulation of air, wetlands, water and land pollution.

Pennsylvania Department of Transportation (PENNDOT)
State agency funded by state and federal tax dollars having jurisdiction, along with the Federal Highway Administration, over interstate highways in Pennsylvania. Also responsible for the design, construction and maintenance of state highways and bridges in Pennsylvania, not including all highways under the jurisdiction of the Pennsylvania Turnpike Commission.

PENNDOT Transportation Project Development Process
Procedures for advancing a transportation improvement project from concept to construction, which are divided into phases. The process emphasizes the integration of engineering and environmental studies, and continuous coordination among transportation agencies, state and federal resource agencies, and the public. The ultimate goal is to select, design and construct the most reasonable, practical, cost-effective, technically sound, and environmentally sensitive transportation improvement options.

Pennsylvania Economy League (PEL)
Independent non-profit organization responsible for the Economic Impact Study, combined with the Economic Development Research Group, for the I-276/I-95 Interchange Project.

Pennsylvania Fish and Boat Commission (PFBC)
State agency responsible for the regulation of and protection of fish resources and boating in Pennsylvania.

Pennsylvania Game Commission (PGC)
State agency responsible for conserving and managing wildlife diversity and their ecological habitats.

Pennsylvania Historical and Museum Commission/ Bureau for Historic Preservation (PHMC/BHP)
State agency, serving as the State Historic Preservation Office for Pennsylvania, which is responsible for identifying, evaluating and protecting historic and prehistoric resources in Pennsylvania.

Pennsylvania Natural Diversity Inventory (PNDI)
Site-specific information system that describes significant natural resources of Pennsylvania and includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features.

Pennsylvania Turnpike Commission (PTC)
Created in 1937 by Act 211, group authorized to construct, finance, operate and maintain toll highways. Operations are supported by tolls and bond revenue, not tax dollars. The I-276/I-95 Interchange Project will be funded by state and federal tax dollars, as well as tolls.

Perennial Stream
A body of water flowing in a channel or bed composed primarily of substrates associated with flowing waters and is capable, in the absence of pollution or other manmade stream disturbances, of supporting a benthic macroinvertebrate community which is composed of two or more recognizable taxonomic groups of organisms which are large enough to be seen by the unaided eye and can be retained by a United States Standard No. 30 sieve (28 meshes per inch, 0.595 mm openings) and live at least part of their life cycles within or upon available substrates in a body of water or water transport system (PADEP, 1996).

Phase 1 Alternatives Analysis
See Preliminary Alternatives Analysis

Phase 2 Alternatives Analysis
See Detailed Alternatives Analysis

Photogrammetry
Science of making reliable measurements using aerial photographs in surveying and map making.

Predicted Existing Noise Level(s) (PENL)
Using Federal Highway Administration approved methodology, existing noise levels are predicted using existing roadway geometry and traffic data collected simultaneous to the Monitored Existing Noise Levels measurements.

Predicted Future Noise Level(s) (PFNBL)
Traffic noise levels predicted using Federal Highway Administration approved methodology under specific future No-Build and Build Alternative scenarios including future traffic and sensitive receptor and proposed roadway geometry.

Preliminary Alternatives Analysis (PAA)
Also known as Phase 1 Alternatives Analysis. First sub-phase of preliminary design, during which a wide range of preliminary study alternatives is developed and evaluated. Following engineering feasibility and environmental assessments, the long, initial list of alternatives is narrowed down, and the least desirable alternatives are dismissed from further study. A narrower range of alternatives is then carried forward in the Detailed Alternatives Analysis.

Preliminary Area Reconnaissance (PAR)
Preliminary investigations to identify potential waste sites, which includes a review of aerial photographs, topographic maps, public records and databases, interviews with local officials, and field reconnaissance.

Preliminary Design
All major design steps associated with the development and comparison of alternate locations, alternate alignments, detailed engineering and environmental studies, ongoing public and agency interaction, project review, and final project selection of a project alternative.

Preliminary Site Investigation (PSI)
Studies that may be recommended upon completion of a Preliminary Area Reconnaissance to determine the nature and extent of possible contamination at a specific site.

Prime Farmland
Land best suited, and is available for, producing food, feed, forage, fiber or oilseed crops.

Public Hearing
Formal session used to fulfill National Environmental Policy Act public involvement requirements in which testimony is made part of the official record reviewed by federal and state agencies prior to the Final Environmental Impact Statement.

Public Meeting
Meeting conducted by transportation officials to facilitate participation in the decision-making process and to assist the public in obtaining project information.

Receptor
Location where carbon monoxide levels and noise levels were determined for the existing year, interim years (air quality–Toll Plaza and Bridge Elements only) and the design year of the project.

Reconnaissance
Inspection, survey or exploration of an area.

Record of Decision (ROD)
Public document prepared by the Federal Highway Administration that presents the basis for selecting and approving a specific transportation proposal that has been evaluated though the environmental and engineering studies of the Transportation Project Development Process. Typically, the Record of Decision identifies the alternative selected in the Final Environmental Impact Statement, alternatives considered, measures to minimize harm, monitoring and enforcement programs, and a list of commitments and mitigation measures.

Regionally Significant Project
Project on a facility that serves regional transportation needs (such as access to/from the area outside of the region, major activity centers in the region, major planned developments such as retail malls, sports complexes, etc., or transportation terminals as well most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

Resource Agencies
Federal and state agencies that review regulated projects for their consistency and sensitivity to conservational and environmental laws and policies. Several resource agencies also possess regulatory power.

Resource Conservation and Recovery Act (RCRA)
Program that identifies and tracks hazardous wastes from the point of generation to the point of disposal. The facilities database is a compilation by United States Environmental Protection Agency of reporting facilities that generate, store, transport, treat or dispose of hazardous waste.

Right-of-Way (ROW)
Land, property or interest therein acquired for and devoted to transportation purposes, including construction, maintenance, operations and protection of a facility.

Riverine Wetland
All freshwater, non-vegetated wetlands and deep-water habitats contained within a channel.

Section 4(f)
Enacted as a portion of the Department of Transportation Act of 1966, amended in 1968, Section 4(f) declares that the Secretary of Transportation shall not approve the use of land from a significant publicly owned public park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless there is no prudent and feasible alternative to the use of such lands and; the action includes all possible planning to minimize harm to the property resulting from such use.

Section 10 (Rivers and Harbors Act of 1899)
Requires authorization from the United States Army Corps of Engineers for work in navigable waters of the US, including any structure in or over any navigable water of the United States.

Section 106
A provision of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, which governs the identification, evaluation and protection of historical and archaeological resources affected by state and federal undertakings on any district, site building, structure or object that is listed in or eligible for the National Register of Historic Places.

Section 401 Water Quality Certification
Required as per Section 401 of the Federal Clean Water Act for projects involving the discharge of materials into surface waters, including wetlands. Applicant must demonstrate that activities will comply with Pennsylvania water quality standards and other provisions of federal and state law and regulations regarding conventional and nonconventional pollutants, new source performance standards, and toxic pollutants.

Section 404 of the Clean Water Act
Requires approval by the United States Army Corps of Engineers prior to the dredging or placement of any fill materials into the waters of the United States, including wetlands.

Section 404 Alternatives Analysis
Examines practical alternatives to the possible discharge of dredged or fill material into certain aquatic ecosystems, such as wetlands, mudflats, vegetated shallows or other special aquatic systems. "Practical" means "Available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes'.

Sensitive Waste
An environmental impact category encompassing all types of permitted and unregulated materials, sites and substances that require prudent handling and treatment to prevent harm or danger.

Single Occupancy Vehicle Adding Project (SOVCAP)
Project that would add single occupancy vehicles to the roadways under consideration. Federal Metropolitan Planning Regulations require all significant SOVCAP be part of a Congestion Management Study.

Slow Speed E-*ZPass*
Electronic toll collection technology toll plazas where vehicles reduce speed to pass between booths that have equipment to process the toll.

Soil Conservation Service (SCS)
Former state agency that is now known as Natural Resources Conservation Service.

Sole Source Aquifer (SSA)
An aquifer designated by the US Environmental Protection Agency (USEPA) as the "sole or principal source" of drinking water for a given aquifer service area.

State Historic Preservation Office (SHPO)
The Pennsylvania Historical and Museum Commission/Bureau for Historic Preservation serves in this capacity for Pennsylvania.

State Implementation Plan (SIP)
Document prepared by state government officials specifying measures to be used in the attainment of National Ambient Air Quality Standards.

Statewide Important Farmland
In addition to prime and unique farmlands, this land is of statewide importance for the production of food, feed, fiber, forage and oilseed crops.

STORET
United States Environmental Protection Agency Storage and Retrieval Federal Database System

Stormwater
Overland flow originating from a precipitation event (rain, snow or ice melt) that accumulates debris and pollutants as it flows from its source to a receiving point.

Stormwater Management (SWM)
Practices that include the use of vegetative controls, detentions basins, grass swales and wetlands, etc. to reduce discharge volumes and pollutants.

Structure
Bridge or other elevated sections of the roadway that cross over other roads, railroad tracks or bodies of water.

Substrate
Mineral and/or organic matter that forms the bed of a stream; the base on which an organism lives.

Technical Support Data
Project specific information that supports the findings described in this document, including raw data, detailed analytical information, full-scale project mapping, field investigation and/or data collection results, methodology and correspondence.

Tidal Perennial Stream
The gradient is low and water velocity fluctuates under tidal influence. The streambed is mainly mud with occasional patches of sand. Oxygen deficits may sometimes occur and the fauna is similar to that in the Lower Perennial Subsystem. The floodplain is typically well developed.

Topography
Natural surface features of a region, including its relief; may be land or water-bottom surface.

Transportation Control Measure (TCM)
Any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in Section108 of the Clean Air Act Amendments, or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use, speed, or changing traffic flow or congestion conditions.

Transportation Demand Management (TDM)
Any measure designed to maximize the people-moving capability of the transportation system by increasing the number of persons in a vehicle, by influencing the time of travel or eliminating trips. Components include: congestion pricing, rideshare programs, transit passes, in-vehicle devised, preferential parking, and telecommuting programs.

Transportation Improvement Program (TIP)
Short-range program of projects established by Metropolitan Planning Organization consisting of a prioritized list or projects or project segments to be implemented within the next three years after its adoption.

Transportation Systems Management (TSM)
An alternative that seeks to reduce traffic congestion without altering the existing roadway, considering options such as improvements to the mass transit system, minor intersection improvements and traffic management.

Underground Storage Tank (UST)
any tank, including underground piping connected to the tank, which is or was used to store a hazardous substance including petroleum, with ten percent or more of the tank volume including piping beneath the ground surface.

Unique Farmland
Land other than prime farmland used for the production of high value food and fiber crops.

United States Army Corps of Engineers (USACOE)
Federal agency that has regulatory authority over all activities in navigable waters of the United States and the discharge of dredged or fill material into all waters of the United States, including wetlands.

United States Coast Guard (USCG)
Founded in the 1790s as part of the United States Department of Treasury, federal agency now part of the United States Department of Transportation, and responsible for protecting United States interests nationally and internationally by patrolling shores, rescue operations, protecting property and enhancing flow of commerce.

United States Department of Agriculture (USDA)
Federal agency responsible for supporting the national production of agriculture through farm and foreign agricultural services; food nutrition and consumer services; food safety; marketing and regulatory programs; natural resources and environmental research, education and economics; and rural development.

United States Department of Transportation (USDOT)
Federal agency that serves the United States by ensuring fast, safe, efficient, accessible and convenient transportation system that meets our national interests. Consists of the Office of the Secretary and eleven individual operating administrations, including United States Coast Guard, Federal Highway Administration and the Federal Transit Administration.

United States Environmental Protection Agency (USEPA)
Federal agency with review and policy-setting authority under Section 404 of the Clean Water Act and is responsible for enforcing environmental regulations such as Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, and the Clean Air Act. Regulates wetlands along with the United States Army Corps of Engineers.

United States Fish and Wildlife Service (USFWS)
Bureau within the United States Department of the Interior responsible for conserving, protecting and enhancing fish and wildlife and their habitats.

United States Geological Survey (USGS)
Federal agency that provides current cartographic information to describe and understand the earth.

Vehicular Progression
A vehicle's ability to travel a roadway segment considering such limiting factors as vehicular density, vehicular speed, number of travel lanes, and traffic signalization.

Volatile Organic Compounds (VOCs)
Also referred to as hydrocarbons, non-methane hydrocarbons or reactive gases, these compounds may be formed during the combustion process and/or released as fuel evaporates. There is no National Ambient Air Quality Standard for hydrocarbons, having been rescinded by the United States Environmental Protection Agency in 1983. Volatile Organic Compounds are important in reacting with Nitrous Oxides and sunlight to produce ground level ozone.

Warm Water Fishes (WWF)
A designation by PADEP regarding a watercourse's aquatic habitat. The WWF designation indicates the maintenance and propagation of fish species and additional flora and fauna with are indigenous to a warm water habitat (PADEP 1999).

Waste Site
Property, including structures on a property, which have been impacted by hazardous or environmentally sensitive materials.

Watershed
A region or area bounded by a water parting and draining ultimately to a particular watercourse or body of water.

Wellhead Protection Program (WHPP)
Established under the 1986 Amendments to the Safe Drinking Water Act to protect public health by preventing groundwater contamination from reaching public drinking water supply wells.

Wetland
Those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

Wetland Delineation
The process of determining the jurisdictional boundary of a wetland for regulatory purposes.

Wetland Finding
As required under Executive Order 11990 (May 24, 1997), a wetland finding is conducted to determine the existing wetland conditions, proposed effects on those conditions by the proposed transportation improvement, and documentation of the conceptual mitigation for those effects.

XII. APPENDICES

XII. APPENDICES

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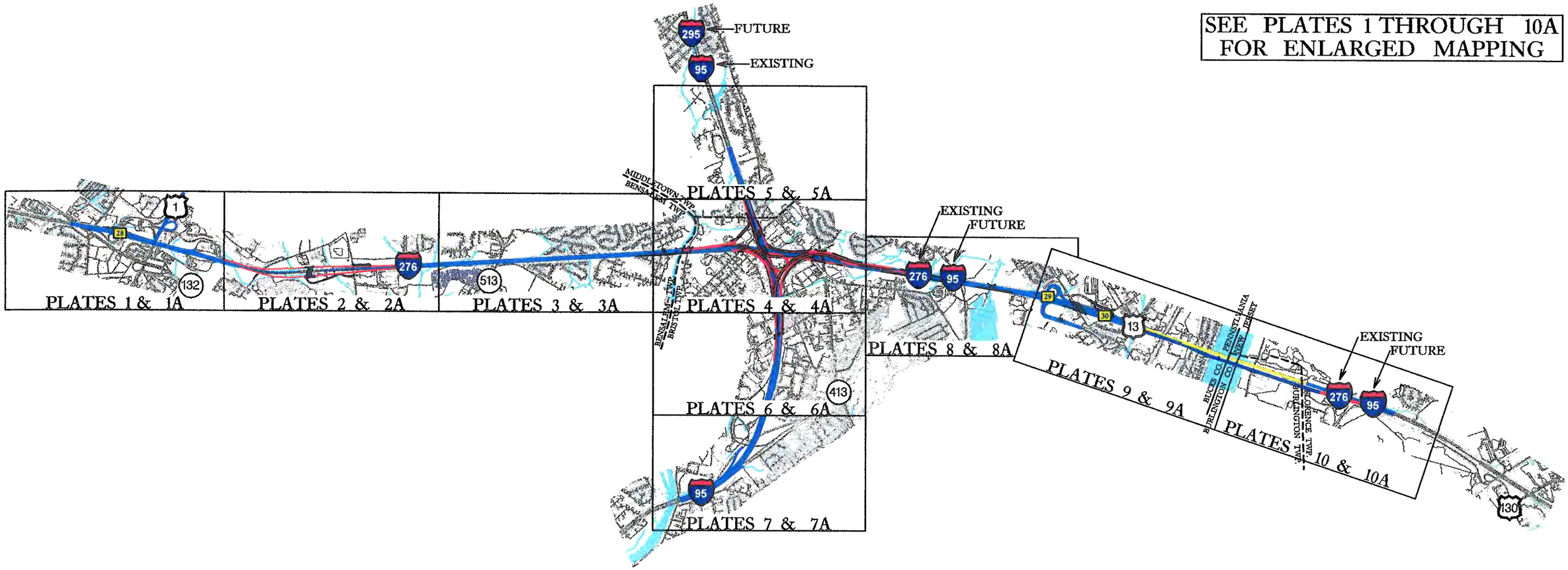
APPENDIX A
COMPOSITE INVENTORY



PREFERRED ALTERNATIVE (PROJECT ALTERNATIVE 1)		
MODIFIED PLAZA WEST ALTERNATIVE	**SINGLE LOOP A ALTERNATIVE**	**BRIDGE SOUTH ALTERNATIVE**
Plate 1 – Interchange 28 Vicinity (Page A–2)	Plate 4 – Point–of–Crossing North Vicinity (Page A–8)	Plate 9 – Interchange 29 to the Delaware River (Page A–18)
Plate 2 – Galloway Rd. Vicinity (Page A–4)	Plate 5 – Point–of–Crossing Vicinity (Page A–10)	Plate 10 – Delaware River East Into New Jersey (Page A–20)
Plate 3 – Point–of–Crossing West Vicinity (Page A–6)	Plate 6 – Point–of–Crossing South Vicinity (Page A–12)	
	Plate 7 – Neshaminy Creek Vicinity (Page A–14)	
	Plate 8 – Point–of–Crossing East Vicinity (Page A–16)	

OTHER BUILD ALTERNATIVES CARRIED FORWARD FOR DETAILED STUDY IN DEIS		
SPLIT PLAZA EAST ALTERNATIVE	**FLYOVER A ALTERNATIVE**	**BRIDGE NORTH ALTERNATIVE**
Plate 1A – Interchange 28 Vicinity (Page A–3)	Plate 4A – Point–of–Crossing North Vicinity (Page A–9)	Plate 9A – Interchange 29 to the Delaware River (Page A–19)
Plate 2A – Galloway Rd. Vicinity (Page A–5)	Plate 5A – Point–of–Crossing Vicinity (Page A–11)	Plate 10A – Delaware River East Into New Jersey (Page A–21)
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LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area / Ramp / Merge Lane
- New Parallel Delaware River Turnpike Bridge
- Upgrade Of Existing Delaware River Turnpike Bridge
- 28 Existing I–276 Interchange
- Surface Water

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY

INDEX

1 In = 3,600 Ft (1 : 43,200)

0Ft 3,600Ft 7,200Ft

0M 1,097M 2,194M

PREFERRED

PENN VALLEY TERRACE

Trevose Corporate Center

Horizon Corporate Center

SEE INSET FOR RT 1 IMPROVEMENTS TO ROCKHILL DR.

Pennsylvania State Police Trevose Barracks

PennDOT Bucks County Maintenance Facility

Metropolitan Industrial Park

Concord Park

LINCONIA PARK

Roosevelt Memorial Park

WAWA (FUTURE SITE)

Former Youth Development Center

I–276 Neshaminy Service Plaza

ABMX

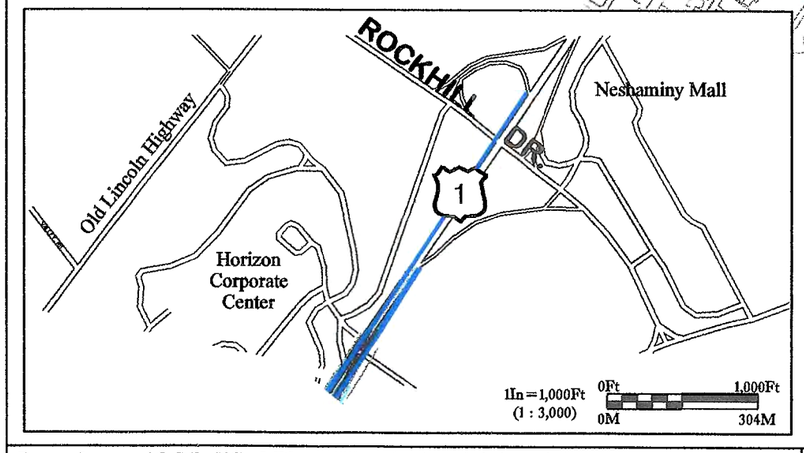
NSA 27

NSA 26

NSA 11

Bensalem Township Parcel

MATCHLINE SEE PLATE 2





NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY. SWM FACILITIES WOULD BE RE–EVALUATED DURING FINAL DESIGN.

Interchange 28 Modified Plaza West in the vicinity of the I-276 Interchange 28, would involve widening of I-276 from two to three lanes in each direction and a new US 1 bridge over I-276 allowing US 1 to become three lanes in each direction north to the US 1 Neshaminy Interchange. A noise wall is proposed on the south side of I-276 to reduce traffic noise levels at Linconia Park. There would be no impacts to residential or public facilities in this area. Impacts would occur east of the I-276 Neshaminy Service Plaza primarily to wetlands and forestland. Most of the study area is located within the coastal zone with the exception of the area (shown on this plate and next) south of I-276 and west of Richlieu Road.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Proposed Structure
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Railroad
- 28 Existing I–276 Interchange
- Potential Noise Abatement
- NSA Boundary
- 59 Potential Sensitive Waste Site
- A3 Air Receptor
- A1 52 Air and Noise Receptor
- Surface Water
- Proposed Stormwater Management
- Wetlands
- Forest
- Rangeland
- Coastal Zone Boundary
- 14 SEPTA Bus Route
- SEPTA Bus Route (Peak Hour)
- Section 4(f) Public Recreational Land

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 1
MODIFIED PLAZA WEST ALTERNATIVE
PREFERRED ALTERNATIVE

1 In=500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

NOTE:
SPLIT PLAZA EAST ALTERNATIVE IS THE SAME AS MODIFIED PLAZA WEST ALTERNATIVE IN THIS VICINITY.
(SEE PLATE 1 ON PAGE A-2)

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 1A
SPLIT PLAZA EAST ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
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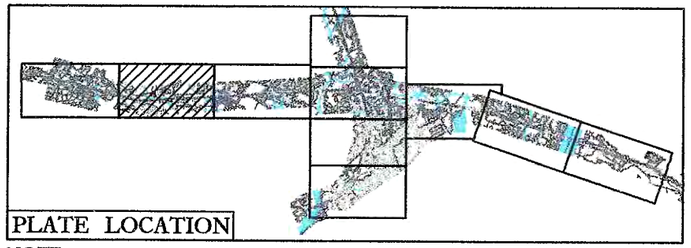

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

MATCHLINE SEE PLATE 1

MATCHLINE SEE PLATE 3

WESTBOUND TOLL PLAZA

Christian Life Center School

Christian Life Center Church

Thomas F. Ennis Farm

LONGMEADOW APARTMENTS

Rosedale Memorial Park

Women's Humane Society

Former Youth Development Center

Bensalem Community Park

APARK1

APARK2

NSA 29

NSA 28

ADELL

NSA 13

COLUMBIA DR.

RD.

W5

W7

W8

W6

W10

W11

W3B

MPW-1

MPW-2

MPW-3

MPW-4

MPW-5

W14

A4

A5

A6

NSA 11

COUNTRY COMMONS

I-276 Trevose Maintenance Building

Giles & Ransome Property

Philadelphia Park Racetrack

GALLOWAY

RICHLIEU

Bensalem Baptist School

Bensalem Baptist Church

EASTBOUND TOLL PLAZA

Galloway Road In the vicinity of Galloway Road, **Modified Plaza West** would involve widening of I-276 to three lanes in each direction and the construction of a new toll plaza. The Longmeadow Apartments and the homes along Columbia Drive would benefit from a reduction in traffic noise levels with the proposed noise wall on the north side of I-276. Impacts in this area are primarily confined to the widening for the new toll plaza. These include impacts to wetlands, forestland, rangeland, floodplains, streams, and one residential displacement south of I-276 and west of Galloway Road. The preferred toll plaza alternative, Modified Plaza West with its conventional rather than split toll plaza configuration, has greater construction and operational flexibility.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Potential Noise Abatement
- NSA Boundary
- 59 Potential Sensitive Waste Site
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- Surveyed Resource (50 years or older)
- MPW-1 Surface Water / Impact ID
- Floodplain Limits
- Proposed Stormwater Management
- W5 Wetlands / Impact ID
- Farmlands
- Forest
- Rangeland
- Candidate Wetland Replacement Site
- Coastal Zone Boundary
- NRHP Eligible Property
- Section 4(f) Public Recreational Land
- Residential Displacement
- 128 SEPTA Bus Route

I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 2
MODIFIED PLAZA WEST ALTERNATIVE
PREFFERED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)

0Ft 500Ft 1,000Ft
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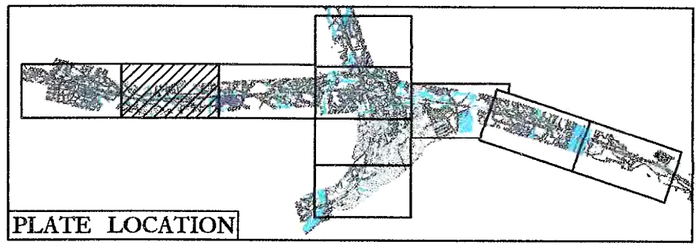
NOT PREFERRED



NOTE:
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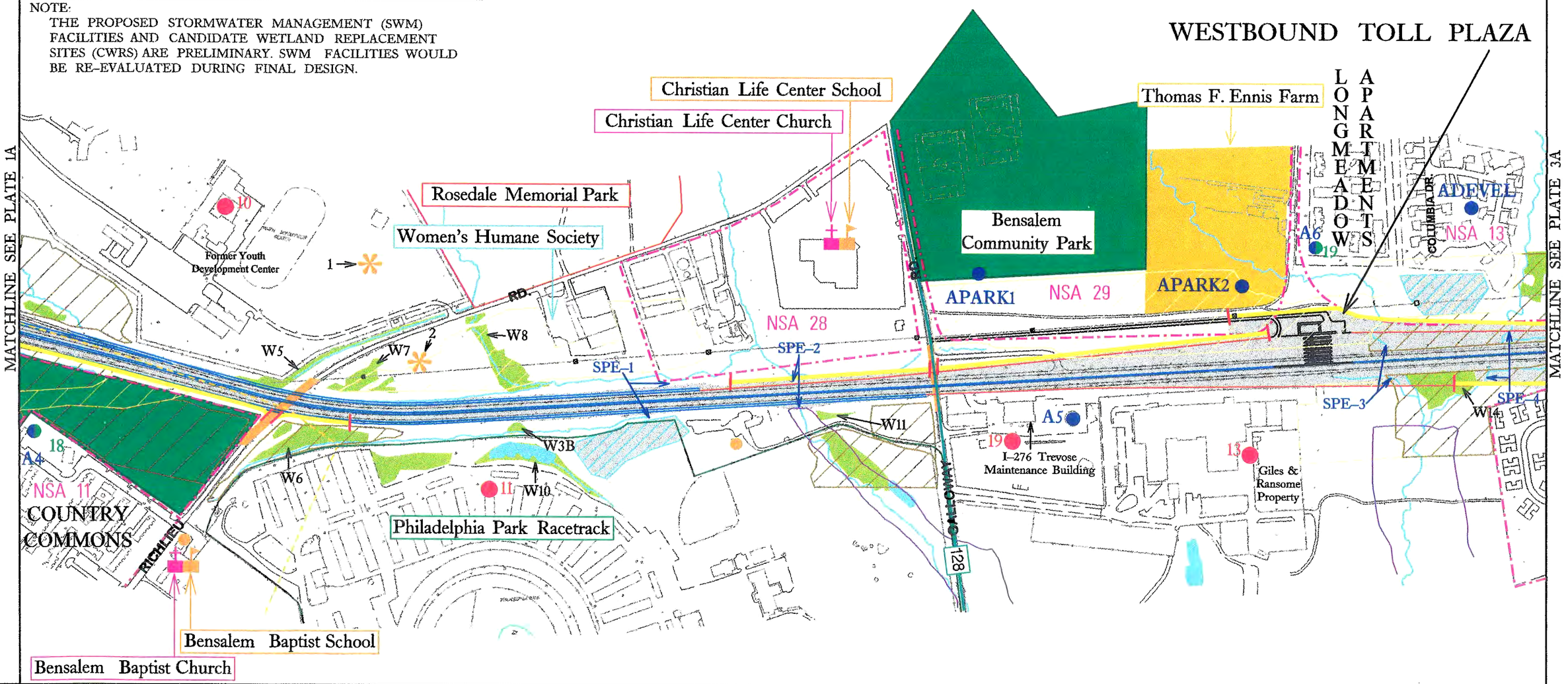

Galloway Road The **Split Plaza East** Alternative, in the vicinity of Galloway Road, would involve widening of I-276 from two to three lanes in each direction and the construction of a new westbound toll plaza. The Longmeadow Apartments and The Woods of Neshaminy Valley communities would benefit from a reduction in traffic noise levels with the proposed noise wall located on the north side of I-276. There would be no impacts to residential or public facilities in this area. Impacts in this area are primarily confined to the widening of I-276 for the new westbound toll plaza, from Galloway Road to the east, including impacts to wetland, forestland, floodplain and farmland resources.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Potential Noise Abatement
- NSA Boundary
- 59 Potential Sensitive Waste Site
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- SPE-1 Surface Water / Impact ID
- Floodplain Limits
- Proposed Stormwater Management
- W5 Wetlands / Impact ID
- Forest
- Farmlands
- Rangeland
- Candidate Wetland Replacement Site
- Coastal Zone Boundary
- Surveyed Resource (50 years or older)
- NRHP Eligible Property
- Section 4(f) Public Recreational Land
- 128 SEPTA Bus Route

I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 2A
SPLIT PLAZA EAST ALTERNATIVE
NOT PREFERRED

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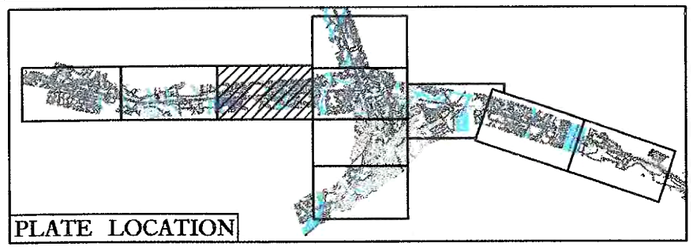

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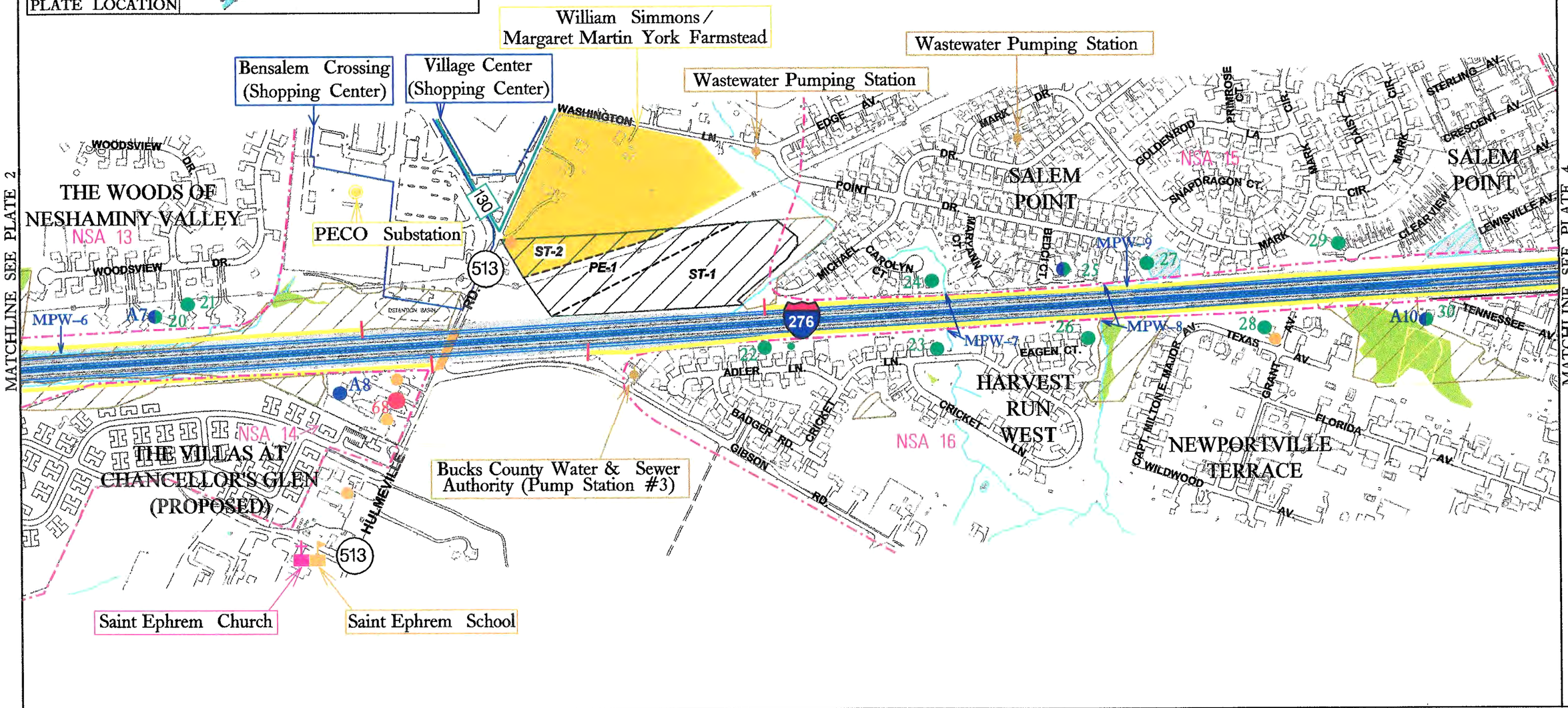

Point-of-Crossing West West of the I-276/I-95 point-of-crossing with the **Modified Plaza West** Alternative, I-276 would be widened from two to three lanes in each direction. Three noise walls are proposed for this area for the following communities: The Woods of Neshaminy Valley (continued from Galloway Road area); Salem Point (north of I-276); and, Harvest Run West and Newportville Terrace (south of I-276). There would be no impacts to residential or public facilities. Widening of I-276 would cause stream and forestland impacts primarily west of Hulmeville Road. The few farmlands located in the Pennsylvania portion of the study area are concentrated near Hulmeville Road. This alternative would not impact these farmlands.

LEGEND

- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Potential Noise Abatement
- NSA Boundary
- 68 Potential Sensitive Waste Site
- Proposed Stormwater Management
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- Surveyed Resource (50 years or older)
- NRHP Eligible Property
- MPW-6 Surface Water / Impact ID
- Wetlands
- Farmlands
- ST-1 Farmland Ownership Designation
- Forest
- Rangeland
- 130 SEPTA Bus Route

I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 3
MODIFIED PLAZA WEST ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)
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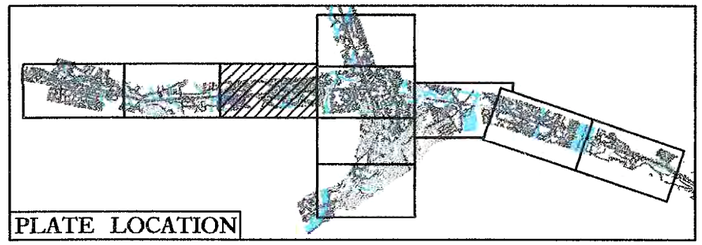


NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

EASTBOUND TOLL PLAZA

Point-of-Crossing West The **Split Plaza East** Alternative, just west of the point-of-crossing, would involve the widening of I-276 from two to three lanes in each direction and the construction of a new eastbound toll plaza. Three noise walls are proposed for this area for the following communities: The Woods of Neshaminy Valley (continued from Galloway Road area), Salem Point (north of I-276) and Harvest Run West and Newportville Terrace (south of I-276). There would be three commercial displacements and two residential displacements due to the widening for the eastbound toll plaza just west of Hulmeville Road. I-276 widening in this area would cause impacts to stream, forestland and farmland resources.

LEGEND

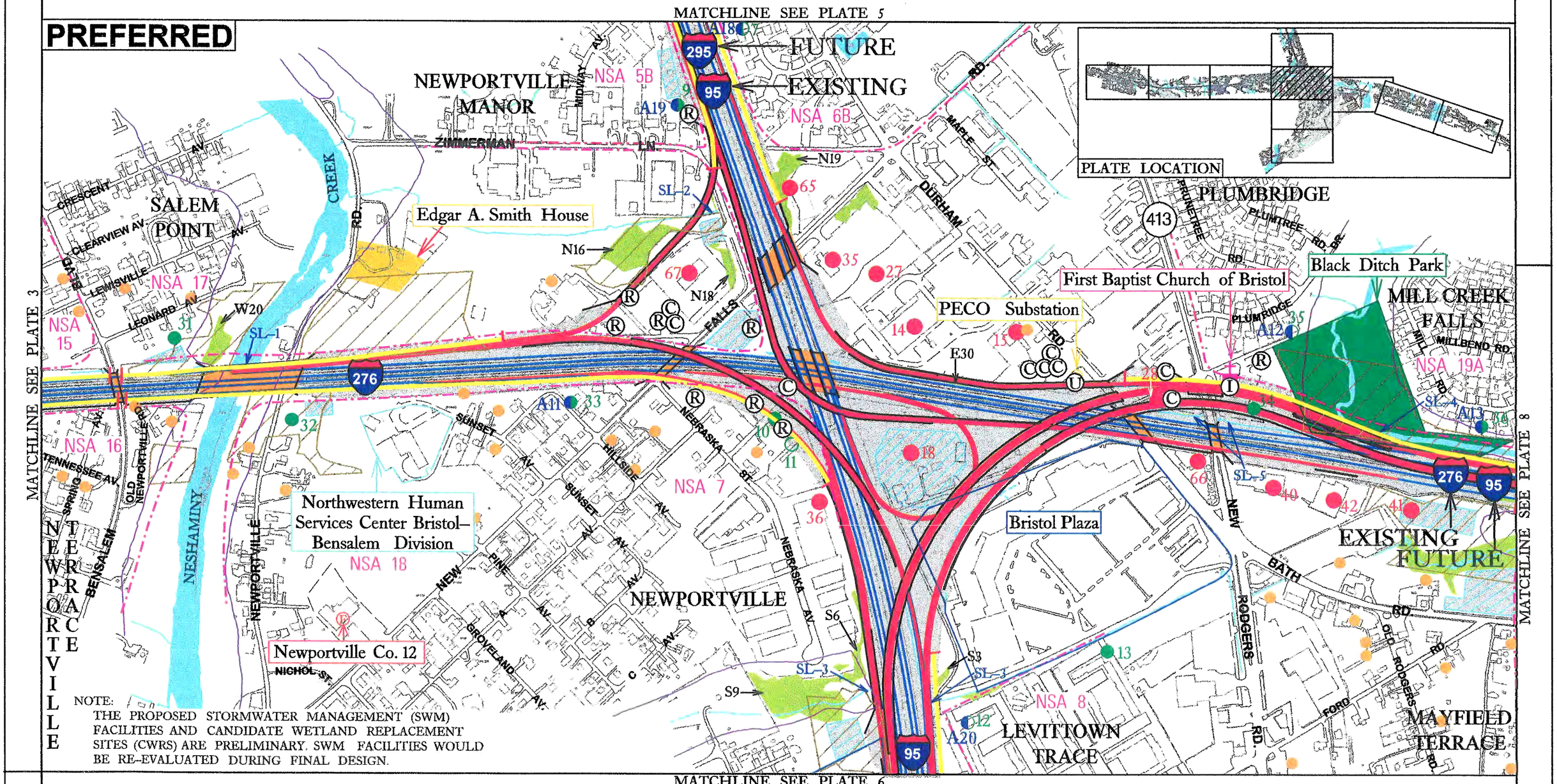
- Proposed Mainline Improvement
- Proposed Toll Plaza Area
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Potential Noise Abatement
- NSA Boundary
- 68 Potential Sensitive Waste Site
- SPE-5 Surface Water / Impact ID
- Proposed Stormwater Management
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- Surveyed Resource (50 years or older)
- NRHP Eligible Property
- Wetlands
- Forest
- Farmlands
- ST-1 Farmland Ownership Designation
- Rangeland
- 130 SEPTA Bus Route
- (R) Residential Displacement
- (C) Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 3A
SPLIT PLAZA EAST ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

PREFERRED



Point-of-Crossing The **Single Loop A** Alternative at the I-276/I-95 point-of-crossing would involve creating a full directional interchange between I-276 and I-95 with eight ramps; widening of I-276 from four to six lanes; and widening of I-95 to accommodate ramp and merge lanes from the new interchange. Noise walls are shown protecting the following communities: Salem Point, Newportville Terrace, Newportville, Plumbridge, Mill Creek Falls, and Levittown Trace. The primary cause of impacts in this area would be from ramp construction. There would be nine residential displacements, nine commercial displacements and one institutional displacement (First Baptist Church of Bristol) as well as impacts to forestland, Mill Creek floodplains and Black Ditch Park.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp
- Proposed Structure
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Proposed Stormwater Management
- Surveyed Resource (50 years or older)
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Potential Noise Abatement
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- 011 Noise Receptor (24 hours)
- A1 52 Air and Noise Receptor
- 59 Potential Sensitive Waste Site
- Forest
- NSA Boundary
- Floodplain Limits
- W20 Wetlands / Impact ID
- FLY-1 Surface Water / Impact ID
- (R) Residential Displacement
- (C) Commercial Displacement
- (I) Institutional Displacement
- (U) Major Utility Relocation

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 4
SINGLE LOOP A ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

NOT PREFERRED

MATCHLINE SEE PLATE 5A

MATCHLINE SEE PLATE 3A

MATCHLINE SEE PLATE 8A

MATCHLINE SEE PLATE 6A

FUTURE

EXISTING

PLATE LOCATION

NEWPORTVILLE MANOR

SALEM POINT

PLUMBRIDGE

MILL CREEK FALLS

LEVITTOWN TRACE

MAYFIELD TERRACE

NEWPORTVILLE

NEWPORTVILLE TERRACE

Edgar A. Smith House

First Baptist Church of Bristol

Black Ditch Park

PECO Substation

Bristol Plaza

Northwestern Human Services Center Bristol–Bensalem Division

Newportville Co. 12

NSA 5B

NSA 6B

NSA 17

NSA 15

NSA 16

NSA 18

NSA 7

NSA 8

NSA 19A

A19

A11

A12

A20

FLY–1

FLY–2

FLY–3

FLY–6

W20

N16

N18

N19

S6

S9

S3

E30

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

Point-of-Crossing At the I-276/I-95 point-of-crossing, the **Flyover A** Alternative would involve creating a full directional interchange between I-276 and I-95 with eight ramps; widening of I-276 from four to six lanes; and widening of I-95 to accommodate ramp and merge lanes from the new interchange. Noise walls are shown protecting the following communities: Salem Point, Newportville Terrace, Newportville, Plumbridge, Mill Creek Falls, and Levittown Trace. The primary cause of impacts in this area would be from ramp and construction. There would be 13 residential displacements, ten commercial displacements and one institutional displacement (First Baptist Church of Bristol) as well as impacts to forestland, Mill Creek floodplains and Black Ditch Park.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp
- Proposed Structure
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Proposed Stormwater Management
- Surveyed Resource (50 years or older)
- Section 4(f) Public Recreational Land
- NRHP Eligible Property
- Potential Noise Abatement
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- 11 Noise Receptor (24 hours)
- A1 52 Air and Noise Receptor
- 59 Potential Sensitive Waste Site
- NSA Boundary
- Forest
- Floodplain Limits
- W20 Wetlands / Impact ID
- FLY–1 Surface Water / Impact ID
- (R) Residential Displacement
- (C) Commercial Displacement
- (I) Institutional Displacement
- (U) Major Utility Relocation

I–276 / I–95 INTERCHANGE PROJECT

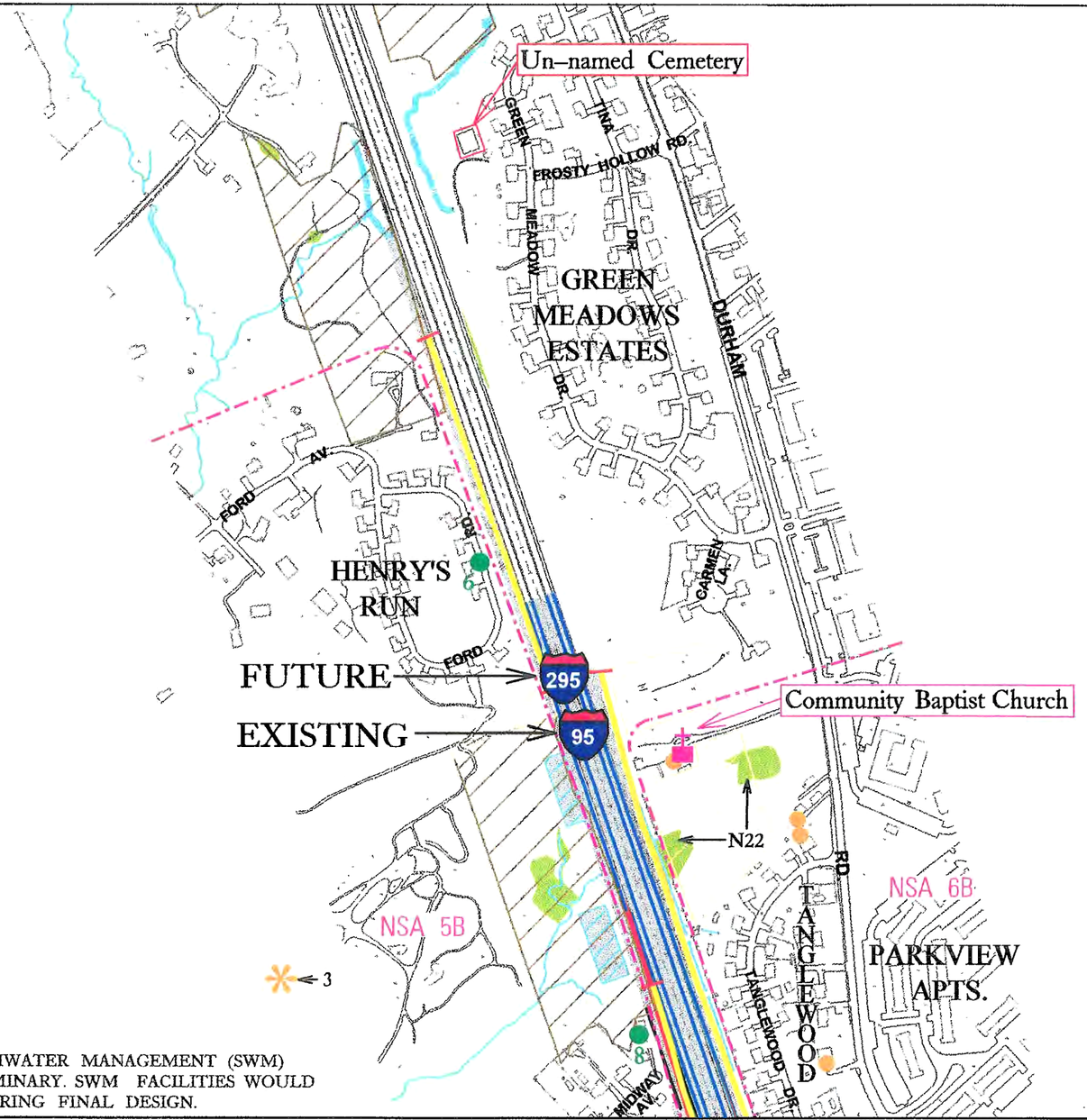
COMPOSITE INVENTORY – PLATE 4A
FLYOVER A ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)

0Ft 500Ft 1,000Ft

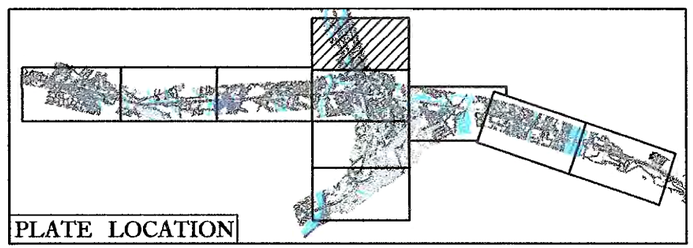
0M 152M 304M

PREFERRED



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY. SWM FACILITIES WOULD BE RE–EVALUATED DURING FINAL DESIGN.

MATCHLINE SEE PLATE 4



Point-of-Crossing North The **Single Loop A** Alternative, north of the I-276/I-95 point-of-crossing, would continue ramp and merge lane construction from the interchange on existing I-95. Existing I-95 would be redesignated as I-295 at the completion of the project. Existing I-276, east of the point-of-crossing, would be redesignated as I-95, making I-95 continuous to/from New Jersey. Two noise walls are proposed for this area that would continue south to the point-of-crossing area. These walls are proposed for the communities of Tanglewood (east of existing I-95) and Newportville Manor (west of existing I-95). There would be no impacts to residential or public facilities. Impacts in this area would be primarily to forestland area west of existing I-95 where two stormwater management areas are proposed.

LEGEND

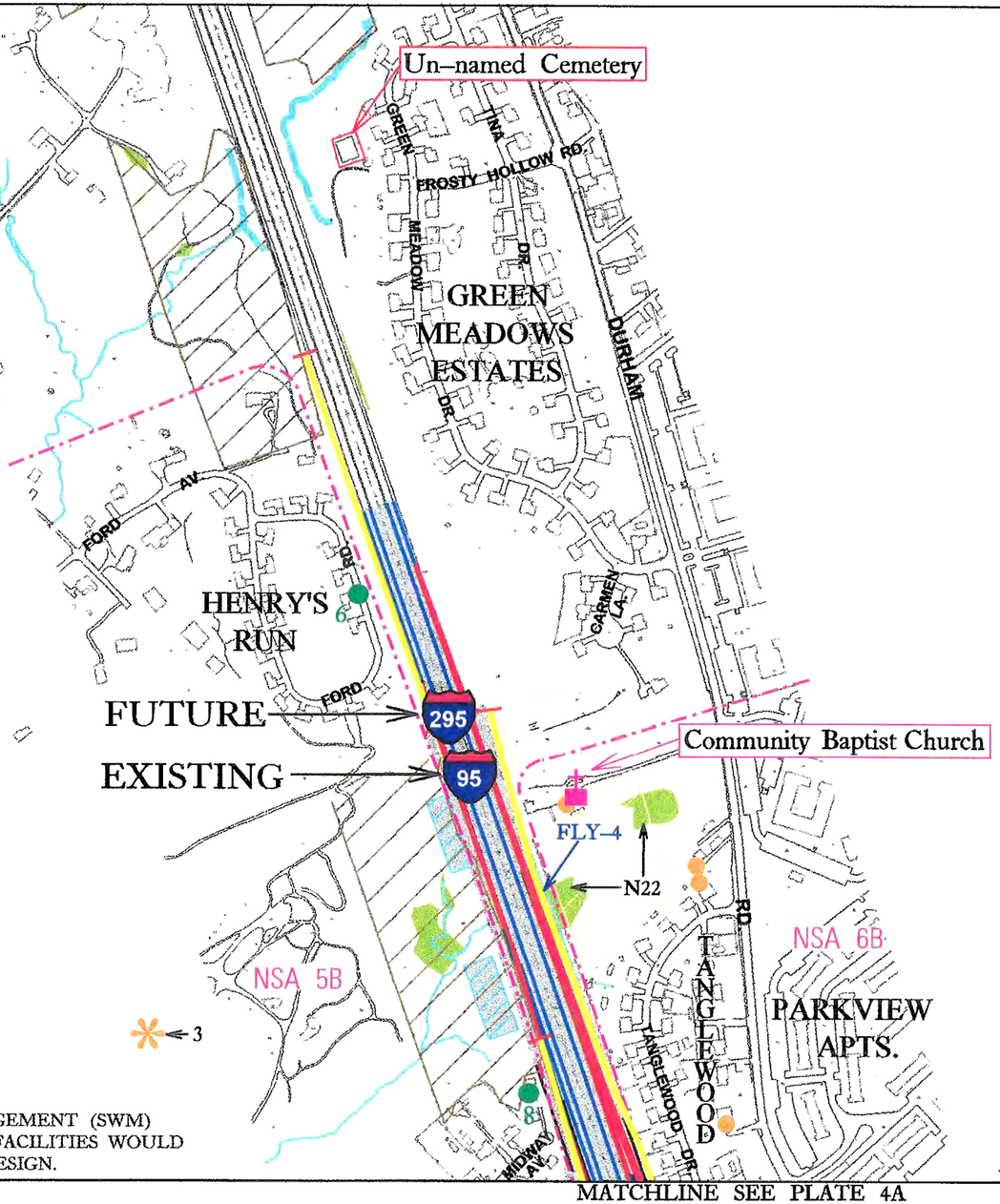
- Proposed Mainline Improvement
- Proposed Ramp / Mainline
- Proposed Structure
- Limit of Disturbance
- Proposed Stormwater Management
- Candidate Wetland Replacement Site
- Potential Noise Abatement
- NSA Boundary
- 53 Noise Receptor (0.5 hour)
- 8 Noise Receptor (24 hours)
- Surveyed Resource (50 years or older)
- Surface Water
- N22 Wetlands / Impact ID
- Forest
- Rangeland

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 5
SINGLE LOOP A ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

NOT PREFERRED



MATCHLINE SEE PLATE 4A



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY. SWM FACILITIES WOULD BE RE–EVALUATED DURING FINAL DESIGN.

Point-of-Crossing North The **Flyover A** Alternative north of the I-276/I-95 point-of-crossing would continue the ramp and merge lane construction on existing I-95 from the proposed interchange. Existing I-95 would be redesignated as I-295 at the completion of the project. Existing I-276, east of the point-of-crossing, would be redesignated as I-95, making I-95 continuous to/from New Jersey. Two noise walls are proposed for this area that would continue south to the point-of-crossing area. These walls are proposed for the communities of Tanglewood (east of existing I-95) and Newportville Manor (west of existing I-95). There would be no impacts to residential or public facilities. Impacts in this area would be primarily to forestland area west of existing I-95 where two stormwater management areas are proposed.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp / Mainline
- Proposed Structure
- Limit of Disturbance
- Proposed Stormwater Management
- Candidate Wetland Replacement Site
- Potential Noise Abatement
- NSA Boundary
- 53 Noise Receptor (0.5 hour)
- FLY–4 Surface Water / Impact ID
- Surveyed Resource (50 years or older)
- N22 Wetlands / Impact ID
- Forest
- Rangeland

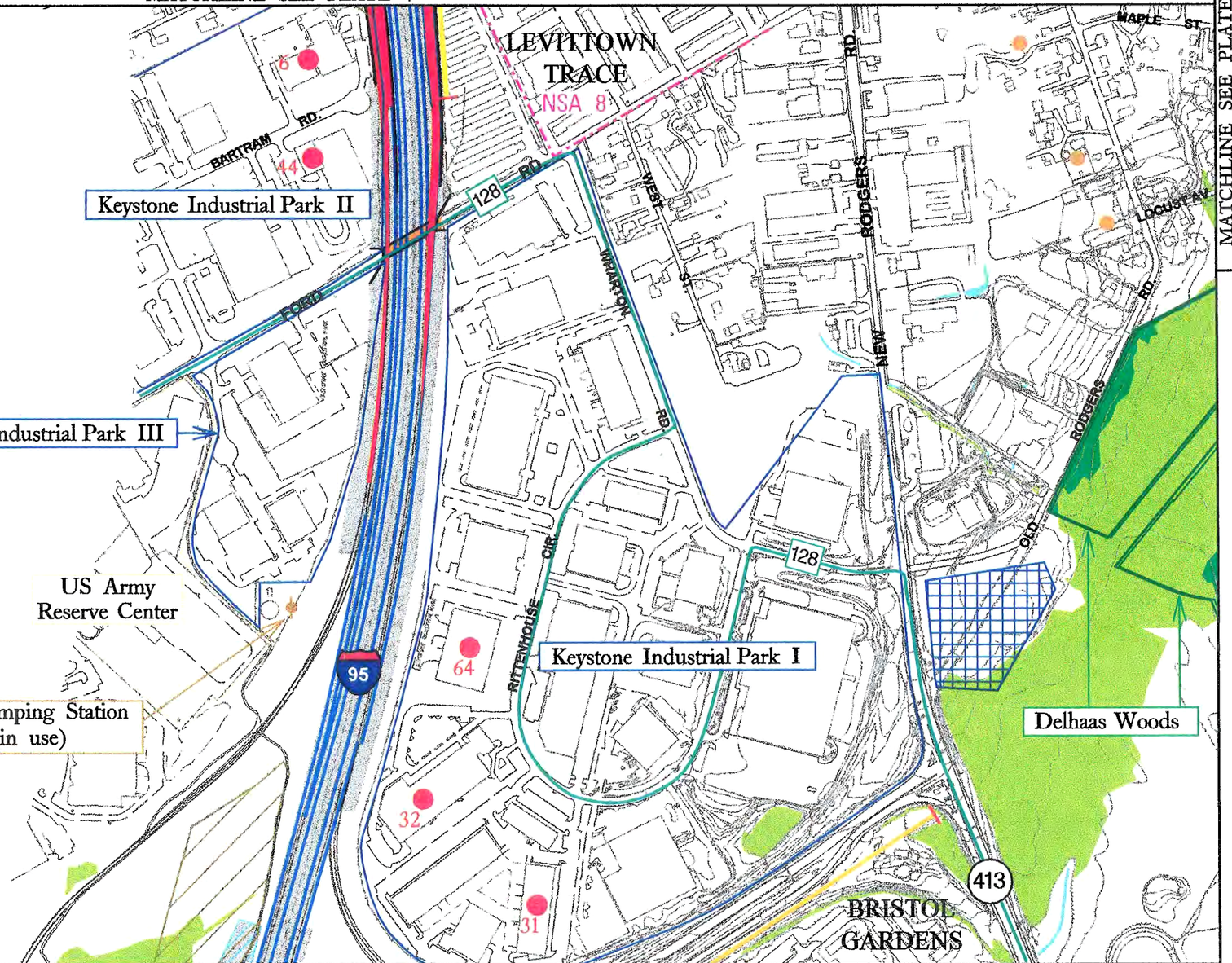
I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 5A
FLYOVER A ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

PREFERRED

MATCHLINE SEE PLATE 4

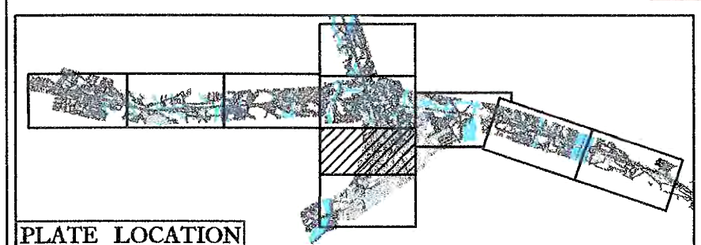


MATCHLINE SEE PLATE 8

MATCHLINE SEE PLATE 7

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE–EVALUATED DURING FINAL DESIGN.

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).



Point-of-Crossing South South of the I-276/I-95 point-of-crossing, the **Single Loop A** Alternative would widen I-95 to accommodate ramp and merge lanes associated with the direct connection. This plate shows the southern end of the proposed noise wall associated with the I-276/I-95 Interchange Project that would reduce traffic noise levels at Levittown Trace. The eastern end of the existing noise wall for Bristol Gardens was constructed as part of the I-95/PA 413 Project. There are no impacts to residential or public facilities in this area. A stormwater management facility proposed west of I-95 would impact forestland. A wetland replacement site for the I-95/PA 413 Project is located east of New Rodgers Road requiring the relocation of Old Rodgers Road.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp
- Proposed Structure
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Proposed Stormwater Management
- Surveyed Resource (50 years or older)
- Section 4(f) Public Recreational Land
- Existing Noise Abatement
- Potential Noise Abatement
- NSA Boundary
- 59 Potential Sensitive Waste Site
- Surface Water
- Wetlands
- Forest
- I–95 / PA 413 Project Wetland Replacement Site
- 128 SEPTA Bus Route

I–276 / I–95 INTERCHANGE PROJECT

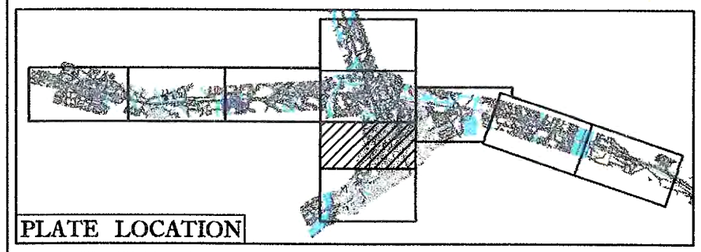
COMPOSITE INVENTORY – PLATE 6
SINGLE LOOP A ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

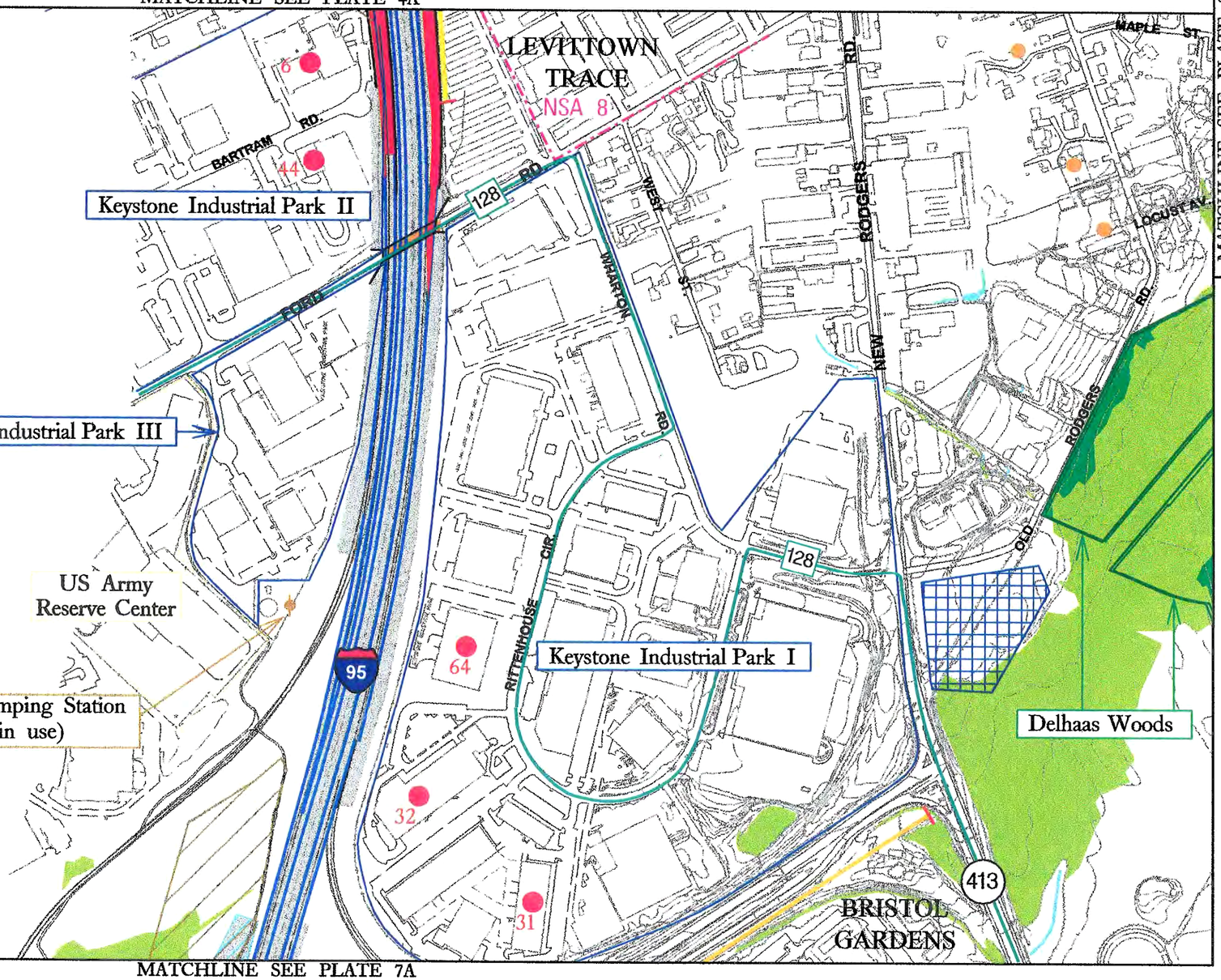
NOT PREFERRED

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I-95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I-95 / PA 413 PROJECT).



MATCHLINE SEE PLATE 4A



MATCHLINE SEE PLATE 7A

MATCHLINE SEE PLATE 8A

Point-of-Crossing South With the **Flyover A** Alternative, south of the I-276/I-95 point-of-crossing, I-95 would be widened to accommodate ramp and merge lanes associated with the direct connection. This plate shows the southern end of the proposed noise wall associated with the I-276/I-95 Interchange Project that would reduce traffic noise levels at Levittown Trace. The eastern end of the existing noise wall for Bristol Gardens was constructed as part of the I-95/PA 413 Project. There are no impacts to residential or public facilities in this area. A stormwater management facility proposed west of I-95 would impact forestland. A wetland replacement site for the I-95/PA 413 Project is located east of New Rodgers Road requiring the relocation of Old Rodgers Road.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp
- Proposed Structure
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Proposed Stormwater Management
- Surveyed Resource (50 years or older)
- Section 4(f) Public Recreational Land
- Existing Noise Abatement
- Potential Noise Abatement
- NSA Boundary
- 59 Potential Sensitive Waste Site
- Surface Water
- Wetlands
- Forest
- I-95 / PA 413 Project Wetland Replacement Site
- 128 SEPTA Bus Route

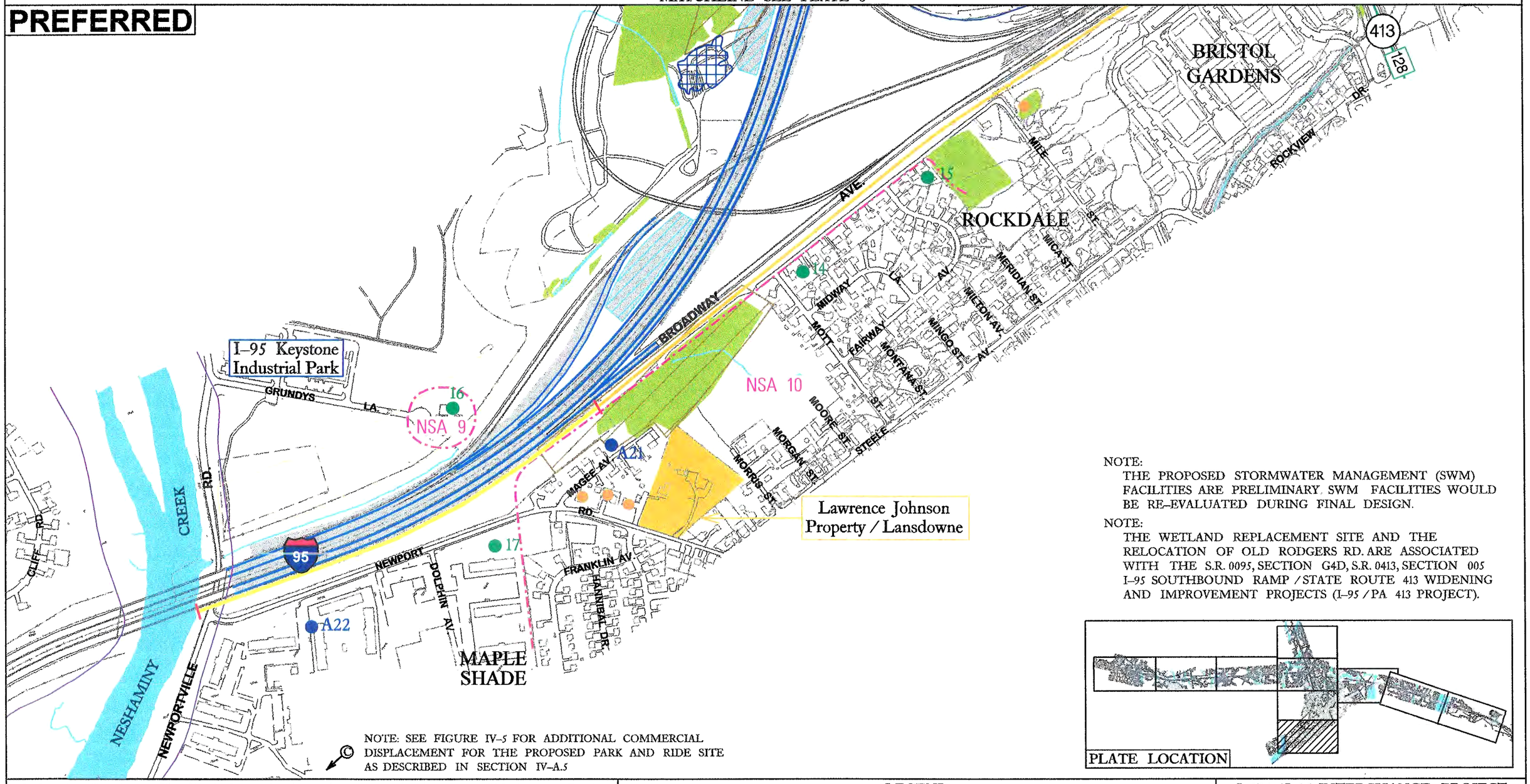
I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 6A
FLYOVER A ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

MATCHLINE SEE PLATE 6

PREFERRED



NOTE: SEE FIGURE IV–5 FOR ADDITIONAL COMMERCIAL DISPLACEMENT FOR THE PROPOSED PARK AND RIDE SITE AS DESCRIBED IN SECTION IV–A.5

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY. SWM FACILITIES WOULD BE RE–EVALUATED DURING FINAL DESIGN.

NOTE:
THE WETLAND REPLACEMENT SITE AND THE RELOCATION OF OLD RODGERS RD. ARE ASSOCIATED WITH THE S.R. 0095, SECTION G4D, S.R. 0413, SECTION 005 I–95 SOUTHBOUND RAMP / STATE ROUTE 413 WIDENING AND IMPROVEMENT PROJECTS (I–95 / PA 413 PROJECT).

Neshaminy Creek The **Single Loop A** Alternative, in the vicinity north of Neshaminy Creek at the southern end of the study area, would involve the widening of I-95 north to the I-95/PA 413 Interchange. There would be no impacts to the Lawrence Johnson House Property/Lansdowne, a historic and Section 4(f) property. A noise wall is proposed to reduce traffic noise levels for the communities of Maple Shade and Rockdale. This wall would be a continuation of an existing noise wall constructed as part of the I-95/PA 413 Project. A wetland mitigation site located west of I-95 was also constructed as part of the I-95/PA 413 Project. There are no impacts to residential or public facilities in this area. Impacts in this area would be limited to forestland as a result of one of the two proposed stormwater management areas west of I-95.

LEGEND

- Proposed Mainline Improvement
- Bridge Reconstruction / Widening
- Limit of Disturbance
- Proposed Stormwater Management
- NRHP Eligible Property
- Existing Noise Abatement
- Surveyed Resource (50 years or older)
- Potential Noise Abatement
- NSA Boundary
- A3 Air Receptor
- 53 Noise Receptor (0.5 hour)
- Surface Water
- Floodplain Limits
- Wetland
- I–95 / PA 413 Project Wetland Replacement Site
- Forest
- Rangeland
- 128 SEPTA Bus Route
- © Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 7
SINGLE LOOP A ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M
N

NOTE:
FLYOVER A ALTERNATIVE IS THE SAME AS SINGLE LOOP A ALTERNATIVE IN THIS VICINITY.
(SEE PLATE 7 ON PAGE A-14)

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 7A
FLYOVER A ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M
N

PREFERRED

Green Trees Park B

Black Ditch Park

NSA 19A

NSA 19B

BRITTANY SPRINGS

NSA 21A

BLOOMSDALE GARDENS

NSA 21B

NSA 20A

NSA 20A(2)

NSA 20B

MAYFIELD TERRACE

District Court 1–3

Green Trees Park A

Bristol Twp. Municipal Campus

Bristol Twp. Senior Center

Bristol Twp. Building

Bristol Twp. Police Dept.

Newportville Co. 82

LAUREL BEND

Brookside Park

Laurel Bend Park

Bristol Twp. Recreation Field

MARGO GARDENS

St. Mary's Ukrainian Church

Woven Hearts Alternative Living Services

Wastewater Pumping Station

Delhaas Woods

Delhaas Woods

MAGNOLIA LAKE

Silver Lake Park

Magnolia Industrial Park

PECO PROPERTY

EXISTING

FUTURE

MATCHLINE SEE PLATE 4

MATCHLINE SEE PLATE 9

MATCHLINE SEE PLATE 6

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

PLATE LOCATION

Point-of-Crossing East The **Single Loop A** Alternative, east of the I-276/I-95 point-of-crossing, would involve widening of existing I-276 from two to three lanes in each direction and continuing ramp construction from the interchange. Noise walls are proposed in this area for the following communities and parks: Mill Creek Falls, Green Trees Park B, Brittany Springs, Black Ditch Park, Bloomsdale Gardens, Bristol Township Municipal Campus, Mayfield Terrace, Green Trees Park A and Silver Lake Park. There are no impacts to residential or public facilities in this area. Impacts would be primarily confined to the areas of ramp construction and include wetland, floodplain and forestland resources. Existing I-276 would be redesignated as I-95, making I-95 continuous into New Jersey and northward along the New Jersey Turnpike.

LEGEND

- Proposed Mainline Improvement
- Proposed Ramp
- Proposed Structure
- Bridge Reconstruction / Widening
- Proposed Stormwater Management
- Section 4(f) Public Recreational Land
- Surveyed Resource (50 years or older)
- Limit of Disturbance
- PECO Property
- Potential Noise Abatement
- NSA Boundary
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- Floodplain Limits
- SL-5 Surface Water / Impact ID
- E29 Wetlands / Impact ID
- Forest
- Rangeland
- 129 SEPTA Bus Route

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 8
SINGLE LOOP A ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000)

0Ft 500Ft 1,000Ft

0M 152M 304M

NOT PREFERRED

Green Trees Park B
NSA 19A
NSA 19B
BRITTANY SPRINGS
Black Ditch Park
NSA 21A
BLOOMSDALE GARDENS
NSA 21B
FLY-7
E24
FLY-8
E16
FLY-9
FLY-10
E29
A14
38
E28
District Court 1-3
NSA 20A
NSA 20A(2)
MAYFIELD TERRACE
Bristol Twp. Municipal Campus
Bristol Twp. Senior Center
Green Trees Park A
Bristol Twp. Building
Bristol Twp. Police Dept.
Newportville Co. 82
PECO PROPERTY
E15
40
A15
41
E18B
276
95
24
EXISTING
FUTURE
NSA 20B
MAGNOLIA LAKE
Magnolia Industrial Park
LAUREL BEND
Bristol Twp. Recreation Field
Brookside Park
Laurel Bend Park
MARGO GARDENS
St. Mary's Ukrainian Church
Woven Hearts Alternative Living Services
Wastewater Pumping Station
Delhaas Woods
Delhaas Woods
Silver Lake Park
MATCHLINE SEE PLATE 4A
MATCHLINE SEE PLATE 6A
MATCHLINE SEE PLATE 9A
MATCHLINE

NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES AND CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

PLATE LOCATION

Point-of-Crossing East East of the point-of-crossing, the **Flyover A** Alternative, would involve widening of existing I-276 from two to three lanes in each direction and continuing ramp construction from the interchange. Noise walls are proposed in this area for the following communities and parks: Mill Creek Falls, Green Trees Park B, Brittany Springs, Black Ditch Park, Bloomsdale Gardens, Mayfield Terrace, Bristol Township Municipal Campus, Green Trees Park A and Silver Lake Park. There are no impacts to residential or public facilities in this area. Impacts would be primarily confined to the areas of ramp construction and include wetland, floodplain and forestland resources. Existing I-276 would be redesignated as I-95, making I-95 continuous into New Jersey and northward along the New Jersey Turnpike.

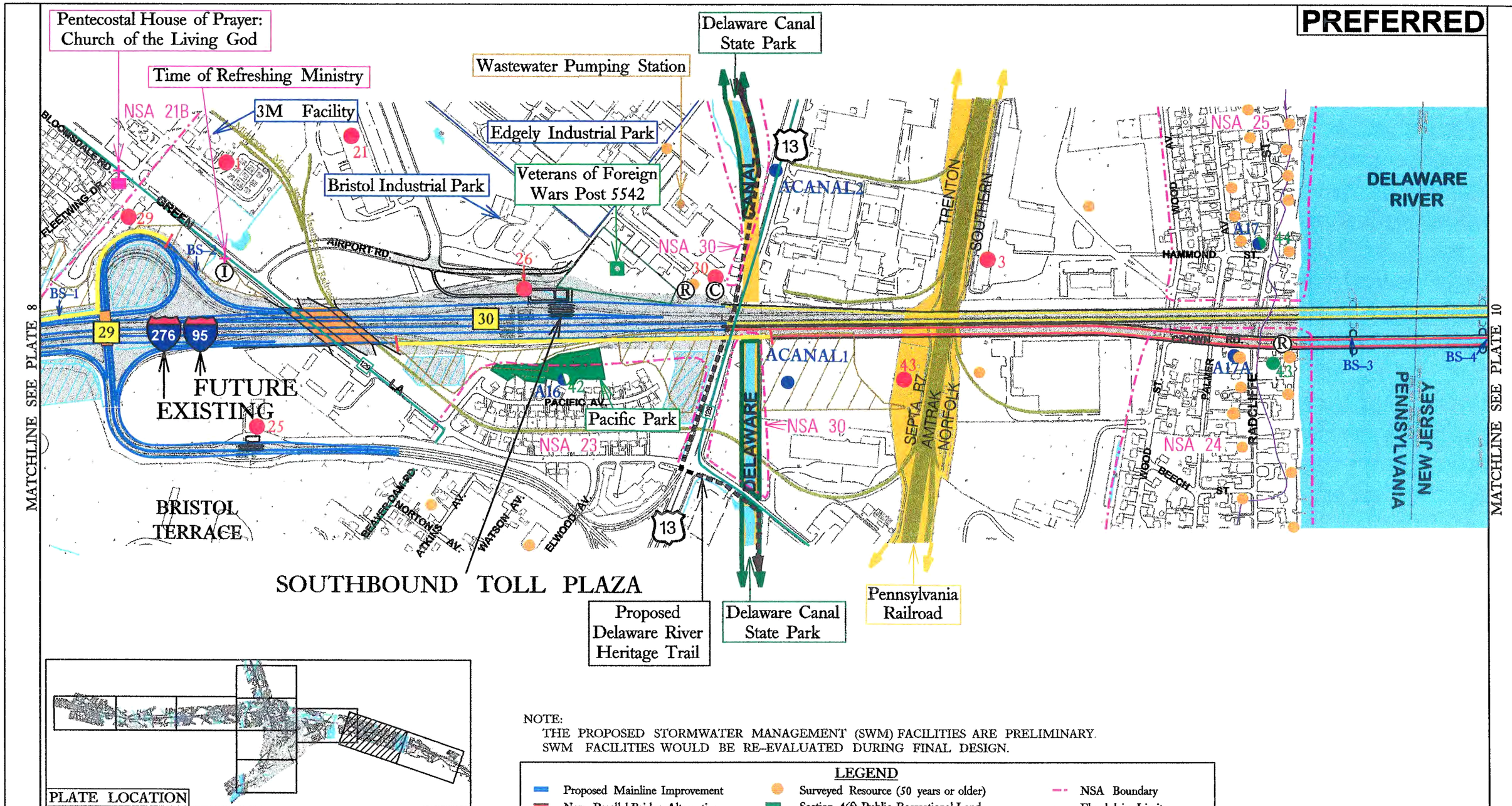
LEGEND

- Proposed Mainline Improvement
- Proposed Ramp
- Proposed Structure
- Bridge Reconstruction / Widening
- Proposed Stormwater Management
- Section 4(f) Public Recreational Land
- Surveyed Resource (50 years or older)
- Limit of Disturbance
- PECO Property
- Potential Noise Abatement
- NSA Boundary
- 53 Noise Receptor (0.5 hour)
- A1 52 Air and Noise Receptor
- Floodplain Limits
- FLY-6 Surface Water / Impact ID
- E29 Wetlands / Impact ID
- Forest
- Rangeland
- 129 SEPTA Bus Route

I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 8A
FLYOVER A ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY. SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

Bridge Element, PA From Interchange 29 to the Delaware River, **Bridge South** would involve modifying the existing toll plaza (Interchange 30), widening existing I-276 from four to six lanes, constructing an additional Delaware River Turnpike Bridge south of the existing bridge and redesignating existing I-276 to I-95. Noise walls are proposed for Bloomsdale Gardens (continued from Interchange Element) and for Pacific Avenue residents and Pacific Park. There would be one commercial, one institutional and two residential displacements. Bridge South would affect, although not adversely the property setting of the Delaware Canal, a National Historic Landmark, and require minimal Section 4(f) use of the Pennsylvania Railroad property. Bridge South would not impact potential archaeological resources.

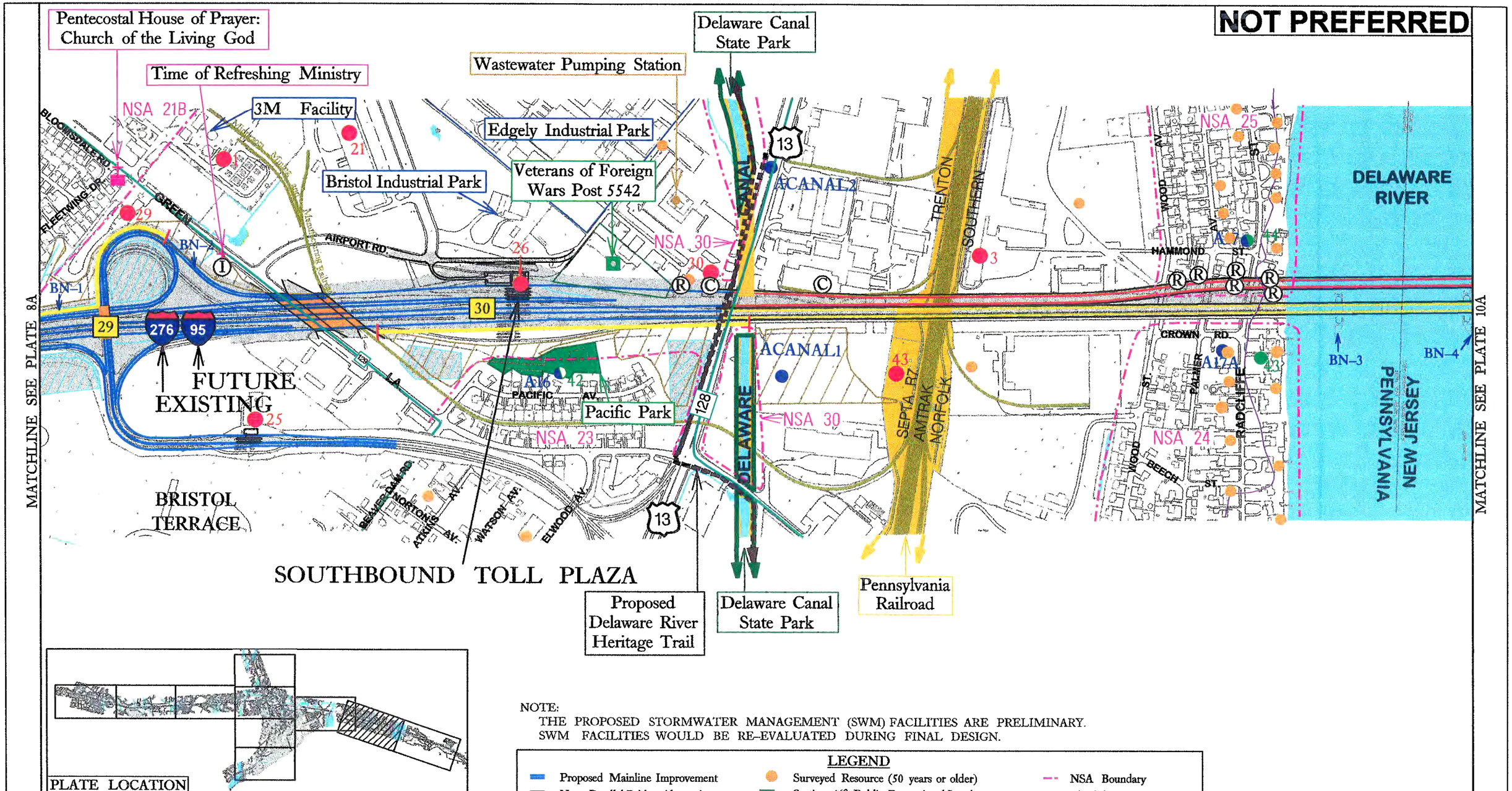
LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade Of Existing Bridge
- Bridge Reconstruction / Widening
- Limit of Disturbance
- 29 Existing I-276 Interchange
- Proposed Stormwater Management
- 59 Potential Sensitive Waste Site
- 129 SEPTA Bus Route
- Proposed Multi-Use Trail
- Surveyed Resource (50 years or older)
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Potential Noise Abatement
- 53 Noise Receptor (0.5 hour)
- 42 Noise Receptor (24 hours)
- A1 52 Air and Noise Receptor
- A17 Air Receptor
- NSA Boundary
- Floodplain Limits
- Railroad
- Forest
- BS-1 Surface Water / Impact ID
- R Residential Displacement
- C Commercial Displacement
- I Institutional Displacement

I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 9
BRIDGE SOUTH ALTERNATIVE
PREFERRED ALTERNATIVE

1 In = 500 Ft (1 : 6,000) 0Ft 500Ft 1,000Ft 0M 152M 304M



NOTE:
THE PROPOSED STORMWATER MANAGEMENT (SWM) FACILITIES ARE PRELIMINARY.
SWM FACILITIES WOULD BE RE-EVALUATED DURING FINAL DESIGN.

Bridge Element, PA From Interchange 29 to the Delaware River, **Bridge North** would involve modifying the existing toll plaza (Interchange 30), widening existing I-276 from four to six lanes, constructing an additional Delaware River Turnpike Bridge north of the existing bridge and redesignating existing I-276 to I-95. Noise walls are proposed for Bloomsdale Gardens (continued from Interchange Element) and for Pacific Avenue residents and Pacific Park. There would be seven residential, one institutional and two commercial displacements. Bridge North would require minimal Section 4(f) use of both the Delaware Canal, which is a National Historic Landmark, and the Pennsylvania Railroad property. Bridge North would not impact potential archaeological resources.

LEGEND

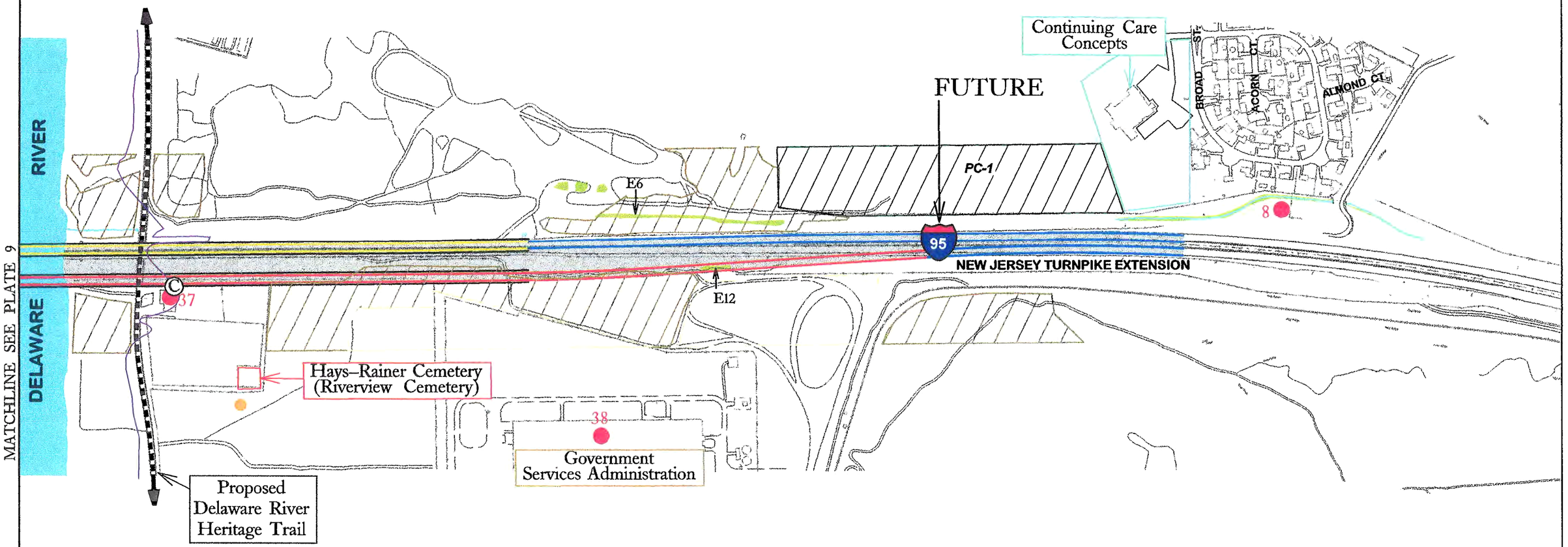
- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade Of Existing Bridge
- Bridge Reconstruction / Widening
- Limit of Disturbance
- 29 Existing I-276 Interchange
- Proposed Stormwater Management
- 59 Potential Sensitive Waste Site
- 129 SEPTA Bus Route
- Proposed Multi-Use Trail
- Surveyed Resource (50 years or older)
- Section 4(f) Public Recreational Land
- Public Parkland (Delaware State Park) and NRHP Listed Property (Delaware Canal)
- NRHP Eligible / Listed Property
- Potential Noise Abatement
- 53 Noise Receptor (0.5 hour)
- 42 Noise Receptor (24 hours)
- A1 52 Air and Noise Receptor
- A17 Air Receptor
- NSA Boundary
- Floodplain Limits
- Railroad
- Forest
- BS-1 Surface Water / Impact ID
- R Residential Displacement
- C Commercial Displacement
- I Institutional Displacement

I-276 / I-95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 9A
BRIDGE NORTH ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000) 0Ft 500Ft 1,000Ft 0M 152M 304M

PREFERRED





NOTE:
THE PROPOSED CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY.

Bridge Element, NJ The **Bridge South** Alternative, from the Delaware River east into New Jersey, involves the New Jersey Turnpike Extension and construction of an additional Delaware River Turnpike Bridge to the south of the existing bridge. Modifications proposed for the existing bridge include rehabilitation and seismic retrofitting (to meet present earthquake standards). There would be one commercial displacement but no impacts to residential or public facilities in this area. There would be impacts to forestland associated with the new bridge structure located south of the existing bridge. The proposed Delaware River Heritage Trail, a Section 4(f) resource, would not be impacted. This trail, currently being created by the National Park Service, is envisioned as a loop, extending from Morrisville to Philadelphia in Pennsylvania and Trenton to Palmyra in New Jersey, crossing the river via the Tacony-Palmyra and Calhoun Street Bridges. Bridge North would impact one potential archaeological resource in New Jersey.

LEGEND

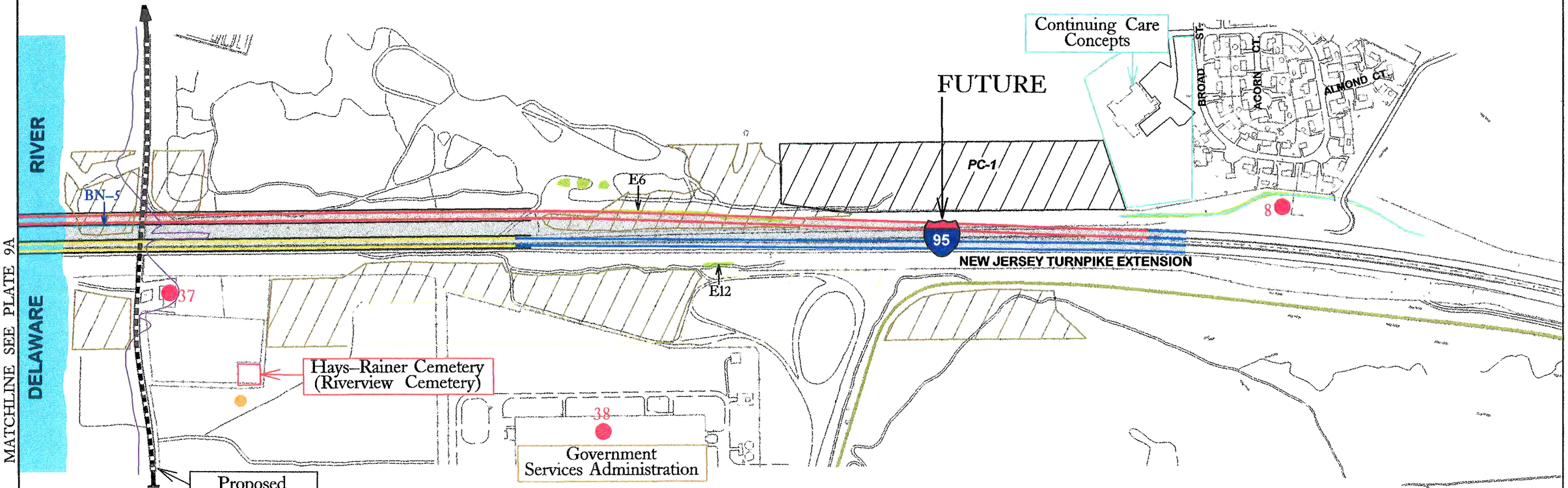
- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade Of Existing Bridge
- Limit of Disturbance
- Proposed Multi–Use Trail
- 59 Potential Sensitive Waste Site
- Floodplain Limits
- Surface Water
- E6 Wetlands / Impact ID
- Surveyed Resource (50 years or older)
- Farmland
- PC-1 Farmland Ownership Designation
- Forest
- Rangeland
- © Commercial Displacement

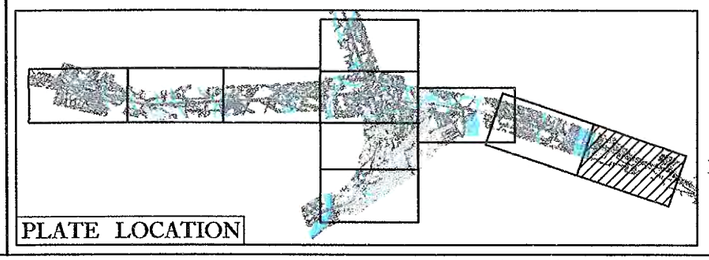
I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 10
BRIDGE SOUTH ALTERNATIVE
PERFERRED ALTERNATIVE

1 In=500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

NOT PREFERRED





NOTE:
THE PROPOSED CANDIDATE WETLAND REPLACEMENT SITES (CWRS) ARE PRELIMINARY.

Bridge Element, NJ The **Bridge North** Alternative, from the Delaware River east into New Jersey, involves the New Jersey Turnpike Extension and construction of an additional Delaware River Turnpike Bridge to the north of the existing bridge. Modifications proposed for the existing bridge include rehabilitation and seismic retrofitting (to meet present earthquake standards). There are no impacts to residential, commercial or public facilities in this area. There would be impacts to wetlands and forestland associated with the new bridge structure located north of the existing bridge. The proposed Delaware River Heritage Trail, a Section 4(f) resource, would not be impacted. This trail, currently being created by the National Park Service, is envisioned as a loop, extending from Morrisville to Philadelphia in Pennsylvania and Trenton to Palmyra in New Jersey, crossing the river via the Tacony-Palmyra and Calhoun Street Bridges. Bridge North would impact one potential archaeological resource in New Jersey.

LEGEND

- Proposed Mainline Improvement
- New Parallel Bridge Alternative
- Upgrade Of Existing Bridge
- Limit of Disturbance
- Proposed Multi–Use Trail
- 59 Potential Sensitive Waste Site
- Floodplain Limits
- Surveyed Resource (50 years or older)
- BN–5 Surface Water / Impact ID
- E6 Wetlands / Impact ID
- Farmland
- PC-1 Farmland Ownership Designation
- Forest
- Rangeland
- © Commercial Displacement

I–276 / I–95 INTERCHANGE PROJECT

COMPOSITE INVENTORY – PLATE 10A
BRIDGE NORTH ALTERNATIVE
NOT PREFERRED

1 In = 500 Ft (1 : 6,000)
0Ft 500Ft 1,000Ft
0M 152M 304M

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APPENDIX B

COOPERATING AGENCY CORRESPONDENCE

APPENDIX B
COOPERATING AGENCY CORRESPONDENCE

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United States Army Corps of Engineers, Regulatory Branch (November 16, 1994) ..... B-2, Column 2

United States Environmental Protection Agency, Region III (March 23, 1995) ..... B-2, Column 3

United States Department of Transportation, United States Coast Guard, Fifth District (July 18, 2000) ..... B-3, Column 2

Pennsylvania Department of Environmental Protection, Southeast Regional Office ..... B-3, Column 3

U.S. Department of Transportation
United States Coast Guard

Commander (ob)
Fifth Coast Guard District
c/o Commander (obr)
First Coast Guard District

Bldg. 135A
Governors Island
New York, NY 10004
(212) 668-7994

16591/121.2H/
Del. Riv/NJ
NOV 24 1993

Mr. Barry J. Schoch
KCI Technologies
3220 Tillman Drive
Suite 215
Bensalem, PA 19020-2083

Dear Mr. Schoch:

This responds to your letter of 9 November 1993 concerning a proposed Pennsylvania Turnpike/I-95 Interchange Study.

The Coast Guard must issue a bridge permit for any proposed new crossing of the Delaware River. For that reason, we request that we be provided a copy of appropriate planning documents and be included in scoping and other such meetings. It is our understanding that the Federal Highway Administration would be the lead federal agency under the National Environmental Policy Act (NEPA) and the U. S. Coast Guard would, therefore, likely become a cooperating agency.

Mr. Ernie Feemster of this office has been assigned project manager and may be contacted at the number above if you have questions or desire to discuss this matter further.

Sincerely,

for W.C. HEMING
Bridge Administrator-NY
Fifth Coast Guard District
By direction of the District Commander

Copy: FHWA, New Jersey Div.
FHWA, Pennsylvania Div.

CENAP-OP-R
WINKLER/df/6732
November 14, 1994

NOV 16 1994

HASSETT
GIANFRANCO
JOHNSON
JONES

Regulatory Branch

SUBJECT: CENAP-OP-R-199300033-11
I-95/PA Turnpike Interchange

Mr. Manuel A. Marks
Division Administrator
Federal Highway Administration
Courthouse and Federal Building
228 Walnut Street
P.O. Box 1086
Harrisburg, Pennsylvania 17108-1086

Dear Mr. Marks:

This is in regard to your letter dated October 28, 1994 in which you requested that the U.S. Army Corps of Engineers become a cooperating agency with respect to the preparation of an Environmental Impact Statement (EIS) to evaluate an interchange between I-95 and the Pennsylvania Turnpike (I-276) in Bucks County, Pennsylvania.

In accordance with your request, Philadelphia District agrees to participate as a cooperating agency in the preparation of the environmental documentation for the above referenced project.

Ms. Jacqueline Winkler, Regulatory Branch, is this office's point of contact for the project. She can be reached at (215) 656-6732. Future correspondence regarding the EIS should reference U.S. Army Corps of Engineers file number CENAP-OP-R-199300033-11.

If you should have any questions concerning this letter, please contact Mr. Frank J. Cianfrani, Chief, Regulatory Branch at (215) 656-6725.

Sincerely,

Robert P. Magnifico
Lieutenant Colonel, Corps of Engineers
District Engineer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

MAR 23 1995

Mr Manuel A. Marks
Division Administrator
Federal Highway Administration
Courthouse and Federal Building
228 Walnut Street
P.O. Box 1086
Harrisburg, Pa. 17108-1086

Re: I-95/Pennsylvania Turnpike Interchange
I-95, Section TPK
Bucks County, Pennsylvania
Cooperating Agency Agreement

Dear Mr. Marks:

Thank you for your letter requesting EPA Region III to be a cooperating agency in the preparation of an Environmental Impact Statement or appropriate environmental documentation for the I-95, Section TPK, I-95 Turnpike Interchange, Bucks County, Pennsylvania.

We welcome the opportunity to participate as a cooperating agency in the development of this project. Our role as a cooperating agency will consist of providing expanded scoping comments on general NEPA compliance and Section 404 issues. Generally, EPA is requested as a cooperating agency due to our Special Expertise in the areas of NEPA compliance and the Section 404 (B) (1) Guidelines. EPA also has discretionary veto authority for the Section 404 permit under Section 404 (c) of the Clean Water Act. Our responsibilities as a cooperating agency do not preempt our regulatory and review responsibilities under Section 309 of the Clean Air Act and Section 404 of the Clean Water Act.

We agree that the regional integrated NEPA and Section 404 process should be used for this project as outlined in the Interagency Consensus Agreement of July 23, 1992. We expect that the cooperative team approach utilized on other projects will result in a high quality NEPA document and an environmentally sound project. EPA looks forward to working with you to identify the least damaging practicable alternative for this project.

We look forward to working with you on this project. If you have any questions regarding our role as cooperating agency, please feel free to contact Ms. Denise M. Rigney of my staff at (215) 597-7316.

Sincerely,

Roy E. Denmark, Jr.
NEPA Review Coordinator

U.S. Department of Transportation
United States Coast Guard

Commander
United States Coast Guard
Atlantic Area

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol:
Phone: (757)398-6587

16590
July 18, 2000

Mr. James A. Cheatham
U.S. Dept. of Transportation
Federal Highways Administration
228 Walnut Street, Room 536
Harrisburg, PA 17101-1720

Dear Mr. Cheatham:

This is in response to your June 27 letter requesting Coast Guard participation as a Cooperating Agency for the Interstate Highway connection project between I-276 and I-95 in Bucks County, Pennsylvania and Burlington County New Jersey.

This reply confirms our intent to be a Cooperating Agency for this project. Please supply for our review, copies of the Environmental Impact Statement and any other pertinent documents.

If you have any questions regarding this matter, please contact Mr. Terrance Knowles, at the phone number or address shown above.

Sincerely,

Ann B. Deaton
Chief, Bridge Administration Section
By direction of the Commander
Fifth Coast Guard District

Copy: Acs

Pennsylvania Department of Environmental Protection
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
March 9, 2001

Southeast Regional Office

610-832-6028
Fax 610-832-6022

Received
MAR 14 2001
KCI Technologies, Inc.

Mr. James A. Cheatham
U.S. Department of Transportation
Federal Highways Administration
228 Walnut Street
Room 536
Harrisburg, PA 17101-1720

Re: I-95/Pennsylvania Turnpike Interchange
Bucks County, Pennsylvania
Cooperating Agency Agreement

Dear Mr. Cheatham:

In 1995, the Pennsylvania Department of Environmental Protection agreed by letter to participate in the above referenced project as a "cooperating agency," as defined in 40 C.F.R. Section 1508.5. Currently, the DEP, the Pennsylvania Turnpike Commission, and the Federal Highway Administration cannot locate this letter.

This second letter serves as a replacement agreement by the Pennsylvania Department of Environmental Protection to serve as a cooperating agency on this project. The DEP has the authority under Section 1508.5 to serve as a cooperating agency and to perform the duties of such agency as described in 40 C.F.R. Part 1501. We look forward to continuing cooperation between all agencies involved.

If you have any further questions, please contact Ms. Carol B. Knickerbocker at 610-832-6124.

Sincerely,

John J. Kennedy, P.E.
Assistant Director
Southeast Regional Office

cc: Mr. Troup
Mr. Haines
Ms. Knickerbocker
Re 30 (DC01)68-1

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APPENDIX C
TECHNICAL SUPPORT DATA INDEX

TECHNICAL SUPPORT DATA INDEX

COMMENTS AND COORDINATION

1. Agency Coordination

- Agency Correspondence (1992 to present)
- Plan of Study
- ACM Meeting Minutes
- ACM Handouts

2. Public Involvement

- Public Correspondence (1992 to present)
- Public Workshop #1: February 3-4, 1993
- Public Workshop #2: February 13, 1997
- Public Workshop #3: June 16, 1998
- Public Workshop Comment Forms/Questionnaires
- Public Workshop Advertisements
- Miscellaneous Public Meeting Minutes
- Public Officials Correspondence (1992 to present)
- Public Officials Meeting Minutes
- Community Advisory Committee (CAC) Correspondence (1992 to present)
- CAC Meeting Minutes
- CAC Members List (March 12, 1998)
- Special Purpose Meeting Reports
- Project Newsletters
- Topic Updates
- Project Website
- Public Information Binder
- Newspaper Articles
- Press Releases
- Public Hearing Notice
- Public Hearing Transcript
- Oral Testimony from Public Hearing
- Written Testimony from Public Hearing
- Public Hearing Handouts and Sign-in Sheets
- Intent to Enter Letters
- Intent to Enter Letter Mailing List

TECHNICAL ACCURACY OF SUBJECT FILES

1. Engineering

- Typical Sections
- Utilities
- Design Criteria
- Weave Length Analysis
- Functional Classification
- Project Funding Classification

2. Congestion Management System (CMS) Analysis

- CMS Correspondence (1992 to present)
- Coordination Meeting Minutes
- Analysis of CMS Strategies
- Park & Ride/Pool Information
- *Final Congestion Management System Evaluation* (1995)

3. Major Investment Study (MIS) Analysis

- MIS Correspondence (1992 to present)
- MIS Meeting Reports
- Public/Agency Involvement
- FHWA/FTA/Agency Endorsements
- MPO Endorsement/Resolution
- *Final Major Investment Study* (1998)

4. Project Need

- Project Need Correspondence (1992 to present)
- Existing and Projected (No-Build) Traffic Volume Analysis
- Level of Service Analysis
- I-276/I-95 Interchange Project Needs Study Peak Hour Capacity Analysis Binder
- I-276/I-95 Interchange Project Level of Service Analysis Binder
- I-276/I-95 Interchange Project Ramp Capacity Analysis Binder
- Accident Analysis/Accident Reports
- Deficiency Summary
- Regional and Local Roadway Systems
- Economic Development Data
- Planning and Transportation Context
- *Pennsylvania Turnpike/Interstate 95 Interchange Project Needs Study* (1993)

5. Traffic and Transportation and Energy Analysis

- Traffic and Transportation Correspondence (1992 to present)
- Logical Termini
- Projected (Build Alternative) Traffic Volume Analysis
- Levels of Service Methodology
- I-276/I-95 Interchange Project Highway Capacity Analysis Binder
- Energy

6. Alternatives

- Correspondence (1992 to present)
- Alternatives Considered and Dismissed Maps and Plans
- Alternatives Studied in Detail (concurrence)
- Alternatives Studied in Detail Maps and Plans
- *Phase I Preliminary Alternatives Analysis* (1998)
- *Phase II Detailed Alternatives Development and Review Handout* (1998)

NATURAL RESOURCES

1. Geology and Groundwater Hydrology

- Correspondence (1992 to present)
- Geologic Formations
- Public and Private Water Supply Data
- Sole Source Aquifers & Well Head Protection Areas
- References

2. Soils and Erosion

- Correspondence (1992 to present)
- County Soil Survey Mapping
- Soils Associations, Series, Drainage Classes and Engineering Properties
- List of Hydric Soils
- References

3. Surface Water Hydrology and Floodplains

- Correspondence (1992 to present)
- Waterways Mapping
- FEMA and FIRM Mapping
- Hydrologic and Hydraulic Studies/Reports
- Navigable Waterways
- References

4. Coastal Zone Information

- Correspondence (1992 to present)
- Coastal Zone Management Plan
- Consistency Determination

5. Water Quality and Aquatic Biota

- Correspondence (1992 to present)
- Water Quality Data (STORET, PFBC, DRBC)
- Aquatic Biota Data
- Protected Designated Water Uses, Chapter 93
- Stocked Trout Streams
- Wild and Scenic Rivers Letter
- References

6. Wetlands

- Correspondence (1992 to present)
- Meetings/Fieldviews
- NWI Mapping
- List of Hydric Soils
- Impact Calculations
- Wetland Functional Assessment
- Individual Wetland Finding Data

- Letter of Interpretation
- ACOE Line Verification Letter
- *Wetland Identification, Delineation and Assessment Report* (2000)
- References

7. Vegetation and Wildlife

- Correspondence (1992 to present)
- Land Use and Cover Type Maps (Aerials)
- PGC Fish and Wildlife Database Printout
- Threatened and Endangered Species (T&E) Letters from Agencies (USFWS, PGC, PFBC, PNDI)
- T&E Species Pitfall Trap Data Sheets
- T&E Impact Calculations
- *Habitat Evaluations and Endangered Frog Surveys Along the Proposed I-276 and I-95 Interchange Project Study Corridor, in Bucks County, Pennsylvania* (1999)
- *Endangered Plant Species Report for I-95/I-276 Interchange Project Property* (2000)
- *Redbelly Turtle Studies at the I-276/I-95 Interchange Project, Bristol Township, Bucks County, Pennsylvania* (2001)
- *An Intensive Survey for Ironcolor Shiner (Notropis Chalybaeus) within Waterways Associated with the Proposed Connection of the I-276 and I-95* (2002)
- *Plant Species of Special Concern for the I-276/I-95 Interchange Project Site* (2002)
- *The Biological Assessment of the Shortnose Sturgeon (Acipenser brevirostrum) of the Delaware River Estuary* (2003)
- References

8. Farmlands

- Correspondence (1992 to present)
- SCS List of Prime, Statewide and Locally Important Farmland Soils & Maps
- Form AD-1006
- List/Map of Farms Protected by Acts 43, 319, 515
- Information on Private Easements
- Maps of Active Farmland Parcels
- Farm Owner/ Operator Surveys
- ALCAB Adjudication
- References

MANMADE ENVIRONMENT

1. Sensitive Waste
   - Correspondence (1992 to present)
   - Paper Study Performed
   - Field "windshield" Study Performed
   - *I-95/Pennsylvania Turnpike Interchange, Bristol, Bensalem, Middletown Townships, Bucks County Pennsylvania; Burlington County, New Jersey, Hazardous Waste Preliminary Area Reconnaissance* (1995)
   - *I-276/I-95 Interchange Improvements; Bensalem Township, Bucks County, Pennsylvania, Hazardous Waste Investigation, Preliminary Area Reconnaissance/Initial Site Assessment (PAR/ISA)* (1999)
   - *I-276/I-95 Interchange Improvements Park and Ride Facility Hazardous Waste Investigation PAR/ISA, Bristol Township, Bucks County, Pennsylvania* (2000)
   - References

2. Noise
   - Correspondence (1992 to present)
   - Maps of Receptor Site Locations and Links Used in Analysis
   - Monitoring Data Sheets/Traffic Counts
   - Traffic Used for Analysis
   - Model Used
   - Model Check Results
   - Stamina Input and Output Files
   - Optima Input and Output Files
   - Future Noise Level (FNL) Calculation Adjustments
   - Reasonableness Analysis Sheets, Signed
   - Noise Meter and Calibrator Certificates
   - Assumptions Used for Analysis
   - *Final Noise Abatement Analysis Report; I-276/I-95 Interchange Project; Bucks County, Pennsylvania and Burlington County, New Jersey* (2001)
   - *Final Noise Abatement Analysis Report; I-276/I-95 Interchange Project; Bucks County, Pennsylvania and Burlington County, New Jersey; Volume I, Appendix A, B, C, E, & F* (2001)
   - *Final Noise Abatement Analysis Report; I-276/I-95 Interchange Project; Bucks County, Pennsylvania and Burlington County, New Jersey; Volume II, Appendix D* (2001)
   - *Final Noise Abatement Analysis Report; I-276/I-95 Interchange Project; Bucks County, Pennsylvania and Burlington County, New Jersey; Volume III, Appendix D continued* (2001)
   - *Final Noise Abatement Analysis Report; I-276/I-95 Interchange Project; Bucks County, Pennsylvania and Burlington County, New Jersey; Volume IV, Appendix D continued* (2001)
   - *Addendum to Final Noise Abatement Analysis Report, I-276/I-95 Interchange Project, Bucks County, Pennsylvania and Burlington County, New Jersey* (2002).
   - References

3. Air Quality
   - Correspondence (1992 to present)
   - Maps of Receptor Site Locations and Links Used in Analysis
   - Traffic Used for Analysis
   - CALINE3/CAL3QHC Input and Output Files
   - Mobile Model Used
   - Mobile Input Files and Output Files
   - Background CO Concentrations Used
   - TIP Conformity Documentation
   - Conformity Statement Data
   - *Final Air Quality Technical Report Volume I; I-276/I-95 Interchange Project, Bucks County, Pennsylvania and Burlington County, New Jersey* (2001)
   - *Final Air Quality Technical Report Volume II, I-276/I-95 Interchange Project, Bucks County Pennsylvania and Burlington County, New Jersey; Appendices F & G- Technical Files* (2001)
   - References

4. Visual
   - List/Map/Photos of Sensitive Receptors

SOCIOECONOMIC INFORMATION

1. Social Environment
   - Comprehensive plans
   - References

2. Land Use and Zoning
   - Land Use Plans (existing and future)
   - Existing and Proposed Development Plans and Information (Green sites)
   - Redevelopment Plans (Brown sites)
   - Recreation Plans
   - Tax maps
   - Zoning Maps (existing and future)
   - References

3. Population and Housing
   - Census Data
   - Population Trends
   - Available Housing
   - References

4. Economy and Employment
   - List and Map of Area and Local Employers
   - Map of Commercial/Industrial Centers
   - Economic Trends/Forecasts
   - Potential Commercial Displacements
   - References

5. Community Facilities
   - List and Map of Local Facilities and Services
   - Detailed Information on Each Facility/List of Contacts for Each Facility
   - Map of Service Areas for Facilities and Planned Expansion

6. Community Cohesion

- List and Map of Neighborhoods
- Potential Residential Displacements

7. Municipal Finances

- Commercial/Residential Displacements Property Values
- Millage Rates
- Property Investigation
- Calculations to Determine Tax Base Impacts
- Tax Maps
- References

8. Environmental Justice

- Correspondence (1992 to present)
- Block Group Data
- Environmental Justice Report

9. Economic Impact Study

- Correspondence (1992 to present)
- Meeting Minutes
- *The Value of Connections: The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange* (2000)

CULTURAL RESOURCES

1. Historic Resources

- Correspondence (1992 to present)
- List and Map of National Register Eligible or Listed Properties
- *Final Report Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Bensalem, Bristol, and Middletown Townships, Bucks County, Pennsylvania* (1998)
- *Final Report Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Burlington, Florence, Mansfield Townships, Burlington County, New Jersey* (1999)
- *Final Report Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Addendum NJ-1: Delaware River Crossing Vicinity, Florence and Burlington Townships, Burlington County, New Jersey* (1999)
- *Final Report Identification and Determination of Eligibility of Historic Architectural Resources in the Vicinity of the US Interstate 276/US Interstate 95 Interchange, Addendum PA-2: Delaware River*
- *Crossing and West Extension Vicinity, Bristol Township, Bucks County, Pennsylvania* (1999)
- *Pennsylvania Turnpike/Interstate 95 Interchange Project Assessment of Effects on Historic Architectural Resources; Bucks County, Pennsylvania; Burlington County, New Jersey Revised Draft Report* (2000)
- *Revised Draft Pennsylvania Turnpike/Interstate 95 Interchange Project; Assessment of Effects on Historic Architectural Resources; Bucks County, Pennsylvania; Burlington County, New Jersey* (2003).
- References

2. Archaeological Resources

- Correspondence (1992 to present)
- Map of Probability Areas for Archaeological Sites and/or Predictive Model
- Impact Calculations
- *I-95/I-276 Interchange Project, Bucks County, Pennsylvania Phase I Management Summary, Phase II Work Plan,* (1997)
- *Management Summary; Phase I Archaeological Investigations; I-95/ Pennsylvania Turnpike Project; Pennsylvania Turnpike Extension (1995)*
- *Phase I Geoarcheological Investigations, I-276 Extension into New Jersey for the I-95/I-276 Interchange Project* (1998)
- References

SECTION 4(F) EVALUATION

- Correspondence (1992 to present)
- Meeting Minutes
- Section 4(f) Document Including: List and Map of 4(f) Properties, Descriptions, Photos, and Avoidance Alternatives
- References

SECONDARY AND CUMULATIVE IMPACTS

- Correspondence (1992 to present)
- Secondary Development and Cumulative Impacts

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APPENDIX D

FARMLAND CONVERSION IMPACT RATING (FORM AD-1006)

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request: January 11, 1999
Name of Project: I-276/I-95 Interchange	Federal Agency Involved: Federal Highway Admin.
Proposed Land Use: Highway Widening	County And State: Burlington County, NJ
	Burlington and Florence Townships
PART II *(To be completed by SCS)*	Date Request Received by SCS: 1/16/99

Does the site contain prime, unique, statewide, or local important farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form).*	☑ Yes	☐ No	Acres irrigated: NA	Average Farm Size: 91
Major Crop(s): CORN/soybean	Farmable Land in Govt. Jurisdiction Acres: 410,000	% 81	Amount of Farmland as Defined in FPPA Acres: 304000	% 74
Name of Farmland Evaluation System Used: LESA	Name of Local Site Assessment System: LESA		Date Land Evaluation Returned by SCS: 2/2/99	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	14.10	13.96		
B. Total Acres to be Converted Indirectly	---	---		
C. Total Acres in Site	14.10	13.96		
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime and Unique Farmland	4.5	8.5		
B. Total Acres Statewide And Local Important Farmland	0	0		
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	<1	<1		
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	>99	>99		
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value of Farmland to be Converted *(Scale of 0 to 100 Points)*	0	0		
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5 (b)*	Maximum Points			
1. Area in Nonurban Use	15	9	15	
2. Perimeter in Nonurban Use	10	10	0	
3. Percent of Site Being Farmed	20	0	0	
4. Protection Provided by State and Local Government	20	0	0	
5. Distance from Urban Builtup Area	--	--	--	
6. Distance to Urban Support Services	--	--	--	
7. Size of Present Farm Unit Compared to Average	10	0	0	
8. Creation of Nonfarmable Farmland	25	0	0	
9. Availability of Farm Support Services	5	5	5	
10. On-Farm Investments	20	0	0	
11. Effects of Conversion on Farm Support Services	25	0	0	
12. Compatibility with Existing Agricultural Use	10	5	5	
TOTAL SITE ASSESSMENT POINTS	160	29	25	
PART VII *(To be completed by Federal Agency)*				
Relative Value of Farmland *(From Part V)*	100	0	0	
Total Site Assessment *(From Part VI above or a local site assessment)*	160	29	25	
TOTAL POINTS *(Total of above 2 lines)*	260	29	25	

Site Selected:	Date of Selection:	Was a Local Site Assessment Used? ☐ Yes ☒ No

Reason for Selection:

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APPENDIX E

DELAWARE VALLEY REGIONAL PLANNING COMMISSION COORDINATION

APPENDIX E
DELAWARE VALLEY REGIONAL PLANNING COMMISSION COORDINATION

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DVRPC Major Investment Study Resolution – Page 1/1

No. B-FY98-004

RESOLUTION

by the Board of the Delaware Valley Regional Planning Commission

MAJOR INVESTMENT STUDY FOR THE PENNSYLVANIA TURNPIKE/I-95 INTERCHANGE

WHEREAS, the Delaware Valley Regional Planning Commission is the designated Metropolitan Planning Organization (MPO) for the Philadelphia, Camden, Trenton and Pottstown Urbanized Areas; and

WHEREAS, the Metropolitan Transportation Planning and Programming regulations, Title 23 CFR 450 Part C Section 450.318, call for the MPO to undertake a study of Major Metropolitan Transportation Investment studies to refine the region's Long-Range Plan; and

WHEREAS, the Pennsylvania Turnpike Commission (PTC) is conducting an Environmental Impact Study (EIS) for a Pennsylvania Turnpike/I-95 Interchange; and

WHEREAS, at the request of the PTC, a Major Investment Study (MIS) was conducted in a cooperative manner consistent with federal planning requirements; and

WHEREAS, a report documenting the MIS study and its recommendations was presented to the DVRPC committees and Board;

NOW, THEREFORE, BE IT RESOLVED by the Board of the Delaware Valley Regional Planning Commission that the Major Investment Study Preferred Alternative "Build with Widening" should be retained on the region's long-range transportation plan as the most prudent investment for effectively addressing the defined transportation needs.

Adopted this 24th Day of July 1997 by the Board of the Delaware Valley Regional Planning Commission.

I do hereby certify that the foregoing is a true copy of a Resolution passed by the Delaware Valley Regional Planning Commission at a meeting duly held on July 24, 1997.

Jean L. McKinney, Recording Secretary

DVRPC Air Quality Conformity Demonstration – Page 1/6

CONFORMITY OF DVRPC'S HORIZONS, THE YEAR 2025 PLAN FOR THE DELAWARE VALLEY

APRIL 2001

A Demonstration of the Conformity of Horizons, the Year 2025 Plan for the Delaware Valley with the Clean Air Act and the State Implementation Plans of Pennsylvania and New Jersey

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

DVRPC Air Quality Conformity Demonstration – Page 2/6

EXECUTIVE SUMMARY

CONFORMITY OF DVRPC's *HORIZONS, THE YEAR 2025 PLAN FOR THE DELAWARE VALLEY*

A Demonstration of the Conformity of *Horizons, the Year 2025 Plan for the Delaware Valley* with the Clean Air Act and the State Implementation Plans of Pennsylvania and New Jersey

INTRODUCTION

This summary describes the process used for the demonstration of the conformity between *Horizons, the Year 2025 Plan for the Delaware Valley*, the Clean Air Act and Pennsylvania and New Jersey *State Implementation Plans*. The conformity demonstration is based on the current final conformity guidance (40 CFR Part 93) which became effective in July, 1997. Pollutants addressed include volatile organic compounds (VOCs), oxides of nitrogen (NOx) and carbon monoxide (CO).

Conformity findings must be based on budgets for both VOC and NOx for all analysis years in both Pennsylvania and New Jersey. There have also been minor changes to the MOBILE 5a(h) model parameters, such as the inspection and maintenance program in both states and new vehicle age distributions in New Jersey. New Jersey has also elected to include Tier 2 controls in its budget. The effect of Tier 2 in New Jersey is also included in DVRPC's emissions analysis.

The completion of *Horizons* extends the Delaware Valley's conformity assessment five years beyond the current horizon year of 2020, out to 2025. This new analysis also incorporates population and employment projections that were approved by the DVRPC Board in June of 1999.

PROJECTS

The regional emissions analysis conducted to demonstrate conformity of the *Year 2025 Plan* included all "non-exempt" projects on principal arterials and higher classifications — that is, those which can impact regional air quality. The projects include all those in the *Plan*, the current *TIP* and those which were introduced in previous *TIPs* which are not yet completed. The complete *Year 2025 Plan* project lists for Pennsylvania and New Jersey are included in Appendix A and B, respectively.

DVRPC Air Quality Conformity Demonstration – Page 3/6

FINDINGS

The *Year 2025 Plan* is found to be in conformity with the Pennsylvania and New Jersey State Implementation Plans based upon Section 404(a) of the Federal conformity rule. Specifically, the analysis meets the following applicable conformity criteria:

(a) The conformity determination must be based on the latest planning assumptions. [93.110]

(b) The conformity determination must be based on the latest emission estimation model available. [93.111]

Travel estimates are based upon population and employment forecasts adopted by the DVRPC Board in June 1999 (regional and county projections) and February 2000 (municipal projections). The travel demand model incorporates significant upgrades to the methods used to show conformity in previous demonstrations. The model parameters have been adjusted to reflect the recent validation and recalibration of the models with the most recent demographic projections, home interviews, highway screenline and transit counts.

In addition, recent upgrades to the travel demand model have been made to satisfy federal requirements for conformity demonstrations. Specifically, (1) peak and off-peak travel are treated separately throughout the model chain, and (2) the entire model is run iteratively using the Evans algorithm to obtain convergence on input and output highway and transit travel speeds.

Vehicle miles of travel (VMT) are estimated at 109.2 million in 2002, with an average speed of 32.0 miles per hour (MPH) in Pennsylvania and 34.7 in New Jersey. Over the period of the analysis, VMT rises while average speeds remain constant, as seen in Table 1.

TABLE 1: VEHICLE MILES OF TRAVEL (VMT) AND AVERAGE SPEED FOR ANALYSIS YEARS

YEAR	VMT	SPEED (MPH) (PA / NJ)
2002	109,216,400	32.0 / 34.7
2005	112,127,300	32.1 / 34.8
2015	121,102,600	32.1 / 34.6
2025	137,679,500	32.5 / 34.8

Mobile source emission factors are generated by MOBILE 5a(h), in accordance with EPA direction and have been revised to reflect Pennsylvania and New Jersey's current emissions control and testing procedures. New Jersey elected to include Tier 2 controls in its budget. The effect of Tier 2 in New Jersey is also included in DVRPC's emissions analysis, as reflected in the MOBILE5a(h) parameters listed in Appendix C.

(c) The MPO must make the conformity determination according to the applicable consultation procedures in 93.112

Opportunity has been provided for public and agency comment on the finding of conformity. The finding has been reviewed by the Interagency Consultation Group, which has met twice during the review period to review the analysis. Items specifically discussed were the model inputs, population and employment projections and the list of projects to be included in the analysis. The Group includes all agencies cited in 93.105.

The DVRPC Regional Transportation Committee and the Regional Citizens Committee were briefed on the *Plan* and given an opportunity to comment. Both committees were asked to recommend approval of the *Plan*. These procedures meet the requirements in Section 404(a) 93.105 of the conformity guidance.

(d) The *Plan* must provide for the timely implementation of TCMs in the SIP. [93.113]

DVRPC Air Quality Conformity Demonstration – Page 4/6

There are currently no *adopted* transportation control measures in the Pennsylvania or New Jersey State Implementation Plans. Therefore, no demonstration of timely implementation is necessary.

(e) The *Plan* must be consistent with the motor vehicle emissions budgets in the applicable implementation plan. [93.118]

The *Plan* results in less emissions than the budgets for all pollutants in each analysis year. Figures 1 and 2 and Tables 6 and 7 show the results of the regional emissions analysis for VOCs and NOx for 2002, 2005, 2015 and 2025. Table 8 shows the results of the emissions analysis for CO, which was done for a portion of the DVRPC region in New Jersey. Federal conformity guidance [93.118] permits interpolation of travel data and emissions in milestone years which are not horizon years in the *Plan*. Travel data, not emissions, were interpolated for 2015.

The emissions analysis must result in less emissions than any *Budget*, if established, for that year or any subsequent year until a budget for a later year becomes effective. All emissions for the analysis years after 2005 are less than the budgets for 2005, the last year for which budgets have been established in Pennsylvania and New Jersey. Pennsylvania has a budget which must be met for the 2002 analysis scenario, and New Jersey has a proposed 2002 budget that has not yet been approved.

New Jersey has new proposed budgets for both VOCs and NOx for 2005 and beyond, and they are shown. These budgets are expected to receive final approval on May 20, 2001, and because of that change in budgets, New Jersey will be shown to demonstrate conformity with both the existing and proposed budgets, as is shown in Figures 1 and 2 and Tables 6 and 7.

(f) The *Plan* must be fiscally constrained. [93.108]

The *Plan* estimates that approximately $35 billion from traditional sources will be available for regional transportation improvements during the period from 2002 through 2025. This estimate assumes that federal transportation legislation will continue to re-authorize funding at current levels, and that both state and local agencies will continue to meet their obligations to match those federal funds.

Since traditional sources are available to cover the full cost of the needs identified in the plan, it can be said that the *Plan* is constrained to reasonably anticipated financial resources. It should be noted, though, that the *Plan* does not identify all of the region's needs during the 24-year period. The *Plan* allocates only $12.5 billion of the anticipated $35 billion funding stream , leaving the remaining monies available for other projects such as maintenance, new transit vehicles, capital projects resulting from ongoing studies described in the *Plan* or other projects whose need is not yet foreseen.

CONCLUSIONS

The *Plan* meets all the criteria for conformity with the Clean Air Act and both the Pennsylvania and New Jersey State Implementation Plans. The evaluation criteria used by the EPA in their review of conformity findings, and DVRPC's response to each criteria, can be seen in Table 2.

Most importantly, forecasted emissions of VOCs, NOx and CO do not exceed the budgets established by the Pennsylvania and New Jersey Departments of Environmental Protection and included in the respective State Implementation Plans. □

DVRPC Air Quality Conformity Demonstration – Page 5/6

FIGURE 1: COMPARISON OF EMISSIONS AND BUDGETS IN PENNSYLVANIA

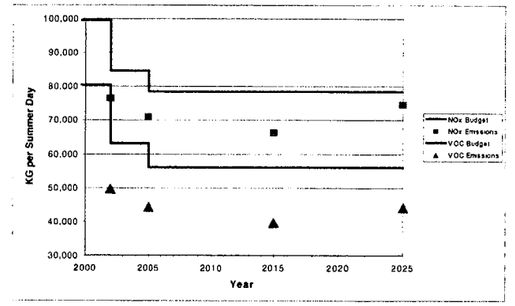
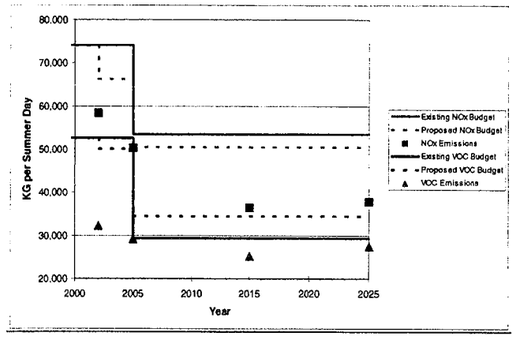


FIGURE 2: COMPARISON OF EMISSIONS AND BUDGETS IN NEW JERSEY



DVRPC Air Quality Conformity Demonstration – Page 6/6

TABLE 2: EVALUATION OF THE CONFORMITY DETERMINATION FOR THE YEAR 2025 PLAN

SECTION	CRITERIA	PAGE	RESPONSE
40 CFR 93.110	Are the conformity determinations based upon the latest planning assumptions ?	3, 12	Yes. The conformity determination utilizes the most recent demographic data (adopted in June 1999 and Feb. 2000), 1996 vehicle registration data in PA (1999 in NJ), and data from a 1997 regional speed survey.
40 CFR 93.111	Is the conformity determination based upon the latest emissions model ?	3, 16	Yes. The conformity determination is based upon the latest EPA emissions model, MOBILE 5a(h).
40 CFR 93.112	Did the MPO make the conformity determination according to the consultation procedures of the conformity rule or the state's conformity SIP?	3, 7	Yes. Public and agency comment on the finding of conformity has been solicited. The finding was reviewed by the Interagency Consultation Group.
40 CFR 93.106(a) (1)	Are the Horizon Years correct?	8	Yes. The years 2002, 2005, 2015 and 2025 are the appropriate horizon years.
40 CFR 93.106(a) (2)(i)	Does the plan quantify and document the demographic and employment factors influencing transportation demand?	12	Yes. The detailed Transportation Analysis Zone level demographic estimates are included in the DVRPC Report: *1997 Zonal Population and Employment Estimates*, Jan. 1999.
40 CFR 93.106(a) (2)(ii)	Is the highway and transit system adequately described in terms of regionally significant additions or modifications to the existing transportation network which the transportation plan envisions to be operational in horizon years?	12, 31	Yes. The additions and modifications to the network utilized in this Conformity Analysis are included in Appendices A and B of this document.
40 CFR 93.108	Is the Transportation Plan Fiscally Constrained?	3	Yes. The *Plan* is constrained to reasonably anticipated financial resources.
40 CFR 93.113(b)	Are TCM's being implemented in a timely manner?	4	There are currently no adopted transportation control measures in the PA or NJ State Implementation Plans.
40 CFR 93.118	For Areas with SIP Budgets: Is the Transportation Plan, TIP or Project consistent with the motor vehicle emissions budget(s) in the applicable SIP?	4	Yes. The *Plan* results in less emissions than the budgets for all pollutants in each analysis year.

DVRPC FY 2003-2006 Transportation Improvement Program – Page 1/2

FY 2003-2006

Transportation Improvement Program

Pennsylvania Subregion

Highway Projects
Final Version

Delaware Valley Regional Planning Commission

DVRPC FY 2003-2006 Transportation Improvement Program – Page 2/2

DVRPC FY 2003-2006 TIP for PA **Final Version**

Pennsylvania - Highway Program

Bucks [redacted]

MPMS# 13347 ***I-95 / PA Turnpike Interchange***
TIP# 0508 Exit 28 to US 130 (NJ) and parts of I-95
New interchange and toll plaza, widening
AQ Code 2015M Bristol Twp.

This is a major Interstate gap completion project which will establish continuity of the Interstate system by joining together I-95 and I-276 in Pennsylvania and facilitate a revised routing of I-95 in Pennsylvania and New Jersey. The project anticipates construction of a full interchange between I-95 and the PA Turnpike, including the relocation of toll plazas, widening I-95 between PA 413 and US 1 from two lanes in each direction to three, and widening the Turnpike between between US 1 and US 13 from two lanes in each direction to three.

This is a partnership project of the PA Turnpike, PennDOT and FHWA. A Major Investment Study was completed in 1997. The Draft Environmental Impact Statement was circulated for comment in 2000 and the Final EIS should be completed during the summer of 2002, with a Record of Decision anticipated by early 2003. Until that time, final decisions can not be made for the right-of-way and construction phases, nor will firm cost estimates be available until the completion of the final design.

Though the total project cost has not yet been determined, recent estimates put it at about $485 million (not including costs that might be associated with the construction of a new bridge or the reconstruction of the existing bridge.) Over $227 million in Federal Aid Interstate construction funds are reserved for the project. Remaining funds will be provided by the PA Turnpike Commission and through other State and Federal sources.

Cost during the TIP period assume 90% federal funds, with 10% match by the Turnpike. Costs related to the Delaware River Bridge (currently estimated at $183.2 million) will be pro-rated between PA and NJ by percentage of length in each state. These costs are tentatively scheduled between fiscal years 2011 and 2014.

		TIP Program Years ($ 000)				Later FYs
Phase	Fund	FY 2003	FY 2004	FY 2005	FY 2006	
FD	FAI	34,740				
FD	TPK	3,860				
ROW	FAI		15,390			
ROW	TPK		1,710			
UTL	FAI			10,800		
UTL	TPK			1,200		
CON	FAI			36,180		
CON	TPK			4,020		
CON	FAI				34,470	
CON	TPK				3,830	
FD	TBD					18,100
UTL	TBD					1,000
ROW	TBD					600
CON	TBD					226,700
CON	TBD					143,500
	Fiscal Year Total	38,600	17,100	52,200	38,300	389,900
				Total FY 03-08 Cost	146,200	

APPENDIX F
WETLAND COORDINATION

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Land Use Regulation Program
P.O. Box 439, Trenton, NJ 08625-0439
Fax # (609) 292-8115
Fax # (609) 777-3656

Robert C. Shinn, Jr.
Commissioner

Andrea Finn
URS Greiner Woodward Clyde
671 Moore Road, Suite 212
King of Prussia PA 19406-1318

JAN 14 2000

RE: Letter of Interpretation/Line Verification
File No.: 0306-99-0006.1
Applicant: Pennsylvania Turnpike Commission
Block: Turnpike Right of Way from Delaware River to Toll Plaza
Burlington Twp., Burlington County

Dear Ms. Finn:

This letter is in response to your request for a Letter of Interpretation to verify the jurisdictional boundary of the freshwater wetlands and waters on the referenced property.

In accordance with agreements between the State of New Jersey Department of Environmental Protection, the U.S. Army Corps of Engineers Philadelphia and New York Districts, and the U.S. Environmental Protection Agency, the NJDEP, Land Use Regulation Program is the lead agency for establishing the extent of State and Federally regulated wetlands and waters. The USEPA and/or USACOE retain the right to reevaluate and modify the jurisdictional determination at any time should the information prove to be incomplete or inaccurate.

Based upon the information submitted, and upon a site inspections conducted on September 30, 1999, the Land Use Regulation Program has determined that the wetlands and waters boundary line(s) as shown on five plan sheets entitled "PENNSYLVANIA TURNPIKE COMMISSION I-276/I-95 INTERCHANGE PROJECT" undated, unsigned and prepared by URS Greiner Woodward Clyde, is accurate as shown.

Any activities regulated under the Freshwater Wetlands Protection Act proposed within the wetlands or transition areas or the deposition of any fill material into any water area, will require a permit from this office unless exempted under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., and implementing rules, N.J.A.C. 7:7A. A copy of this plan, together with the information upon which this boundary determination is based, has been made part of the Program's public records.

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Pursuant to the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A-1 et seq., you are entitled to rely upon this jurisdictional determination for a period of five years from the date of this letter.

The freshwater wetlands and waters boundary line(s), as determined in this letter, must be shown on any future site development plans. The line(s) should be labeled with the above LURP file number and the following note:

"Freshwater Wetlands/Waters Boundary Line as verified by NJDEP."

In addition, the Department has determined that the wetlands on the subject property designated by the wetland areas W4-1 to W4-27 are of intermediate resource value and the standard transition area or buffer required adjacent to these wetlands is 50 feet. The wetlands designated by wetland areas W6-13 to W6-30, W7A-1 to W7A-8, W7-1 to W7-5, E7-1 to E7-8 and Wetland polygon E12 are of ordinary resource value and do not have a transition area associated with them. Wetland E8 is a State tidal open water within the Waterfront Development Law jurisdiction with no resource value classification. These classifications may affect the requirements for an Individual Wetlands Permit (see N.J.A.C. 7:7A-3), the types of Statewide General Permits available for the wetlands portion of this property (see N.J.A.C. 7:7A-9) and the modification available through a transition area waiver (see N.J.A.C. 7:7A-7). Please refer to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et. seq.) and implementing rules for additional information.

It should be noted that this determination of wetland classification is based on the best information presently available to the Department. The classification is subject to change if this information is no longer accurate, or as additional information is made available to the Department, including, but not limited to, information supplied by the applicant.

This letter in no way legalizes any fill, which may have been placed, or other regulated activities, which may have occurred on-site. Also this determination does not affect your responsibility to obtain any local, State, or Federal permits which may be required.

In accordance with N.J.A.C. 7:7A-12.7, any person who is aggrieved by this decision may request a hearing within 30 days of the decision date by writing to: New Jersey Department of Environmental Protection, Office of Legal Affairs, Attention: Adjudicatory Hearing Requests, P.O. Box 402, Trenton, NJ 08625-0402.

This request must include a completed copy of the Administrative Hearing Request Checklist.

Please contact of our staff at (609) 984-0288 should you have any questions regarding this letter. Be sure to indicate the Program's file number in all communication.

Sincerely,

Andrew Heyl
Section Chief
Bureau of Coastal Regulation

c: Municipal Clerk
Municipal Construction Official

LOI, File: 0306-99-0006.1DOC

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO ATTENTION OF

Received
OCT 0 4 2000
OCT 5 2000
KCI Technologies, Inc.

Regulatory Branch
Application Section I

SUBJECT: CENAP-OP-R-199300033-11 (Preliminary JD)
I-276/I-95 Interchange Project

Mr. Andrew Haines
KCI Technologies
3220 Tillman Drive
Bensalem, PA 19020-2083

Dear Mr. Haines:

This is in regard to the delineation of Federally regulated waters of the United States, including wetlands, within the study area of the proposed I-276/I-95 Interchange Project, Bucks County, Pennsylvania and Burlington County, New Jersey.

Pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, a Department of the Army permit is required for work or structures in navigable waters of the United States and the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. Any proposal to perform the above activities within the area of Federal jurisdiction requires the prior approval of this office.

This office has reviewed the February 4, 2000 "Revised Draft Wetland Identification, Delineation and Assessment Report" prepared by your office for the above referenced project and participated in a series of field views of the project study corridor. As a result, we have determined that the plans prepared by KCI Technologies, Inc., dated November 1996, last revised July 18, 2000 entitled: "Pennsylvania Turnpike Commission I-276/I-95 Interchange Project, Wetlands Mapping and Waters of the United States, Sheets 1 through 34 of 34 and Unnumbered Title Sheet", accurately depict the extent of Federal jurisdiction within the referenced project's study area for purposes associated with the preparation of the Draft Environmental Impact Statement for the project.

As discussed, in order for this office to issue a Jurisdictional Determination Letter for the project's preferred alternative/selected alternative, the location of the upland/wetland boundary line for the alternative will need to be re-established by survey in the field and it's accuracy verified in the field by a representative of this office.

If you should have any questions regarding this matter, please contact Jacqueline Winkler at (215) 656-6732 between the hours of 1:00 and 3:30 p.m. or write to the above address.

Sincerely,

Richard A. Hassel
Assistant Chief, Regulatory Branch

APPENDIX G

SECTION 404 (b)(1) PRELIMINARY ANALYSIS FOR THE PREFERRED ALTERNATIVE

SECTION 404 (b)(1) PRELIMINARY ANALYSIS FOR THE PREFERRED ALTERNATIVE

More detailed wetlands information is located in the Wetlands Technical Support Data, as well as:
* *Revised Draft Wetland Identification, Delineation, and Assessment Report, 2000.*
* *Technical Support Data Index is located in Section XII (Appendix C).*

INTRODUCTION

It should be noted that this preliminary analysis is provided to facilitate the factual determination review by the US Army Corps of Engineers (USACOE) as part of the permit application review process. This analysis is based on current information and level of detail available at this time. This analysis may be revised in response to changes in project area conditions or due to detailed design or modifications of the project made during Final Design.

This Final Environmental Impact Statement (FEIS) and supporting technical information forms the basis of the environmental documentation in support of the USACOE Permit Applications for the I-276/I-95 Interchange Project. Under the Joint NEPA/404 Process, a majority of the environmental documentation required for decision-making in the NEPA/EIS process is similar to that required for Section 404 wetlands and/or Waters of the United States permitting. Under Section 404 of the Clean Water Act, the evaluation of permit applications and decisions made by the USACOE are based on the balancing of project impacts against public benefits. The decision making process requires consideration of socioeconomic factors in addition to a full range of other environmental factors and issues. Wetlands, which are special aquatic sites, are given additional review using more protective criteria as specified in Section 404 (b)(1) of the Clean Water Act.

Section 404 (b)(1) of the Clean Water Act sets forth specific guidelines, developed by the US Environmental Protection Agency (USEPA), to be used by the USACOE in evaluating Section 404 permit applications. These are mandatory criteria which are applicable to all permit decisions and are significant in that they establish a presumption against filling wetlands for non-water dependent purposes if there is a "practicable alternative to the proposed filling which would have less adverse impact on the aquatic ecosystem" (40 CFR 230.10(a)).

Section 404 (b)(1) is referred to as the "Section 404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material" and consists of Subparts A through I. A description of each Subpart follows:

Subpart A – defines the purpose and applicability of the guidelines. These can be found in 40CFR 230.1 through 230.7.

Subpart B – addresses compliance guidelines and procedures.

Subpart C – addresses impacts of the project on physical and chemical characteristics of the aquatic systems, including the substrate; suspended particulates/turbidity; surface water or liquid portion of aquatic ecosystems; the current patterns and water circulation; normal water fluctuations; and salinity gradients.

Subpart D – addresses potential impacts of the project on biological characteristics of the aquatic ecosystem, including threatened and endangered species; fish, crustaceans, mollusks, and other aquatic organisms in the food web; and other non-aquatic wildlife species.

Subpart E – addresses potential impacts of the project on special aquatic sites, including sanctuaries and refuges; wetlands; mud flats; vegetated shallows; coral reefs; and riffle and pool complexes.

Subpart F – addresses potential effects of the project on human use characteristics, including municipal and private water supplies; recreational and commercial fisheries; water-related recreation; aesthetics; parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves.

Subpart G - provides evaluation procedures and testing for use in the factual determinations of Subpart B (§ 230.11).

Subpart H - addresses mitigation and actions to minimize adverse effects of discharges of dredged or fill material.

Subpart I - discusses ways to shorten permit processing time by the permitting authority.

The following evaluation addresses Subparts B through F of the 404 (b)(1) guidelines. This is provided to assist the USACOE review of the I-276/I-95 Interchange Project. These guidelines are the substantive criteria used in evaluating discharges of dredged or fill material under Section 404 of the Clean Water Act and this preliminary analysis provides specific information to facilitate the factual determination review by the USACOE as part of the permit application review.

SUBPART B: COMPLIANCE WITH THE GUIDELINES

§230.10 Restrictions on Discharge - This section addresses the analysis of practicable alternatives that would have less adverse impact on the aquatic ecosystem. In the Pennsylvania Department of Transportation (PENNDOT) Transportation Project Development Process, the identification and review of alternatives is conducted in two phases, preliminary phase and detailed phase of alternatives development and review. Both alternative development phases involve engineering and environmental evaluations and regulatory agency review and were conducted to develop and evaluate transportation alternatives to meet the project needs and to minimize impacts to the social, cultural, and environmental resources.

The intent of the preliminary phase, or Preliminary Alternatives Analysis (PAA), was to study and develop a broad range of reasonable alternatives and evaluate them for engineering feasibility, traffic effects, cost, and potential socioeconomic and environmental resource impacts. The results of the PAA Phase then formed the basis for advancing the recommended preliminary alternatives to the next phase, Detailed Alternatives Analysis (DAA) and development. During the DAA Phase, detailed field studies and evaluation of an alternative's potential effect on the environment were conducted. Minor refinements to the alternatives carried forward for detailed study, and ultimately into **Section IV** (Environmental Consequences) of the DEIS, were then made to minimize potential socioeconomic and environmental resource impacts and address public and resource agency comments and input.

The results of the PAA and DAA have been documented/summarized in several reports. These reports are accessible and can be found in the project's Technical Support Data Files. The results of the PAA and DAA Phases are thoroughly summarized in **Section III** (Alternatives) of the FEIS. The alternative development and evaluation reports for the project include:

- ✓ *Pennsylvania Turnpike/Interstate 95 Interchange Project Final Congestion Management System Evaluation*, 1995.
- ✓ *Pennsylvania Turnpike/Interstate 95 Interchange Project Major Investment Study*, 1997.
- ✓ *Pennsylvania Turnpike/Interstate 95 Interchange Project Final Phase I Preliminary Alternatives Analysis Report*, 1998.
- ✓ *Pennsylvania Turnpike/Interstate 95 Interchange Project Phase II Detailed Alternatives Analysis Summary*, 1998.

During the development of alternatives, various avoidance and impact minimization alternatives and techniques were studied and evaluated. A description of these efforts and alternatives that were removed from further study due to wetlands and other environmental and socioeconomic impacts are included in **Section III** of the FEIS.

§230.11 Factual Determination - The determination of the potential short-term or long-term effects of the proposed discharges of dredged or fill material on the physical, chemical, and biological components of regulated wetlands and waters is provided in the following sections for Subparts C through F.

SUBPART C:
POTENTIAL IMPACTS ON PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE AQUATIC ECOSYSTEM

§230.20 Substrate - The substrate of aquatic ecosystems in the study area, either regulated wetlands or waters, can be adversely impacted by the Preferred Alternative. This would result from the direct placement of fill materials necessary for roadway construction, the installation of in-stream structures such as culverts and bridge piers, the relocation of perennial and intermittent stream segments, and by the temporary exposure to potential erosion and siltation impacts from construction activities.

Wetland impacts and mitigation measures are discussed in **Section IV-K** of the FEIS. Impacts to and mitigation measures for Surface Water Resources and Aquatic Biota are discussed in **Sections IV-H.2** and **IV-H.3**.

§230.21 Suspended Particulates/Turbidity - Suspended particulates and the resulting turbidity of surface water may occur during construction activities, particularly in areas that are near or adjacent to surface water bodies and wetlands. Potential impacts to surface water resources resulting from erosion, siltation and sedimentation are discussed in **Section IV-H.2**. Mitigation measures are discussed in **Section IV-H.3** and include the following:

- ✓ Minimizing the length and width of impacted streams at each proposed stream crossing;
- ✓ Establishment/planting of herbaceous and woody vegetation along disturbed streambank and wetlands to stabilize shorelines and reduce erosion;
- ✓ Rapid re-establishment of herbaceous vegetation for areas disturbed during construction activities;
- ✓ Minimization of the amount of in-stream disturbance during construction activities;
- ✓ Minimization of disturbances to vegetation along stream riparian zones, wetlands, and right-of-way (ROW) to reduce erosion;
- ✓ Strict adherence and implementation of Pennsylvania Department of Environmental Protection (PADEP) and New Jersey Department of Environmental Protection (NJDEP) sediment and erosion control plans and measures to minimize impacts to water quality and aquatic biota;
- ✓ The construction and use of stormwater management structures to catch surface water runoff and associated silt/sediments from construction areas and the roadway;
- ✓ Provide protection to wetlands and waters outside of the area of direct disturbance by the use of silt fencing and other measures.

§230.22 Water - This subsection pertains to water as the liquid component of the aquatic ecosystem. The discharge of fill or dredged materials can change the chemistry and physical characteristics of the receiving water at a potential disposal site through the introduction of chemical pollutants in either suspended or dissolved form. These pollutants can affect the life-sustaining capabilities of water resulting in potential impacts to water quality for human consumption and on aquatic biota dependent upon clean water for life support. Potential impacts to surface water resources and aquatic biota are discussed in **Section IV-H.2**. Mitigation measures are discussed in **Section IV-H.3** and include the following:

- ✓ Minimizing the length and width of impacted streams at each proposed stream crossing;
- ✓ Establishment/planting of herbaceous and woody vegetation along disturbed streambanks and wetlands to stabilize shorelines and reduce erosion;
- ✓ Rapid re-establishment of herbaceous vegetation for areas disturbed during construction activities;
- ✓ Minimization of the amount of in-stream disturbance during construction activities;
- ✓ Minimization of disturbances to vegetation along stream riparian zones, wetlands and ROW to reduce erosion;
- ✓ Strict adherence and implementation of PADEP and NJDEP sediment and erosion control plans and measures to minimize impacts to water quality and aquatic biota;
- ✓ The construction and use of stormwater management structures to catch surface water runoff and associated silt/sediments from construction areas and the roadway;
- ✓ Provide protection to wetlands and waters outside of the area of direct disturbance by the use of silt fencing, hay bales, and other sediment control measures;
- ✓ Preparation and implementation of spill countermeasure and control plans to provide protection for wetlands and waters during accidental releases of hazardous materials, including fuel, oil, and other materials required for construction activities.

§230.23 Current Patterns and Water Circulation - This subsection pertains to the physical movements of water in the aquatic ecosystem. Construction activities that involve the discharge of fill or dredged materials or disturbance to wetlands or waters can modify current patterns and water circulation. This may lead to the obstruction of water flow, changing the direction or velocity of water flow and circulation or changing the size or dimensions of a water body. Potential impacts to surface water resources and aquatic biota are discussed in **Section IV-H.2**. Mitigation measures are discussed in **Section IV-H.3**. The existing I-276 and I-95 roadways cross a number of perennial streams via culverts or bridges that will have to be widened during construction of the Preferred Alternative. Since the diameter of most of the existing culverts or width of bridges will not change as a result of the project, impacts on normal stream current patterns and water circulation should be minimal. The perennial and intermittent streams requiring relocation will have new channels designed to be similar in physical characteristics to the existing stream, including stream widths, depths, substrates, streambank vegetation type, etc. and designed to maintain the required stream flow and floodflow capacities.

§230.24 Normal Water Fluctuations - This subsection pertains to the normal water fluctuations in natural aquatic systems consisting of daily, seasonal, and annual tidal and flood fluctuations in water levels. Construction activities that involve the discharge of fill or dredged materials or disturbance to wetlands or waters can modify or affect normal water level fluctuations, resulting in prolonged periods of inundation, exaggerated extremes of high and low water, or a static, nonfluctuating water level. These water level modifications may change salinity patterns, change erosion or sedimentation rates, aggravate water temperature extremes, and upset the nutrient and dissolved oxygen balance of the aquatic ecosystem. Potential impacts to surface water resources and aquatic biota are discussed in **Section IV-H.2**. Mitigation measures are discussed in **Section IV-H.3**. The existing I-276 and I-95 roadways cross a number of perennial streams via culverts or bridges that will have to be widened during construction of the Preferred Alternative. Since the diameter of most of the existing culverts or width of bridges will not change as a result of the project, impacts on normal water level fluctuations should be minimal. The perennial and intermittent streams requiring relocation will have new channels designed to be similar in physical characteristics to the existing stream, including stream widths, depths, substrates, streambank vegetation type, etc. and designed to maintain the required stream flow and floodflow capacities.

§230.25 Salinity Gradients - This subsection pertains to salinity gradients that form where salt water from the ocean meets and mixes with freshwater. The Interchange Project involves freshwater non-tidal and tidal waterways and impacts to natural salinity gradients are, therefore, not applicable to this project.

SUBPART D:
POTENTIAL IMPACTS ON BIOLOGICAL CHARACTERISTICS OF THE AQUATIC ECOSYSTEM

Subpart D pertains to potential impacts of the Preferred Alternative on the biological components of the aquatic ecosystem.

§230.30 Threatened and Endangered Species - Section IV-L provides a discussion of federal and state of Pennsylvania and New Jersey threatened or endangered species or their critical habitats that were identified in the project study area. One federal endangered species, the shortnose sturgeon, inhabits the study area. It is known to

occur in the Delaware River between Trenton, New Jersey and south of Philadelphia, Pennsylvania. A Biological Assessment evaluating potential impacts on this species resulting from the project has been conducted. This is required under Section 7 of the Endangered Species Act to determine if the project is likely to impact a federally listed endangered species. A summary of the Biological Assessment and mitigation measures to be implemented to protect this endangered species are discussed in **Section IV-L.1**.

Fourteen Commonwealth of Pennsylvania listed species were identified as occurring in the study area in Pennsylvania. This includes seven threatened or endangered plants, two tentatively undetermined plants, four threatened or endangered animals, and one candidate animal. Three State of New Jersey listed threatened or endangered species, two animal species and one plant species, were identified in the New Jersey study area. These are discussed in **Section IV-L.1c** and **IV-L.1d** and impacts discussed in **Section IV-L.2.** Mitigation measures are discussed in **Section IV-H.3** and include the following:

- ✓ Direct avoidance of known populations through design of alternatives and temporary fencing around specific communities/populations/individuals of sensitive plant or animal species during construction;
- ✓ Minimization of habitat disturbance during construction activities, especially in areas near or adjacent to sensitive species;
- ✓ Strict adherence to PADEP and NJDEP erosion and sedimentation control plans and development of stormwater management plans;
- ✓ Direct purchase of critical habitat for conservation purposes;
- ✓ Improvement of existing habitat;
- ✓ Implementation of water quality mitigation measures as described in previous subsection of the 404 (b)(1) guidelines (§230.21 and §230.22).

§230.31 Fish, Crustaceans, Mollusks, and other Aquatic Organisms in the Food Web - Aquatic organisms can be directly impacted by the loss of benthic habitat from filling of wetlands and waters, by the release of contaminants, by habitat loss from sedimentation, or from alterations in aquatic habitat caused by sedimentation, changes in water currents, circulation, and water level fluctuations. Stream relocations will also result in the direct loss of aquatic organisms and habitat, especially to less mobile organisms such as mollusks and other sessile invertebrates. Impacts to aquatic biota are discussed in **Section IV-H.2**. Mitigation measures are discussed in **Section IV-H.3** and include the following:

- ✓ Minimization of the length and width of impacted streams at each proposed stream crossing;
- ✓ Establishment/planting of herbaceous and woody vegetation along disturbed streambanks and wetlands to stabilize shorelines and reduce erosion;
- ✓ Rapid re-establishment of herbaceous vegetation for all areas disturbed during construction activities;
- ✓ Minimization of the amount of in-stream disturbance during construction activities;
- ✓ Minimization of disturbances to vegetation along stream riparian zones, wetlands, and right-of-way to reduce erosion;
- ✓ Strict adherence and implementation of PADEP and NJDEP sediment and erosion control plans, and measures to minimize impacts to water quality and aquatic biota;
- ✓ The construction and use of stormwater management structures to catch surface water runoff, and associated silt/sediments, from construction areas and the roadway, and;
- ✓ Provide protection to wetlands and waters outside of the area of direct disturbance by the use of silt fencing and other measures.

§230.32 Other Wildlife - This subsection pertains to wildlife associated with aquatic ecosystems such as resident and transient mammals, birds, reptiles, and amphibians. Construction of the Preferred Alternative would also affect other wildlife species through the loss or change of breeding and nesting areas, escape cover, travel corridors, and food sources. Other effects would include the direct loss of habitat, habitat degradation in non-impacted areas by proximity to sources of noise, air and water pollutants, increased habitat fragmentation, and changes in existing distribution patterns due to changes in land cover types and connectivity. Impacts to terrestrial wildlife species are discussed in **Section IV-M.2**. Mitigation measures for terrestrial habitat loss are discussed in **Section IV-M.3** and included the following:

- ✓ Preparation of a conceptual mitigation plan;
- ✓ Avoidance of invasive plant species for landscaping, erosion control, etc.;
- ✓ Minimization of earth disturbance activities;
- ✓ Protection of healthy native plant communities during construction activities;
- ✓ Removal and replacement of invasive species with native, non-invasive species; and
- ✓ Implementation of a land management and maintenance plan.

SUBPART E:
POTENTIAL IMPACTS ON SPECIAL AQUATIC SITES

This subpart applies to special aquatic sites which are defined in Section 230.3(q-1) as "geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region". Impacts to special aquatic sites resulting from the construction of the Preferred Alternative are discussed in the following subsections.

§230.40 Sanctuaries and Refuges – Silver Lake Park, a county owned park, is located in the study area. Associated with this park is the Silver Lake Nature Center, which is a local preserve. Through the use of a retaining wall, the I-276/I-95 Interchange Project will not impact Silver Lake Park.

§230.41 Wetlands - Impacts to this group of special aquatic sites are discussed in **Section IV-K.5** of the FEIS. **Table G-1** provides a summary of wetland impacts for the Preferred Alternative. In the Toll Plaza Element, the Modified Plaza West Alternative would impact approximately 0.47 ha (1.16 ac) of mostly emergent and forested wetlands. In the Interchange Element, the Single Loop A Alternative would impact approximately 0.40 ha (1.00 ac) of mostly scrub-shrub and forested wetlands. In the Bridge Element, the Bridge South Alternative would impact approximately 0.03 ha (0.06 ac) of emergent wetlands. The Preferred Alternative (Modified Plaza West, Single Loop A, and the Bridge South Alternatives) would impact approximately a total of 0.90 ha (2.22 ac) of jurisdictional wetlands. Based on the results of the wetland functions/values assessment and field observations, the primary functions in project study area wetlands are water quality protection (sediment/toxicant/pathogen retention and nutrient removal/retention/transformation), floodflow alteration, groundwater recharge/discharge, and wildlife habitat.

Proposed wetland mitigation measures are discussed in **Section IV-K.7**. Wetland impacts are proposed to be mitigated via wetland creation at 2:1 replacement ratio for forested and scrub-shrub wetlands and 1:1 replacement ratio for emergent wetlands. Candidate wetland replacement sites are discussed in **Section IV-K.7.a** in the FEIS. These sites will be refined, as required, through interagency consultation and coordination in the FEIS and Final Design phases.

§230.42 Mudflats - Mudflats, which are defined as "broad flat areas along the sea coast and in coastal rivers to the head of tidal influence" (40CFR230.42.(a)), do not occur in the project study area.

§230.43 Vegetated Shallows - Vegetated shallows are defined as "permanently inundated areas that, under normal circumstances, support communities of rooted aquatic vegetation, such as turtle grass and eelgrass in estuarine or marine systems as well as a number of freshwater species in rivers and lakes" (40 CFR 230.43(a)). None of this type of special aquatic site occurs in the project study area.

§230.44 Coral Reefs - No coral reef sites occur in the project study area.

§230.45 Riffle and Pool Complexes - These special aquatic sites are usually associated with steep gradient sections of streams. Most of the streams within the project study area are typical of low-gradient coastal plain streams and experience rapid, flashy flows typical of urban runoff conditions and are inconsistent with the definition. Therefore, riffle and pool complex sites are not typical of most of the streams in the project study area. However, Neshaminy Creek contains pool and riffle complexes at and in the vicinity of the existing I-276 bridge crossing. Under the Preferred Alternative, two instream piers would be required to widen this bridge that would impact this special aquatic site. Impacts are not expected to be significant and the loss of a portion of this special aquatic site could be mitigated by the creation of similar riffle habitat in the vicinity of the existing bridge.

SUBPART F:
POTENTIAL EFFECTS ON HUMAN USE CHARACTERISTICS

§230.50 Municipal and Private Water Supplies - Municipal and private water supplies consist of surface or groundwater that is directed to the intake of a municipal or private water supply system. No public or private water supply wells are known in the vicinity of the project study area as discussed in **Section IV-G-4**. According to the USEPA, there is a Sole Source Aquifer (SSA) in New Jersey (New Jersey Coastal Plain Aquifer) that underlies the project study area in New Jersey and extends into Pennsylvania. In addition, the entire study area in Pennsylvania and New Jersey is considered to be either in the stream flow source zone or the recharge zone of this SSA. This is because heavy pumping in Camden, New Jersey and Philadelphia, Pennsylvania has caused a reversal in the normal discharge of this aquifer. Consequently, the Delaware River surface water recharges the aquifer instead of vice-versa. Adverse impacts to this SSA are not anticipated as a result of the construction of any of the proposed project alternatives.

Drinking water supplies for the three townships in the Pennsylvania portion of the project study area (Bensalem, Middletown, and Bristol) are supplied from surface water sources and not from groundwater or public water supply wells. The sources of drinking water for the project study area townships include intakes on the Delaware River and Neshaminy Creek, none of which are in the immediate vicinity of the proposed alternatives. Therefore, adverse impacts to surface water supplies of drinking water in Pennsylvania are not anticipated as a result of the construction of any of the proposed project alternatives.

Drinking water supplies for the New Jersey portion of the study area (Florence Township and Burlington Township) are supplied from groundwater or public water supply wells. The adjacent City of Burlington uses the Delaware River as their primary source of potable water. None of the water supply sources in the New Jersey portion of the study area are in the immediate vicinity of the proposed alternatives. Therefore, adverse impacts to surface or groundwater supplies of drinking water in New Jersey are not anticipated as a result of the proposed project alternatives.

§230.51 Recreational and Commercial Fisheries - This resource consists of recreational and commercial fisheries consisting of harvestable fish, crustaceans, shellfish and other organisms used by man. No commercial fisheries exist in the project study area. All impacted streams within the study area are designated as warm water fisheries and migratory fisheries by the *Title 25 of the Pennsylvania Code, Chapter 93 Water Quality Standards* (PADEP, 2001). Recreational fisheries exist in larger streams in the study area, including Neshaminy Creek and the Delaware River. Impacts to recreational fisheries are not anticipated as a result of the proposed project.

§250.52 Water-Related Recreation - Water-related recreation in the study area occurs on the Delaware River, Neshaminy Creek, and the lakes/ponds in Silver Lake Park. Impacts to water-related recreation are expected to be temporary during construction and would not be significant.

§250.53 Aesthetics - Under the 404 (b)(1) guidelines, the aesthetic analysis pertains to the aesthetics of the aquatic ecosystem, which consists of the perception of beauty by one or a combination of the senses of sight, hearing, touch, and smell. The aesthetics of aquatic ecosystems apply to the quality of life enjoyed by the general public and property owners. Impacts are associated with degradation in water quality, the disruption of natural substrates and vegetation characteristics, the denial of access to or visibility of the resource or any changes in odor, air quality, or noise levels that may reduce the aesthetic value of an aquatic area. Impacts on visual quality and aesthetics are discussed in **Section IV-R.2.** The viewsheds of the Pennsylvania study area are limited by extensive development and the relatively flat landform. Sight distance is restricted and filled with typical suburban visual components: highways, houses, commercial strips, and shopping centers. Viewsheds of interest include views of the Delaware River shoreline. The viewshed of the New Jersey portion of the study area contains less development. There are sizeable woodlands, large-scale manufacturing facilities, and residential development in and around the town of Florence. Scattered farmlands are located further inland, east of US 130. Mitigation measures could consist of tree and shrub plantings to screen the views of at-grade and elevated ramp structures from adjacent residential areas, parks, churches, and open space/greenways. Noise abatement structures are designed to provide a reduction in traffic noise on sensitive receptors, wildlife, and parklands. Additional measures could include minimizing the removal of vegetation along the existing and proposed ROW and streams during construction and restoring vegetation in areas visually impacted.

§230.54 Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves - Within the study area there are no national or historical monuments, national seashores, wilderness areas, research sites, or similar preserves. There are several state, county, and local parks and cultural resources subject to Section 4(f) evaluation (Section 4(f) of the US Department of Transportation Act of 1966) in the study area. **Section V** (Section 4(f) Evaluation) of the FEIS provides a description of Section 4(f) resources within the study area and an evaluation of potential impacts to each resource. As discussed in **Section V**, two Section 4(f) resources are impacted by the project: Black Ditch Park by the Single Loop A Interchange Alternative, and the Pennsylvania Railroad by the Bridge South Alternative. The impacts to Black Ditch Park were determined to be minor harm after application of design mitigation. The impacts to the Pennsylvania Railroad were also determined to be minor harm. The findings of the Section 4(f) Evaluation conclude that there are no feasible and prudent alternatives to the use of these two properties and that all possible planning to minimize harm has been incorporated into the proposed project design.

One National Historic Landmark is located in the Bridge Element portion of the study area, the Pennsylvania Division of the Delaware Canal. As discussed in **Section V** (Section 4(f) Evaluation) of the FEIS, the Preferred Alternative would have no adverse effect on this property. The Bridge South Alternative would not alter, directly or indirectly, any of the characteristics of the Delaware Canal that qualify it as a National Historic Landmark in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. The other components of the proposed build alternative appear to have no effect on this property.

PRELIMINARY FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH SECTION 404(b)(1) GUIDELINES

The proposed discharge of fill or dredged material into 1.50 ha (3.70 ac) of wetlands and waters for the construction of the I-276/I-95 Interchange Project in Bucks County, Pennsylvania and Burlington County, New Jersey has been evaluated in accordance with the Section 404(b)(1) Guidelines for the Specification of Disposal Sites for Dredged or Fill Materials. The preliminary findings are discussed by subpart below.

A. Alternatives – Based on information presented in this document and additional information and data in the technical files and administrative record of this permit application, it is determined that there are no practicable alternatives to the proposed action that meet the project purpose and needs that have fewer adverse impacts to the aquatic ecosystem.

B. Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem – No long term adverse impacts on the physical and chemical characteristics of the aquatic ecosystem are anticipated as a result of the proposed discharges of fill or dredged materials. This is based upon considerations of the potential impacts on substrate, water, turbidity/suspended particulates, current patterns and water circulation, normal water fluctuations, and/or salinity gradients.

C. Potential Impacts on Biological Characteristics of the Aquatic Ecosystem – No federally listed threatened or endangered species, nor any identified or proposed critical habitat of any listed species, is expected to be adversely affected by the proposed discharge of fill or dredged materials and the subsequent use and operation of the proposed highway. The placement of fill material into approximately 1.50 ha (3.70 ac) of existing wetlands and waters is not expected to have a major adverse impact upon existing aquatic ecosystems in the study area.

D. Potential Impacts on Special Aquatic Sites – The proposed discharges of fill materials would result in the elimination of 1.50 ha (3.70 ac) of existing wetlands and waters. These wetlands are considered to be special aquatic sites. However, the proposed highway improvement and interchange project and the required filling activities have been shown to be the only practicable alternative that meets the project purpose and needs. Therefore, the discharges into these special aquatic sites are justifiable provided that the proposed mitigation plan and measures are implemented to offset the losses of waters of the US.

E. Potential Impacts on Human Use Characteristics – No significant adverse impacts to human use characteristics are anticipated to result from the proposed filling activities. This finding is based upon a consideration of the following characteristics: municipal and private water supplies; recreational and commercial fisheries; water-related recreation; aesthetics; parks, national and historic landmarks, national seashores, wilderness areas, research sites and similar preserves.

F. Evaluation and Testing – The materials that are proposed for discharge into wetlands and waters of the United States would not be expected to introduce, relocate or increase the level of any contaminants. This finding is based upon the consideration of the anticipated fill material(s) to be discharged, the aquatic ecosystems, the proposed discharge sites, and the availability of potential contaminants.

G. Cumulative Effects – The entire project is not expected to have any cumulative adverse effects on the surrounding aquatic ecosystems since no net loss of wetlands would occur. The applicant is proposing the creation of the required acreage of freshwater wetlands to compensate for the loss of wetlands due to filling associated with the Preferred Alternative.

H. Secondary Effects – In general, secondary effects of a highway project result from increases in development in the vicinity of the new or improved roadway in response to improvements in traffic patterns and access to services that the project provides. Since most of the land in the study area is already developed or proposed for development in the near future, there appears to be low potential for this type of highway induced development to occur as a result of this project.

I. Actions to Minimize Adverse Effects – The applicant has proposed several actions to minimize losses and impacts to special aquatic sites (wetlands and waters) affected by the proposed project. These measures include: the creation of replacement wetlands, the relocation of affected perennial streams, restoration of impacted streams by various enhancement measures, the use of erosion and sedimentation controls to mitigate turbidity, and the use of structures instead of fill to cross areas along and within wetlands and waters. A preliminary determination has been made by the applicant, the Pennsylvania Turnpike Commission, that the proposed discharge of fill material into approximately 1.50 ha (3.70 ac) of wetlands and waters for the construction of the Preferred Alternative in Bucks County, Pennsylvania and Burlington County, New Jersey is the only practicable alternative and that the proposed discharges of fill material into Waters of the United States are in compliance with the Section 404 (b)(1) Guidelines of the Clean Water Act.

TABLE G-1
SUMMARY OF ESTIMATED WETLAND AND WATERS IMPACTS FOR THE PREFERRED ALTERNATIVE

Impacted Wetlands and Waters	Classification	Function	Total Area (ha/ac)	Wetlands and Waters Impacts (ha/ac) due to Filling and Grading
Toll Plaza Element – Modified Plaza West				
W3B	PEM	STR	0.03/0.08	0.03/0.08
W5	PEM, PSS	STR, NR	0.21/0.47	0.07/0.16
W6	PFO	FA, WH	0.35/0.88	0.09/0.23
W7	PEM, PSS	STR, WH, REC	0.20/0.51	0.08/0.20
W8	PEM, PSS	FA, SSS, WH, REC	0.38/0.94	0.15/0.36
W10	PEM	FA, NR	0.24/0.60	0.004/0.01
W11	PFO	STR	0.04/0.11	0.04/0.10
W14	PFO	GWD, FA, AH, STR, WH	0.36/0.90	0.01/0.02
Perennial Waters	NA	NA	NA	0.15/0.37
Intermittent Waters	NA	NA	NA	0.05/0.13
Interchange Element – Single Loop A				
W20	PFO	GWD, STR, NR	0.18/0.44	0.0006/0.0015
N16	PFO	FA, STR, NR, SSS, WH	0.43/1.06	0.0024/0.0058
N19	PFO	STR	0.19/0.47	0.02/0.05
S3	PEM	STR	0.02/0.06	0.01/0.02
S6	PEM, PSS	FA, STR, NR	0.11/0.28	0.02/0.05
E15[1]	PEM, PFO	FA, STR, WH, REC	0.60/1.48	0.12/0.31
E16[1]	PEM, PFO	GWD, STR, WH, REC, UH, END	1.82/4.50	0.02/0.04
E18B[1]	PFO	FA	0.07/0.18	0.01/0.03
E24[1]	PFO	FA	0.11/0.28	0.06/0.14
E28[1]	PFO	FA, STR, NR, WH	1.10/2.72	0.12/0.29
E30[1]	PEM	FA, STR	0.02/0.06	0.02/0.05
Perennial Waters	NA	NA	NA	0.14/0.34
Intermittent Waters	NA	NA	NA	0.12/0.29
Bridge Element – Bridge South				
E12	PEM	GWD, STR	0.03/0.06	0.03/0.06
Perennial Waters	NA	NA	NA	0.12/0.30
Intermittent Waters	NA	NA	NA	0.02/0.06
			TOTAL IMPACTS TO WETLANDS AND WATERS	**1.50/3.70**

PEM Palustrine Emergent
PSS Palustrine Scrub/Shrub
PFO Palustrine Forested
1 Exceptional Value

Principal Functions and Values:
GWD – groundwater recharge/discharge
NR – nutrient removal/retention/transformation
REC – recreation
END – endangered species habitat
FA – floodflow alteration
PE – production export
EDU – educational/scientific
AH – aquatic habitat
SSS – sediment/shoreline stabilization
UH – uniqueness/heritage
STR – sediment/toxicant/pathogen retention
WH – wildlife habitat
VQ – visual quality/aesthetics

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APPENDIX H

PADEP ENVIRONMENTAL ASSESSMENT FORM

This Environmental Assessment Form has been prepared in advance of permit applications for a PADEP Chapter 105 Permit and Section 401 Water Quality Certification for the project. During Final Design, when PADEP permit applications are submitted, this information will be updated, as appropriate.

ENVIRONMENTAL ASSESSMENT FORM – PAGES 1 – 5

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
and
U.S. ARMY CORPS OF ENGINEERS

ENVIRONMENTAL ASSESSMENT FORM (E.A. Form)

PART 1 - RESOURCE IDENTIFICATION

1. **Indicate water resources which exist on the project site.**

Name of streams(s) and/or body of water (including wetlands) *see attached*

Size of body of water (in acres) *see attached*

Wetland - If wetlands are present at the project site, provide the following information relative to the person(s) or organization performing the wetland identification, delineation and related work:

Andrew Haines, Senior Environmental Scientist
Name

KCI Technologies, Inc.
Organization/Company

3220 Tillman Drive, Suite 104
Bensalem, PA 190202
Address

215-244-4444
Telephone

QUALIFICATIONS

If wetlands are present, attach a copy of the wetland delineation report identified and labeled as **Enclosure A**. Include all field data sheets, denote the size (in acres) of the wetland. If this information details any physical information or features not shown in the "site plan" please attach additional plans which illustrate these features.

Enclosure A

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PART 1 - RESOURCE IDENTIFICATION (continued)	YES	NO
2. **Is the site located within or adjacent to any of the following? Please mark either the "yes" or "no" column for each question.**		
A. National, state or local park, forest or recreation area	☒	☐
B. Natural, wild, or wilderness area	☐	☒
C. National natural landmark	☐	☒
D. National wildlife refuge, or Federal, state, local or private wildlife or plant sanctuaries	☐	☒
E. State Game Lands	☐	☒
F. Areas identified as prime farmland	☐	☒
If not included in the permit application package, please attach a map (e.g. 1:2400 scale or greater) indicating the location of the project, all water resources and the features identified above. Label the map as Enclosure B.	**ENCLOSURE B**	
3. Is the water resource listed as stocked waters by the Pennsylvania Fish and Boat Commission?	☐	☒
4. Is the water resource designated as a wild trout stream by the Pennsylvania Fish and Boat Commission?	☐	☒
5. Is the water resource listed as High Quality or Exceptional Value in Title 25 Pa. Code Chapter 93?	☐	☒
Indicate the stream classification found in Chapter 93. Classification *Surface waters are either Warm Water Fishes (WWF) or Migratory Fishes (MF)*		
6. Is the water resource designated as a National Wild or Scenic River or as part of the Commonwealth's Scenic Rivers System or classified as priority 1-A for inclusion in the system?	☐	☒
7. Is the water resource part of or located along a private or public water supply?	☒	☐
(IF COMPLETING A SMALL PROJECT APPLICATION ADVANCE TO PART 3)		
8. Provide a written narrative, identified and labeled as "Enclosure C - Description of Aquatic Habitat," discussing the following ecological functions:		
A. Aquatic habitats including:		
(1) Food chain production		
(2) General habitat a. Nesting e. Migration b. Spawning f. Feeding c. Rearing g. Escape Cover d. Resting h. Other		
(3) Habitat for threatened and endangered plant and animal species (Discuss results of Supplement Form #1)		
(4) Environmental Study Areas a. Sanctuaries b. Refuges		
(5) If project proposes a stream relocation, a stream enclosure, or dredging, provide a description of the instream macroinvertebrate community.		

ENCLOSURE C

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3930-PM-WM0017A Rev. 11/2001 ENVIRONMENTAL ASSESSMENT FORM, continued

PART 1 - RESOURCE IDENTIFICATION (continued)	
B. Water Quantity and Streamflow	
(1) Natural drainage patterns	
(2) Flushing characteristics	
(3) Current patterns	
(4) Groundwater discharge for baseflow	
(5) Natural recharge area for ground and surface waters	
(6) Storm and floodwater storage and control	
C. Water Quality	
(1) Preventing Pollution	
(2) Sedimentation control and patterns	
(3) Salinity distribution	
(4) Natural water filtration	
D. Recreation	
(1) Game Species	
(2) Non Game Species	
(3) Fishing	
(4) Hiking	
(5) Observation (plant/wildlife)	
(6) Other	
E. Upstream and Downstream Property	
F. Other Environmental Factors Determined by Site Investigation	
PART 2 - PROJECT DESCRIPTION	
9. **Project Impacts** For impacts to regulated waters of the Commonwealth, answer fully, completely and in detail the following questions; attach and label as **Enclosure D**.	
A. Discuss the impacts on:	
(1) National, state or local park, forest or recreation area	
(2) Natural, wild, or wilderness area	
(3) National, state, or local historic site	
(4) National natural landmark	
(5) National wildlife refuge	
(6) Cultural or archaeological landmarks	
(7) State Game Lands	

ENCLOSURE C

Description of Aquatic Habitat

ENCLOSURE D

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PART 2 - PROJECT DESCRIPTION (continued)				ENCLOSURE D
(8)	Federal, state, local or private plant or wildlife sanctuaries			
(9)	Areas identified as prime farmland			
B.	Discuss the environmental impacts on:			
(1)	Aquatic habitats including:			
a.	Food Chain production			
b.	General habitat (1) Nesting (2) Spawning (3) Rearing (4) Resting	(5) Migration (6) Feeding (7) Escape Cover (8) Other		
c.	Habitat for threatened and endangered plant and animal species			
d.	Environmental Study Areas (1) Sanctuaries (2) Refuges			
(2)	Water Quantity and Streamflow			
a.	Natural drainage patterns			
b.	Flushing characteristics			
c.	Current patterns			
d.	Groundwater discharge for baseflow			
e.	Natural recharge area for ground and surface waters			
f.	Storm and floodwater storage and control			
(3)	Water Quality			Project Impacts
a.	Preventing Pollution			
b.	Sedimentation control and patterns			
c.	Salinity distribution			
d.	Natural water filtration			
(4)	Recreation			
a.	Game Species			
b.	Non Game Species			
c.	Fishing			
d.	Hiking			
e.	Observation (wildlife)			
f.	Other			
(5)	Upstream and downstream property			
(6)	Other Environmental Factors			

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PART 2 - PROJECT DESCRIPTION (continued)	ENCLOSURE D
C. Identify all environmental impacts on other adjacent land and water resources associated with the construction, modification or operation of the dam, reservoir, water obstruction, or encroachment in the area of the project.	
D. Identify and evaluate the potential cumulative environmental impacts of this project and other potential or existing projects like it, and the impacts that may result through numerous piecemeal changes to the resource.	
E. Identify and describe all other dams, water obstructions or encroachments which may or will be needed, in addition to those described in this Application, to fulfill the purpose of the current project.	

PART 3 - CERTIFICATION

I certify that the above statements, attachments including those labeled and identified as Enclosures, and all conclusions are true, correct, and based upon current environmental principles and science, to the best of my knowledge and belief.

Andrew G. Haines — Signature of Person Completing the Environmental Assessment Form

May 12, 2003 — Date

The Department may waive a specific information requirement in writing, at the request of the Applicant, during the pre-application review process if the Department determines that specific information is not necessary to review the application.

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ENVIRONMENTAL ASSESSMENT FORM – ATTACHMENTS

PART 1 – RESOURCE IDENTIFICATION

The I-276/I-95 Interchange Project study area is drained by several waterways, the largest being the Delaware River. The tributaries of the Delaware River in the Pennsylvania portion of the study area include Neshaminy Creek and Mill Creek. The study area also contains numerous unnamed tributaries that are part of the Neshaminy and Mill Creek Watersheds. Black Ditch Creek, located just north of the study area, is a tributary to Mill Creek. Silver Lake and Magnolia Lake are also within the Mill Creek Watershed. Within the New Jersey portion of the study area there is one small, unnamed tributary to the Delaware River just north of the Delaware River Turnpike Bridge. Additional surface water information is located in Section IV-H of the FEIS.

A total of 64 wetlands were identified and delineated, which included 20.38 ha (50.36 ac) of wetlands in Pennsylvania and 0.48 ha (1.19 ac) of wetlands in New Jersey. The wetlands in the study area are made up of three types, Palustrine Emergent, Palustrine Scrub-Shrub, and Palustrine Forested. Many wetlands occur in or near areas identified that support threatened and endangered species. Due to the location of wetlands near the sites where Pennsylvania listed species are found, the status of exceptional value wetlands was determined for four wetlands, one of which may be impacted. Construction of the Preferred Alternative, which is a combination of the Modified Plaza West, Single Loop A, and Bridge South Alternatives, will impact approximately 1.50 ha (3.70 ac) of existing wetlands and waters. There are approximately 20 wetlands that are within the limits of disturbance of construction and will be impacted by the proposed cut and fill activities. The total impact to wetlands for the Preferred Alternative is approximately 0.90 ha (2.22 ac). In addition, there will be 22 segments of streams that will be impacted by the construction of bridges, extensions of existing culverts, and stream relocations. Notable stream impacts of the project include the placement of pier structures within the substrate of the Delaware River and Neshaminy Creek. The Preferred Alternative will impact 1,254 m (4,115 ft) of perennial streams and 1,500 m (4,923 ft) of intermittent streams. Detailed information regarding impacts to wetlands and

streams and appropriate mitigation is located in Sections IV-H and K (Environmental Consequences) and Appendix G (Section 404 (b)(1) Preliminary Analysis for the Preferred Alternative) of the FEIS, and in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000)

ENCLOSURE A - WETLAND DELINEATION REPORT

A copy of the wetland delineation report entitled *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000) was previously submitted to the following agencies on February 16, 2000: US Army Corps of Engineers (USACOE), US Environmental Protection Agency (USEPA), Pennsylvania Department of Environmental Protection (PADEP), and the New Jersey Department of Environmental Protection (NJDEP). A copy of this document is also located in the Technical Support Data.

ENCLOSURE B - STUDY AREA MAP

A map indicating the location of the project, all water resources and the features identified above is located in the Composite Inventory included as Appendix A of the FEIS.

ENCLOSURE C - DESCRIPTION OF AQUATIC HABITAT

A. Aquatic Habitats Including:

(1) Food Chain Production

Within the study area, the watercourse, wetlands, and uplands offer food chain production for a variety of fauna. Food sources include berries, seeds, twigs, and leaves for terrestrial and aquatic animals and invertebrates. The detritus material is also supportive of the instream habitat, proving food sources for benthic macroinvertebrates and fishes.

Additional information regarding wetlands, including their functions and values for wildlife and aquatic habitat, can be found in Section IV-K.3 of the FEIS and *the Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

Additional information regarding streams can be found in Section IV-H.1 of the FEIS as well as in the Technical Support Data.

(2) General Habitat (Nesting, Spawning, Rearing, Resting, Migration, Feeding, Escape Cover, Other)

Aquatic habitat exists in both the study area wetlands and the watercourses. Wetland functions and values, including aquatic habitat and wildlife habitat, were evaluated for each wetland in the study area. Principal functions and values for each impacted wetland are summarized in Section IV-K.3 of the FEIS. More detailed information and wetland functional assessment data forms and photographs are included in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

Additional information regarding streams can be found in Section IV-H.1 and in the Technical Support Data.

(3) Habitat for Threatened and Endangered Plant and Animal Species

As described in Section IV-L of the FEIS federal, Pennsylvania, and New Jersey listed species of concern are found in the study area. Four Commonwealth of Pennsylvania listed threatened or endangered animal species and nine plant species were identified as occurring in the study area in Pennsylvania. Three State of New Jersey listed threatened or endangered species, two animal species and one plant species, were identified in the New Jersey study area. These are discussed in Section IV-L.1.c and d of the FEIS. These species are mainly found along Mill Creek, Silver Lake Park, Black Ditch Park, and the Delaware River.

One federal endangered species, the shortnose sturgeon (*Acipenser brevirostrum*), inhabits the study area. It is known to occur in the Delaware River between Trenton, New Jersey and south of Philadelphia, Pennsylvania.

Many wetlands occur in or near areas identified that support threatened and endangered species. Due to the location of wetlands near the sites where Pennsylvania listed species are found, the status of exceptional value wetlands was determined for four wetlands. Additional information regarding exceptional value wetlands can be found in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland Identification, Delineation, and Assessment Report* (PTC, 2000).

(4) Environmental Study Areas (Sanctuaries, Refuges)

No sanctuaries or refuges designated under state and federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources occur in the study area.

(5) If Project Proposes A Stream Relocation, A Stream Enclosure, Dredging, Provide A Description Of The Instream Macroinvertebrate Community.

In general, the type and number of benthic macro-invertebrates in the study area streams suggest fair to good water quality, despite the degraded condition of many local waterways in watersheds that consist largely of urban land use. The blue crab (*Callinectes sapidus*) is a recreationally important invertebrate that occurs in the Delaware Estuary. The macroinvertebrates found during sampling, as well as their pollution tolerance levels, are described in Section IV-H.1.b of the FEIS.

B. Water Quantity and Streamflow

(1) Natural Drainage Patterns

The study area is drained by many waterways, the largest being the Delaware River, which flows south through the Bridge Element. The tributaries of the Delaware River in the Pennsylvania study area include Neshaminy Creek and Mill Creek. The study area also contains numerous unnamed tributaries that are part of the Neshaminy and Mill Creek Watersheds. Black Ditch Creek, located just north of the study area, is a tributary to Mill Creek. Additional information and mapping of the watersheds can be found in Section IV-H of the FEIS.

(2) Flushing Characteristics

Most of these streams exhibit eroded bank conditions caused by increased stream flows usually related to accelerated runoff from impervious surfaces, such as parking lots or housing developments during storm events. This accelerated runoff has had negative impacts on surface water quality, including stream bank erosion. Additional details regarding study area stream width, depth, gradient, and substrate can be found in Section IV-H of the FEIS.

(3) Current Patterns

The majority of study area streams have streambeds composed of varying amounts of clay, silt, sand, gravel, and, to a lesser extent, cobbles. The streambeds of larger water bodies such as Neshaminy Creek and the Delaware River are comprised of larger percentages of cobbles, rocks and boulders. Additional details regarding study area stream width, depth, gradient, and substrate can be found in Section IV-H of the FEIS.

(4) Groundwater Discharge for Baseflow

There are only a limited number of wetlands in the study area that receive their hydrology from groundwater sources. As described in the next section, most of the study area surface waters recharge the underlying aquifer, rather than receive hydrology from the aquifer.

Principal functions and values for each impacted wetland are summarized in Section IV-K.3 of the FEIS. More detailed information and wetland functional assessment data forms and photographs are included in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data. Section IV-G of the FEIS further discusses groundwater resources.

(5) Natural Recharge Area for Ground and Surface Waters

The USEPA has designated the New Jersey Coastal Plain Aquifer System, underlying the New Jersey Coastal Plain Area, as the sole or principal source of drinking water for certain New Jersey counties, including Burlington County. The boundary of the New Jersey Coastal Plain Aquifer System also extends into Pennsylvania to include the area

within the two miles of the Delaware River, which is part of the stream flow source zone of that aquifer system. The stream flow source zone is defined as the upstream headwaters area that drains into a recharge zone.

Portions of the study area in Pennsylvania and New Jersey that are outside the designated boundary of the New Jersey Coastal Plain Aquifer System are considered to be either in the stream flow source zone or the recharge zone of this SSA. This is because heavy pumping in Camden, New Jersey and Philadelphia, Pennsylvania has caused a reversal in the normal discharge of the aquifer. Consequently, the Delaware River surface water recharges the aquifer instead of vice-versa (Blickwedel and Wood, 1989). Also, there are several wetlands in the study area that retain water and allow it to recharge back into the water table.

Section IV-G of the FEIS further discusses groundwater resources. Principal functions and values for each impacted wetland are summarized in Section IV-K.3 of the FEIS. More detailed information and wetland functional assessment data forms and photographs are included in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

(6) Storm and Floodwater Storage and Control

There are several wetlands in the study area that serve as storm water and floodwater storage. Furthermore, the 100-year floodplains for the study area watercourse are identified in the FEIS and discussed in Section IV-J. Additional information regarding wetlands, including their functions and values for floodwater storage, can be found in Section IV-K.3 of the FEIS and the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

C. Water Quality

Section IV-H.1.a of the FEIS contains information regarding water quality of the largest waterways in the study area, the Delaware River, Neshaminy Creek and Mill Creek. Furthermore, the Technical Support Data contains more detailed information.

(1) Preventing Pollution

There are several wetlands in the study area that prevent pollutants and toxicants from reaching streams and rivers. Additional information regarding wetlands, including their functions and values for preventing pollution, can be found in Section IV-K.3 of the FEIS and the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

(2) Sediment Control and Patterns

There are several wetlands in the study area that aid in the retention of sediments. Additional information regarding wetlands, including their functions and values for sediment control, can be found in Section IV-K.3 of the FEIS and the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

(3) Salinity Distribution

This subsection pertains to salinity gradients that form where salt water from the ocean meets and mixes with freshwater. The Interchange Project involves freshwater non-tidal and tidal waterways and impacts to natural salinity gradients are, therefore, not applicable to this project.

(4) Natural Water Filtration

There are several wetlands in the study area that filter overland flow of pollutants, toxicants, and sediments before they reach streams and rivers. Additional information regarding wetlands, including their functions and values for filtering overland flow, can be found in Section IV-K.3 of the FEIS and the *Pennsylvania Turnpike/Interstate 95 Interchange Project Revised Draft Wetland, Identification, Delineation, and Assessment Report* (PTC, 2000). This report can be found in the Technical Support Data.

D. Recreation

(1) Game Species

The region surrounding the study area is heavily developed and hunting is limited. Whitetail deer, gray squirrels, and rabbits appear to be the most populous game species in the study area.

(2) Non Game Species

There are many species in the study area that can be observed, especially in the local and county parks. Typical species include several species of bats, chipmunks, hawks, foxes, etc. Additional information can be found in Section IV-M of the FEIS.

(3) Fishing

Fishing occurs in the Delaware River and Neshaminy Creek. Information on fish species can be found in Section IV-H.1.b.4. No streams in the study area are trout stocked waters managed by the Pennsylvania Fish and Boat Commission. No surface waters in the study area have been identified as commercial fisheries.

(4) Hiking

Hiking occurs at the numerous park and recreational facilities located within the study area as identified in Section V (Section 4(f) Evaluation) of the FEIS. In addition, the National Park Service is planning a multi-use pathway, the Delaware River Heritage Trail, to be located close to the Delaware River shores, as depicted in Section V of the FEIS.

(5) Observation (Plant/Wildlife)

There are several parks located in the study area that would provide opportunities for observing wildlife. These include Black Ditch Park, Silver Lake Park, Greentrees Park A, and Greentrees Park B. However, observations are mainly limited to typical animals found in urban settings, such as white tail deer, chipmunks, sparrows, finches, etc.

Additional information regarding parks can be found in the FEIS, Section IV-B and Section V. Additional information regarding study area wildlife can be found in Section IV-M of the FEIS.

(6) Other

No other pertinent environmental features have been identified at this time.

E. Upstream and Downstream Property

The study area is heavily developed. There are several owners, both public and private along the study area waterways. Bucks County owns a large portion of the property surrounding Mill Creek in the study area.

F. Other Environmental Factors Determined by Site Investigation

No other pertinent environmental factors have been identified at this time.

ENCLOSURE D - PROJECT IMPACTS

A. Project Impacts

(1) National, State or Local Park, Forest or Recreation Area

Section IV-B.6 of the FEIS provides a description and impact evaluation of park and recreational facilities in the study area. Of the 16 public parks and recreational facilities identified, only Black Ditch Park (a county-owned park) would be directly impacted by the project, for an estimated 0.038 ha (0.094 ac) of impact. Section V (Section 4(f) Evaluation) of the FEIS provides a description of park and recreation areas afforded protection under Section 4(f) of the US Department of Transportation Act of 1966, as well as evaluation of impacts to each resource.

(2) Natural, Wild, or Wilderness Area

No Natural, Wild, or Wilderness Areas have been identified in the study area therefore no impacts area anticipated.

(3) National, State, or Local Historic Site

There are several historic properties located in the study area, as identified in Section IV-D of the FEIS. As documented in the *Revised Draft Pennsylvania Turnpike/Interstate 95 Interchange Project; Assessment of Effects on Historic Architectural Resources; Bucks County, Pennsylvania; Burlington County, New Jersey* (PTC, 2003) the Preferred Alternative would have a no adverse effect on the Pennsylvania Division of the Delaware Canal, and the Pennsylvania Railroad between Philadelphia and New York.

The proposed additional Delaware River Turnpike Bridge, and piers, would be located at the northern end of open section of the Pennsylvania Division of the Delaware Canal. The proximity of the improvements will affect the property's setting. This effect will not be adverse because it will no alter, directly or indirectly, any of the characteristics of the canal that qualify it as a National Historic Landmark in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

To build a new parallel bridge across the Delaware River requires the use of the linear Pennsylvania Railroad, which is listed on the National Register of Historic Places. Impacts would be limited to the extensions of three existing concrete piers, an approximate total area of 0.032 ha (0.080 ac). The extension of the piers will affect the property's setting, however, the effects will not be adverse, since they will not alter, directly or indirectly, any of the characteristics of the railroad that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

The Preferred Alternative may impact four potential archaeological sites. A Programmatic Agreement has been drafted between the Federal Highway Administration (FHWA), Advisory Council on Historic Preservation (ACHP), Pennsylvania State Historic Preservation Office (PASHPO), the New Jersey State Historic Preservation Office (NJSHPO), Pennsylvania Department of Transportation (PENNDOT), and the Pennsylvania Turnpike Commission (PTC) regarding these sties. The Programmatic Agreement commits to appropriate procedures to protect and uncover the archaeological resources, as the project proceeds through Final Design and construction. Section IV-D and Section V of the FEIS contain detailed information regarding cultural resource impacts. Section V (Section 4(f) Evaluation) of the FEIS provides a description of Section 4(f) resources and an evaluation of impacts to each resource. Additional documentation is contained in the Technical Support Data.

(4) National Natural Landmark

No National Natural Landmarks have been identified in the study area therefore no impacts are anticipated.

(5) National Wildlife Refuge

No National Wildlife Refuges have been identified in the study area therefore no impacts are anticipated.

(6) Cultural or Archaeological Landmarks

Impacts to cultural or archaeological landmarks are discussed under item 3 of this section "National, State, or Local Historic Site."

(7) State Game Lands

No State Game Lands have been identified in the study area therefore no impacts are anticipated.

(8) Federal, State, Local or Private Plant or Wildlife Sanctuaries

Due to the use of retaining walls, the project would not impact Silver Lake Park or its associated Nature Center. Furthermore, noise barriers may be constructed to protect Section 4(f) resources, including Silver Lake Park, and would limit excessive noise from the highway.

(9) Areas Identified as Prime Farmland

No farmland impacts are anticipated.

B. Discuss The Environmental Impacts On:

(1) Aquatic Habitats Including:

a. Food Chain Production (See Below)

b. General Habitat (Nesting, Spawning, Rearing, Resting, Migration, Feeding, Escape Cover, Other)

Aquatic organisms can be directly impacted by the loss of benthic habitat from filling of wetlands and waters, by the release of contaminants, by habitat loss from sedimentation, or from alterations in aquatic habitat caused by sedimentation, changes in water currents, circulation, and water level fluctuations. Stream relocations will also result in the temporary, direct loss of aquatic organisms and habitat, especially to less mobile organisms such as mollusks and other sessile invertebrates. Impacts to aquatic biota are discussed in Section IV-H.2 of the FEIS. Also, Section IV-M of the FEIS identifies impacts to functions and values of wetlands, which include aquatic and wildlife habitat.

c. Habitat for Threatened and Endangered Plant Species and Animal Species

As described under Enclosure C, item A.3 and Section IV-L of the FEIS, there are several Federal, Pennsylvania, and New Jersey listed species of concern are found in the study area. Impacts to these species are described in Section IV-L of the FEIS and further documented in the Technical Support Data.

A Biological Assessment evaluating potential impacts to the federally endangered shortnose sturgeon resulting from the project is being conducted. This is required under Section 7 of the Endangered Species Act to determine if the project is likely to impact a federally listed endangered species. It is anticipated that the project would not jeopardize the continued existence of this species. A summary of the Biological Assessment and mitigation measures to be implemented to protect this endangered species are discussed in Section IV-L.1 of the FEIS and the Technical Support Data.

d. Environmental Study Areas (Sanctuaries, Refuges)

Due to the use of retaining walls, the project would not impact Silver Lake Park or its associated Nature Center.

(2) Water Quantity and Streamflow

a. Natural Drainage Patterns
b. Flushing Characteristics
c. Current Patterns
d. Groundwater Discharge For Baseflow
e. Natural Recharge Area for Ground and Surface Waters
f. Storm And Floodwater Storage and Control

Potential impacts to surface water resources are discussed in Section IV-H.2 of the FEIS. The existing I-276 and I-95 roadways cross a number of perennial streams via culverts or bridges that will be widened during construction of the Preferred Alternative. There are 22 segments of streams that will be impacted by the construction of bridges, extensions of existing culverts, and stream relocations. Notable stream impacts of the project include the placement of pier structures within the substrate of the Delaware River and Neshaminy Creek. The Preferred Alternative will impact 1,254 m (4,115 ft) of perennial streams and 1,500 m (4,923 ft) of intermittent streams. Detailed information regarding impacts to wetlands and streams and appropriate mitigation is located in Sections IV-H and IV-K of the FEIS. Since the diameter of most of the existing culverts or width of bridges will not change as a result of the project, impacts on normal stream current patterns and water circulation, as well as water level fluctuations should be minimal. The perennial and intermittent streams requiring relocation will have new channels designed to be similar in physical characteristics to the existing stream, including stream widths, depths, substrates, streambank vegetation type, etc. and designed to maintain the required stream flow and floodflow capacities. Mitigation measures are discussed in Section IV-H.3 and Appendix G of the FEIS.

(3) Water Quality

a. Preventing Pollution

Detailed Erosion and Sediment Control Plans will be prepared during final design of the Selected Alternative and in accordance with the guidelines provided by PADEP; NJDEP; *Publication 13M, Design Manual, Part 2, Highway Design* (PENNDOT, 2000); the *Standards for Soil Erosion and Sediment Control in New Jersey* (New Jersey Department of Agriculture, 2000); and Bucks and Burlington Counties Conservation Districts. The Erosion and Sediment Control Plans will be included in the National Pollutant Discharge and Elimination System (NPDES) Permit. The permits prepared for the project will meet the requirements of Chapter 102, Chapter 105, and Chapter 106 of *Title 25 of the Pennsylvania Code* (2001). Detailed information regarding erosion mitigation is located in Section IV and Appendix G (Section 404 (b)(1) Preliminary Analysis for the Preferred Alternative of the FEIS.

b. Sediment Control And Patterns

Suspended particulates and the resulting turbidity of surface water may occur during construction activities; particularly in areas that are near or adjacent to surface water bodies and

wetlands. Potential impacts to surface water resources resulting from erosion, siltation and sedimentation are discussed in Section IV-H.2 of the FEIS. Methods of controlling turbidity will be included in Erosion and Sediment Control Plans prepared during final design of the Selected Alternative. General information regarding erosion mitigation is located in Section IV (Environmental Consequences) and Appendix G (Section 404 (b)(1) Preliminary Analysis for the Preferred Alternative) of the FEIS.

c. Salinity Distribution

This subsection pertains to salinity gradients that form where salt water from the ocean meets and mixes with freshwater. The Interchange Project involves freshwater non-tidal and tidal waterways and impacts to natural salinity gradients are, therefore, not applicable to this project.

d. Natural Water Filtration

Water quality of the existing streams could experience both temporary and permanent impacts associated with the construction of the project. The principal concern to water quality is the permanent impact of increased contaminant loading from highway runoff. It is approximated that the project would result in the addition of 40 ha (98 ac) of impervious surface, depending on which alternatives would be selected from each project element. This additional area would create additional roadway runoff containing automobile related pollutants. Pollutants of concern include deicing agents, heavy metals, oil, grease, and other hydrocarbons. A large portion of the existing and proposed additional roadway runoff would pass through stormwater management facilities to be constructed adjacent to the highway alignments. Currently, some of the streams in the study area are aligned parallel to I-276 and I-95 and, therefore, receive runoff directly from the roadway. Directing this runoff to the proposed stormwater management facilities for primary treatment may alleviate some contaminant-loading stresses to the existing streams.

Water quality mitigation to address the direct impact of contaminant loading due to additional roadway surface runoff would include the use of stormwater management practices (e.g. vegetative controls, detention basins, grass swales, etc.) to reduce discharge volumes and remove pollutants. The Preferred Alternative will incorporate the permanent use of stormwater management basins that would receive the additional roadway runoff as well as some of the existing untreated runoff that currently drains into surface waters in close proximity to I-276 and I-95. The stormwater management basins would allow for sediments and contaminants to settle while providing a controlled release of water to the streams. In addition, grass swales provide similar functions and could be constructed parallel to the roadways.

(4) Recreation

Water-related recreation in the study area occurs on the Delaware River, Neshaminy Creek, and the ponds/lake in Silver Lake Park. Impacts to water-related recreation are expected to be temporary, occurring only during active construction, and would not be substantial.

a. Game Species

Whitetail deer is the most populous game species located in the study area. Impacts would be limited to construction activities, and would be directly related to the loss or alternation of the existing terrestrial habitat. Wildlife impacts are therefore expected to be minimal due to the limited habitat affected by the project construction, the fragmented condition of existing habitat to be impacted, and the type of wildlife within the study area. Additional information can be found in Section IV-M of the FEIS.

b. Non Game Species

Impacts would be limited to construction activities, and would be directly related to the loss or alternation of the existing terrestrial habitat. Wildlife impacts are therefore expected to be minimal due to the limited habitat affected by the project construction, the fragmented condition of existing habitat to be impacted, and the type of wildlife within the study area. Additional information can be found in Section IV-M of the FEIS.

c. Fishing

This resource consists of recreational and commercial fisheries consisting of harvestable fish, crustaceans, shellfish and other organisms used by man. No commercial fisheries or trout stocked waters exist in the project study area. Impacted streams within the study area are designated as warm water fisheries and migratory fisheries by the Title 25 of the Pennsylvania Code, Chapter 93 Water Quality Standards (PADEP, 2001). Impacts would be temporary, as they would occur during the reconstruction of bridges and the extension of existing culverts. Additional information can be found in Section IV-H of the FEIS, as well as the Technical Support Data.

d. Hiking

Due to construction of the ramps leading to the proposed interchange, there would be temporary impacts to Black Ditch Park. However, no formal trail exists in the area of disturbance, so the temporary impacts should not interfere with hiking activities. Furthermore, there is a planned Delaware River Heritage Trail, as shown in Section V of the FEIS. This trail follows the towpath of the Delaware Canal. However, in the vicinity of the proposed Delaware River Turnpike Bridge, the proposed trail would follow US 13 beneath the existing Delaware River Turnpike Bridge, and cross US 13 at Green Lane. At this junction the trail would continue on the Delaware Canal towpath, and would not be impacted by the project.

e. Observation (Wildlife)

Impacts to wildlife observation opportunities would be temporary, occurring during active construction. It is not anticipated that the project would have permanent impacts to the observations of the wildlife.

f. Other

No other environmental features have been identified at this time.

(5) Upstream and Downstream Property

The project would not increase or diminish water flow, or change the direction of water flow for the watercourses in the study area. Therefore, no impacts to riparian rights of the property owners adjacent to the waterways would occur as a result of the project.

(6) Other Environmental Factors

No other environmental factors have been identified at this time.

C. Identify All Environmental Impacts on Other Adjacent Land and Water Resources Associated with the Construction, Modification or Operation of the Dam, Reservoir, Water Obstruction, or Encroachment in the Area of the Project.

In general, secondary effects of a highway project result from increases in development in the vicinity of the new or improved roadway in response to improvements in traffic patterns and access to services that the project provides. Since most of the land in the study area is already developed or proposed for development in the near future, there appears to be low potential for this type of highway induced development to occur as a result of this project. Section IV-U, as well as additional documentation located in the Technical Support Data, further describes secondary development and cumulative impacts.

D. Identify and Evaluate the Potential Cumulative Impacts of this Project and Other Potential or Existing Projects Like It, and The Impacts That May Result Through Numerous Piecemeal Changes to the Resource.

The entire project is not expected to have any cumulative adverse effects on the surrounding aquatic ecosystems since no net loss of wetlands would occur. The applicant is proposing the creation of the required acreage of freshwater wetlands to compensate for the loss of wetlands and waters due to filling associated with the Preferred Alternative. Section IV-U, as well as additional documentation located in the Technical Support Data, further describes secondary development and cumulative impacts.

E. Identify and Describe All Other Dams, Water Obstructions or Encroachments Which May or Will Be Needed, In Addition to Those Described in this Application, to Fulfill the Purpose of the Current Project.

Section IV-H.3 of the FEIS provides a detailed description of all stream encroachments resulting from the Preferred Alternative.

APPENDIX I

DEIS COMMENTS AND RESPONSES

DEIS COMMENTS AND RESPONSES

More detailed information, including the complete official transcript of the public and private testimony and exhibits received at the Public Hearing, in addition to written comments received during the comment period, are available in the Technical Support Data.
** Technical Support Data Index is located in Section XII (Appendix C).*

A. DEIS COMMENT PERIOD

On May 11, 2001 the Draft Environmental Impact Statement (DEIS)/Draft Section 4(f) Evaluation was filed with the Environmental Protection Agency and was made available for public review. The availability of the DEIS was advertised through press releases, newsletters distributed to local citizens throughout the study area and display advertisements in newspapers in the study area.

Copies of the DEIS were distributed to Federal, State, and local agencies, US Congressmen, libraries and others. Comments were requested concerning the DEIS and the proposed project alternatives. The deadline of receipt of comments was July 2, 2001.

A joint Pennsylvania Turnpike Commission (PTC)/ Pennsylvania Department of Transportation (PENNDOT)/ Federal Highway Administration (FHWA) and US Army Corps of Engineers (USACOE) Public Hearing was held on June 12, 2001 from 1pm to 9pm at the Harry S. Truman High School in Bristol Township. The hearing provided the opportunity to present views, opinions, and information that will be considered by the USACOE in evaluating the permit application for the proposed project. During the Public Hearing, an "Open House" consisting of display boards, handouts and videos provided a forum for individuals to gather data about the project. During the comment period and Public Hearing, testimony was given by the following means:

- ✓ Public Oral Testimony during the Public Hearing;
- ✓ Private Oral Testimony during the Public Hearing;
- ✓ Written Testimony during the Public Hearing;
- ✓ Written Testimony during the comment period.

In addition, some public testimony speakers turned over exhibits to the stenographer at the conclusion of their testimony. This information was collected and accepted as comment exhibits.

At the Public Hearing, 32 individuals gave public testimony and three individuals gave private testimony. Nine of the speakers handed in exhibits during the public testimony. During the course of the comment period and Public Hearing, 51written comments were received.

B. REVIEW AND ANALYSIS OF DEIS COMMENTS

Appendix I includes all comments and testimony to the DEIS offered by the general public, local officials and agencies during the DEIS comment period from May 11, 2001 to July 2, 2001 and during the Public Hearing. The intent of this section is to respond to each and every substantive issue raised in each comment received during the course of the public comment period. Substantive issues were defined as those judged to have raised issues of fact, evaluation, interpretation or policy pertaining to the proposed improvements or to the DEIS.

Appendix I is comprised of a Table of Contents, three main comment sections, and an Index of Issues. The first main section, Public and Private Testimony, includes the transcribed testimony from the Public Hearing. The second main section, Exhibits, includes any exhibits or pages turned in during the Public and Private Testimony. The third main section, Written Comments, includes the written comments received by the Project Team during the public comment period and during the Public Hearing.

In each section, portions of the testimony, exhibits, and written comments that state substantive issues have been delineated and numbered. Each of the three sections includes responses to individual comments numbered to match the number of the issue for that individual. These sections have been formatted so that in most cases the response is located on the same page as the issue. A sample from each of the sections is included on the following page (I-2) to illustrate how the issues and responses are delineated, numbered, and formatted.

The **Table of Contents** appears on pages I-3 to I-11 and can be used to find an individual comment, issue and response.

TO FIND COMMENTS, ISSUES AND RESPONSES BY INDIVIDUAL:

1. Review the Table of Contents on Pages I-3 to I-11.
   - ✓ If the comment was made during the Public or Private Testimony at the Public Hearing, go to the Public and Private Testimony Section of the Table of Contents.
   - ✓ If the comment was handed to the stenographer during the Public or Private Testimony at the Public Hearing, go to the Exhibits Section of the Table of Contents.
   - ✓ If the comment was a written comment handed in during the Public Hearing or sent in during the public comment period, go to the Written Comments Section of the Table of Contents.
2. Review the specified section of the Table of Contents and find the individual's name.
3. Review and note the location of the comment, the issue(s) raised in the comment, and the location of the issue(s) and response(s).
4. Turn to the specified page(s) of this Appendix to find the comment and the issue(s) by number and the response(s) to the issue(s).

The comments were reviewed and substantive issues were grouped into subject matters. An Index of Issues has been included at the at the end of Appendix I (pages I-155 to I-165) and can be used to find comments, issues and responses related to each of the following subject matters:

- ✓ Agency Coordination
- ✓ Air Quality
- ✓ Alternatives Development
- ✓ Bucks County Neighborhood Enhancement Study
- ✓ Community Economic Impact Review Group
- ✓ Coastal Zones
- ✓ Construction Impacts
- ✓ Cultural Resources
- ✓ DEIS Process
- ✓ DEIS Contents
- ✓ DEIS Study Area
- ✓ Economic Impact Study
- ✓ Environmental Justice
- ✓ Environmental Permitting
- ✓ Final Design
- ✓ Floodplains
- ✓ I-276/I-95 Interchange Project Funding
- ✓ Impact Calculations
- ✓ Incident Management
- ✓ Legislation
- ✓ Miscellaneous
- ✓ Mitigation
- ✓ National Environmental Policy Act Process
- ✓ Natural Resources
- ✓ Noise
- ✓ Parks and Recreation
- ✓ Project Impacts
- ✓ Project Needs
- ✓ Project Position
- ✓ Project Purpose
- ✓ Public Health
- ✓ Public Involvement
- ✓ Secondary Development and Cumulative Impacts
- ✓ Sensitive Waste
- ✓ Socioeconomic
- ✓ Soils
- ✓ Surface Waters
- ✓ Swamp Road Improvements
- ✓ Terrestrial Ecology
- ✓ Traffic and Transportation
- ✓ Threatened and/or Endangered Species
- ✓ Visual Quality
- ✓ Wetlands

TO FIND COMMENTS, ISSUES AND RESPONSES BY SUBJECT MATTER:

1. Review the Index of Issues on Pages I-155 to I-165.
2. Find the subject matter of interest, then review and note the commenter, the location of the subject matter issue(s) raised in the comment, and the location of the subject matter response(s).
3. Turn to the specified page(s) of this Appendix to find the comment and the issue(s) by number and the response(s) to the issue(s).

Sample of Issues and Responses (Public and Private Testimony Section)

George Flocco – Page 3/3 (Testimony Page 33)

6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

1 Project. I support the Toll Plaza Element, Modified Plaza West, the Interchange Element Single Loop A, the Bridge Element Bridge South. Fully supporting, but basically as the Mayor previously said, looking 2 at how that neighborhood impact study will affect the different neighborhoods within the three different townships.

3 I believe that if this project goes forward, it will definitely help to relieve traffic on our two major arteries in Bensalem Township, mainly Street Road and Route 1. I believe the economic growth of this particular project with people being hired to do the project. And once the project is completed, the economic development and growth in Bensalem Township will be good.

The Pennsylvania Department of Transportation and the Pennsylvania Turnpike Authority have worked diligently with the officials of Bensalem Township with the concerns that they originally had when this project was first started. Those concerns have been addressed. I thank them for that. And as I said, I fully, and the people from my board, support this project. Thank you.

MR. WARREN: Thank you.

George Flocco – Page 3/3 (Testimony Page 33)

1 Project Position
The commenter's support for the DEIS Recommended Preferred Alternative (Modified Plaza West, Single Loop A, Bridge South) is noted.

2 Bucks County Neighborhood Enhancement Study
The DEIS/FEIS identifies impacts to communities that might result from the I-276/I-95 Interchange Project in Section IV. Bucks County conducted a Neighborhood Enhancement Study to identify existing infrastructure deficiencies and local planning inconsistencies. Bensalem, Bristol and Middletown Townships participated jointly in the study, which also required public input. The study resulted in a report which recommended projects and funding to be pursued in addition to the construction of the I-276/I-95 Interchange Project.

The Neighborhood Enhancement Study was independent of the I-276/I-95 Interchange Project. The Neighborhood Enhancement Study originated when issues were raised by the Neighborhood Sub-Committee of the Community Economic Impact Review Group (CEIRG). This sub-committee consisted primarily of federal, state, and local elected officials and/or their representatives. The study, administered by the Bucks County Redevelopment Authority, was funded with a combination of state and federal grants.

3 Traffic And Transportation (DEIS/FEIS Section IV-A) / Socioeconomic (DEIS/FEIS Section IV-C)
The commenter's agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project will help relieve traffic on Street Road and Route 1 and provide economic development benefits in Bensalem Township is noted.

Sample of Issues and Responses (Exhibits Section)

Richard Tonge – Page 1/2

Richard Tonge
10 Primrose Court
Newtown, PA 18940
215-579-1228

Oral Presentation
D. Richard Tonge

I appreciate the opportunity to address this committee regarding the Environmental Impact of the proposed direct connection between I-276 (PA Turnpike) and I-95 in Lower Bucks County. I have read the Draft "Executive Summary" and I believe that the study area for the project is too limited. 1 I believe that you should further study the direct impact the construction of this project will have on our neighborhoods in Newtown, Wrightstown, Upper Makefield, Lower Makefield and Northampton Townships. The present study area presently covers an elliptical area bounded by the intersection of I-276 and Rt 132 on the West and the intersection of I-276 and the NJ Turnpike on the East. However, I believe that the construction of this project will have a major impact on 1 townships further north, which will be the major source of construction materials for the project.

2 The main source of crushed stone for this project will come from the quarries that are located in Wrightstown Township and the routes that the loaded quarry trucks will take is directly through residential neighborhoods in the direct path to I-95 where they will deliver their product at the site of this project. At the present time we have a very dangerous situation with loaded quarry trucks passing through these neighborhoods delivering crushed stone to points further south, and the demand for millions of tons of additional crushed stone will only exacerbate this already intolerable situation. At the present time there are four routes that a quarry truck can take between their source of material at the quarry site and I-95 and they all run through residential neighborhoods. They are:

- Stoopville/Lindenhurst Roads-through Wrightstown, Newtown and both Upper & Lower Makefield Townships
- Durham Road (Rt 413)-through Wrightstown and Newtown Townships
- Newtown/Richboro Road-through Wrightstown, Northampton & Newtown Townships
- Swamp Road-through Wrightstown & Newtown Townships

All of these routes eventually dump onto the Newtown Bypass, a major 4-lane highway, on the way to I-95 at Exit 49 (formally exit 30). It should also be pointed out that these routes are the major routes for the buses that take our children to school in the morning just as the gravel trucks are making their way to and from the quarries. For instance, in a recent PENNDOT traffic study, between 6-9 AM, Lindenhurst Road had 27 school buses and 95 trucks-38 of which were gravel trucks carrying crushed stone to I-95. Trucks and school buses don't mix very well, especially when the direct compensation of the truck driver is dependent on how fast he can deliver the goods.

2 I believe that it is the duty of this body to study the impact the construction of this project will have on our neighborhoods, as millions of tons of crushed stone to-be-delivered will be added to this already dangerous mix.

Fortunately there is a partial solution to this dilemma. As you know, since trucks pay highway taxes, they cannot be restricted from using state roads. However, we have a situation near the entrance to the quarries in Wrightstown that artificially restricts southbound truck traffic from using the shortest route to the Newtown Bypass. I am referring to a weight-restricted culvert along Swamp Road that forces the trucks to divert to the other 3 routes. I, and several others from a neighborhood group met with Congressman Greenwood last summer in an effort to get the culvert repaired so some of the southbound truck flow could be spread more evenly and allow the driver to take the shortest and most direct route to his destination-the Newtown Bypass. By opening Swamp Road to southbound truck traffic, the driver could not only save over 3 miles from his trip, but would avoid over 100 intersections that they would encounter along the other routes. Congressman Greenwood met with Andrew Warren of PENNDOT and they both agreed that. .(Quote) "the

Richard Tonge – Page 1/2

1 DEIS Study Area (DEIS/FEIS Section II-A)
The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not recommended.

2 Construction Impacts
The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

Sample of Issues and Responses (Written Comments Section)

Michele Udowenko – Page 2/5

Air Quality Issues

1.Bucks County Courier Times Air Quality Articles:

For three years in a row from 1993-95, Bucks had the worst ozone air pollution in the state. While this is partly due to polluted air blowing from industrial regions south and west of Bucks county, the chief culprits are parked in garages from Morrisville to Milford.

June 27,2000 "Smog Relief".Bucks has had a hard time with attainment, which means falling within EPA standards for clean air. Ozone pollution here is already classified as "severe" and for the past few years, Bucks has been battling it out with Montgomery County for the dubious distinction of having the dirtiest air in Pennsylvania. Ozone pollution, commonly called smog, is created when emissions from vehicles and industry combine with sunlight. Last year 1999, Bucks was awarded the pollution crown when it recorded 24 days with ozone levels exceeding 80 parts per billion over an 8 hour period at the monitoring station at Franklin.D. Roosevelt Junior High school in Bristol Township.

Nationwide air pollution contributes to 120,000 deaths and costs us 40 billion dollars in health care and lost productivity each year. It even affects the growth of our economy, as business choose states with better air quality. (American Lung Association and Commonwealth of Pennsylvania)

The American Lung Association found that poor air quality in the state caused 7,00 emergency visits last year, when the federal health standards for ozone were exceeded more than 500 times.

December 17, 1999 " Quiet ride forecast for I-95 link". Increased emissions from vehicle exhaust would also have minimal impact on residential neighborhoods, said the TPK commissions George Hannon.

2.Our region is in an ozone non-attainment zone.

3. This project will shift millions of daily trips annually through the Bucks County region from other areas onto I-95 and the PA TPK.

1 4. The shifting of more vehicles and trucks will increase NOX and VOC emissions in our region, which are the precursors of ozone.

1 5. This project will require an increase in SOVCAP lanes in Lower Bucks County, which will eventually lead to increased congestion and further degradation of our air quality.

1 6. The construction of a mainline toll plaza along with the stoppage or slowing (EZ-Pass) of vehicles on the PA TPK from 55mph to 0, would impact vehicle speed and change the current emission of NOX and VOC negatively in our communities.

1 7. Building the project will make our region fail to comply with federal ozone attainment requirements.

Questions:

2 1. Where is the baseline, scientific data for NOX and VOC's which show that construction of the project would not increase current levels for Lower Bucks County ?

1 2. Where is the scientific data to prove the project teams theory that shifting vehicles from local roads onto interstates with the construction of this project will improve air quality in Lower Bucks County ?

1 3. Where is the scientific data to show that a mainline toll plaza, with EZ-pass will produce less NOX and

Michele Udowenko – Page 2/5

1 Air Quality (DEIS/FEIS Section IV-N, Appendix E)
A regional air quality emissions analysis that included the I-276/I-95 Interchange Project (and the resultant shifting of vehicles as well as the additional SOVCAP lanes and main line toll plaza) was conducted by the Delaware Valley Regional Planning Commission (DVRPC). This analysis concluded that nitrous oxides (NOx) and volatile organic compounds (VOCs) levels in the region that includes Lower Bucks County would be within standards set by the US Environmental Protection Agency (USEPA) by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County. In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22) of this FEIS regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

2 Air Quality (DEIS/FEIS Section IV-N, Appendix E)
Background and baseline data were analyzed as part of the DVRPC regional analysis for NOx and VOCs. A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which volatile organic compounds emissions budgets have been established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan).

APPENDIX I
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COMMENTS, ISSUES, AND RESPONSES

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COMMENTS, ISSUES AND RESPONSES

Commenter	Representing	Comment Location (page #)	Issue Subject Matter	Response Location (page #)	EIS Section Reference	
					DEIS	FEIS
Public Testimony – Agency						
Marcia Spink	US Environmental Protection Agency	I-21	1 Air Quality	I-20	NA	NA
		I-21, 22	2 Air Quality	I-20, 21	NA	NA
		I-22	3 Air Quality	I-21	NA	NA
		I-22	4 Air Quality	I-21	NA	NA
Public Testimony – Elected and Local Officials						
Michael Connor	Lower Bucks County Chamber of Commerce	I-36	1 Project Position	I-36	NA	NA
Joseph DiGirolamo	Mayor, Bensalem	I-23, 24	1 Noise	I-24	NA	NA
		I-24	2 Project Position	I-24	NA	NA
		I-24	3 Alternatives Development	I-24	III	III
		I-24	4 Bucks County Neighborhood Enhancement Study	I-24	NA	NA
Michael Fitzpatrick	Bucks County Commissioner	I-19, 20	1 Project Position	I-19	NA	NA
		I-19	2 Socioeconomic – Economic	I-19	IV-C.2	IV-C.2
		I-19	3 Socioeconomic – Community Cohesion	I-19, 20	IV-A, C	IV-A, C
		I-19	4 Socioeconomic – Property Displacement	I-20	IV-B.3, C.3	IV-B.3, C.3
		I-19	5 Visual Quality	I-20	IV-R	IV-R
		I-19	6 Mitigation	I-20	IV	IV
		I-19, 20	7 Construction Impacts	I-20	IV-T	IV-T
		I-20	8 Traffic and Transportation – Infrastructure	I-20	IV-A.3	IV-A.3
George Flocco	Bensalem Township Redevelopment Authority	I-25	1 Project Position	I-25	NA	NA
		I-25	2 Bucks County Neighborhood Enhancement Study	I-25	NA	NA
		I-25	3 Traffic and Transportation / Socioeconomic	I-26	IV-A, C	IV-A, C
Kathryn Hill	Bristol Township Council	I-70	1 Legislation	I-70	I-A	I-A
		I-70	2 Project Needs – I-295/I-195 Routing	I-70, 71	I-B	I-B
		I-70	3 Construction Impacts	I-71	IV-T	IV-T
		I-70	4 Public Involvement	I-71	VII-B	VII-B
		I-70	5 Project Position	I-71	VI	VI
Jorden Krauss	Congressman James Greenwood	I-17	1 Socioeconomic – Real Estate Value	I-17	IV-C	IV-C
		I-17	2 Socioeconomic – Property Acquisition	I-17	IV-B.3, C.3	IV-B.3, C.3
		I-17	3 Bucks County Neighborhood Enhancement Study	I-18	NA	NA
		I-17, 18	4 Noise	I-18	NA	NA
Bill Rickett	Executive Director of Bucks County Transportation Management Association	I-26, 27	1 Traffic and Transportation / Socioeconomic	I-26	IV-A, C	IV-A, C
		I-26, 27	2 Project Position	I-26	NA	NA
		I-27	3 Socioeconomic – Property Displacement	I-27	IV-B.3, C.3	IV-B.3, C.3
		I-27	4 Mitigation	I-27	IV	IV
Ken Worthington	Bristol Township Council	I-40	1 Project Position	I-40	NA	NA
		I-40	2 Socioeconomic – Economic	I-40	IV-C	IV-C
		I-41	3 Bucks County Neighborhood Enhancement Study	I-41	NA	NA
Public Testimony – General Public						
William Balas	Resident of Bensalem	I-76	1 Legislation	I-76	I-A	I-A
		I-76	2 Project Needs – I-295/I-195 Routing	I-76	I-B	I-B
Robert Blyler	Resident of Bensalem	I-77	1 Legislation	I-77	I-A, B	I-A, B
Marcy Conti	Regional Group of Residents From Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northhampton Townships	I-34	1 Project Position	I-34	NA	NA
		I-34, 35	2 Construction Impacts	I-35	NA	NA
		I-35	3 Swamp Road Improvements	I-35	NA	NA
		I-35	4 DEIS Study Area	I-35	II-A	II-A
Albert DiGiovanni	Resident of Levittown	I-75	1 Project Position	I-75	NA	NA

NA = Not Applicable

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Commenter	Representing	Comment Location (page #)	Issue Subject Matter	Response Location (page #)	EIS Section Reference	
					DEIS	FEIS
Public Testimony – General Public (Cont'd)						
Sylvia Farley	Resident of Bristol	I-66	1 Alternatives Development	I-66	NA	NA
		I-66	2 Project Needs – I-295/I-195 Routing	I-66, 67	I-B	I-B
		I-66, 67	3 Public Involvement	I-67	VII-B	VII-B
		I-67	4 I-276/I-95 Interchange Project Funding	I-67	NA	NA
		I-67	5 Traffic and Transportation	I-67	IV-A.3	IV-A.3
		I-67	6 Socioeconomic – Economic	I-68	IV-U	IV-U
		I-67	7 Socioeconomic – Commercial Tax Base	I-68	IV-C.4	IV-C.4
Claudia Fountaine	Lindenhurst Road Homeowners Association	I-79	1 Construction Impacts	I-79	NA	NA
		I-79	2 DEIS Study Area	I-79, 80	II-A	II-A
		I-79	3 Swamp Road Improvements	I-80	NA	NA
Karen Friedman	Residents of Lower Makefield	I-39	1 DEIS Study Area	I-39	II-A	II-A
		I-39	2 Construction Impacts	I-39	NA	NA
Sue Golus	Resident of Bristol	I-63, 64, 65	1 Traffic and Transportation	I-64	IV-A	IV-A
		I-64	2 Socioeconomic – Economic	I-64	IV-C	IV-C
		I-64	3 Construction Impacts	I-64	IV-T	IV-T
		I-64	4 Socioeconomic – Real Estate Values	I-64	IV-C	IV-C
		I-65	5 Noise	I-65	IV-O	IV-O
		I-65	6 DEIS Study Area	I-65	ES	ES
Susan Herman	Regional Group of Residents From Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northhampton Townships	I-32, 33, 34	1 DEIS Study Area	I-32	II-A	II-A
		I-32	2 Project Position	I-32	NA	NA
		I-32, 33	3 Construction Impacts	I-32	NA	NA
		I-32, 33	4 Swamp Road Improvements	I-32	NA	NA
Terri Koehler	Resident of Bristol	I-54	No Issue – Declined to Comment	I-54	NA	NA
James Krupa	Resident of Bristol	I-71	1 Socioeconomic	I-71	IV-C.4	IV-C.4
Robert Leone	Resident of Newportville	I-49	1 Public Involvement	I-49	VII	VII
		I-49	2 Public Involvement	I-50	NA	NA
		I-49	3 National Environmental Policy Act Process	I-50	ES	ES
		I-49, 50	4 Environmental Justice	I-50	IV-B.4	IV-B.4
		I-50	5 Economic Impact Study	I-50	VII-B.13	VII-B.13
		I-50	6 Project Impacts	I-50	IV-A, B, N, O, U	IV-A, B, N, O, U
		I-50	7 Air Quality	I-50, 51	IV-N	IV-N, Appendix E
		I-50, 51	8 Air Quality	I-51	IV-N	IV-N, Appendix E
		I-51	9 Traffic and Transportation	I-51	IV-A	IV-A
		I-51	10 Socioeconomic – Real Estate Values	I-51	VII-B	VII-B
		I-52	11 Project Needs – I-295/I-195 Routing	I-52	I-B	I-B
		I-52	12 I-276/I-95 Interchange Project Funding	I-52	NA	NA
Joe Mahoney	Greater Philadelphia Chamber of Commerce	I-59	1 Project Position	I-59	NA	NA
		I-60	2 Traffic and Transportation/Socioeconomic-Economic	I-60	IV-A, C	IV-A, C
Doug Marshall	Resident of Bensalem	I-72	1 Socioeconomic – Economic	I-72	IV-C	IV-C
		I-72, 73	2 Air Quality	I-72, 73	IV-N	IV-N, Appendix E
Barbara McCulloh	Resident of Edgely	I-37	1 Socioeconomic – Property Displacement	I-37	IV-B.3	IV-B.3
		I-37	2 Project Position	I-37	NA	NA
		I-38	3 Surface Waters	I-38	IV-H	IV-H
		I-38	4 Socioeconomic – Quality of Life	I-38	IV	IV
		I-38	5 Miscellaneous	I-38	NA	NA
Garney Morris	Business Owner	I-30	1 Project Position	I-30	NA	NA

NA = Not Applicable

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Commenter	Representing	Comment Location (page #)	Issue Subject Matter	Response Location (page #)	EIS Section Reference	
					DEIS	FEIS
Public Testimony – General Public (Cont'd)						
Bill Perri	Resident of Levittown	I-42	1 DEIS Process	I-42	NA	NA
Edna Roth	Resident of Croyden	I-53	1 Legislation	I-53	I-A	I-A
		I-53	2 I-276/I-95 Interchange Project Funding	I-53	NA	NA
		I-53	3 Air Quality	I-53	IV-N	IV-N, Appendix E
		I-53	4 Project Needs – I-295/I-195 Routing	I-53, 54	I-B	I-B
Bill Ryan	Resident of Bristol	I-68, 69, 70	1 Project Needs – I-295/I-195 Routing	I-68, 69	I-B	I-B
		I-68, 69	2 Project Needs	I-69	I-B	I-B
		I-68	3 Secondary Development and Cumulative Impacts	I-69	IV-U	IV-U
		I-68, 69	4 Legislation	I-69	I-A	I-A
		I-69	5 Socioeconomic – Economic	I-69	IV-A, C	IV-A, C
		I-69	6 Alternatives Development	I-69	III	III
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		I-49	9 Project Position	I-49	NA	NA
Richard Tonge	Regional Group of Residents From Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northhampton Townships	I-61	1 DEIS Study Area	I-61, 62	II-A	II-A
		I-61, 62	2 Construction Impacts	I-62	NA	NA
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Michele Udowenko	Resident of Bensalem	I-55, 56	1 Air Quality	I-55	IV-N	IV-N, Appendix E
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Alex Udowenko	Resident of Bensalem	I-57, 58, 59	1 Economic Impact Study	I-57	IV-C, Appendix C	IV-C, Appendix C
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Ann Vesce	Resident of Laurel Bend	I-28	1 Construction Impacts	I-28	IV-T	IV-T
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James Westfield	Vice President of Modern Group (Business)	I-80	1 Socioeconomic – Economic	I-80	NA	NA
		I-80	2 Socioeconomic	I-80	IV-B	IV-B
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Marcia Spink	US Environmental Protection Agency	I-83	1 Air Quality	I-83	NA	NA
		I-83	2 Air Quality	I-83	IV-N	IV-N
		I-83	3 Air Quality	I-83	NA	NA
		I-83	4 Air Quality	I-83	NA	NA
Exhibits – Local Officials						
Michael Connor	Lower Bucks County Chamber of Commerce	I-88	1 Project Position	I-88	NA	NA
Joseph W. Mahoney, Jr.	Greater Philadelphia Chamber of Commerce	I-89	1 Project Position	I-89	NA	NA
		I-89	2 Traffic and Transportation/Socioeconomic Economic	I-89	IV-A, C	IV-A, C
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Marcy Conti	Regional Group of Residents From Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northhampton Townships	I-86	1 Project Position	I-86	NA	NA
		I-86	2 Construction Impacts	I-86	NA	NA
		I-86	3 Swamp Road Improvements	I-86	NA	NA
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Sylvia Farley	Resident of Bristol	I-95 to I-99	No Issue	I-95 to I-99	NA	NA
Claudia Fountaine	Lindenhurst Road Homeowners Association	I-99	1 Construction Impacts	I-99	NA	NA
		I-99	2 DEIS Study Area	I-99	II-A	II-A
		I-99	3 Swamp Road Improvements	I-99	NA	NA
Karen Friedman	Residents of Lower Makefield	I-90	1 DEIS Study Area	I-90	II-A	II-A
		I-90	2 Construction Impacts	I-90	NA	NA
Susan Herman	Regional Group of Residents From Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northhampton Townships	I-84	1 DEIS Study Area	I-84	II-A	II-A
		I-84	2 Project Position	I-84	NA	NA
		I-84	3 Construction Impacts	I-84	NA	NA
		I-84	4 Swamp Road Improvements	I-84	NA	NA
Robert Leone	Resident of Newportville	I-91, 92, 93	No Issues	I-91, 92, 93	NA	NA
Richard Tonge	Regional Group of Residents From Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northhampton Townships	I-94	1 DEIS Study Area	I-94	II-A	II-A
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William S. Beetle	NJ Department of Transportation	I-101	1 Project Position	I-101	NA	NA
Richard G. Castagna	NJDEP Land Use Management and Compliance	I-101	1 Environmental Permitting	I-101	NA	NA
Frank J. Cianfrani	US Army Corps of Engineers	I-101	1A Agency Coordination	I-101	NA	Appendix I
		I-101	1B Project Position	I-101	NA	NA
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Eugene Gruber, P.E.	Federal Emergency Management Agency Mitigation Division	I-104	1 Floodplains	I-104	NA	IV-I
		I-104	2 Floodplains	I-104	IV-J	IV-J
Scott B. Gudes	US Department of Commerce	I-105	1 Construction Impacts	I-105	NA	IV-F
Dorothy P. Guzzo	NJ Department of Environmental Protection Historic Preservation Office	I-105, 106	1 Cultural Resources	I-105	IV-C	IV-C, Appendix C
		I-105	2 Cultural Resources	I-105	NA	NA
Carol B. Knickerbocker	PA Department of Environmental Protection Southeast Regional Office	I-106	1 Wetlands/Surface Waters/Floodplains/Agency Coordination	I-106	NA	NA
		I-106	2 Threatened and/or Endangered Species	I-106	NA	IV-L, Appendix C
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		I-107	2 Mitigation	I-107	NA	NA
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Richard V. Pepino	US Environmental Protection Agency Office of Environmental Programs	I-108	1 Secondary and Cumulative Impacts	I-108	IV-U	IV-U
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		I-108	3 Mitigation	I-109	NA	NA
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		I-108	7 Construction Impacts	I-109	NA	NA
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Lawrence Schmidt	NJ Department of Environmental Protection Office of Coastal Planning & Program Coordination	I-110	1 Project Position	I-110	NA	NA
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		I-111	2 Threatened and/or Endangered Species	I-111	NA	IV-K, VII, Appendix C
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		I-112	6 Agency Coordination	I-112	NA	NA
Willie R. Taylor	US Department of the Interior Office of Environmental Policy and Compliance	I-112	1 Agency Coordination	I-112	NA	IV-B, Appendix C
		I-112	2 Terrestrial Ecology	I-112	NA	IV-M
Lawrence J. Toth	PA Department of Environmental Protection Coastal Zone Management Program	I-113	1 Coastal Zones	I-113	NA	IV-I
		I-113	2 Wetlands	I-113	NA	IV-K
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Terry S. Fedorchak	Township of Lower Makefield	I-114	1 DEIS Study Area	I-114	II-A	II-A
		I-114, 115	2 Construction Impacts	I-114	NA	NA
		I-115	3 Swamp Road Improvements	I-115	NA	NA
Samuel J. Fenton	Bristol Township	I-115	1 Project Position	I-115	NA	NA
Joseph S. Martz	City of Philadelphia	I-115	1 Project Position	I-115	NA	NA
Anthony J. Melio	PA State Representative, 141st District	I-116	1 Socioeconomic – Property Acquisition	I-116	IV-B.3, C.3	IV-B.3, C.3
		I-116	2 Socioeconomic – Economic	I-116	IV-B.3, C.3	IV-B.3, C.3
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Paul A. Ordog, Jr.	Florence Township Environmental Commission	I-117	1 Project Position	I-117	NA	NA
		I-117	2 Noise	I-117	IV-O	IV-O
		I-117	3 Visual Quality	I-117	NA	NA
		I-117	4 Final Design	I-117	NA	NA
Matthew N. Wright	PA State Representative, 142nd District	I-117	1 Project Position	I-117	NA	NA
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Bill Balas	Resident of Bensalem	I-118	1 Legislation	I-118	I-A	I-A
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Jane B. Bennett	Resident of Bristol	I-119	1 Construction Impacts	I-119	IV-T	IV-T
		I-119	2 Traffic and Transportation	I-119	IV-A	IV-A
Robert Blyler	Resident of Bensalem	I-120	1 Legislation	I-120	I-A	I-A
Timothy A. Boyd	Resident of Flourtown	I-120	1 Project Position	I-120	NA	NA
David Campbell	Resident of Croydon	I-121	1 Noise	I-121	NA	NA
Mr. and Mrs. Robert L. Delp	Resident of Bensalem	I-121	1 Project Position	I-121	NA	NA
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		I-124	9 Public Involvement	I-124	NA	NA
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Lisa P. Fetzer	Resident of Bensalem	I-125	1 Legislation	I-125	I-A	I-A
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		I-125	3 Project Position	I-125	NA	NA
Ron Fetzer, Jr.	Resident of Bensalem	I-125	1 Socioeconomic – Quality of Life	I-125	IV-N	IV-N
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		I-125	4 Project Position	I-125	NA	NA
Theresa P. Fetzer Ronald H. Fetzer	Resident of Bensalem	I-126	1 Project Position	I-126	NA	NA
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Susan Garrison	Resident of Harvest Run West	I-127	1 Noise	I-127	IV-O	IV-O
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James & Cheryl Guiteras	Resident of Bristol	I-128, 129	1 Legislation	I-128	I-A	I-A
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		I-130, 131	3 Construction Impacts	I-130	NA	NA
		I-130, 131	4 Swamp Road Improvements	I-130	NA	NA
Catherine Johnson	Resident of Newportville	I-132	1 Socioeconomic – Real Estate Values	I-132	IV-B.3, C.3	IV-B.3, C.3
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Denise Kula	Resident of Newportville	I-132	1 Public Involvement	I-132	NA	NA

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Collin F. McNeil	PENJERDEL Council	I-134	1 Project Position	I-133	NA	NA
David J. Packer	Resident of Toms River	I-134	1 Project Position	I-134	NA	NA
		I-134	2 Alternatives Development	I-134	III	III
Lisa M. Peterson	Resident of Levittown	I-135	1 Legislation	I-135	I-A	I-A
		I-135	2 Project Needs – I-295/I-195 Routing	I-135	I-B	I-B
		I-135	3 Socioeconomic – Quality of Life	I-135	IV-N, O, R	IV-N, O, R
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Leonard Pundt	Resident of Philadelphia	I-136, 137	1 Project Position	I-136	NA	NA
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Rita E. Ratican	Resident of Bensalem	I-137	1 Project Position	I-137	NA	NA
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Marlene A. Salmon	Resident of Bensalem	I-138	1 Air Quality	I-138	IV-N	IV-N, Appendix E
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Robert W. Salmon	Resident and Business Owner in Bensalem	I-139	1 Air Quality	I-139	IV-N	IV-N, Appendix E
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William R. Salmon	Resident of Bensalem	I-142	1 Socioeconomic – Economic	I-142	NA	NA
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Ruth Mary Sieger	Resident of Levittown	I-144	1 Legislation	I-144	I-A	I-A
Joseph S. & Joan E. Szafranski	Resident of Newportville	I-144	1 Construction Impacts	I-144	IV-T	IV-T
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		I-146	3 I-276/I-95 Interchange Project Funding	I-146	NA	NA
		I-146	4 Community Economic Impact Review Group	I-146	VII-B.13	VII-B.13
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Michele Udowenko	Resident of Bensalem	I-148, 149	1 Air Quality	I-148	IV-N	IV-N, Appendix E
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		I-149	5 I-276/I-95 Interchange Project Funding	I-149	NA	NA
		I-149	6 Public Involvement	I-149	VII	VII
		I-149	7 DEIS Study Area	I-149	II-A	II-A
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		I-150	11 Project Purpose	I-150	I-D	I-D
		I-150	12 Public Health	I-150	NA	NA
		I-150	13 National Environmental Policy Act Process	I-150	NA	NA
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Mr. & Mrs. William C. Wackley	Residents of Bensalem	I-151	1 Traffic and Transportation	I-151	IV-A	IV-A
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Leonard & Mary Wieczezynski	Residents of Langhorne	I-151	1 Socioeconomic – Property Acquisition	I-151	IV-B.3	IV-B.3
Larry Willard	Resident of Bristol	I-152	1 Final Design	I-152	NA	NA
		I-153	2 Project Position	I-153	NA	NA
		I-153	3 Traffic and Transportation – Interstate Designation	I-153	NA	NA
		I-153	4 Alternatives Development	I-153	III	III
Lee R. Winson	Resident of Lower Makefield	I-153	1 Socioeconomic – Commercial Tax Base	I-153, 154	IV-C.4	IV-C.4
		I-153, 154	2 Construction Impacts	I-154	IV-T	IV-T
		I-154	3 Socioeconomic – Residential Tax Base	I-154	IV-C.4	IV-C.4
		I-154	4 Socioeconomic – Real Estate Values	I-154	NA	NA
		I-154	5 Noise	I-154	IV-O	IV-O
		I-154	6 Visual Quality	I-154	IV-R	IV-R

NA = Not Applicable

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APPENDIX I

PUBLIC AND PRIVATE TESTIMONY

Opening Statements – Page 1/11 (Testimony Page 3)

MR. WARREN: Ladies and gentlemen, on behalf of Governor Ridge and Secretary Mallory, I welcome you to this afternoon's portion of our hearing. We are here today in order to have an opportunity for Pennsylvania citizens, anyone, actually, who has an opinion about the Pennsylvania Turnpike/I-95 connecter project to offer that opinion. As you are well aware, the project involves relocation of a toll plaza most of all connecting two major interstates on East Coast, widening some lanes, and building a new bridge over the Delaware River. There is an open house with a number of displays right outside the door to the left for anyone who cares to go see particulars of the project.

We will also be accepting written testimony in addition to oral testimony from now until July 2nd of this year. Anyone who cares to may submit written testimony to 3220 Tillman Drive, Suite 215, Bensalem 19020.

The two people behind me are Barry Troup from the Pennsylvania Turnpike Commission and Jackie Winkler representing the Army Corps of Engineers. First, Mr. Troup will offer on some comments, then

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No Issues – No Responses

Opening Statements – Page 2/11 (Testimony Page 4)

Ms. Winkler, and then I will be back to go through the procedures for today's testimony and begin the actual testimony.

Barry Troup, Pennsylvania Turnpike Commission.

MR. TROUP: Good afternoon. My name is Barry Troup. I am the Assistant Chief Engineer for the Pennsylvania Turnpike Commission.

The purpose of this hearing is for the Turnpike Commission to collect written and oral testimony regarding the proposed I-276/I-95 Interchange Project in Bucks County, Pennsylvania and Burlington County, New Jersey. This public hearing is in compliance with the requirements of Act 120 of May 6, 1970, establishing the Pennsylvania Department of Transportation, and of Title 23, United States Code, Section 128 and 23, Code of Federal Regulations, Part 771.

This preceding is a combined public hearing for the purposes of the highway design location and consideration of a permit application by the US Army Corps of Engineers. This public hearing must take place before the proposed transportation project is approved by the Federal

Opening Statements – Page 2/11 (Testimony Page 4)

No Issues – No Responses

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Highway Administration, before a commitment to specific design alternatives is made, and before the US Army Corps of Engineers approves a permit.

The Pennsylvania Turnpike Commission is administering this project in partnership with the Pennsylvania Department of Transportation and the Federal Highway Administration. The Commission has the primary responsibility for initiation and implementation of the highway program, for conducting studies of feasible alternatives, holding public hearings, selecting routes, designing and constructing projects.

The Federal Highway Administration is responsible for review and approval of the proposed projects on the interstate system and reimburses the Commission for portions of the costs of approved Federal-aid projects.

This hearing is being held to give interested parties an opportunity to present comments on: The project's alternatives and major design features; the socioeconomic, natural and cultural resource impacts of the project; the recommended preferred alternative.

We're asking for your comments so we can

Opening Statements – Page 3/11 (Testimony Page 5)

No Issues – No Responses

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address the issues and present comprehensive information to the Federal Highway Administration in the form of a Final Environmental Impact Statement.

Copies of the Draft Environmental Impact Statement were made available for review and comment on May 11, 2001, and will remain available for review through July 2, 2001, at the locations listed in your handout.

The Draft Environmental Impact Statement and the supporting technical files for this project can be reviewed at the Project Office in Bensalem or PennDOT District 6-0 Office in King of Prussia.

The Draft Environmental Impact Statement details the evaluation of alternatives considered and their associated impacts, including identification of a recommended preferred alternative.

The Commission's testimony for this hearing, along with today's hearing transcript, will be included in the Final Environmental Impact Statement.

Finally, let me extend my appreciation to the elected officials and community and civic leaders who have actively participated in numerous

Opening Statements – Page 4/11 (Testimony Page 6)

No Issues – No Responses

Opening Statements – Page 5/11 (Testimony Page 7)

meetings of the Community Advisory Committee and the Community Economic Impact Review Group. Your efforts have greatly contributed to the success of this important project study.

I would now like to turn the meeting over to Jacqueline Winkler, who will discuss the US Army Corps of Engineers' permit procedures.

MS. WINKLER: Thank you very much. Good afternoon. My name is Jacqueline Winkler, I'm senior biologist for the US Army Corps of Engineers, Philadelphia District, and the Corps Project Manager for the Pennsylvania Turnpike/I-95 Interchange Project.

Under the an Authority of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, the US Army Corps of Engineers as a federal agency that regulates all work in navigable waters of the United States and the discharge of dredged or fill material into all waters of the United States, including wetlands.

The Corps of Engineers received a permit application on May 7, 2001, from the Pennsylvania Turnpike Commission requesting a Department of the Army permit to discharge fill material into waters

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No Issues – No Responses

Opening Statements – Page 6/11 (Testimony Page 8)

and wetlands in order to facilitate the construction of Alternative One discussed in the Draft Environmental Impact Statement. That alternative consists of the modified Plaza West, Single Loop A Interplay (sic) Interchange and the Bridge South Project Elements.

From the Corps' perspective, the purpose of this hearing is to acquire information which will be considered in determining whether a Department of the Army permit issued to Pennsylvania Turnpike Commission for the pending permit application. The decision whether to issue a permit will be based on an evaluation of probable impacts of the proposed activities on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against any reasonably foreseeable detriments.

All factors which may be relevant to the work will be considered. Among these are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain

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No Issues – No Responses

Opening Statements – Page 7/11 (Testimony Page 9)

values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fire (sic) production, mineral needs, and in general, the needs and welfare of the people.

This hearing affords interested parties the opportunity to present their views, opinions and information on the proposed work. All oral and written testimony that you provide today as well as written statements received no later than July 7, (sic) 2001, will be part of the public hearing record and will be considered in rendering a decision on the Department of the Army Permit Application.

I will now turn the meeting back over to Barry Troup.

MR. TROUP: In viewing the project's plans in the open house area, you should be aware of their preliminary nature. Plan details, including right-of-way lines, property takings, and displacements are subject to further study and possible revision during the design phase that follows completion of the Environmental Impact Statement.

All property necessary for this project

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will be acquired in accordance with federal Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, and in accordance with the Pennsylvania Eminent Domain Code as well as applicable federal and state regulations.

Right-of-way specialists are available at today's hearing in the open house area to review specific procedures and answer questions about property impacts. In addition, these specialists can provide you an informative pamphlet titled Property Owners and Tenants Guide, published by the Pennsylvania Turnpike Commission, which details standard right-of-way acquisition procedures.

I will now yield the floor back to Andy Warren to discuss the formal public hearing testimony procedures.

MR. WARREN: Just before we do call on your first presenter, a few housekeeping items. First, what this afternoon is and is not. This is not a debate. It's not a question and answer session. It's not a time for cross-examination. It's not a time for demonstrations. There will be no signs, et cetera, permitted.

The three of us on the panel will be

Opening Statements – Page 8/11 (Testimony Page 10)

No Issues – No Responses

Opening Statements – Page 9/11 (Testimony Page 11)

listening to and hearing your testimony comments. The stenographer will be taking your comments which will officially be entered to the Federal Highway Administration for their consideration. This is your time as a citizen to offer your comment to the Federal Government about the positives or negatives, in your opinion, of this particular project.

There are a list of times for those who have previously signed up. We will call testifiers in groups of three, roughly, so that you have an opportunity to know when about you are coming. If you have signed up for 3:45 and we are running ahead of schedule, keep an eye on the timing. We'll stay as close to it as possible, but we will also keep the program moving. If you have not signed up to testify but would like to, right outside the door is a registration table. The gentleman there will take your name, put you on the list and you will become part of the process. If you just assume not speak in front of this sell-out crowd but you want your testimony offered, you can go into a private classroom with a single stenographer and offer your testimony in private. You may also submit, as I've said earlier, written testimony up to and including

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July 2nd of this year. There will be no weighted value of written, oral, here, private classroom or tape.

We will stay with the schedule as printed with one exception. When should elected officials come forward, we will put the elected officials if they are not already on a schedule in as they arrive. Each testifier will be afforded five minutes to offer his or her comments. The time will be on this screen clock behind me. We'll let you know when there's a minute to go and we just ask that you wrap it up. The five-minute time period is not to stifle anyone, but to merely -- and I suspect tonight that there will be a number of people who want the opportunity to speak, and the five minutes gives everyone that opportunity.

Having said that, the comments that you offer today will be analyzed, answered, and forwarded to the Federal Highway Commission. There will be prepared what is called a Final Environmental Impact Statement. That Final Environmental Impact Statement will include your comments. Following that, will be what is called a Record of Decision. The Record of Decision will be

Opening Statements – Page 10/11 (Testimony Page12)

No Issues – No Responses

Opening Statements – Page 11/11 (Testimony Page 13)

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prepared or submitted roughly one year from now. We're talking by analyzing the questions, comments, getting them back, roughly mid-2002. And after that, a Litigation (sic) Report will be prepared in order to document all methods of minimizing and mitigating environmental and community impacts. The design phase of the project will be able to proceed following the issuance of the Record of Decision contingent upon authorization of program federal funds, right-of-way acquisition, utility relocation following the design phase and all contingent upon available federal funding.

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No Issues – No Responses

Jorden Krauss – Page 1/5 (Testimony Page 13)

We will now begin our testimony. And our first speaker this afternoon will be Peter Krauss, representing the Honorable Congressman James Greenwood. Following Mr. Krauss will be the Honorable Michael Fitzpatrick representing the County of Bucks. And following Mr. Fitzpatrick will be Mayor DiGirolamo, should he arrive.

Mr. Krauss.

MR. KRAUSS: My name is Jorden Krauss, Jorden Krauss, J-O-R-D-E-N, K-R-A-U-S-S. I'm Congressman James C. Greenwood's Chief of Staff. We're located at 69 East Oakland Avenue, Doylestown,

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No Issues – No Responses

Jorden Krauss – Page 2/5 (Testimony Page 14)

Pennsylvania.

On behalf of the Congressman, I want to thank the agencies involved in this process in holding this hearing today. I know it's important part of the public information process on this very large project. I actually had the honor of graduating from this school when it was Woodrow Wilson High School, at the same time that Andy was still, I think, a coach at William Tennent. And one of the things that President Wilson was fond of saying was that he hoped that any political dialog he was always able to shed more light than heat on a subject. And I think that can be said fairly of Congressman Jim Greenwood.

This is a very large potential public infrastructure investment. And in the past several years since he has been congressman, a number of questions were raised by public citizens, by elected officials and by others about the impact of this project. One of the major elements was, of course, this Environmental Impact Statement which has been concluded just recently.

The other was many people came forward and said that they were concerned that the public

Jorden Krauss – Page 3/5 (Testimony Page 15)

investment of nearly $600 million would simply not measure up to the potential economic benefit that the project might produce. So the Congressman, working with local governments, local communities, and the CEIRG group headed very ably by Garney Morris who is both a resident and a businessman here in Bristol Township, we took $100,000 economic development study to see what the effects of the project would be on the region and especially the Lower Bucks County economy.

The study was conducted by the Pennsylvania Economy League which is a rather distinguished organization. It took roughly more than a year to conclude the study, and the findings were really very -- almost astonishing.

The potential for new jobs came to a level of over 3,000 new jobs by the year 2025. And these are not check cashing jobs; these are high-wage, high-skilled, high-value added jobs. And for those people who, like me, were raised in Bucks County or raising their children in Bucks County, hope their children can raise their family Bucks County, that's exiting (sic) news.

There's also an enormous amount of

Jorden Krauss – Page 4/5 (Testimony Page 16)

potential in tax revenue as a result of this project, which is very important especially for tax starving municipalities for Bristol Township which to maintain this School District needs to have a new source of revenue.

1 We think we can get more value and higher value of real estate in this region through the completion of this project. And that is also borne out in the study. And to this date, I'm not aware of anyone who is disputing the facts of that study.

2 There are some remaining concerns and they have to be addressed. There are some people who are in harms way, people whose lives will be affected, and not positively, by the construction of this road. The Congressman's desire is that in this $600 million project we find the resources to make all those persons whole. And we are working on that currently. As many of you know, we are currently working with the Bucks County Planning Commission to take a $35,000 study, the Congressman secured the funds, to look at neighborhood impacts in areas near the project, most affected by the project. And he obviously has been working with Senator Tomlinson to

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No Issues – No Responses

Jorden Krauss – Page 3/5 (Testimony Page 15)

No Issues – No Responses

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1 Socioeconomic- Real Estate Value (DEIS/FEIS Section IV-C)
The commenter's agreement with the findings presented in the DEIS which states that completion of the I-276/I-95 Interchange Project will have a net result in higher real estate values is noted.

2 Socioeconomic–Property Displacement (DEIS/FEIS Sections IV-B.3, C.3)
The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are

described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission (PTC) pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. Just compensation at fair market value will be provided for displaced residents.

Section IV of the DEIS/FEIS discusses impacts and mitigation measures, for instance air, noise and visual quality for properties that remain after construction. Noise barriers are expected to reduce noise levels for most residential areas to below existing levels. In addition, when construction begins on the I-276/I-965 Interchange Project; many air quality benefits will have been realized as a result of stricter US Environmental Protection Agency regulations (see Marcia Spink testimony pages I-21 to I-22 for testimony on air quality related to the project). The DEIS/FEIS describes mitigation measures for visual impacts including landscaping to screen views of the highway and noise barriers.

3 Bucks County Neighborhood Enhancement Study

The DEIS/FEIS identifies impacts to communities that might result from the I-276/I-95 Interchange Project in Section IV. Bucks County conducted a Neighborhood Enhancement Study to identify existing infrastructure deficiencies and local planning inconsistencies. Bensalem, Bristol and Middletown Townships participated jointly in the study, which also required public input. The study resulted in a report which recommended projects and funding to be pursued in addition to the construction of the I-276/I-95 Interchange Project.

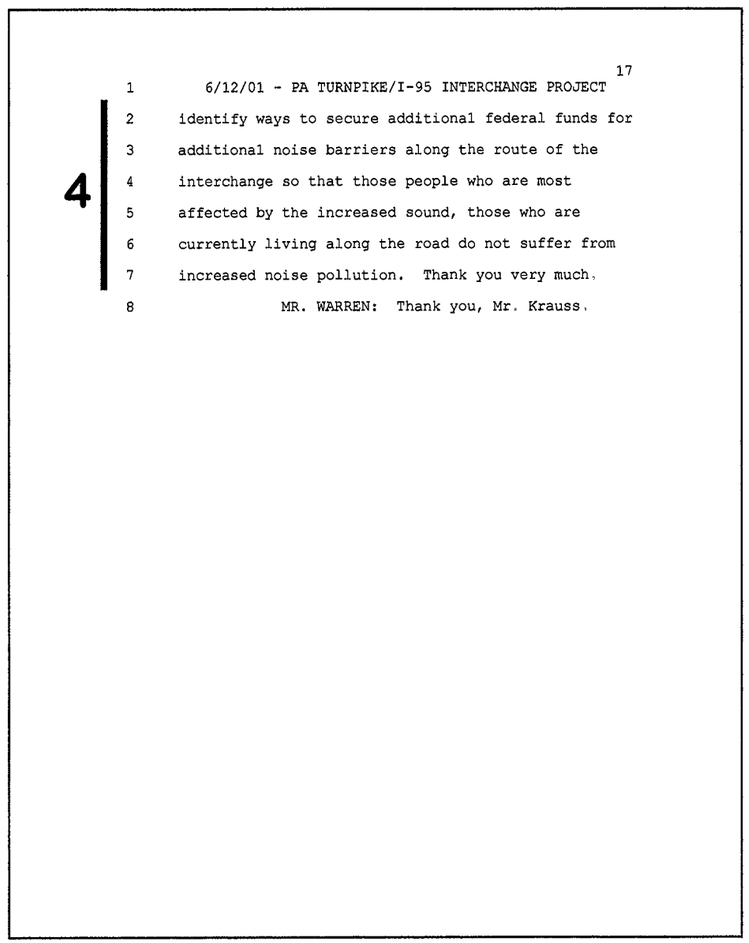
The Neighborhood Enhancement Study was independent of the I-276/I-95 Interchange Project. The Neighborhood Enhancement Study originated when issues were raised by the Neighborhood Sub-Committee of the Community Economic Impact Review Group (CEIRG). This sub-committee consisted primarily of federal, state, and local elected officials and/or their representatives. The study, administered by the Bucks County Redevelopment Authority, was funded with a combination of state and federal grants.

4 Noise

During October 2002, US Representative James C. Greenwood, Pennsylvania Senator Tommy Tomlinson, Pennsylvania Representative Gene DiGirolamo, Bensalem Mayor Joseph DiGirolamo, and PENNDOT District Administrator Andrew Warren announced a federal and state funds initiative to study and provide noise abatement along a section of I-95 south of Neshaminy Creek. This activity is beyond the limits of the I-276/I-95 Interchange Project and is a separate action from this project.

As described in the DEIS/FEIS (Section IV-O), traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined which areas warrant noise barrier consideration. For warranted areas, approximately 10 miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

Jorden Krauss – Page 5/5 (Testimony Page 17)



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identify ways to secure additional federal funds for additional noise barriers along the route of the interchange so that those people who are most affected by the increased sound, those who are currently living along the road do not suffer from increased noise pollution. Thank you very much.

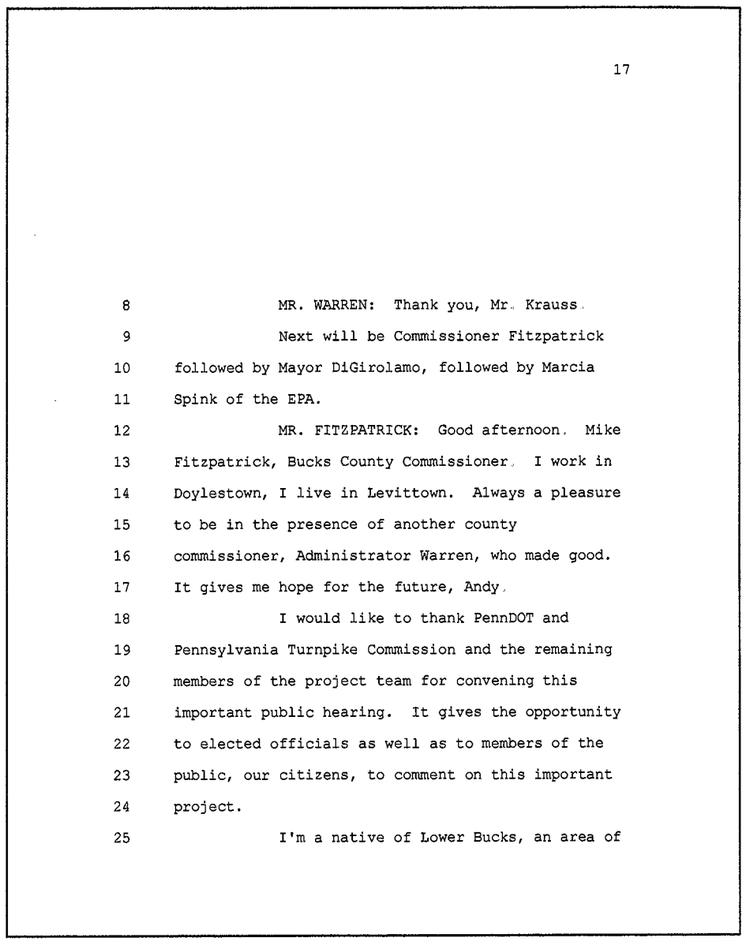
MR. WARREN: Thank you, Mr. Krauss.

4

Jorden Krauss – Page 5/5 (Testimony Page 17)

See ***Jorden Krauss – Page 4/5 (Testimony Page 16)*** On This Page For The Response to Issue **4**.

Michael Fitzpatrick – Page 1/6 (Testimony Page 17)



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MR. WARREN: Thank you, Mr. Krauss.

Next will be Commissioner Fitzpatrick followed by Mayor DiGirolamo, followed by Marcia Spink of the EPA.

MR. FITZPATRICK: Good afternoon. Mike Fitzpatrick, Bucks County Commissioner. I work in Doylestown, I live in Levittown. Always a pleasure to be in the presence of another county commissioner, Administrator Warren, who made good. It gives me hope for the future, Andy.

I would like to thank PennDOT and Pennsylvania Turnpike Commission and the remaining members of the project team for convening this important public hearing. It gives the opportunity to elected officials as well as to members of the public, our citizens, to comment on this important project.

I'm a native of Lower Bucks, an area of

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No Issues – No Responses

Michael Fitzpatrick –Page 2/6 (Testimony Page 18)

rolling hills and a rich fabric of interwoven neighborhoods laid along the banks of the Delaware River. It is a neatly compact and densely populated area that accounts for 17 percent of the county's land area, yet 40 percent of the business base, nearly half of the county's population. But for those of us who live here, it's just, frankly, a great place to call home.

During the past few years, the Turnpike Commission, PennDOT have been conducting EIS on the proposed interchange. The project is perhaps one of the most complex transportation endeavors undertaken in Pennsylvania in recent years. In principle, the Board of Bucks County Commissioners supports the construction of the interchange. However, we have some reservations that need to be considered and addressed.

From a beneficial standpoint, construction of the interchange will be critical in ensuring the provision of businesses and job opportunities for local residents. It will provide direct connection between two major roads that link the County of Bucks with the entire eastern seaboard and areas midwest. The interchange will also

Michael Fitzpatrick – Page 3/6 (Testimony Page 19)

facilitate the return of vacant properties, commonly referred to as brownfields, to full, active and highest use.

One of the primary beneficiaries will be the Bucks County Enterprize Zone. The Enterprize Zone is located a stone's throw from the proposed interchange and is one of our key economic development initiatives. This 16-square-mile area encompasses portions of 6 municipalities and is home to 40 percent of the manufacturing base of our county and a large portion of our brownfields.

We anticipate the construction of the interchange will be a positive economic force and a catalyst for beneficial change. This change would include the creation of thousands of life-sustaining jobs and the attraction of millions of dollars in additional private and public investment in business volume both within and outside the Enterprize Zone.

But as I said, our endorsement comes with reservations. While the benefits paints an attractive prospect, we're apprehensive about a number of issues that are in the minds of local residents, business owners, and local officials. Many of them fear the construction of the

Michael Fitzpatrick -- Page 4/6 (Testimony Page 20)

interchange could disrupt and threaten the fabric, stability, and the viability of their well-established communities and business base. We hear them and we share their concerns.

For instance, we're concerned that some local areas will receive disproportionate share of the negative impacts, particularly those closest to either road in the vicinity of the interchange. Some properties will be condemned. Other properties may lose its current buffer or view shed. Irrespective of the specific problem, we expect that every effort will be made to minimize the negative impacts. We expect that everyone will be treated fairly, with dignity and made whole.

But the permanent features are only one side of the picture. We're also concerned about the so-called temporary impacts resulting from construction-related activities. Temporary in this case is not so temporary. Based on the proposed schedule, temporary may mean construction for a period of 10 years or even longer. For many local businesses, the length of disruption may mean the difference between being in business and out of business. We also believe that there is likely to

Michael Fitzpatrick – 2/6 (Testimony Page 18)

1 Project Position

The Bucks County Commissioners support for the construction of the interchange is noted. As discussed in the DEIS/FEIS and recommended by the commenter, the Project Team will continue to work with the local communities during the design of the I-276/I-95 Interchange Project to identify and consider their concerns.

Michael Fitzpatrick – Page 3/6 (Testimony Page 19)

2 Socioeconomic-Economic (DEIS/FEIS Section IV-C.2)

The Buck's County Commissioners' agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project will result in economic benefits is noted.

See ***Michael Fitzpatrick Page 4/6 (Testimony Page 20)*** Beginning On This Page For The Response To Issue **3**.

Michael Fitzpatrick – Page 4/6 (Testimony Page 20)

3 Socioeconomic – Community Cohesion (DEIS/FEIS Sections IV-A, B, C)

Although the linking of I-276 and I-95 is seen as a major change to some of the communities surrounding the point-of-crossing, the I-276/I-95 Interchange Project does not provide any new interstate highway access points, or highway on new alignment and, therefore, will not divide any existing communities. Although there would be minor short-term tax base impacts, the impact would be less than one percent of the commercial tax base in each of the three municipalities affected in Pennsylvania.

It is projected that the I-276/I-95 Interchange Project would remove trips from local roads by diverting trips to I-95 and I-276. The trips that will be diverted are mostly from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to

carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project would maintain and/or improve local access. The associated travel time savings would benefit local residents and business operators alike.

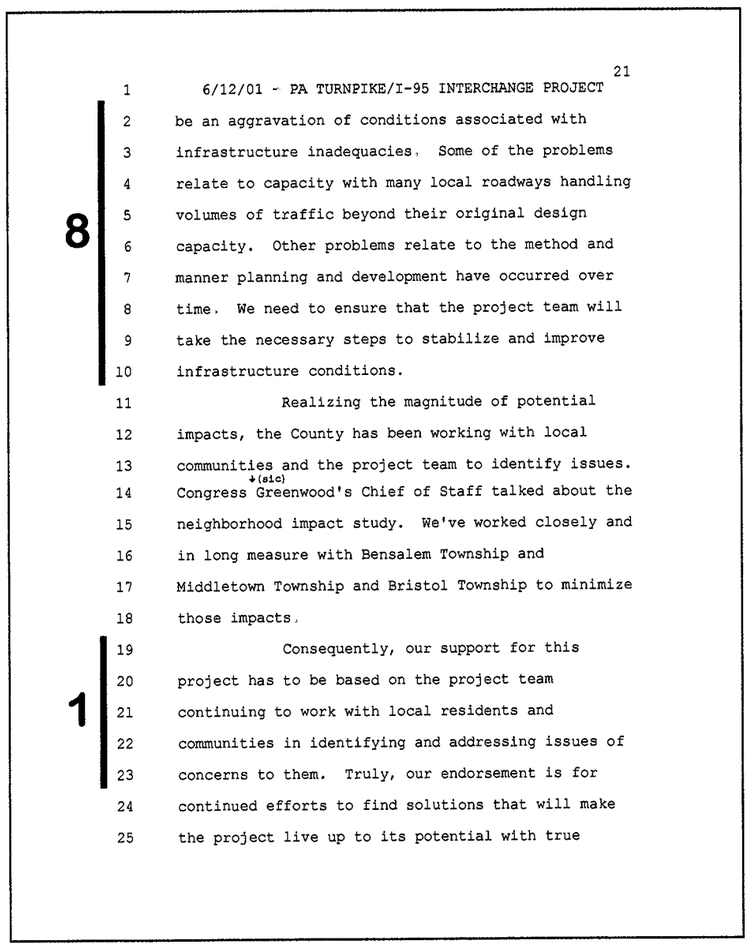
4 Socioeconomic-Property Displacement (DEIS/FEIS Section IV-B.3, C.3)
The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission (PTC) pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. Just compensation at fair market value will be provided for displaced residents.

5 Visual Quality (DEIS/FEIS Section IV-R)
As described in the DEIS, mitigation measures for visual impacts may include tree and shrub plantings, where appropriate, to screen the views of at grade and elevated ramps, retaining walls and noise barriers. Visual quality issues and mitigation will be outlined in the Record of Decision (ROD) and finalized in the Mitigation Report after the ROD.

6 Mitigation (DEIS/FEIS Section IV)
The assessment of mitigation measures (avoidance, minimization, and compensation) is an integral part of the National Environmental Policy Act (NEPA) process. In the case of the I-276/I-95 Interchange Project, many years of minimizing impacts occurred as a result of an extensive Public Involvement Process which involved identified low-income and minority communities as per Title VI of the Civil rights Act of 1964. In accordance with the Pennsylvania Department of Transportation (PENNDOT) Transportation Project Development Process mitigation measures are documented in the DEIS, refined in the FEIS and finalized in the Mitigation Report. The Mitigation Report describing mitigation commitments will be completed after the ROD, before the project proceeds into Final Design.

7 Construction Impacts (DEIS/FEIS Section IV-T)
Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents and businesses. Access to businesses, residences, and community facilities will always be maintained throughout the construction phase. Staged construction features, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. During and after the Final Design phase, the Pennsylvania Turnpike Commission (PTC) is committed to continuing to work with the communities and local officials in the project area to provide a "Construction Phasing and Maintenance of Traffic Plan" that minimizes the duration of any inconvenience to the traveling public and to local residential and commercial activities.

Michael Fitzpatrick – Page 5/6 (Testimony Page 21)



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be an aggravation of conditions associated with infrastructure inadequacies. Some of the problems relate to capacity with many local roadways handling volumes of traffic beyond their original design capacity. Other problems relate to the method and manner planning and development have occurred over time. We need to ensure that the project team will take the necessary steps to stabilize and improve infrastructure conditions.

Realizing the magnitude of potential impacts, the County has been working with local communities and the project team to identify issues. Congress (sic) Greenwood's Chief of Staff talked about the neighborhood impact study. We've worked closely and in long measure with Bensalem Township and Middletown Township and Bristol Township to minimize those impacts.

Consequently, our support for this project has to be based on the project team continuing to work with local residents and communities in identifying and addressing issues of concerns to them. Truly, our endorsement is for continued efforts to find solutions that will make the project live up to its potential with true

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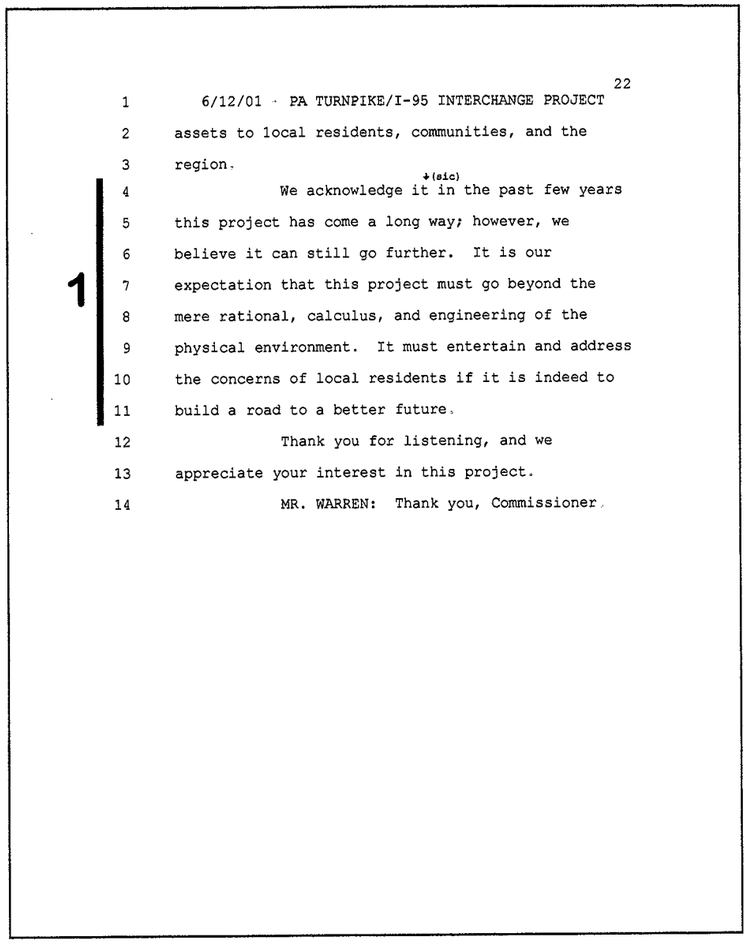
Michael Fitzpatrick – Page 5/6 (Testimony Page 21)

8 Traffic and Transportation-Infrastructure (DEIS/FEIS Section IV-A.3)
The construction of the I-276/I-95 Interchange would include improvements to the local transportation infrastructure, such as secondary roadway widening, bridge reconstruction, and interchange reconfiguration. The DEIS/FEIS addresses infrastructure improvements and Figures IV-3A, 3B, and 3C identify and describe specific infrastructure improvements.

See ***Michael Fitzpatrick – Page 3/6 (Testimony Page 19)*** On Previous Page For The Response To Issue **1**.

Michael Fitzpatrick – Page 6/6 (Testimony Page 22)



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assets to local residents, communities, and the region.

We acknowledge it (sic) in the past few years this project has come a long way; however, we believe it can still go further. It is our expectation that this project must go beyond the mere rational, calculus, and engineering of the physical environment. It must entertain and address the concerns of local residents if it is indeed to build a road to a better future.

Thank you for listening, and we appreciate your interest in this project.

MR. WARREN: Thank you, Commissioner.

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Michael Fitzpatrick – Page 6/6 (Testimony Page 22)

See ***Michael Fitzpatrick – Page 3/6 (Testimony Page 19)*** On Previous Page For The Response To Issue **1**.

Marcia Spink – Page 1/6 (Testimony Page 22)

MR. WARREN: Thank you, Commissioner. Has Mayor DiGirolamo arrived?

If not, we will move to Marcia Spink who is the Associate Director for Air Protection from Environmental Protection Agency Region 3. Following Ms. Spink will be George Flocco, and following Mr. Flocco will be Bill Rickett.

And I will say now and later, anyone whose name I massacre, I'll probably get your first name right and close on the last name, and I apologize.

Marcia.

Marcia Spink – Page 2/6 (Testimony Page 23)

MS. SPINK: Good afternoon. My name is Marcia Spink, and I'm the Associate Director for Air Programs for the Environmental Protection Agency, Region 3 in Philadelphia. I'm testifying today to address the project's impact on local air quality.

A few months ago, I had the pleasure of meeting with the Community Economic Impact Review Group chaired by Garney Morris, and it is my pleasure to appear before all of you today.

The EPA reviews the region's long-range plan and Transportation Improvement Program referred to as the TIP, both of which are prepared by the Delaware Valley Regional (Planning Commission). The long-range plan projects transportation growth 20 to 25 years from now and its impact on air quality. Since this region does not currently meet the ground level ozone standard, these plans must demonstrate that the region's future transportation system will not interfere with the plan that has been devised by the Pennsylvania Department of Environmental Protection to meet the ground level ozone standard by 2005 and to maintain attainment of the standard into the future.

1 The analyses performed to show that the

Marcia Spink – Page 3/6 (Testimony Page 24)

area's planned transportation projects as a whole do not interfere with the region's plan to attain and maintain the ozone standards are referred to as conformity determinations. After reviewing the latest TIP, the EPA has agreed with its determination and recommended that the TIP which includes the interchange project be approved by the Federal Highway Administration which clears the way for funding.

1 As recently as May 14th of 2001, EPA received a letter dated May 8, 2001, from the Pennsylvania Division of the Federal Highway Administration requesting that we review the conformity determination entitled, "Conformity of the DVRCP Horizon, the Year 2025 for the Delaware Valley." We have reviewed the conformity determination in accordance with the procedures and criteria of the Federal Transportation Conformity Rule and have informed the Federal Highway that we concur that the long-range plan demonstrates conformity.

2 It is a credit to the Commonwealth, the regulated community, and the citizens of Southeastern Pennsylvania that this region is

Marcia Spink – Page 1/6 (Testimony Page 22)

No Issues – No Responses

Marcia Spink – Page 2/6 (Testimony Page 23)

1 Air Quality

The commenter's statements, on behalf of the US Environmental Protection Agency (USEPA), that the USEPA reviewed the conformity determination for the project area, which includes the I-276/I-95 Interchange Project, and that the USEPA concurs that the long-range plan demonstrates air quality conformity are noted.

Marcia Spink – Page 3/6 (Testimony Page 24)

See ***Marcia Spink – Page 2/6 (Testimony Page 23)*** On This Page For The Response To Issue **1.**

2 Air Quality

The commenter's statements, on behalf of the USEPA, that the I-276/I-95 Interchange Project study area is in attainment for all criteria air pollutants except ground level ozone, and that this region is expected to reach attainment of the one-hour ozone standard by the year 2005 are noted.

Marcia Spink – Page 4/6 (Testimony Page 25)

attainment for all criteria air pollutants with the exception of ground level ozone. A criteria air pollutant is one for which EPA has set a health base standard for ambient air. The Commonwealth, EPA, and all of you have been working to lower ozone levels and expect this region to reach attainment of the one-hour ozone standard by 2005.

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In 1988, there were approximately 60 days that exceeded ozone limits in the Philadelphia area. In recent years, that number has dropped to three or four days and the degree to which the threshold has been exceeded has dramatically lessened. It is expected to happen again. Three to five years the Philadelphia area could be redesignated to attainment for the one-hour ozone standard.

The conformity process required under the Clean Air Act, as I explained earlier, is the guarantee that growth in the transportation sector does not interfere with attainment of the health base standards set for criteria of the air pollutants.

I'll now turn to the subject of air toxics. While the law does not require an air

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See ***Marcia Spink – Page 3/6 (Testimony Page 24)*** On Previous Page For The Response To Issue **2.**

Marcia Spink – Page 5/6 (Testimony Page 26)

toxics analysis at this time, mobile sources are a significant source of toxics. EPA does not set ambient standards for air toxic pollutants. Instead, the Clean Air Act calls for technology-based approach to reducing those emissions. In other words, to use good science and technological advances to reduce emissions. From the transportation sector, this translates into requiring cleaner vehicles and cleaner fuels.

3

There is good news to report on that front. Federal regulations are already in place calling for cleaner vehicles. By model year 2004 cars, including SUVs, they will have to meet tighter tailpipe standards. There's a new diesel engine rule requiring new diesel vehicles to meet tighter emissions standards as well as the diesel retrofit regulation which will require older diesel vehicles to meet tighter emissions limits.

On the fuel side, by 2004, the sulfur content of gasoline flow in this country will drop from 300 parts per million to 50 parts per million, bringing the US standard in line with the European standard. This will reduce the amount of air toxics generated by burning gasoline by more than 50

Marcia Spink – Page 5/6 (Testimony Page 26)

3 Air Quality

The commenter's statement, on behalf of the USEPA, that the USEPA does not set ambient standards for air toxic pollutants but supports technological advances to reduce emissions by requiring cleaner vehicles and cleaner fuels, is noted.

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percent. EPA has also promulgated a new diesel fuel In addition to reducing air toxics, these new regulations also reduce particulate matter, sulfur dioxide, carbon monoxide, and the formation of ground level ozone.

4

So long as the implementation schedule of these new regulations remains as promulgated, by the time the construction phase commences on the proposed interchange, many of the air quality benefits will be realized. And by the time the project is scheduled to be completed, the vehicle fleet will have turned over such that virtually all of the air quality benefits shall be realized.

Thank you.

MR. WARREN: Thank you, Marcia.

Marcia Spink – Page 6/6 (Testimony Page 27)

4 Air Quality

The commenter's statement, on behalf of the USEPA, that by the time construction of the I-276/I-95 Interchange Project begins, many of the air quality benefits from regulations to reduce particulate matter, sulfur dioxide, carbon monoxide and ground level ozone, will have been realized, is noted.

Joseph DiGirolamo – Page 1/5 (Testimony Page 27)

MR. WARREN: Thank you, Marcia.

Before Mayor DiGirolamo begins his remarks, I will remind speakers, if you have written testimony, obviously, you can submit it at the project office. You can also leave them on the front table with the stenographer and they will get written into the testimony. With that, I will introduce the Mayor of Bensalem Township, the Honorable Joseph DiGirolamo. His birthday is 4/13, a happy day for all. Following Mayor DiGirolamo,

Joseph DiGirolamo – Page 1/5 (Testimony Page 27)

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Joseph DiGirolamo – Page 2/5 (Testimony Page 28)

Mr. Flocco, Bill Rickett, and Ann Vesce.

Mr. Mayor, welcome.

MAYOR DIGIROLAMO: Thank you. Good to be here today. That is a great day, Mr. Warren; you certainly share that with me on 4/13 as our birthday. We share that.

Good to be with you to be with you this afternoon. To give some testimony, on several years of studying the turnpike, this interchange with I-95, there's been some bumpy roads along the way, some things that had to be addressed, some things in our community that we had some concerns with.

At this time, I'm here to tell you that most of these things have been addressed over the last several years. I'd just like to say a few of the boards that I belong to, I'm the Chairman of the Bucks County Transportation Management Association, which also had a role in the study of the interchange, and on several other boards that relate to transportation and what happens here in Bucks County. Some of our concern certainly with the economic development and of Bensalem and to sustain where we are today and not lose some of that. There was a study done, and I feel pretty assured that

Joseph DiGirolamo – Page 2/5 (Testimony Page 28)

No Issues – No Responses

Joseph DiGirolamo – Page 3/5 (Testimony Page 29)

that study showed that, actually, we may even pick up a little economic development on there.

So as we went along and had these concerns, it was very important to know that a lot of my constituents, we needed to address things. The air quality, which you just heard Marcia talk about, was a major concern of ours and still things that we still want to go along and get answers to. I'm reasonably assured from the meetings that we've attended -- and, gosh, they've been several and certainly everybody sitting up there, we've been to all these meetings. These things have all been addressed. We still are optimistically cautious of some things that we still need that we think to address to make sure that our community gets all of these things, or hopefully all of them, but most of them that we think are a great concern. A lot of those things sound barriers that we talked about and one of the things Senator Tomlinson is very concerned with. And Congressman Greenwood, we just had a meting on I-95 and Street Road. That doesn't fit exactly into that area, but we need sound barriers there. Hopefully, we can pull that into the project because of the additional traffic that

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Joseph DiGirolamo – Page 3/5 (Testimony Page 29)

See ***Joseph DiGirolamo – Page 4/5 (Testimony Page 30)*** On Next Page For The Response to Issue 1.

Joseph DiGirolamo – Page 4/5 (Testimony Page 30)

1 will come through I-95. It's very important that we
address those issues. And I know that's not
something that we have a guarantee on but,
hopefully, we'll be able to address that and come to
some conclusion with the help of our Congressman and
our Senator.

I guess the alternative, the project
alternative, the one that I am supporting would be
the Modified West Plaza, the Single Loop and, of
course, the Bridge South. When we talk about the
plaza which is in Bensalem, the plaza is in
Bensalem. When it started out, it was much greater
land-takings and more impact on our community, more
impact on some of our businesses. They've been
addressed. All my concerns on that have been
narrowed down, and I think that the new -- that we
go through very quickly -- the EZ Pass which I've
had for three years that I just forgot what it was.
I think that's helped us immensely at the plaza to
get traffic through there. And by the way, we
encourage everybody to keep getting that EZ Pass. I
know how important it is to us in Bensalem to get
through Exit 28. But I support that project
alternative, what we call the Modified West.

Joseph DiGirolamo – Page 4/5 (Testimony Page 30)

1 Noise

During October 2002, US Representative James C. Greenwood, Pennsylvania Senator Tommy Tomlinson, Pennsylvania Representative Gene DiGirolamo, Bensalem Mayor Joseph DiGirolamo, and PENNDOT District Administrator Andrew Warren announced a federal and state funds initiative to study and provide noise abatement along a section of I-95 south of Neshaminy Creek. This activity is beyond the limits of the I-276/I-95 Interchange Project and is a separate action from this project.

As described in the DEIS/FEIS (Section IV-O), traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined which areas warrant noise barrier consideration. For warranted areas, approximately 10 miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria.

These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

2 Project Position

The commenter's support for the DEIS Recommended Preferred Alternative (Modified Plaza West, Single Loop A, Bridge South) is noted.

3 Alternatives Development (DEIS/FEIS Section III)

The commenter's recognition of minimization measures incorporated during the development of alternatives is noted.

Joseph DiGirolamo – Page 5/5 (Testimony Page 31)

And I earlier said that I am
optimistically cautious because I think we need to
continue, not just my community, but here in Lower
Bucks County to continue the studies that were going
on and some of the grants that we have to do that to
look into other areas, the impact on, not just
Bensalem's community, but Bristol and Middletown
that we're working together on that.

4 So I certainly at this time, myself
personally, am again in support of this project and
the modified west plan. So hopefully, we continue
the dialog and it would come to fruition with most
people's concern his being met. I thank you for
allowing me this time today. Thank you.

MR. WARREN: Your Honor.

Joseph DiGirolamo – Page 5/5 (Testimony Page 31)

4 Bucks County Neighborhood Enhancement Study

The DEIS/FEIS identifies impacts to communities that might result from the I-276/I-95 Interchange Project in Section IV. Bucks County conducted a Neighborhood Enhancement Study to identify existing infrastructure deficiencies and local planning inconsistencies. Bensalem, Bristol and Middletown Townships participated jointly in the study, which also required public input. The study resulted in a report which recommended projects and funding to be pursued in addition to the construction of the I-276/I-95 Interchange Project.

The Neighborhood Enhancement Study was independent of the I-276/I-95 Interchange Project. The Neighborhood Enhancement Study originated when issues were raised by the Neighborhood Sub-Committee of the Community Economic Impact Review Group (CEIRG). This sub-committee consisted primarily of federal, state, and local elected officials and/or their representatives. The study, administered by the Bucks County Redevelopment Authority, was funded with a combination of state and federal grants.

George Flocco – Page 1/3 (Testimony Page 31)

MR. WARREN: Your Honor.

Next, representing the Bensalem Redevelopment Authority, Mr. George Flocco. Following Mr. Flocco will be Mr. Rickett and Ann Vesce.

MR. FLOCCO: Thank you, Mr. Warren. I've been a resident of Bensalem Township for the last 34 years, and the Mayor only mentioned basically the one board he was on. He's got about 30 more. I don't have that many. But I'm on

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George Flocco – Page 2/3 (Testimony Page 32)

different boards, the Bensalem Economic Development Corporation, the Bucks County Enterprize Zone, the Bucks County Transportation Management Association, Delaware Valley Philharmonic Orchestra, the Bucks County Children and Youth Advisory Board, the Lower Bucks Chamber of Commerce, the Bucks County Economic Development Corporation and the Bucks County Local Management Committee which is a part of the Bucks County Office of Employment and Training. I've been an original and present board member of the CAC which originally started probably about four or five years ago; it's a community advisory group on this project. I've been a member and still am of CEIRG, the Community Economic Impact Review Group, and also a member presently now of the Neighborhood Impact Committee. I was appointed by the Mayor to be on the executive group for the 95 Turnpike Steering Committee. Out of that Steering committee, there was money from the state to do a neighborhood impact study from Langan Engineering. That study will be coming out within the next month to two months.

1 Basically, I fully support the Draft Environmental Impact Statement that was dated April 2001 for the Pennsylvania Turnpike/I-95 Interchange

George Flocco – Page 2/3 (Testimony Page 32)

1 Project Position

The commenter's support for the DEIS Recommended Preferred Alternative (Modified Plaza West, Single Loop A, Bridge South) is noted.

George Flocco – Page 3/3 (Testimony Page 33)

1 Project. I support the Toll Plaza Element, Modified Plaza West, the Interchange Element Single Loop A, the Bridge Element Bridge South. Fully supporting, but basically as the Mayor previously said, looking

2 at how that neighborhood impact study will affect the different neighborhoods within the three different townships.

I believe that if this project goes forward, it will definitely help to relieve traffic on our two major arteries in Bensalem Township, mainly Street Road and Route 1. I believe the

3 economic growth of this particular project with people being hired to do the project. And once the project is completed, the economic development and growth in Bensalem Township will be good.

The Pennsylvania Department of Transportation and the Pennsylvania Turnpike Authority have worked diligently with the officials of Bensalem Township with the concerns that they originally had when this project was first started. Those concerns have been addressed. I thank them for that. And as I said, I fully, and the people from my board, support this project. Thank you.

MR. WARREN: Thank you.

George Flocco – Page 3/3 (Testimony Page 33)

See George Flocco – Page 2/3 (Testimony Page 32) On This Page For The Response To Issue **1**.

2 Bucks County Neighborhood Enhancement Study

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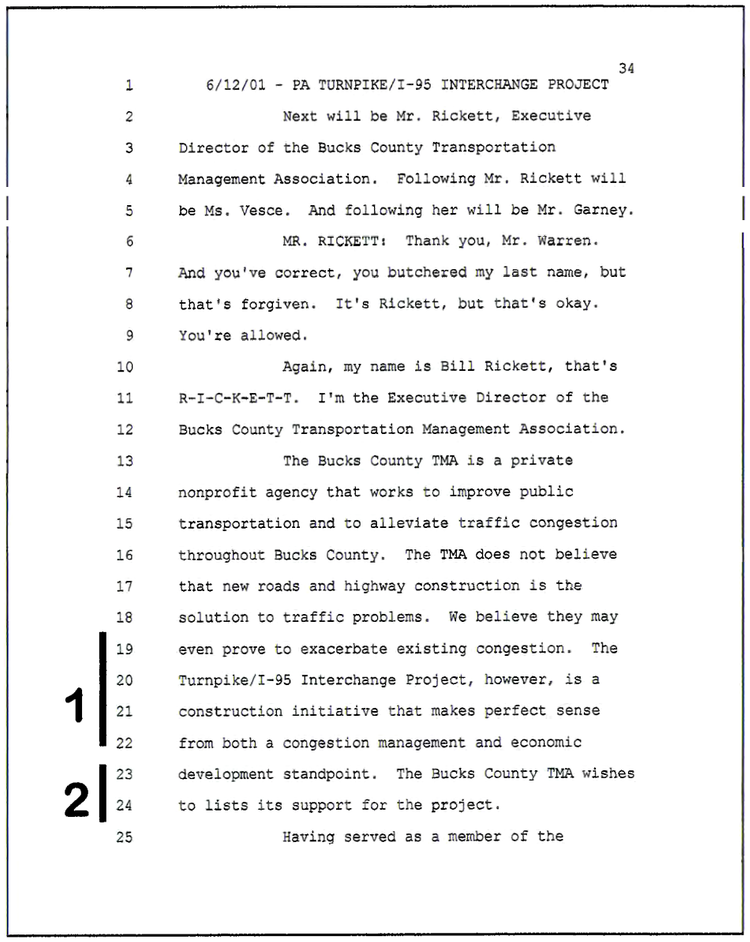
The Neighborhood Enhancement Study was independent of the I-276/I-95 Interchange Project. The Neighborhood Enhancement Study originated when issues were raised by the Neighborhood Sub-Committee of the Community Economic Impact Review Group (CEIRG). This sub-committee consisted primarily of federal, state, and local elected officials and/or their representatives. The study, administered by the Bucks County Redevelopment Authority, was funded with a combination of state and federal grants.

3 Traffic And Transportation (DEIS/FEIS Section IV-A) / Socioeconomic (DEIS/FEIS Section IV-C)

The commenter's agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project will help relieve traffic on Street Road and Route 1 and provide economic development benefits in Bensalem Township is noted.

Bill Rickett – Page 1/4 (Testimony Page 34)



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Next will be Mr. Rickett, Executive Director of the Bucks County Transportation Management Association. Following Mr. Rickett will be Ms. Vesce. And following her will be Mr. Garney.

MR. RICKETT: Thank you, Mr. Warren. And you've correct, you butchered my last name, but that's forgiven. It's Rickett, but that's okay. You're allowed.

Again, my name is Bill Rickett, that's R-I-C-K-E-T-T. I'm the Executive Director of the Bucks County Transportation Management Association.

The Bucks County TMA is a private nonprofit agency that works to improve public transportation and to alleviate traffic congestion throughout Bucks County. The TMA does not believe that new roads and highway construction is the solution to traffic problems. We believe they may even prove to exacerbate existing congestion. The Turnpike/I-95 Interchange Project, however, is a construction initiative that makes perfect sense from both a congestion management and economic development standpoint. The Bucks County TMA wishes to lists its support for the project.

Having served as a member of the

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Bill Rickett – Page 1/4 (Testimony Page 34)

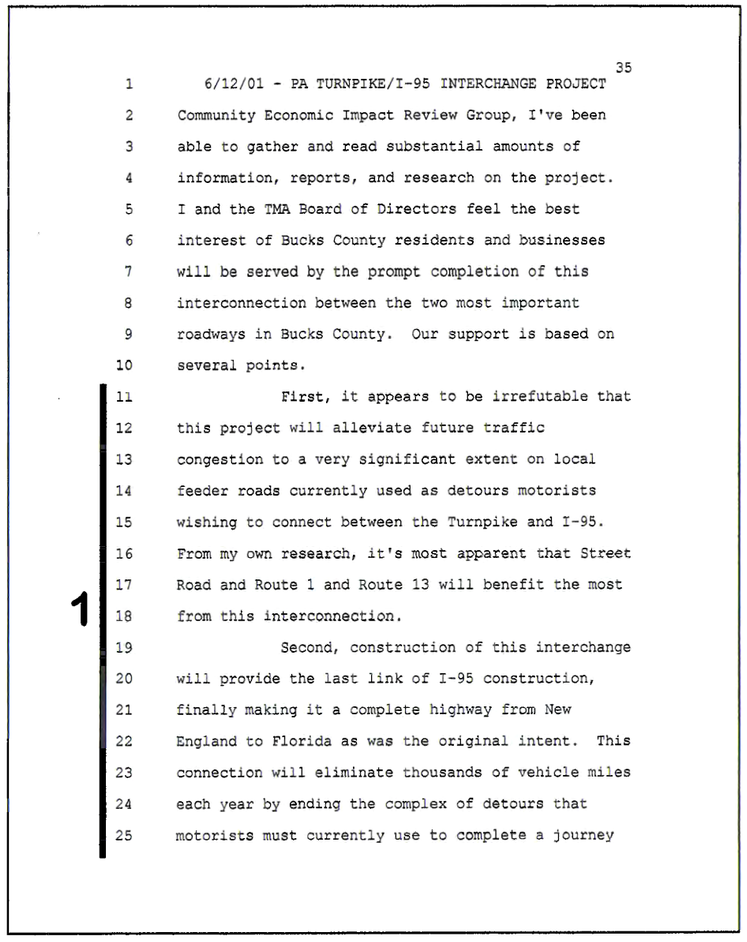
1 Traffic and Transportation (DEIS/FEIS Section IV-A) / Socioeconomic (DEIS/FEIS Section IV-C)

The Bucks County Transportation Management Agency's Board of Directors' agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project is beneficial from a congestion management and economic development standpoint is noted.

2 Project Position

The Bucks County Transportation Management Agency's Board of Directors' support for the project as a whole and the Modified Plaza West Alternative in the Toll Plaza Element is noted.

Bill Rickett – Page 2/4 (Testimony Page 35)



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Community Economic Impact Review Group, I've been able to gather and read substantial amounts of information, reports, and research on the project. I and the TMA Board of Directors feel the best interest of Bucks County residents and businesses will be served by the prompt completion of this interconnection between the two most important roadways in Bucks County. Our support is based on several points.

First, it appears to be irrefutable that this project will alleviate future traffic congestion to a very significant extent on local feeder roads currently used as detours motorists wishing to connect between the Turnpike and I-95. From my own research, it's most apparent that Street Road and Route 1 and Route 13 will benefit the most from this interconnection.

Second, construction of this interchange will provide the last link of I-95 construction, finally making it a complete highway from New England to Florida as was the original intent. This connection will eliminate thousands of vehicle miles each year by ending the complex of detours that motorists must currently use to complete a journey

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Bill Rickett – Page 2/4 (Testimony Page 35)

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Bill Rickett – Page 3/4 (Testimony Page 36)

on I-95.

Third, with direct access available from and to both of these major US arteries, the economic attractiveness of the Lower Bucks County region is double, and the likelihood of more jobs moving into the area increases exponentially. This project also assists Bucks County's ongoing effort, as pointed out earlier by Commissioner Fitzpatrick, to reclaim brownfield districts in Lower Bucks and convert them into viable economic centers, including office space, attraction of clean light industry and manufacturing to the region.

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Fourth, Bucks County trades, retailers and wholesalers have the benefit to a large extent during the 11- to 16-year construction period given the pledge to use local talent, local merchants, and locally-produced materials to the greatest extent possible on this project.

The one caution I wish to express concerns the neighborhoods that will be directly impacted by the construction. As with any major project of this type, there will be displacements and lives will be disrupted. The most compelling impact will be upon those who will continue to live

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Bill Rickett – Page 4/4 (Testimony Page 37)

and those impacted neighborhoods both during and after the project is complete. I know the concerns of both residents and taxpayers are being addressed, and I ask that everything possible be done to alleviate hardship, disruption and make whatever improvements are needed to ensure a high quality of life for all impacted by this necessary and worthwhile project.

4

The Draft Environmental Impact Statement has found no fatal flaws in the planning phase of the proposed project concepts, and we see no reason this project should not proceed with all due speed.

Finally, it is the opinion and request of the Bucks County TMA that the Modified Plaza West Alternative be selected and implemented for the toll plaza element of this project. We thank you for this opportunity to provide our view on this much-needed and planned project. Thank you.

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MR. WARREN: Thank you, Mr. Rickett.

Ann Vesce – Page 1/5 (Testimony Page 37)

MR. WARREN: Thank you, Mr Rickett.

Next will be Ann Vesce followed by Garney Morris and Clark Shuster.

MS. VESCE: Hi. My name is Ann Vesce, that's V-E-S-C-E. I live in Bristol Township. And as a citizen, I've been involved with CAR, Citizens

Bill Rickett – Page 3/4 (Testimony Page 36)

3 Socioeconomic-Property Displacement (DEIS/FEIS Section IV-B.3, C.3)

The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission (PTC) pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. Just compensation at fair market value will be provided for displaced residents.

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4 Mitigation (DEIS/FEIS Section IV)

The DEIS/FEIS does address impacts to several quality of life issues. The assessment of mitigation measures (avoidance, minimization, and compensation) is an integral part of the National Environmental Policy Act (NEPA) process. In accordance with the Pennsylvania Department of Transportation (PENNDOT) Transportation Project Development Process, mitigation measures are documented in the DEIS, refined in the FEIS and finalized in the Mitigation Report. The Mitigation Report describing mitigation commitments will be completed after the ROD, before the project proceeds into Final Design.

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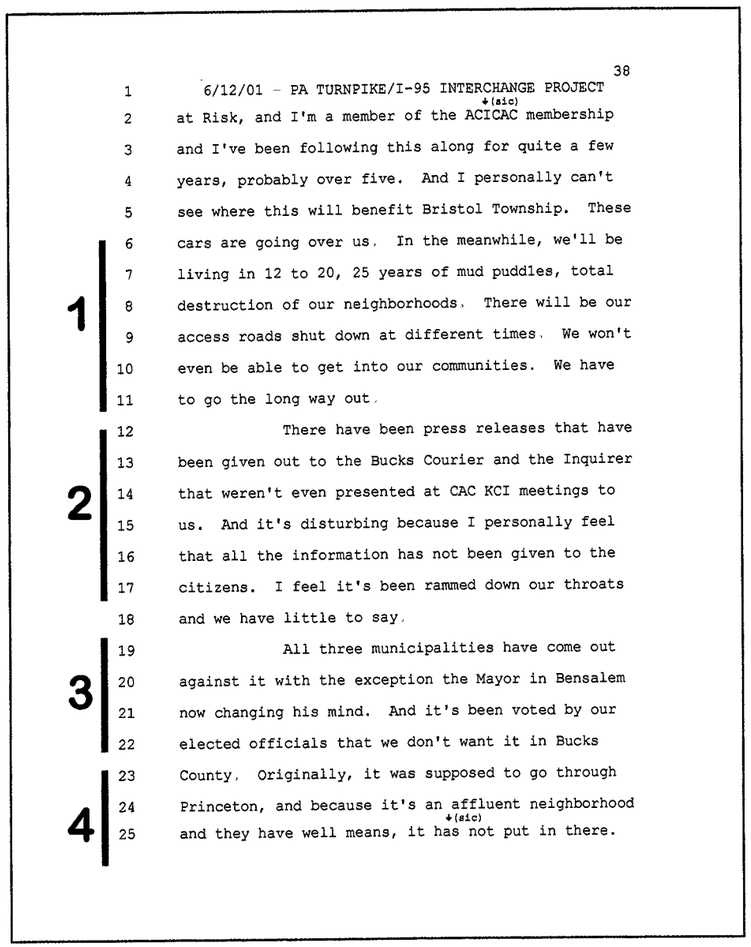
Ann Vesce – Page 1/5 (Testimony Page 37)

No Issues – No Responses

Ann Vesce – Page 2/5 (Testimony Page 38)



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at Risk, and I'm a member of the ACICAC (sic) membership and I've been following this along for quite a few years, probably over five. And I personally can't see where this will benefit Bristol Township. These cars are going over us. In the meanwhile, we'll be living in 12 to 20, 25 years of mud puddles, total destruction of our neighborhoods. There will be our access roads shut down at different times. We won't even be able to get into our communities. We have to go the long way out.

1

There have been press releases that have been given out to the Bucks Courier and the Inquirer that weren't even presented at CAC KCI meetings to us. And it's disturbing because I personally feel that all the information has not been given to the citizens. I feel it's been rammed down our throats and we have little to say.

2

All three municipalities have come out against it with the exception the Mayor in Bensalem now changing his mind. And it's been voted by our elected officials that we don't want it in Bucks County. Originally, it was supposed to go through Princeton, and because it's an affluent (sic) neighborhood and they have well means, it has not put in there.

3

4

Ann Vesce – Page 2/5 (Testimony Page 38)

1 Construction Impacts (DEIS/FEIS IV-T)

As discussed in the DEIS, construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be carried out so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase.

The I-276/I-95 Interchange Project does not provide any new interstate highway access points, or highway on new alignment and, therefore, will not divide any existing communities. Although there would be minor short-term tax base impacts, the impact would be less than one percent of the commercial tax base in each of the three municipalities affected in Pennsylvania. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities would continue, as appropriate, through Final Design and construction.

2 Public Involvement (DEIS/FEIS Section VII-B)

The Community Advisory Committee (CAC) received periodic project briefings as information became available during the various stages of the transportation development process. The primary intent of press releases is for media coordination at times of significant project developments to inform interested parties. Press releases presented information concerning project developments and upcoming meetings that had usually been previously shared with the CAC. No significant new information was provided to the press before it was presented at CAC meetings.

The media is only one strategy the Project Team used to inform the public of project development. The project website at www.paturnpike/i95.com, public information binders in area libraries, public meetings, and the project office are all ways the public can access comprehensive project information. The public can also submit questions on the website, in person at the project office, or via mail and have answers returned in a timely manner.

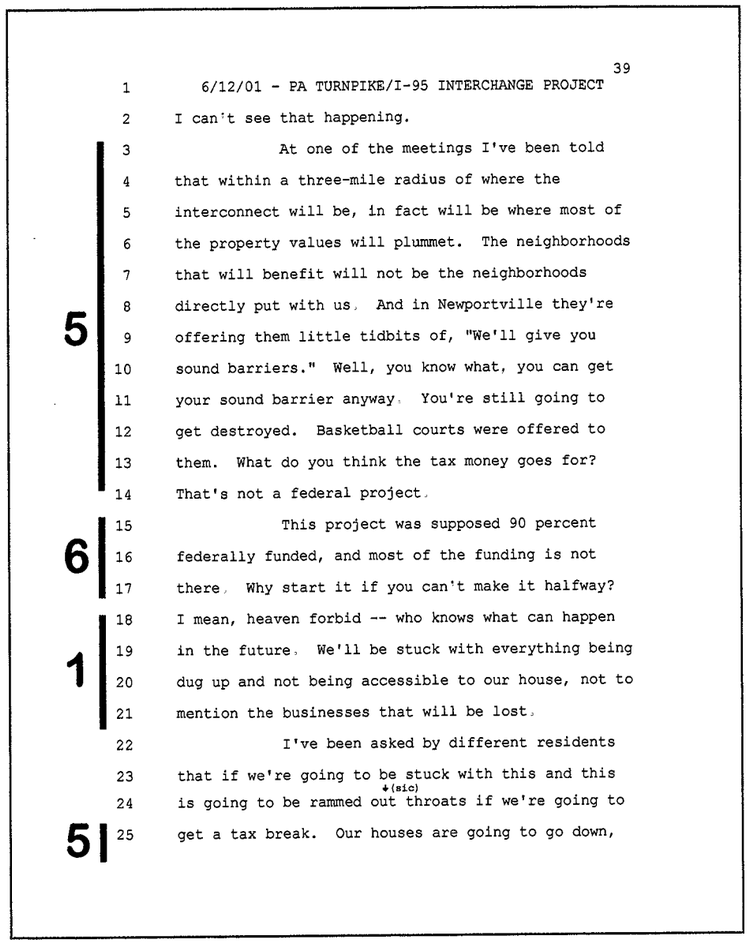
3 Public Involvement (DEIS/FEIS Section VII-C)

Resolutions from the Pennsylvania project area municipalities (Bensalem, Bristol, and Middletown Townships) were passed between 1992 and 1999 to oppose issues and/or impacts associated with the project and alternative study details available at that time. It is important to note that the composition and attitudes of these bodies has changed over time. While formal resolutions of support have not occurred, specific issues such as residential/commercial impacts, highway access, and funding were addressed. Verbal acknowledgements were received from some key members of these councils/boards concerning the elimination of controversial alternatives from further study and the avoidance and minimization that was accomplished with respect to the remaining alternatives.

4 Legislation (DEIS/FEIS Section I-A)

The I-276/I-95 Interchange Project originated because of legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate to interstate continuity and to facilitate the re-routing of I-95 as required by the 1982 Federal Surface Transportation Assistance Act of 1982. The project legislation or supporting documents do not specifically reference the socioeconomic profile of either the Princeton, NJ area or Lower Bucks County.

Ann Vesce – Page 3/5 (Testimony Page 39)



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I can't see that happening.

At one of the meetings I've been told that within a three-mile radius of where the interconnect will be, in fact will be where most of the property values will plummet. The neighborhoods that will benefit will not be the neighborhoods directly put with us. And in Newportville they're offering them little tidbits of, "We'll give you sound barriers." Well, you know what, you can get your sound barrier anyway. You're still going to get destroyed. Basketball courts were offered to them. What do you think the tax money goes for? That's not a federal project.

5

This project was supposed 90 percent federally funded, and most of the funding is not there. Why start it if you can't make it halfway? I mean, heaven forbid -- who knows what can happen in the future. We'll be stuck with everything being dug up and not being accessible to our house, not to mention the businesses that will be lost.

6

1

I've been asked by different residents that if we're going to be stuck with this and this is going to be rammed out (sic) throats if we're going to get a tax break. Our houses are going to go down,

5

Ann Vesce – Page 3/5 (Testimony Page 39)

See ***Ann Vesce – Page 2/5 (Testimony Page 38)*** On This Page For The Response To Issue 1.

5 Socioeconomic – Real Estate Values (DEIS/FEIS Section IV-C)

The specific effects of the proposed transportation improvements on property values are difficult to project at this time. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, although they go down for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them.

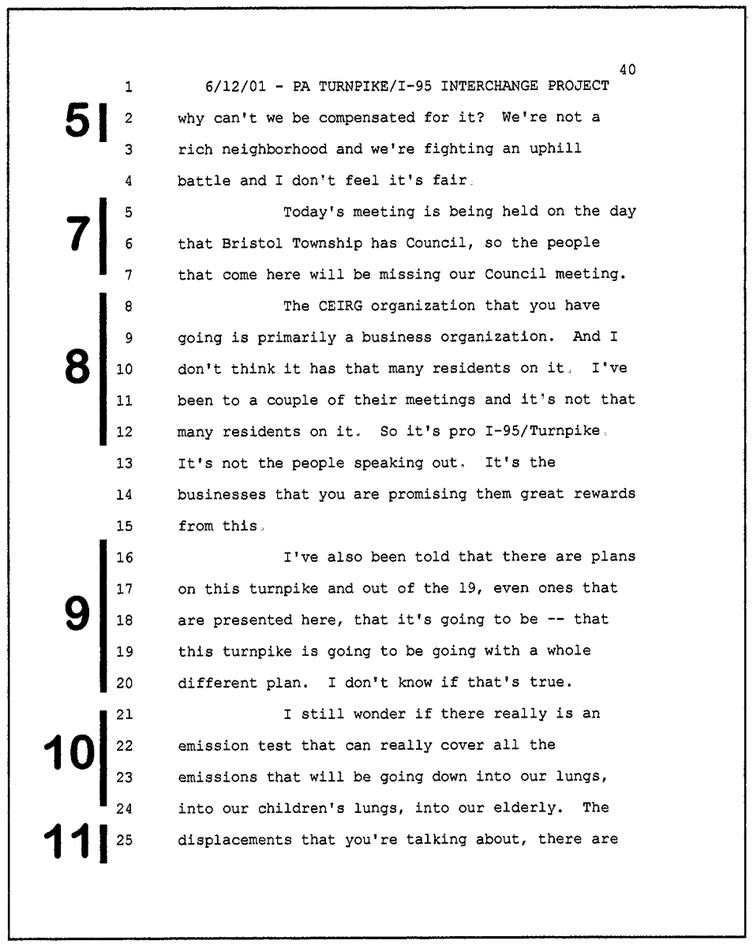
As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

It is true that the Newportville area qualifies for noise abatement because noise abatement at this area was determined to be warranted, reasonable and feasible according to Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines. In Pennsylvania, federal funds are used for noise abatement measures only for the construction of a highway project on new location or the physical alternation of an existing highway that significantly changes either the horizontal or vertical alignment or increase the number of through lanes. Noise abatement and basketball courts were never "offered" to the Newportville community by the Project Team as a means to gain their acceptance of the proposed project.

6 I-276/I-95 Interchange Project Funding

The I-276/I-95 Interchange Project's cost estimate through construction is $640 million. Because the I-276/I-95 Interchange Project completes an interstate gap, it is eligible for federal interstate construction funds at a 90 federal / 10 PTC ratio. Approximately $11.1 million is authorized for the environmental impact study. Approximately $146.2 million for design, right-of-way acquisition, and initial construction contracts has been included in the region's four year federally funded Transportation Improvement Plan (TIP) for FY 2003-2006 (Appendix E), and the Pennsylvania Twelve Year Transportation Program includes additional funding for the I-276/I-95 Interchange Project. As with most large projects, funding is being staged, as it is necessary. Additional federal funds will continue to be requested through the Delaware Valley Regional Planning Commission (DVRPC) and PENNDOT programming process and through future transportation and appropriation acts.

Ann Vesce – Page 4/5 (Testimony Page 40)



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5 why can't we be compensated for it? We're not a rich neighborhood and we're fighting an uphill battle and I don't feel it's fair.

7 Today's meeting is being held on the day that Bristol Township has Council, so the people that come here will be missing our Council meeting.

8 The CEIRG organization that you have going is primarily a business organization. And I don't think it has that many residents on it. I've been to a couple of their meetings and it's not that many residents on it. So it's pro I-95/Turnpike. It's not the people speaking out. It's the businesses that you are promising them great rewards from this.

9 I've also been told that there are plans on this turnpike and out of the 19, even ones that are presented here, that it's going to be -- that this turnpike is going to be going with a whole different plan. I don't know if that's true.

10 I still wonder if there really is an emission test that can really cover all the emissions that will be going down into our lungs, into our children's lungs, into our elderly. The

11 displacements that you're talking about, there are

Ann Vesce – Page 4/5 (Testimony Page 40)

7 Public Involvement

The June 12, 2001 Public Hearing was scheduled prior to the scheduling of the council meeting, which was subsequently scheduled on the same day as the Public Hearing. The Public Hearing was held from 1 pm to 9 pm with both afternoon and evening formal sessions in an effort to accommodate residents' and other interested parties' schedules. This schedule would permit attendance at both the Public Hearing and council meeting. In addition, written comments were accepted for the entire comment period (May 11, 2001 to July 2, 2001) and were given equal treatment as the Public Hearing testimony for those who could not attend the Public Hearing.

8 Community Economic Impact Review Group (CEIRG) (DEIS/FEIS Section VII-B.13)

The primary organization to solicit and involve the citizenry in the project development process is the Community Advisory Committee (CAC). This organization has been in place since 1994 and has held 22 meetings (up to January 2002).

The CEIRG was established in 1999, for the specific purpose of monitoring and assuring the integrity of an economic impact study performed by an independent consultant team with appropriate expertise. Although the CEIRG was established with a specific focus, a conscientious effort was made to solicit citizen input through appropriate elected officials at the federal, state, county, city and township levels; through the inclusion of a member of the project's CAC on the CEIRG; and through the process of dual membership of several of these individuals on both the CEIRG and CAC. Also, the minutes of the CEIRG meetings were provided to each CAC member. The CEIRG meetings were open to any member of the public as an observer; and the public was kept informed through media releases, and mailings of Newsletters and Topic Updates.

9 Alternatives Development (DEIS/FEIS Section VI)

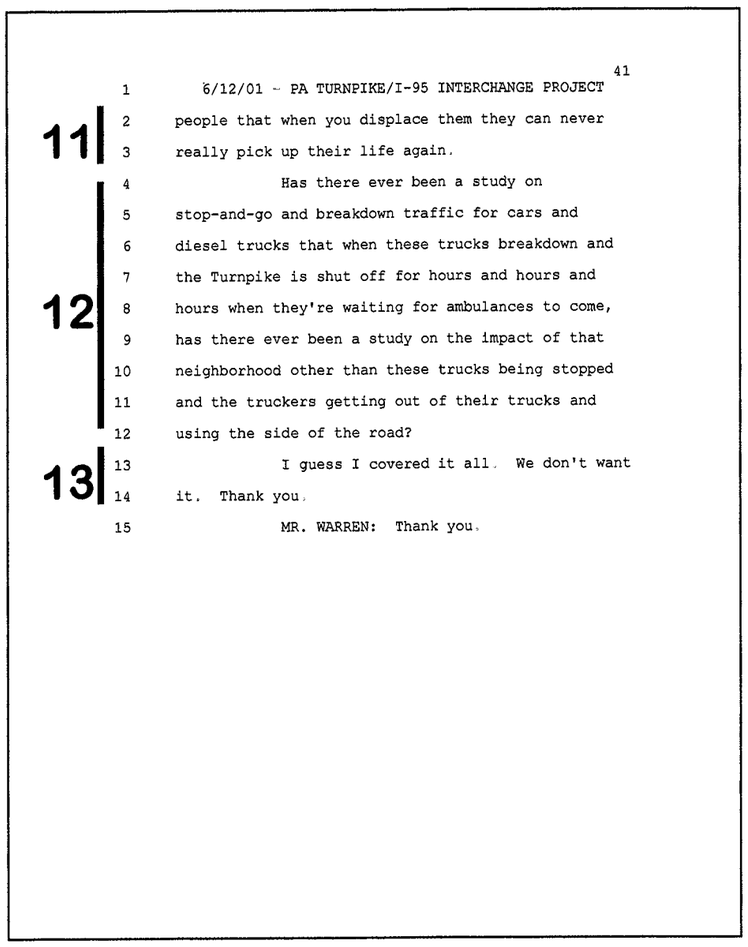
All alternatives evaluated as part of the I-276/I-95 Interchange Project were presented at previous public meetings, in the DEIS and at the June 12, 2001 Public Hearing. At the time of the Public Hearing, the number of current project alternatives had been reduced to two for each of the three project elements, and a Recommended Preferred Alternative was designated in the DEIS. As the I-276/I-95 Interchange Project proceeds, public involvement will continue, as appropriate, and may result in further refinements to the remaining alternatives. The FHWA cannot advance a project or alternatives that has not been evaluated according to NEPA. The Pennsylvania Turnpike Commission (PTC) has no plans to initiate, evaluate or advance an alternative that has not been presented previously to the public as part of the Public Involvement Process.

10 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

There is no single emission test that can determine the levels of harmful pollutants in the air. The Pennsylvania Department of Environmental Protection (PADEP) maintains an air quality monitoring station in Bristol Township. Historic monitoring at this station has indicated that regional air quality has improved in the past 10 years in the project area (PADEP, 1999). In addition, Marcia Spink, US Environmental Protection Agency (USEPA) provided public testimony that appears on pages I-21 to I-22 of this FEIS regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions and that the USEPA does not set standards for air toxics for which mobile sources (highway vehicles) are not a significant source.

See ***Ann Vesce – Page 5/5 (Testimony Page 41)*** On Next Page For The Response To Issue **11**.

Ann Vesce – Page 5/5 (Testimony Page 41)



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6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

11 people that when you displace them they can never really pick up their life again.

Has there ever been a study on stop-and-go and breakdown traffic for cars and diesel trucks that when these trucks breakdown and the Turnpike is shut off for hours and hours and hours when they're waiting for ambulances to come, has there ever been a study on the impact of that neighborhood other than these trucks being stopped and the truckers getting out of their trucks and using the side of the road?

12

I guess I covered it all. We don't want it. Thank you.

13

MR. WARREN: Thank you.

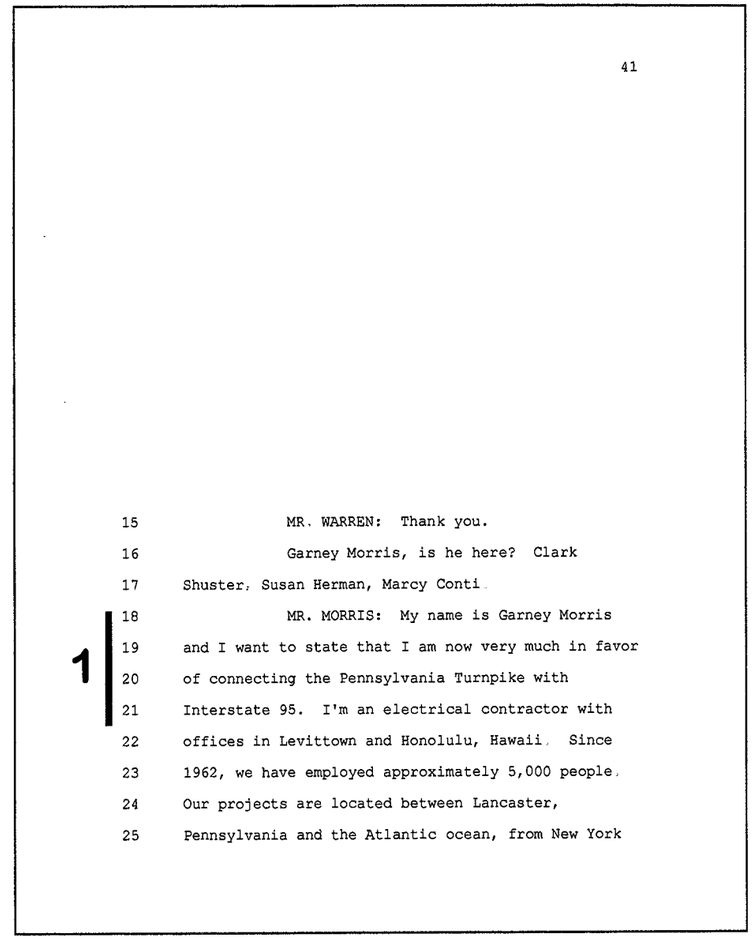
Ann Vesce – Page 5/5 (Testimony Page 41)

11 Socioeconomic-Property Displacement (DEIS/FEIS Sections IV-B.3, C.3)
The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission (PTC) pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. During Final Design, any special groups or individuals, such as the elderly or handicapped that would be displaced would be given special consideration. Displaced persons will be compensated without discrimination. At this time, research shows that there is sufficient replacement housing in the study area that would be within financial means and provide reasonable accessibility to places of employment and public services.

12 Incident Management
The PTC maintains detailed incident management and response procedures for use during emergencies. During the construction process, these procedures are supplemented by project area equipment such as variable message signs and highway advisory radio. Incident management procedures will be utilized during and after the construction phase of the I-276/I-95 Interchange Project.

13 Project Position
The commenter's opposition to the I-276/I-95 Interchange Project is noted.

Garney Morris – Page 1/5 (Testimony Page 41)



41

15 MR. WARREN: Thank you.

16 Garney Morris, is he here? Clark

17 Shuster, Susan Herman, Marcy Conti.

18 MR. MORRIS: My name is Garney Morris

1 19 and I want to state that I am now very much in favor

20 of connecting the Pennsylvania Turnpike with

21 Interstate 95. I'm an electrical contractor with

22 offices in Levittown and Honolulu, Hawaii. Since

23 1962, we have employed approximately 5,000 people.

24 Our projects are located between Lancaster,

25 Pennsylvania and the Atlantic ocean, from New York

Garney Morris – Page 1/5 (Testimony Page 41)

1 Project Position
The commenter's support for the connection of I-276 and I-95 is noted.

Garney Morris – Page 2/5 (Testimony Page 42)

to Maryland, literally north, east, south, and west of Bucks County. I am also a civic-minded person serving as a board member of the Lower Bucks County Chamber of Commerce, board member of Lower Bucks YMCA, a member of the Union League of Philadelphia, a Team Pennsylvania Ambassador, a member of the State and County Workforce Investment Boards, and I am on the Advisory Board for the Lower Bucks Technical School. I'm also chairman of the Bucks County Enterprize Zone, and I was chairman of the CEIRG Committee, Communicate (sic) Economic Impact Review Group, that had members of the community on the board.

The group was formed to work with local communities and the Turnpike Authority. I've been around and about working for and serving my township, my state, and my country for many years. During the past two to three years, a few of my contacts seemed to be working to stop the connection between I-95 and the Turnpike, perhaps for some self-serving reasons and literally not thinking of the big picture. However, the other thousands of people that I know and that I have spoken of this project are wondering why it was never connected.

Garney Morris – Page 2/5 (Testimony Page 42)

No Issues – No Responses

Garney Morris – Page 3/5 (Testimony Page 43)

They were looking forward to this connection finally being completed. They don't want to deal with the past about rich people of Princeton putting it over on the poor people of Bristol Township. This statement is so ridiculous; and I am sure you will hear it by others today. Going back about two to three years, there was so much negativity about this project, it seemed that the turnpike people and the engineers were not listening to the people or the elected officials of Bensalem, Bristol, and Middletown Townships. I was determined to know more and become involved and thought for sure our economy was suffering and would continue to do so until this matter was resolved and corrected. There's been so much inconvenience to the community caused by these highways never being connected. And if this link was going to happen, I was certain that the majority of the citizens were going to be affected first negatively and then positively.

Our committee of CEIRG members representing local businesses, local citizens, and local township officials engaged the Pennsylvania (Economic League) to complete a year-long community-driven economic impact study of this project. The results were very

Garney Morris – Page 3/5 (Testimony Page 43)

No Issues – No Responses

Garney Morris – Page 4/5 (Testimony Page 44)

favorable. The communities have developed a much improved working relationship with the Turnpike and their engineers. The committee, working with elected officials and others, acknowledge the concerns of citizens and have developed a very open, working dialog to mediate construction problems and to make neighborhoods improvements. For instance, there's additional sound walls being included in this project. There's a different highway configuration, a different toll plaza, the savings of some homes and businesses that were to be taken, a commitment to plan together to review and share information about construction schedules, supply route for materials, improvements in some neighborhoods that seemed to neglected for the past 20 years.

Certainly, there are some homes and business locations that will be taken. The owners will be compensated. Some other homeowners will have some highway ramps close to their homes. There will be miles of sound walls installed to eliminate highway noise and visual effects of vehicles zooming by.

Some of my closing comments are: It's a

Garney Morris – Page 4/5 (Testimony Page 44

No Issues – No Responses

Garney Morris – Page 5/5 (Testimony Page 45)

known fact that most highway accidents happen within a mile or two of one's home. Because these highways are not connected, there are too far many vehicles traveling on local highways, including big rigs. There is far too much dirt, far too many starts and stops of vehicles on local roads trying to get to either 95 or the Pennsylvania Turnpike instead of having that direct link that is so much needed.

I am encouraged by the local communities' efforts and the people thus far to bring an understanding of everyone's concerns and the ultimate conclusion by such organizations as Lower Bucks Chamber of Commerce, Bucks County Redevelopment Authority, Bucks County Enterprize (Zone) have adopted resolutions stating that these highways should be connected. I believe that many more positive things will happen for everyone during construction and after the ribbon is cut. I hope I will be there when the first shovel of dirt is thrown and for the cutting of the ribbon. Thank you.

MR. WARREN: Thank you.

Representing Mr. Shuster will be Michael Connor of the Lower Bucks Chamber of Commerce.

Garney Morris – Page 5/5 (Testimony Page 45)

No Issues – No Responses

Susan Herman – Page 1/5 (Testimony Page 46)

Following Mr. Connor will be Susan Herman and Marcy Conti.

Mr. Connor is not here. Susan Herman.

MS. HERMAN: Good afternoon. Susan Herman from Lower Makefield Township. I'm a representative for a regional group of concerned residents. Our group members are residents of Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northampton Townships.

Gentleman, our group had an opportunity to review the Environmental Impact Statement that has been prepared -- I'm sorry, ladies and gentlemen. We would like to point out a significant (1) omission in the Environmental Impact Statement. Our region was omitted. We are not necessarily opposed (2) to the interchange project. We are officially neutral. However, we feel that the impacts of the (1) project will reach further than the municipality in this EIS.

As residents of an affected area, we (3) have serious safety concerns regarding transportation of the stone used for construction of the project. Our position is that if this project (4) goes through, there is another project that needs to

Susan Herman – Page 1/5 (Testimony Page 46)

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not appropriate.

2 Project Position

The commenter's neutral position to the I-276/I-95 Interchange Project is noted.

3 Construction Impacts

The construction contract policies of Federal Highway Administration, Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

4 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials were held and PENNDOT and municipality-sponsored studies were conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

Susan Herman – Page 2/5 (Testimony Page 47)

4 1 3

precede it, and that is the opening of Swamp Road. We are here to formerly ask you to include the aforementioned townships in the Environmental Impact Statement.

Our premise is that the stone will come from the four Wrightstown quarries, as the stone quarries there meets PennDOT's specifications for road construction. The quarries are in close proximity to the project and it makes sense that Bucks County sources will be used, as this project has been touted for the economic benefits will bring to our community.

Today, on a daily basis, millions of tons of stone are transported from these quarries through our residential neighborhoods enroute to Interstate 95. The problem is that the loaded quarry trucks weighing 80,000 cannot use the shortest route away from the quarry to get to the Newtown Bypass, which is the safest road leading to I-95.

In yellow you see the quarries and blue route is Swamp Road which is the shortest distance to the orange route which is the Newtown Bypass. The Newtown Bypass is the safest route for the heavy

Susan Herman – Page 3/5 (Testimony Page 48)

trucks as it is a four-lane limited access highway that was designed specifically to handle heavy commercial traffic.

I'd like to talk to you about the map. As I said, the orange route is Newtown Bypass, Route 332. The yellow route is I-95. The blue route, Swamp Road, is the shortest, most direct route from the quarries to the Newtown Bypass. Loaded quarry trucks weighing 80,000 pounds cannot use this route to get to the bypass due to a weight restricted culvert just south of the intersection of Swamp Road and Worthington Mill Road. The culvert is rated for 30,000 pounds. Quarry trucks, however, use this route regularly on return trips to the quarries. This is the preferred route of the truckers as it is the shortest and safest route to I-95. Truckers are paid by the load. The faster a trucker makes his or her run, the more money he or she takes home.

The red route, which is comprised of many residential streets, is a three times longer distance to get from the quarries to the Bypass and the blue route, Swamp Road. The green flags are residential driveways that access the routes; black

Susan Herman – Page 4/5 (Testimony Page 49)

arrows, street access; yellow pins, turns.

As you can see, panel members, it is only common sense that Swamp Road be opened up before the interchange project begins. The shortest distance between two points is a straight line. Look at this map. The restricted section is here. The red section is the route the heavy trucks are now taking. We see the dangers every day in our neighborhoods. The trucks come through all hours of the day or night six days per week. They're simply not the type of streets that this traffic should be on. We already have a dangerous situation with the commingling of heavy trucks, cars, buses and pedestrians to our residential neighborhoods. The current unsafe condition has been publicly and repeatedly acknowledged by Representative Steil, Senator Tomlinson and Congressman Greenwood and the local governments of the aforementioned townships. The interchange project will result in millions of tons of additional stone passing through our residential neighborhoods endangering those in our region. It is a known fact that the greatest number of access points along the route, the greater likelihood that a conflict will arise. If Swamp

Susan Herman – Page 2/5 (Testimony Page 47)

See ***Susan Herman Page 1/5 (Testimony Page 46)*** On Previous Page For The Responses To Issues **1, 3** and **4**.

Susan Herman – Page 3/5 (Testimony Page 48)

No Issues – No Responses

Susan Herman – Page 4/5 (Testimony Page 49)

No Issues – No Responses

Susan Herman – Page 5/5 (Testimony Page 50)

Road is not open to loaded quarry trucks below this intersection, 80,000-pound vehicles will continue to be diverted to the red route which has 155 access points versus the blue route which has 16 access points. This is unconscionable. We are formally requesting that you make our region part of the Environmental Impact Statement. Thank you for your time.

1

MR. WARREN: Thank you.

Susan Herman – Page 5/5 (Testimony Page 50)

No Issues – No Responses

Marcy Conti – Page 1/3 (Testimony Page 50)

MR. WARREN: Thank you.

Susan Conti followed by Michael Connor.

MS. CONTI: Good afternoon. My name is Marcy Conti. I live in Wrightstown Township. The four Wrightstown quarries produce millions of tons of crushed stone yearly. The stone meets the ideal PennDOT specifications for road construction. I am not opposed to the Turnpike/I-95 link project. What brings me here today is the fear that the project may well make an already perilous situation even worse.

1

As you can see on the map that Susan showed you, the 80,000-pound stone trucks have no direct route to the Newtown Bypass, ironically, a highway built for just such heavy commercial vehicles. Consequently, hundreds of trucks a day

Marcy Conti – Page 1/3 (Testimony Page 50)

1 Project Position

The commenter's neutral position to the I-276/I-95 Interchange Project is noted.

Marcy Conti – Page 2/3 (Testimony Page 51)

use the minor residential roads to get from the Wrightstown quarries to Interstate 95. Each one of these access points which are all the green dots and the black arrows and the turns encountered by these heavy industrial vehicles increases the likelihood that a crash will occur. Add the 300 feet plus stopping distance required by these 40-ton trucks and dozens of school bus stops to this equation and you have a major risk to serious crashes. The commingling of high volume of heavy truck traffic with school buses and cars coupled with the magnitude of the access points puts the men, women, and children of our community in grave danger.

There is undeniable data indicating that the safest place for heavy truck traffic is a limited access divided highway; no bus stops, no driveways. According to the Institute of Transportation Engineers, control of access is among the most influential aspects affecting crash frequency on the highway system.

Swamp Road, the shortest and most direct route for the loaded quarry trucks to the Newtown Bypass is restricted for heavy trucks. The Turnpike/I-95 link project could mean millions of

2

Marcy Conti – Page 2/3 (Testimony Page 51)

See ***Marcy Conti Page 3/3 (Testimony Page 52)*** On Next Page For The Response To Issue **2**.

Marcy Conti – Page 3/3 (Testimony Page 52)

6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

2 tons of additional stone being transported on our minor residential roads. It is critical that Swamp Road be open to the loaded Swamp Road quarry trucks before the I-95/Turnpike link project proceeds. It is the shortest route to the safest road.

I urge you to consider the safety of our families and include Wrightstown, Newtown, Lower Makefield, Upper Makefield and Northampton Townships in the Environmental Impact Statement. Thank you, ladies and gentlemen, for the opportunity to convey these serious safety concerns.

MR. WARREN: Thank you.

Marcy Conti – Page 3/3 (Testimony Page 52)

2 Construction Impacts

The construction contract policies of Federal Highway Administration, Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission (PTC) do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

3 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials were held and PENNDOT and municipality-sponsored studies were conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

4 DEIS Study Area (DEIS/FEIS DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not appropriate.

Michael Connor – Page 1/5 (Testimony Page 52)

MR. WARREN: Thank you.

Representing the Lower Bucks Chamber of Commerce will be either Michael Connor or Clark Shuster.

MR. CONNOR: Good afternoon. I'm Michael Connor, President of the Lower Bucks Chamber of Commerce. Thank you for allowing us to come before you today on behalf of the Lower Bucks County Chamber of Commerce. We represent an organization consisting of over 1500 members dedicated to the success of business in the Lower Bucks area.

One of the most important roles a Chamber of Commerce can play is to represent its

Michael Connor – Page 1/5 (Testimony Page 52)

No Issues – No Responses

Michael Connor – Page 2/5 (Testimony Page 53)

members with one voice on important issues facing business. Transportation is one area in which our Chamber has been particularly involved for quite some time. Our Transportation Committee, which consists of leaders from the private and public sectors, has been in existence for nearly 40 years and has a long history of supporting projects that benefit the economic climate of our area.

For example, several years ago, the Chamber supported an increase in the Pennsylvania gas tax to ensure that Bucks County would receive a greater amount of funding for road improvements. Since that tax was enacted, Bucks County has received its fair share of highway funding and there has been a tremendous improvement in our highway system.

The Chamber has also lobbied for the new SEPTA bus routes to be implemented in the Lower Bucks area, and we were also one of the first groups to support the construction of an exit ramp from I-95 South to Route 413. That position was adopted in 1973. And though it took 26 years for the ramp to be finally constructed, this project has made the entire area much more accessible to interstate

Michael Connor – Page 2/5 (Testimony Page 53)

No Issues – No Responses

Michael Connor – Page 3/5 (Testimony Page 54)

traffic.

Now we are considering the construction of a connection between two superhighways that would have great impact on our local and regional economy. The Chamber has participated in discussions on the proposed I-95/Turnpike Interchange for over 10 years and has studied the effects of this project on the immediate and surrounding communities. We have met with representatives from the Pennsylvania Economy League, who conducted the economic impact study as well as representatives from the Turnpike Commission and KCI Technologies. The Chamber has also been pleased to host most of the meetings for the Community Economic Impact Review Group.

Our position was developed by a special task force consisting of members from the Transportation, Economic Development and Legislative Action Committee. Bill Brady of PECO Energy and chair of our Transportation Committee, chaired the task force.

The PEL study points to significant economic benefits for Lower Bucks County and the surrounding region if this project is built. These benefits include an average of 300 jobs that will be

Michael Connor – Page 3/5 (Testimony Page 54)

No Issues – No Responses

Michael Connor – Page 4/5 (Testimony Page 55)

generated in Bucks County and an average of 500 jobs that will be generated for the region during construction. Business sales in Bucks County during construction will be $415 million and $630 million for the overall region. Travel and cost savings resulting from the interchange are expected to produce 1200 regional jobs by 2025 with 178 of those in Bucks County.

As a result of these conclusions, the Board of Directors unanimously supported the proposed interchange between the Pennsylvania Turnpike and Interstate 95. This position is based upon the anticipated economic benefits of the project and the continued demonstrated cooperation of the Pennsylvania Turnpike Commission with local elected officials in addressing the concerns of the affected the community.

1

At the time that the Board adopted this position last November, I stated that "The Chamber is proud to continue its tradition of supporting projects that enhance economic development within our community. It is also reassuring to see willingness on the part of the Pennsylvania Turnpike Commission to work with the community in addressing

Michael Connor – Page 4/5 (Testimony Page 55)

1 Project Position

The Lower Bucks Chamber of Commerce Board of Directors' unanimous support for the I-276/I-95 Interchange Project is noted.

Michael Connor – Page 5/5 (Testimony Page 56)

the local issues that may develop. The Chamber took this position only after taking into the consideration the concerns of the local communities that are most affected."

Thank you for your time and hearing our opinion on this important issue.

MR. WARREN: Thank you.

Barbara McColloh – Page 1/3 (Testimony Page 56)

MR. WARREN: Thank you.

Is Mr. Hope, Ms. Friedman, Ms. McColloh or Mr. Morganson here?

MS. MCCOLLOH: Ms. McColloh is here.

MR. WARREN: Very good. If you would like to stand up and offer your testimony.

MS. MCCOLLOH: Hi. I'm Barbara McColloh. I live 6720 Radcliff in Edgely. My husband is Bradley. We bought this property in March of 2000. It's right on the Delaware River just to the north of this bridge that's becoming a very famous right now So we are one of the homeowners that will be, quote unquote, residentially displaced. 1

Now, I'm not a politician. My concern is personal about the environment and the community. And when I initially received this 12-page document in the mail, I was alarmed. After I took my stomach

Barbara McColloh – Page 2/3 (Testimony Page 57)

out of my knees where it had fallen and reread it, I went to the library, researched the environmental impact. I realized that with the federal government behind it, this could really happen. So then what do you do? How do you fight something like this?

On the one hand, I have a belief in sort of existential universe that things do happen for the best and for the good for all, so maybe I should just let it happen, hope that will (sic) best will come about.

On the other hand, how stupid would I feel or be if I didn't at least stand up and be counted and say, "No, don't drop a bridge on my house. I prefer that you didn't. I've only owned it for a year. I put my entire life savings into it and then an additional 85,000 to try to renovate it. I moved into a community of 50-year-old homes and hoped to create a life there." 2

So the third hand that comes into being is if this is actually going to happen, what does it do to your neighbors? You end up pitting one neighbor against the other, "Don't drop it on my house, drop it on her house or his house." What do you do? What do you say?

Michael Connor – Page 5/5 (Testimony Page 56)

No Issues – No Responses

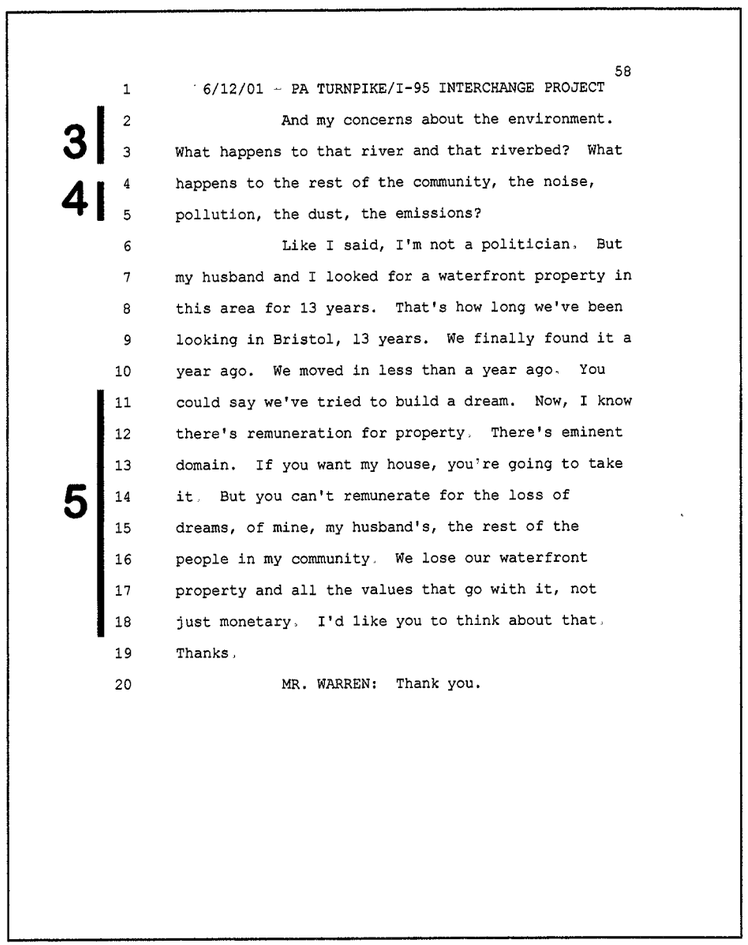
Barbara McColloh – Page 1/3 (Testimony Page 56)

1 Socioeconomic-Property Displacement (DEIS/FEIS Section IV-B.3)
As discussed and shown in the DEIS, the commenter's residence may be displaced in the Bridge North Alternative. However, the DEIS Recommended Preferred Alternative for the Bridge Element, the Bridge South Alternative, would not displace the commenter's residence.

Barbara McColloh – Page 2/3 (Testimony Page 57)

2 Project Position
The commenter's opposition to a bridge location that would require acquisition of her home is noted.

Barbara McColloh – Page 3/3 (Testimony Page 58)



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And my concerns about the environment. What happens to that river and that riverbed? What happens to the rest of the community, the noise, pollution, the dust, the emissions?

Like I said, I'm not a politician. But my husband and I looked for a waterfront property in this area for 13 years. That's how long we've been looking in Bristol, 13 years. We finally found it a year ago. We moved in less than a year ago. You could say we've tried to build a dream. Now, I know there's remuneration for property. There's eminent domain. If you want my house, you're going to take it. But you can't remunerate for the loss of dreams, of mine, my husband's, the rest of the people in my community. We lose our waterfront property and all the values that go with it, not just monetary. I'd like you to think about that. Thanks.

MR. WARREN: Thank you.

3 4 5

Barbara McColloh – Page 3/3 (Testimony Page 58)

3 Surface Waters (DEIS/FEIS Section IV-H)

The DEIS studies and the design and construction of the project have been and will continue to be coordinated with Federal and State Agencies that have jurisdiction over the Delaware River and its resources. Appropriate minimization and mitigation of any impacts will be outlined in the Record of Decision and finalized in the project's Mitigation Report.

Temporary impacts to the Delaware River, a perennial and navigable waterway, would be mitigated by providing adequate fenders around cofferdams during pier construction, maintaining an open navigational channel, and, if necessary, providing advance notification to the US Coast Guard if a channel closure is required.

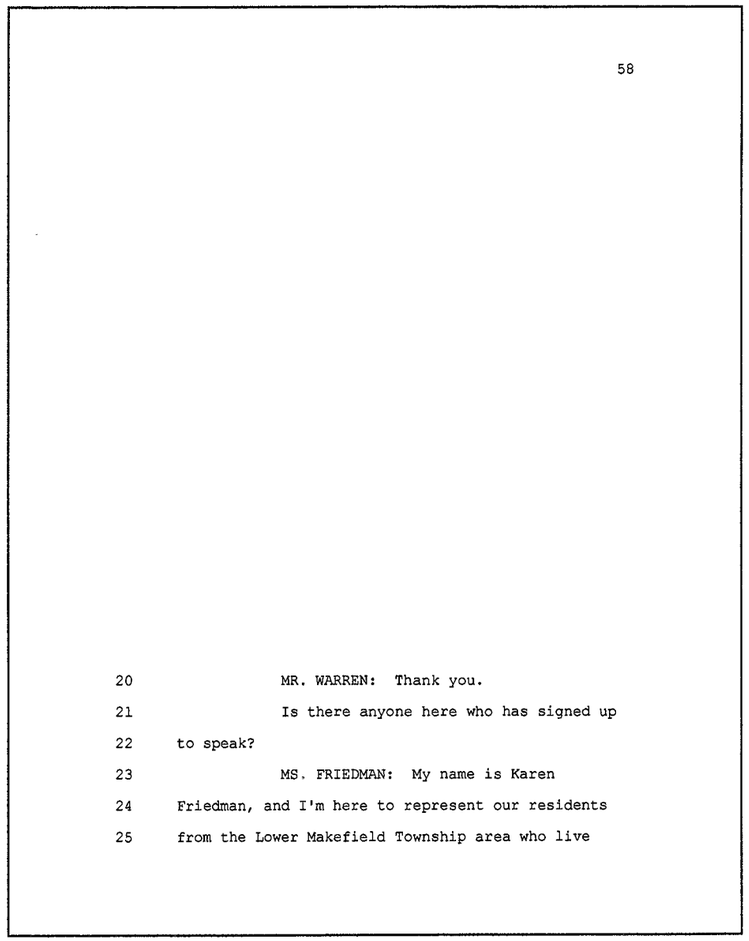
4 Socioeconomic-Quality of Life (DEIS/FEIS Section IV)

The DEIS/FEIS identifies impacts to communities that might result from the construction of the Bridge North or Bridge South Alternatives. A localized carbon monoxide analysis conducted by the Project Team concluded that the I-276/I-95 Interchange Project would not cause any exceedances of the US Environmental Protection Agency (USEPA) National Ambient Air Quality Standards for carbon monoxide. Marcia Spink, representing the USEPA provided public testimony on pages I-21 to I-22 stating that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions. The I-276/I-95 Interchange Project noise analysis concluded that noise abatement is not warranted for the adjacent communities to the Bridge South or Bridge North Alternatives because predicted future noise levels in these communities are not expected to approach or exceed noise abatement criteria and predicted noise levels will not substantially exceed existing noise levels. These communities will be re-evaluated for noise abatement consideration during Final Design. Staged construction features, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. Furthermore, construction will be performed to comply with applicable federal, state and local laws regarding safety, health and sanitation, including the control of dust. Most of the specific construction procedures will be developed during and after the Final Design phase, in which community outreach and public involvement will be conducted.

5 Miscellaneous

The commenter's intangible concerns are noted.

Karen Friedman – Page 1/3 (Testimony Page 58)



58

MR. WARREN: Thank you.

Is there anyone here who has signed up to speak?

MS. FRIEDMAN: My name is Karen Friedman, and I'm here to represent our residents from the Lower Makefield Township area who live

20 21 22 23 24 25

Karen Friedman – Page 1/3 (Testimony Page 58)

No Issues – No Responses

Karen Friedman – Page 2/3 (Testimony Page 59)

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along the quarry truck route at this time.

After reviewing the Executive Summary regarding the DEIS for the Turnpike Interchange Project, I find that there is no reference to an inclusive impact study being done with regard to the neighborhoods involved where the stone needed to build this project is going to be passing through. It would be irresponsible and negligent not to consider and carefully evaluate the impact that the movement of stone via quarry trucks to our neighborhoods will have on the safety and the quality of the human environment.

There is an existing danger already associated with the quarry trucks that use our minor collector roads which are highly residentially populated as throughways to get to I-95.

The magnitude of this proposed project is immense. The millions of tons of stone that will be necessary to build the bridge, the toll plaza or interchange and the numerous additional roads will result in escalating the level of danger our neighborhoods already experience as passenger cars have to interact with very numerous, fully-loaded quarry trucks. This poses a grave and unacceptable

Karen Friedman – Page 2/3 (Testimony Page 59)

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not appropriate.

2 Construction Impacts

The construction contract policies of Federal Highway Administration, Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

Karen Friedman – Page 3/3 (Testimony Page 60)

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threat to our environment as a whole.

I appeal to you to address this matter seriously and conscientiously by including us in the Environmental Impact Statement and providing the shortest route to the Newtown Bypass. The study is flawed and incomplete if it does not address this issue of how to safely transport these building supplies without causing devastation to our neighborhoods and road systems. This needs to be examined and resolved, not ignored, prior to the onset of this project. Thank you.

MR. WARREN: Thank you.

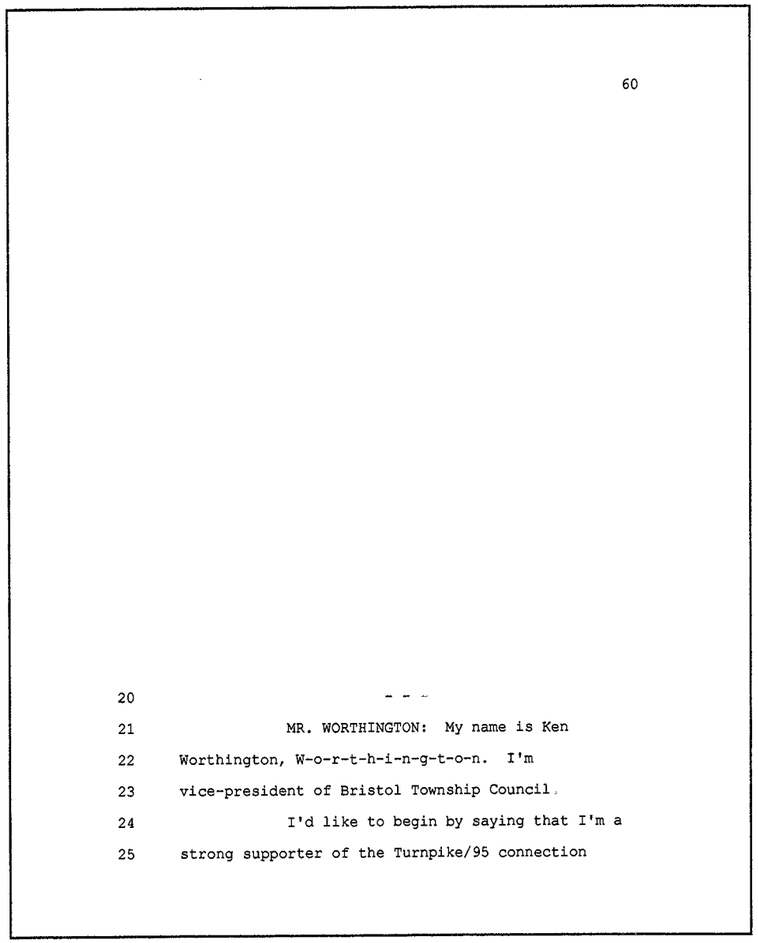
It's about 20 after 3:00. The speakers that I've been calling are scheduled at 4 o'clock. Assuming that no one here has registered in the back, we will recess the meeting until 4 o'clock. We'll recess for 40 minutes.

(Recess.)

Karen Friedman – Page 3/3 (Testimony Page 60)

See ***Karen Friedman – Page 2/3 (Testimony Page 59)*** On This Page For The Responses to Issues **1** and **2**.

Ken Worthington – Page 1/5 (Testimony Page 60)



60

20 - - -

21 MR. WORTHINGTON: My name is Ken

22 Worthington, W-o-r-t-h-i-n-g-t-o-n. I'm

23 vice-president of Bristol Township Council.

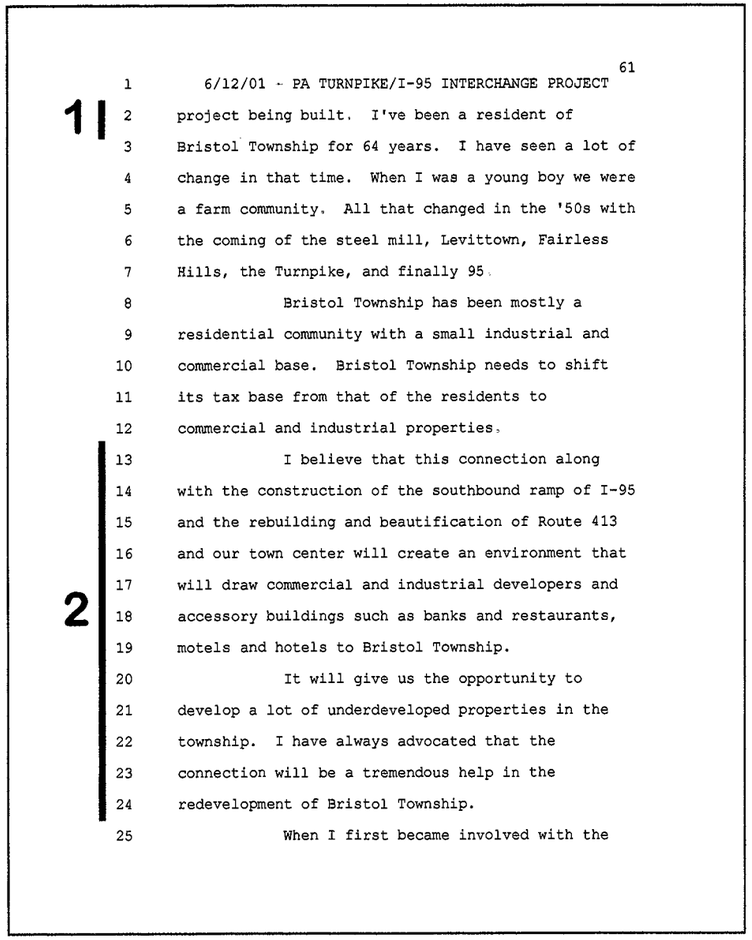
24 I'd like to begin by saying that I'm a

25 strong supporter of the Turnpike/95 connection

Ken Worthington – Page 1/5 (Testimony Page 60)

No Issues – No Responses

Ken Worthington – Page 2/5 (Testimony Page 61)



61

1 6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

2 project being built. I've been a resident of

3 Bristol Township for 64 years. I have seen a lot of

4 change in that time. When I was a young boy we were

5 a farm community. All that changed in the '50s with

6 the coming of the steel mill, Levittown, Fairless

7 Hills, the Turnpike, and finally 95.

8 Bristol Township has been mostly a

9 residential community with a small industrial and

10 commercial base. Bristol Township needs to shift

11 its tax base from that of the residents to

12 commercial and industrial properties.

13 I believe that this connection along

14 with the construction of the southbound ramp of I-95

15 and the rebuilding and beautification of Route 413

16 and our town center will create an environment that

17 will draw commercial and industrial developers and

18 accessory buildings such as banks and restaurants,

19 motels and hotels to Bristol Township.

20 It will give us the opportunity to

21 develop a lot of underdeveloped properties in the

22 township. I have always advocated that the

23 connection will be a tremendous help in the

24 redevelopment of Bristol Township.

25 When I first became involved with the

Ken Worthington – Page 2/5 (Testimony Page 61)

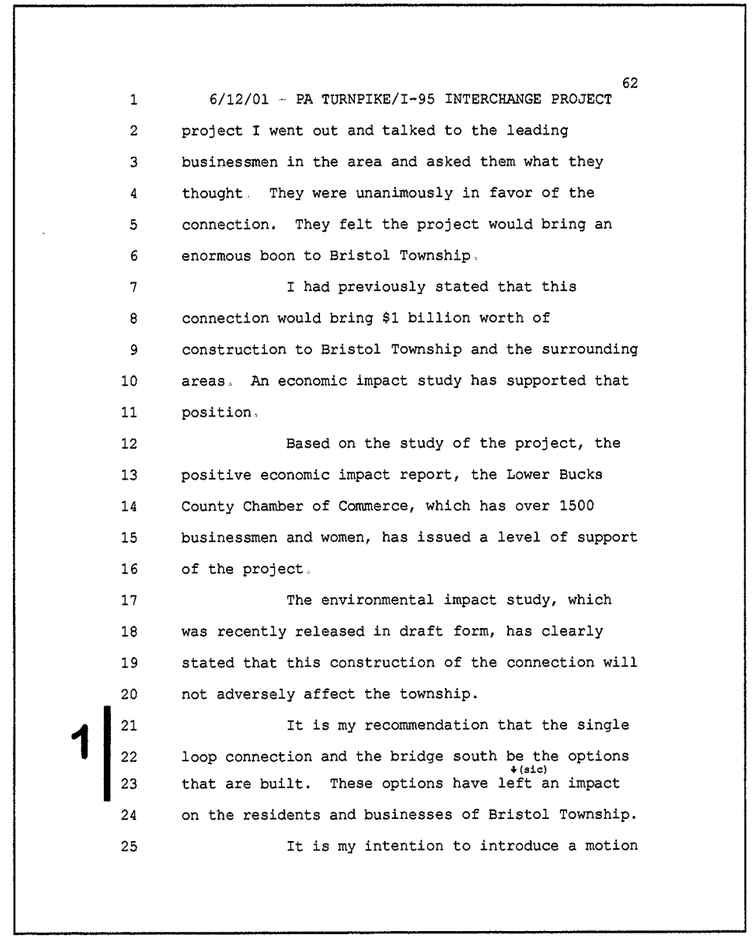
1 Project Position

The commenter's support for the I-276/I-95 Interchange Project (Single Loop A and Bridge South) is noted.

2 Socioeconomic-Economic (Section IV-C)

The commenter's agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project will bring regional economic benefits is noted.

Ken Worthington – Page 3/5 (Testimony Page 62)



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1 6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

2 project I went out and talked to the leading

3 businessmen in the area and asked them what they

4 thought. They were unanimously in favor of the

5 connection. They felt the project would bring an

6 enormous boon to Bristol Township.

7 I had previously stated that this

8 connection would bring $1 billion worth of

9 construction to Bristol Township and the surrounding

10 areas. An economic impact study has supported that

11 position.

12 Based on the study of the project, the

13 positive economic impact report, the Lower Bucks

14 County Chamber of Commerce, which has over 1500

15 businessmen and women, has issued a level of support

16 of the project.

17 The environmental impact study, which

18 was recently released in draft form, has clearly

19 stated that this construction of the connection will

20 not adversely affect the township.

21 It is my recommendation that the single

22 loop connection and the bridge south be the options

23 that are built. These options have left (sic) an impact

24 on the residents and businesses of Bristol Township.

25 It is my intention to introduce a motion

Ken Worthington – Page 3/5 (Testimony Page 62)

See ***Ken Worthington – Page 2/5 (Testimony Page 61)*** On This Page For The Response To Issue **1**.

Ken Worthington – Page 4/5 (Testimony Page 63)

at the next council meeting to have the mayor send a letter on behalf of the mayor and council of Bristol Township supporting these options. I intend to support the Tri-township Neighborhood Impact Study and to work to get funding for projects that I feel should be addressed as a result of the connection being built.

3

The project team has always listened to the concerns of the township residents and addressed these issues as best they can. I feel certain that if we go forward with this project they will continue to listen to the concerns of the residents. I would like to thank the project team for their professionalism in putting this project together to this point.

I look forward to the day when the I-95/Turnpike connection and related work will be completed. Thank you.

MR. WARREN: Thank you, Mr. Worthington. I'm not sure whether you are aware or not, you had mentioned about a resolution. You should be aware that the record will be open until July 2nd.

So should your government take any action whatsoever, you can just forward that by mail

Ken Worthington – Page 5/5 (Testimony Page 64)

to the project office up until and including July 2nd, and then that will become part of the official record. The address is on the sheet that you have right here in Bensalem.

MR. WORTHINGTON: Thank you very much. We will endeavor to do that.

MR. WARREN: Thank you. Good to see you.

Bill Perri – Page 1/2 (Testimony Page 64)

MR. WARREN: Thank you. Good to see you.

Mr. Worthington is the final speaker that's on the reporter's list for 4 o'clock. We will remain here until 5:00 just in case anyone were to come by and say that they wanted to have the opportunity to speak. If there are no speakers in the interim, we will be in recess at 5 o'clock until 6:30 when we will reconvene.

Is there anyone who would care to address the committee at this time? Mr. Perri, just come forward to the microphone up there. Give us your name for the stenographer and you have five minutes to present any testimony, and this testimony will be become part of the transcribed record for the Federal Highway Commission.

Hang on a second here until we get our timer clock on the way, and away you go.

Ken Worthington – Page 4/5 (Testimony Page 63)

3 Bucks County Neighborhood Enhancement Study

The commenter's support for the Bucks County Neighborhood Study is noted.

The DEIS/FEIS identifies impacts to communities that might result from the I-276/I-95 Interchange Project in Section IV. Bucks County conducted a Neighborhood Enhancement Study to identify existing infrastructure deficiencies and local planning inconsistencies. Bensalem, Bristol and Middletown Townships participated jointly in the study, which also required public input. The study resulted in a report which recommended projects and funding to be pursued in addition to the construction of the I-276/I-95 Interchange Project.

Ken Worthington – Page 5/5 (Testimony Page 64)

The DEIS/FEIS identifies impacts to communities that might result from the I-276/I-95 Interchange Project in Section IV. Bucks County conducted a Neighborhood Enhancement Study to identify existing infrastructure deficiencies and local planning inconsistencies. Bensalem, Bristol and Middletown Townships participated jointly in the study, which also required public input. The study resulted in a report which recommended projects and funding to be pursued in addition to the construction of the I-276/I-95 Interchange Project.

No Issues – No Responses

Bill Perri – Page 1/2 (Testimony Page 64)

No Issues – No Responses

Bill Perri – Page 2/2 (Testimony Page 65)

MR. PERRI: Bill Perri, 4 Hollow Road, Levittown.

1 I would just like to commend KCI, the Turnpike Commission and PennDOT for doing an absolutely fabulous job and making this a totally accessible process over the years. A lot of public input and a lot of concern for the community in terms of future development, in terms of our economic standpoint, and what we can do environmentally and what we need to be aware of.

I think that they have done a fabulous job, and I would like to thank you.

MR. WARREN: Thank you. Is Mr. Little here? Brad Little? If not, until we hear anyone one else we will just remain here for the next 45 minutes. After that we will be recessed until 6 o'clock.

(Discussion off the record.)

MR. WARREN: We're going to recess until 6 o'clock. The time now is 4:42.

(Dinner recess from 4:42 p.m. to 6:30 p.m.)

1 DEIS Process

The commenter's remarks in support of the I-276/I-95 Interchange Project development process are noted.

Opening Statements – Page 1/13 (Testimony Page 65)

MR. WARREN: Ladies and gentlemen, it is 6:30, and we will begin the evening's opportunity

No Issues – No Responses

Opening Statements – Page 2/13 (Testimony Page 66)

for testimony to be given.

On behalf of Governor Ridge and Secretary Mallory, I welcome you all to this evening's testimony. The reason we are here is for citizens to offer their opinion concerning the Pennsylvania Turnpike/I-95 Connection.

The project, as you are no doubt aware, will create a tollbooth in Bristol Township at the connection of the two interstates. There will be some widening and a new bridge across the Delaware River.

We would encourage you to make use of the displays that are just out the auditorium door and to the left. There is an opportunity for anyone to submit written testimony in addition to the testimony that might be offered here tonight. The record will be open up to and including July 2nd of this year.

If you would like to submit written testimony, you can send it to the project office at 3220 Tillman Drive, Suite 215, Bensalem, 19020.

The woman and man behind me are Barry Troup from the Pennsylvania Turnpike Commission and Jacqui (sic) Winkler from the Army Corps of Engineers.

No Issues – No Responses

Opening Statements – Page 3/13 (Testimony Page 67)

You will hear from both of the panel members, and then I will come back and begin some of the housekeeping items, and then we will begin with the actual testimony.

At this time I would ask Mr. Troup for any comments he might have.

MR. TROUP: Good evening. Again, my name is Barry Troup. I'm the assistant engineer for the Pennsylvania Turnpike Commission. The purpose of this hearing is for the Turnpike Commission to collect written and oral testimony regarding the proposed I-276/I-95 Interchange Project in Bucks County, Pennsylvania and Burlington County, New Jersey.

This public hearing is in compliance with the requirements of Act 120 of May 6, 1970 establishing the Pennsylvania Department of Transportation and of Title 23, United States Code, Section 128 and 23, Codes of Federal Regulations, Part 771.

This proceeding is a combined public hearing for the purposes of Highway Design Location and consideration of a Permit Application by U.S. Army Corps of Engineers. This public hearing must

Opening Statements – Page 4/13 (Testimony Page 68)

take place before the proposed transportation project is approved by the Federal Highway Administration, before a commitment to specific design alternatives is made, and before the U.S. Army Corps of Engineers approves a permit.

The Pennsylvania Turnpike Commission is administering a project in partnership with the Pennsylvania Department of Transportation and the Federal Highway Administration. The Commission has the primary responsibility, initiation and implementation of the highway program, for conducting studies of feasible alternatives, holding public hearings, selecting routes, designing and constructing projects.

The Federal Highway Administration is responsible for review and approval of proposed projects on the interstate system and reimburses the Commission for portions of the costs of approved Federal-aid projects.

This hearing is being held to give interested parties an opportunity to present comments on the project alternatives and major design features; the socioeconomic, natural and cultural resource impact of the project; and the

Opening Statements – Page 5/13 (Testimony Page 69)

Recommended Referred Alternative.

We are asking for your comments so we can address issues and present comprehensive information to the Federal Highway Administration in the form of a final environmental impact statement.

Copies of the Draft Environmental Impact Statement are made available for public review and comment on May 11, 2001 and will remain available for review through July 2, 2001 at the location listed in your handout.

The Draft Environmental Impact Statement and the supporting technical files for this project can be reviewed at the project office in Bensalem or the PennDOT District 6 office in King of Prussia.

The Draft Environmental Impact Statement details the evaluation of alternatives considered and their associated impacts, including identification of a Recommended Preferred Alternative.

The Commission's testimony for this hearing, along with tonight's hearing transcript, will be included in the Final Environmental Impact Statement.

Finally, let me extend my appreciation

Opening Statements – Page 3/13 (Testimony Page 67)

No Issues – No Responses

Opening Statements – Page 4/13 (Testimony Page 68)

No Issues – No Responses

Opening Statements – Page 5/13 (Testimony Page 69)

No Issues – No Responses

Opening Statements – Page 6/13 (Testimony Page 70)

to the elected officials and community and civic leaders who have actively participated in numerous meetings of the Community Advisory Committee and the Community Economic Impact Review Group. Their efforts have greatly contributed to the success of this important project study.

I'd like now to turn the meeting over to Jacqueline Winkler who will discuss the U.S. Army Corps of Engineers' permit procedures.

MS. WINKLER: Good evening. My name is Jacqueline Winkler. I am a senior biologist with the U.S. Army Corps of Engineers, Philadelphia District, and the Corps project manager for the Pennsylvania Turnpike/I-95 Interchange Project.

Under the authority of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers is the federal agency that regulates all work in navigable waters of the United States and the discharge of dredged or fill material into all waters of the United States including wetlands.

The Corps of Engineers received a permit application on May 7, 2001 from the Pennsylvania Turnpike Commission requesting a Department of the

Opening Statements – Page 7/13 (Testimony Page 71)

Army permit to discharge fill material into waters and wetlands in order to facilitate the construction of the Alternative One discussed in that Draft Environmental Impact Statement. That alternative consists of the Modified Plaza West, Single Loop A Interchange and Bridge South project elements.

From the Corps' perspective, the purpose of this hearing is to acquire information which will be considered in determining whether a Department of the Army permit should be issued to Pennsylvania Turnpike Commission or the pending permit application.

The decision whether to issue a permit will be based on an evaluation of the probable impacts of the proposed activities on the public interest. That decision will reflect the national concern for both protection and the utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against any reasonably foreseeable detriments.

All factors which may be relevant to the work will be considered. Among these are conservation, economics, aesthetics, general

Opening Statements – Page 8/13 (Testimony Page 72)

environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply, and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and, in general, the needs and welfare of the people.

This hearing affords interested parties the opportunity to present their views, opinions, and information on the proposed work. All oral and written testimony that you provide today as well as written statements received no later than July 2, 2001 will be part of the public hearing record and will be considered in rendering a decision on the Department of the Army permit application.

I'll turn the meeting back to Barry Troup so we can continue.

MR. TROUP: In viewing the project's plans in the open house area, you should be made aware their preliminary nature. Plan details, including right-of-way lines, property takings, and displacements are subject to further study and possible revision during the design phase that follows completion of the Environmental Impact

Opening Statements – Page 6/13 (Testimony Page 70)

No Issues – No Responses

Opening Statements – Page 7/13 (Testimony Page 71)

No Issues – No Responses

Opening Statements – Page 8/13 (Testimony Page 72)

No Issues – No Responses

Opening Statements – Page 9/13 (Testimony Page 73)

Statement.

All property necessary for this project will be acquired in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and in accordance with the Pennsylvania Eminent Domain Code as well as applicable federal and state regulations.

Right-of-way specialists are available at today's hearing in the open house area to review specific procedures and answer any questions about potential property impacts.

In addition, these specialists can provide you an informative pamphlet titled "Property Owners and Tenants Guide," published by the Pennsylvania Turnpike Commission, which details standard right-of-way acquisition procedures.

I will now yield the floor back to Andy Warren to discuss the formal public hearing testimony procedures.

MR. WARREN: Just before we actually begin the testimony, a few housekeeping items.

First, what tonight is and is not. Tonight is not a debate. It is not a question-and-answer session, nor a cross-examination

Opening Statements – Page 9/13 (Testimony Page 73)

No Issues – No Responses

Opening Statements – Page 10/13 (Testimony Page 74)

session.

Ms. Winkler nor Mr. Troup nor I will not be engaging in back-and-forth conversation. Tonight is the opportunity for citizens of Bucks County and/or Pennsylvania, frankly, to offer his or her opinion about the project.

When your name is called, and we will call in groups of three, we would ask that the speaker come forward to the stand on my left, give your name and spelling to the stenographer, and you then will be afforded five minutes to offer your opinion regarding this program, this project.

If, per chance, you don't feel comfortable speaking in the auditorium, but you do have an issue that you want to get on the official record, you go out the door to the left, there is a room where you can offer a five-minute testimony to one stenographer, if that is more comfortable.

Similarly, if you wish to just turn in a written testimony, you can do that, as was stated, up until January 2nd-- July 2nd. If you have prepared remarks, and you would like to leave them at the front table with the stenographer when you leave, that's fine.

Opening Statements – Page 10/13 (Testimony Page 74)

No Issues – No Responses

Opening Statements – Page 11/13 (Testimony Page 75)

No matter how you testify, orally or written or on a tape, there is no weighting of the opinion. Your opinions will be forwarded to the Federal Highway Administration for their consideration, regardless of how they are offered into the record.

I mentioned that each individual will be given five minutes. This is your time. We would ask that the audience again be courteous to the speaker. Obviously, there are people with strong opinions both ways. Let us prepare an official record and not engage in support or unsupport for speakers.

If you have signs, et cetera, an orderly, quiet display of sign is fine until they start disrupting the rest of the men and women who also have an opportunity to be heard.

If there were to be elected officials who should come in, we will put them into the lineup of testifiers as they arrive. You should have registered for a particular five-minute time period before now.

If however, you find as the evening goes on that there is something you would like to say and

Opening Statements – Page 11/13 (Testimony Page 75)

No Issues – No Responses

Opening Statements – Page 12/13 (Testimony Page 76)

have officially into the record, if you'd just go back to the registration table right outside the door, the gentleman or woman there will be able to take your name and get you on the list, and you'll be able to offer your testimony.

We are scheduled to conclude by 9 o'clock; however, Ms. Winkler and Mr. Troup and I will remain here as long as there are people who have testimony to offer.

Your comments tonight will all be reviewed, analyzed, answered as an official part of the record. They will be forwarded to the Federal Highway Administration who then will make a determination and create what your answers will be in the Final Environmental Impact Statement.

The Federal Highway Commission (sic) will review that and create what is called a Record Of Decision or a ROD. That process will take approximately one year. So all of tonight's activities will be reviewed, answered, forwarded to the proper agency over the course of the next year.

Following the issue of the Record of Decision, sometime in mid-2002, a mitigation report will be prepared that will document all methods of

Opening Statements – Page 13/13 (Testimony Page 77)

minimizing and mitigating the project environmental and community impacts. The design phase of the project will be able to proceed, and contingent upon authorization of programs, federal funds, right-of-way acquisition, utility relocation. And all of that, of course, is contingent upon the funds.

Having said that, the floor is now open. Our first presenter this evening is Mr.-- let me offer this. I will do the very best with pronunciation of names. I apologize now for anybody's name who I screw up, because I'm sure I will, and in all likelihood, I'll probably get your first name right; the second last name can be an adventure.

With that, our first three presenters this evening: First Mr. Salmon, followed by Robert Leone, followed by the Honorable Edna Roth.

Mr. Salmon?

Bob Salmon – Page 1/6 (Testimony Page 77)

MR. SALMON: Hello. My name is Bob Salmon, S-a-l-m-o-n. Thank you for the opportunity to speak this evening. I reside at 5550 Hulmeville Road. I also represent the families and businesses at 5526 and 5550 Hulmeville Road.

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No Issues – No Responses

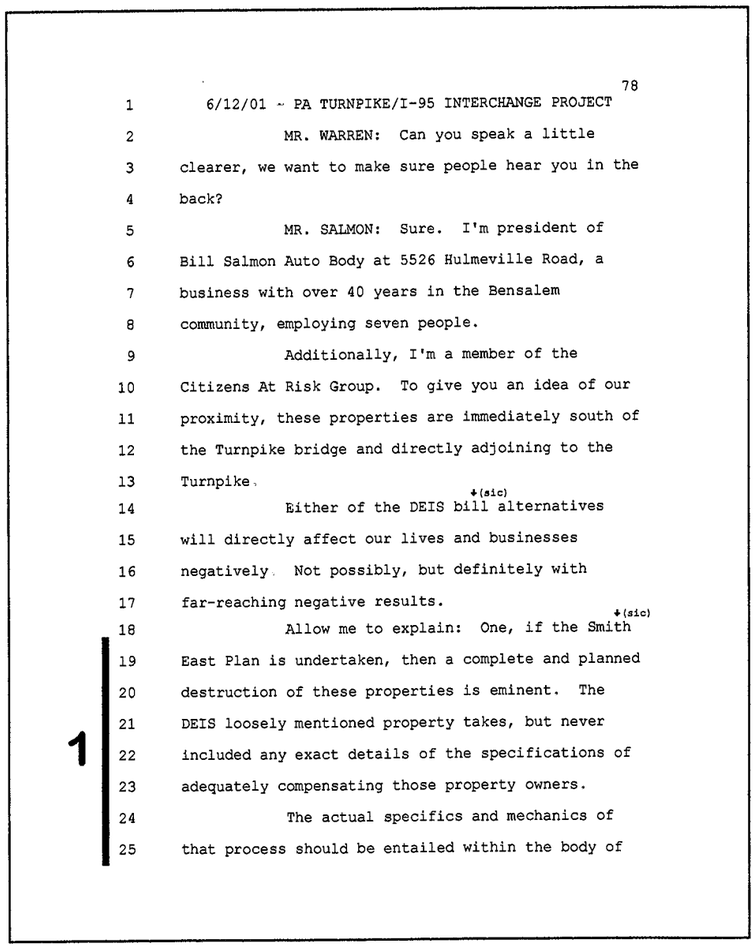
Opening Statements – Page 13/13 (Testimony Page 77)

No Issues – No Responses

Bob Salmon – Page 1/6 (Testimony Page 77)

No Issues – No Responses

Bob Salmon – Page 2/6 (Testimony Page 78)



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MR. WARREN: Can you speak a little clearer, we want to make sure people hear you in the back?

MR. SALMON: Sure. I'm president of Bill Salmon Auto Body at 5526 Hulmeville Road, a business with over 40 years in the Bensalem community, employing seven people.

Additionally, I'm a member of the Citizens At Risk Group. To give you an idea of our proximity, these properties are immediately south of the Turnpike bridge and directly adjoining to the Turnpike.

Either of the DEIS bill (sic) alternatives will directly affect our lives and businesses negatively. Not possibly, but definitely with far-reaching negative results.

Allow me to explain: One, if the Smith (sic) East Plan is undertaken, then a complete and planned destruction of these properties is eminent. The DEIS loosely mentioned property takes, but never included any exact details of the specifications of adequately compensating those property owners.

The actual specifics and mechanics of that process should be entailed within the body of

1

Bob Salmon – Page 2/6 (Testimony Page 78)

1 Socioeconomic-Property Displacement (DEIS/FEIS Sections IV-B.3, C.3)
The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission (PTC) pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. Just compensation at fair market value will be provided for displaced residents. Property owners are compensated if their property is required as right-of-way for the Interchange Project.

Detailed right-of-way acquisition will be addressed in the Final Design phase of the I-276/I-95 Interchange Project, at which time a final relocation survey will be conducted by the PTC in conjunction with the Pennsylvania Department of Transportation (PENNDOT), to determine on a case-by-case basis, the number of displaced residents and businesses, and to provide relocation assistance in accordance with applicable regulations. During Final Design, any special groups or individuals, such as the elderly or handicapped that would be displaced would be given special consideration. Replacement property would be offered to displaced persons without discrimination and would be within financial means and provide reasonable accessibility to places of employment and public services. At this time, research shows that there is sufficient replacement housing in the study area. In cases where only portions of a property would be required by the I-276/I-95 Interchange Project, monetary compensation for the portion of property would be provided to property owners in accordance with applicable regulations.

Business owners who suffer a loss or diversion of business during the construction phase will not be compensated. This impact, although a legitimate concern if it comes to exist, is difficult to predict and is not required by law to be compensated.

Bob Salmon – Page 3/6 (Testimony Page 79)

See ***Bob Salmon – Page 2/6 (Testimony Page 78)*** On This Page For The Response To Issue **1**.

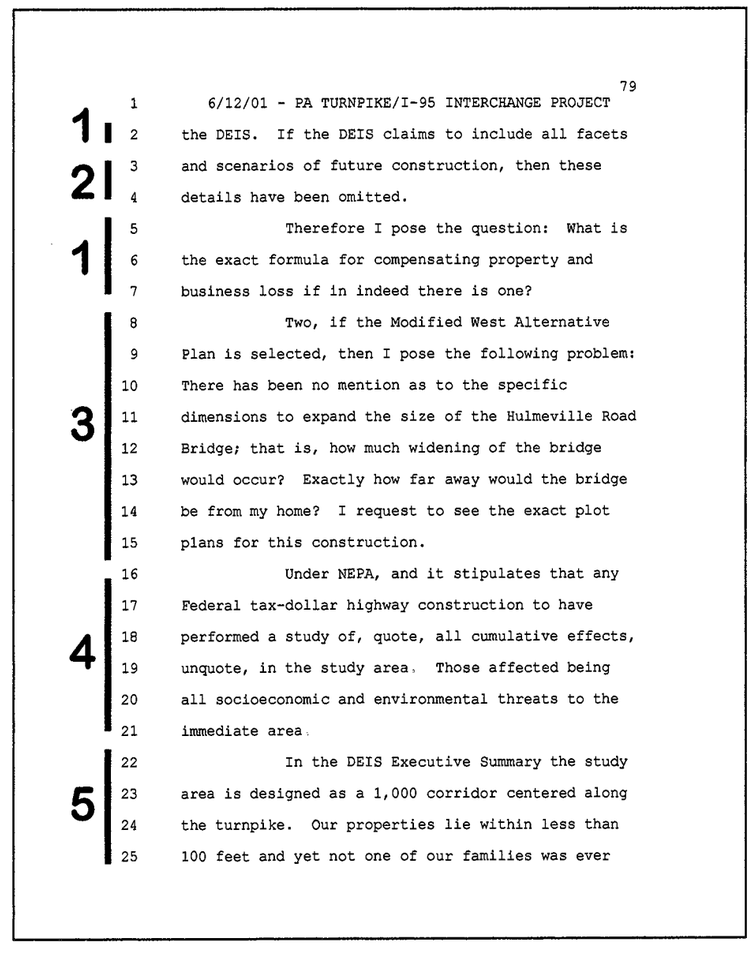
2 DEIS Contents
The DEIS/FEIS does not claim to include all facets and scenarios of future construction.

3 Alternatives Development
Any bridge plans to date are preliminary in nature and would be further refined during the Final Design phase of the I-276/I-95 Interchange Project, when preliminary and final right-of-way plans are developed. Every effort will be made to minimize the impacts to adjacent properties.

4 Secondary Development and Cumulative Impacts (DEIS/FEIS Section IV-U)
Secondary Development and Cumulative Impacts were evaluated as part of the I-276/I-95 Interchange Project DEIS/FEIS, as referenced above.

5 Socioeconomic (DEIS/FEIS Section IV-B, C.3)
The manner in which the socioeconomic studies were conducted is consistent with the National Environmental Policy Act (NEPA). Potential impacts to residences, business and community facilities within the study area were properly evaluated and discussed in the DEIS/FEIS. Property owners within the study area were not contacted on an individual basis. All properties, including residences and businesses within the 1000' study corridor, were inventoried based on tax records from the Bucks County Assessment Board. Detailed information on these studies can be found in the project Technical Support Data located at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. The results of these studies, in conjunction with the preliminary engineering, shows that the residence and business at 5526 and 5549 Hulmeville Road will be displaced with the Split Plaza East Alternative. These displacements are included in Table ES-1. The FEIS Preferred Alternative for the Toll Plaza Element is the Modified Plaza West Alternative, which would not displace these properties.

Bob Salmon – Page 3/6 (Testimony Page 79)



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the DEIS. If the DEIS claims to include all facets and scenarios of future construction, then these details have been omitted.

Therefore I pose the question: What is the exact formula for compensating property and business loss if in indeed there is one?

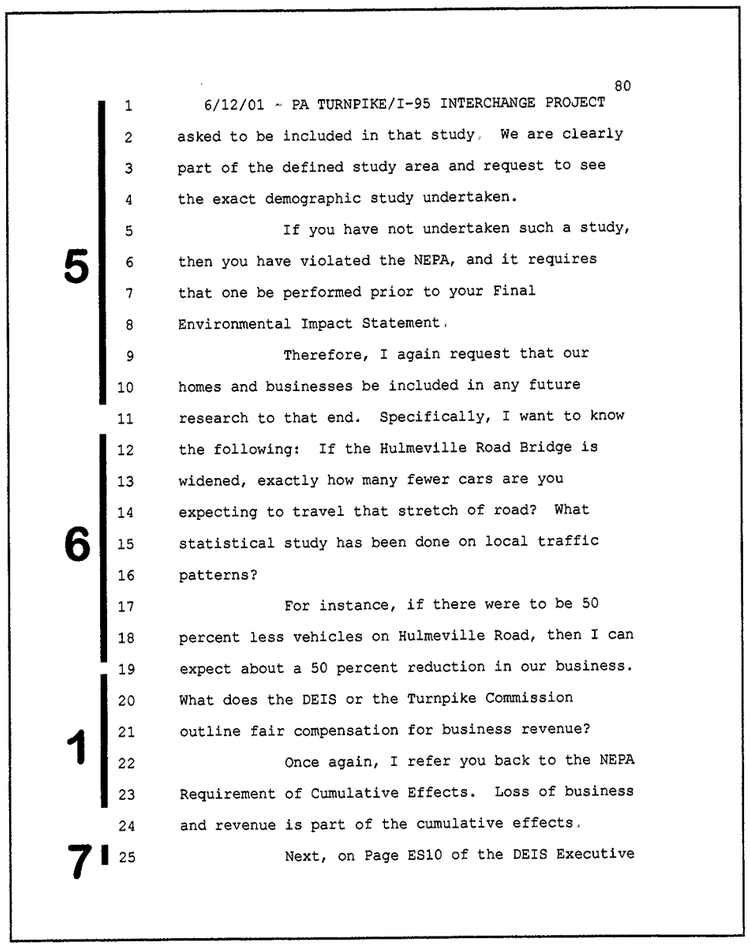
Two, if the Modified West Alternative Plan is selected, then I pose the following problem: There has been no mention as to the specific dimensions to expand the size of the Hulmeville Road Bridge; that is, how much widening of the bridge would occur? Exactly how far away would the bridge be from my home? I request to see the exact plot plans for this construction.

Under NEPA, and it stipulates that any Federal tax-dollar highway construction to have performed a study of, quote, all cumulative effects, unquote, in the study area. Those affected being all socioeconomic and environmental threats to the immediate area.

In the DEIS Executive Summary the study area is designed as a 1,000 corridor centered along the turnpike. Our properties lie within less than 100 feet and yet not one of our families was ever

1 2 1 3 4 5

Bob Salmon – Page 4/6 (Testimony Page 80)



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asked to be included in that study. We are clearly part of the defined study area and request to see the exact demographic study undertaken.

5 If you have not undertaken such a study, then you have violated the NEPA, and it requires that one be performed prior to your Final Environmental Impact Statement.

Therefore, I again request that our homes and businesses be included in any future research to that end. Specifically, I want to know the following: If the Hulmeville Road Bridge is widened, exactly how many fewer cars are you

6 expecting to travel that stretch of road? What statistical study has been done on local traffic patterns?

For instance, if there were to be 50 percent less vehicles on Hulmeville Road, then I can expect about a 50 percent reduction in our business.

1 What does the DEIS or the Turnpike Commission outline fair compensation for business revenue?

Once again, I refer you back to the NEPA Requirement of Cumulative Effects. Loss of business and revenue is part of the cumulative effects.

7 Next, on Page ES10 of the DEIS Executive

Bob Salmon – Page 4/6 (Testimony Page 80)

See ***Bob Salmon – Page 2/6 (Testimony Page 78)*** On Previous Page For The Response To Issue **1**.

See ***Bob Salmon – Page 3/6 (Testimony Page 79)*** On Previous Page For The Response To Issue **5**.

6 Construction Impacts

While no specific traffic data was generated for the Gibson Road/Hulmeville Road area during the reconstruction of the Hulmeville Road Bridge, two options were discussed with local officials in regards to the maintenance of traffic during reconstruction of the Hulmeville Road and Bensalem Boulevard Bridges. The first option would involve detouring traffic during the construction of one of these bridges to the other bridge using Gibson Road as the detour route. For example, while the Hulmeville Road Bridge is closed, traffic that normally travels north over the Hulmeville Road Bridge will be detoured to Gibson Road to Bensalem Boulevard and over the Bensalem Boulevard Bridge. Traffic that normally travels south over the Hulmeville Road Bridge will be detoured to Bensalem Boulevard and travel over I-276 using the Bensalem Boulevard Bridge and then use Gibson Road to access Hulmeville Road on the south side of I-276. This option allows for a shorter construction time period. The second option would be to maintain two-directional traffic on each bridge as the bridges are reconstructed. This option would allow for the least amount of detours, but would result in a longer construction time period. Coordination will continue with local officials regarding this matter and specific detour options will be completed during Final Design.

7 Impact Calculations (DEIS/FEIS Section IV, Appendix C)

The information provided in the Impact Summary Tables presented in the DEIS Executive Summary was determined from scientific studies conducted during the detailed study phase of the I-276/I-95 Interchange Project. Support documentation for each of the studies performed for the I-276/I-95 Interchange Project is located in the Technical Support Data available for public review at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057.

Bob Salmon – Page 5/6 (Testimony Page 81)

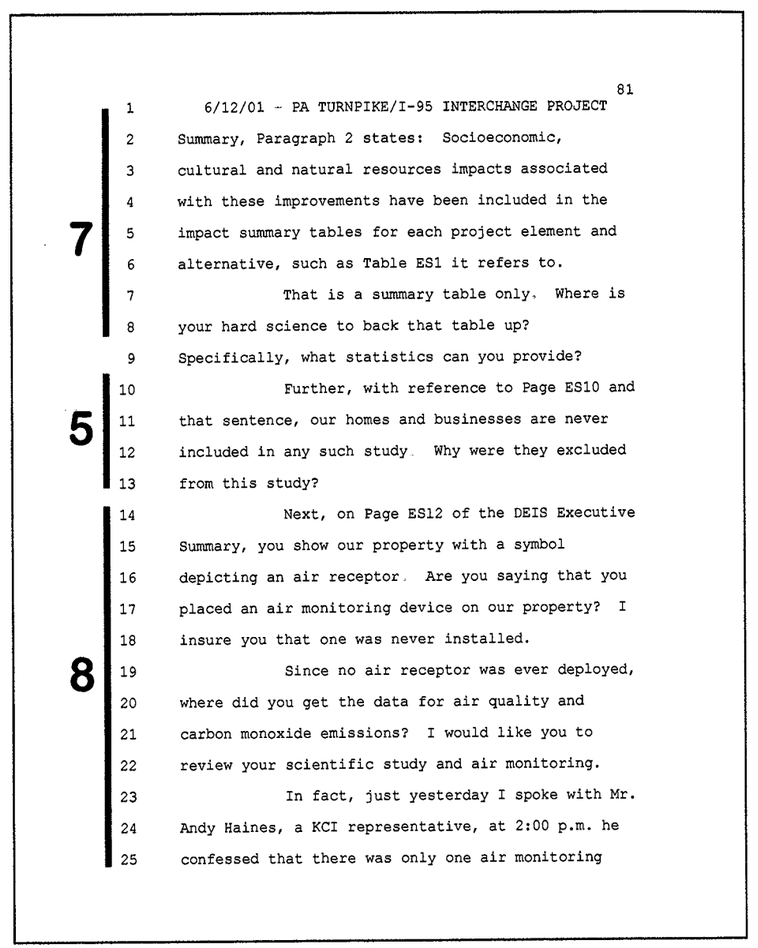
See ***Bob Salmon – Page 3/6 (Testimony Page 79)*** On Previous Page For The Response To Issue **5**.

See ***Bob Salmon – Page 4/6 (Testimony Page 80)*** On This Page For The Response To Issue **7**.

8 Air Quality (DEIS/FEIS IV-N)

The air receptor symbols depicted on the DEIS/FEIS graphics do not represent air monitoring devices. A localized carbon monoxide analysis conducted by the Project Team predicted carbon monoxide concentrations at 29 air receptor locations. The air receptor symbol depicted on the DEIS/FEIS graphics on the Salmon property represents one of the 29 locations where carbon monoxide levels were predicted for the No-Build and Build Alternatives using the latest US Environmental Protection Agency (USEPA) computer models, and is not meant to represent an air monitoring device.

Bob Salmon – Page 5/6 (Testimony Page 81)



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Summary, Paragraph 2 states: Socioeconomic, cultural and natural resources impacts associated with these improvements have been included in the

7 impact summary tables for each project element and alternative, such as Table ES1 it refers to.

That is a summary table only. Where is your hard science to back that table up? Specifically, what statistics can you provide?

Further, with reference to Page ES10 and

5 that sentence, our homes and businesses are never included in any such study. Why were they excluded from this study?

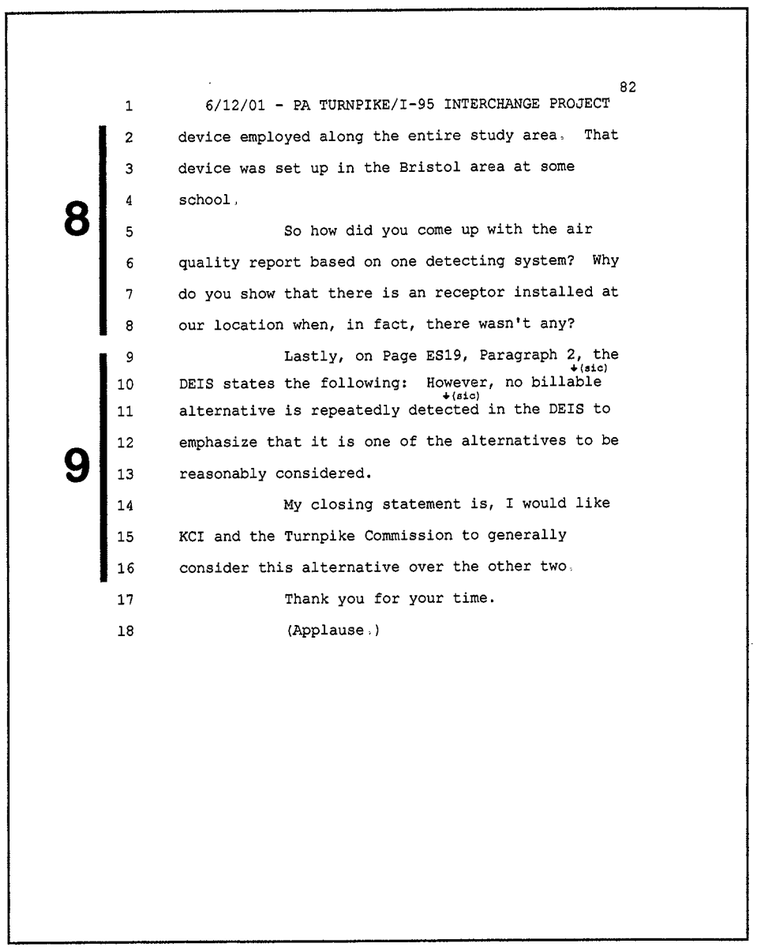
Next, on Page ES12 of the DEIS Executive Summary, you show our property with a symbol depicting an air receptor. Are you saying that you placed an air monitoring device on our property? I insure you that one was never installed.

8 Since no air receptor was ever deployed, where did you get the data for air quality and carbon monoxide emissions? I would like you to review your scientific study and air monitoring.

In fact, just yesterday I spoke with Mr. Andy Haines, a KCI representative, at 2:00 p.m. he confessed that there was only one air monitoring

Background carbon monoxide concentrations used in the localized analysis were measured at an existing air quality monitoring station in Bristol Township (established by the Pennsylvania Department of Environmental Protection in 1989) and take into account carbon monoxide levels in the area from various sources including mobile and non-mobile sources. To calculate total carbon monoxide concentrations at each of the 29 receptors, such as homes or parks, the levels generated by the USEPA-approved models, which take into account traffic and geometry associated with the No-Build and Build Alternatives, were added to the background concentration. Results were then compared to the National Ambient Air Quality Standards for carbon monoxide.

Bob Salmon – Page 6/6 (Testimony Page 82)



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device employed along the entire study area. That device was set up in the Bristol area at some school.

8 So how did you come up with the air quality report based on one detecting system? Why do you show that there is an receptor installed at our location when, in fact, there wasn't any?

Lastly, on Page ES19, Paragraph 2, the (sic) DEIS states the following: However, (sic) no billable alternative is repeatedly detected in the DEIS to

9 emphasize that it is one of the alternatives to be reasonably considered.

My closing statement is, I would like KCI and the Turnpike Commission to generally consider this alternative over the other two.

Thank you for your time.

(Applause.)

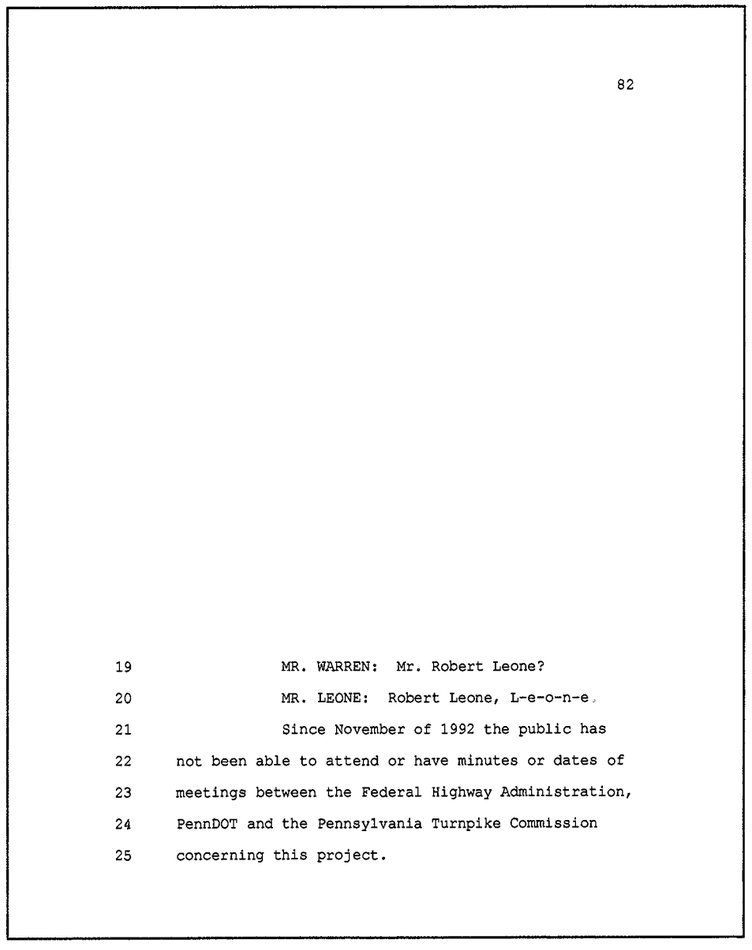
Bob Salmon – Page 6/6 (Testimony Page 82)

See ***Bob Salmon – Page 5/6 (Testimony Page 81)*** On Previous Page For The Response to Issue **8.**

9 Project Position

The commenter's support for the No-Build Alternative is noted.

Robert Leone – Page 1/5 (Testimony Page 82)



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MR. WARREN: Mr. Robert Leone?

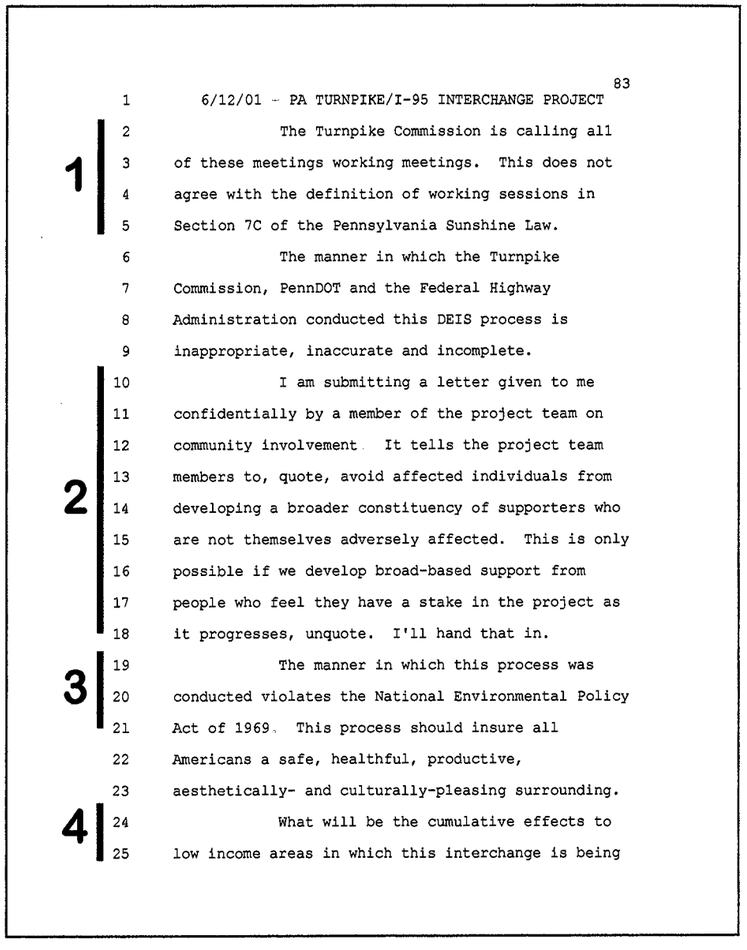
MR. LEONE: Robert Leone, L-e-o-n-e.

Since November of 1992 the public has not been able to attend or have minutes or dates of meetings between the Federal Highway Administration, PennDOT and the Pennsylvania Turnpike Commission concerning this project.

Robert Leone – Page 1/5 (Testimony Page 82)

No Issues – No Responses

Robert Leone – Page 2/5 (Testimony Page 83)



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The Turnpike Commission is calling all

1 of these meetings working meetings. This does not agree with the definition of working sessions in Section 7C of the Pennsylvania Sunshine Law.

The manner in which the Turnpike Commission, PennDOT and the Federal Highway Administration conducted this DEIS process is inappropriate, inaccurate and incomplete.

I am submitting a letter given to me confidentially by a member of the project team on community involvement. It tells the project team members to, quote, avoid affected individuals from

2 developing a broader constituency of supporters who are not themselves adversely affected. This is only possible if we develop broad-based support from people who feel they have a stake in the project as it progresses, unquote. I'll hand that in.

The manner in which this process was

3 conducted violates the National Environmental Policy Act of 1969. This process should insure all Americans a safe, healthful, productive, aesthetically- and culturally-pleasing surrounding.

What will be the cumulative effects to

4 low income areas in which this interchange is being

Robert Leone – Page 2/5 (Testimony Page 83)

1 Public Involvement (DEIS/FEIS Section VII)

The Pennsylvania Right-to-Know Act applies to the Pennsylvania Turnpike Commission (PTC). In accordance with this Act, working meetings of the PTC staff, agencies, or consultants are not public meetings. The Sunshine Law or any other law of Pennsylvania does not provide public access to these meetings. The preliminary design/environmental impact statement (EIS) process clearly provides for multiple opportunities for public participation and input. As described in the DEIS/FEIS, an extensive public involvement program was established for the I-276/I-95 Interchange Project. Public Involvement is provided in the form of the project website at www.paturnpike/i95.com, public information binders in area libraries, public meetings, and the project office. The public has the opportunity to submit opinions or questions on the website, in person at the project office, by mail and have answers returned in a timely manner.

2 Public Involvement

The letter referenced can be found on page I-92 of this FEIS and is a page from a scope of services from one of the Project Team consultants, which was compiled in 1992. The purpose of this document was to outline a proposed broad-based strategy for identifying the entire affected public and methods to communicate with them. The intent of this strategy was to keep all the individuals of the study area informed about the I-276/I-95 Interchange Project so that they could make individual, independent judgments during the I-276/I-95 Interchange Project development process. As the I-276/I-95 Interchange Project developed, the Project Team shared information with the general public regardless of the degree of project impact to them or their community.

3 NEPA Process (DEIS/FEIS Section ES)

The manner in which the I-276/I-95 Interchange Project was consistent with the National Environmental Policy Act (NEPA) process, as described below. The NEPA is our basic national charter for protection of the environment. It establishes policy, sets goals (Section 101), and provides means (Section 102) for carrying out the policy. Section 102 requires that federal agencies, to the extent possible, do the following:

- ✓ Interpret and administer federal policies, regulations and laws in accordance with NEPA.
- ✓ Use an interdisciplinary approach in planning and decision-making for actions that impact the environment.
- ✓ Prepare an EIS on all major federal actions significantly affecting the human environment.
- ✓ Examine alternatives to the proposed action.
- ✓ Provide a basis for the cooperating agency concept.
- ✓ Include public and agency coordination.

In summary, the project development process for the I-276/I-95 Interchange Project is in compliance with the NEPA requirements.

4 Environmental Justice (DEIS/FEIS Section IV-B.4)

The DEIS/FEIS includes a discussion of the impacts to the low-income areas in the study area. The analysis concluded that the I-276/I-95 Interchange Project would not have a disproportionately high and adverse human health and environmental effect to low income and minority populations. The commenter's reference that "multidimensional planning" has not occurred is false. Mitigation measures and design refinements to minimize and avoid impacts associated with the I-276/I-95 Interchange Project were evaluated and identified for all affected populations and communities throughout the life of the I-276/I-95 Interchange Project, beginning with the identification of impacts in the Major Investment Study and Preliminary Alternatives Analysis. Mitigation measures (noise, visual, etc.) were documented in the DEIS and continue to be refined in the FEIS and will be finalized in a Mitigation Report. During this time, an extensive Public Involvement Program has been established and will continue to keep the public informed concerning future aspects of the I-276/I-95 Interchange Project.

Robert Leone – Page 3/5 (Testimony Page 84)

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4 built; our future wall (sic) of life? Over 12 million has been spent on consultants to this point, and there is no multidimensional planning of the project.

5 An economic study initiated by Congressman Greenwood eschews -- it concludes that building the project will give economic benefits to the nine county region, but no study was done in reference to the negative impacts, especially to communities close to the construction.

6 What are the impacts including visual, air, real estate value, congestion, loss of business during construction to Lower Bucks County? And why have they not been included in this DEIS?

7 An air quality study including a baseline air quality sample should be done now. Twelve million (sic) vehicle troops will be shipped (sic) and added within the project area. The American Lung Association estimated that vehicle emissions account for 900,000 asthma attacks, 1 million various respiratory problems annually.

8 Project consultants state that because this project will help reduce stop-and-go traffic on local roads, this project has the ability to inherently improve air quality at the local level,

Robert Leone – Page 3/5 (Testimony Page 84)

See ***Robert Leone – Page 2/5 (Testimony Page 83)*** On This Page For The Response To Issue **4**.

5 Economic Impact Study (DEIS/FEIS Section VII-B.13)

The Economic Impact Study uses the REMI economic model to forecast economic conditions with and without the interchange. The output from the model is the net effect of building the interchange, and the numbers do not differentiate between positive or negative impacts. In other words, the negative economic effects have already been subtracted from those positive effects, with the results being presented in the Economic Impact Study. Due to the dynamic nature of the economy, the model is not able to forecast only the negative impacts of building the interchange.

6 Project Impacts (DEIS/FEIS Sections IV-A, B, N, O, U, FEIS Appendix E)

The DEIS describes the visual impacts resulting from the I-276/I-95 Interchange Project include the introduction of a new main line toll plaza, elevated ramps, noise barriers and new sight lines associated with property displacements. Mitigation measures for visual impacts may include tree and shrub plantings, where appropriate, to screen the views of at grade and elevated ramps, retaining walls and noise barriers. Visual quality issues and mitigation will be further examined during Final Design.

The DEIS includes a localized carbon monoxide analysis that predicted carbon monoxide levels for existing and future No-Build and Build scenarios. Under all scenarios, carbon monoxide levels were predicted to be well below US Environmental Protection Agency (USEPA) National Ambient Air Quality Standards. The Delaware Valley Regional Planning Commission (DVRPC) conducted a regional analysis that demonstrated that the I-276/I-95 Interchange Project is part of a program of transportation facilities that conforms to the USEPA requirements for nitrous oxides and volatile organic compounds. A summary of the DVRPC analysis is included in Appendix E of this FEIS.

Property values could be affected both positively and negatively. The Economic Impact Study conducted for the I-276/I-95 Interchange Project and summarized in the DEIS concluded that overall residential property values would be affected positively by the improved accessibility to the interstates and reductions in local congestion.

The I-276/I-95 Interchange Project offers numerous transportation infrastructure improvements that would not occur under the No-Build Alternative as described in the DEIS. These infrastructure improvements would improve traffic efficiency of the regional and local roadway network by reducing delays and congestion, providing improved levels of service and overall vehicle progression, enhancing safety conditions, and providing better access within the study area.

During construction, efforts will be made to maintain continuous traffic access to all businesses and to keep traffic flow disturbances to a minimum. However, business owners who suffer a loss or diversion of business during the construction phase will not be compensated. This impact, although a legitimate concern if it comes to exist, is difficult to predict and is not required by law to be compensated.

7 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

Background and baseline data were analyzed as part of the localized carbon monoxide analysis and the DVRPC regional analysis for nitrous oxides (NOx) and volatile organic compounds (VOCs). The localized carbon monoxide analysis performed by the Project Team included background carbon monoxide levels that are continuously monitored at an air quality monitoring station [maintained by the Pennsylvania Department of Environmental Protection (PADEP) since 1989] located in Bristol Township.

A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. A summary of this analysis is included in Appendix E of this FEIS. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan).

8 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

As described in the DEIS, a localized carbon monoxide analysis was conducted by the Project Team for 29 air sensitive receptor locations throughout the I-276/I-95 Interchange Project including areas adjacent to the interstates and the proposed main line toll plaza. Results indicated that in all future Build and No-Build scenarios, including the stop and go conditions associated with the Toll Plazas with no E-Z*Pass* and later with the slow and fast speed E-Z*Pass*, carbon monoxide levels would be well below USEPA standards. PADEP has maintained an air monitoring station in Bristol Township that has indicated that air pollution levels have been steadily improving for the last 10 years including those pollutants (carbon monoxide and ozone) associated with mobile sources (PADEP, 1999).

An ozone analysis can only be done accurately on a large scale or regional basis due to the complexity of the formation and transport of ozone. A regional air quality emissions analysis that included the I-276/I-95 Interchange Project (and the resultant shifting of vehicles and the effects of the proposed main line toll plaza) was conducted by the DVRPC. A summary of the DVRPC regional analysis is included in Appendix E of this FEIS. This analysis concluded that levels of NOx and VOCs (necessary for the formation of ozone) in the region that includes Lower Bucks County would be within standards set by the USEPA by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County.

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8

but they have not produced evidence to back this up. Without evidence it is merely a judgment, a statement based on the same conjunctions by myself. I will say by slowing and stopping cars at a main line toll plaza, this project has the ability to inherently worsen air quality at the local level.

9

The public has the right to know the quality of the environment in which they live, as stated in the Worker and Community Rights Act. The fact is that when the project is built, seven out of ten roads will have unacceptable ♦(sic) levels of surface air after 12 years of construction at a cost of $640 million. I'm submitting a letter

10

♦(sic) from George Simpa (phonetic) of real estate values to the affected communities.

I-95 was built through Bucks County as a part of a plan to link with the proposed I-95 in New Jersey. The construction of this project is based on Federal legislation enacted in 1982 referred to ♦(sic) as the Service Transportation Assistance Act. An amendment to this act introduced by ♦(sic) Bill Bradley formally reviewed New Jersey's legal obligation to complete the portion of I-95 in that

Robert Leone – Page 4/5 (Testimony Page 85)

See ***Robert Leone – Page 3/5 (Testimony Page 84)*** On This Page For The Response To Issue **8**.

9 Traffic and Transportation (DEIS/FEIS Section IV-A)

The traffic forecasts and analyses documented in the 1993 Project Needs Study, which was based on 2020 traffic forecasts and existing/future roadway network, showed that the number of deficient study area intersections was reduced from 9 out of 10 to 7 out of 10. This improvement was due to the transfer of traffic from the local road system to the interstate highways. Considering the highly developed nature of the study area and continued need to access area homes and businesses, complete elimination of deficient intersections was not anticipated. Since the completion of the Needs Study, numerous transportation projects were designed and/or constructed to address many of these local roadway inadequacies.

10 Socioeconomic-Real Estate Values (DEIS/FEIS Section VII-B)

The letter to which the commenter refers can be found on page I-92 of this FEIS. The DEIS acknowledges that the proposed displacements of local businesses and residences may result in loss of assessed value for the affected municipalities. However, the anticipated loss of assessed value is small (less than 1 percent per alternative and municipality) and would not substantially alter the tax base of the study area. It is expected that this loss would be offset by the investment in existing properties and new development associated with access improvements brought by the construction of the interchange. For instance, the I-276/I-95 point-of-crossing area was identified by the project's Economic Impact Study as being a growth center.

Section IV of the DEIS discusses impacts and mitigation measures for those properties that remain after construction, for instance air, noise and visual quality. It is expected that the incorporation of noise barriers will reduce noise levels for most residential areas to below existing levels. In addition, by the time the I-276/I-965 Interchange Project is constructed; many air quality benefits will have been realized as a result of stricter US Environmental Protection Agency regulations (see Marcia Spink testimony pages I-21 to I-22 for testimony on air quality related to the project). The DEIS describes mitigation measures for visual impacts including landscaping to screen views of the highway and noise barriers. These and other mitigation measures will be finalized in the Mitigation Report to be completed after the Record of Decision.

Robert Leone – Page 5/5 (Testimony Page 86)

state. The amendment shifted the completion of the project, New Jersey's missing link, to Lower Bucks County in the form of an interchange connecting I-95 with the Turnpike.

I-95 must run uninterrupted from Maine to Florida. This remains the primary purpose of the project. Presently there exists an alternative which completes the I-95 missing link, the primary purpose of the project.

I-295 and I-195 in New Jersey are appropriately signed and unofficially recognized as I-95 by the Federal Highway Administration.

Our interstate system is almost 50 years old. The $640 million should be used to replace and repair all old bridges that are narrow and unsafe. This money could save lives on our interstates instead of being used for a pork barrel project. Thank you.

(Applause.)

Robert Leone – Page 5/5 (Testimony Page 86)

11 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives were evaluated, it was essential that they met the five defined project needs

While it is true that I-295 and I-95 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to the Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists would continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by the Pennsylvania Department of Transportation prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

12 I-276/I-95 Interchange Project Funding

Pennsylvania's apportionment of Federal Interstate Construction (IC) funds can only be used for Interstate Completion projects, such as the I-276/I-95 Interchange Project. Interstate Construction funds cannot be used on rehabilitation or reconstruction projects to repair old bridges that are narrow and unsafe.

PENNDOT's list of remaining Interstate Completion projects includes the I-276/I-95 Interchange in the Philadelphia Metropolitan Area and Interstate 99 in Central Pennsylvania. The State's balance of unexpended IC funds is eligible for use on either or both projects.

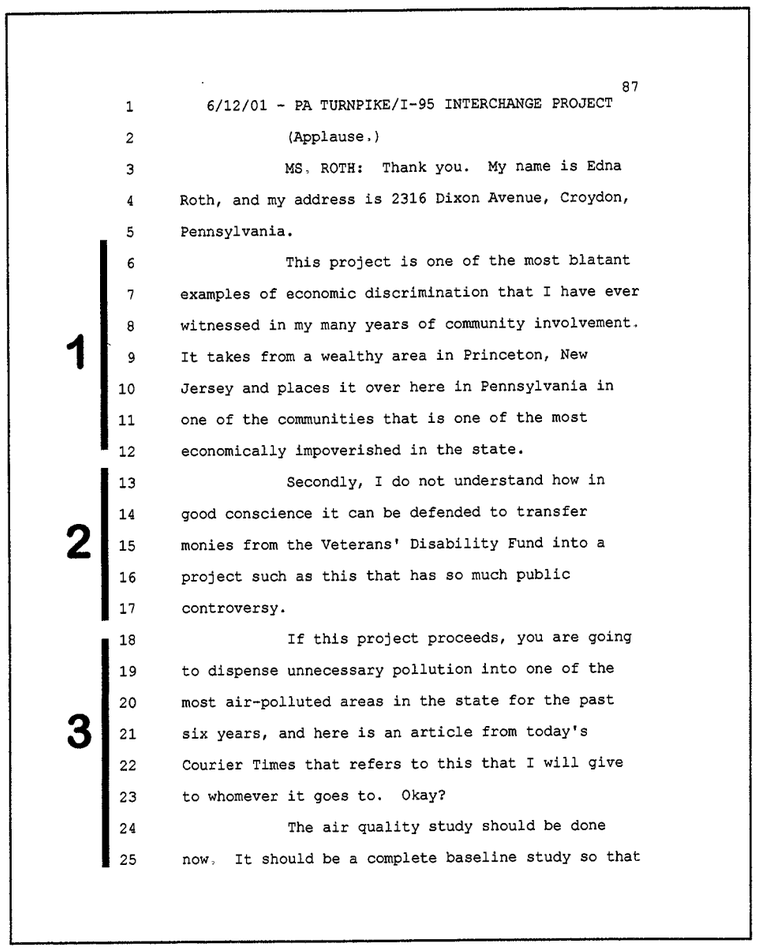
Edna Roth – Page 1/3 (Testimony Page 86)

MR. WARREN: The Honorable Ms. Roth. For those of you who don't know, Ms. Roth was the first elected mayor of Bristol Township, first elected mayor of Bristol Township three or four decades ago.

Edna Roth – Page 1/3 (Testimony Page 86)

No Issues – No Responses

Edna Roth – Page 2/3 (Testimony Page 87)



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(Applause.)

MS. ROTH: Thank you. My name is Edna Roth, and my address is 2316 Dixon Avenue, Croydon, Pennsylvania.

1 This project is one of the most blatant examples of economic discrimination that I have ever witnessed in my many years of community involvement. It takes from a wealthy area in Princeton, New Jersey and places it over here in Pennsylvania in one of the communities that is one of the most economically impoverished in the state.

2 Secondly, I do not understand how in good conscience it can be defended to transfer monies from the Veterans' Disability Fund into a project such as this that has so much public controversy.

3 If this project proceeds, you are going to dispense unnecessary pollution into one of the most air-polluted areas in the state for the past six years, and here is an article from today's Courier Times that refers to this that I will give to whomever it goes to. Okay?

The air quality study should be done now. It should be a complete baseline study so that

Edna Roth – Page 2/3 (Testimony Page 87)

1 Legislation (DEIS/FEIS Section I-A)
The I-276/I-95 Interchange Project is intended to establish interstate to interstate continuity and to facilitate the re-routing of I-95 as required by the 1982 Federal Surface Transportation Assistance Act of 1982. Although it has certain impacts, the I-276/I-95 Interchange Project brings numerous traffic and economic benefits to the Lower Bucks County region, as outlined in the DEIS. The Economic Impact Study (PEL, 2000) conducted for the I-276/I-95 Interchange Project concluded that building the direct interchange between I-276 and I-95 in Lower Bucks County could result in increased economic activity by infusing new construction dollars into the economy, creating a more efficient transportation network, increasing the attractiveness of Lower Bucks County as a business location and increasing the attractiveness of the region as a tourist destination.

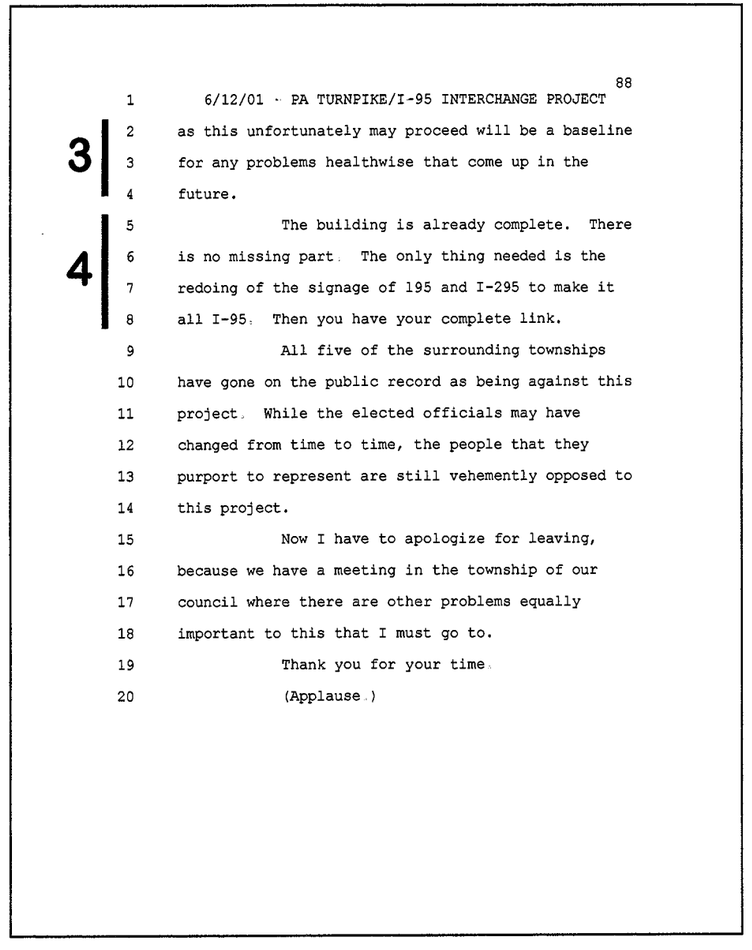
2 I-276/I-95 Interchange Project Funding
Funding for the I-276/I-95 Interchange Project will not come from the commenter's referenced "Veteran's Disability Fund". The federal funding would originate from Interstate Construction funds previously provided to Pennsylvania under the Intermodal Surface Transportation Efficiency Act of 1991.

3 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
Marcia Spink, US Environmental Protection Agency (USEPA), provided public testimony that appears on pages I-21 to I-22 of this FEIS regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions and that the USEPA expects the southeastern Pennsylvania region to be within the standards set by the USEPA for all regulated emissions by the year 2005.

Background and baseline data were analyzed and developed as part of the localized carbon monoxide analysis and the Delaware Valley Regional Planning Commission (DVRPC) regional analysis for nitrous oxides (NOx) and volatile organic compounds (VOCs). The localized carbon monoxide analysis performed by the Project Team included background carbon monoxide levels that are continuously monitored at an air quality monitoring station [maintained by the Pennsylvania Department of Environmental Protection (PADEP) since 1989] located in Bristol Township.

A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the pollutants NOx and VOCs, the principle components of ground-level ozone. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan). A summary of the DVRPC regional analysis is included in Appendix E of this FEIS.

Edna Roth – Page 3/3 (Testimony Page 88)



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3 as this unfortunately may proceed will be a baseline for any problems healthwise that come up in the future.

4 The building is already complete. There is no missing part. The only thing needed is the redoing of the signage of 195 and I-295 to make it all I-95. Then you have your complete link.

All five of the surrounding townships have gone on the public record as being against this project. While the elected officials may have changed from time to time, the people that they purport to represent are still vehemently opposed to this project.

Now I have to apologize for leaving, because we have a meeting in the township of our council where there are other problems equally important to this that I must go to.

Thank you for your time.

(Applause.)

Edna Roth – Page 3/3 (Testimony Page 88)

See ***Edna – Roth Page 2/3 (Testimony Page 87)*** On This Page For The Response to Issue **3**.

4 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

Changing the signing of existing I-295 and I-195 to make it all I-95 would add approximately 12 miles to each trip compared to the Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists would continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by the Pennsylvania Department of Transportation prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

Terri Kohler – Page 1/1 (Testimony Page 88)

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MR. WARREN: The next speaker will be Terri Kohler followed by Michelle Udowenko and Alex Udowenko. Are you going two for one or what?

MS. KOHLER: I'm Terri Kohler, and I'm passing.

Terri Kohler – Page 1/1 (Testimony Page 88)

No Issues – No Responses

Michelle Udowenko – Page 1/5 (Testimony Page 89)

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MR. WARREN: Forever? Okay, fine. Thank you. After Michelle and Alex will be Joe Mahoney.

MS. UDOWENKO: My name is Michelle Udowenko. I reside at 2625 Woodsview Drive, Bensalem, Pennsylvania. U-d-o-w-e-n-k-o.

I want to speak about air quality. I want to read some articles from the Bucks County Courier Times.

For three years in a row, from 1993 to '95, Bucks had the worst ozone air pollution in the state. While this is partly due to polluted air flowing from industrial regions south and west of Bucks County, the chief culprit is our parks and garages from Morrisville to Milford. June 27, 2000.

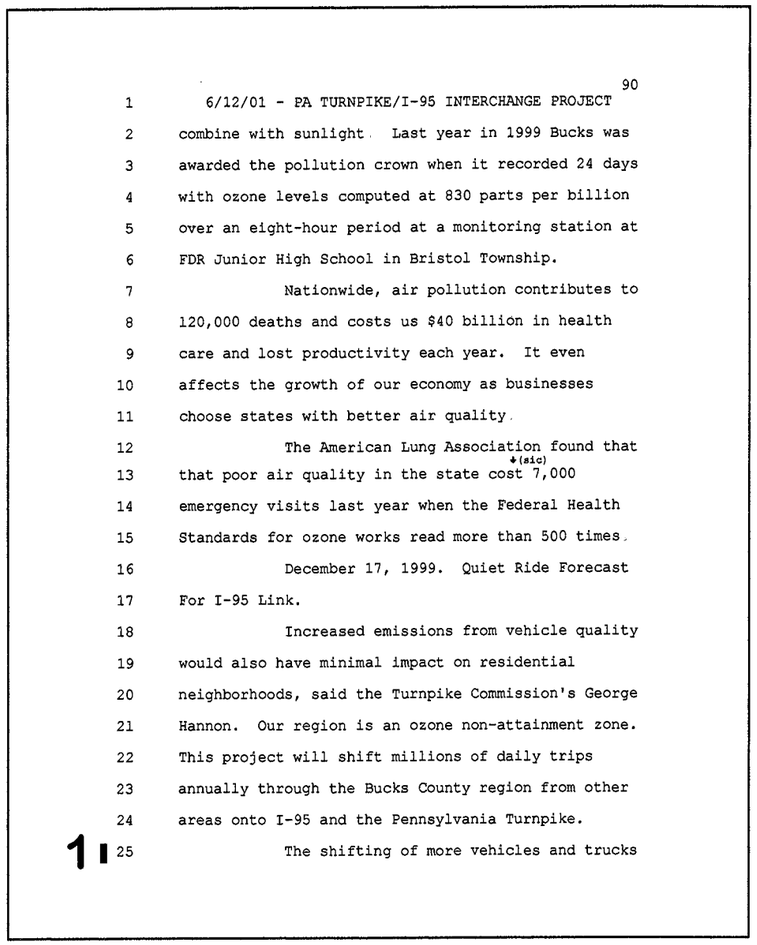
Smog relief. Bucks has had a hard time with attainment, which means falling within EPA standards for clean air. Ozone pollution here is already classified as severe, and for the past few years Bucks has been battling it out with Montgomery County for the dubious distinction of having the dirtiest air in Pennsylvania.

Ozone pollution commonly called smog is created when emissions from vehicles and industry

Michelle Udowenko – Page 1/5 (Testimony Page 89)

No Issues – No Responses

Michelle Udowenko – Page 2/5 (Testimony Page 90)



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combine with sunlight. Last year in 1999 Bucks was awarded the pollution crown when it recorded 24 days with ozone levels computed at 830 parts per billion over an eight-hour period at a monitoring station at FDR Junior High School in Bristol Township.

Nationwide, air pollution contributes to 120,000 deaths and costs us $40 billion in health care and lost productivity each year. It even affects the growth of our economy as businesses choose states with better air quality.

The American Lung Association found that that poor air quality in the state cost 7,000 (sic) emergency visits last year when the Federal Health Standards for ozone works read more than 500 times.

December 17, 1999. Quiet Ride Forecast For I-95 Link.

Increased emissions from vehicle quality would also have minimal impact on residential neighborhoods, said the Turnpike Commission's George Hannon. Our region is an ozone non-attainment zone. This project will shift millions of daily trips annually through the Bucks County region from other areas onto I-95 and the Pennsylvania Turnpike.

The shifting of more vehicles and trucks

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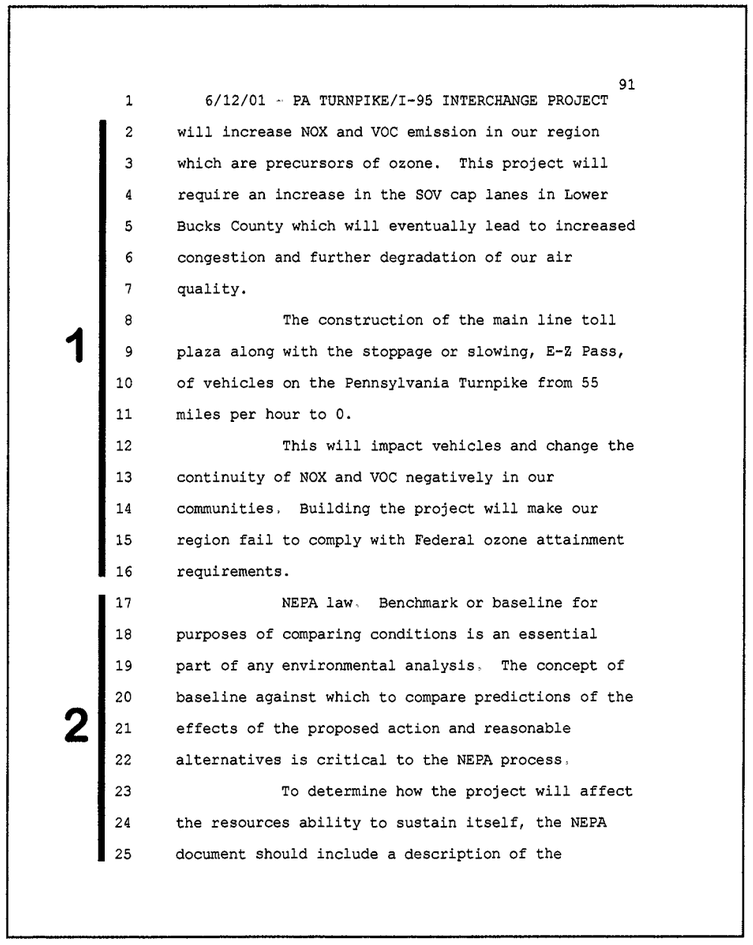
Michelle Udowenko – Page 2/5 (Testimony Page 90)

See ***Michelle Udowenko – Page 3/5 (Testimony Page 91)*** On This Page For The Response To Issue **1**.

Michelle Udowenko – Page 3/5 (Testimony Page 91)



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will increase NOX and VOC emission in our region which are precursors of ozone. This project will require an increase in the SOV cap lanes in Lower Bucks County which will eventually lead to increased congestion and further degradation of our air quality.

The construction of the main line toll plaza along with the stoppage or slowing, E-Z Pass, of vehicles on the Pennsylvania Turnpike from 55 miles per hour to 0.

This will impact vehicles and change the continuity of NOX and VOC negatively in our communities. Building the project will make our region fail to comply with Federal ozone attainment requirements.

NEPA law. Benchmark or baseline for purposes of comparing conditions is an essential part of any environmental analysis. The concept of baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.

To determine how the project will affect the resources ability to sustain itself, the NEPA document should include a description of the

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Michelle Udowenko – Page 3/5 (Testimony Page 91)

1 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

A regional air quality emissions analysis that included the I-276/I-95 Interchange Project (and the resultant shifting of vehicles as well as the additional Single Occupancy Vehicle Capacity (SOVCAP) lanes and main line toll plaza) was conducted by the Delaware Valley Regional Planning Commission (DVRPC). A summary of the DVRPC regional analysis is included in Appendix E of this FEIS. This analysis concluded that nitrous oxides (NOx) and volatile organic compounds (VOCs) levels in the region that includes Lower Bucks County would be within standards set by the US Environmental Protection Agency (USEPA) by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County. In addition, Marcia Spink, USEPA, provided public testimony on pages I-21 to I-22 of this FEIS regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

2 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

Background and baseline data were analyzed as part of the DVRPC regional analysis for NOx and VOCs. A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. A summary of this analysis is included in Appendix E of this FEIS. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan).

Michelle Udowenko – Page 4/5 (Testimony Page 92)

baseline conditions that considers how conditions have changed over time and how they are likely to change in the future without proposed action. CEQ, 1997.

Questions: Where is the baseline scientific data for NOX and VOCs that would show that construction of the project would not increase current levels of Lower Bucks county?

Where is the scientific data to prove the project's theory that shifting the vehicles onto local roads onto interstates with the construction of this project will improve air quality in Lower Bucks County?

Where is the scientific data showing the main line toll plaza with the E-Z Pass will produce less NOX and VOC emissions releases?

No. 4, does this project increase or decrease NOX and VOC in our region due to the shifting of millions of vehicles annually on the two interstates?

Five, is the air quality improvement verifiable with scientific data, or is it based solely on assumption and theories such as vehicles in the future may produce less emissions?

Michelle Udowenko – Page 5/5 (Testimony Page 93)

No. 6, what is the cumulative effect on our community and our citizens due to the shifting?

In closing, the construction of this project will cause an environmental injustice in Lower Bucks County through the shifting of millions of vehicles, thereby causing the further degradation of our region's air quality and improvement of our community's air quality.

(Applause.)

Alex Udowenko – Page 1/6 (Testimony Page 93)

MR. WARREN: Mr. Udowenko will be next. Then it will be Mr. Mahoney and Mr. McNeil.

MR. UDOWENKO: Alex Udowenko, 2625 Woodsview Drive, Bensalem Township. My comments will be regarding Community Economic Impact Review Group and the economic report.

From the CEIRG Meeting Minutes, No. 1, July 1999: Jeff Daniels said that doing a study of this type is an unusual step for the PTC. However, the PTC feels it is necessary to address the citizens' concerns in the project study area and wants to work together to examine the costs and benefits of this proposed transportation project.

When it became clear that the PTC could not address the Enterprise Zone's detailed broad

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Michelle Udowenko – Page 4/5 (Testimony Page 92)

See *Michelle Udowenko – Page 3/5 (Testimony Page 91)* On Previous Page For The Responses To Issues **1** and **2.**

3 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

The air quality analysis summarized in the DEIS/FEIS for the I-276/I-95 Interchange Project was conducted in accordance with USEPA, Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines. The methodology for the analysis includes the best available scientific data and the use of the latest USEPA approved computer models and modeling techniques. These models take into account federal regulations that are currently in place requiring stricter tailpipe emission standards for cars and sport utility vehicles and stricter emissions standards for new and old diesel engines.

Michelle Udowenko – Page 5/5 (Testimony Page 93)

See *Michelle Udowenko – Page 3/5 (Testimony Page 91)* On Previous Page For The Response To Issue **1.**

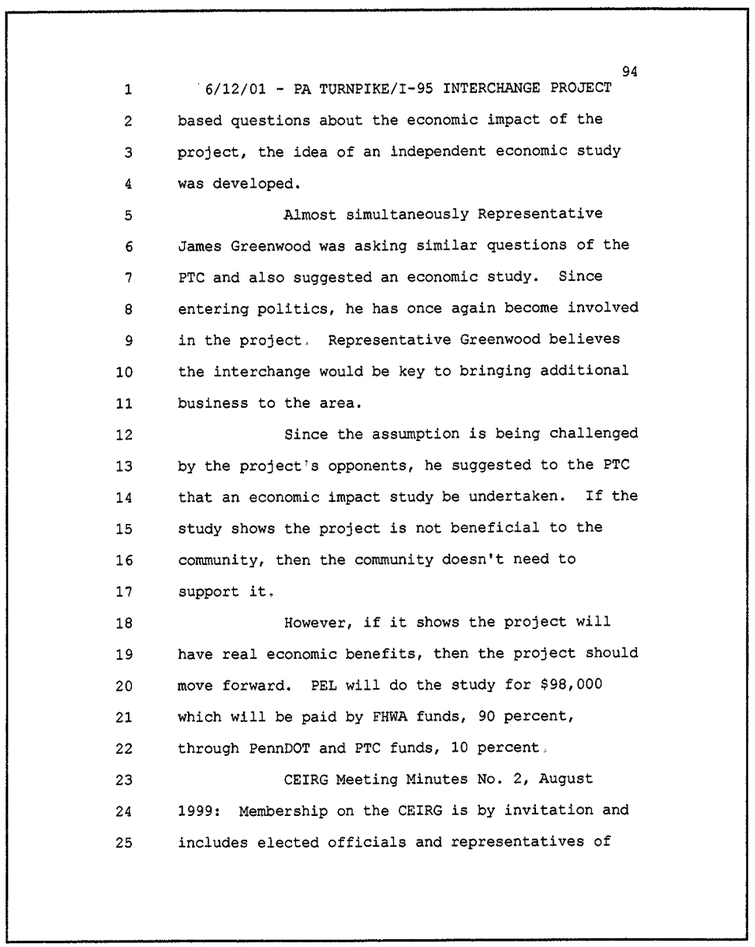
4 Air Quality

The commenter's belief that the I-276/I-95 Interchange Project will degrade the region's air quality is noted.

Alex Udowenko – Page 1/6 (Testimony Page 93)

No Issues – No Responses

Alex Udowenko – Page 2/6 (Testimony Page 94)



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based questions about the economic impact of the project, the idea of an independent economic study was developed.

Almost simultaneously Representative James Greenwood was asking similar questions of the PTC and also suggested an economic study. Since entering politics, he has once again become involved in the project. Representative Greenwood believes the interchange would be key to bringing additional business to the area.

Since the assumption is being challenged by the project's opponents, he suggested to the PTC that an economic impact study be undertaken. If the study shows the project is not beneficial to the community, then the community doesn't need to support it.

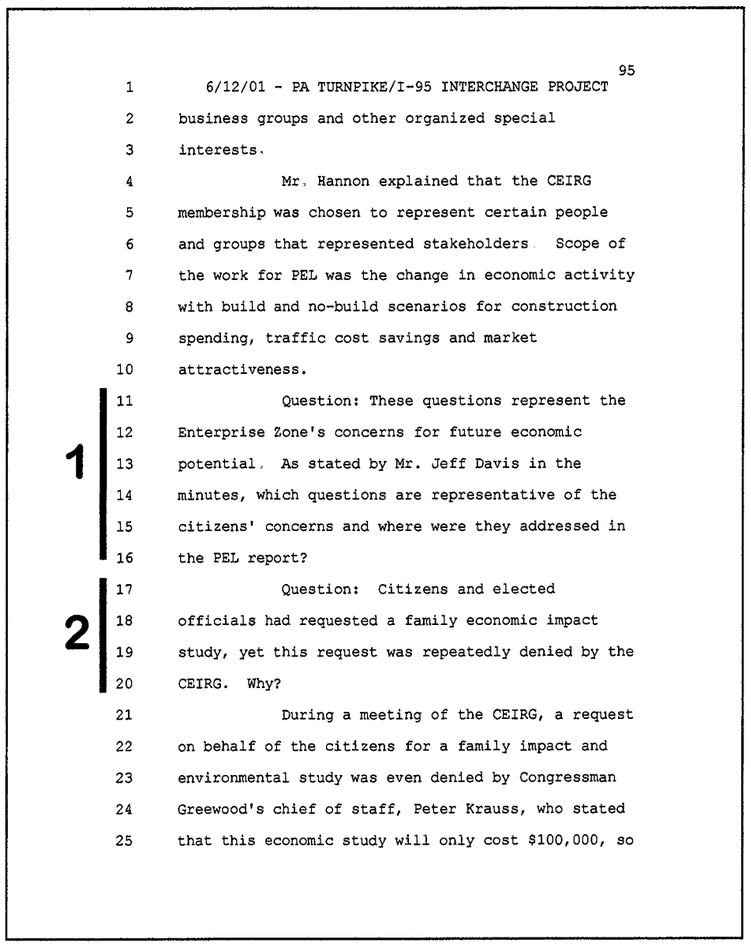
However, if it shows the project will have real economic benefits, then the project should move forward. PEL will do the study for $98,000 which will be paid by FHWA funds, 90 percent, through PennDOT and PTC funds, 10 percent.

CEIRG Meeting Minutes No. 2, August 1999: Membership on the CEIRG is by invitation and includes elected officials and representatives of

Alex Udowenko – Page 2/6 (Testimony Page 94)

No Issues – No Responses

Alex Udowenko – Page 3/6 (Testimony Page 95)



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6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

business groups and other organized special interests.

Mr. Hannon explained that the CEIRG membership was chosen to represent certain people and groups that represented stakeholders. Scope of the work for PEL was the change in economic activity with build and no-build scenarios for construction spending, traffic cost savings and market attractiveness.

1 Question: These questions represent the Enterprise Zone's concerns for future economic potential. As stated by Mr. Jeff Davis in the minutes, which questions are representative of the citizens' concerns and where were they addressed in the PEL report?

2 Question: Citizens and elected officials had requested a family economic impact study, yet this request was repeatedly denied by the CEIRG. Why?

During a meeting of the CEIRG, a request on behalf of the citizens for a family impact and environmental study was even denied by Congressman Greewood's chief of staff, Peter Krauss, who stated that this economic study will only cost $100,000, so

Alex Udowenko – Page 3/6 (Testimony Page 95)

1 Economic Impact Study (DEIS/FEIS Section IV-C, Appendix C)

A number of community leaders, led by the Bucks County Enterprise Zone and the office of Congressman James Greenwood, requested that an Economic Impact Study be conducted for the I-276/I-95 Interchange Project. The principal goal of the study was to better analyze, explain, and document how the I-276/I-95 Interchange Project would affect the economies of the Greater Philadelphia region, Bucks, Philadelphia, and Burlington Counties, and three Lower Bucks County Townships, Bensalem, Bristol, and Middletown.

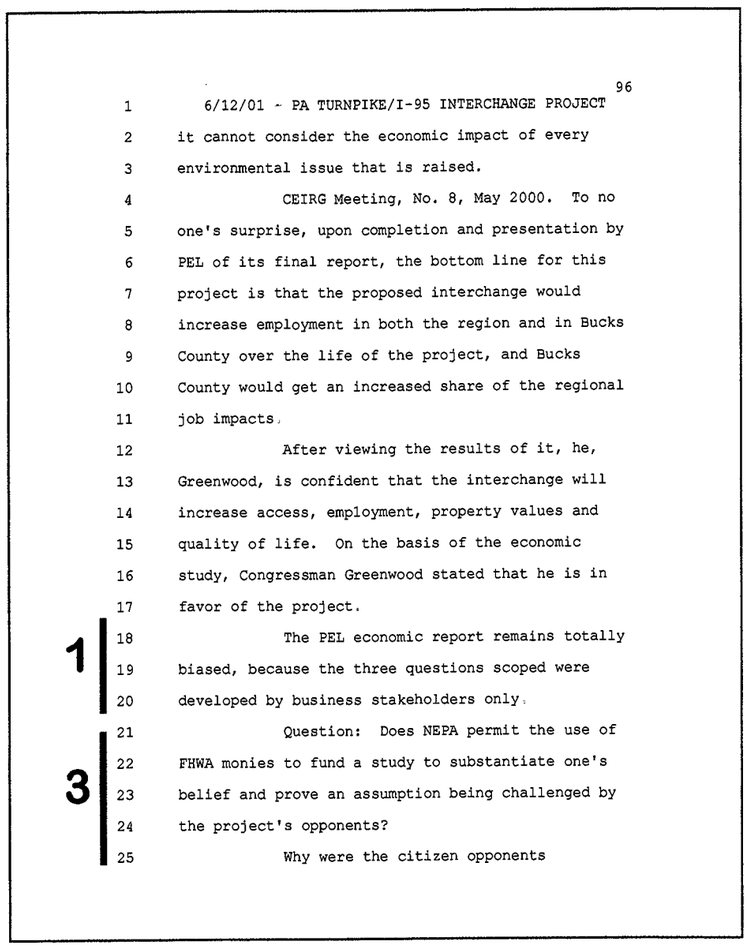
The study was undertaken at a time when the detailed alternative studies were nearing completion and local elected officials were focusing on the I-276/I-95 Interchange Project's potential to cause commercial and residential displacements and degrade the local tax basis. Although the DEIS would eventually provide a broad based approach and analysis of the social, economic, and environmental effects of the I-276/I-95 Interchange Project, the Bucks County Enterprise Zone, Congressman Greenwood, and other officials saw a need for special focus on the I-276/I-95 Interchange Project's potential for economic effects via a study to be conducted by an independent team with appropriate expertise and recognized integrity. The Pennsylvania Economy League was selected to conduct the economic analysis with assistance from the Economic Development Research Group, which specializes in the modeling and analysis of economic impacts of transportation projects.

The study was structured to consider concerns from all elements of the community, not just businesses in the Enterprise Zone. It involved background research, the assembly of case studies, stakeholder interviews, a multi-faceted economic impact analysis, and a summary report. As such, the study is not biased, but was focused on the areas identified as most important to the Lower Bucks region.

2 Community Economic Impact Review Group (CEIRG)

The CEIRG was a carefully selected group (see Response 4, next page) that acted independently to assure that the focus and integrity of the study were maintained. The commenter's reference to CEIRG decisions that were contrary to his recommendations (as a participant on the committee) simply reflect the actions of a body of persons charged with the responsibility and authority to make decisions on the scope of the study and to act as a Steering Committee in such matters.

Alex Udowenko – Page 4/6 (Testimony Page 96)



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6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

it cannot consider the economic impact of every environmental issue that is raised.

CEIRG Meeting, No. 8, May 2000. To no one's surprise, upon completion and presentation by PEL of its final report, the bottom line for this project is that the proposed interchange would increase employment in both the region and in Bucks County over the life of the project, and Bucks County would get an increased share of the regional job impacts.

After viewing the results of it, he, Greenwood, is confident that the interchange will increase access, employment, property values and quality of life. On the basis of the economic study, Congressman Greenwood stated that he is in favor of the project.

1 The PEL economic report remains totally biased, because the three questions scoped were developed by business stakeholders only.

3 Question: Does NEPA permit the use of FHWA monies to fund a study to substantiate one's belief and prove an assumption being challenged by the project's opponents?

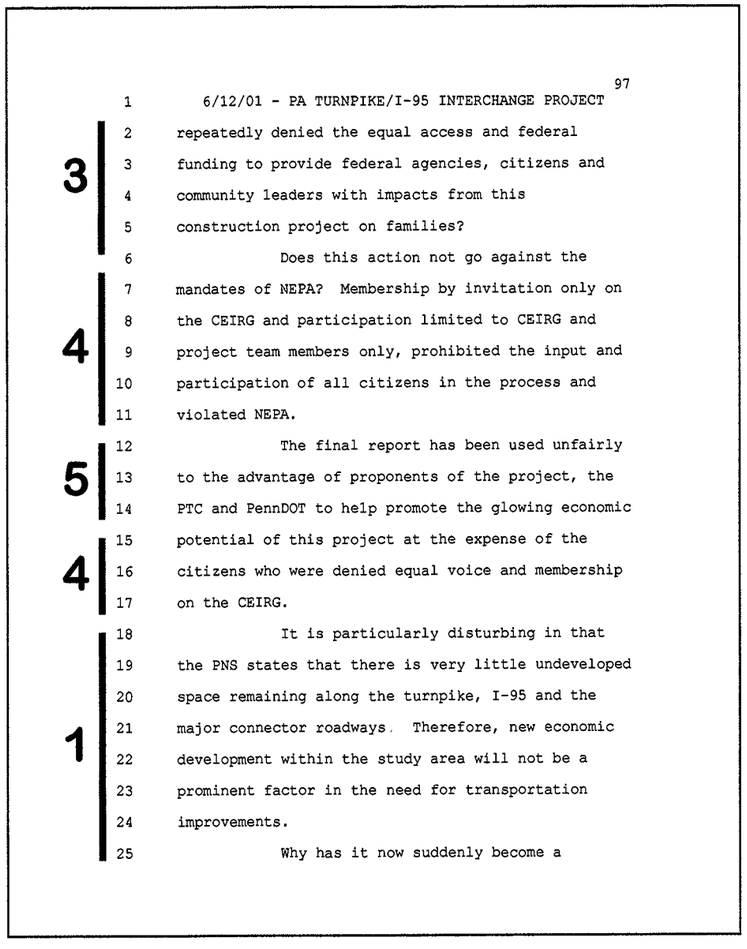
Why were the citizen opponents

Alex Udowenko – Page 4/6 (Testimony Page 96)

See ***Alex Udowenko – Page 3/6 (Testimony Page 95)*** On Previous Page For The Response to Issue **1**.

See ***Alex Udowenko – Page 5/6 (Testimony Page 97)*** On This Page For The Response To Issue **3**.

Alex Udowenko – Page 5/6 (Testimony Page 97)



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3 repeatedly denied the equal access and federal funding to provide federal agencies, citizens and community leaders with impacts from this construction project on families?

Does this action not go against the

4 mandates of NEPA? Membership by invitation only on the CEIRG and participation limited to CEIRG and project team members only, prohibited the input and participation of all citizens in the process and violated NEPA.

The final report has been used unfairly

5 to the advantage of proponents of the project, the PTC and PennDOT to help promote the glowing economic

4 potential of this project at the expense of the citizens who were denied equal voice and membership on the CEIRG.

It is particularly disturbing in that the PNS states that there is very little undeveloped space remaining along the turnpike, I-95 and the major connector roadways. Therefore, new economic

1 development within the study area will not be a prominent factor in the need for transportation improvements.

Why has it now suddenly become a

Alex Udowenko – Page 5/6 (Testimony Page 97)

3 I-276/I-95 Interchange Project Funding

The scope of the Economic Impact Study and qualifications of the Pennsylvania Economy League and the Economic Develop Research Group were reviewed by the governmental agencies charged with specific project responsibility under the National Environmental Policy Act (NEPA). Likewise, as stated previously, the integrity of the study was further assured and preserved through the oversight of the CEIRG. The federal funds for the Economic Impact Study were appropriately used to produce an important technical reference document for the EIS itself.

The project opponents and the general public were given access to both the EIS and the Economic Impact Study report; an extensive public involvement program was conducted, using a combination of federal and Pennsylvania Turnpike Commission (PTC) funds.

4 Community Economic Impact Review Group (DEIS/FEIS Section VII-B.13)

During the joint agency scoping process for the proposed I-276/I-95 Economic Study, the need was recognized for an advisory group to provide the type of oversight and local perspective that would be desirable to maintain the economic study's focus, accuracy and credibility.

Initial consultations with the Federal Highway Administration (FHWA), the Pennsylvania Department of Transportation (PENNDOT), the Bucks County Enterprise Zone, and Congressman Greenwood's office led to a broad-based approach to the CEIRG structure. This resulted in a categorical membership outline which included: appropriate elected officials at the federal, state, county, city and township levels; a limited number of non-profit organizations, large employers, and local business leaders; a representative from the I-276/I-95 Interchange Community Advisory Committee (CAC); and a representative of the opposition organization, Citizens at Risk (CAR).

The actual selection process involved a shortlisting procedure during which a relatively long list of potential membership entities was reduced to a more effectively sized group of 24 invitees. The process involved additional consultation between the PTC and the aforementioned agencies. Letters were sent to each invitee, and a balloting process was utilized to select the CAC representative from among its member group. In some cases, the named CEIRG member has delegated their representation to another individual. Also, at its first two meetings, the CEIRG acted to add three additional suggested members. The group now included 27 individuals, and was well qualified to perform the intended function. The fact that the majority of its members had not expressed a pro or con position toward the I-276/I-95 Interchange Project was seen as an advantage. However, approximately nine members had previously expressed negative positions toward the I-276/I-95 Interchange Project in the media or in the public forum.

A conscientious effort was made to solicit citizen input: through their local elected officials; through the inclusion of a member of the project's CAC on the CEIRG; and through the process of dual membership of several of these individuals on both the CEIRG and CAC. Also, the minutes of the CEIRG meetings were provided to each CAC member. The CEIRG meetings were open to any member of the public as an observer; and the public was kept informed through media releases, and mailings of Newsletters and Topic Updates.

Ultimately, the majority of the CEIRG members expressed support for the I-276/I-95 Interchange Project, based on the results of the Economic Impact Study and the inclusion of other impact minimization strategies that resulted from public and agency involvement.

The establishment of functional task forces for specific issues is consistent with NEPA. The project development process used for the I-276/I-95 Interchange Project afforded the public the opportunity to review information on the I-276/I-95 Interchange Project through various means. They included public meetings, a project website (http://www.paturnpike/i95.com), public information

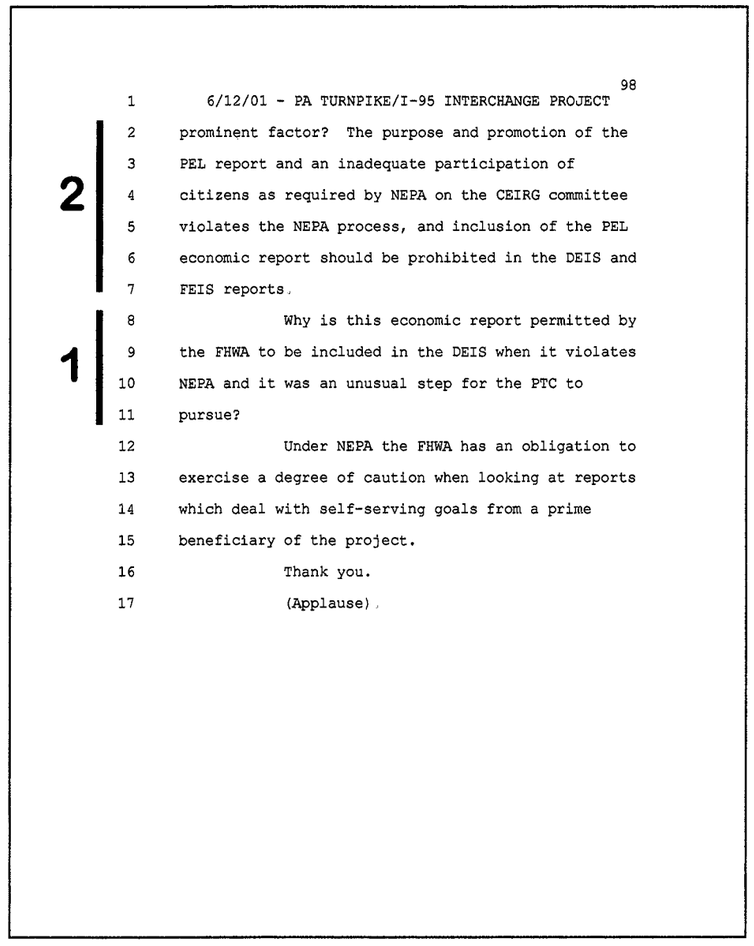
binders in area libraries, and the project office. The public has the opportunity to submit opinions or questions on the website, in person at the project office, by mail and have answers returned in a timely manner.

5 National Environmental Policy Act Process

The project environmental studies are designed to consider and evaluate a broad range of socioeconomic and environmental impacts. The results of these studies are to be included in the DEIS/FEIS for the I-276/I-95 Interchange Project. The intent of the Economic Impact Study for the I-276/I-95 Interchange Project was more focused. The results of the Economic Impact Study are documented in a report titled "The Value of Connections: The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange (2000)". This report is referenced in Appendix C – Technical Support Data Index of the DEIS/FEIS. It was not included, in its entirety, in the DEIS/FEIS.

The DEIS/FEIS, in Section IV, presents a comprehensive analysis of the Environmental Consequences of the I-276/I-95 Interchange Project, including its economic effects. The DEIS/FEIS contains data from the Economic Impact Study results and information about the CEIRG membership and activities. Although the DEIS/FEIS relied upon the Report as a source of economic impact data, this was not the only such source of economic data.

Alex Udowenko – Page 6/6 (Testimony Page 98)



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2 prominent factor? The purpose and promotion of the PEL report and an inadequate participation of citizens as required by NEPA on the CEIRG committee violates the NEPA process, and inclusion of the PEL economic report should be prohibited in the DEIS and FEIS reports.

1 Why is this economic report permitted by the FHWA to be included in the DEIS when it violates NEPA and it was an unusual step for the PTC to pursue?

Under NEPA the FHWA has an obligation to exercise a degree of caution when looking at reports which deal with self-serving goals from a prime beneficiary of the project.

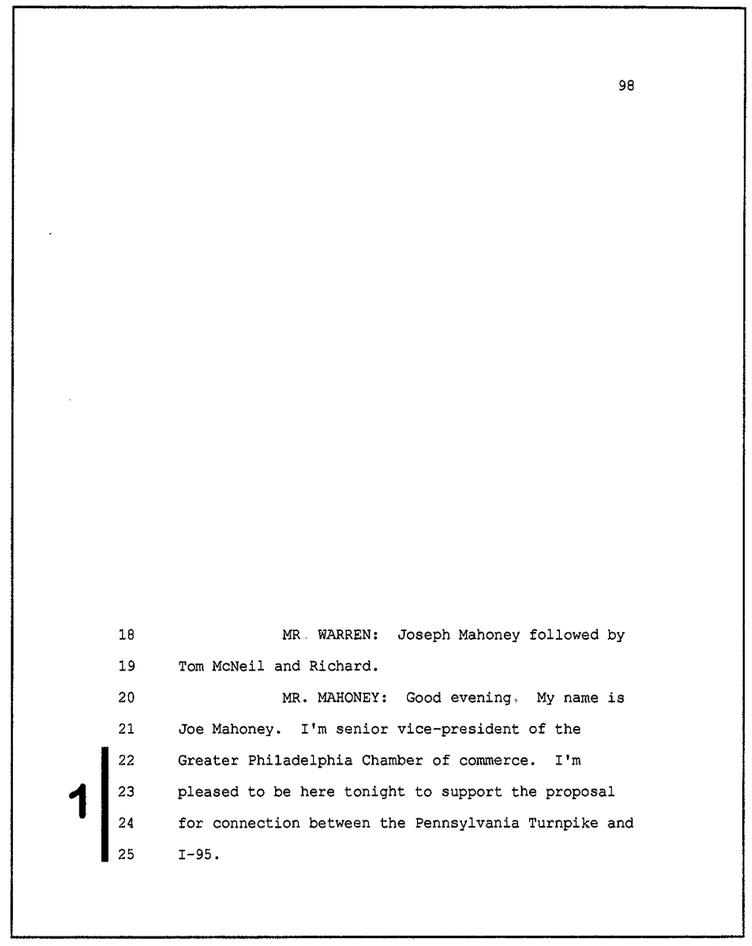
Thank you.

(Applause).

Alex Udowenko – Page 6/6 (Testimony Page 98)

See ***Alex Udowenko – Page 3/6 (Testimony Page 95)*** On Page I-57 For The Responses To Issues **1** and **2**.

Joe Mahoney – Page 1/5 (Testimony Page 98)



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MR. WARREN: Joseph Mahoney followed by Tom McNeil and Richard.

MR. MAHONEY: Good evening. My name is Joe Mahoney. I'm senior vice-president of the Greater Philadelphia Chamber of commerce. I'm

1 pleased to be here tonight to support the proposal for connection between the Pennsylvania Turnpike and I-95.

Joe Mahoney – Page 1/5 (Testimony Page 98)

1 Project Position

The commenter's support for the I-276/I-95 Interchange Project is noted.

Joe Mahoney – Page 2/5 (Testimony Page 99)

The Greater Philadelphia Chamber of Commerce is the largest chamber in the Commonwealth with some 6300 members. We have long been interested in transportation and methods of moving goods and service more efficiently.

Recently we undertook a project to look at the effect of traffic congestion in our region, and the results were disturbing. Texas Transportation Institute poor (sic) has estimated that the amount of time drivers in the Philadelphia region spend in their cars due to congestion was 26 hours in 1999, up from eight hours in 1982. This 26 hours cost an average of $435.

In an all-perfect world all would agree that a good solution would be to expand the capacity of the highway system so that the volume could move more efficiently. This proposed connection would allow us to create a more efficient link between then two major highways; thereby allowing for a more direct and efficient way to move traffic.

2

The economic impact that was outlined in your documentation makes a compelling case for building the interchange. The projections alone for travel cost savings in both vehicle miles traveled,

Joe Mahoney – Page 2/5 (Testimony Page 99)

2 Traffic and Transportation (DEIS/FEIS Section IV-A) / Socioeconomic – Economic (DEIS/FEIS Section IV-C

The commenter's agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project will result in traffic and economic benefits is noted.

Joe Mahoney – Page 3/5 (Testimony Page 100)

166,603, and vehicle hours traveled, 10,068, demonstrate the efficiencies that we can expect when the exchange is completed.

The resulting economic benefits range from 5.9 million in 2010 to 38.7 million in 2025 with household out-of-pocket savings going from 1.4 million to 11.6 million in the same time frame.

The economic impact study has also pointed out the increases in property value when highway interchanges are developed. The case citing the example of West Conshohocken was extremely gratifying.

Prior to coming to the Chamber, I worked for a member of Congress who brought the highway dollars and other federal funds to the redevelopment efforts in West Conshohocken. Experience tells me that the same kind of situation can exist in Bucks County.

In addition to construction opportunities, employment opportunities, particularly in the service sector and retail trade business, will abound in Lower Bucks County affording local residents increased employment choices close to their homes.

2

Joe Mahoney – Page 3/5 (Testimony Page 100)

See ***Joe Mahoney – Page 2/5 (Testimony Page 99)*** On This Page For The Response To Issue **2**.

Joe Mahoney – Page 4/5 (Testimony Page 101)

Close-to-home employment is becoming more enticing, particularly as it relates to work hour flexibility and child care arrangements for single parent families as well as two income families.

The increase in commercial property will have a positive impact on local property taxes paid by resident homeowners, as well as help to pay for school and government services, all quality of life issues.

2

The economic analysis also purports that additional tourism spending in Bucks County could be in the range of $3.7 million per year, and regional spending would increase by almost 13 million a year by 2025 as the direct result of increased visits to the improved interchange.

We recognize that there will be some dislocation of businesses and residents caused by this project. We are pleased that these will be kept to a minimum. And although air quality is not expected to be adversely affected, sound barriers will be erected to mitigate an increase in traffic noise.

Finally, it should be noted that this is

Joe Mahoney – Page 4/5 (Testimony Page 101)

See ***Joe Mahoney – Page 2/5 (Testimony Page 99)*** On This Page For The Response To Issue **2**.

Joe Mahoney – Page 5/5 (Testimony Page 102)

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a federally funded project under the National Interstate Highway System; therefore, these funds must be used for interstate System Completion projects and cannot be shifted to other uses.

1 In short, this interchange is good for the region. It has our wholehearted support. Thank you for this opportunity to present the Chamber's opinion.

(Applause.)

Joe Mahoney – Page 5/5 (Testimony Page 102)

See Joe Mahoney – Page 1/5 (Testimony Page 98) On Page I-59 For The Response To Issue 1.

Richard Tonge – Page 1/6 (Testimony Page 102)

MR. WARREN: Is Mr. McNeil or a representative from his organization here? If not, we will move to Richard Tonge, Sue Golus and Sylvia Farley.

MR. TONGE: Good afternoon. My name is Richard Tonge from Newtown Township, T-o-n-g-e.

I appreciate the opportunity to address this committee regarding the Environmental Impact of the proposed direct connection between I-276, the Pennsylvania Turnpike, and I-95 in Lower Bucks county.

1 I have read the Draft Executive Summary, and I believe that the study area for the project is too limited. I believe that you should further study the direct impact that construction of this

Richard Tonge – Page 1/6 (Testimony Page 102)

See Richard Tonge – Page 2/6 (Testimony Page 103) On This Page For The Response To Issue 1.

Richard Tonge – Page 2/6 (Testimony Page 103)

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1 project will have in our neighborhoods of Newtown, Wrightstown, Upper Makefield, Lower Makefield and Northampton Township.

The present study area presently covers an elliptical area bound by the intersection of I-276 and Route 132 on the west and the intersection of I-276 and the New Jersey Turnpike on the east.

1 However, I believe that the construction of this project will have a major impact on townships further north, which will be the major source of construction materials for the project.

2 The main source of crushed stone for this project will come from the quarries that are located in Wrightstown Township, and the routes that the loaded quarry trucks will take is directly through residential neighborhoods in the direct path to I-95 where they will deliver their product at the site of the project.

At the present time we have the very dangerous situation of loaded quarry trucks passing through these neighborhoods delivering crushed stone to points further south, and the demand for millions of tons of additional crushed stone will only exacerbate this already intolerable situation.

Richard Tonge – Page 2/6 (Testimony Page 103)

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not appropriate.

2 Construction Impacts

The construction contract policies of Federal Highway Administration, Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

Richard Tonge – Page 3/6 (Testimony Page 104)

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At the present time there are four routes that a quarry truck can take between their source of material at the quarry site and I-95, and they all run through residential neighborhoods.

They are Stoopville-Lindenhurst Roads through Wrightstown, Newtown and both Upper and Lower Makefield Townships; Durham Road, Route 413, through Wrightstown and Newtown Townships; Newtown-Richboro Road through Wrightstown, Northampton and Newtown Townships; Swamp Road through Wrightstown and Newtown Townships.

All of these routes eventually dump onto the Newtown Bypass, a major four-lane highway, on the way to I-95 at Exit 49, formerly Exit 30. It should also be pointed out that these routes are the major routes for the buses that take our children to school in the morning, just as the gravel trucks are making their way to and from the quarries.

For instance, in a recent PennDOT traffic study, between 6:00 and 9:00 a.m. Lindenhurst Road had 27 school buses and 95 trucks, 35 of which were gravel trucks carrying crushed stone to I-95. Trucks and school buses don't mix very well, especially when the direct compensation

Richard Tonge – Page 3/6 (Testimony Page 104)

No Issues – No Responses

Richard Tonge – Page 4/6 (Testimony Page 105)

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of the truck driver is dependent of how fast he can deliver the goods.

2

I believe that it is the duty of this body to study the impact the construction of this project will have on our neighborhoods, as millions of tons of crushed stone to-be-delivered will be added to this already dangerous mix.

Fortunately, there is a partial solution to this dilemma. As you know, since trucks pay highway taxes, they cannot be restricted from using state roads. However, we have a situation near the entrance to the quarries in Wrightstown that artificially restricts southbound truck traffic from using the shortest route to the Newtown Bypass.

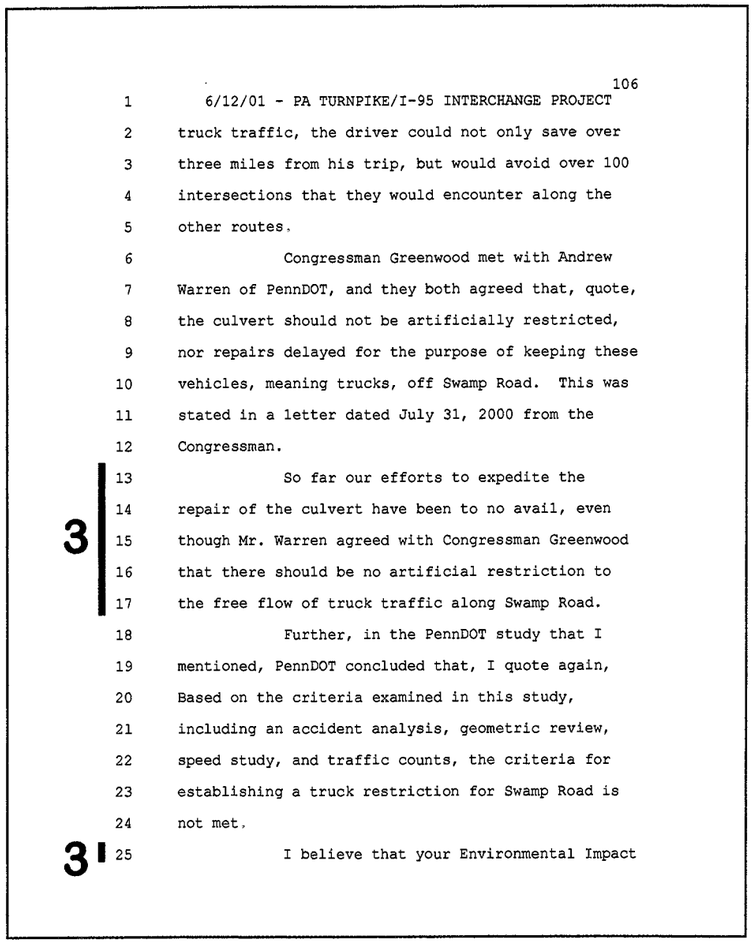
I am referring to the weight-restricted culvert along Swamp Road that forces the trucks to divert to the other three routes. I and several others from a neighborhood group met with Congressman Greenwood last summer in an effort to get the culvert repaired so some of the southbound truck flow could be spread more evenly and allow the driver to take the shortest and most direct route to his destination, the Newtown Bypass.

By opening Swamp Road to southbound

Richard Tonge – Page 4/6 (Testimony Page 105)

See ***Richard Tonge – Page 2/6 (Testimony Page 103)*** On This Page For The Response To Issue **2**.

Richard Tonge – Page 5/6 (Testimony Page 106)



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truck traffic, the driver could not only save over three miles from his trip, but would avoid over 100 intersections that they would encounter along the other routes.

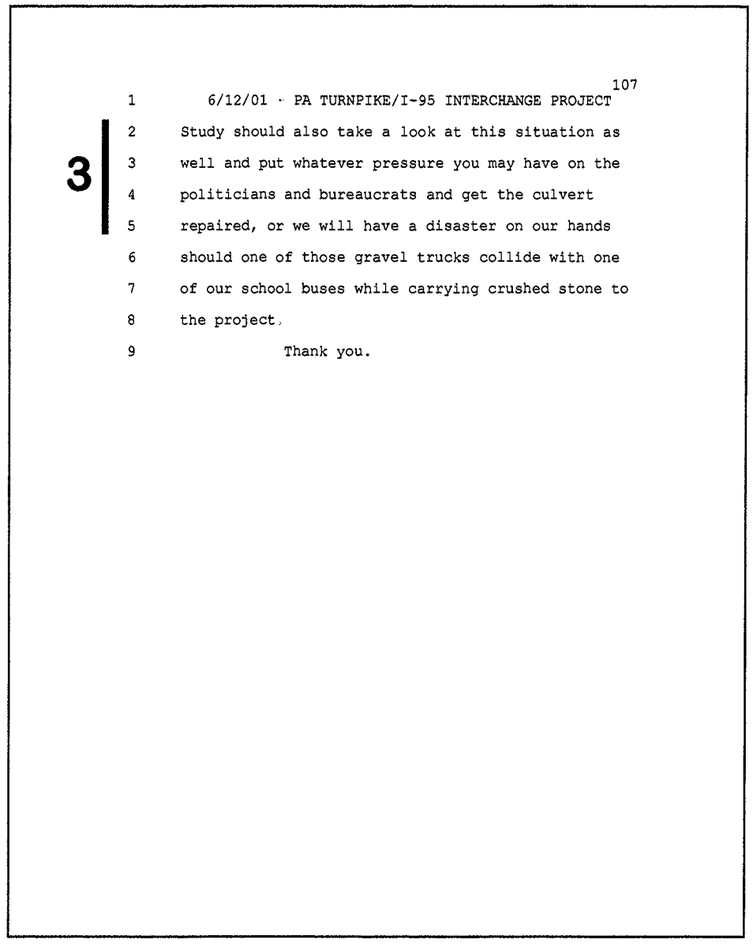
Congressman Greenwood met with Andrew Warren of PennDOT, and they both agreed that, quote, the culvert should not be artificially restricted, nor repairs delayed for the purpose of keeping these vehicles, meaning trucks, off Swamp Road. This was stated in a letter dated July 31, 2000 from the Congressman.

3 So far our efforts to expedite the repair of the culvert have been to no avail, even though Mr. Warren agreed with Congressman Greenwood that there should be no artificial restriction to the free flow of truck traffic along Swamp Road.

Further, in the PennDOT study that I mentioned, PennDOT concluded that, I quote again, Based on the criteria examined in this study, including an accident analysis, geometric review, speed study, and traffic counts, the criteria for establishing a truck restriction for Swamp Road is not met.

3 I believe that your Environmental Impact

Richard Tonge – Page 6/6 (Testimony Page 107)



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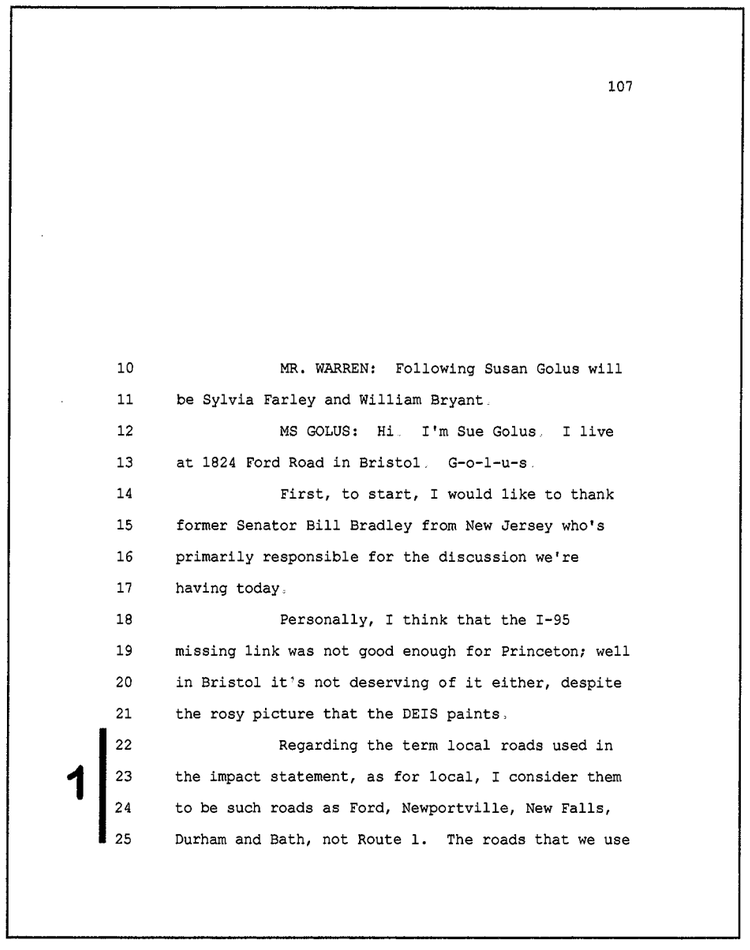
3 Study should also take a look at this situation as well and put whatever pressure you may have on the politicians and bureaucrats and get the culvert repaired, or we will have a disaster on our hands should one of those gravel trucks collide with one of our school buses while carrying crushed stone to the project.

Thank you.

Sue Golus – Page 1/5 (Testimony Page 107)



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MR. WARREN: Following Susan Golus will be Sylvia Farley and William Bryant.

MS GOLUS: Hi. I'm Sue Golus. I live at 1824 Ford Road in Bristol. G-o-l-u-s.

First, to start, I would like to thank former Senator Bill Bradley from New Jersey who's primarily responsible for the discussion we're having today.

Personally, I think that the I-95 missing link was not good enough for Princeton; well in Bristol it's not deserving of it either, despite the rosy picture that the DEIS paints.

1 Regarding the term local roads used in the impact statement, as for local, I consider them to be such roads as Ford, Newportville, New Falls, Durham and Bath, not Route 1. The roads that we use

Richard Tonge – Page 5/6 (Testimony Page 106)

3 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials were held and PENNDOT and municipality-sponsored studies were conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

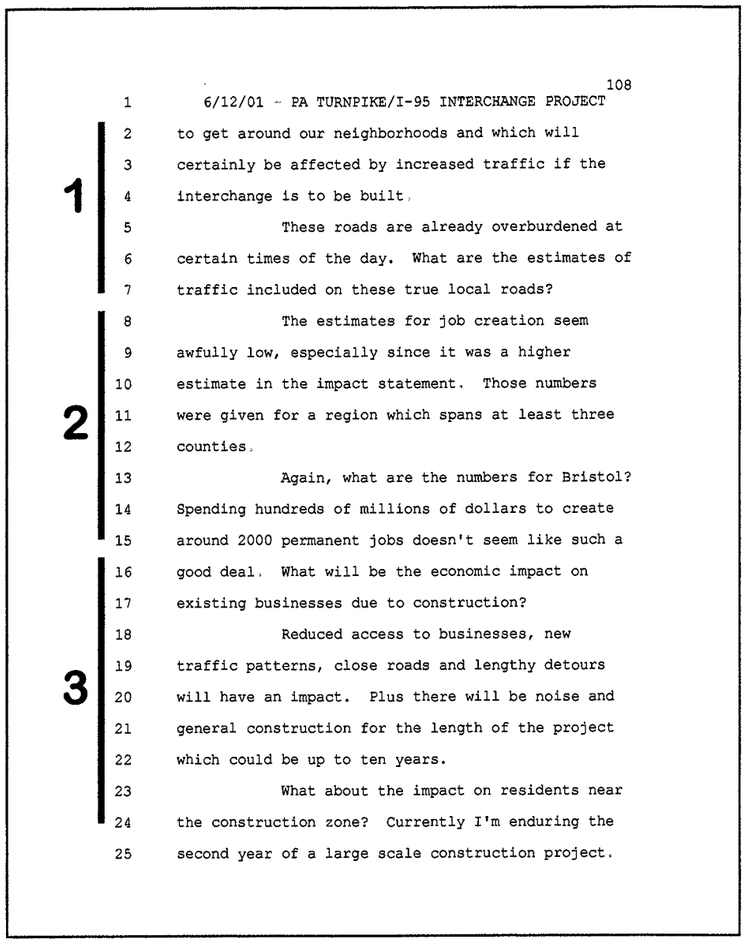
Richard Tonge – Page 6/6 (Testimony Page 107)

See ***Richard Tonge – Page 5/6 (Testimony Page 106)*** On This Page For The Response To Issue **3**.

Sue Golus – Page 1/5 (Testimony Page 107)

See ***Sue Golus – Page 2/5 (Testimony Page 108)*** On Next Page For The Response To Issue **1**.

Sue Golus – Page 2/5 (Testimony Page 108)



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to get around our neighborhoods and which will certainly be affected by increased traffic if the interchange is to be built.

These roads are already overburdened at certain times of the day. What are the estimates of traffic included on these true local roads?

The estimates for job creation seem awfully low, especially since it was a higher estimate in the impact statement. Those numbers were given for a region which spans at least three counties.

Again, what are the numbers for Bristol? Spending hundreds of millions of dollars to create around 2000 permanent jobs doesn't seem like such a good deal. What will be the economic impact on existing businesses due to construction?

Reduced access to businesses, new traffic patterns, close roads and lengthy detours will have an impact. Plus there will be noise and general construction for the length of the project which could be up to ten years.

What about the impact on residents near the construction zone? Currently I'm enduring the second year of a large scale construction project.

1

2

3

Sue Golus – Page 2/5 (Testimony Page 108)

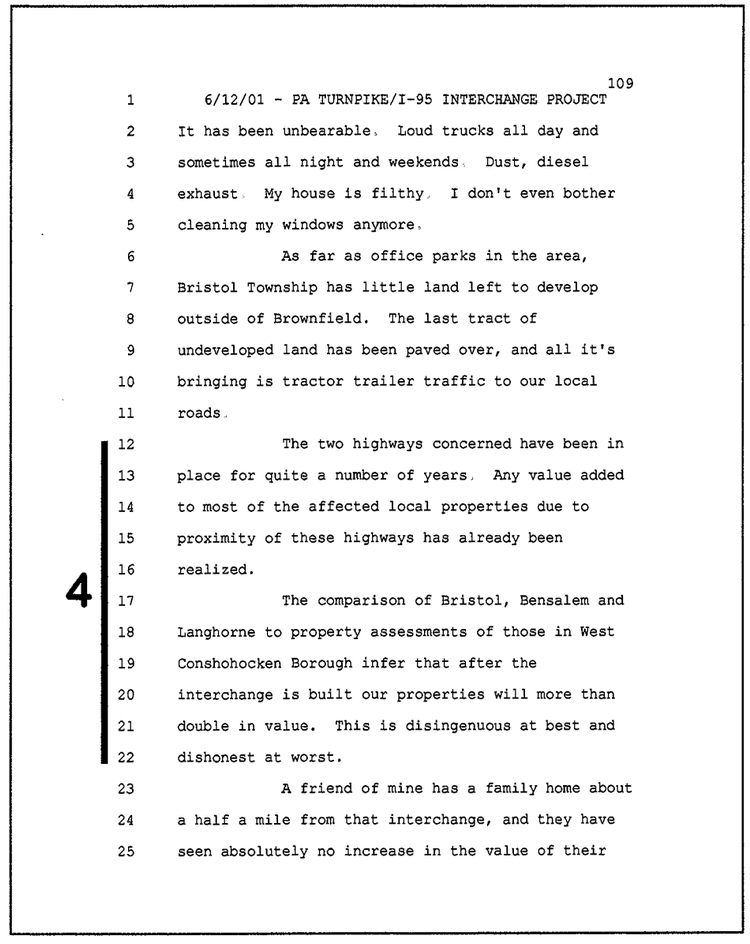
1 Traffic and Transportation (DEIS/FEIS Section IV-A)
Existing and projected traffic volumes expressed in the DEIS/FEIS were obtained from the *Pennsylvania Turnpike/I-95 Interchange Study* (DVRPC, 2001). This publication provided traffic estimates for Bath Road and New Falls Road as shown on Figure IV-2 of the DEIS/FEIS. Traffic estimates for Ford Road, Newportville Road and Durham Road were not included in this publication as only the traffic on the principal arterial roadways feeding the existing I-276 and I-95 interchanges was quantified. The I-276/I-95 Interchange Project would remove trips from local roads by diverting trips to I-95 and I-276. The trips that will be diverted are mostly from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project would maintain and/or improve local access. The reduction of through traffic on local arterials such as US 1, PA 132, PA 513, PA 63, and US 13 may also alleviate congestion on local roads such as Ford Road, Newportville Road, and Durham Road that are sometimes used by travelers as a means to avoid congestion on the local arterial network.

2 Socioeconomic-Economic (DEIS/FEIS Section IV-C)
The Economic Impact Study for the I-276/I-95 Interchange Project forecasted that more than 3,000 additional jobs in Bucks County would be created by 2025 due solely to the construction of the I-276/I-95 Interchange Project. This total includes job losses that may occur from the potential land use changes resulting from enhanced interstate highway access. Approximately one-third of this Bucks County job growth would occur in Bensalem, Bristol and Middletown Townships, considering their current fair-share portion of county jobs.

3 Construction Impacts (DEIS/FEIS Section IV-T)
As described in the DEIS, construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents and businesses. The I-276/I-95 Interchange Project does not provide any new interstate highway access points, or highway on new alignment and, therefore, will not divide any existing communities. Access to businesses, residences, and community facilities will always be maintained throughout the construction phase. Staged construction features, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase.

Although there would be minor short-term tax base impacts, the impact would be less than one percent of the commercial tax base in each of the three municipalities affected in Pennsylvania. During and after the Final Design phase, the Pennsylvania Turnpike Commission is committed to continuing work with the communities and local officials in the project area to provide a "Construction Phasing and Maintenance of Traffic Plan" that minimizes the duration of any inconveniences to the traveling public and to local residential and commercial activities.

Sue Golus – Page 3/5 (Testimony Page 109)



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It has been unbearable. Loud trucks all day and sometimes all night and weekends. Dust, diesel exhaust. My house is filthy. I don't even bother cleaning my windows anymore.

As far as office parks in the area, Bristol Township has little land left to develop outside of Brownfield. The last tract of undeveloped land has been paved over, and all it's bringing is tractor trailer traffic to our local roads.

The two highways concerned have been in place for quite a number of years. Any value added to most of the affected local properties due to proximity of these highways has already been realized.

The comparison of Bristol, Bensalem and Langhorne to property assessments of those in West Conshohocken Borough infer that after the interchange is built our properties will more than double in value. This is disingenuous at best and dishonest at worst.

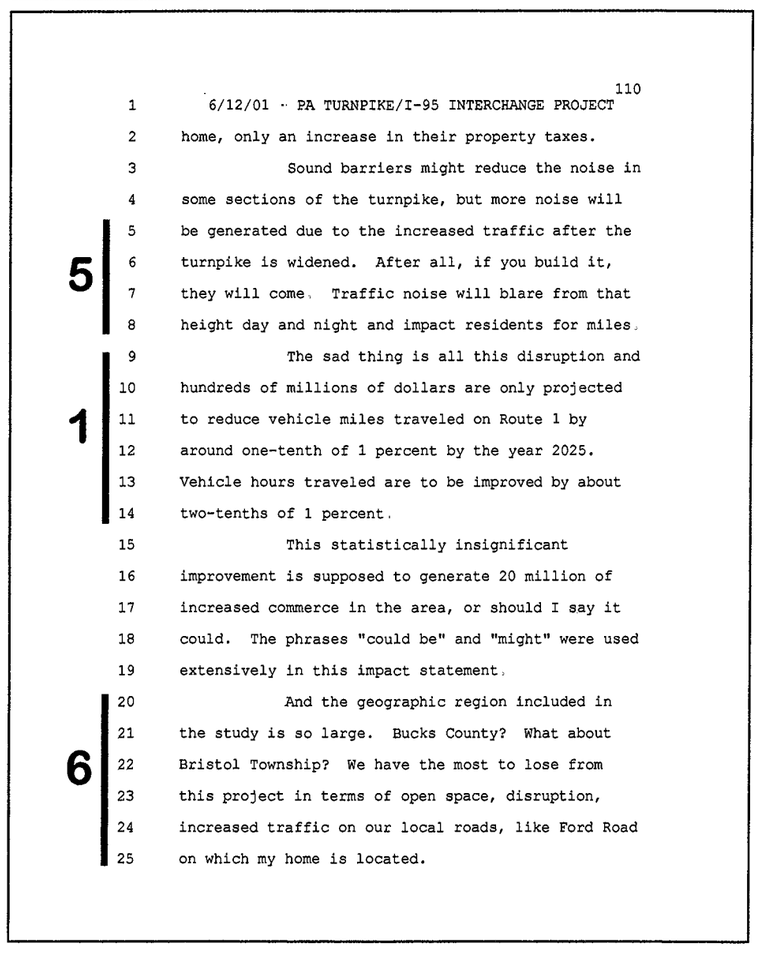
A friend of mine has a family home about a half a mile from that interchange, and they have seen absolutely no increase in the value of their

4

Sue Golus – Page 3/5 (Testimony Page 109)

4 Socioeconomic-Real Estate Values (DEIS/FEIS Section IV-C)
While it is recognized that the highways were in place for decades, east-west (I-276) to north-south (I-95) connections were indirect through the use of local roadways. Bristol Township's options to access I-276 were limited to Interchange 28 (US 1) and Interchange 29 (US 13). After I-276/I-95 Interchange construction, motorists will have the ability to access I-276 from I-95 just north of the existing fully-directional interchange at PA 413. The associated travel-time savings would benefit Bristol Township residents and business operators alike. The purpose of the economic study case studies was to present regionally applicable examples of the effects that enhanced interstate highway access could have on an area with a declining historical industrial base. The study does not state that this result will indeed be duplicated in Lower Bucks County.

Sue Golus – Page 4/5 (Testimony Page 110)



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home, only an increase in their property taxes.

Sound barriers might reduce the noise in some sections of the turnpike, but more noise will be generated due to the increased traffic after the turnpike is widened. After all, if you build it, they will come. Traffic noise will blare from that height day and night and impact residents for miles.

5

The sad thing is all this disruption and hundreds of millions of dollars are only projected to reduce vehicle miles traveled on Route 1 by around one-tenth of 1 percent by the year 2025. Vehicle hours traveled are to be improved by about two-tenths of 1 percent.

1

This statistically insignificant improvement is supposed to generate 20 million of increased commerce in the area, or should I say it could. The phrases "could be" and "might" were used extensively in this impact statement.

And the geographic region included in the study is so large. Bucks County? What about Bristol Township? We have the most to lose from this project in terms of open space, disruption, increased traffic on our local roads, like Ford Road on which my home is located.

6

Sue Golus – Page 4/5 (Testimony Page 110)

See ***Sue Golus Page 2/5 (Testimony Page 108)*** On Previous Page For The Response To Issue **1**.

5 Noise (DEIS/FEIS Section IV-O)

As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined which areas warrant noise barrier consideration. For warranted areas, approximately 10 miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

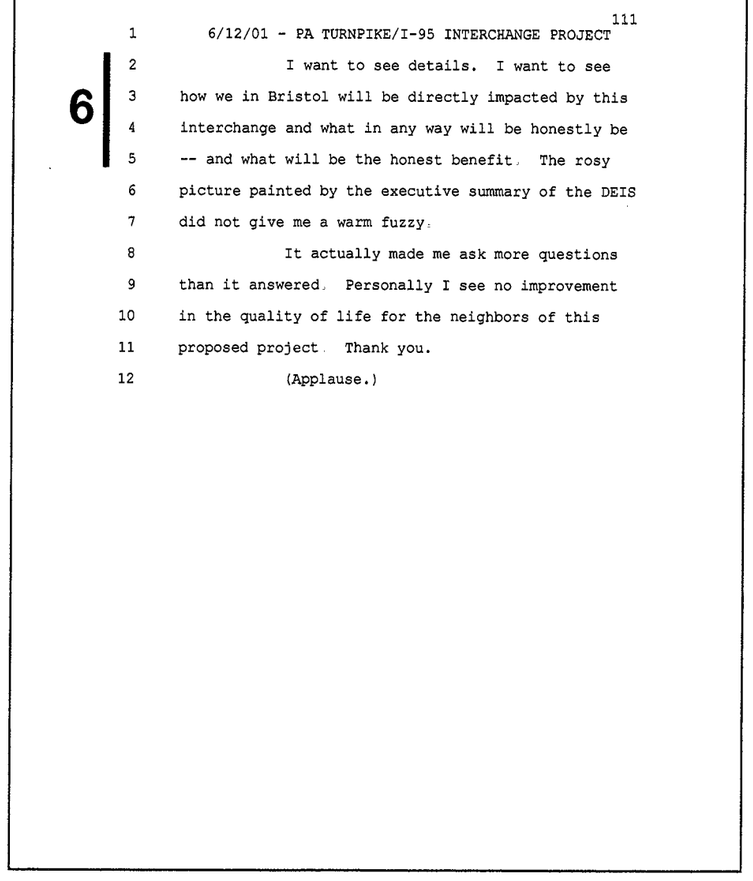
During Final Design, neighborhood meetings will occur to present the Final Design noise abatement analysis and obtain comments from the residents regarding their desires for noise abatement and the type, color and texture of noise abatement. Where appropriate, landscaping will be considered on the neighborhood side of proposed noise barriers to soften their appearance.

6 DEIS Study Area (DEIS/FEIS Section ES)

The Economic Impact Study focused on Bucks County considering the inputs and regions that are part of the economic model utilized in the analysis. Bristol Township is a part of the county and fair-share proportions were used to estimate Bristol Township impacts.

The I-276/I-95 Interchange Project's environmental and socioeconomic impacts in the Bristol Township portions of the study area are quantified in the EIS. Traffic forecasts on the major study area arterials associated with I-276/I-95 Interchange Project construction were presented. Resultant traffic reductions on local roads intersecting these major arterials may occur, depending upon the adjacent land uses on these roadways.

Sue Golus – Page 5/5 (Testimony Page 111)



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I want to see details. I want to see how we in Bristol will be directly impacted by this interchange and what in any way will be honestly be -- and what will be the honest benefit. The rosy picture painted by the executive summary of the DEIS did not give me a warm fuzzy.

6

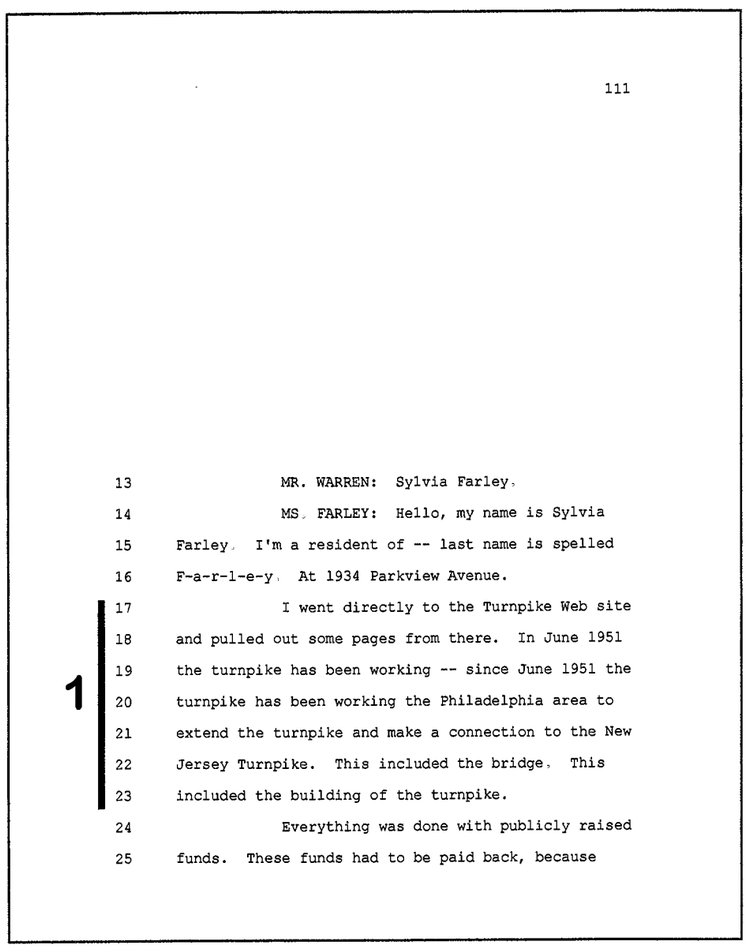
It actually made me ask more questions than it answered. Personally I see no improvement in the quality of life for the neighbors of this proposed project. Thank you.

(Applause.)

Sue Golus – Page 5/5 (Testimony Page 111)

See ***Sue Golus – Page 4/5 (Testimony Page 110)*** On This Page For The Response To Issue **6**.

Sylvia Farley – Page 1/6 (Testimony Page 111)



111

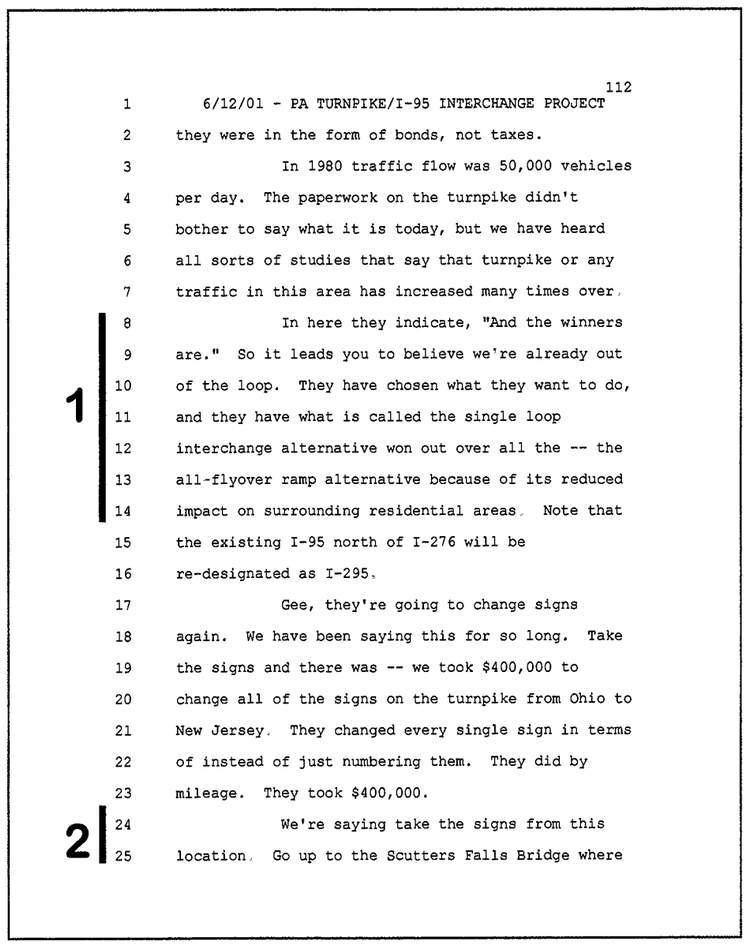
MR. WARREN: Sylvia Farley.

MS. FARLEY: Hello, my name is Sylvia Farley. I'm a resident of -- last name is spelled F-a-r-l-e-y. At 1934 Parkview Avenue.

1 I went directly to the Turnpike Web site and pulled out some pages from there. In June 1951 the turnpike has been working -- since June 1951 the turnpike has been working the Philadelphia area to extend the turnpike and make a connection to the New Jersey Turnpike. This included the bridge. This included the building of the turnpike.

Everything was done with publicly raised funds. These funds had to be paid back, because

Sylvia Farley – Page 2/6 (Testimony Page 112)



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they were in the form of bonds, not taxes.

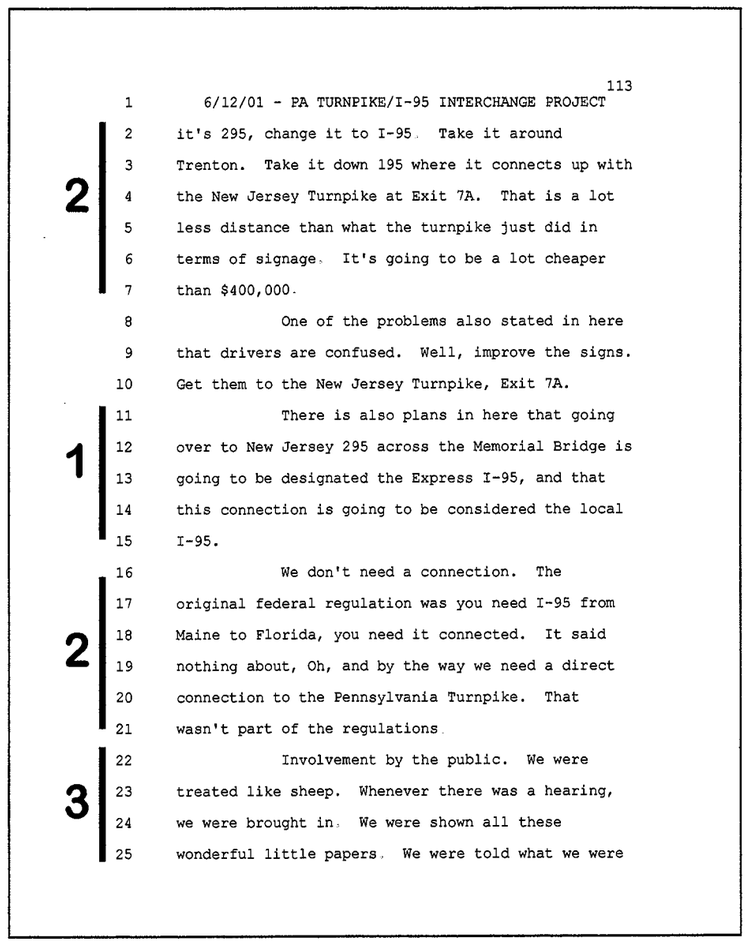
In 1980 traffic flow was 50,000 vehicles per day. The paperwork on the turnpike didn't bother to say what it is today, but we have heard all sorts of studies that say that turnpike or any traffic in this area has increased many times over.

1 In here they indicate, "And the winners are." So it leads you to believe we're already out of the loop. They have chosen what they want to do, and they have what is called the single loop interchange alternative won out over all the -- the all-flyover ramp alternative because of its reduced impact on surrounding residential areas. Note that the existing I-95 north of I-276 will be re-designated as I-295.

Gee, they're going to change signs again. We have been saying this for so long. Take the signs and there was -- we took $400,000 to change all of the signs on the turnpike from Ohio to New Jersey. They changed every single sign in terms of instead of just numbering them. They did by mileage. They took $400,000.

2 We're saying take the signs from this location. Go up to the Scutters Falls Bridge where

Sylvia Farley – Page 3/6 (Testimony Page 113)



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it's 295, change it to I-95. Take it around Trenton. Take it down 195 where it connects up with

2 the New Jersey Turnpike at Exit 7A. That is a lot less distance than what the turnpike just did in terms of signage. It's going to be a lot cheaper than $400,000.

One of the problems also stated in here that drivers are confused. Well, improve the signs. Get them to the New Jersey Turnpike, Exit 7A.

1 There is also plans in here that going over to New Jersey 295 across the Memorial Bridge is going to be designated the Express I-95, and that this connection is going to be considered the local I-95.

We don't need a connection. The

2 original federal regulation was you need I-95 from Maine to Florida, you need it connected. It said nothing about, Oh, and by the way we need a direct connection to the Pennsylvania Turnpike. That wasn't part of the regulations.

Involvement by the public. We were

3 treated like sheep. Whenever there was a hearing, we were brought in. We were shown all these wonderful little papers. We were told what we were

Sylvia Farley – Page 1/6 (Testimony Page 111)

1 Alternatives Development

The statements that the commenter refers to are not from the project website. These statements were obtained from the phillyroads.com website. The phillyroads.com website used materials from the project website but inserted editorial type comments such as "And the winners are…" and "recommends 'express' and 'local' designations for I-95 when the construction is complete" in showing or describing the DEIS Recommended Preferred Alternative. The statements concerning the plans to create an "express I-95" and "local I-95" were attributed to misc.transport.road contributor Chris Blaney and are not those of the Federal Highway Administration (FHWA), the Pennsylvania Turnpike Commission (PTC) or the Pennsylvania Department of Transportation (PENNDOT). (Please see pages I-95 to I-99 of the Exhibits Section that show the web site pages, referred to by the commenter.)

Sylvia Farley – Page 2/6 (Testimony Page 112)

See ***Sylvia Farley – Page 1/6 (Testimony Page 111)*** On This Page For The Response To Issue **1**.

See ***Sylvia Farley – Page 3/6 (Testimony Page 113)*** On This Page For The Response to Issue **2**.

Sylvia Farley – Page 3/6 (Testimony Page 113)

See ***Sylvia Farley – Page 1/6 (Testimony Page 111)*** On This Page For The Response To Issue **1**.

2 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

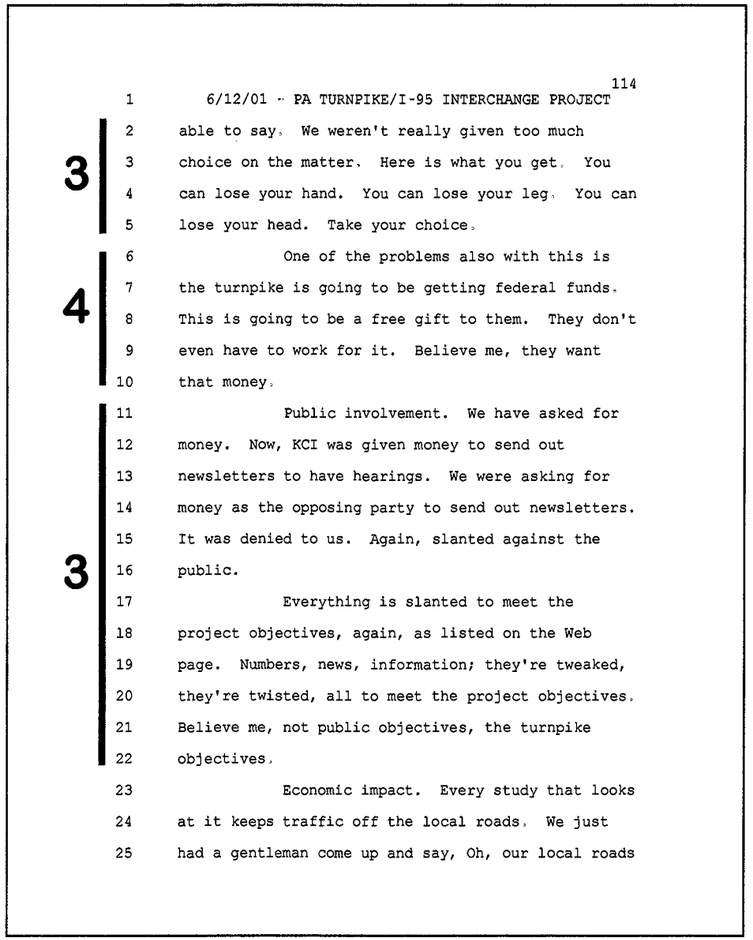
The I-295/I-195 route adds approximately 12 miles to each trip compared to the Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists would continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by PENNDOT prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

3 Public Involvement (DEIS/FEIS Section VII-B)

As described in the DEIS, a variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project using a combination of federal and PTC funds. Specific efforts included establishing a local project office; holding general public meetings and public officials meetings; organizing special interest group meetings; facilitating the organization of a Community Advisory Committee (CAC) and the Community Economic Impact Review Group (CEIRG); distributing public questionnaires, project newsletters and fact sheets; creating a project specific website; providing informational binders to local libraries; and releasing press/public notices. In addition to public involvement, state and federal regulatory agencies reviewed and commented on each step of the project development including the project objectives and alternatives development. This resulted in a broad-based process that focuses on significant issues important to the public and local officials and state and federal agencies.

The project files do not contain any record of a request for funds for a newsletter by Mrs. Farley. However, the funding of public involvement strategies by the project team was appropriate since such activities are required as part of the National Environmental Policy Act process.

Sylvia Farley – Page 4/6 (Testimony Page 114)



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able to say. We weren't really given too much choice on the matter. Here is what you get. You can lose your hand. You can lose your leg. You can lose your head. Take your choice.

3

One of the problems also with this is the turnpike is going to be getting federal funds. This is going to be a free gift to them. They don't even have to work for it. Believe me, they want that money.

4

Public involvement. We have asked for money. Now, KCI was given money to send out newsletters to have hearings. We were asking for money as the opposing party to send out newsletters. It was denied to us. Again, slanted against the public.

3

Everything is slanted to meet the project objectives, again, as listed on the Web page. Numbers, news, information; they're tweaked, they're twisted, all to meet the project objectives. Believe me, not public objectives, the turnpike objectives.

Economic impact. Every study that looks at it keeps traffic off the local roads. We just had a gentleman come up and say, Oh, our local roads

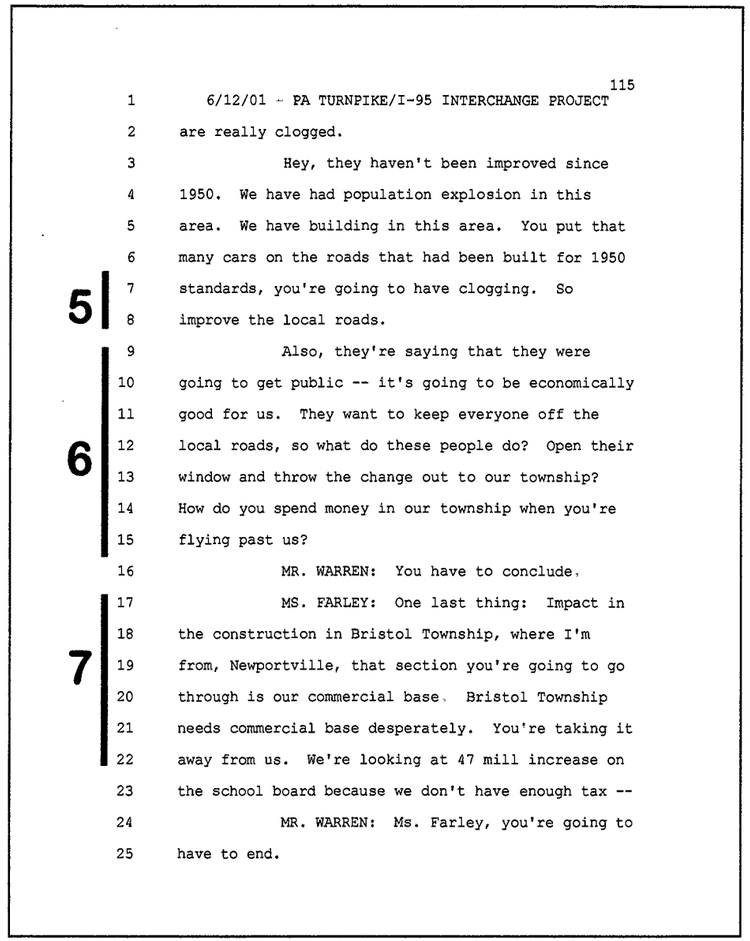
Sylvia Farley – Page 4/6 (Testimony Page 114)

See ***Sylvia Farley – Page 3/6 (Testimony Page 113)*** On This Page For The Response To Issue **3**.

4 I-276/I-95 Interchange Project Funding

The I-276/I-95 Interchange Project's cost estimate through construction is $640 million. Because the I-276/I-95 Interchange Project completes an interstate gap, it is eligible for federal interstate construction funds at a 90 federal / 10 PTC ratio. The PTC will incur ongoing maintenance and operation costs.

Sylvia Farley – Page 5/6 (Testimony Page 115)



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are really clogged.

Hey, they haven't been improved since 1950. We have had population explosion in this area. We have building in this area. You put that many cars on the roads that had been built for 1950 standards, you're going to have clogging. So

5

improve the local roads.

Also, they're saying that they were going to get public -- it's going to be economically good for us. They want to keep everyone off the local roads, so what do these people do? Open their

6

window and throw the change out to our township? How do you spend money in our township when you're flying past us?

MR. WARREN: You have to conclude.

MS. FARLEY: One last thing: Impact in the construction in Bristol Township, where I'm from, Newportville, that section you're going to go

7

through is our commercial base. Bristol Township needs commercial base desperately. You're taking it away from us. We're looking at 47 mill increase on the school board because we don't have enough tax --

MR. WARREN: Ms. Farley, you're going to have to end.

Sylvia Farley – Page 5/6 (Testimony Page 115)

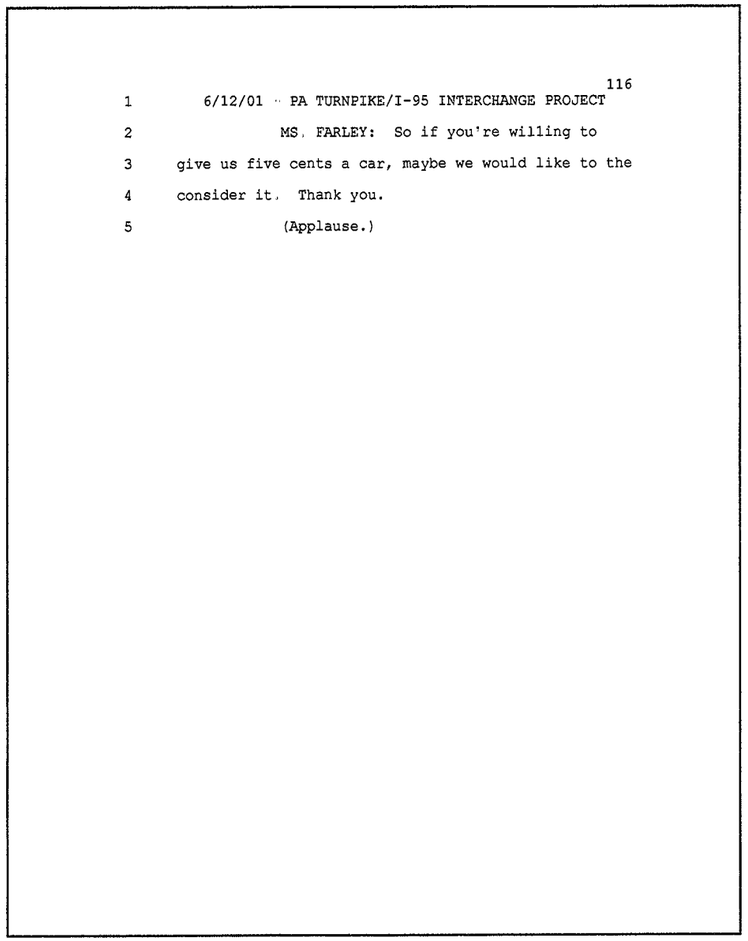
5 Traffic and Transportation (DEIS/FEIS Section IV-A.3)

The construction of the I-276/I-95 Interchange would include improvements to the local transportation infrastructure, such as roadway widening, bridge reconstruction, and interchange reconfiguration. Figures IV-3A, 3B, and 3C of the FEIS identify and describe specific infrastructure improvements. In addition, transfer of local traffic to the interstates, as a result of constructing the interchange, is expected to alleviate some of the local arterial congestion. However, the I-276/I-95 Interchange Project is not intended to correct all local infrastructure inadequacies or to mitigate the effects of a lack of local planning. Certain PENNDOT projects have been programmed, are in design, or in construction that also address inadequacies on the study area corridors. Coordination between the I-276/I-95 Interchange Project and PENNDOT on local governmental projects has, and will continue, to occur during Final Design.

6 Socioeconomic-Economic (DEIS/FEIS Section IV-U)
It is projected that the I-276/I-95 Interchange Project would remove trips from local roads by diverting trips to I-95 and I-276. The trips that will be diverted are mostly from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project would maintain and/or improve local access. These conditions are expected to increase the market attractiveness of the region. Less traffic on these arterial roadways may encourage increased patronage of these local businesses and conversion of some properties to alternate land uses that generate higher revenues. For example, the project's Economic Impact Study predicted that improved access at Interchange 29 and the reduction of through traffic on US 13 (Bristol Pike) would improve economic opportunities at the Levittown Shopping Center, the Novolog Delaware River port operations, the USX properties in Falls Township, Pennsylvania, as well as the rest of the Bucks County Enterprise Zone.

7 Socioeconomic Commercial Tax Base (DEIS/FEIS Section IV-C.4)
Although there would be impacts to the existing tax base, the impact would be less than one percent of the total commercial tax base for Bristol Township. The I-276/I-95 Interchange Project construction would also provide jobs in the area.

Sylvia Farley – Page 6/6 (Testimony Page 116)



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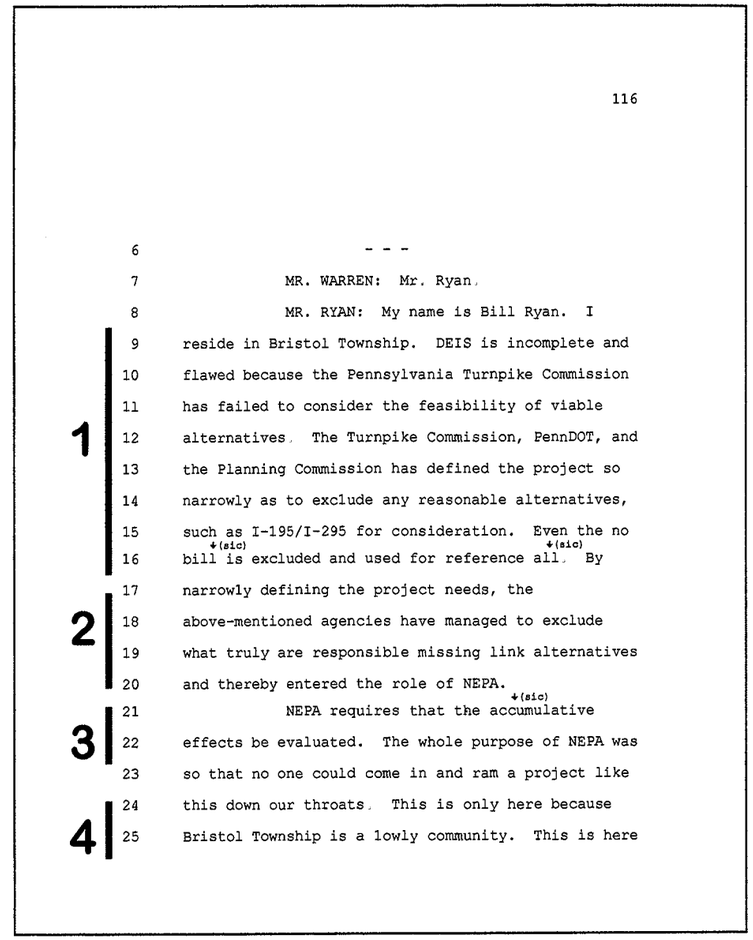
MS. FARLEY: So if you're willing to give us five cents a car, maybe we would like to the consider it. Thank you.

(Applause.)

Sylvia Farley – Page 6/6 (Testimony Page 116)

No Issues – No Responses

Bill Ryan – Page 1/3 (Testimony Page 116)



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MR. WARREN: Mr. Ryan.

MR. RYAN: My name is Bill Ryan. I reside in Bristol Township. DEIS is incomplete and flawed because the Pennsylvania Turnpike Commission has failed to consider the feasibility of viable alternatives. The Turnpike Commission, PennDOT, and the Planning Commission has defined the project so narrowly as to exclude any reasonable alternatives, such as I-195/I-295 for consideration. Even the no (sic) bill is excluded and used for reference all. (sic) By narrowly defining the project needs, the above-mentioned agencies have managed to exclude what truly are responsible missing link alternatives and thereby entered the role of NEPA. (sic)

NEPA requires that the accumulative effects be evaluated. The whole purpose of NEPA was so that no one could come in and ram a project like this down our throats. This is only here because Bristol Township is a lowly community. This is here

Bill Ryan – Page 1/3 (Testimony Page 116)

1 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs. Therefore, the I-295/I-95 routing does not constitute a reasonable project alternative.

The I-295/I-195 route adds approximately 12 miles to each trip compared to the Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists would continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by the Pennsylvania Department of Transportation (PENNDOT) prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

2 Project Needs (DEIS/FEIS Section I-B)

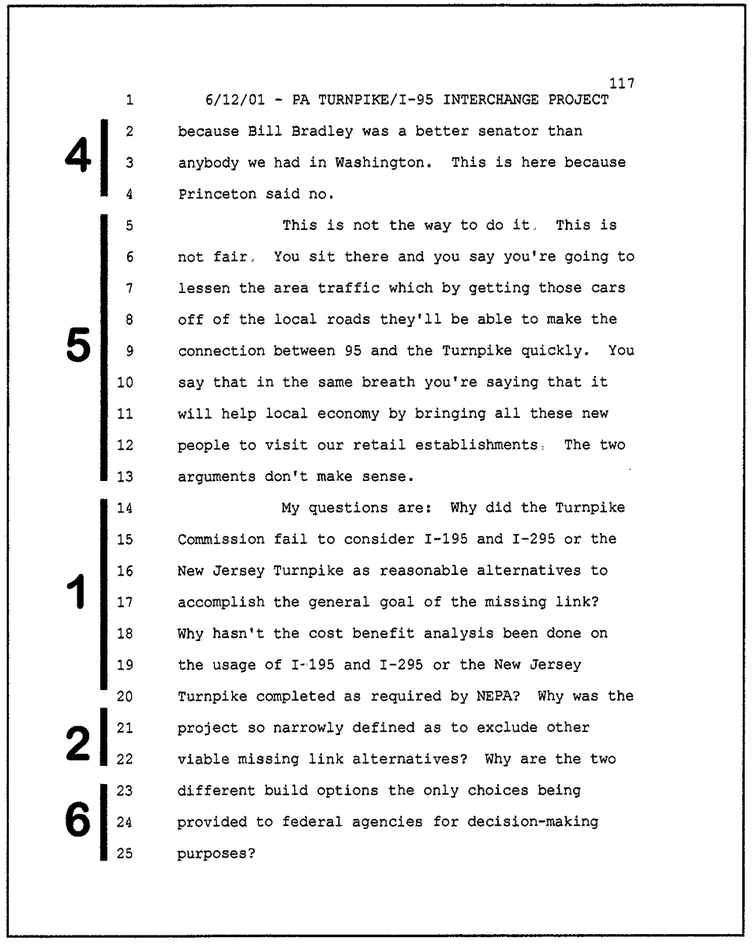
The 1993 Needs Study for the I-276/I-95 Interchange Project was prepared in accordance with Federal Highway Administration (FHWA) Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987); FHWA Policy Statement, *Purpose and Needs in Environmental Documents* (1990); and PENNDOT "Strike-off Letter" 430-90-27 (1990). The 1993 Needs Study focused on analyzing the connection of I-95 and I-276, because of Pennsylvania Act 61 that authorized the Pennsylvania Turnpike Commission (PTC) to build an interchange between I-276 and I-95 and to widen I-276 to six lanes through the study area. The legislation was intended to establish interstate (I-276) to interstate (I-95) continuity and to facilitate the rerouting of I-95 as required by the 1982 Surface Transportation Assistance Act (STAA), which stipulated that I-95 would continue from Delaware through Pennsylvania, cross the Delaware River Turnpike Bridge, follow the New Jersey Turnpike and join existing I-95 just north of New Brunswick, New Jersey.

3 Secondary Development and Cumulative Impacts (DEIS/FEIS Section IV-U)

Cumulative Effects were evaluated as part of the I-276/I-95 Interchange Project's Environmental Impact Statement, as referenced above.

See ***Bill Ryan – Page 2/3 (Testimony Page 117)*** On This Page For The Response To Issue **4**.

Bill Ryan – Page 2/3 (Testimony Page 117)



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because Bill Bradley was a better senator than anybody we had in Washington. This is here because Princeton said no.

This is not the way to do it. This is not fair. You sit there and you say you're going to lessen the area traffic which by getting those cars off of the local roads they'll be able to make the connection between 95 and the Turnpike quickly. You say that in the same breath you're saying that it will help local economy by bringing all these new people to visit our retail establishments. The two arguments don't make sense.

My questions are: Why did the Turnpike Commission fail to consider I-195 and I-295 or the New Jersey Turnpike as reasonable alternatives to accomplish the general goal of the missing link? Why hasn't the cost benefit analysis been done on the usage of I-195 and I-295 or the New Jersey Turnpike completed as required by NEPA? Why was the project so narrowly defined as to exclude other viable missing link alternatives? Why are the two different build options the only choices being provided to federal agencies for decision-making purposes?

4 5 1 2 6

Bill Ryan – Page 2/3 (Testimony Page 117)

See ***Bill Ryan – Page 1/3 (Testimony Page 116)*** Beginning On Previous Page For The Responses To Issues **1** and **2**.

4 Legislation (DEIS/FEIS Section I-A)

The I-276/I-95 Interchange Project originated because of legislation (Pennsylvania Act 61) that authorized the PTC to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the STAA. The project legislation contains no reference to the socioeconomic profile of either the Princeton, NJ area or Lower Bucks County. For the record, the 1982 federal legislative language to reroute I-95 through the proposed interchange was introduced by Senator Bill Bradley of New Jersey. This is believed to be the basis for the commenter's statement about Senator Bill Bradley.

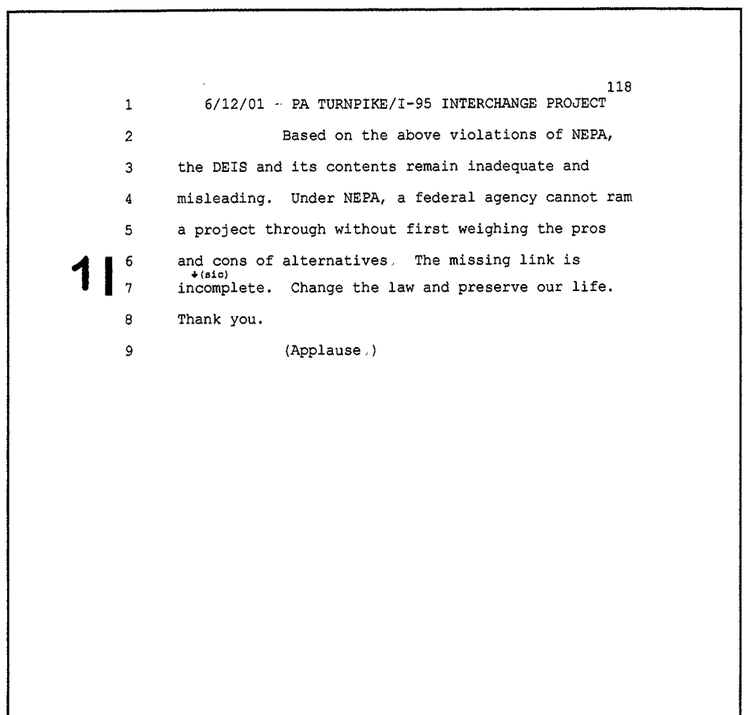
5 Socioeconomic-Economic (DEIS/FEIS Section IV-A, C)

It is projected that the I-276/I-95 Interchange Project would remove trips from local roads by diverting trips to I-95 and I-276. The trips that will be diverted will mostly come from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project would maintain and/or improve local access. These conditions are expected to increase the market attractiveness of the region. For example, the project's Economic Impact Study predicted that improved access at Interchange 29 and the reduction of through traffic on US 13 (Bristol Pike) would improve economic opportunities at the Levittown Shopping Center, the Novolog Delaware River port operations, the USX properties in Falls Township, Pennsylvania, as well as the rest of the Bucks County Enterprise Zone.

6 Alternatives Development (DEIS/FEIS Section III)

A total of 16 build alternatives in the three project elements (toll plaza, interchange and bridge) were evaluated in detail during the preliminary alternatives analysis. These were provided to the public for comment at the June 16, 1998 Public Meeting. Through a process of review, comparison, and elimination, the number of Build Alternatives was reduced to focus on the two most advantageous build alternatives for each element. These were carried forward for detailed study in the FEIS. Federal and state agencies as well as the public were involved in the alternatives development throughout the transportation project development process.

Bill Ryan – Page 3/3 (Testimony Page 118)



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Based on the above violations of NEPA, the DEIS and its contents remain inadequate and misleading. Under NEPA, a federal agency cannot ram a project through without first weighing the pros and cons of alternatives. The missing link is incomplete. (sic) Change the law and preserve our life. Thank you.

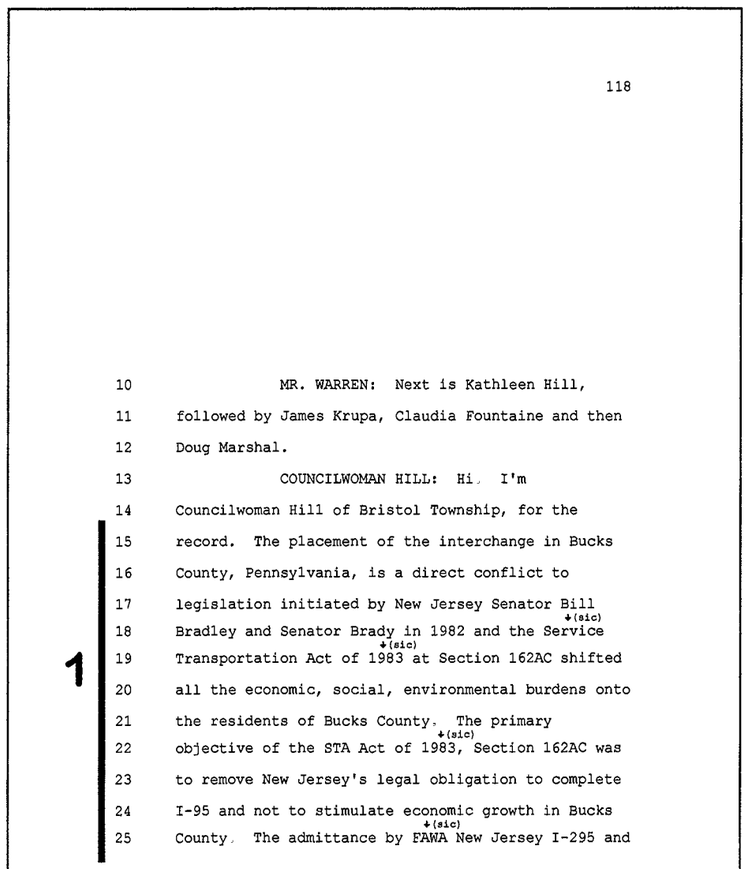
(Applause.)

1

Bill Ryan – Page 3/3 (Testimony Page 118)

See ***Bill Ryan – Page 1/3 (Testimony Page 116)*** Beginning On Page I-68 For The Response To Issue **1**.

Kathryn Hill – Page 1/3 (Testimony Page 118)



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MR. WARREN: Next is Kathleen Hill, followed by James Krupa, Claudia Fountaine and then Doug Marshal.

COUNCILWOMAN HILL: Hi. I'm Councilwoman Hill of Bristol Township, for the record. The placement of the interchange in Bucks County, Pennsylvania, is a direct conflict to legislation initiated by New Jersey Senator Bill Bradley (sic) and Senator Brady in 1982 and the Service Transportation Act of 1983 (sic) at Section 162AC shifted all the economic, social, environmental burdens onto the residents of Bucks County. The primary objective (sic) of the STA Act of 1983, Section 162AC was to remove New Jersey's legal obligation to complete I-95 and not to stimulate economic growth in Bucks County. The admittance (sic) by FAWA New Jersey I-295 and

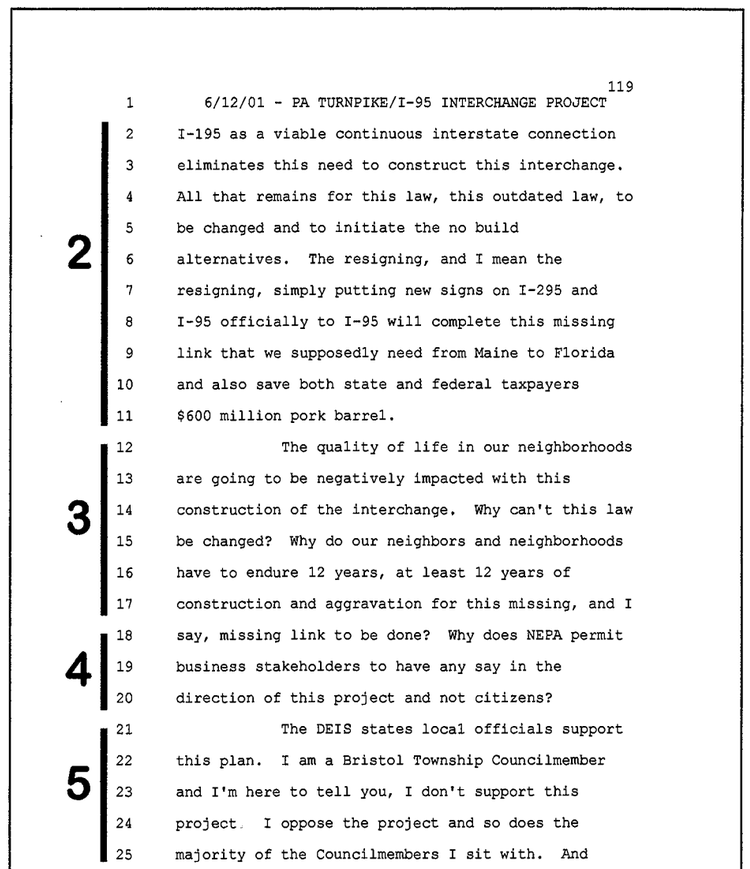
1

Kathryn Hill – Page 1/3 (Testimony Page 118)

1 Legislation (DEIS/FEIS Section I-A)

The I-276/I-95 Interchange Project originated because of legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the Federal Surface Transportation Assistance Act of 1982. The placement of the interchange in Bucks County is in concert, not conflict with the federal act.

Kathryn Hill – Page 2/3 (Testimony Page 119)



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I-195 as a viable continuous interstate connection eliminates this need to construct this interchange. All that remains for this law, this outdated law, to be changed and to initiate the no build alternatives. The resigning, and I mean the resigning, simply putting new signs on I-295 and I-95 officially to I-95 will complete this missing link that we supposedly need from Maine to Florida and also save both state and federal taxpayers $600 million pork barrel.

2

The quality of life in our neighborhoods are going to be negatively impacted with this construction of the interchange. Why can't this law be changed? Why do our neighbors and neighborhoods have to endure 12 years, at least 12 years of construction and aggravation for this missing, and I say, missing link to be done? Why does NEPA permit business stakeholders to have any say in the direction of this project and not citizens?

3

4

The DEIS states local officials support this plan. I am a Bristol Township Councilmember and I'm here to tell you, I don't support this project. I oppose the project and so does the majority of the Councilmembers I sit with. And

5

Kathryn Hill – Page 2/3 (Testimony Page 119)

2 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to the Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists would continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by the Pennsylvania Department of Transportation prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. For the above reasons, the I-295/I-195 connection is not a viable project alternative, and the lack of continuity in I-95 cannot be resolved by a re-signing of the I-295/I-195 connection. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

3 Construction Impacts (DEIS/FEIS Section IV-T)

The DEIS acknowledges construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be carried out so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will be maintained throughout construction. Public involvement and information activities would continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

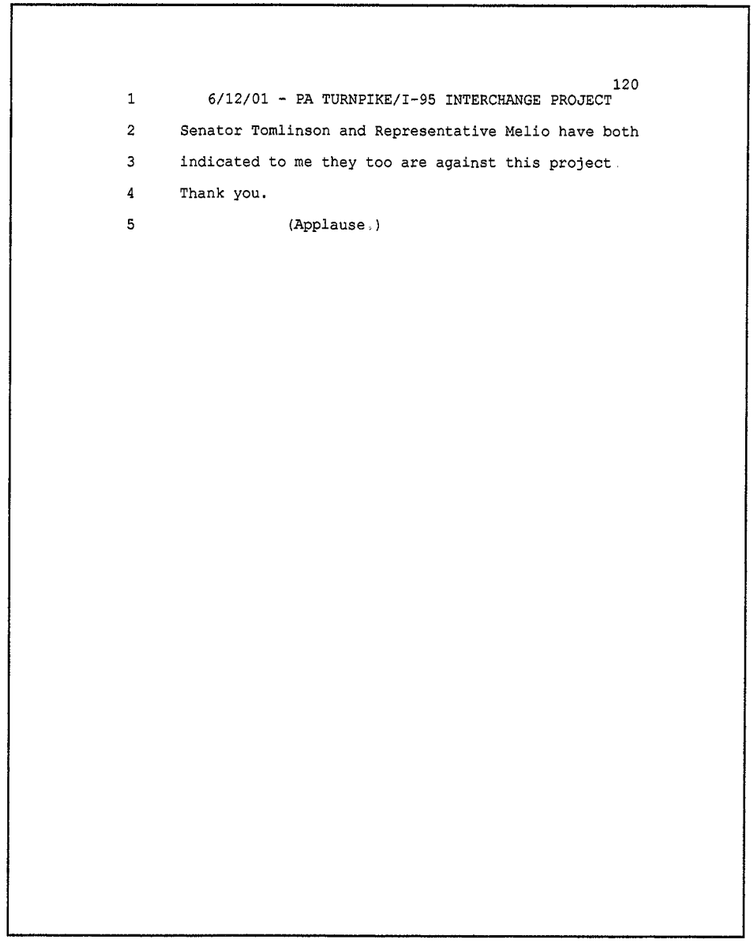
4 Public Involvement (DEIS/FEIS Section VII-B)

NEPA permits all citizens, including business and residential interests, to have input into the direction of federally funded projects. For the I-276/I-95 Interchange Project, an extensive Public Involvement Process was employed and public input was responsible for many design changes including the evaluation and dismissal of the Public Concept Alternative.

5 Project Position (DEIS/FEIS Section VI)

The DEIS states that a majority of the study area elected officials favor the Recommended Preferred Alternative when compared to those other build alternatives evaluated for the I-276/I-95 Interchange Project. The commenter's opposition to the project is noted.

Kathryn Hill – Page 3/3 (Testimony Page 120)



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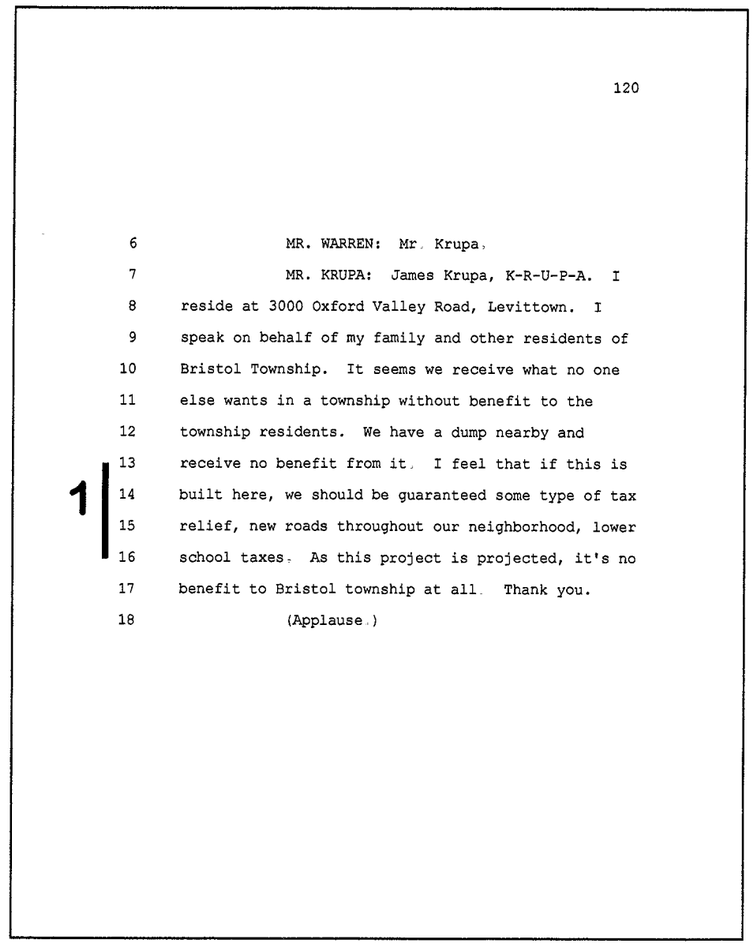
Senator Tomlinson and Representative Melio have both indicated to me they too are against this project. Thank you.

(Applause.)

Kathryn Hill – Page 3/3 (Testimony Page 120)

No Issues – No Responses

James Krupa – Page 1/1 (Testimony Page 120)



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MR. WARREN: Mr. Krupa.

MR. KRUPA: James Krupa, K-R-U-P-A. I reside at 3000 Oxford Valley Road, Levittown. I speak on behalf of my family and other residents of Bristol Township. It seems we receive what no one else wants in a township without benefit to the township residents. We have a dump nearby and receive no benefit from it. I feel that if this is built here, we should be guaranteed some type of tax relief, new roads throughout our neighborhood, lower school taxes. As this project is projected, it's no benefit to Bristol township at all. Thank you.

(Applause.)

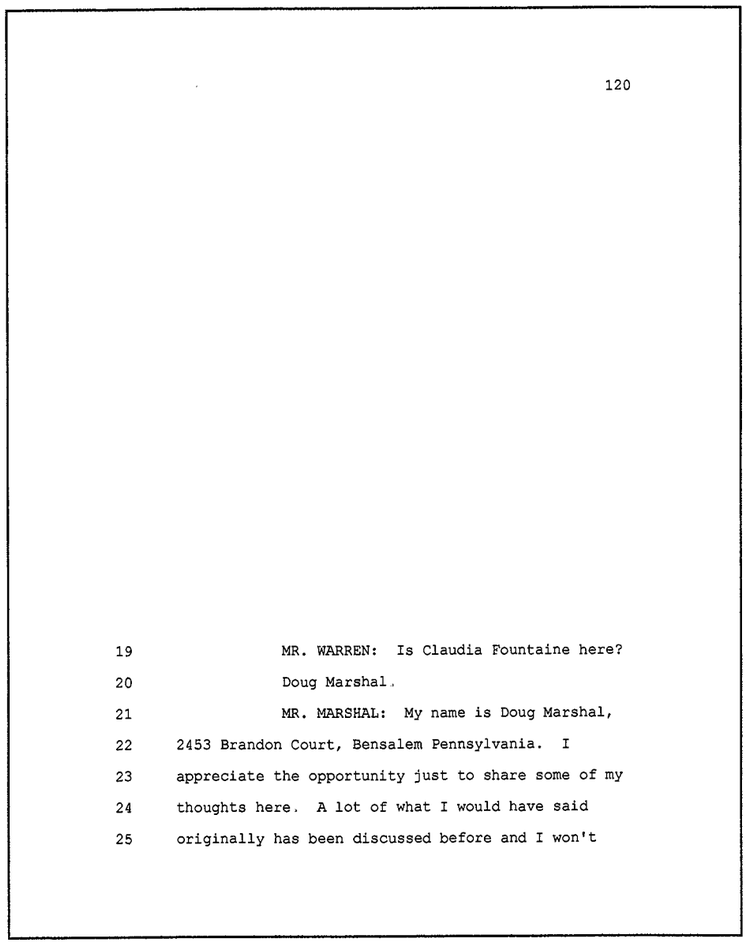
1

James Krupa – Page 1/1 (Testimony Page 120)

1 Socioeconomic (DEIS/FEIS Section IV-C.4)

The I-276/I-95 Interchange Project is projected to provide traffic distribution, congestion reduction, and economic advantages as well as a mitigation of noise levels below those currently being experienced. Tax relief is the prerogative of local government and beyond the scope of the I-276/I-95 Interchange Project. However, just compensation at fair market value and relocation benefits and assistance will be provided for all displaced residents and businesses.

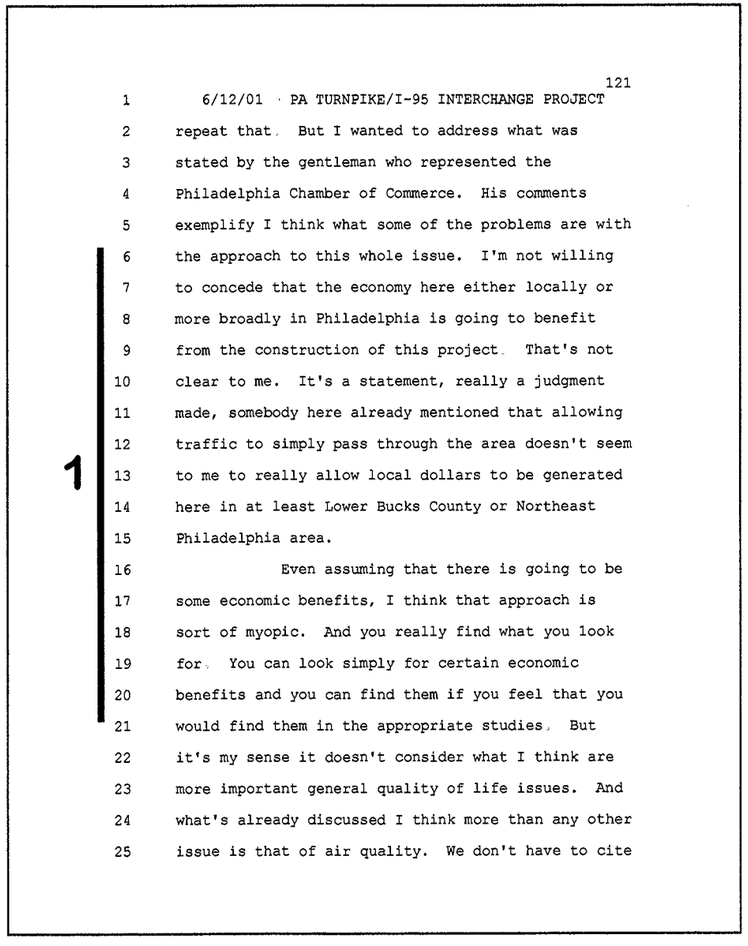
Doug Marshal – Page 1/5 (Testimony Page 120)



120

MR. WARREN: Is Claudia Fountaine here?
Doug Marshal.
MR. MARSHAL: My name is Doug Marshal, 2453 Brandon Court, Bensalem Pennsylvania. I appreciate the opportunity just to share some of my thoughts here. A lot of what I would have said originally has been discussed before and I won't

Doug Marshal – Page 2/5 (Testimony Page 121)



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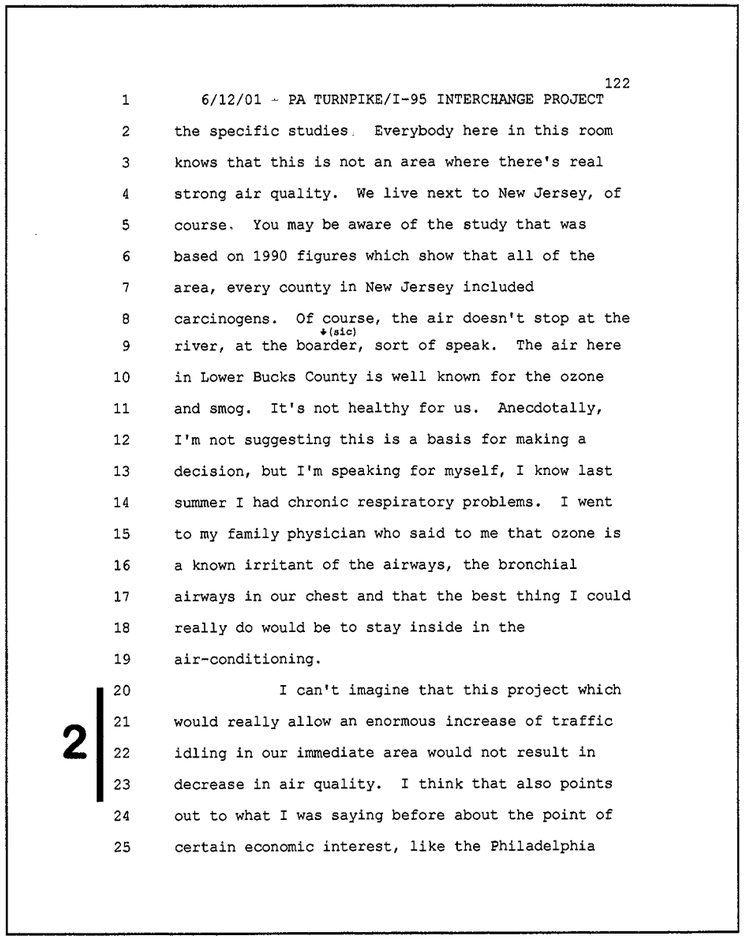
repeat that. But I wanted to address what was stated by the gentleman who represented the Philadelphia Chamber of Commerce. His comments exemplify I think what some of the problems are with the approach to this whole issue. I'm not willing to concede that the economy here either locally or more broadly in Philadelphia is going to benefit from the construction of this project. That's not clear to me. It's a statement, really a judgment made, somebody here already mentioned that allowing traffic to simply pass through the area doesn't seem to me to really allow local dollars to be generated here in at least Lower Bucks County or Northeast Philadelphia area.

1

Even assuming that there is going to be some economic benefits, I think that approach is sort of myopic. And you really find what you look for. You can look simply for certain economic benefits and you can find them if you feel that you would find them in the appropriate studies. But it's my sense it doesn't consider what I think are more important general quality of life issues. And what's already discussed I think more than any other issue is that of air quality. We don't have to cite

Doug Marshal – Page 3/5 (Testimony Page 122)



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the specific studies. Everybody here in this room knows that this is not an area where there's real strong air quality. We live next to New Jersey, of course. You may be aware of the study that was based on 1990 figures which show that all of the area, every county in New Jersey included carcinogens. Of course, the air doesn't stop at the river, at the boarder (sic), sort of speak. The air here in Lower Bucks County is well known for the ozone and smog. It's not healthy for us. Anecdotally, I'm not suggesting this is a basis for making a decision, but I'm speaking for myself, I know last summer I had chronic respiratory problems. I went to my family physician who said to me that ozone is a known irritant of the airways, the bronchial airways in our chest and that the best thing I could really do would be to stay inside in the air-conditioning.

2

I can't imagine that this project which would really allow an enormous increase of traffic idling in our immediate area would not result in decrease in air quality. I think that also points out to what I was saying before about the point of certain economic interest, like the Philadelphia

Doug Marshal – Page 1/5 (Testimony Page 120)

No Issues – No Responses

Doug Marshal – Page 2/5 (Testimony Page 121)

1 Socioeconomic – Economic (DEIS/FEIS Section IV-C)

The economic estimates are very positive and performed by qualified firms using state of the art economic computer models. Any projections of this type could incorporate some inherent errors, but the I-276/I-95 Interchange Project is expected to remove trips from local roads by diverting trips to I-95 and I-276.

The trips that will be diverted are mostly from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project would maintain and/or improve local access. These conditions are expected to increase the market attractiveness of the region. Less traffic on these arterial roadways may encourage increased patronage of these local businesses and conversion of some properties to alternate land uses that generate higher revenues.

For example, the project's Economic Impact Study predicted that improved access at Interchange 29 and the reduction of through traffic on US 13 (Bristol Pike) would improve economic opportunities at the Levittown Shopping Center, the Novolog Delaware River port operations, the USX properties in Falls Township, Pennsylvania, as well as the rest of the Bucks County Enterprise Zone.

Doug Marshal – Page 3/5 (Testimony Page 122)

2 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

As described in the DEIS, an air quality analysis for carbon monoxide demonstrated that the I-276/I-95 Interchange Project would not lead to any exceedances of the US Environmental Protection Agency (USEPA) standards for carbon monoxide. Ozone, due to its complex formation from nitrous oxides (NOX) and volatile organic compounds (VOCs) is not accurately predicted on a local scale. Rather, levels of NOx and VOCs are predicted on a regional level taking into account a region's entire Transportation Improvement Program (TIP).

A regional air quality emissions analysis that included the I-276/I-95 Interchange Project (and the resultant shifting and addition of vehicles to the interstates and the effects of the proposed main line toll plaza) was conducted

by the Delaware Valley Regional Planning Commission. This analysis concluded that NOx and VOCs levels in the region that includes Lower Bucks County would be within standards set by the USEPA by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County. A summary of this analysis is included in Appendix E of this FEIS. In addition, Marcia Spink, USEPA, provided public testimony on pages I-21 to I-22 regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

The air quality analysis summarized in the DEIS/FEIS for the I-276/I-95 Interchange Project was conducted in accordance with USEPA, Federal Highway Administration and Pennsylvania Department of Transportation guidelines. The methodology for the analysis includes the best available scientific data and the use of the latest USEPA approved computer models and modeling techniques. These models take into account federal regulations that are currently in place requiring stricter tailpipe emission standards for cars and sport utility vehicles and stricter emissions standards for new and old diesel engines.

Doug Marshal – Page 4/5 (Testimony Page 123)

Chamber of Commerce. I remember as a student we had someone indicating that, quote, "Air quality is not expected to worsen." That's just a bland statement thrown out in the air without an appropriate study. You have to use your common sense, it just simply runs against what I think everybody in this room understands would occur with a project like this, with an enormous concentration of idling traffic in our immediate area.

2

And I think, you know, people talk about local impact of this kind of project. But I think, again, if you look more broadly, this kind of air pollution is not limited to these specific communities that they're complaining would be Bristol, Newportville, Bensalem. That kind of air quality is going to affect people more broadly in Bucks County as well as people in New Jersey. And I think that if we really are going to study this issue properly in terms of what's best for the community people and what's required under NEPA, we really have to consider and do a proper study of air quality, not just of carbon dioxide, but of things like ozone and other particulate emissions. And so I think until we do that, we can't make an informed

Doug Marshal – Page 4/5 (Testimony Page 123)

See ***Doug Marshal – Page 3/5 (Testimony Page 122)*** Beginning On Previous Page For The Response To Issue **2.**

Doug Marshal – Page 5/5 (Testimony Page 124)

decision as to what's in everyone's best interest. I appreciate your time. Thank you.

MR. WARREN: Thank you.

(Applause.)

Doug Marshal – Page 5/5 (Testimony Page 124)

No Issues – No Responses

Statement – Page 1/2 (Testimony Page 124)

MR. WARREN: Ms. Fountaine is scheduled for the 8 to 9 o'clock hour. It is 10 of 8:00. You all have been an exceptional participant in this governmental procedure for which I commend you. What we will do is take a 10 minute recess. We will, as I said, we will be here until 9 o'clock, and I'll amend that until 8:30 if there are -- we'll be here as long someone wants to speak. However, assuming that there are no speakers between 8 and 8:30 well adjourn at 8:30.

For our part now, keep in mind, all the testimony that was offered tonight will be reviewed. And while we didn't answer it here, your questions, concerns, comments will be addressed in the Final Environmental Impact Statement that EIS and that will be on public display for a period of months, weeks -- how long -- 30 to 60 days and then it will go to the Federal Highway Administration before any final decision is made. So those of you who were wondering, well, why don't they say something, that

Statement – Page 1/2 (Testimony Page 124)

No Issues – No Responses

Statement – Page 2/2 (Testimony Page 125)

isn't the purpose of tonight. The purpose of tonight was for you to offer the testimony. It will then go and be reviewed, put in a public document, put on public display, and then go to the federal government before a final decision is made.

With that, we will recess until 8 o'clock.

(Recess.)

Statement – Page 2/2 (Testimony Page 125)

No Issues – No Responses

Albert DiGiovani – Page 1/3 (Testimony Page 125)

MR. WARREN: Ladies and gentlemen, according to the information we have been given as an update, we have a Mr. Balas, Mr DiGiovani and Ms. Fountaine who wish to offer testimony.

With that, Albert DiGiovani.

MR. DIGIOVANI: Thank you, Mr. Chairman. Albert DiGiovani of Levittown, 79 Stony Brook Drive. I been sitting here for the past half hour or more and what I've heard were a lot of complaints of air pollution and such. And I can't understand it. I come from the horse and wagon days, and what I've seen, I didn't like. There was noise from the horse and wagons with the wheels so they put tires on them.

The pollution is a problem. With motors that run, they pollute. We have to do away with

Albert DiGiovani – Page 1/3 (Testimony Page 125)

No Issues – No Responses

Albert DiGiovani – Page 2/3 (Testimony Page 126)

them. We should have got away with them 20, 30, 40, 50 years ago. Everything takes time and it's up to the public to write to their congressmen or whoever to do something about it. We don't have the pollution having electric cars or solar cars or whatever, we have to get out of the horse and wagon days. I can say this is what I believe it still is and I don't like it. We have to get modern and let's get the automobile industry to do something about it. And if they don't, then there will be a class action suit like we did the with cigarettes. You can say someone lights their on cigarette, they shouldn't be getting anything. But it's the manufacturer putting out this product. The automobile industry is putting out a car that shouldn't be on the road. So let's eliminate them. Let's give them enough time when this project is done that the only ones being allowed on this particular area would be electric cars or solar cars or half and half or meet them halfway. But there's enough leeway there to do something about it. Let's not fall asleep because that seems like the biggest two concerns that I can see.

The other being that no one likes it in

Albert DiGiovani – Page 2/3 (Testimony Page 126)

No Issues – No Responses

Albert DiGiovani – Page 3/3 (Testimony Page 127)

their backyard. But if we took that philosophy after the second World War, we wouldn't be where we are today. We got hit at Pearl Harbor and we woke up. And today, it seems we're still falling behind. We have to wake up to the fact that this is modern times. Let's get with it and let's do it because this is a project that I believe would be inviting for everybody. No pollution, no sounds or everything else. I'd like to thank the board.

MR. WARREN: Thank you.

1

Albert DiGiovani – Page 3/3 (Testimony Page 127)

1 Project Position

The commenter's support for electric and solar cars is noted.

William Balas – Page 1/4 (Testimony Page 127)

MR. WARREN: Thank you.

Mr. Balas.

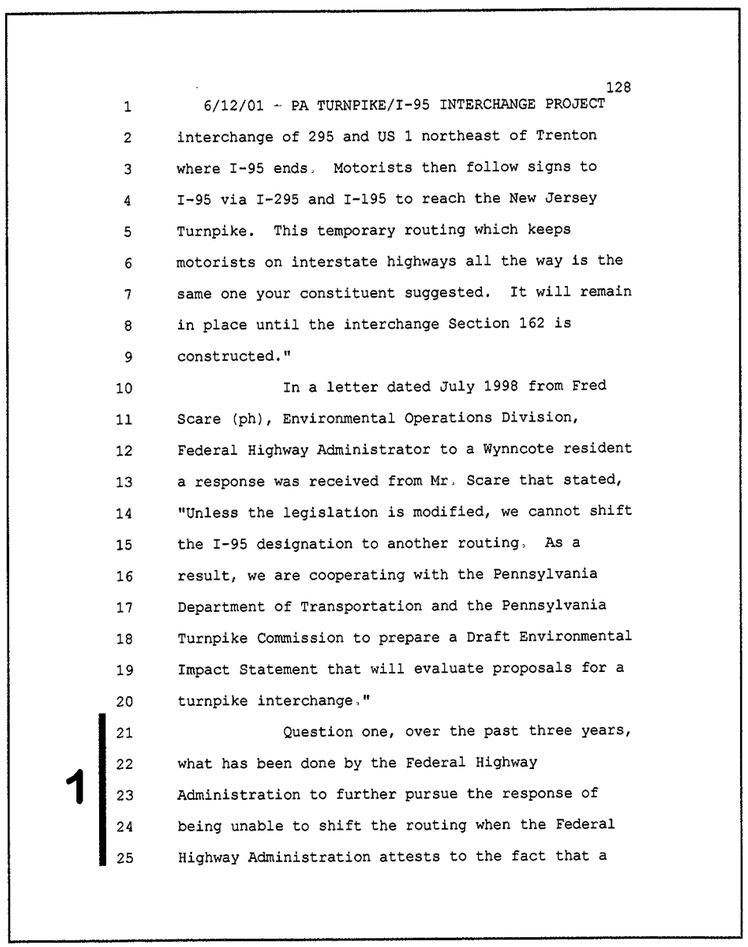
MR. BALAS: Good evening. My name is William Balas. That's B-A-L-A-S. I live at 2633 Woodview Drive in Bensalem and I'd like to comment on the inability of the Federal Highway Administration to change law.

In a letter dated June 1998 from Thomas Patak, Associate Administrator Federal Highway Administration to Republican Greenwood, a response was received from the Federal Highway Administration stated, "In the absence of an interchange between the turnpike, I understand temporary signing carries I-95 north to the Pennsylvania Turnpike to the Scudders Fall Bridge and then east to the

William Balas – Page 1/4 (Testimony Page 127)

No Issues – No Responses

William Balas – Page 2/4 (Testimony Page 128)



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interchange of 295 and US 1 northeast of Trenton where I-95 ends. Motorists then follow signs to I-95 via I-295 and I-195 to reach the New Jersey Turnpike. This temporary routing which keeps motorists on interstate highways all the way is the same one your constituent suggested. It will remain in place until the interchange Section 162 is constructed."

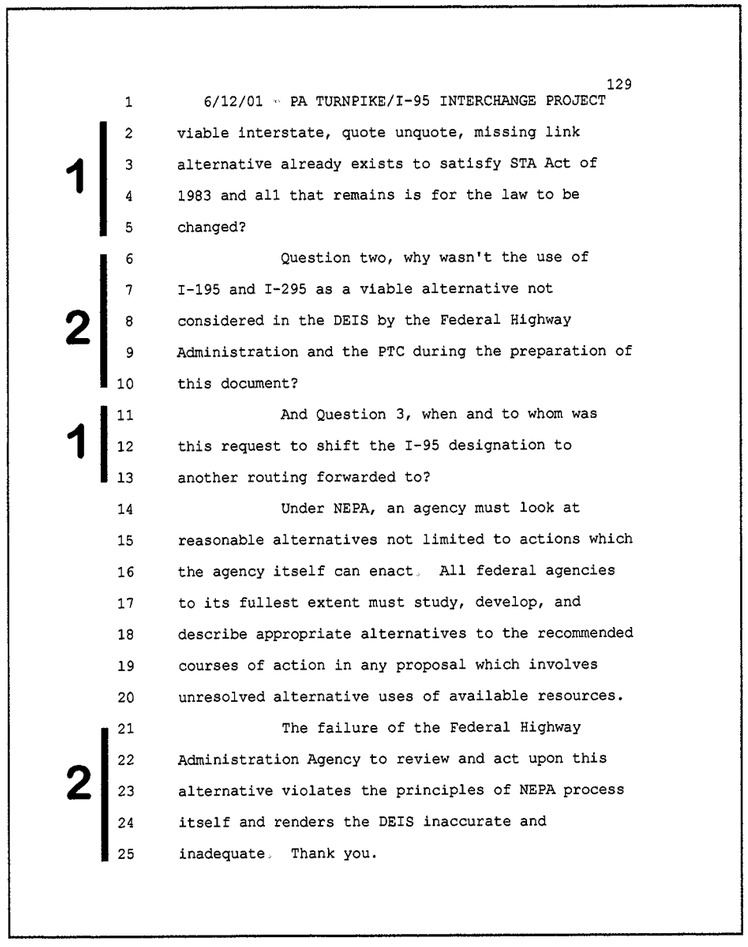
In a letter dated July 1998 from Fred Scare (ph), Environmental Operations Division, Federal Highway Administrator to a Wynncote resident a response was received from Mr. Scare that stated, "Unless the legislation is modified, we cannot shift the I-95 designation to another routing. As a result, we are cooperating with the Pennsylvania Department of Transportation and the Pennsylvania Turnpike Commission to prepare a Draft Environmental Impact Statement that will evaluate proposals for a turnpike interchange."

1 Question one, over the past three years, what has been done by the Federal Highway Administration to further pursue the response of being unable to shift the routing when the Federal Highway Administration attests to the fact that a

William Balas – Page 2/4 (Testimony Page 128)

See ***William Balas – Page 3/4 (Testimony Page 129)*** On This Page For The Response To Issue 1.

William Balas – Page 3/4 (Testimony Page 129)



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1 viable interstate, quote unquote, missing link alternative already exists to satisfy STA Act of 1983 and all that remains is for the law to be changed?

Question two, why wasn't the use of

2 I-195 and I-295 as a viable alternative not considered in the DEIS by the Federal Highway Administration and the PTC during the preparation of this document?

1 And Question 3, when and to whom was this request to shift the I-95 designation to another routing forwarded to?

Under NEPA, an agency must look at reasonable alternatives not limited to actions which the agency itself can enact. All federal agencies to its fullest extent must study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved alternative uses of available resources.

The failure of the Federal Highway

2 Administration Agency to review and act upon this alternative violates the principles of NEPA process itself and renders the DEIS inaccurate and inadequate. Thank you.

William Balas – Page 3/4 (Testimony Page 129)

1 Legislation (DEIS/FEIS Section I-A)

The commenter mistakenly presumes that the Federal Highway Administration (FHWA) favors a change in the language of Section 162 of the Surface Transportation Assistance Act (STAA) of 1982. The function of the FHWA is to implement federal laws, not change them. Further, no action is pending by or before FHWA that would change the legislated (by STAA of 1982) routing of Interstate 95. Such an action would be inappropriate and inconsistent with FHWA's role as a federal agency charged with enforcement of federal statutes. The FHWA is instead cooperating with the Pennsylvania Department of Transportation (PENNDOT) and with the Pennsylvania Turnpike Commission (PTC) to implement the compatible provisions of the federal STAA of 1982 and of Pennsylvania Act 61 of 1985, with respect to construction of an interchange between I-95 and I-276 in Bucks County, Pennsylvania.

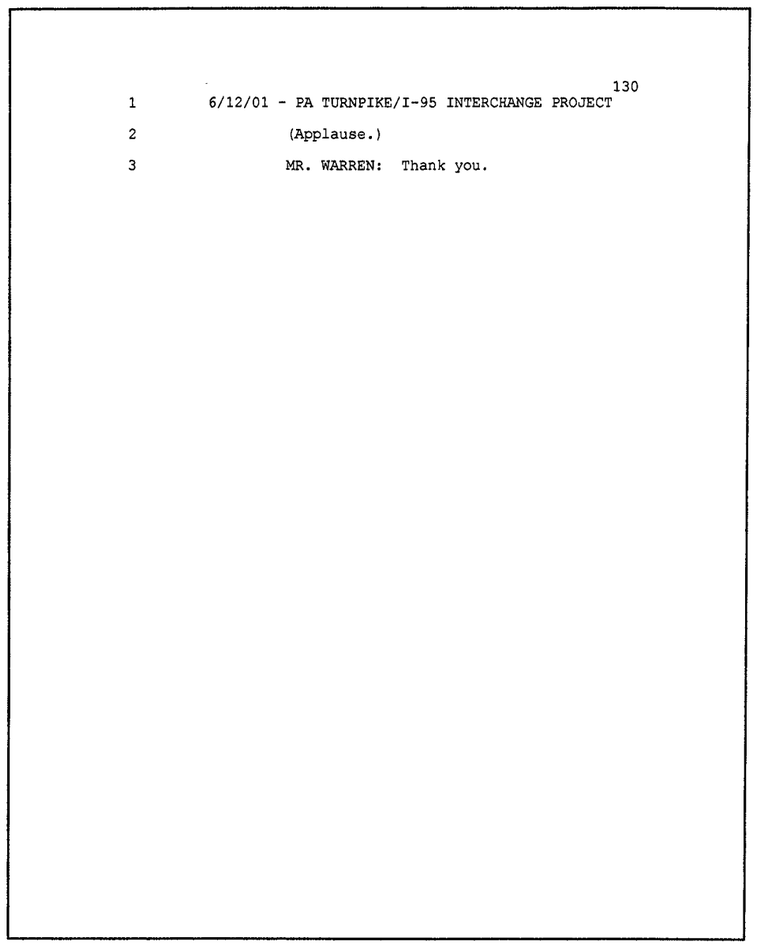
2 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to the Routes 413 and 13 currently used by motorists Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists would continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by PENNDOT prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative. The fact that further consideration was not given to the I-295/I-195 connection does not violate the National Environmental Impact Policy Act process, but is consistent with it, since a representative number of reasonable alternatives were considered. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

William Balas – Page 4/4 (Testimony Page 130)



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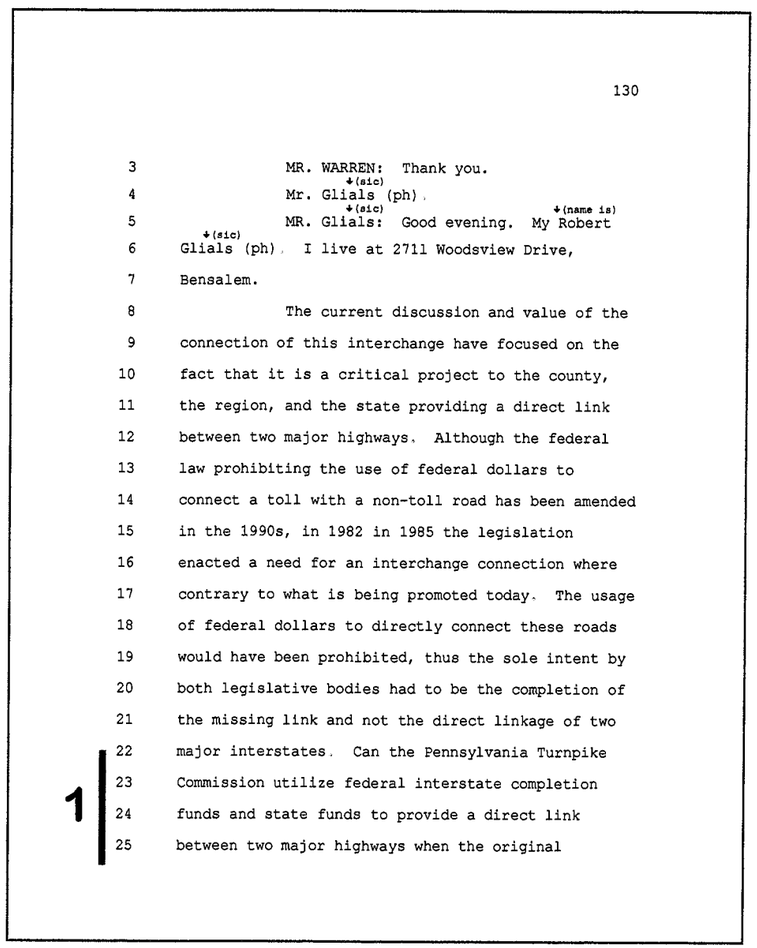
(Applause.)

MR. WARREN: Thank you.

Robert Blyler – Page 1/2 (Testimony Page 130)



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MR. WARREN: Thank you.

Mr. Glials (ph) (sic).

MR. Glials: (sic) Good evening. My Robert (name is) Glials (ph) (sic). I live at 2711 Woodsview Drive, Bensalem.

The current discussion and value of the connection of this interchange have focused on the fact that it is a critical project to the county, the region, and the state providing a direct link between two major highways. Although the federal law prohibiting the use of federal dollars to connect a toll with a non-toll road has been amended in the 1990s, in 1982 in 1985 the legislation enacted a need for an interchange connection where contrary to what is being promoted today. The usage of federal dollars to directly connect these roads would have been prohibited, thus the sole intent by both legislative bodies had to be the completion of the missing link and not the direct linkage of two major interstates. Can the Pennsylvania Turnpike Commission utilize federal interstate completion funds and state funds to provide a direct link between two major highways when the original

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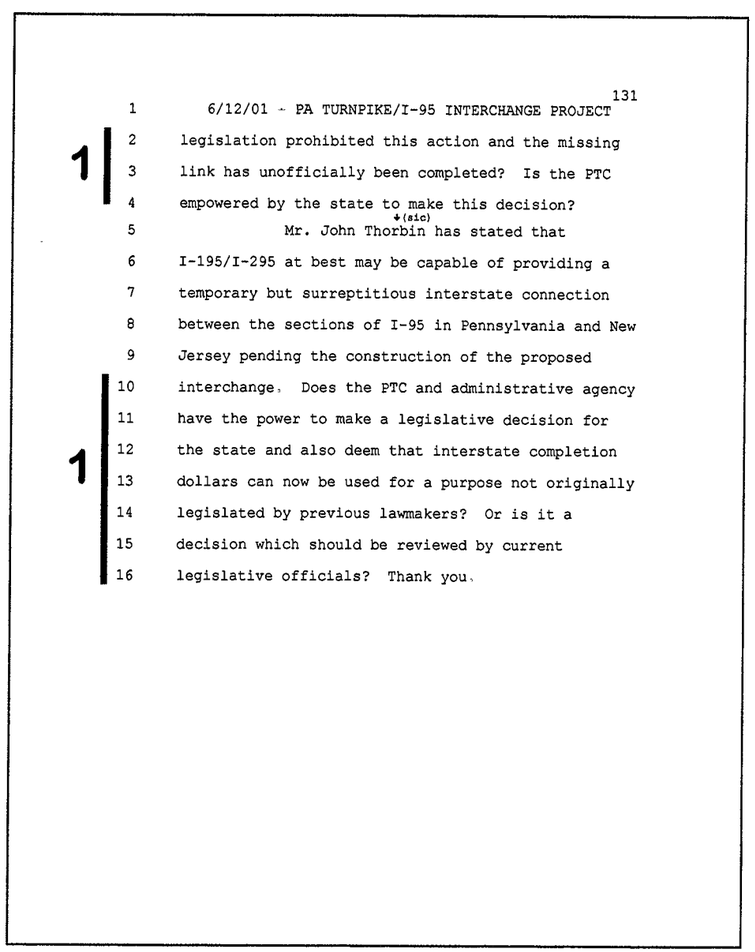
Robert Blyler – Page 2/2 (Testimony Page 131)



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1

legislation prohibited this action and the missing link has unofficially been completed? Is the PTC empowered by the state to make this decision?

Mr. John Thorbin (sic) has stated that I-195/I-295 at best may be capable of providing a temporary but surreptitious interstate connection between the sections of I-95 in Pennsylvania and New Jersey pending the construction of the proposed interchange. Does the PTC and administrative agency have the power to make a legislative decision for the state and also deem that interstate completion dollars can now be used for a purpose not originally legislated by previous lawmakers? Or is it a decision which should be reviewed by current legislative officials? Thank you.

1

William Balas – Page 4/4 (Testimony Page 130)

No Issues – No Responses

Robert Blyler – Page 1/2 (Testimony Page 130)

1 Legislation (DEIS/FEIS Section I-A, B)

The use of federal and state dollars to design and construct the proposed I-276/I-95 Interchange Project is consistent with federal and state laws and regulations, contingent upon the completion of a FEIS and the issuance of a federal Record of Decision (ROD) to implement the I-276/I-95 Interchange Project. As the commenter stated, the prohibition against the use of federal transportation funds to construct such an interchange project was removed through legislative action. Further, Congress approved an apportionment of Interstate Construction funds for the project.

The language of the Surface Transportation Assistance Act (STAA) of 1982 and Pennsylvania Act 61 of 1985 are consistent and specific in their description of the proposed interchange. The STAA of 1982 does contain specific language concerning the rerouting of I-95, which is not satisfied by the construction of I-295 and I-195 near Trenton, New Jersey.

The Pennsylvania Turnpike Commission (PTC) has not made a legislative decision for the state. PTC is working in partnership with the Federal Highway Administration (FHWA) and the Pennsylvania Department of Transportation (PENNDOT) to develop and advance the I-276/I-95 Interchange Project according to federal and state laws. While it is true that I-295 and I-195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection between the sections of I-95 in Pennsylvania and New Jersey, which does not meet the identified project needs.

Robert Blyler – Page 2/2 (Testimony Page 131)

See ***Robert Blyler – Page 1/2 (Testimony Page 130)*** On This Page For The Response To Issue **1**.

Statement – Page 1/2 (Testimony Page 131)

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MR. WARREN: Is Claudia Fountaine here?

Is there anyone who has not addressed board who would care to address the board?

If not we will stay here for another 15 minutes or so. If no one shows up, we will adjourn a half hour early. And so everyone knows, if someone were to come in here at 5 of 9:00 and we were to have left, they would not have been denied their right to have their testimony offered into the

Statement – Page 1/2 (Testimony Page 131)

No Issue – No Response

Statement – Page 2/2 (Testimony Page 132)

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record. Because as I said, the record is open until July 2nd. The only thing would have been denied is they would have not had the opportunity to personally offer it to this panel. So we will -- speaking for the panel, we will remain here for another 15 minutes. Assuming no one shows up we will then officially adjourn and the record will remain open until July. We are in recess.

(Recess.)

Statement – Page 2/2 (Testimony Page 132)

No Issue – No Response

Claudia Fountaine – Page 1/4 (Testimony Page 132)

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MR. WARREN: Ladies and gentlemen, can I have your attention, please?

Ms. Fountaine.

MS. FOUNTAINE: Hello, my name is Claudia Fountaine, F-O-U-N-T-A-I-N-E. I'm a resident of Lower Makefield Township, 205 Dawn Lane. My mailing address is Newtown. I am representing the LINDENHURST Road Homeowners' Association.

Drivers on the local roads in our area are already putting up with what has been labeled by politicians and police officials alike as an unsafe condition. The simple truth is 80,000 pound quarry trucks are traveling on our increasingly congested neighborhood roads, mingling with school buses, commuter traffic, as well as local traffic, because

Claudia Fountaine – Page 1/4 (Testimony Page 132)

No Issue – No Response

Claudia Fountaine – Page 2/4 (Testimony Page 133)

we live smack in the middle between the Swamp Road quarries and I-95.

This situation may have been fine back when the quarries were first opened, but the picture has changed drastically over the last few years. It would take too long to list all the housing developments, schools, and office buildings that have recently gone up in this area. News articles have listed this specific region, Yardley, Newtown, Lower Makefield, Upper Makefield, Wrightstown, and Northampton as one of the fastest growing in the state. Lower Makefield itself was even mentioned in the New York Times.

This is great for developers, businesses, the real estate industry. There's just one big problem. Even though the area has changed drastically, the quarry trucks still come barreling through our neighborhoods as if we weren't even there. Being paid by the load, many press the outer edge of the envelope when it comes to speed. Often brakes are overheated and trucks are unable to stop in time and must run red lights.

Don't misunderstand me, I am not here to bash truckers. There are many automobile drivers

Claudia Fountaine – Page 3/4 (Testimony Page 134)

committing unsafe acts. But there's a tremendous difference when you're talking about a car and an 80,000-pound truck. These behemoths are virtual weapons traveling through our neighborhoods. Witness the truck accident that occurred last summer in Newtown where half a bank was taken out along with injuries and death to local citizens. And that truck was empty.

I could list near misses with school buses in my own neighborhood. A fried of mine was rear-ended while waiting to make a left-hand turn at a light, taking her two children to school. The truck couldn't stop in time and swerved, running up an embankment, since there are no shoulders at that stop. Fortunately, no one was killed, but I don't want to go on and on. You get the picture. This is a bad situation and it's going to get worse when the demand for stone increases, as it surely will, during this construction.

1 The Swamp Road quarries are the closest to the construction sites, so even though our neighborhoods are not in the path of the actual interchange, we will definitely be negatively impacted by this construction. In fact, that is

Claudia Fountaine – Page 4/4 (Testimony Page 135)

2 stating it mildly. We need to be included in the Environmental Impact Study so that this problem is resolved before construction on the interchange begins. The safest resolution would be to send the stone by rail. At the very least, alternative routes that are more appropriate should be investigated.

As you may be aware, a tiny portion of Swamp Road has been closed to loaded trucks. This keeps the majority of truckers from using the Newtown Bypass to reach I-95, a shorter, much safer route. Common sense as well as concern for the safety of all the residents in this area demand that this oversight be corrected before the problem is made any worse. Thank you.

3

(Applause.)

MR. WARREN: Anyone else in the audience would care to offer testimony?

If not, the hearing will stand adjourned and we'll see you all along the way. Thank you very much.

(Hearing adjourned at 8:30 p.m.)

Claudia Fountaine – Page 2/4 (Testimony Page 133)

No Issue – No Response

Claudia Fountaine – Page 3/4 (Testimony Page 134)

1 Construction Impacts

The construction contract policies of Federal Highway Administration, Pennsylvania Department of Transportation (PENNDOT), and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

Claudia Fountaine – Page 4/4 (Testimony Page 135)

2 DEIS Study Area

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not appropriate.

3 Swamp Road Improvement

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials were held and PENNDOT and municipality-sponsored studies were conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

END OF PUBLIC TESTIMONY

BEGINNING OF PRIVATE TESTIMONY

James Westfield – Page 1/2 (Testimony Page 136)

1 Socioeconomic – Economic

The commenter's belief that the I-276/I-95 Interchange Project would have economic benefits to townships around Bristol Township is noted.

2 Socioeconomic (DEIS/FEIS Section IV-B)

Although the amount of right-of-way to be acquired for the I-276/I-95 Interchange Project is projected to be minimal, the Pennsylvania Turnpike Commission would be willing to work with the local townships during the design and construction phases to make excess right-of-way parcels available as joint-use property for recreational purposes.

James Westfield – Page 1/2 (Testimony Page 136)

6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

MR. WESTFIELD: My name is James Westfield, W-E-S-T-F-I-E-L-D. I'm vice president of Modern Group which is located in Bristol Township. We have, in fact, two locations in Bristol Township; one is on Route 13 at the entrance to the Pennsylvania Turnpike and the second one is located exactly at the intersection of Interstate 95 and the Pennsylvania Turnpike. So we will be directly affected by the construction of this interchange.

1 We feel that from a commercial or a business point of view, it has benefits to the neighboring townships. Obviously, if I was a resident located next to this construction, I'd be very much against it. But we will be affected directly by the construction. We will have a portion of our property taken to build a ramp from the Turnpike to what is now I-95 North which will adversely affect our business. I feel that there are a lot of negative aspects of this construction,

2 but it if is to be built, if the interchange is to be constructed, I think it's very important to channel some of the money that will be invested in this construction back into the communities that are directly affected by it.

The findings of the economic impact study for the I-276/I-95 Interchange Project indicate that local businesses will benefit very significantly from the construction process and from the operation of the Interchange. The projections in Section IV of the DEIS/FEIS and in the report, *The Value of Connections,* indicate an average of 3000 jobs per year for the multi-year construction period including 500 new jobs in the peak year of construction.

Under the governing federal and state laws and regulations, business percentage goals would be spelled out in the project design and construction contracts for minority and women business enterprises. Qualified local businesses could participate in this program, in conjunction with the "prime" consultant and construction contractors.

James Westfield – Page 2/2 (Testimony Page 137)

6/12/01 - PA TURNPIKE/I-95 INTERCHANGE PROJECT

2 I think the residential areas should be benefited by the construction of recreation areas, if possible, utilizing some of the land that already exists for the interchange. I think during the construction, money or the local businesses in the three townships that are directly affected, Bensalem Middletown, and Bristol Township, I think some of the local businesses should be given priority for equipment and/or be utilized in the construction

2 process so that the money from the building of the interchange is returned to the businesses and the communities in which this work is being done. So I would like to see some minimal percent of the project to be given to the businesses within the communities where the work will be done.

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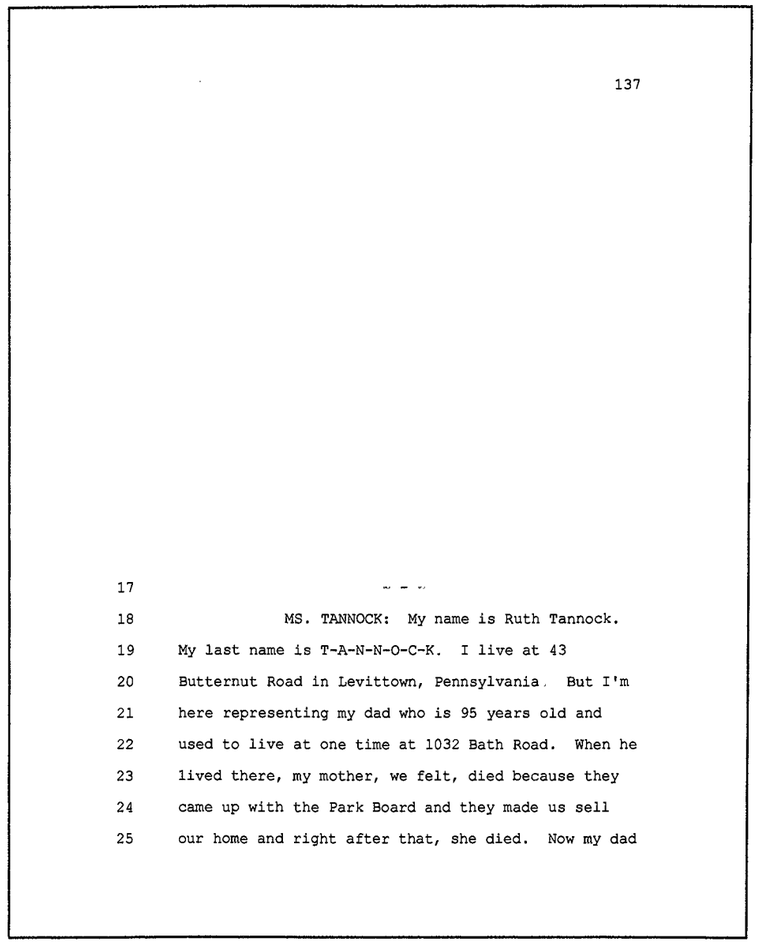
James Westfield – Page 2/2 (Testimony Page 137)

See ***James Westfield Page 1/2 (Testimony Page 136)*** On This Page For The Response To Issue **2**.

Ruth Tannock – Page 1/3 (Testimony Page 137)



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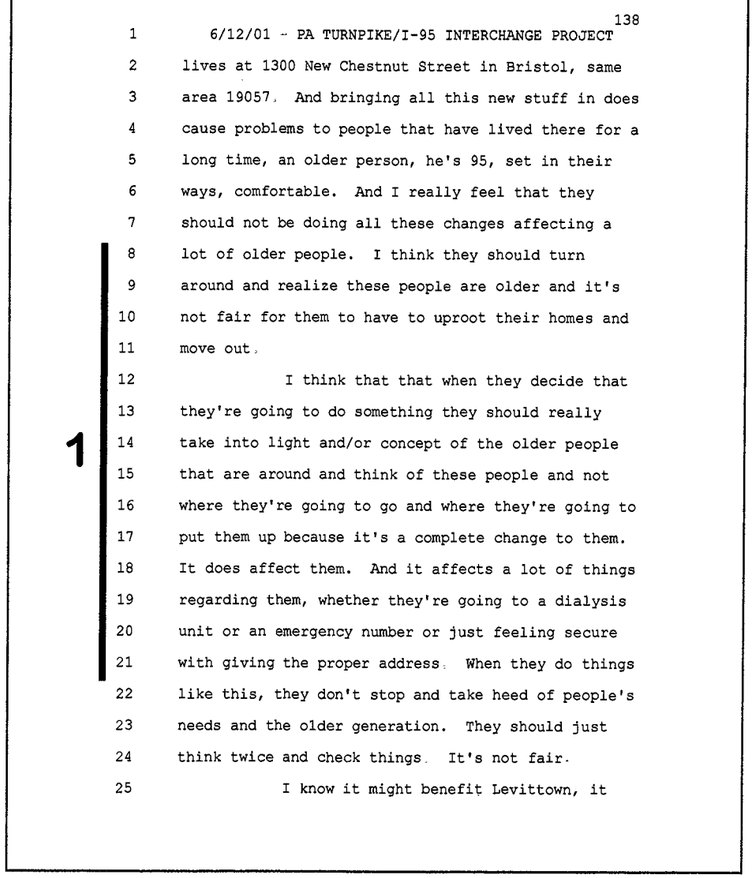
MS. TANNOCK: My name is Ruth Tannock. My last name is T-A-N-N-O-C-K. I live at 43 Butternut Road in Levittown, Pennsylvania. But I'm here representing my dad who is 95 years old and used to live at one time at 1032 Bath Road. When he lived there, my mother, we felt, died because they came up with the Park Board and they made us sell our home and right after that, she died. Now my dad

Ruth Tannock – Page 2/3 (Testimony Page 138)



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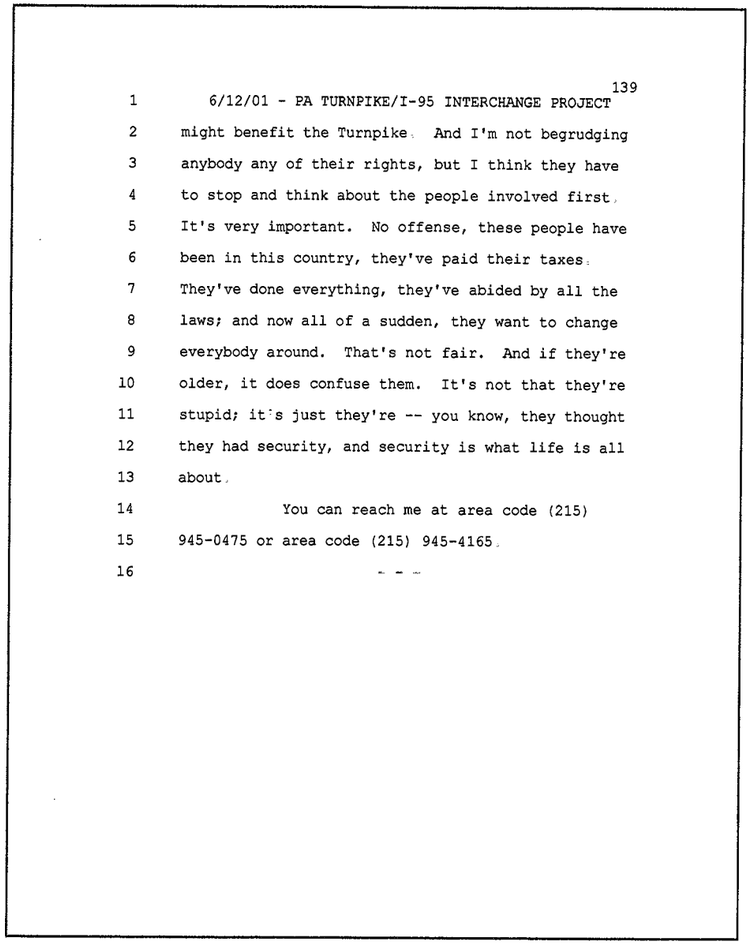
lives at 1300 New Chestnut Street in Bristol, same area 19057. And bringing all this new stuff in does cause problems to people that have lived there for a long time, an older person, he's 95, set in their ways, comfortable. And I really feel that they should not be doing all these changes affecting a lot of older people. I think they should turn around and realize these people are older and it's not fair for them to have to uproot their homes and move out.

I think that that when they decide that they're going to do something they should really take into light and/or concept of the older people that are around and think of these people and not where they're going to go and where they're going to put them up because it's a complete change to them. It does affect them. And it affects a lot of things regarding them, whether they're going to a dialysis unit or an emergency number or just feeling secure with giving the proper address. When they do things like this, they don't stop and take heed of people's needs and the older generation. They should just think twice and check things. It's not fair.

I know it might benefit Levittown, it

Ruth Tannock – Page 3/3 (Testimony Page 139)



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might benefit the Turnpike. And I'm not begrudging anybody any of their rights, but I think they have to stop and think about the people involved first. It's very important. No offense, these people have been in this country, they've paid their taxes. They've done everything, they've abided by all the laws; and now all of a sudden, they want to change everybody around. That's not fair. And if they're older, it does confuse them. It's not that they're stupid; it's just they're -- you know, they thought they had security, and security is what life is all about.

You can reach me at area code (215) 945-0475 or area code (215) 945-4165.

Ruth Tannock – Page 1/3 (Testimony Page 137)

No Issues – No Response

Ruth Tannock – Page 2/3 (Testimony Page 138)

1 Socioeconomic–Property Displacement (DEIS/FEIS Sections IV-B.3, C.3)

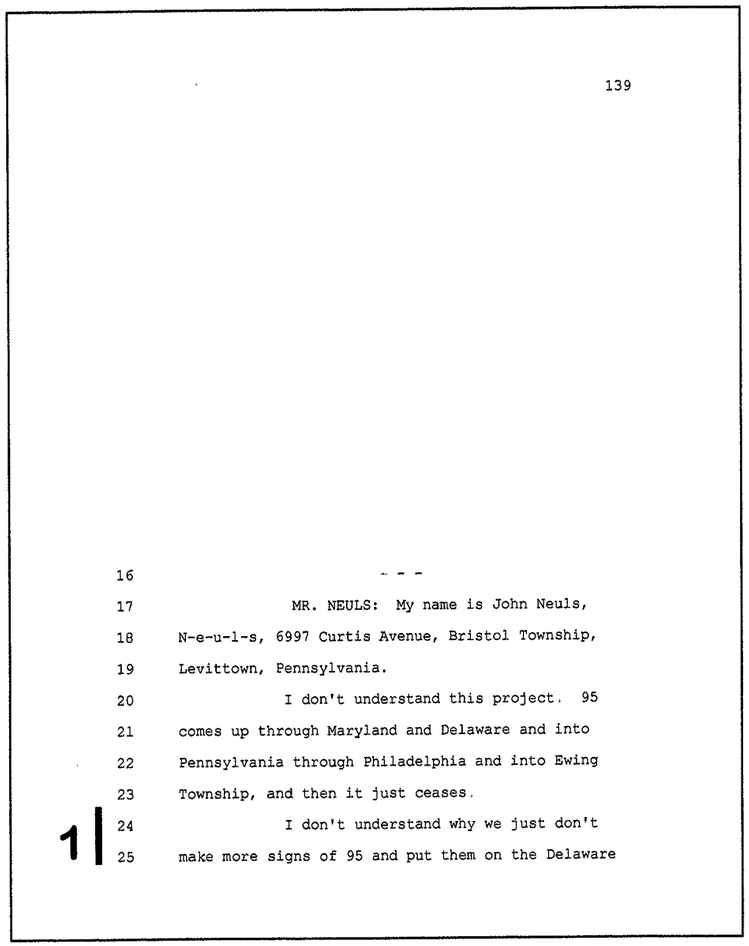
The I-276/I-95 Interchange Project will displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is quite small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls or other strategies. The procedures for property acquisition are further documented in two pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*, which were available at the Public Hearing and are currently available upon request at the Project Office. Just compensation at fair market value will be provided for displaced residents.

During Final Design, any special groups or individuals, such as the elderly or handicapped that would be displaced would be given special consideration. Replacement property would be offered to displaced persons without discrimination and would be within financial means and provide reasonable accessibility to places of employment and public services. At this time, research shows that there is sufficient replacement housing in the study area. In cases where only portions of a property would be required by the I-276/I-95 Interchange Project, monetary compensation for the portion of property would be provided to property owners in accordance with applicable regulations.

Ruth Tannock – Page 3/3 (Testimony Page 139)

No Issues – No Responses

John Neuls – Page 1/2 (Testimony Page 139)



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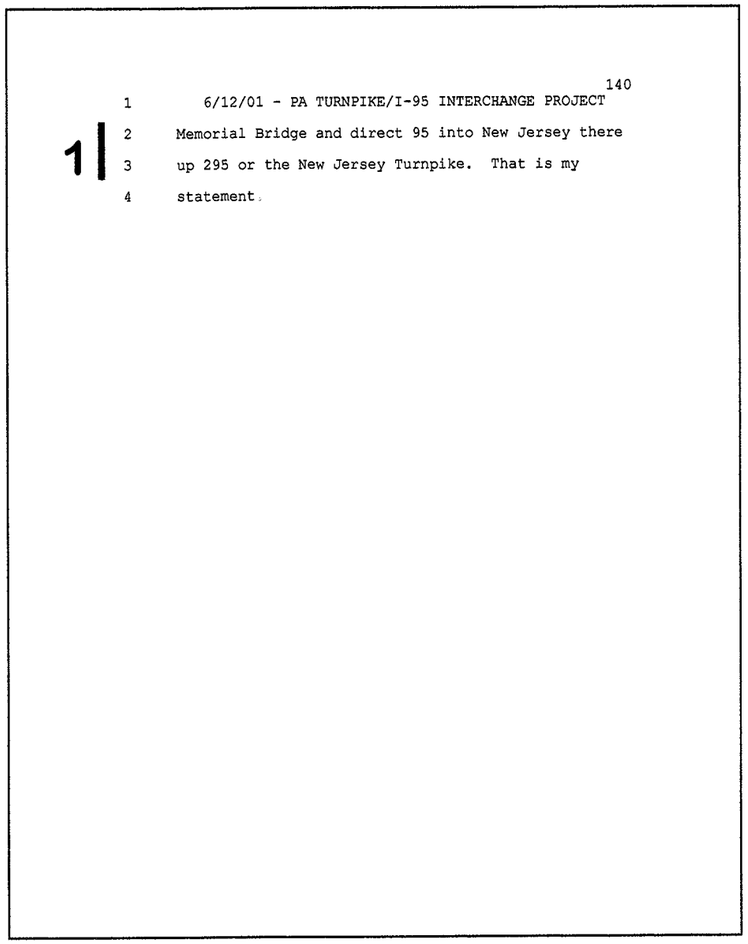
MR. NEULS: My name is John Neuls, N-e-u-l-s, 6997 Curtis Avenue, Bristol Township, Levittown, Pennsylvania.

I don't understand this project. 95 comes up through Maryland and Delaware and into Pennsylvania through Philadelphia and into Ewing Township, and then it just ceases.

I don't understand why we just don't make more signs of 95 and put them on the Delaware

1

John Neuls – Page 2/2 (Testimony Page 140)



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Memorial Bridge and direct 95 into New Jersey there up 295 or the New Jersey Turnpike. That is my statement.

1

John Neuls – Page 1/2 (Testimony Page 139)

1 Traffic and Transportation – Interstate Designation (DEIS/FEIS Section I-A)

The proposed I-276/I-95 Interchange Project is authorized by federal (Surface Transportation Assistance Act of 1982) and state (Pennsylvania Act 61 of 1985) law. Any proposal to revise the I-95 routing as described by the commenter would have to be developed by the three states involved; and Section 162 of the Surface Transportation Assistance Act would have to be amended. If such a re-routing were to take place, the need would still remain to construct an interchange between I-276 and I-95 to establish continuity of the Interstate system and serve regional traffic needs. This work is separately authorized under Pennsylvania state law.

John Neuls – Page 2/2 (Testimony Page 140)

See ***John Neuls – Page 1/2 (Testimony Page 139)*** On This Page For The Response To Issue **1**.

APPENDIX I
EXHIBITS

Marcia Spink – Page 1/3

Testimony of Marcia Spink, Associate Director for Air Programs
US Environmental Protection Agency - Region III
Joint Hearing Sponsored by the Pennsylvania Turnpike Commission and PennDOT.

Harry Truman High School - Bristol, Pennsylvania
June 12, 2001

Good afternoon. My name is Marcia Spink, and I am the Associate Director for Air Programs for the Environmental Protection Agency (EPA) Region 3. I am testifying today to address the project's impact on local air quality. A few months ago I had the pleasure of meeting with the Community Economic Impact Review Group, chaired by Garney Morris, and it is my pleasure to appear before all of you today.

The EPA reviews the region's Long Range Plan and Transportation Improvement Program, referred to as the TIP, both of which are prepared by the Delaware Valley Regional Planning Commission. The Long Range Plan projects transportation growth 20 – 25 years from now and its impact on air quality. Since this region does not currently meet the ozone standards, the these plans must demonstrate that the region's future transportation system will not interfere with the plan that has been devised by Pennsylvania DEP to the meet the ground level ozone standard by 2005 and to maintain attainment of the standard into the future. The analyses performed to show that the area's planned transportation projects do not interfere with the region's plan to attain and maintain the ozone standard are referred to as conformity determinations.

1

After reviewing the latest TIP, the EPA has agreed with its determinations and recommended that it and its projects, which include the Interchange Project, be approved by the Federal Highway Administration. On May 14, 2001 EPA received a letter dated May 8,

1

Marcia Spink – Page 2/3

2001 from the Pennsylvania Division of the Federal Highway Administration (FHWA) requesting that we review the conformity determination entitled, "Conformity of the DVRPC's Horizons, The Year 2025 Plan for the Delaware Valley." We have reviewed the conformity determination in accordance with the procedures and criteria of the federal Transportation Conformity Rule and have informed FHWA that we concur that the long range plan demonstrates conformity.

1

It is a credit to the Commonwealth, the regulated community, and the citizens of Southeastern Pennsylvania that this region is attainment for all criteria air pollutants with the exception of ground-level ozone. A criteria pollutant is one for which EPA has set a national ambient air quality standard to protect human health. The Commonwealth, EPA and all of you have been working to lower ozone levels and expect this region to reach attainment of the one-hour ozone standard by 2005. In 1988, there were approximately 60 days that exceeded ozone limits in the Philadelphia area. In recent years, that number has dropped to three to four days, and the degree to which the threshold has been exceeded has dramatically lessened. It is expected that within three to five years the Philadelphia area could be redesignated as attainment for the one-hour ozone standard. The conformity process required under the Clean Air Act, as I explained earlier, is the guarantee that growth in the transportation sector does not interfere with attainment of the health based ambient standards set for criteria air pollutants.

2

I will now turn to the subject of toxic air pollutants. While an air toxics review of this project is not mandated under the Clean Air Act, mobile sources are a significant source of air toxics. EPA does not set ambient standards for toxic air pollutants. Instead the Clean Air Act calls for a technology-based approach to reducing those emissions. In other words, to use good science and technological advances to reduce emissions. From the transportation sector, this translates into requiring cleaner vehicles and cleaner fuels. There is good news to report on that front.

3

Marcia Spink – Page 3/3

Federal regulations are already in place calling for cleaner vehicles. By model year 2004 cars, including SUV's, will have to meet tighter tailpipe standards. There is a new diesel engine rule requiring new diesel vehicles to meet tighter emission standards as well as a diesel retrofit regulation which will require older diesel vehicles engines to meet tighter emission standards. On the fuel side, by 2004, the sulfur content of gasoline sold in this country will drop, by law, from 300ppm to 50ppm bringing the US standard in line with the European standard. That cleaner fuel will be at the pumps in 2004. This will reduce the amount of air toxics generated by the burning of gasoline in motor vehicles by more than 50%. EPA has also promulgated a new federal diesel fuel rule.

In addition to reducing air toxics, these new regulations also reduce particulate matter, sulfur dioxide, carbon monoxide, and the formation of ground level ozone.

4

So long as the implementation schedule of these new regulations remains as promulgated, by the time the construction phase commences on the proposed Interchange, many of their air quality benefits will be realized, and by the time the project is scheduled to be completed, the vehicle fleet will have "turned over" such that virtually all of air quality benefits they were designed to achieve shall have been realized.

I thank you again for the opportunity to appear before you.

Marcia Spink – Page 1/3

1 Air Quality
The commenter's statements, on behalf of the US Environmental Protection Agency (USEPA), that the USEPA reviewed the conformity determination for the project area, which includes the I-276/I-95 Interchange Project, and that the USEPA concurs that the long-range plan demonstrates air quality conformity are noted.

Marcia Spink – Page 2/3

2 Air Quality (DEIS/FEIS Section IV-N)
The commenter's statements, on behalf of the USEPA, that the I-276/I-95 Interchange Project study area is in attainment for all criteria air pollutants except ground level ozone, and that this region is expected to reach attainment of the one-hour ozone standard by the year 2005 are noted.

3 Air Quality
The commenter's statement, on behalf of the USEPA, that the USEPA does not set ambient standards for air toxic pollutants but supports technological advances to reduce emissions by requiring cleaner vehicles and cleaner fuels, is noted.

Marcia Spink – Page 3/3

4 Air Quality
The commenter's statement, on behalf of the USEPA, that by the time construction of the I-276/I-95 Interchange Project begins, many of the air quality benefits from regulations to reduce particulate matter, sulfur dioxide, carbon monoxide and ground level ozone will have been realized, is noted.

Susan Herman – Page 1/5

Good afternoon.
Sue Herman, Lower Makefield Township, Bucks County

I am a representative for a regional group of concerned residents. Our group members are residents of Lower Makefield, Upper Makefield, Newtown, Wrightstown, and Northampton Townships.

1 Ladies and gentlemen, our group had an opportunity to review the Environmental Impact Statement (EIS) that has been prepared. We would like to point out a significant omission in the EIS. Our region was omitted.

2 We are not necessarily opposed to the interchange project, we are officially neutral. However, we feel that
1 the impacts of the project will reach further than the municipalities in this EIS. As residents of an affected
3 area, we have serious safety concerns regarding transportation of the stone used for construction of the project. Our position is that if this project goes through, there is another project that needs to precede it,
4 and that is the opening of Swamp Rd.

1 We are here to formally ask you to include the aforementioned townships in the EIS.

3 Our premise is that the stone will come from the four Wrightstown quarries, as the stone quarried there meets PennDOT specifications for road construction. The quarries are in close proximity to the project and it makes sense that Bucks County sources would be used, as this project, has been touted for the economic benefits it will bring to our county.

Today, on a daily basis, millions of tons of stone are transported from these quarries through our residential neighborhoods enroute to Interstate 95. The problem is that the loaded quarry trucks, weighing 80,000 pounds, cannot use the shortest route away from the quarries to get to the Newtown Bypass, which is the safest road leading to I95. The Newtown Bypass is a four-lane, limited-access, highway that was designed specifically to handle heavy commercial traffic.

Ladies and Gentlemen, I'd like to show you this map.

Orange Rte. : Newtown Bypass, Route 332
Yellow Rte. : Interstate 95
Blue Rte. : Swamp Rd. – the shortest, most direct, route from the quarries to the Newtown Bypass. Loaded quarry trucks weighing 80,000 pounds cannot use this route to get to the Bypass due to a weight restricted culvert just south of the intersection of Swamp Rd. and Worthington Mill Rd. The culvert is rated for 30,000 pounds.

Empty quarry trucks, however, use this route regularly on the return trips to the quarries.

This is the preferred route of the truckers, as it is the shortest and safest route to Interstate 95. Truckers are paid by the load. The faster a trucker makes his/her run, the more money he/she takes home.

Red Route : Swamp Rd.-Worthington Mill Rd.- 413- Stoopville Rd. – 532 – Lindenhurst Rd.

Three times longer distance to get from the quarries to the Bypass than if the Blue Rte., Swamp Rd., were taken.

Green Dots : Residential driveways that access the routes.

Susan Herman – Page 1/5

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not recommended.

2 Project Position

The commenter's neutral position to the I-276/I-95 Interchange Project is noted.

3 Construction Impacts

The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

4 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials have been held and PENNDOT and municipality-sponsored studies have been conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

Susan Herman – Page 2/5

Blue Dots : Business & Business/residential driveways that access the routes.
Black arrows: Street accesses

Yellow pins : Turns

As you can see, panel members, it is only common sense that Swamp Rd. needs to be opened up before the interchange project begins. The shortest distance between two points is a straight line. Look at this map! Here is the restricted section, and here is the route heavy trucks are now taking. We see the dangers every day in our neighborhoods – the trucks come through all hours of the day and night, six days/week. These are simply not the type of streets that this traffic should be on.

We already have a dangerous situation with the commingling of heavy trucks, cars, buses and pedestrians through our residential neighborhoods. The current unsafe condition has been publicly and repeatedly acknowledged by Representative Steil, Senator Conti, Congressman Greenwood and the local governments of the aforementioned townships.

The Interchange project will result in millions of tons of additional stone passing through our residential neighborhoods, putting the men, women and children in our neighborhoods in grave danger and unnecessarily endangering those passing through our region. It is a known fact that the greater the number of access points along a route, the greater the likelihood that a conflict will arise. If Swamp Rd. is not opened up to loaded quarry trucks below this intersection (Swamp Rd. and Worthington Mill Rd.), 80,000 pound vehicles will continue to be diverted to the Red Rte. which has 155 access points versus the Blue Rte. which has 16 access points. This is unconscionable.

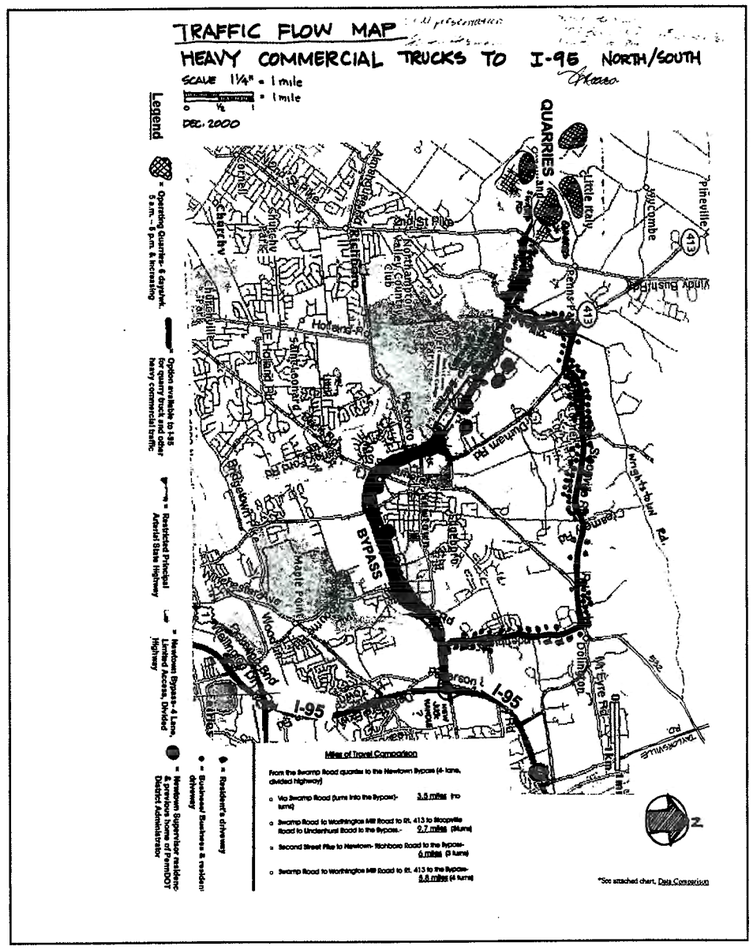
3 It is critical that Swamp Rd. be opened up to loaded quarry trucks BEFORE the Interchange Project begins.
1 Let's get the funding in place and started so before you put additional trucks on the road, these improvements are in place. We formally request that you include Lower Makefield, Upper Makefield, Newtown, Wrightstown, and Northampton Townships in the Environmental Impact Statement. Please make the safety of the residents in our region the appropriate priority.

Thank you for your time.

Susan Herman – Page 2/5

See ***Susan Herman – Page 1/5*** On This Page For The Response To Issues **3** and **1**.

Susan Herman Page 3/5



Susan Herman Page 3/5

No Issues – No Responses

Susan Herman - Page 4/5

COMPARISON OF DATA FROM WRIGHTSTOWN QUARRIES TO NEWTOWN BYPASS

ROUTE DESCRIPTION	# MILES	Col. A # TURNS	Col. B # RESIDENTS DRIVEWAYS	Col. C # BUSINESS/ BUSINESS/ RESIDENT DRIVEWAYS	Col. D # STREET ACCESSES	TOTAL # ACCESS POINTS (A+B+C+D)	COMPARISON OF ACCESS POINTS ALONG ROUTE (RATIO)
Wrightstown quarries to Newtown Bypass							
Quarries - Swamp Rd. - Bypass (New Route on map)	3.5	0	32	5	11	48	1
Quarries - Swamp Rd. - Worrington Mill Rd. - 413 - Stoopville Rd. - 532 - Lindenhurst Rd. - Bypass (Old Route on map)	9.7	6	142	9	30	187	4
Quarries - Swamp Rd. - Worrington Mill Rd. - 413 - Bypass	5.8	4					
Quarries - Second Street Pike - Newtown/Richboro Rd. - Bypass	6.0	3					

Susan Herman - Page 4/5

No Issues – No Responses

Susan Herman – Page 5/5

COMPARISON OF ACCESS POINT DATA FROM THE INTERSECTION OF SWAMP RD. AND WORTHINGTON HILL RD. DIVERTED (AT THE BYPASS)

ROUTE DESCRIPTION	TOTAL # ACCESS POINTS	COMPARISON OF ACCESS POINTS (RATIO)
Swamp Rd./Worthington Hill Rd. Intersection to Newtown Bypass	16	1
Swamp Rd./Worthington Hill Rd. Intersection - Worthington Hill Rd. - 413 - Stoopville Rd. - 532 - Lindenhurst Rd. - Bypass	155	10

Susan Herman – Page 5/5

No Issues – No Responses

Marci Conti – Page 1/5

Turnpike /I-95 Link Project June 12, 2001
Good Afternoon
Marcy Conti, Wrightstown Twp. Bucks County

- The 4 Wrightstown quarries produce millions of tons of crushed stone yearly. This stone meets the ideal PennDOT specifications for road construction.

1 • I am not opposed to the turnpike/I-95 link project. What brings me here today is the fear that the project may well make an already **perilous situation even worse.**

- As you can see on this map, the 80,000lb. stone trucks have **no direct route** to the Newtown Bypass, **ironically** a highway built for just such heavy commercial vehicles. Consequently, **hundreds of trucks a day** use the minor residential roads to get from the **Wrightstown Quarries** to I-95.

- Each one of these access points (map) and turns encountered by these heavy industrial trucks increases the likelihood that a **crash will occur**. Add the **300 ft.+ stopping distance** required by these 40-ton trucks and dozens of school bus stops to this equation and you have a **major risk of serious crashes.**

- The commingling of this high volume of heavy truck traffic with school buses and cars, coupled with the magnitude of access points puts the **men, women and children of our community in grave danger.**

- There is undeniable data indicating that the safest place for heavy truck traffic is a limited access divided highway. No bus stops, no driveways. According to The Institute of Transportation Engineers, **"Control of access is among the most influential geometric aspects affecting crash frequency on the highway system."**

Marci Conti – Page 2/5

2 • Swamp Road, the shortest and most direct route for the loaded quarry trucks to the Newtown Bypass, is **restricted for heavy trucks.**

2 • The Turnpike/I-95 link project could mean millions of tons of additional stone being transported on our minor residential roads.

3 • It is critical that Swamp Road be open to the loaded Swamp Road Quarry trucks before the I-95/ turnpike link project proceeds. It is the **shortest route** to the **safest road.**

4 • I **urge** you to consider the safety of our families and include, Wrightstown, Newtown, Lower Makefield, Upper Makefield and Northampton Townships in the Environmental Impact Statement.

Thank you, ladies and gentlemen, for the opportunity to convey this **serious safety concern.**

~~Do you have any questions?~~

Marci Conti – Page 1/5

1 Project Position

The commenter's neutral position to the I-276/I-95 Interchange Project is noted.

Marci Conti – Page 2/5

2 Construction Impacts

The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

3 Swamp Road Improvements

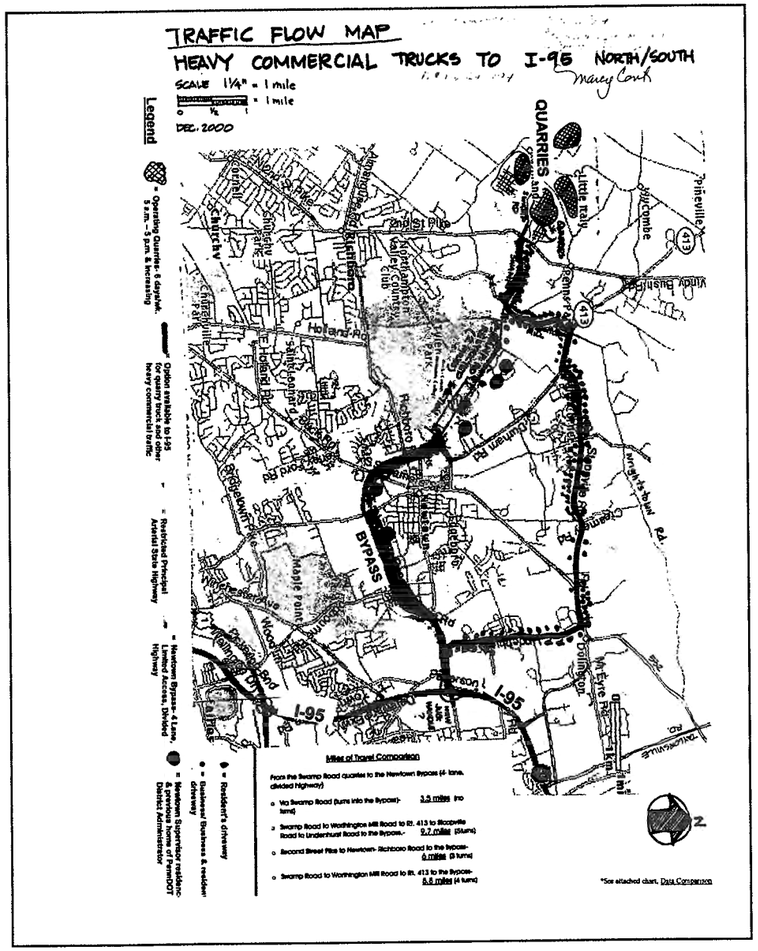
The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials have been held and PENNDOT and municipality-sponsored studies have been conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

4 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not recommended.

Marci Conti – 3/5



Marci Conti – 3/5

No Issues – No Responses

Marci Conti – Page 4/5

COMPARISON OF DATA FROM WRIGHTSTOWN QUARRIES TO NEWTOWN BYPASS

	Col. A	Col. B	Col. C	Col. D	
ROUTE DESCRIPTION	# MILES Quarries to Newtown Bypass	# TURNS	# RESIDENCE DRIVEWAYS	# BUSINESS & BUSINESS/RESIDENTIAL DRIVEWAYS	# STREET ACCESSES	TOTAL # ACCESS POINTS (A+B+C+D)	COMPARISON OF ACCESS POINTS ALONG ROUTE (RATIO)
Wrightstown quarries to Newtown Bypass							
Quarries - Swamp Rd. - Bypass (Use Route on map)	3.5	0	32	5	11	48	1
Quarries - Swamp Rd. - Washington Hill Rd. - 413 - Stoopville Rd. - S32 - Lindenhurst Rd. - Bypass (Red Route on map)	9.7	6	142	9	30	187	4
Quarries - Swamp Rd. - Washington Hill Rd. - 413 - Bypass	5.8	4					
Quarries - Second Street Pike - Newtown/Richboro Rd. - Bypass	6.0	3					

Marci Conti – Page 4/5

No Issues – No Responses

Marci Conti – Page 5/5

COMPARISON OF ACCESS POINT DATA FROM THE POINT WHERE TRUCKS ARE DIVERTED (AT THE INTERSECTION OF SWAMP RD. AND WASHINGTON HILL RD.)

ROUTE DESCRIPTION	TOTAL # ACCESS POINTS	COMPARISON OF ACCESS POINTS (RATIO)
Swamp Rd./Washington Hill Rd. intersection to Newtown Bypass		
Swamp Rd./Washington Hill Rd. intersection - Swamp Rd. - Bypass	16	1
Swamp Rd./Washington Hill Rd. - Washington Hill Rd. intersection - Washington Hill Rd. - 413 - Stoopville Rd. - S32 - Lindenhurst Rd. - Bypass	155	10

Marci Conti – Page 5/5

No Issues – No Responses

Michael Conner – Page 1/2

Good Afternoon!

Thank you for allowing us to come before you today on behalf of the Lower Bucks County Chamber of Commerce. We represent an organization consisting of over 1500 members dedicated to the success of business in the Lower Bucks area. One of the most important roles a chamber of commerce can play is to represent its members with one voice on important issues facing business. Transportation is one area in which our Chamber has been particularly involved for quite some time. Our Transportation Committee, which consists of leaders from the private and public sectors, has been in existence for nearly 40 years and has a long history of supporting projects that benefit the economic climate of this area.

For example, several years ago the Chamber supported an increase in the Pennsylvania gas tax to ensure that Bucks County would receive a greater amount of funding for road improvements. Since that tax was enacted, Bucks County has received its fair share of funding and there has been a tremendous improvement in our highway system.

The Chamber also lobbied for the new SEPTA bus routes to be implemented in Lower Bucks and we were also one of the first groups to support the construction of an exit ramp from I-95 South to Route 413. That position was adopted in 1973, and though it took 26 years for the ramp to finally be constructed, this project has made the entire area much more accessible to interstate traffic.

Now, we are considering the construction of a connection between two superhighways that would have a great impact on our local and regional economy. The Chamber has participated in discussions on the proposed I-95/Turnpike interchange for over 10 years and has studied the effects of this project on the immediate and surrounding communities. We have met with representatives from the Pennsylvania Economy League, who conducted the economic impact study, as well as representatives from the Turnpike Commission and KCI Technologies. The Chamber has also been pleased to host most of the meetings for the Community Economic Impact Review Group.

Michael Conner – Page 1/2

No Issues – No Responses

Michael Conner – Page 2/2

Our position was developed by a special task force consisting of members from the Transportation, Economic Development and Legislative Action Committees. Bill Brady, of PECO Energy and chair of our Transportation Committee, chaired the task force.

The PEL study points to significant economic benefits for Lower Bucks County and the surrounding region if this project is built. These benefits include an average of 300 jobs that will be generated for in Bucks County and an average of 500 jobs that will be generated for the region during construction. Business sales in Bucks County during construction would be $415 million and $630 million for the overall region. Travel cost savings resulting from the interchange are expected to produce 1200 regional jobs by 2025 with 178 of those jobs in Bucks County. The completed project will result in 2700 new jobs in Bucks County by 2025 and $375 million in business sales over that same period.

1 As a result of these conslusions, the Board of Directors unanimously support the proposed interchange between the Pennsylvania Turnpike and Interstate 95. This position is based upon the anticipated economic benefits of the project and the continued and demonstrated cooperation of the Pennsylvania Turnpike Commission with local elected officials in addressing the concerns of the affected community.

At the time the Board adopted this position last November, I stated that "the Chamber is proud to continue its tradition of supporting projects that enhance economic development within our community. It is also reassuring to see willingness on the part of the Pennsylvania Turnpike Commission, to work with the community in addressing the local issues that may develop. The Chamber took this position only after taking into consideration the concerns of the local communities that are most affected"

Thank you very much for your time and for hearing our opinion on this important issue.

Michael Conner – Page 2/2

1 Project Position

The Lower Bucks Chamber of Commerce Board of Directors' unanimous support for the I-276/I-95 Interchange Project is noted.

Joseph W. Mahoney, Jr. – Page 1/4

GREATER PHILADELPHIA CHAMBER OF COMMERCE
The Region's Business Partner

200 South Broad Street, Suite 700 Philadelphia, PA 19102-3896
Phone: 215-545-1234 Fax: 215-790-3600 http://www.gpcc.com

Testimony Of

Joseph W. Mahoney, Jr.
Senior Vice President

Public Hearing On
I-95/PA. Turnpike Commission

June 12, 2001

Truman High School

Joseph W. Mahoney, Jr. – Page 1/4

No Issues – No Responses

Joseph W. Mahoney, Jr. – Page 2/4

I-95/Pa. Turnpike Connection

1 Good evening. My name is Joe Mahoney and I am Senior Vice President at the Greater Philadelphia Chamber of Commerce. I am pleased to be here tonight to support the proposal for a connection between the Pennsylvania Turnpike and I-95.

The Greater Philadelphia Chamber of Commerce is the largest Chamber in the Commonwealth with some 6300 members. We have long been interested in transportation and methods of moving goods and services more efficiently. Recently we undertook a project to look at the effect of traffic congestion on our region and the results were disturbing. The Texas Transportation Institute has estimated that the amount of time drivers in the Philadelphia region spend in their cars due to congestion was 26 hours in 1999, up from 8 hours in 1982. This 26 hours cost an average of $435.

2 In an all-perfect world all would agree that a good solution would be to expand the capacity of the highway system so that the volumes could move more efficiently. This proposed connection would allow us to create a more efficient link between these two major highways thereby allowing for a more direct and efficient way to move traffic. The economic impact that was outlined in your documentation makes a compelling case for building the interchange. The projections alone for travel cost savings in both Vehicle Miles Traveled (166,603) and Vehicle Hours Traveled (10,068) demonstrate the efficiencies that we can expect when the exchange is completed. The resulting economic benefits range from $5.9 million in 2010 to $38.7 million in 2025 with household out of pocket savings going from $1.4 million to $11.6 million in the same timeframe.

The economic impact study has also pointed out the increases in property value when highway interchanges are developed. The case citing the example of West Conshohocken was extremely

Joseph W. Mahoney, Jr. – Page 3/4

gratifying. Prior to coming to the Chamber, I worked for a Member of Congress who brought the highway dollars and other federal funds to the redevelopment efforts in West Conshohocken. Experience tells me that the same kind of situation can exist in Bucks County.

2 In addition to construction opportunities, employment opportunities, particularly in the service sector and retail trade business will abound in lower Bucks County affording local residents increased employment choices close to their homes. Close-to-home employment is becoming more enticing particularly as it relates to work hour flexibility and child care arrangements for single parent families as well as two income families.

2 The increase in commercial property will have a positive impact on local property taxes paid by resident homeowners as well as help to pay for school and government services, all quality of life issues.

The economic analysis also purports that additional tourism spending in Bucks County could be in the range of $3.7 million/year and regional spending would increase by almost $13 million/year by 2025 as a direct result of increased visits to the improved interchange.

We recognize that there will be some dislocation of businesses and residents caused by this project. We are pleased that these will be kept to a minimum. And although air quality is not expected to be adversely affected, sound barriers will be erected to mitigate any increase in traffic noise.

Finally, it should be noted that this is a federally funded project under the National Interstate Highway System therefore these funds must be used for Interstate System Completion projects and cannot be shifted to other uses.

Joseph W. Mahoney, Jr. – Page 4/4

1 In short, this interchange is good for the region. It has our wholehearted support. Thank you for this opportunity to present the Chamber's opinion.

Joseph W. Mahoney, Jr. – Page 2/4

1 Project Position

The commenter's support for the I-276/I-95 Interchange Project is noted.

2 Traffic and Transportation (DEIS/FEIS Section IV-A) / Socioeconomic – Economic (DEIS/FEIS Section IV-C)

The commenter's agreement with the findings presented in the DEIS that the I-276/I-95 Interchange Project will result in traffic and economic benefits is noted.

Joseph W. Mahoney, Jr. – Page 3/4

See ***Joseph W. Mahoney, Jr. – Page 2/4*** On This Page for Response to Issue **2.**

Joseph W. Mahoney, Jr. – Page 4/4

See ***Joseph W. Mahoney, Jr. – Page 2/4*** On This Page for Response to Issue **1.**

Karen Friedman – Page 1/2

ORAL PRESENTATION

KAREN A. FRIEDMAN
204 N SILVERWOOD DR.
NEWTOWN PA 18940
(215) 504-4335

Representing residents from Lower Makefield Township who live along a Quarry Truck Route

1 After reviewing the Executive Summary regarding the DEIS for the Turnpike Interchange Project, I found that there is no reference to an inclusive impact study being done with the regard to the neighborhoods involved where the stone needed to build this project is going to be passing through.

2 It would be irresponsible and negligent not to consider and carefully evaluate the impact that the movement of stone via Quarry Trucks through our neighborhoods will have on our safety and the quality of the human environment.

There is an existing danger already associated with the Quarry Trucks that use our minor collector roads, which are highly residentially populated, as throughways to get to I95.

The magnitude of this proposed project is immense. The millions of tons of stone that will be necessary to build the Bridge & The Toll Plaza or Interchange and the numerous additional roads will result in escalating the level of danger our neighborhoods already experience as passenger cars have to interact with very numerous, fully loaded, Quarry Trucks. This poses a grave and unacceptable threat to our environment as a whole.

Karen Friedman – Page 1/2

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not recommended.

2 Construction Impacts

The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

Karen Friedman – Page 2/2

1 I appeal to you to address this matter seriously and conscientiously by including me in the Environmental Impact Statement and by providing the shortest route to the Newtown By-Pass.

2 The study is flawed and incomplete if it does not address this issue of how to supply transport these building supplies without causing devastation to our neighborhoods and road systems. This needs to be examined and resolved – Not Ignored – prior to the onset of this project.

Thank you.

Respectfully,

Karen A. Friedman

Karen Friedman – Page 2/2

See ***Karen Friedman – Page1/2*** On This Page for Responses to Issues **1** and **2**.

Robert Leone – Page 1/9

ROBERT LEONE

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA TURNPIKE COMMISSION
HARRISBURG 17105

JOHN L. SOKOL, JR., P.E.
EXECUTIVE DIRECTOR

February 22, 1993

Mr. Robert J. Leone, President
Newportville-Fergusonville Civic Association
3909 Pine Avenue
Newportville, Pennsylvania 19056

Dear Mr. Leone:

Thank you for your letter of January 25, 1993, regarding the proposed interchange between I-95 and the Turnpike. The studies recently initiated will take approximately three years and will include a Needs Study, Preliminary Engineering, and an Environmental Impact Statement (EIS). These studies will evaluate the following possibilities: e direct interchange, widening of I-95 and the Turnpike, improvements to the Delaware River Bridge crossing, and toll collection modifications.

The Turnpike Commission is the lead agency for this project in conjunction with the Federal Highway Administration (FHWA) and the Department of Transportation (PennDOT). Close coordination with the New Jersey transportation agencies is also required.

Your letter references a meating where admittance from your group was denied as well as a copy of the minutes. The Pennsylvania Right-to-Know Act specifically applies to the Commission. In accordance with this Act, working meetings of the Commission staff, agencies, or consultants are not public meetings. The Sunshine Law or any other law of Pennsylvania does not provide public access to these meetings. The preliminary design/EIS process clearly provides for multiple opportunities for public participation and input.

KCI Technologies, Inc., is the consultant performing the studies for this project. In baing selected for this project, KCI was raquired to open an office in the project area. Their office is now open and located at 3220 Tillman Drive, Suite 215, Bensalem, Pa. (Phone · 244-4444). The purpose of this office is to provide a presence to the public for information on the project after it is properly developed and to receive input. Information available at their office includes a project video, newsletter, and displays of the project area. KCI's staff will be pleased to try to answer any questions that you may have. This is the earliest in project davelopment that the Commission has opened a project office accessible to the public.

There is an extensive public involvement program for this project by having a local office, newsletters, and the public meetings to be held. In addition, special interest group meetings can be held to update groups such as yours on a periodic basis. KCI has attended some of your meetings in the past and can continue to do so.

Robert Leone – Page 1/9

No Issues – No Responses

Robert Leone – Page 2/9

Mr. Robert J. Leone, President
February 22, 1993
Page Two

In regard to your request to have access to all information concerning this project, a "public record" file is available for review by appointment at the Commission's office. This file includes information after it has been properly developed to its acceptable form.

Hopefully, this addresses your concerns for this project. Your interest is appreciated.

Sincerely,

John L. Sokol, Jr.
Executive Director

JLS/JCD/gr

Robert Leone – Page 2/9

No Issues – No Responses

Robert Leone – Page 3/9

ROBERT LEONE

KCI TECHNOLOGIES

3220 Tillman Drive
Suite 215
Bensalem, PA 19020-2063
(215) 244-4444

Fax Number
(215) 244-4597

April 21, 1993

Mr. Robert J. Leone, President
Newportville-Fergusonville Civic Association
3909 Pine Avenue
Newportville, Pennsylvania 19056

Dear Mr. Leone:

KCI Technologies has received your letter dated March 29, 1993 to Mr. Jim Policaro of our Bensalem, PA office. In response to this letter, KCI has consulted with the Pennsylvania Turnpike Commission regarding your request for attendance and minutes of all project related meetings as well as results of the February Public Workshops.

In reference to attendance to working meetings between the PTC and KCI Team, the PTC has not changed its position as stated in the February 22, 1993 letter from Mr. John L. Sokol to yourself. As referenced in this letter, the Turnpike Commission states that working meetings of the Commission's staff, agencies, or consultants are not public meetings. The Sunshine Law or any other law of Pennsylvania does not provide public access to these meetings.

The KCI Technologies office in Bensalem is open to the public to provide information and receive input as part of the preliminary design/EIS process. Also, as part of the public involvement program for this project the KCI Team has attended the NFCA monthly meetings on a regular basis since January 1993, and will continue to do so. The purpose of the Team's attendance at these meetings will be to provide project progress as the Needs Study, Preliminary Engineering, and EIS Phases of the project develop.

In reference to your request for information regarding the February Public Workshops, KCI has been receiving comment form responses continually throughout the months of February and March. Thus, in order for the Team to provide a complete summary of all citizen's concerns, the results of the workshops have not been completed until this time. The KCI Team will present a summary of the workshops at the April 26, 1993 NFCA meeting.

Again, thank you for your continued interest in this project. Please call myself at (717) 691-1340 or the Bensalem, PA office at (215) 244-4444 if you have any further questions or comments.

Very truly yours,

Barry J. Schoch, P.E.
Project Manager

Encl.

cc: Jeff Davis - PTC
Tim O'Brien - PennDOT
Carmine Fiscina - FHWA
William Fusatti - Baker
Greg Lebo - KCI
Lydia Hill - KCI
Sue Gibbons - KF&S
Jeff Guzy - Greiner
Robert Pogyor - RLP

KCI TECHNOLOGIES, INC
ENGINEERS and PLANNERS

Robert Leone – Page 3/9

No Issues – No Responses

Robert Leone – Page 4/9

Robert Leone

GEORGE SENGPIEL & ASSOCIATES, INC.
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*STATE CERTIFIED – GENERAL
† STATE CERTIFIED – RESIDENTIAL

April 7, 2000

Mr. Alex Udowenko
State Representative Gene DiGirolamo
2416 Bristol Road
Bensalem, PA 19020

RE: I95/Turnpike Connection Project

Dear Alex:

This is a follow up to our conversation last week whereby you were seeking some input with regard to the referenced project. One item that you expressed on behalf of Gene was the lack of consideration of the impact on the community from the loss of property value. I have the following thoughts and comments which may be of assistance to you when you sit down with the economic impact study authors.

Depending on the final road configuration selection, the exact number of takings may not be finalized. I assume that there may be between 10 - 20 fee takings of property for the land underneath the road, and perhaps another 20 or more partial takings for properties which are only partially affected. In less technical terms, a fee taking is the entire land and dwelling, a partial taking involves only a strip of land or an irregular section like a corner or a triangular cut out.

Real estate damages are relatively easy to calculate when looking at a fee taking, they simply are the fair market value of the property as if the project never existed. Those homeowners will receive full compensation (assuming the Commission uses qualified and capable appraisers). I do not know what type of moving assistance is offered, and what time length owners will be given to move. Adequate provisions should be part of the taking offer to provide for professional moving services and also to cover settlement costs on the new residence. This type of transaction should be a cost-neutral to the affected homeowner as possible.

In this case, the economic impact to the community would be the loss of tax assessment and tax revenue. Harder to measure, but what might be a factor is the loss of citizens who may choose to move out of the Township and thereby offer their services and talents to other organizations or municipalities. While this may be somewhat arbitrary, one must remember that some households may have spent their whole lives in Newportville and are the very reason why communities remain solid and stable. Clearly a

Robert Leone – Page 5/9

Mr. Alex Udowenko
State Representative Gene DiGirolamo
Page 2

transient neighborhood is not conducive to stable property values, and may lack some of the desirable moral fiber that gives an area its good reputation.

Partial takings are a large part of the condemnation process, and leave the homeowner with the widest margin of error. Appraising partial takings is both an art and science. There are many appraisers who simply do not understand the process and provide misleading results, others will be on the lam and give figures that their attorney would like to extract the highest compensation (and contingency fees) from the condemner. What happens in this scenario is that the scars from the negotiation process run deep and are lasting, and tend to institutionalize a general mistrust of government. Moreover, the properties which are affected on a partial basis, remain so for the rest of their existence.

For example, a house may loose only 5' of frontage to the takings, and suppose both parties reach an acceptable compensation agreement. That homeowner (or property) remains negatively affected by the new highway now and forever. This results in lower property values, which results in lower assessments, and lower taxes. Also the quality of life in that neighborhood is negatively affected by introducing noise, litter and other undesirables, and future buyers would be less inclined to move there. Traffic and commuting patterns within the neighborhood would change, which could alter friendships, relationships and community spirit. Where once a community was cohesive, now becomes divided. Lower community spirit may result in less of a reason for someone to move there, which could send a neighborhood into a downward spiral.

I realize that some of the above comments could be construed as arbitrary and subjective. The problem is that simply offering compensation to those owners whose properties are touched by the road project does not incorporate all of the potential negative impacts. What about the house which is 75' away from the roadway (but not touched by any taking). Is it not negatively affected? Is its value reduced? The answer is yes, yet they are not offered compensation (and by law can't) and they too suffer.

In our opinion an economic impact study should look at the loss in tax revenues, the altering of a neighborhood and its characteristics with a specific focus of how that might change real estate values. It should consider the influence of the highway on not only those homes directly affected, but also those in the long shadow of the potential damages, and how that might affect the citizens lifestyles, real estate tax assessment, equity and quality of life. Remember that houses tend to be the single largest savings for a family, and if its value is reduced, then they may loose a part of their retirement, savings or personal wealth that is not replaced. This also affects more residents that those that are offered compensation.

Certainly many parts of an economic impact analysis are subjective, any forward looking projection can be called that. An expert can lay down some foundations with regard to evaluating real estate damages, and then through a logical thought process derive a net loss to the community in terms of real estate value, personal wealth and civic (or community) changes in lifestyle, personnel or cohesiveness. To ignore the impact on the neighborhood is to ignore those that would be most directly affected.

Robert Leone – Page 6/9

Mr. Alex Udowenko
State Representative Gene DiGirolamo
Page 3

I hope that these comments provide some insight into other factors that may affect the soundness of the decision making process. Please contact me if you need any additional information.

Sincerely,

George R. Sengpiel, MAI, SRA

GRS/lam

Robert Leone – Page 4/9

No Issues – No Responses

Robert Leone – Page 5/9

No Issues – No Responses

Robert Leone – Page 6/9

No Issues – No Responses

Robert Leone – Page 7/9

Community Involvement Robert Leone

The Team views the successful involvement of the local community to be as important as the development of a good working relationship with the various approval agencies. Just as the agencies have the power to stop or delay a project which they oppose, the public through its political power has the ability to obstruct approval or funding of projects which are perceived to negatively impact vocal community groups.

Our initial judgement is that the Pennsylvania Turnpike/I-95 Interchange project will have broad support from a wide range of public groups, both business and residential in the wider geographic area and in the general study area. However, as in all public improvement projects there are certain communities which, because of their location in relation to the improvements, will be more directly impacted and will potentially oppose the project. In this case we see four groups whose needs and concerns have to be carefully addressed because of their particular relationship to the project area.

a) Both businesses and residences exist within the area under consideration for the construction of the interchange. Some of these businesses and homes will require relocation while others will remain but will be in close proximity to the new access ramps.

b) A series of relatively recent residential developments have been built close to the turnpike. Residents within these communities will be concerned about noise, visual impact and air quality resulting from a widening of the Turnpike from four to six lanes.

c) Businesses located along Routes 413 and 13 who have the perception that they derive some of their existing business from drive-by customers will be concerned with the loss of traffic associated with a direct connection between the Turnpike and I-95.

d) There is an older established residential community along the banks of the Delaware River on both sides of the existing Delaware River Bridge abutments. Though they are close to the highway, because it is elevated so far above the community, this is a quiet and peaceful enclave. Several of the homes have potential for listing on the National Register of Historic Places, and the area may well be eligible as a Historic District. Apart from the concerns associated with the historic nature of the community, construction of a parallel bridge structure will be of major significance to the local residents.

All of these groups will, to some extent have their own unique concerns and will need to be dealt with individually. To deal with this, the Team will assume twenty special group meetings will be held. These meetings will be attended by key staff involved in the project supported by all required graphics.

The Team has developed an approach which involves the public early, educates them in the process as the project is developed, and builds broad support for the project as the number of alternatives is reduced to one recommended solution. This process serves to isolate small but vocal minorities who oppose a project and can sometimes generate enough momentum to stop a project which would otherwise have broad based support.

Robert Leone – Page 8/9

In applying this process to the I-95/Pennsylvania Turnpike project we will:

. search out and identify the whole affected public – not just deal with those who happen to attend early public meetings. We will be proactive and will identify and meet with all the likely opponents and supporters. These groups will be identified by interviewing all the local elected officials and the public agency staff members who deal with members of the public on a day-to-day basis.

. as the need for the project is developed in engineering terms, using measures of congestion and inadequate capacity, address need from the point of view of the public. If the public does not perceive a "need" for the project, any impacts will be too costly to bear in relation to the benefits derived from the solution.

. include alternatives which members of the public favor in the evaluation process. At the outset most local people will not understand the limitations placed on the alternatives by various regulations and design standards. Locally favored solutions need to be evaluated in the same terms as engineering generated solutions, so that people understand why they cannot be constructed. While someone has in mind a favorite solution which has not been fairly evaluated he will not be ready to endorse an alternative which is more feasible from an engineering and environmental approval standpoint.

. provide the public with information about the process so that they become informed enough to understand why certain alternatives are favored. Alternatives should not be dropped from consideration until people understand why they need to be eliminated.

. as it becomes apparent which solution or solutions are most likely, begin working with impacted individuals on mitigation measures.

. avoid affected individuals from developing a broader constituency of supporters who are not themselves adversely affected. This is only possible if we develop broad based support from people who feel they have a stake in the project as it progresses.

Essentials elements of this process include:

. early and regular meetings with public officials to identify the full public, and to keep these officials who are often the point of contact for concerned citizens up to date with progress on the project.

. a series of interactive workshops which are organized in such a way that people come away feeling that their concerns have been heard and will be addressed.

. a Public Hearing which takes place after closure has been reached on the large majority of concerns.

. a well developed mailing list, which is constantly updated.

. regular newsletters, mailed out to all who express interest in receiving them, which are informative about the process, easy to read and non-technical. It is assumed six mailings will be required.

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PROTEST RALLY

AGAINST THE

PA. TURNPIKE / I-95 INTERCHANGE PROJECT

TUESDAY JUNE 12, 2001 6:30 PM (sharp)
TRUMAN HIGH SCHOOL (outside)
GREEN LA. & MILL CREEK RD.
LEVITTOWN, PA.

- **THIS PROJECT WILL LOWER THE VALUE OF YOUR PROPERTY!**
- **THIS PROJECT WILL ADVERSELY AFFECT THE AIR QUALITY OF LOWER BUCKS!**
- **12 YEARS OF TRAFFIC CONGESTION DURING CONSTRUCTION!**
- **VETERANS BENEFITS ARE BEING CUT TO FUND THIS PROJECT!**
- **THIS PROJECT WAS DUMPED INTO LOWER BUCKS BY NEW JERSEY!**

A FORMAL PUBLIC HEARING IS SCHEDULED FOR JUNE 12 AT TRUMAN. THIS WILL BE YOUR LAST CHANCE TO BE HEARD. UNITED WE CAN STOP THIS PROJECT. THE SO-CALLED I-95 "MISSING LINK" IS NOT MISSING. I-295 & I-195 ARE COMPLETE IN N.J. THEY JUST HAVE TO BE DESIGNATED AS I-95 AND ITS OVER. WE NEED YOU AT THIS RALLY!

FOR MORE INFO: ROBERT LEONE 215-788-5341

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No Issues – No Responses

Richard Tonge – Page 1/2

R. Richard Tonge
10 Primrose Court
Newtown, PA 18940
215-579-1228

Oral Presentation
R. Richard Tonge

I appreciate the opportunity to address this committee regarding the Environmental Impact of the proposed direct connection between I-276 (PA Turnpike) and I-95 in Lower Bucks County. I have read the Draft "Executive Summary" and I believe that the study area for the project is too limited. I believe that you should further study the direct impact the construction of this project will have on our neighborhoods in Newtown, Wrightstown, Upper Makefield, Lower Makefield and Northampton Townships. The present study area presently covers an elliptical area bounded by the intersection of I-276 and Rt 132 on the West and the intersection of I-276 and the NJ Turnpike on the East. However, I believe that the construction of this project will have a major impact on townships further north, which will be the major source of construction materials for the project.

1

1

The main source of crushed stone for this project will come from the quarries that are located in Wrightstown Township and the routes that the loaded quarry trucks will take is directly through residential neighborhoods in the direct path to I-95 where they will deliver their product at the site of this project. At the present time we have a very dangerous situation with loaded quarry trucks passing through these neighborhoods delivering crushed stone to points further south, and the demand for millions of tons of additional crushed stone will only exacerbate this already intolerable situation. At the present time there are four routes that a quarry truck can take between their source of material at the quarry site and I-95 and they all run through residential neighborhoods. They are:

2

- Stoopville/Lindenhurst Roads-through Wrightstown, Newtown and both Upper & Lower Makefield Townships
- Durham Road (Rt 413)-through Wrightstown and Newtown Townships
- Newtown/Richboro Road-through Wrightstown, Northampton & Newtown Townships
- Swamp Road-through Wrightstown & Newtown Townships

All of these routes eventually dump onto the Newtown Bypass, a major 4-lane highway, on the way to I-95 at Exit 49 (formally exit 30). It should also be pointed out that these routes are the major routes for the buses that take our children to school in the morning just as the gravel trucks are making their way to and from the quarries. For instance, in a recent PENNDOT traffic study, between 6-9 AM, Lindenhurst Road had 27 school buses and 95 trucks-38 of which were gravel trucks carrying crushed stone to I-95. Trucks and school buses don't mix very well, especially when the direct compensation of the truck driver is dependent on how fast he can deliver the goods.

2

I believe that it is the duty of this body to study the impact the construction of this project will have on our neighborhoods, as millions of tons of crushed stone to-be-delivered will be added to this already dangerous mix.

Fortunately there is a partial solution to this dilemma. As you know, since trucks pay highway taxes, they cannot be restricted from using state roads. However, we have a situation near the entrance to the quarries in Wrightstown that artificially restricts southbound truck traffic form using the shortest route to the Newtown Bypass. I am referring to a weight-restricted culvert along Swamp Road that forces the trucks to divert to the other 3 routes. I, and several others from a neighborhood group met with Congressman Greenwood last summer in an effort to get the culvert repaired so some of the southbound truck flow could be spread more evenly and allow the driver to take the shortest and most direct route to his destination-the Newtown Bypass. By opening Swamp Road to southbound truck traffic, the driver could not only save over 3 miles from his trip, but would avoid over 100 intersections that they would encounter along the other routes. Congressman Greenwood met with Andrew Warren of PENNDOT and they both agreed that...(Quote) "the

Richard Tonge – Page1/2

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not recommended.

2 Construction Impacts

The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

Richard Tonge – Page 2/2

culvert should not be artificially restricted, nor repairs delayed for the purpose of keeping these vehicles (meaning trucks) off Swamp Road". This was stated in a letter dated July 31, 2000 from the Congressman. So far our efforts to expedite the repair of the culvert have been to no avail even though Mr. Warren agreed with Congressman Greenwood that there should be no artificial restriction to the free flow of truck traffic along Swamp Road. Further, in the PENNDOT study that I mentioned, PENNDOT concluded that...(Quote) "Based on the criteria examined in this study, including an accident analysis, geometric review, speed study, and traffic counts, the criteria for establishing a truck restriction for Swamp Road is not met". This study was conducted in February 2000, yet there has been no movement toward getting this culvert repaired. I believe that your Environmental Impact study should also take a look at this situation as well and put whatever pressure you may have on the politicians and bureaucrats and get this culvert repaired or we will have a disaster on our hands should one of those gravel trucks collide with one of the school buses while carrying crushed stone to the project.

3

3

Thank you

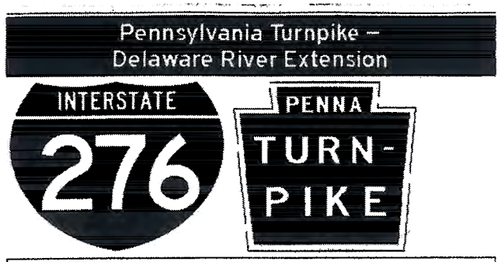
Richard Tonge – Page 2/2

3 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials have been held and PENNDOT and municipality-sponsored studies have been conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

Sylvia Farley – Page 1/13

#1



LENGTH: 33.0 miles
CONSTRUCTED: 1952-1956

PASSENGER CAR TOLL: $1.95

A PLANNED EXTENSION TO NEW JERSEY: The groundwork for the Delaware River Extension of the Pennsylvania Turnpike was laid down in 1947, when the Federal Bureau of Public Roads (BPR) proposed a northern circumferential route through the Philadelphia suburbs along the current route of I-276. With federal funds for the Interstate route difficult to obtain in the immediate postwar era, the Pennsylvania Turnpike Commission (PTC) eventually adopted the proposed route.

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No Issues – No Responses

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One year later, an indenture issued for the PTC permitted extensions to the original 160-mile-long toll road. Under this indenture, the PTC financed the Philadelphia Extension (from Carlisle east to Valley Forge) and the Western Extension (from the Pittsburgh suburbs west to the Ohio Turnpike).

When the 100-mile-long Philadelphia Extension was completed east to Valley Forge in November 1950, PTC officials and engineers studied a 33-mile-long Delaware River Extension to connect the Pennsylvania Turnpike with the New Jersey Turnpike, which was slated for completion in November 1951. Connecting the two turnpikes would provide not only a bypass for the Philadelphia area, but also an important connection in the "eastern turnpike complex" between the Northeast and the Midwest.

In June 1951, Governor John S. Fine signed a bill to construct the Delaware River Extension, and in a joint agreement with New Jersey officials, to provide the necessary connection to the New Jersey Turnpike just south of Bordentown. The PTC financed the new extension with a $55 million bond issue. On November 20, 1952, less than three months after the bonds were sold, construction began on the extension.

DESIGN AND CONSTRUCTION: With grades held at a maximum of two percent and curves held at a minimum of four degrees, the Delaware River Extension continued the high design standards set by the Philadelphia Extension. The dual roadways were each 24 feet wide (providing two 12-foot-wide travel lanes in each direction), and were separated by a 10-foot-wide sod strip. On the outside of each roadway was a 10-foot-wide shoulder of hard-packed waste deposits retrieved from abandoned iron mines. The project also involved the construction of dozens of bridges, the longest of which was the 1,224-foot Schuylkill River Bridge.

Work began at the former eastern terminus at Valley Forge, which was reconstructed to permit construction of the extension and links to the Schuylkill Expressway. On August 21, 1954, the initial 13 miles of the Delaware River Extension opened from EXIT 326 (I-76 / Schuylkill Expressway) in Valley Forge east to EXIT 339 (PA 309 / Fort Washington Expressway) in Fort Washington. On October 16, 1954, in an opening ceremony shortened by Hurricane Hazel, officials opened an additional 19 miles from EXIT 339 east to EXIT 358 (US 13) in Bristol Township.

While the new turnpike extension provided traffic relief through Philadelphia's northern suburbs, the link was not yet complete. Construction of the Delaware River-Turnpike Toll Bridge and its approach roads was delayed until a separate $223 million bond issue covering both the bridge and the proposed Northeast Extension was sold. Soon after the indenture was issued, officials from Pennsylvania and New Jersey broke ground on the link. The $27.2 million Delaware River-Turnpike Toll Bridge opened to traffic on May 23, 1956.

INTERSTATE DESIGNATIONS: In 1956, the Pennsylvania Turnpike-Delaware River Extension became eligible for inclusion in the Interstate highway system. Three years later, the extension was designated I-280, connecting to the west at the mainline turnpike and the Schuylkill Expressway (both carrying the original designation of I-80S). In 1964, when the mainline Turnpike and the Schuylkill Expressway were re-designated I-76, the Delaware River Extension was re-designated I-276.

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This 2000 photo shows the eastbound Pennsylvania Turnpike-Delaware River Extension (I-276) at EXIT 25A (I-476) in Plymouth Meeting. At this interchange, which was reconstructed in the early 1990's, motorists can take I-476 south along the "Blue Route" to Chester, or I-476 north along the Northeast Extension to Scranton. (Photo by Alex Nitzman.)

RECONSTRUCTION EFFORTS: In its first three decades, traffic counts on the 33-mile-long Pennsylvania Turnpike-Delaware River Extension through Montgomery and Bucks counties had doubled to 50,000 vehicles per day (AADT). However, there had not been any capacity improvements during that time.

This changed in November 1987, when a two-year project to widen 13.5 miles of the turnpike from Fort Washington east to Trevose was completed. The $120 million project, which was comprised of several contracts, entailed widening the turnpike from four to six lanes, and included improvements to EXIT 336 (PA 309), EXIT 343 (PA 611) and EXIT 351 (US 1). It was the first project completed under the newly enacted "Act 61," or the Turnpike Organization, Expansion and Toll Road Conversion Act.

In late 1989, work began on the reconstruction of EXIT 333 (Ridge Pike) and EXIT 334 (I-476) in Plymouth Meeting, the largest interchange in the Pennsylvania Turnpike system. The Mid-County interchange project was to connect the Delaware River and Northeast extensions of the Pennsylvania Turnpike with Ridge Pike and the new Mid-County Expressway / "Blue Route" (I-476). For the new EXIT 334, a new 17-lane toll plaza (the largest in the system) and new ramps totaling 4.4 miles were constructed for entering and exiting traffic. To maintain four lanes of through traffic on the Delaware River Extension and access to the Northeast Extension, the project was divided into separate stages. In addition, work had to be undertaken to seal "solution cavities," or underground caverns where groundwater eroded earth between limestone rocks. The three-year, $55 million project, which represented the largest single contract in turnpike history, was completed in December 1992.

In early 1998, the PTC embarked on a new project to construct a new bridge over the Schuylkill River, and to rehabilitate the existing Schuylkill River Bridge. The new bridge, which also has a span of 1,224 feet, was erected south of and adjacent to the existing bridge. Included in the project was the demolition and replacement of the Diamond Run Viaduct. When the two-year, $35 million project was completed in May 2000, six lanes of capacity were provided over the Schuylkill River. (For the time being, however, only four of these lanes are being used.)

The PTC is expected to begin widening the 13 miles of the Delaware River Extension from EXIT 326 (I-76 / US 202 / US 422) east to EXIT 339 (PA 309) in 2003. Once the project is completed, six lanes of through traffic would be provided from Valley Forge to Trevose.

OTHER DEVELOPMENTS ON THE PENNSYLVANIA TURNPIKE: On October 25, 2000, the PTC announced that it plans to replace the existing sequential exit numbering system with one based on mileposts, counting west-to-east from the Ohio border to the Delaware River. New signs featuring the milepost-based exit numbers first appeared in November 2000, and

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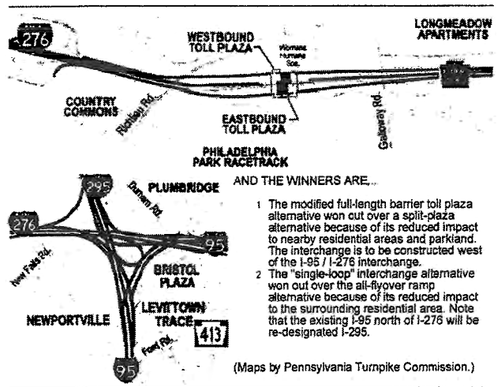
by 2003, the old exit numbers will be dropped altogether. The PTC has estimated the cost of erecting the new signs at approximately $400,000.

More on the changes from Colleen Healey, a spokeswoman for AAA Mid-Atlantic in Philadelphia, as follows:

Milepost numbers, unlike sequential numbers, let drivers know where they are, which helps in planning travel times and routing emergency vehicles. We feel that the turnpike is keeping up with the national trends.

On December 1, 2000, the PTC introduced EZ-Pass on the Delaware River Extension, and on the mainline turnpike west to EXIT 242 (I-83) near Harrisburg, in the first stage of EZ-Pass implementation on the Pennsylvania Turnpike system. That day, a new $5 million interchange opened at EXIT 340 (Virginia Drive) in Fort Washington. The westbound exit is open only to passenger cars equipped with EZ-Pass transponders. (There is no access to the new EXIT 340 from the eastbound direction.)



AND THE WINNERS ARE...

1 The modified full-length barrier toll plaza alternative won out over a split-plaza alternative because of its reduced impact to nearby residential areas and parkland. The interchange is to be constructed west of the I-95 / I-276 interchange.
2 The "single-loop" interchange alternative won out over the all-flyover ramp alternative because of its reduced impact to the surrounding residential area. Note that the existing I-95 north of I-276 will be re-designated I-295.

(Maps by Pennsylvania Turnpike Commission.)

AT LONG LAST, A CONNECTION TO I-95: When the Delaware Expressway (I-95) was extended north into Bucks County in 1969, no provisions were made for a direct connection to the Delaware River Extension. Over the years, the absence of a direct link between I-95 and I-276 has created confusion for travelers, and has increased congestion on local roads.

In 1982, Federal legislation was enacted that stipulated construction of an interchange between the two expressways. Under the legislation, which allowed for the cancellation of the unbuilt I-95 through central New Jersey, I-95 was to be rerouted over the Delaware River to EXIT 6 of the mainline New Jersey Turnpike, at which point the I-95 designation was to

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continue north along the turnpike. At the time, the PTC and the Pennsylvania Department of Transportation (PennDOT) conducted studies to connect the two highways, but the studies were discontinued for environmental reasons.

During the late 1980's, the PTC evaluated a direct connection between I-276 and I-95, in an area north of I-276 and west of the existing I-95. The PTC eliminated this alternative from consideration after the Delaware Valley Regional Planning Commission (DVRPC) demonstrated that the proposed low-speed, conventional turnpike-style interchange would not be able to adequately handle present and future traffic demands between I-95 and I-276.

In 1992, the PTC and PennDOT initiated new studies on connecting the two highways. The two agencies sought to determine whether a direct connection could be developed between the Pennsylvania Turnpike and I-95 with minimal impact on the surrounding area. Over the next nine years, numerous engineering and design studies were conducted, resulting in the draft environmental impact statement and its preferred alternatives in April 2001.

The project is divided into three elements - new toll plaza, new I-276 / I-95 interchange and a new parallel bridge - as follows:

- NESHAMINY TOLL PLAZA: The preferred alternative proposes a new full-length barrier toll plaza in Bensalem Township, just east of EXIT 351 (US 1) and the Neshaminy service areas, and directly behind Philadelphia Park racetrack. The implementation of EZ-Pass permitted a reduction in the number of toll lanes, allowing the project engineers to locate this alternative farther away from major residential developments. As a result, "modified plaza west" alternative (which would cost $107 million) would impact one home and no businesses. In comparison, the "split plaza" alternative (which would cost $116 million) would impact two residences, three businesses and a public park.

- I-276 / I-95 INTERCHANGE: The "single loop" interchange alternative for the I-276 / I-95 interchange - the new EXIT 355 - would allow vehicles to travel north, south, east, or west without leaving the interstate system or encountering traffic lights. The local access to these interstate highways would continue to be provided by the existing US 1, US 13, and PA 413 interchanges. This alternative, which is expected to cost $310 million, was developed in response to the potential negative impacts of the "all-flyover" interchange alternative, which would require more land acquisition, more heavily impact on the Tanglewood and Newportville neighborhoods, and carry a higher cost ($332 million).

- DELAWARE RIVER TURNPIKE TOLL BRIDGE: Widening the turnpike approach requires a new bridge over the Delaware River because the existing four-lane bridge cannot be widened. The PTC and the New Jersey Turnpike Authority are considering two bridge alternatives ("north parallel" and south parallel"). The "south parallel" route, which is expected to cost $223 million (or $15 million more than the "north parallel" route), has been selected as the preferred alternative.

Both the Pennsylvania Turnpike-Delaware River Extension (I-276) and the Delaware Expressway (I-95) will be widened to six lanes (three lanes in each direction) through the project area.

The projected schedule for design and construction is as follows:

- April 2001: Finish draft environmental impact statement (EIS).
- Late 2001: Expected approval of final environmental impact statement (EIS). Begin final design.
- 2002: Begin right-of-way acquisition.
- 2003: Begin initial construction (drainage, infrastructure improvements, improvements to surrounding roadways).
- 2004: Begin construction of direct interchange ramps.
- 2008: Complete construction of I-95 / I-276 interchange.

Completion of the entire project is slated for 2015, when the final improvement, the construction of the parallel Delaware River-Turnpike Toll Bridge, is opened to traffic.

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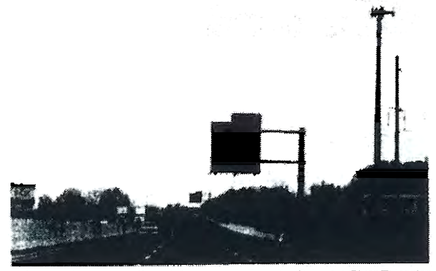

This 2000 photo shows the eastbound Pennsylvania Turnpike-Delaware River Extension (I-276) at EXIT 351 (US 1) in Trevose. (Photo by Steve Anderson.)



When the new I-95 / I-276 interchange is completed in 2008, the Delaware River-Turnpike Toll Bridge will be prominently signed as I-95. To eliminate confusion among motorists traveling on the East Coast, the following new "local" and "express" designations for I-95 should be assigned as follows:

- Beginning in Newport, Delaware, the "express" I-95 would comprise of the Delaware Memorial Bridge, the current I-295 approaches, and the length of the New Jersey Turnpike north to EXIT 6.

- A companion route, "local" I-95, would serve Delaware via the existing I-495 alignment, and Pennsylvania through the existing I-95 alignment (Delaware Expressway). It would then cross the Delaware River-Turnpike Toll Bridge (I-276) and rejoin the "express" I-95 at EXIT 6 of the New Jersey Turnpike.

(Thanks to phillyroads.com and misc.transport.road contributor Chris Blaney for the recommendation.)

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No Issues – No Responses

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SOURCES: "On Pennsylvania's Turnpike" by William G. Weart, The New York Times (11/12/1950); "Turnpike Link to Jersey Voted," The New York Times (5/16/1951); "Turnpike Opening" by Paul Trescott, The New York Times (8/22/1954); "Turnpike Ceremony Very Brief," The New York Times (10/16/1954); "Interstate 95," Delaware Valley Regional Planning Commission (1979); "I-95 Corridor in the Tri-State Region," Tri-State Regional Planning Commission (1979); "Pennsylvania Struggles with Benefits, Pitfalls of Turnpike's Future" by Robert Moran and Rich Heidorn Jr., The Philadelphia Inquirer (10/26/1997); "In Pennsylvania, Old Turnpike Exits Are Getting New Numbers" by Michael Klein, The Philadelphia Inquirer (10/25/2000); "EZ-Pass Off to Uneasy Beginning on Pennsylvania Turnpike" by Jere Downs, The Philadelphia Inquirer (12/03/2000); "Study Urges $710 Million in Traffic Projects for Montgomery County" by Melia Bowie, The Philadelphia Inquirer (1/11/2001); "Pennsylvania Turnpike / Interstate 95 Interchange Project: Draft Environmental Impact and Section 4(f) Statement," Federal Highway Administration, Pennsylvania Department of Transportation and Pennsylvania Turnpike Commission (2001); Ralph Herman; Jeff Kitsko; Alex Nitzman; Len Pundt; Sandy Smith.

- I-276 shield by Ralph Herman.
- Pennsylvania Turnpike shield by James Lin.
- Lightposts by Millerbernd Manufacturing Company.

PENNSYLVANIA TURNPIKE-DELAWARE RIVER EXTENSION LINKS:

- I-276 (Scott Oglesby)
- I-276 (Pennsylvania) (Jeff Kitsko)
- Pennsylvania Turnpike (Pennsylvania Turnpike Commission)
- Pennsylvania Turnpike-Delaware River Extension (Douglas Kerr)
- Pennsylvania Turnpike-Delaware River Extension (Alex Nitzman)
- Pennsylvania Turnpike Widening in Montgomery County (Pennsylvania Turnpike Commission)
- Pennsylvania Turnpike EXIT 326 (I-76 / US 202 / US 422) in Valley Forge, PA (Michael G. Koerner)
- Pennsylvania Turnpike Proposed EXIT 355 (I-95) in Levittown, PA (Pennsylvania Turnpike Commission)
- Proposed I-95 / I-276 Interchange (PA) and Unbuilt I-95 (NJ) (Raymond C. Martin)
- 1947 BPR "Yellow Book" Philadelphia-Area Interstate Proposals (Jeff Kitsko)

CURRENT SMART TRAVELER ROAD CONDITIONS:

- Construction and Accident Delays (Valley Forge to Fort Washington, Fort Washington to PA-NJ border)
- Live Traffic Cams
- Current Speeds

OFF-SITE EXIT LISTINGS:

- Pennsylvania Turnpike-Delaware River Extension exit list by Jeff Kitsko.

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- Delaware River-Turnpike Toll Bridge (I-276)

Back to The Roads of Philadelphia home page.

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PA TURNPIKE/I-95 INTERCHANGE

PROJECT BACKGROUND
DEIS
CURRENT ALTERNATIVES
ECONOMIC IMPACTS
PUBLIC INVOLVEMENT
NEWS
PA TURNPIKE HOMEPAGE

NEWS



The Pennsylvania Turnpike Commission makes every effort to keep the public and media up-to-date on the I-95 Interchange Project. The following website links are provided as resources:

Project Newsletter
New Connections began publication in 1993. There have been eleven issues to date. The latest version is provided for your review. You can read about project studies, design alternatives, public involvement initiatives, and meeting results. There is a s for those who want to receive future publications and meeting notices.

Topic Update
Interchange Topic Update is a project fact sheet devoted to fast-breaking news on subject. The fourth fact sheet, issued in May 2001, is devoted to the project's Draft Environmental Impact Statement (DEIS).

Media Information
Copies of news releases, media alerts and other materials prepared for media are review.

Project Mailing List
You can receive project publications and public notices by sending your name and through this form.

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No Issues – No Responses

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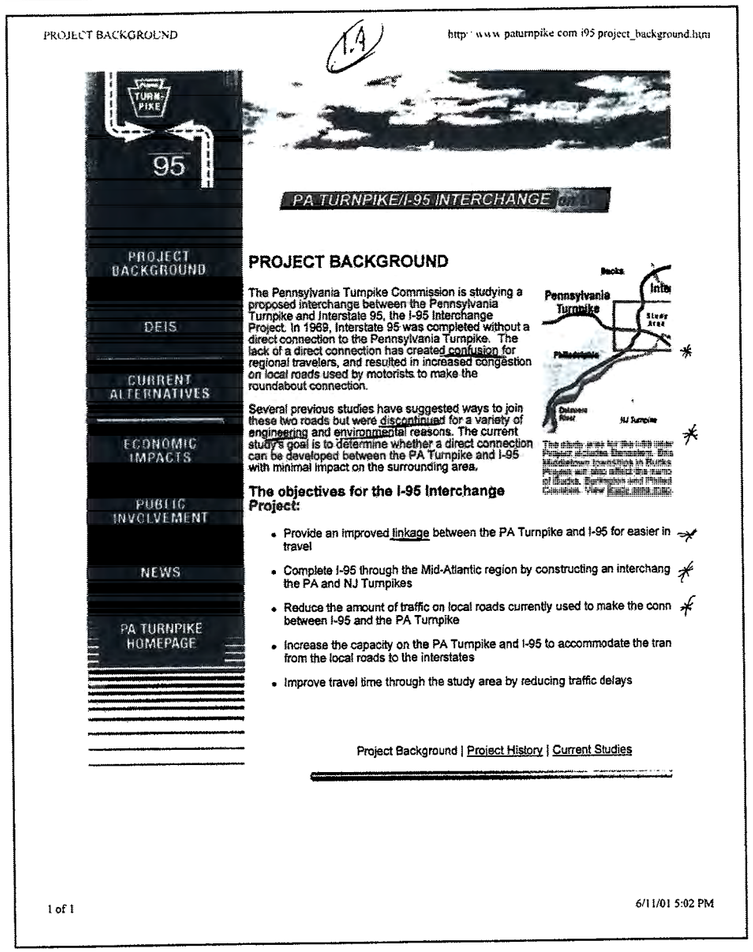
No Issues – No Responses

Sylvia Farley – Page 10/13



PROJECT BACKGROUND 1.4 http://www.paturnpike.com/i95/project_background.htm

PA TURNPIKE/I-95 INTERCHANGE

PROJECT BACKGROUND
DEIS
CURRENT ALTERNATIVES
ECONOMIC IMPACTS
PUBLIC INVOLVEMENT
NEWS
PA TURNPIKE HOMEPAGE

PROJECT BACKGROUND

The Pennsylvania Turnpike Commission is studying a proposed interchange between the Pennsylvania Turnpike and Interstate 95, the I-95 Interchange Project. In 1969, Interstate 95 was completed without a direct connection to the Pennsylvania Turnpike. The lack of a direct connection has created confusion for regional travelers, and resulted in increased congestion on local roads used by motorists to make the roundabout connection.

Several previous studies have suggested ways to join these two roads but were discontinued for a variety of engineering and environmental reasons. The current study's goal is to determine whether a direct connection can be developed between the PA Turnpike and I-95 with minimal impact on the surrounding area.

The study area for the I-95/ Project includes Bensalem, Bris Middletown Township in Bucks Project will also affect the subu of Bucks, Burlington and Philad Counties. View Basic Info map.

The objectives for the I-95 Interchange Project:

- Provide an improved linkage between the PA Turnpike and I-95 for easier in travel
- Complete I-95 through the Mid-Atlantic region by constructing an interchang the PA and NJ Turnpikes
- Reduce the amount of traffic on local roads currently used to make the conn between I-95 and the PA Turnpike
- Increase the capacity on the PA Turnpike and I-95 to accommodate the tran from the local roads to the interstates
- Improve travel time through the study area by reducing traffic delays

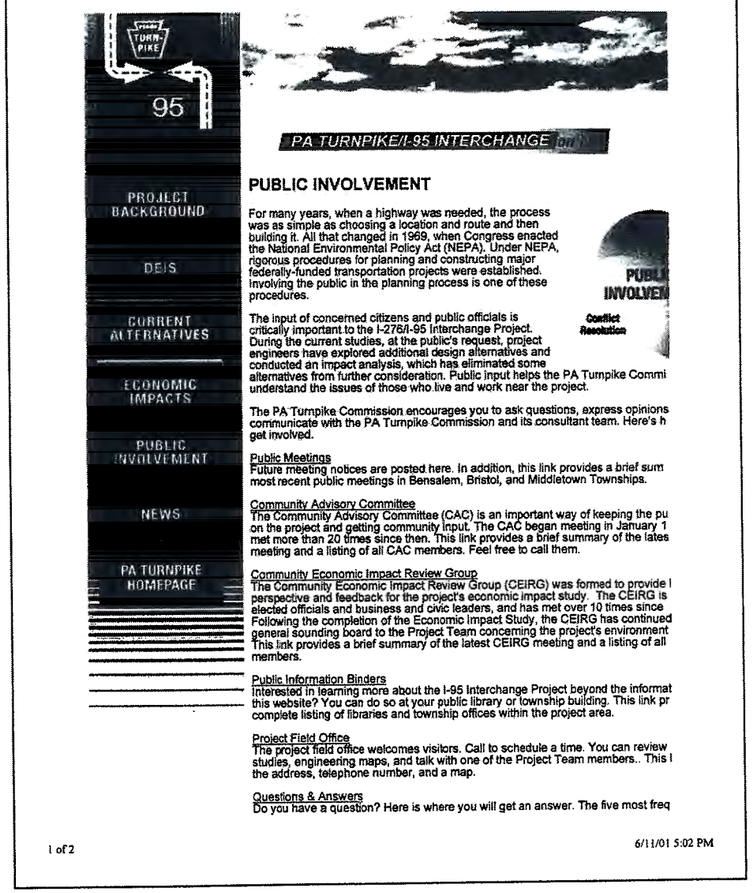
Project Background | Project History | Current Studies

1 of 1 6/11/01 5:02 PM

Sylvia Farley – Page 10/13

No Issues – No Responses

Sylvia Farley – Page 11/13



PUBLIC INVOLVEMENT 2 http://www.paturnpike.com/i95/public_involvement.htm

PA TURNPIKE/I-95 INTERCHANGE

PROJECT BACKGROUND
DEIS
CURRENT ALTERNATIVES
ECONOMIC IMPACTS
PUBLIC INVOLVEMENT
NEWS
PA TURNPIKE HOMEPAGE

PUBLIC INVOLVEMENT

For many years, when a highway was needed, the process was as simple as choosing a location and route and then building it. All that changed in 1969, when Congress enacted the National Environmental Policy Act (NEPA). Under NEPA, rigorous procedures for planning and constructing major federally-funded transportation projects were established. Involving the public in the planning process is one of these procedures.

The input of concerned citizens and public officials is critically important to the I-276/I-95 Interchange Project. During the current studies, at the public's request, project engineers have explored additional design alternatives and conducted an impact analysis, which has eliminated some alternatives from further consideration. Public input helps the PA Turnpike Commi understand the issues of those who live and work near the project.

The PA Turnpike Commission encourages you to ask questions, express opinions communicate with the PA Turnpike Commission and its consultant team. Here's h get involved.

Public Meetings
Future meeting notices are posted here. In addition, this link provides a brief sum most recent public meetings in Bensalem, Bristol, and Middletown Townships.

Community Advisory Committee
The Community Advisory Committee (CAC) is an important way of keeping the pu on the project and getting community input. The CAC began meeting in January 1 met more than 20 times since then. This link provides a brief summary of the lates meeting and a listing of all CAC members. Feel free to call them.

Community Economic Impact Review Group
The Community Economic Impact Review Group (CEIRG) was formed to provide l perspective and feedback for the project's economic impact study. The CEIRG is elected officials and business and civic leaders, and has met over 10 times since Following the completion of the Economic Impact Study, the CEIRG has continued general sounding board to the Project Team concerning the project's environment This link provides a brief summary of the latest CEIRG meeting and a listing of all members.

Public Information Binders
Interested in learning more about the I-95 Interchange Project beyond the informat this website? You can do so at your public library or township building. This link pr complete listing of libraries and township offices within the project area.

Project Field Office
The project field office welcomes visitors. Call to schedule a time. You can review studies, engineering maps, and talk with one of the Project Team members.. This l the address, telephone number, and a map.

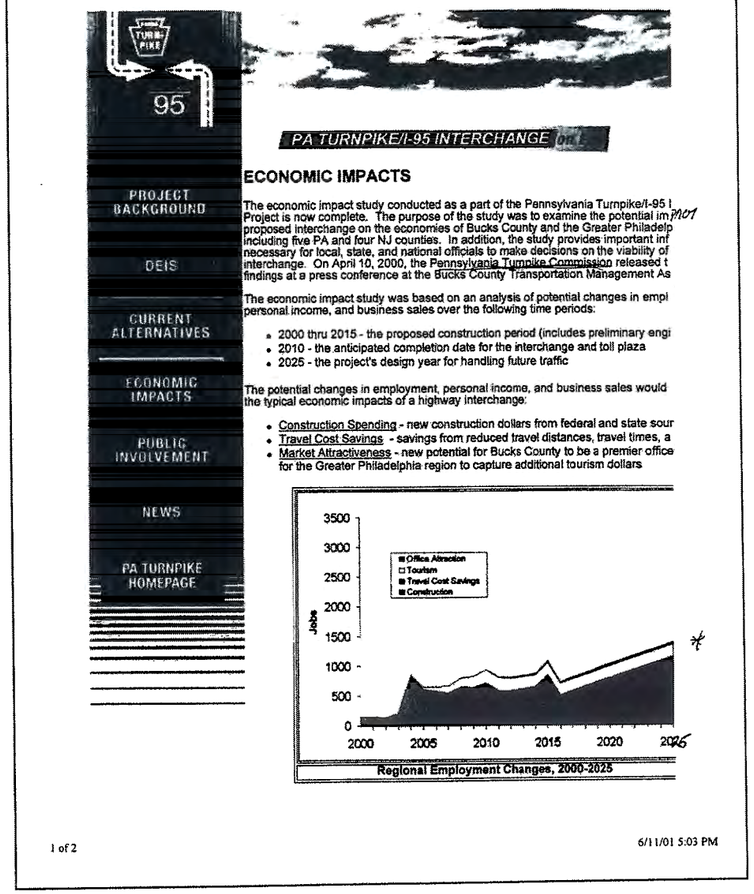
Questions & Answers
Do you have a question? Here is where you will get an answer. The five most freq

1 of 2 6/11/01 5:02 PM

Sylvia Farley – Page 11/13

No Issues – No Responses

Sylvia Farley – Page 12/13



ECONOMIC IMPACT 4 http://www.paturnpike.com/i95/economic_impact.htm

PA TURNPIKE/I-95 INTERCHANGE

PROJECT BACKGROUND
DEIS
CURRENT ALTERNATIVES
ECONOMIC IMPACTS
PUBLIC INVOLVEMENT
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PA TURNPIKE HOMEPAGE

ECONOMIC IMPACTS

The economic impact study conducted as a part of the Pennsylvania Turnpike/I-95 I Project is now complete. The purpose of the study was to examine the potential im proposed interchange on the economies of Bucks County and the Greater Philadelp including five PA and four NJ counties. In addition, the study provides important inf necessary for local, state, and national officials to make decisions on the viability of interchange. On April 10, 2000, the Pennsylvania Turnpike Commission released t findings at a press conference at the Bucks County Transportation Management As

The economic impact study was based on an analysis of potential changes in empl personal income, and business sales over the following time periods:

- 2000 thru 2015 - the proposed construction period (includes preliminary engi
- 2010 - the anticipated completion date for the interchange and toll plaza
- 2025 - the project's design year for handling future traffic

The potential changes in employment, personal income, and business sales would the typical economic impacts of a highway interchange:

- Construction Spending - new construction dollars from federal and state sour
- Travel Cost Savings - savings from reduced travel distances, travel times, a
- Market Attractiveness - new potential for Bucks County to be a premier office for the Greater Philadelphia region to capture additional tourism dollars

Regional Employment Changes, 2000-2025

1 of 2 6/11/01 5:03 PM

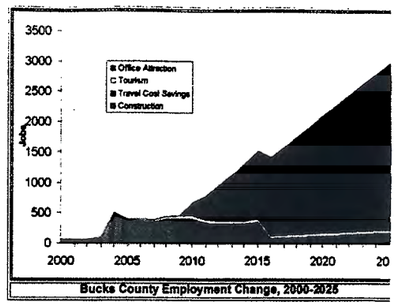
Sylvia Farley – Page 12/13

No Issues – No Responses

Sylvia Farley – Page 13/13

ECONOMIC IMPACT

3 http://www.paturnpike.com/i95/economic_impact.htm



Bucks County Employment Change, 2000-2025

The proposed interchange would also positively impact the region's quality of life wh

- Personal travel time
- Tax revenues
- Residential property values
- Health care and environmental costs

The Pennsylvania Economy League (PEL), an independent research organization, the Pennsylvania Turnpike Commission to conduct the economic impact study. PE were supported by the Economic Development Research Group (EDRG), a nationa recognized expert in economic impact analyses of transportation projects. PEL and regularly with the Community Economic Impact Review Group (CEIRG) --an adviso of political, business, and civic leaders--that provided oversight and local perspectiv study.

Related Links

You may view one of the project's publications, Topic Update (Issue No.1), for more on PEL, EDRG, and CEIRG. In addition, you may view Topic Update (Issue No.2) f description of the project's potential economic impacts on Bensalem, Bristol, and Mi townships.

You also may view the full report (60 pages) of the economic impact study for comp and results, or its executive summary (20 pages) for study highlights. A summary o findings will be included in the Draft Environmental Impact Statement (DEIS) for the Interchange Project. This DEIS will ultimately be distributed for public review and be of a formal public hearing in mid 2001.

Economic Impacts | Construction Spending | Travel Cost Savings
Market Attractiveness | Quality of Life

2 of 2 6/11/01 5:03 PM

Sylvia Farley – Page 13/13

No Issues – No Responses

Claudia Fountaine – Page 1/1

Glad presentation

Hello, my name is Claudia Fountaine, and I'm a resident of Lower Makefield Township. I represent the Lindenhurst Road Homeowners' Association. Drivers on the local roads in our area are already putting up with what has been labeled by politicians and police officials alike as an unsafe condition. The simple truth is, 80,000 lb. quarry trucks are traveling on our increasingly congested neighborhood roads, mingling with school buses, commuter traffic, as well as local traffic, because we live smack in the middle between the Swamp Road Quarries and I-95. This situation may have been fine back when the quarries were first opened, but the picture has changed drastically over the last few years. It would take too long to list all the housing developments, schools and office buildings that have recently gone up in this area. News articles have listed this specific region (Yardley,Newtown,Lower Makefield, Upper Makefield, Wrightstown,etc.) as one of the fastest growing in the state. Lower Makefield itself was even mentioned in the New York Times. This is great for the developers, businesses, the real-estate industry. There's just one big problem. Even though the area has changed drastically, the quarry trucks still come barrelling through our neighborhoods as if we weren't even there. Being paid by the load, many press the outer edge of the envelope when it comes to speed. Often brakes are overheated and trucks are unable to stop in time, deciding instead to run red lights. Don't misunderstand me, I'm not here to bash truckers. ~~I'm sure~~ There are many automobile drivers committing unsafe acts, as well. But there's a tremendous difference when you're talking about a car and an 80,000 lb. truck. These behemoths are virtual weapons traveling through our neighborhoods. Witness the truck accident that occurred last summer in Newtown, where half a bank was taken out along with injuries and death to local citizens. And that truck was empty!!!!!!! I could list near misses with schoolbuses in my own neighborhood, a friend of mine was rear ended while waiting to make a lefthand turn at a light, taking her two children to school. The truck couldn't stop in time and swerved, running up an embankment, since there are no shoulders at that stop. Fortunately no one was killed, but I don't want to go on and on. You get the picture. This is a bad situation and it's going to get worse when the demand for stone increases, as it surely will, during this construction. The Swamp Road Quarries are the closest to the construction sites, so even though our neighborhoods are not in the path of the actual Interchange we will definitely be negatively impacted by this construction. In fact, that is stating it mildly. We need to be included in the Environmental Impact Study so that this problem is resolved BEFORE construction on the Interchange begins. The safest resolution would be to send the stone by rail. At the very least, alternative routes that are more appropriate should be investigated. As you may be aware, a tiny portion of Swamp Road has been arbitrarily closed to loaded trucks. This keeps the majority of truckers from using the Newtown Bypass to reach I-95, a shorter, much safer route. Common sense as well as concern for the safety of all the residents in this area demand that this oversight be corrected before the problem is made any worse. Thank-you

1 2 3

C. Fountaine
2051 Dawn Lane
Newtown PA
18940
~~20~~ 215-579-9665

Claudia Fountaine

Claudia Fountaine – Page 1/1

1 Construction Impacts

The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

2 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the five mentioned townships been established. Therefore, the inclusion of the townships into the study is not recommended.

3 Swamp Road Improvement

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials have been held and PENNDOT and municipality-sponsored studies have been conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

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APPENDIX I
WRITTEN COMMENTS

William S. Beetle - Page 1/1

State of New Jersey
DEPARTMENT OF TRANSPORTATION
P.O.Box 600
Trenton, New Jersey 08625-0600

DONALD T. DIFRANCESCO
Acting Governor

JAMES WEINSTEIN
Commissioner

July 17, 2001

Mr. Jeffrey Davis
Pennsylvania Turnpike Commission
PA Turnpike/I-95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Dear Mr. Davis:

1 Thank you for the opportunity to comment on the Pennsylvania Turnpike/I-95 Interchange Project Draft Environmental Impact Statement (DEIS). The document has been reviewed by the Department's Bureau of Environmental Services and the Division of Operations Support. The DEIS demonstrates that a comprehensive evaluation of the environmental impacts of the project area has been completed,therefore, we offer no further comments at this time.

Sincerely,

William S. Beetle
Director
Division of Transportation Systems Planning

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Richard G. Castagna - Page 1/1

State of New Jersey
Department of Environmental Protection

DONALD T. DIFRANCESCO
Acting Governor

Robert C. Shinn, Jr.
Commissioner

Land Use Management and Compliance
Bureau of Tidelands Management
PO Box 439
Trenton, New Jersey 08625
Tel.#609-292-2573
Fax#609-633-6493

June 5, 2001

James A Cheatham, Divison Administrator
US Dept of Transportation
Federal Highway Administration
228 Walnut Street, Room 540
Harrisburg, PA 17101-1720

Subject: Pennsylvania-Bucks County New Jersey – Burlington County
Pennsylvania Turnpike/ Interstate 95 Interchange Project

File: 0300-01

Dear Mr. Cheatham:

1 We have reviewed the Draft Environmental Impact Statement for the above referenced highway project and find that the State of New Jersey does have a tidelands ownership interest in the proposed bridge expansion. A tidelands interim license and riparian grant will be required for the proposed construction.

If you have questions, do not hesitate to contact me.

Sincerely,

Richard G. Castagna
Supervisor, Southern Region
Bureau of Tidelands
Management

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Frank J. Cianfrani - Page 1/4

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

DEC 27 2001

Regulatory Branch
Application Section I

SUBJECT: CENAP-OP-R-200100778-11

Mr. James A. Cheatham
Division Administrator
Federal Highway Administration
5th Floor, Federal Building
228 Walnut Street
Harrisburg, Pennsylvania 17101

Dear Mr. Cheatham:

This is in regard to the Draft Environmental Impact Statement (DEIS) prepared for the Pennsylvania Turnpike/Interstate 95 Interchange Project, Bucks County, Pennsylvania and Burlington County, New Jersey. The U.S. Army Corps of Engineers (Corps) is a cooperating agency in the preparation of the Environmental Impact Statement (EIS) for the project.

The project development process for the Pennsylvania Turnpike/Interstate 95 Interchange Project has proceeded in compliance with the 1992 "Interagency Consensus on Integrating NEPA/404 for Transportation Projects" and the 1999 "Cooperative Agreement on Environmental Streamlining and Interagency Cooperation on Environmental and Transportation Issues". Therefore, the DEIS not only addresses National Environmental Policy Act (NEPA) requirements, but serves as the environmental documentation in support of the permit application the Pennsylvania Turnpike Commission submitted to this office on May 7, 2001. That permit application seeks Department of the Army approval under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act to perform work and discharge dredged or fill material into Federally regulated waters of the United States, including wetlands, to facilitate construction of Project Alternative 1, consisting of the Modified Plaza West, Single Loop A Interchange and Bridge South project elements, identified in the referenced DEIS. We have completed our review of the DEIS and offer the following comments:

1. This office has previously concurred with the alternatives that were carried forward into the DEIS for detailed evaluation. When evaluating any project, the Corps performs an alternatives analysis to determine the Least Environmentally Damaging Practicable Alternative (LEDPA). Our regulations state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse consequences. An important consideration in our permit decision for this project will be comments received from the general public and federal and state regulatory and resource agencies concerning the Department of the Army permit application and associated EIS.

1A It is our understanding that we will receive a complete set of comment letters/documents received in response to the project's Public Notice and the applicant's responses to those comments as soon as they become available. It is clear from the issues raised during testimony at the public hearing held for the project that there are legitimate issues that need to be addressed by the applicant. Therefore, at this time we are not in a position to concur/not

1B concur that the applicant's preferred Project Alternative 1 appears to be the LEDPA.

William S. Beetle - Page 1/1

1 Project Position
The commenter's support of the Environmental Impact Statement with no further comments, on behalf of the New Jersey Department of Transportation, is noted.

Richard G. Castagna - Page 1/1

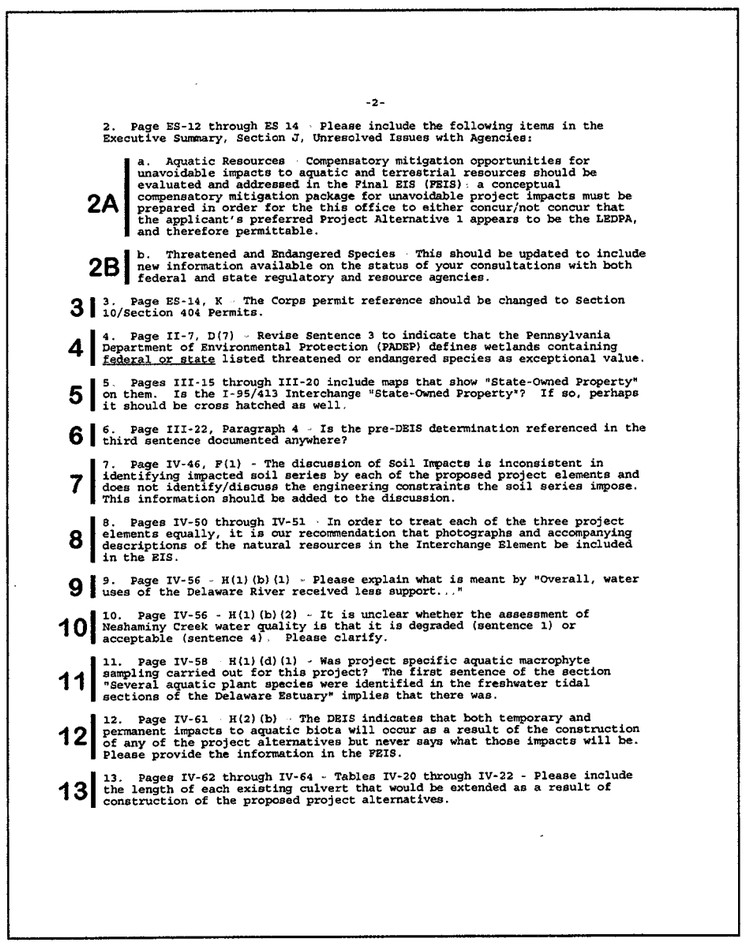
1 Environmental Permitting
Technical data will be compiled and used during Final Design to apply for a tidelands interim license and riparian grant for the proposed bridge. Coordination with the New Jersey Department of Environmental Protection regarding permit requirements has been ongoing throughout the project development process and will continue through Final Design and construction.

Frank J. Cianfrani - Page 1/4

1A Agency Coordination (FEIS Appendix I)
Comments and letters were received in response to the project's Public Notice regarding the US Army Corps of Engineers (USACOE) permit application, release of the DEIS, and the Public Hearing. Responses were compiled by the Project Team and included in the FEIS. In addition, both the submitted comments and the drafted responses were forwarded to the USACOE prior to the FEIS completion.

1B Project Position
The commenter's position of not being able to concur/not concur at this time regarding the applicant's preferred Project Alternative 1 as the Least Environmentally Damaging Practicable Alternative, on behalf of the USACOE, is noted.

Frank J. Cianfrani - Page 2/4



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2. Page ES-12 through ES 14 - Please include the following items in the Executive Summary, Section J, Unresolved Issues with Agencies:

2A a. Aquatic Resources - Compensatory mitigation opportunities for unavoidable impacts to aquatic and terrestrial resources should be evaluated and addressed in the Final EIS (FEIS); a conceptual compensatory mitigation package for unavoidable project impacts must be prepared in order for the this office to either concur/not concur that the applicant's preferred Project Alternative 1 appears to be the LEDPA, and therefore permittable.

2B b. Threatened and Endangered Species - This should be updated to include new information available on the status of your consultations with both federal and state regulatory and resource agencies.

3 3. Page ES-14, K - The Corps permit reference should be changed to Section 10/Section 404 Permits.

4 4. Page II-7, D(7) - Revise Sentence 3 to indicate that the Pennsylvania Department of Environmental Protection (PADEP) defines wetlands containing federal or state listed threatened or endangered species as exceptional value.

5 5. Pages III-15 through III-20 include maps that show "State-Owned Property" on them. Is the I-95/413 Interchange "State-Owned Property"? If so, perhaps it should be cross hatched as well.

6 6. Page III-22, Paragraph 4 - Is the pre-DEIS determination referenced in the third sentence documented anywhere?

7 7. Page IV-46, F(1) - The discussion of Soil Impacts is inconsistent in identifying impacted soil series by each of the proposed project elements and does not identify/discuss the engineering constraints the soil series impose. This information should be added to the discussion.

8 8. Pages IV-50 through IV-51 - In order to treat each of the three project elements equally, it is our recommendation that photographs and accompanying descriptions of the natural resources in the Interchange Element be included in the EIS.

9 9. Page IV-56 - H(1)(b)(1) - Please explain what is meant by "Overall, water uses of the Delaware River received less support..."

10 10. Page IV-56 - H(1)(b)(2) - It is unclear whether the assessment of Neshaminy Creek water quality is that it is degraded (sentence 1) or acceptable (sentence 4). Please clarify.

11 11. Page IV-58 - H(1)(d)(1) - Was project specific aquatic macrophyte sampling carried out for this project? The first sentence of the section "Several aquatic plant species were identified in the freshwater tidal sections of the Delaware Estuary" implies that there was.

12 12. Page IV-61 - H(2)(b) - The DEIS indicates that both temporary and permanent impacts to aquatic biota will occur as a result of the construction of any of the project alternatives but never says what those impacts will be. Please provide the information in the FEIS.

13 13. Pages IV-62 through IV-64 - Tables IV-20 through IV-22 - Please include the length of each existing culvert that would be extended as a result of construction of the proposed project alternatives.

Frank J. Cianfrani - Page 2/4

2A Mitigation (FEIS Executive Summary, Section IV-K, Appendix A)
The Executive Summary of the FEIS was revised to incorporate the suggested changes. Also, preliminary compensatory mitigation strategies were added to the FEIS.

2B Threatened and/or Endangered Species (FEIS Executive Summary, Section IV-L)
The Executive Summary of the FEIS was revised based on updated threatened and endangered species information and the completion of recent presence/absence surveys. Because these surveys were completed after the DEIS distribution, the results were included in Section IV-L of the FEIS.

3 Environmental Permitting (FEIS Executive Summary)
The Executive Summary of the FEIS was revised to incorporate the suggested change in the subheading.

4 Wetlands (FEIS Section II)
Section II was revised to incorporate the suggested revision.

5 Alternatives Development (DEIS/FEIS Section III)
The area at PA 413 and New Rodgers Road which was cross-hatched to indicate state-owned property was done so to identify this area because it falls into the area of impact for the New Alignment Alternatives. This area was subsequently added to Interchange Element graphics as a result of Agency comment on the Pre-DEIS even though it is not impacted by the Interchange Element Alternatives. The state-owned right-of ways for I-276 and I-95 including the I-95/PA 413 Interchange were not cross-hatched as state-owned property in the DEIS and are not cross-hatched in the FEIS because it would graphically create confusion and not add significantly to the identification of impacts. For clarity, legend has been revised to state "State Owned Property Outside of Highway Right-of-Way".

6 Alternatives Development (FEIS Appendix C)
The information regarding socioeconomic and environmental resource impacts associated with the six lane bridge alternatives was added to the Technical Support Data.

7 Soils (FEIS Section IV-F)
Additional information was added to the soils subsection to describe which soil types would be impacted within each of the Project Elements. In addition, a table was included identifying soil types and associated engineering constraints within each Element.

8 Natural Resources (FEIS Section IV)
Photos and an associated caption were added to Figure IV-9B Plate 1 in Section IV. Natural resources depicted include a forested wetland area located between I-276 and Bath Road, a view of the Mill Creek corridor along Black Ditch Park, and a view of Magnolia Lake.

9 Surface Waters (FEIS Section IV-H)
The sentence identified was revised to define some of the Delaware River water uses and to describe which sections of the Delaware River Basin have shown a decrease in the total area that supports a given water usage.

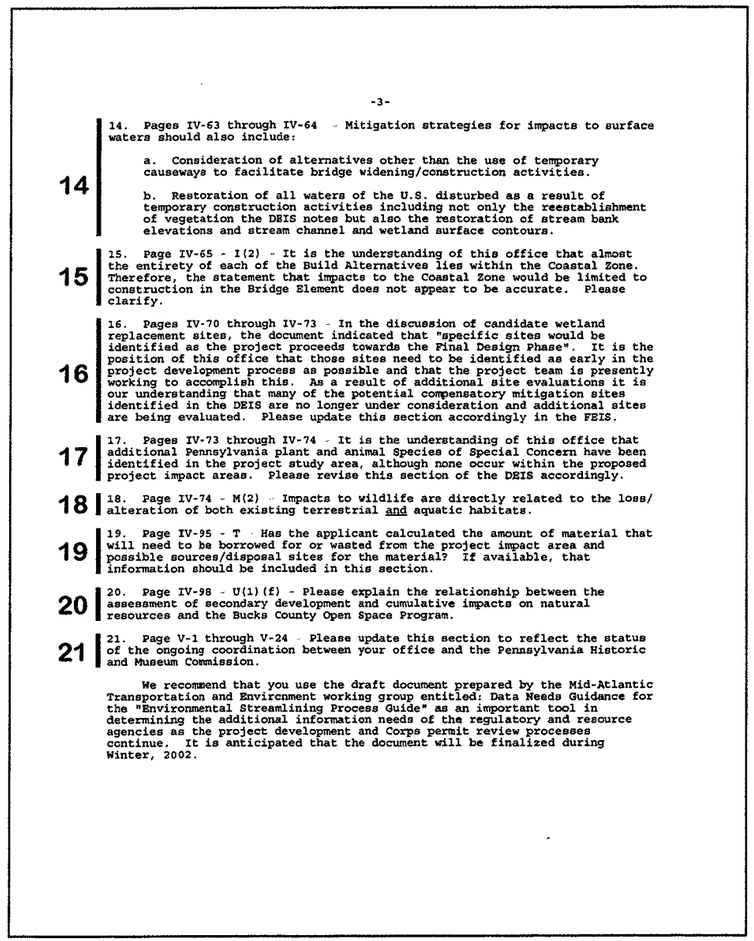
10 Surface Waters (FEIS Section IV-H)
Additional information was added to clarify the assessment of water quality for Neshaminy Creek. The *Commonwealth of Pennsylvania 1996 Water Quality Assessment 305(b) Report* (PADEP, 1996) refers to degraded water quality occurring in the watershed of Neshaminy Creek. Degraded water quality conditions were identified in some of the tributaries to the Neshaminy Creek mainstem through review of PADEP reports and water quality field sampling conducted for the project. However, STORET data and the project's water quality field sampling data collected in the Neshaminy Creek mainstem indicated that the majority of parameters sampled were within applicable criteria. The Neshaminy Creek mainstem has a sufficient flushing rate to maintain a relatively high dissolved oxygen content and neutral pH, therefore the FEIS states that the water quality of the mainstem is acceptable despite degraded conditions in some of its tributaries.

11 Surface Waters (FEIS Section IV-H)
The sentence referring to aquatic plant species in the study area was revised in the FEIS to clarify that the information presented was obtained through independent aquatic surveys and not through project specific sampling.

12 Surface Waters (FEIS Section IV-H)
Additional information was added to the FEIS to identify impacts to aquatic biota that would occur as a result of the construction of any of the proposed project alternatives.

13 Surface Waters (FEIS Section IV-H)
The length of the existing culverts that would be extended as a result of the construction of the proposed alternatives was added as a footnote to Tables IV-22 to IV-24 in the FEIS. Existing culvert structures are approximately 30 m (100 ft) in length along I-276 and 46 m (150 ft) along I-95.

Frank J. Cianfrani - Page 3/4



-3-

14. Pages IV-63 through IV-64 - Mitigation strategies for impacts to surface waters should also include:

14

a. Consideration of alternatives other than the use of temporary causeways to facilitate bridge widening/construction activities.

b. Restoration of all waters of the U.S. disturbed as a result of temporary construction activities including not only the reestablishment of vegetation the DEIS notes but also the restoration of stream bank elevations and stream channel and wetland surface contours.

15. Page IV-65 - I(2) - It is the understanding of this office that almost the entirety of each of the Build Alternatives lies within the Coastal Zone. Therefore, the statement that impacts to the Coastal Zone would be limited to construction in the Bridge Element does not appear to be accurate. Please clarify.

15

16. Pages IV-70 through IV-73 - In the discussion of candidate wetland replacement sites, the document indicated that "specific sites would be identified as the project proceeds towards the Final Design Phase". It is the position of this office that those sites need to be identified as early in the project development process as possible and that the project team is presently working to accomplish this. As a result of additional site evaluations it is our understanding that many of the potential compensatory mitigation sites identified in the DEIS are no longer under consideration and additional sites are being evaluated. Please update this section accordingly in the FEIS.

16

17. Pages IV-73 through IV-74 - It is the understanding of this office that additional Pennsylvania plant and animal species of Special Concern have been identified in the project study area, although none occur within the proposed project impact areas. Please revise this section of the DEIS accordingly.

17

18. Page IV-74 - M(2) - Impacts to wildlife are directly related to the loss/alteration of both existing terrestrial and aquatic habitats.

18

19. Page IV-95 - T - Has the applicant calculated the amount of material that will need to be borrowed for or wasted from the project impact area and possible sources/disposal sites for the material? If available, that information should be included in this section.

19

20. Page IV-98 - U(1)(f) - Please explain the relationship between the assessment of secondary development and cumulative impacts on natural resources and the Bucks County Open Space Program.

20

21. Page V-1 through V-24 - Please update this section to reflect the status of the ongoing coordination between your office and the Pennsylvania Historic and Museum Commission.

21

We recommend that you use the draft document prepared by the Mid-Atlantic Transportation and Envircnment working group entitled: Data Needs Guidance for the "Environmental Streamlining Process Guide" as an important tool in determining the additional information needs of the regulatory and resource agencies as the project development and Corps permit review processes continue. It is anticipated that the document will be finalized during Winter, 2002.

Frank J. Cianfrani - Page 3/4

14 Surface Waters (FEIS Section IV-H)

The suggested mitigation strategies for impacts to surface waters were added to the surface water resources mitigation section in the FEIS.

15 Coastal Zones (FEIS Section IV-I)

The discussion of coastal zone impacts was revised in the FEIS to clarify that construction activities of any of the proposed Build Alternatives would impact the coastal zone in each of the three Project Elements.

16 Wetlands (FEIS Section IV-K, Appendix C)

Discussion of the candidate wetland replacement sites was revised in the FEIS to reflect additional site evaluations and those sites that are no longer considered acceptable were removed. Detailed information is located in the Technical Support Data.

17 Threatened and Endangered Species (FEIS Section IV-K, Appendix C)

The threatened and endangered species section was revised in the FEIS to describe the results of recent presence/absence surveys conducted for the project. Detailed information is contained in the Technical Support Data, but is only available to appropriate agencies to protect the species of concern.

18 Terrestrial Ecology (FEIS Section IV-M)

The suggested sentence revision was added to the terrestrial ecology impacts subsection of the FEIS.

19 Construction Impacts

The amount of material that must be borrowed or excavated will not be determined/calculated until Final Design. However, for this project, large quantities of borrowed fill are expected, and an excess of waste material is not anticipated. The Federal Highway Administration guidelines specify that it is the contractor's responsibility to acquire state and federal permits and approvals for the storage and disposal of excavated material during construction. Additional consideration for waste disposal will be conducted during Final Design.

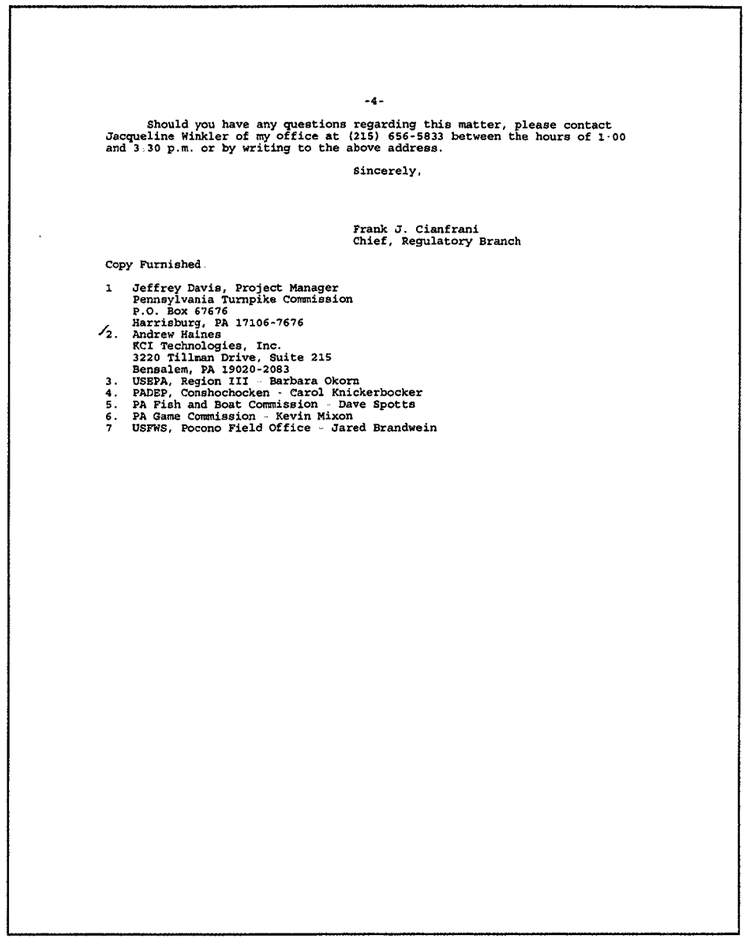
20 Secondary and Cumulative Impacts (DEIS/FEIS Section IV-U.1.f)

The text of the FEIS has been revised to reference the purpose of the Bucks County Open Space Program in regards to natural resources. The I-276/I-95 Interchange Project in conjunction with other planned transportation projects would not impact the intent of the Open Space Program.

21 Cultural Resources (FEIS Sections IV-C, V)

Sections IV-C and V of the FEIS were revised based on the results of additional coordination with the Pennsylvania Historic Museum Commission, the National Park Service, and other interested parties regarding the Delaware Canal.

Frank J. Cianfrani - Page 4/4



-4-

Should you have any questions regarding this matter, please contact Jacqueline Winkler of my office at (215) 656-5833 between the hours of 1-00 and 3:30 p.m. or by writing to the above address.

Sincerely,

Frank J. Cianfrani
Chief, Regulatory Branch

Copy Furnished

1 Jeffrey Davis, Project Manager
Pennsylvania Turnpike Commission
P.O. Box 67676
Harrisburg, PA 17106-7676
2. Andrew Haines
KCI Technologies, Inc.
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083
3. USEPA, Region III - Barbara Okorn
4. PADEP, Conshochocken - Carol Knickerbocker
5. PA Fish and Boat Commission - Dave Spotts
6. PA Game Commission - Kevin Mixon
7 USFWS, Pocono Field Office - Jared Brandwein

Frank J. Cianfrani - Page 4/4

No Issues – No Responses

Eugene Gruber, P.E. - Page 1/2

Federal Emergency Management Agency
Region III
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

MT

Mr. James A. Cheatham
Pennsylvania Division Administrator
U.S. Department of Transportation
Federal Highway Administration
228 Walnut Street
Harrisburg, Pennsylvania 17101-1720

Dear Mr. Cheatham:

The Federal Emergency Management Agency (FEMA) received your Draft Environmental Impact Statement dated April 25, 2001. This report describes the proposed Pennsylvania Turnpike/Interstate 95 Interchange Project in Bucks County, Pennsylvania, and Burlington County, New Jersey. Portions of this
1 project are located within areas of the Delaware River, Neshaminy Creek, and Mill Creek that have been mapped by FEMA as Zone AE, an area subject to flooding during the 1% annual chance (100-year) base flood elevations determined. It appears that the floodway of these streams may also be impacted.

The National Flood Insurance Program (NFIP) is administered by FEMA and is designed to reduce flood losses through local floodplain management and provide flood insurance to property owners. The NFIP requires participating communities to adopt and enforce floodplain management ordinances with stipulations about modifications of the 100-year floodplain. As such, each community has an ordinance requiring permits for all proposed construction within Zone AE areas and also requiring that the flood carrying capacity of a relocated stream be maintained.

2 To prove that the flood carrying capacity of impacted streams will be maintained may require an engineering study and completion of the enclosed Conditional Letter of Map Revision (CLOMR) Application. Please coordinate with the floodplain management coordinator for the appropriate communities to assure that the project meets the requirements of their floodplain management ordinance.

A CLOMR is required under the National Flood Insurance Program (NFIP) regulations, 44 CFR 65.12, when proposed encroachments will result in Base Flood Elevation (BFE) increases in excess of those permitted under subparagraphs 60.3(c)(10) or 60.3(d)(3). Increases in excess of those allowed means that for encroachments on a FEMA designated floodway there is to be no rise when comparing existing to proposed conditions. No rise is defined as 0.00'. For areas studied in detail for which a floodway has not been defined, and for areas studies by approximate methods (Zone A), the maximum allowable increase in BFE from existing to proposed conditions is 1.00'.

Eugene Gruber, P.E. - Page 2/2

2 The impact of proposed construction on BFEs should be determined by appropriate engineering methods. For projects where the increase in BFE is determined to be within acceptable limits, although a CLOMR is not required by FEMA's standards, a community may still require a developer to obtain a CLOMR prior to issuing a building permit. In this case, FEMA will review the case for technical accuracy and compliance with NFIP standards as with any other CLOMR.

If you have any further questions regarding this issue, please contact me at (215) 931-5669. If you have general questions regarding the CLOMR process or the NFIP, please call FEMA's Map Assistance Center at (877) FEMA MAP/(877-336-2627).

Sincerely,

Eugene Gruber, P.E.
Senior Engineer
Mitigation Division

Enclosure

cc: State NFIP Coordinator

Scott B. Gudes - Page 1/2

UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

June 7, 2001

Mr. James A. Cheatham
U.S. Department of Transportation
Pennsylvania Division
228 Walnut Street
Harrisburg, Pennsylvania 17101-1720

Dear Mr. Cheatham:

Enclosed are comments on the Draft Environmental Impact Statement for Pennsylvania Turnpike/Interstate 95 Interchange Project Bucks County, Pennsylvania Burlington County, New Jersey. We hope our comments will assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Scott B. Gudes
Acting Under Secretary for Oceans
and Atmosphere Administrator and
Deputy Under Secretary

Enclosure

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Eugene Gruber, P.E. - Page 1/2

1 Floodplains (FEIS Sections IV-I, J)
The study area streams classified by the Federal Emergency Management Agency (FEMA) as Zone AE were added to the FEIS.

100-year floodplain limits are mapped on Figures IV-9A through IV-9C in Section IV of the FEIS. Impacts to the 100-year floodplain and floodway were calculated and discussed in Section IV-J.

See ***Eugene Gruber, P.E. – 2/2*** On This Page For The Response To Issue **2**.

Eugene Gruber, P.E. - Page 2/2

2 Floodplains (DEIS/FEIS Section IV-J)
As summarized in the DEIS/FEIS, the floodplain analysis conducted for this project indicated that although there would be a small increase in the Calculated Water Surface Elevation, the estimated rise would not be significant and there would be no adverse impact. Therefore, the increase in the Base Flood Elevation is determined to be within acceptable limits and a Conditional Letter of Map Revision is not required by FEMA standards. During Final Design, coordination with appropriate community officials regarding individual community floodplain management ordinances will occur.

Scott B. Gudes - Page 1/2

No Issues – No Responses

Scott B. Gudes - Page 2/2

MEMORANDUM FOR: Ramona Schreiber
Office of Policy and Strategic Planning

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: DEIS-0501-01 Pennsylvania Turnpike/Interstate 95 Interchange Project Bucks County, Pennsylvania Burlington County, New Jersey

The subject statement has been reviewed within the areas of the National Geodetic Survey's (NGS) responsibility and expertise and in terms of the impact of the proposed actions on NGS activities and projects.

1 All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the NGS home page at the following Internet World Wide Web address: http://www.ngs.noaa.gov After entering the NGS home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the NGS data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

1 If there are any planned activities which will disturb or destroy these monuments, NGS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NGS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about these monuments, please contact Rick Yorczyk; SSMC3 8636, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; telephone: 301-713-3230 x142; fax: 301-713-4175, Email: Rick.Yorczyk@noaa.gov

Scott B. Gudes - Page 2/2

1 Construction Impacts (FEIS Section IV-F)
A statement was added to the FEIS indicating that because there are no geodetic control monuments within the project impact area as defined in the DEIS/FEIS, the proposed alternatives will not adversely impact any geodetic control monuments.

Dorothy P. Guzzo - Page 1/2

HPO-F2001-61
01-1981, 01-2032, page 1

State of New Jersey
Department of Environmental Protection
Division of Parks & Forestry, Historic Preservation Office
PO Box 404, Trenton, NJ 08625-0404
TEL: (609) 292-2023 FAX: (609) 984-0578
www.state.nj.us/dep/hpo

DONALD T. DiFRANCESCO
Acting Governor

Robert C. Shinn, Jr.
Commissioner

June 11, 2001

Mr. James A. Cheatham
FHWA
Federal Building, 228 Walnut Street, 5th Floor
Harrisburg PA 17010

Dear Mr. Cheatham:

Thank you for sending a copy of the Draft EIS for the **Pennsylvania Turnpike/Interstate 95 Interchange project**, a portion of which is proposed for construction in **Burlington County, Florence Township, New Jersey**, for review and comment by the New Jersey Historic Preservation Office. We received a second copy for review and comment from the NJ DEP, Office of Coastal Planning & Program Coordination (OCPPC).

Summary: No architectural historic properties (a.k.a., historic architectural resources) will be affected (a.k.a., impacted) by project construction as proposed in this draft document. **Information presented in the draft EIS concerning archaeological historic properties (a.k.a., archaeological sites) is not complete.**

1

These comments are in reply to our receipt of the Draft EIS from you on May 2, 2001, and from OPPPC on May 8, 2001. Our comments pertain to the Cultural Resources sections of the document regarding resources in the New Jersey portion of the affected environment (a.k.a., Area of Potential Effects or APE).

Existing Cultural Resources

2 We concur there are no historic architectural resources within the APE. However,
1 information regarding archaeological resources is unclear and incomplete. The document states, "The New Jersey portion of the study area contains seven archaeological sites" (p. II-6). And again, "The New Jersey portion of the study area contained seven potential

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Dorothy P. Guzzo - Page 1/2

1 Cultural Resources (FEIS Section IV-C, Appendix C)
Comment regarding architectural historic properties is noted.

Due to the sensitive nature of the potential contents of archaeological sites, information regarding the specific locations of these archaeological sites is not routinely disseminated or readily acquired by the general public; therefore it was not included in the DEIS. It is available as part of the Technical Support Data and can be reviewed by agencies upon request. Detailed information on the location of these sites in New Jersey and the methods used to investigate these sites are described in several reports, which are part of the Technical Support Data.

As documented in the *Management Summary, Phase 1 Archaeological Investigations, I-95/Pennsylvania Turnpike Project, Pennsylvania Turnpike Extension* (PTC, 1995), during the initial phases of the project, several archaeological sites were studied in the New Jersey portion of the original study area that extended along the New Jersey Turnpike Extension from the Delaware River to US Route 130. It was determined based on a field walkover and shovel testing associated with Phase I testing that two of these sites would require Phase II investigations. However, after the study area was redefined it was discovered that these sites occur outside the project study limits that now terminate at the previous New Jersey Turnpike toll plaza in Florence Township, Burlington County. Therefore, no Phase II investigations are required in New Jersey.

The *Phase I Geoarcheological Investigations, I-276 Extension into New Jersey for the I-95/I-276 Interchange Project* (PTC, 1998) summarizes additional Phase I testing that evaluated the extent and nature of historic disturbance and the archaeological potential of sediments found at depths that exceed the limits of previous shovel probe testing. This report concluded that there is one site located beneath the existing Delaware River Turnpike Bridge that requires additional Phase I investigations, and possibly Phase II investigations. This site may be potentially effect by the Bridge North and Bridge South.

The FEIS was revised to clarify the changes in the study limits and how it affected the archaeological sites in the New Jersey portion of the study area, as well as updating the potential impacts that would result from the project. It is anticipated that subsequent to the FEIS a summary report describing the results of each report will be compiled. A Draft Programmatic Agreement, which can be found in the Technical Support Data, was completed that commits to completing the additional Phase I investigations on the area beneath the existing Delaware River Turnpike Bridge as recommended in the *Phase I Geoarcheological Investigations, I-276 Extension into New Jersey for the I-95/I-276 Interchange Project* (PTC, 1998), as well as any Phase II testing considered necessary. This work would be conducted during the early phases of Final Design. Additional information regarding the Programmatic Agreement can be found in Section IV-C.

2 Cultural Resources
The New Jersey State Historic Preservation Office's concurrence that there are no historic architectural resources within the Area of Potential Effect for the study area within New Jersey is noted.

Dorothy P. Guzzo - Page 2/2

HPO-F2001-61
01-1981, 01-2032, page 2

1 archaeological sites that were surveyed during Phase I Investigations" (p. IV-44). These sites are not described, and their locations are not discussed with reference to the APE. The archaeological survey studies that generated this information are not cited in the References (Section X), so it is not possible for the reviewer to go to the original documentation to check the accuracy of statements in the Draft EIS concerning archaeological resources. The information in the Draft EIS is incomplete and is insufficient to enable review and comment per either NEPA or Section 106 of the NHPA.

Impacted Cultural Resources

1 It is not possible to comment regarding impacted archaeological sites because "the assessment of potential archaeological resource impacts associated with the Build Alternatives . . . is ongoing and expected to conclude following completion of any required Phase II investigations" (p. IV-44). We look forward to receiving specific information about archaeological sites within the New Jersey portion of the APE and assessment of how they will be impacted by the proposed project.

Additional Comments

If you have any questions regarding historic architectural resources in the New Jersey portion of the APE, please contact Charles Scott (phone 609 633 2396 or E-mail CScott@DEP.State.NJ.US), or contact Mike Gregg with questions regarding archaeological resources (phone 609 633 2395 or E-mail MGregg@DEP.State.NJ.US).

Sincerely,

Dorothy P. Guzzo
Deputy State Historic
Preservation Officer

DPG:MG/CN/CS
MG:C:\letters\NEPA Comments

c: Lawrence Schmidt, OCPPC
Mary Ann Warner, Florence HPC
Amy Fox, FHWA
Jim Cipriano, First Baptist Church

Dorothy P. Guzzo - Page 2/2

See ***Dorothy P. Guzzo – 1/2*** On Previous Page For The Response To Issue **1**.

Carol B. Knickerbocker - Page 1/2

Pennsylvania Department of Environmental Protection

Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
July 9, 2001

Southeast Regional Office 610-832-6130
Fax 610-832-6133

Mr. James A. Cheatham
U.S. Department of Transportation
Federal Highways Administration
228 Walnut Street
Room 536
Harrisburg, PA 17101-1720

Re: I-95/Pennsylvania Turnpike Interchange
Draft Environmental Impact Statement
Bucks County, Pennsylvania

Dear Mr. Cheatham:

The Pennsylvania Department of Environmental Protection (DEP) received the Draft Environmental Impact Statement for the I-95/Pennsylvania Turnpike Interchange Project, located in Bucks County on May 2, 2001. The DEP has reviewed the Draft EIS and has the following comments:

1. 1 Practical methods to avoid and minimize impacts to the wetlands, watercourses, and flood plains continue to be encouraged. In addition, the DEP would like to be involved in the selection process for mitigation measures, wetland mitigation sites and stream relocation plans.

2. 1 All future meetings regarding wetland replacement or mitigation measures for impacts to regulated waters of the Commonwealth shall include all the resource agencies.

3. 2 Where is the correspondence from PF&BC regarding concurrence and agreement with conducted to determine the presence or absence of ironcolor shiners and red-bellied turtles within the project area. State listed Threatened and/or Endangered Species survey protocols must be accepted by the Pennsylvania Fish and Boat Commission, prior to conducting the survey. The results of the survey must be reported to and affirmed by the Pennsylvania Fish and Boat Commission. The survey protocols, survey results and concurrence letters must be presented in the Final Environmental Impact Statement.

4. 3 The data presented in tables ES-1, ES-2, and IV-20 vary from data reported in the Pre-Draft EIS submitted to the Department in February 2001. Please clarify the reasoning behind the changes.

5. 4 Table IV-39, IV-40, and IV-41 discuss approximate remediation costs for the removal of waste. Who is responsible for these costs? Contamination and waste removal should be the responsibility of the owner of the property not the taxpayers of the Commonwealth.

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Carol B. Knickerbocker - Page 1/2

1 Wetlands/Surface Waters/Floodplains/Agency Coordination
Investigations to further minimize impacts will continue through Final Design. Impacts to wetlands and waters of the United States will be mitigated in accordance with applicable federal and state guidelines and regulations. The natural resources agencies, including the Pennsylvania Department of Environmental Protection, will be invited to attend meetings during the development of detailed mitigation plans to compensate for the loss of wetland acreage/functions and values and streams.

2 Threatened and/or Endangered Species (FEIS Section IV-L, Appendix C))
The FEIS contains a summary and results of ironcolor shiner and red-bellied turtle surveys, as well as a summary of coordination with the Pennsylvania Fish & Boat Commission (PFBC). The survey protocol for these species was reviewed and approved by the PFBC, as documented in the Technical Support Data and the FEIS. In accordance with detailed project survey protocol, results and coordination documentation will be included in the Technical Support Data.

3 Impact Calculations (DEIS/FEIS Executive Summary, Section IV)
Impact tables were revised between the February 2001 and April 2001 DEIS based on continued impact quantification/checking and comments received at the March 22, 2001 cooperating agency meeting. The impact calculations presented in the April 2001 DEIS and in the FEIS are correct. During Final Design, impacts may change due to further efforts to minimize impacts.

4 Sensitive Waste (DEIS/FEIS Section IV-P)
As the project progresses and more detailed plans for property acquisition become available, additional sensitive waste site investigations (Phase II/III) will be conducted. Remediation will take place consistent with state and federal regulations. Additional analyses of these potentially impacted sites will be necessary to fully assess the remediation costs and associated financial responsibilities.

Carol B. Knickerbocker - Page 2/2

Mr. James A. Cheatham - 2 - July 9, 2001

6. **5** The Pre-Draft EIS submitted in February 2001 included a letter from the New Jersey Turnpike Authority regarding coordination on this project; this letter is not included in the April 2001 document.

7. **6** All storm water must be treated before discharging to waterways of the Commonwealth both during construction and post construction.

8. **7** Please use the Pennsylvania Fish and Boat Commissions new culvert designs for all new structure construction.

The Department of Environmental Protection appreciates the opportunity to provide comments on this project. If you have any questions, please contact me at 610-832-6124.

Sincerely,

Carol B. Knickerbocker

Carol B. Knickerbocker
Water Pollution Biologist 2
Soils and Waterways Section

cc: Mr. Haines - KCI Technologies
Mr. Kennedy - DEP
Ms. Okorn – U.S. EPA, Region III
Mr. Sieber - Policy Office
Ms. Winkler - US Army Corps of Engineers
Mr. Mixon - Pennsylvania Game Commission
Mr. McCoy - U.S. Fish and Wildlife
Mr. Spotts - Pennsylvania Fish and Boat Commission
Re 30 (GJE01)184-12

Carol B. Knickerbocker – 2/2

5 Agency Coordination (DEIS/FEIS Appendix C)
The New Jersey Turnpike Authority coordination letter previously included in the Pre-Draft EIS referenced the Major Investment Study, not the DEIS. Therefore, it was removed from the DEIS. However, this letter is located in the MIS correspondence folder of the Technical Support Data.

6 Surface Waters (DEIS/FEIS Section IV-H)
A mitigation strategy for this project is to collect surface water runoff resulting from the impervious highway surface created from project construction, as well as from the existing impervious highway surface. Appropriate stormwater management structures and facilities will be designed to meet construction and post-construction stormwater control requirements in accordance with best management practices. During construction, erosion and sedimentation (E&S) control measures will be implemented in accordance with E&S control plans to be developed during Final Design and coordinated with the County Conservation District.

7 Surface Waters (DEIS/FEIS Section IV-H)
The PFBC-recommended culvert designs will be used for new culvert construction as appropriate. Existing culverts that must be extended would likely not be reconstructed to incorporate this design. Therefore, extensions would be constructed using similar structures following the existing grade. (Standards used to design culverts are to be in accordance with Pennsylvania Department of Transportation [PENNDOT] standards, which are PFBC designs that were reviewed and incorporated by PENNDOT.)

Kevin L. Mixon - Page 1/2

1 Agency Coordination (DEIS/FEIS Section VII)
Coordination has and will continue to occur with the Pennsylvania Game Commission to address their concerns regarding the Pennsylvania listed peregrine falcon, which are related to timing and phasing of construction of the additional Delaware River Turnpike Bridge. Recent studies performed by the Pennsylvania Turnpike Commission for the re-decking of the existing Delaware River Turnpike Bridge will be used as a foundation for bridge construction timing and methods. The FEIS and Mitigation Report summarize the results of these efforts. However, due to the existence of the federally endangered shortnose sturgeon in the Delaware River, other constraints relative to bridge construction timing and methods must also be observed.

Kevin L. Mixon - Page 1/2

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

June 1, 2001

Mr. Jeffrey Davis
Pennsylvania Turnpike Commission
PO Box 67676
Harrisburg, PA 17106

In re: Interstate 95 Interchange Project
Draft Environmental Impact Statement
Bucks County, PA

Dear Mr. Davis:

The Pennsylvania Game Commission (PGC) would like to thank the Pennsylvania Turnpike Commission for the opportunity to review and comment on the above referenced document.

1 Construction activities for the additional Delaware River Bridge may impact the state listed endangered Peregrine Falcon (*Falco peregrinus*). Coordination needs to occur prior to the Final Environmental Impact Statement (FEIS) to address the concerns of the PGC. The FEIS and Record of Decision (ROD) should reference the agreements developed as a result of the coordination.

2 Page IV-76, indicates the Mitigation Report will be prepared prior to final design. The PGC recommends the Mitigation Report be developed and approved by the resource agencies prior to the FEIS and be referenced in the ROD.

3 The PGC recommends removing excess fill material from under the existing bridge over Mill Creek that separates Black Ditch Park from Silver Lake Park. The remaining area could act as an elevated floodplain for the creek. The removal of excess fill would open up the area under the bridge and facilitate wildlife movement between the parks.

ADMINISTRATIVE BUREAUS:
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LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-5286 LAW ENFORCEMENT: 717-787-5740
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411
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2 Mitigation
This project is proceeding in accordance with the Pennsylvania Department of Transportation's Transportation Project Development Process. Therefore, the Mitigation Report was drafted during the preparation of the FEIS, however it cannot be detailed, finalized and circulated until after the issuance of the Federal Record of Decision. Coordination with natural resource agencies will occur during development of mitigation plans.

3 Terrestrial Ecology (FEIS Section IV-M)
A reference to the removal of sediment deposits under the Turnpike Bridge over Mill Creek has been added to the FEIS and Mitigation Report, where appropriate. As a result, the area under the bridge may serve as a wildlife passage between Black Ditch Park and Silver Lake Park.

Kevin L. Mixon - Page 2/2

Mr. Jeffrey Davis -2- June 1, 2001

If you have any questions, please contact me directly at (717) 783-5957.

Very truly yours,

Kevin L. Mixon
Division of Environmental
Protection and Habitat Protection
Bureau of Land Management

Cc: SE Reg. Dir., Moore, Atten: Killough, FAS
Brauning, PGC
Arway, PFBC
Bender, DEP, SE Reg. Office
Densmore, U.S. FWS
Winkler, COE, Philadelphia Dist.

Kevin L. Mixon - Page 2/2

No Issues – No Responses

Richard V. Pepino - Page 1/3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. James Cheatham
Division Administrator
Federal Highway Administration
5th Floor, Federal Building
228 Walnut Street
Harrisburg, PA 17101

Re: Pennsylvania Turnpike / Interstate 95 Interchange Project, Draft Environmental Impact Statement / Draft Section 4 (f) Evaluation

Dear Mr. Cheatham:

In accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508), Section 309 of the Clean Air Act and Section 404 of the Clean Water Act, the Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the above referenced proposal. Based on our review of the DEIS, EPA has rated the environmental impacts of the action as "EC" (Environmental Concerns), and the adequacy of the Impact Statement as "Category 2" (Insufficient Information). A copy of EPA's ranking system is enclosed for your reference. The detailed basis for these ratings are contained in the following comments.

Project Description:

The proposed project is intended to address the following transportation deficiencies: inadequate linkage between I-95 and I-276 for system continuity, lack of I-95 continuity through the Mid-Atlantic Region, inadequate capacity of the current connections between I-95 and I-276, inadequate capacity of I-95 and I-276, and prolonged study area travel times and delays. The I-276/I-95 Interchange Project involves a high-speed, fully directional interchange between these two routes. The project also includes the relocation of a Pennsylvania Turnpike barrier toll plaza, widening of I-276 from four to six lanes between Interchange 28 and the Delaware River, and construction of an additional parallel bridge across the Delaware River. Interstate 95 would be widened to accommodate ramps and merge lanes resulting from the construction of the interchange. The recommended preferred alternative will potentially impact state and federal threatened and endangered species, 3.30 acres of wetlands, 26.82 acres of forest, 4,241 linear feet of perennial stream, 4,923 linear feet of intermittent stream, 11 residential displacements, 10 commercial displacements, and 2 institutional property displacements.

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Richard V. Pepino - Page 1/3

No Issues – No Responses

Richard V. Pepino - Page 2/3

General Comments:

1 EPA would like to thank the project team for their efforts in addressing our comments early in the NEPA process. Overall, the DEIS provides a good description of the project area, alternatives and the potential impacts resulting from the build alternatives. More information should be provided on the secondary and cumulative impacts to natural resources and mitigation for project impacts. The project team should continue to work closely with the appropriate state
2 and federal agencies to avoid and minimize impacts, and to develop an acceptable mitigation and
3 monitoring plan for all impacts. The mitigation and monitoring plan should be incorporated into the Record of Decision. The project team should also continue to involve the public throughout
4 the remaining process.

Specific Comments:

5 Appropriate emission factor and air quality models (MOBILE5a(h) and CAL3QHC) were used, and ambient Carbon Monoxide (CO) concentrations well below the National Ambient Air Quality Standard for CO were predicted for all scenarios. However, the DEIS should use a "one-to-eight hour persistence (conversion) factor" of 0.7, rather than 0.6. Use of the recommended factor would result in a maximum predicted 8-hour ambient CO concentration of 5.0 ppm as opposed to 4.8 ppm.

1 The DEIS states that since the project would not directly provide new local access or directly affect existing physical access, it is reasonable to assume that there would be no definitive site specific project development in undeveloped portions of the project area. However, it is unclear what impact the project will have on the natural environment by impacting the wetlands and stream directly and indirectly. For example, will the filling of wetlands and the increased impervious surfaces impair water quality, and to what degree? How does this relate to other stresses within the project area? The DEIS should discuss how these impacts as well as any other impacts from other actions could indirectly and cumulatively affect the natural environment. Some of the information is provided in other sections of the DEIS, but should be comprehensively discussed in the secondary and cumulative impacts section to provide the reader with an understanding of the resources in the project area and the stressors impacting them.

6 All storm water should be treated. Storm water management facilities should not be located in existing or mitigation site wetlands. In addition, impacts resulting from the disposal of
7 fill material and staging areas should be discussed. Appropriate state and federal agencies should be contacted regarding these locations to avoid impacts to environmental resources.

8 State and Federal Agencies should be contacted annually, at a minimum, regarding threatened and endangered species. Copies of the letters should be provided in the FEIS. The project team should continue coordination with the appropriate agencies to avoid impacts to these species.

Richard V. Pepino - Page 2/3

1 Secondary Development and Cumulative Impacts (DEIS/FEIS Section IV-U)

During the development of the Pre-DEIS, the Project Team coordinated with the US Environmental Protection Agency (USEPA) to complete the Secondary Development and Cumulative Impacts analysis. The procedures outlined in *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (USEPA 1999) and *Considering Cumulative Effects Under the National Environmental Policy Act* (PENNDOT, BEQ 1997) were reviewed and applied appropriately. An appropriate project-specific analysis was conducted based upon consideration of the affected area, access created and data available. Whereas the DEIS discussed natural resource impacts in the applicable subsections of Section IV (e.g., wetlands, surface waters, etc.), the FEIS presents a summary of the natural resource impacts within the Secondary Development and Cumulative Impacts section as well.

2 Agency Coordination
Agency coordination with the appropriate agencies will continue to occur during the mitigation process.

3 Mitigation
This project is proceeding in accordance with the Pennsylvania Department of Transportation (PENNDOT) Transportation Development Process. Therefore, the Mitigation Report was drafted during the preparation of the FEIS, however it cannot be detailed, finalized and circulated until after the issuance of the Federal Record of Decision (ROD). Mitigation commitments are documented in the FEIS, will be referenced in the ROD, and are summarized in the Mitigation Report.

After the ROD is issued and the project proceeds into Final Design, the Pennsylvania Turnpike Commission intends to retain a consultant to monitor Post-National Environmental Policy Act activities to ensure the mitigation commitments documented in the FEIS are completed or revised accordingly through Final Design. Also, an Environmental Monitor will be utilized in the construction phase to monitor the mitigation plans through construction of the project.

4 Public Involvement (DEIS/FEIS Section VII)
A variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project during the Environmental Impact Study. Appropriate public involvement will be employed throughout the remaining phases of the project.

5 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

Guidance in use of a persistence factor was obtained from the Pennsylvania Department of Transportation's Bureau of Environmental Quality (PENNDOT BEQ). In a March 10, 1999 telephone conversation with PENNDOT BEQ, the 0.6 persistence factor used in calculating 8-hour carbon monoxide (CO) concentrations was discussed and determined to be consistent with PENNDOT and Federal Highway Administration (FHWA) guidelines. Further, FHWA guidance (FHWA 1993) states that if there are no 1-hour CO concentrations above the 8-hour National Ambient Air Quality Standard for CO, no 8-hour concentration calculations need be performed. Since the highest modeled 1-hour concentration (8.6 ppm at receptor A17A) is less than the 8-hour standard for CO (9 ppm), this is the case. However, calculations were performed for 8-hour concentrations for verification purposes.

6 Surface Waters
A mitigation strategy for this project is to collect surface water runoff resulting from the impervious highway surface created from project construction, as well as from the existing impervious highway surface. Appropriate stormwater management structures and facilities will be designed to meet construction and post-construction stormwater control requirements in accordance with best management practices. During construction, erosion and sedimentation (E&S) control measures will be implemented in accordance with E&S control plans to be developed during Final Design and coordinated with the County Conservation District.

7 Construction Impacts
FHWA guidelines indicate that it is the contractor's responsibility to acquire state and federal permits and approvals for the storage and disposal of fill excavated during construction. However, in some cases when a large quantity of waste fill material is likely to be produced, FHWA may identify an appropriate location for disposal. However, the contractor may or may not choose to use this location. Potential construction staging areas will be identified during Final Design. These sites would be made available to the contractor; however, use of these areas by the contractor is not mandated. In addition, the appropriate environmental permitting and property owner coordination activities may be conducted at that time.

For this project, large quantities of borrowed fill are expected, and an excess of waste material is not anticipated. Additional consideration for waste disposal will be conducted during Final Design.

8 Agency Coordination (DEIS/FEIS Sections IV-L, VII; Appendix C)
Agency coordination regarding threatened and endangered species will continue to occur at appropriate intervals throughout the Transportation Project Development Process. Agency correspondence letters are available for review in the Technical Support Data located at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office located at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057.

Richard V. Pepino - Page 3/3

Thank you for the opportunity to offer these comments. We look forward to working with you throughout project design and implementation. If you have any questions regarding these comments, please contact Barbara Okorn of my staff at (215)814-3330.

Sincerely,

Richard V. Pepino, Director
Office of Environmental Programs

Enclosure

Richard V. Pepino - Page 3/3

No Issues – No Responses

Lawrence Schmidt - Page 1/3

State of New Jersey
Department of Environmental Protection

DONALD T. DIFRANCESCO
Acting Governor

Robert C. Shinn, Jr
Commissioner

Office of Coastal Planning & Program Coordination
PO Box 418
Trenton, NJ 08625-0418
Phone: 609-292-2662
Fax: 609-292-4608
lschmidt@dep.state.nj.us

Mr. James A. Cheatham
Federal Highway Administration
228 Walnut Street
Harrisburg, PA 17101

RE: Pennsylvania Turnpike/Interstate 95 Interchange Project
FHWA-PA-EIS-01-02-D
Draft EIS Comments

Dear Mr. Cheatham:

The Office of Coastal Planning and Program Coordination of the New Jersey Department of Environmental Protection (NJDEP) has completed its review of the Draft Environmental Impact Statement (EIS) for the proposed Pennsylvania Turnpike/Interstate 95 Interchange Project. The preferred alternative includes a new crossing of the Delaware River south of the existing Pennsylvania Turnpike Commission bridge. We offer the following comments regarding potential impacts to natural resources and cultural resources of New Jersey, and regarding regulatory requirements.

NATURAL RESOURES

1 The NJDEP's Division of Fish and Wildlife's (DFW) concerns are limited to the Delaware River crossing, the preferred alternative identified in the Draft EIS as a second bridge located 75 feet downstream of the existing bridge. The DFW does not have an objection to the selection of the Bridge-South alternative, however, they do have concerns about precautionary measures necessary to protect fish and wildlife resources, namely for the peregrine falcon (E), shortnose sturgeon (E) and anadromous fish in general (American shad, alewife, blueback herring, stripped bass).

2 In regard to fisheries impacts, the DFW does not have any objection to time restrictions indicated on page IV-73 for the protection of shortnose sturgeon

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Lawrence Schmidt - Page 1/3

1 Project Position

The commenter's concerns regarding the protection of fish and wildlife resources and the "no objection" to the Bridge South Alternative is noted.

See ***Lawrence Schmidt – 2/3*** On This Page For The Response To Issue **2**.

Lawrence Schmidt - Page 2/3

2

2 and other anadromous fish: i.e. March 15th through May 31st and September 1st through November 30th. They note and emphasize that the spring (spawning migration) restriction is, by far, the more important of the two restrictions. Further, the restriction should not only apply to sediment generating activities as noted in the Draft EIS but also for in-river sound deterrents and high decibel levels, such as pile and sheet pile driving activities. We recommend that these restrictions and activities be included in any fisheries impact and mitigation sections of the Final EIS, as well as in any construction impact and mitigation sections.

2 In regard to the potential impacts of construction on the presence of nesting peregrine falcons, consultation with the DFW's Endangered and Nongame Species Program (Kathy Clark at 609-646-2103) is essential relative to their protection. Consultation would be necessary to determine the location and use of nests in the year(s) of construction. In addition, construction activities within 200 feet on an active nest would need to be avoided during the nesting season (March 15th through July 1st). We recommended that these criteria be expressed in the endangered/threatened species impact and mitigation sections of the Final EIS, as well as in any construction impact and mitigation sections.

3 Additionally, there is one issue not found in the Draft EIS that was expressed earlier (1992) by the DFW during the scoping process. At that time, we noted the presence of an existing but unimproved fishing access just downstream of the existing Turnpike Bridge on the New Jersey side of the Delaware River. The DFW interest was in replacing and/or improving the access with a formal boat ramp with access parking. While the plans of the DFW to acquire the site fell through, angler access should be still be preserved or replaced and, if possible, enhanced for shoreline fishing, a boat ramp and adequate parking facilities. The area may now be municipal owned. Given the on-site presence of heavy equipment needed for the subject project itself, re-grading a gravel parking area and installing a boat ramp should not be a difficult task to justify. The area is adjacent to the proposed Delaware River Heritage Trail, as indicted in the Draft EIS, such a site might be considered for incorporation into the trail system or established as a destination area. The Final EIS should address this issue, particularly in regard to any discussions with the municipality and the Delaware River Heritage Trail sponsors.

CULTURAL RESOURCES

4 The NJDEP's Historic Preservation Office directly forwarded their detailed comments to you in the attached letter dated June 11, 2001. Their findings are that in New Jersey no architectural historic properties will be affected by the project construction as proposed in the Draft EIS. However, information presented in the document concerning archaeological historic properties is not complete. They look forward to receiving specific information about

Lawrence Schmidt - Page 2/3

2 Threatened and/or Endangered Species (DEIS/FEIS Section IV-L, Appendix C)

Impact minimization measures will include recommendations from the New Jersey Department of Environmental Protection (NJDEP), including time restrictions for in-river sound deterrents and high decibel levels such as pile and sheet pile driving activities for the protection of fisheries.

For the re-decking of the existing Delaware River Turnpike Bridge, the Pennsylvania Turnpike Commission coordinated with natural resource agencies for the Pennsylvania and New Jersey listed peregrine falcon. This information will be referenced and used as a foundation for the timing and methods of construction for the additional Delaware River Turnpike Bridge, and rehabilitation of the existing bridge for the proposed I-276/I-95 Interchange Project. Investigations to supplement this information would be conducted prior to the construction phases, and would included contacting the NJDEP Fish and Wildlife Endangered and Nongame Species Program. Also, coordination, including correspondence and meetings, with the NJDEP Department of Fish and Wildlife and other natural resource agencies will continue so that concerns regarding the peregrine falcon are addressed. The FEIS and Mitigation Report summarize the results of these efforts.

3 Parks and Recreation

Currently, property investigations indicate that the small fishing access/boat access located on the New Jersey side of the Delaware River, just downstream of the existing Delaware River Turnpike Bridge, is not publicly owned. If the Bridge South Alternative is constructed, it is likely that this area would be within the proposed new right-of-way and would be acquired by the Pennsylvania Turnpike Commission. Additional discussions regarding the feasibility and funding for the replacement/improvements of this fishing access/boat launch would be investigated and coordinated during Final Design.

4 Cultural Resources (DEIS/FEIS Section IV-C, Appendix C)

Comment regarding architectural historic properties is noted.

Due to the sensitive nature of the potential contents of archaeological sites, information regarding the specific locations of these archaeological sites is not routinely disseminated or readily acquired by the general public; therefore it was not included in the DEIS. It is available as part of the Technical Support Data and can be reviewed by agencies upon request. Also, these reports were forwarded to the NJSHPO subsequent to the DEIS. Detailed information on the location of these sites and the methods used to investigate these sites are described in the *Pennsylvania Turnpike/Interstate 95 Interchange Project Phase I Archaeological Investigations, Management Summary*, which is also part of the Technical Support Data. During the initial phases of the project, seven archaeological sites were studied in the New Jersey portion of the original study area that extended along the New Jersey Turnpike Extension from the Delaware River to US Route 130. It was determined that two of these sites would require Phase II investigations. However, after the study area was redefined it was discovered that these sites occur outside the project study limits that now terminate at the previous New Jersey Turnpike toll plaza in Florence Township, Burlington County. However, the *Phase I Geoarcheological Investigations, I-276 Extension into New Jersey for the I-276/I-95 Interchange Project* (PTC, 1998) identifies one site beneath the existing Delaware River Turnpike Bridge that may be impacted by the project. Measures to address this potential impact are discussed in Section IV-C, as well as in the Draft Programmatic Agreement.

The text of the FEIS was clarified to describe the changes in the study limits and how it affected the archaeological sites in the New Jersey portion of the study area.

Lawrence Schmidt - Page 3/3

4 archaeological sites in New Jersey and the assessment of how they will be impacted by the proposed project.

REGULATORY REQUIREMENTS

5 The Draft EIS identifies permits and approvals that will be required from our Department's Land Use Regulation Program (LURP) for the construction of the New Jersey part of the project. We encourage continued coordination with the LURP as the project progresses through the design, permitting and construction phases.

Thank you for the opportunity to comment on the Draft EIS.

Sincerely,

Lawrence Schmidt
Director
Office of Coastal Planning
& Program Coordination

Attachment

C: Andy Didun, NJDEP
Kathy Clark, NJDEP
Charles Scott, NJDEP
Mike Greg, NJDEP
Bryan Ianni, NJDEP

Lawrence Schmidt - Page 3/3

See ***Lawrence Schmidt – 2/3*** On Previous Page For The Response To Issue **4**.

5 Agency Coordination

Technical data will be compiled and used during Final Design to file a request for permits and approvals from the NJDEP's Land Use Regulation Program. Coordination with NJDEP regarding permit requirements has been ongoing throughout the project development process and will continue through Final Design and construction.

David E. Spotts - Page 1/2

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH & BOAT COMMISSION
Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823
814-359-5115

June 26, 2001

Andrew L. Warren, District Administrator
Engineering District 6-0
Department of Transportation
7000 Geerdes Boulevard
King of Prussia, PA 19406

Re: Bucks County
Pennsylvania Turnpike/Interstate 95
Interchange Project
Draft Environmental Impact Statement

Dear Mr. Warren:

1 The Pennsylvania Fish and Boat Commission (PFBC) appreciates the opportunity to review and comment on the subject Draft Environmental Impact Statement. Representatives from the PFBC have actively participated with the development of this proposed project by attending field views, meetings, and submitting comments. We were pleased that all of our previous concerns were addressed within the document. The PFBC has no objections to the construction of the preferred Modified Plaza West, Single Loop A, Bridge South Alternative. We do, however, have a few comments and recommendations that should be followed as this interchange project progresses though the remainder of the project development process and construction. They are as follows:

2 • As indicated on page ES-14, surveys are needed to determine the presence or absence of ironcolor shiners and red-bellied turtles within the project area. A commitment was made to complete these surveys and summarize the results within the Final Environmental Impact Statement. There should be coordination with our Nongame and Endangered Species Unit while conducting these efforts.

3 • All storm water must be treated (ie. detention ponds, grass swales, etc.) prior to discharging into the natural waterways. Storm water management facilities should not be constructed within existing wetland habitat nor in areas designated for wetland mitigation sites.

David E. Spotts - Page 1/2

1 Project Position

The Pennsylvania Fish and Boat Commission's (PFBC) "no objection" position to the construction of the DEIS Recommended Preferred Alternative (Modified Plaza West, Single Loop A and Bridge South Alternatives) is noted.

2 Threatened and/or Endangered Species (FEIS Sections IV-K, VII; Appendix C)

The FEIS contains a summary of the ironcolor shiner and red-bellied turtle surveys, results, and agency coordination. The protocol for these surveys was drafted in coordination with, and approved by, the PFBC Nongame and Endangered Species Unit, and is documented in the Technical Support Data. The detailed survey protocol, results, and pertinent coordination documentation is included in the Technical Support Data.

3 Surface Waters (DEIS/FEIS Section IV-H, Appendix A)

A mitigation strategy for this project is to collect surface water runoff resulting from the impervious highway surface created from project construction, as well as from the existing impervious highway surface. Appropriate stormwater management structures and facilities will be designed to meet construction and post-construction stormwater control requirements in accordance with best management practices. During construction, erosion and sedimentation (E&S) control measures will be implemented in accordance with E&S control plans to be developed during Final Design and coordinated with the County Conservation District.

The graphics shown in the FEIS identify the preliminary stormwater management facility locations that were investigated to date, and have been revised since the DEIS. During Final Design these preliminary stormwater management facility locations will be re-evaluated to avoid existing wetlands and threatened and endangered species habitat while continuing to observe local stormwater ordinances. The location and design of candidate wetland replacement sites and potential stormwater management facilities will be ongoing through Final Design. Overlapping of these facilities will be avoided where possible.

David E. Spotts - Page 2/2

Bucks County
June 26, 2001
Page 2

4 • Compensation must be implemented for the permanent impact to 3.3 acres of wetland habitat and 4,241 feet of perennial stream channel. The PFBC would like to participate during the selection and design of these wetland and stream compensation sites.

5 • The new culvert designs that address fish passage should be utilized for all new structure construction.

6 • The PFBC would like to review the proposed stream relocation plans and have an opportunity to provide input.

Thank you again for allowing our agency to participate with this proposed transportation project. We look forward to working with the Department of Transportation and the Pennsylvania Turnpike Commission as this project progresses through NEPA process.

Sincerely,

David E. Spotts, Chief
Watershed Analyses Section

DES:

c: EPA – Okorn
COE – Winkler
DEP – Knickerbocker
PGC – Mixon
FWS – McCoy

David E. Spotts – 2/2

4 Wetlands/Surface Waters (DEIS/FEIS Sections IV-H, K)
Investigations to further minimize impacts will continue through Final Design. Impacts to wetlands and waters of the United States will be mitigated in accordance with applicable federal and state guidelines and regulations. The natural resources agencies, including PFBC, will be invited to attend meetings during the development of detailed mitigation plans to compensate for the loss of wetland acreage/functions and values and streams.

5 Surface Waters (DEIS/FEIS Section IV-H)
The PFBC-recommended culvert designs will be used for new culvert construction as appropriate. Existing culverts that must be extended would likely not be reconstructed to incorporate this design. Therefore, extensions would be constructed using similar structures following the existing grade. (Standards used to design culverts are to be in accordance with Pennsylvania Department of Transportation [PENNDOT] standards, which are PFBC designs that were reviewed and incorporated by PENNDOT.)

6 Agency Coordination
Coordination will continue to occur with the PFBC and other applicable resource agencies regarding the proposed stream relocation plans for the project through the Final Design phase.

Willie R. Taylor – Page 1/3

1 Agency Coordination (FEIS Section IV-B, Appendix C)
Previous investigations conducted for the Section 4(f) determinations used in preparing the Draft Section 4(f) Evaluation concluded that none of the public recreation areas identified within the project study area received assistance under the Land and Water Conservation Fund Act. Therefore this project does not result in conversion of Section 6(f) lands. The previous investigations involved contacts with Duane Carson, Chief, Land Records Section of the Pennsylvania Department of Conservation and Natural Resources, and Ken Lewis, Manager of the Delaware Canal State Park, as well as with county and municipal parks and recreation department officials. The "funding" results of the preliminary investigations are summarized in the following table. Additional details concerning the investigations may be found in the Technical Support Data. Both the Pennsylvania Department of Conservation and Natural Resources and the New Jersey Department of Environmental Protection received copies of the DEIS.

Parks	Jurisdictional Authority	Federal/ State Funding
Delaware Canal State Park	Commonwealth of Pennsylvania	State Funds
Pacific Park	Bristol Township	None
Silver Lake Park	Bucks County	HUD 05-1, 05-168, RIRA Funds
Black Ditch Park	Bucks County	HUD 05-168
Greentrees Parks A & B	Bristol Township	RIRA Funds
Bristol Township Municipal Complex	Bristol Township	Federal CDBG Funds
Richlieu Park	Bensalem Township	None
Bensalem Township Parcel	Bensalem Township	None

Willie R. Taylor - Page 1/3

United States Department of the Interior
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER-01/341

Mr. James A. Cheatham
Division Administrator
Federal Highway Administration
5th Floor, Federal Building
228 Walnut Street
Harrisburg, Pennsylvania 17101

Dear Mr. Cheatham:

This is in response to your request for comments from the Department of the Interior on the Draft Environmental Impact Statement/Section 4(f) Evaluation for the Pennsylvania Turnpike (I-276)/I-95 Interchange Project, Bucks County, Pennsylvania; and Burlington County, New Jersey.

RECREATIONAL RESOURCES

1 There are numerous parks within the project corridor (both in New Jersey and Pennsylvania) which have received assistance under the Land and Water Conservation Fund Act. As a result of this Federal grant assistance, these properties are protected in perpetuity from conversion to anything other than outdoor recreational use. Use of any part of these lands for highway purposes would constitute such a conversion under the terms of Section 6(f) of the Land and Water Conservation Fund Act of 1965, as amended.

1 In order to ensure that your project does not result in a Section 6(f) conversion, please contact: Mr. Richard Sprenkle, Deputy Secretary, Conservation and Engineering, Department of Conservation and Natural Resources, Post Office Box 8767, Harrisburg, Pennsylvania 17105; or Ms. Cari Wild, Commissioner, Natural and Historic Resources, Department of Environmental Protection, CM 404, Trenton, New Jersey 08625.

GEOLOGICAL/WATER RESOURCES

2 The report includes the Eurasian water milfoil (*Myriophyllum spicatum*) among the aquatic macrophytes in the project location (page IV-58, Chapter IV. Environmental Consequences, Section H. Surface Water Resources and Aquatic Biota, d. Aquatic Resources (1) Aquatic Macrophytes), however, *Myriophyllum spicatum* is not included among the common invasive plant species in the study area (page IV-75). Eurasian water milfoil has been identified as a nuisance aquatic invasive plant species.

The proposed project will cause some habitat disturbance to the Delaware River at the project site and therefore, the growth of this non-native milfoil may be encouraged. Because the plant disperses easily by stem fragmentation, establishes dense mats, and out-competes native aquatic plants, the habitat for native

2 Terrestrial Ecology (FEIS Section IV-M)

The Eurasian water milfoil species was added to the FEIS list of invasive species identified in the study area (Section IV-M). Appropriate methods to minimize the growth and spread of this species, as recommended by the Department of the Interior, were also added to the FEIS and Mitigation Report.

Willie E. Taylor - Page 2/3

aquatic plants and invertebrates, both important to native fish populations can become diminished. Methods to eradicate Eurasian water milfoil include harvesting, roto-tilling, herbicides, and biological controls such as the aquatic weevil, *Euhrychiopsis lecontei*.

Should you have any questions concerning these comments, please contact Cynthia Wilkerson, National Park Service, Philadelphia Support Office, at 215-597-1570. For matters pertaining to geological/water resources, please contact Brenda Johnson, U.S. Geological Survey, Reston, Virginia, at 703-648-6832.

Thank you for the opportunity to provide these comments.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

Enclosure

Willie E. Taylor - Page 2/3

No Issues – No Responses

Willie E. Taylor - Page 3/3

U.S.G.S. REFERENCES

Westbrooks, R. 1998. Invasive plants, changing the landscape of America: Fact book. Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW), Washington, D.C. 109 pp.

Evaluating the aquatic weevil (*Euhrychiopsis lecontei*) as a biological control agent for Eurasian water milfoil (*Myriophyllum spicatum*). http://biology.usgs.gov under Current Projects, Eurasian water milfoil.

Willie E. Taylor - Page 3/3

No Issues – No Responses

Lawrence J. Toth - Page 1/2

Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063
July 16, 2001

Office for River Basin Cooperation 717-772-5622

Ms. Deborah Suciu-Smith
U.S. Department of Transportation
Federal Highway Administration
Pennsylvania Division
228 Walnut Street, Room 540
Harrisburg, PA 17101-1720

Re: CZM File No. CZ7: FA

Dear Ms.Suciu-Smith:

The Pennsylvania Coastal Zone Management Program has reviewed The Draft Environmental Impact Statement / Draft Section 4 (f) Evaluation for the Pennsylvania Turnpike / Interstate 95 Interchange Project - April 2001 (FHWA-PA-EIS-01-02-D), and offers the following comments:

1. Page IV-65, COASTAL ZONES, Section 1. Coastal Zone Boundaries and Project Consistency, Third Paragraph, Second Sentence should read, "In Pennsylvania, a project is determined to be consistent with PADEP's Coastal Zone Management Program ~~if the~~ after all necessary state ~~and federal~~ permits regarding stream encroachment, water quality, wetlands, etc. are obtained. ~~With the completion of the DEIS, and the permit commitments described herein, this project will be consistent with both federal and Pennsylvania Coastal Zone Management Program.~~ Pennsylvania CZM Program will make its federal consistency determination during the Final Design stage. Copies of the Record of Decision and Final Mitigation Report will be sent to Pennsylvania CZM for informational purposes. 1

2. Page IV-67, 2. Exceptional Value Wetlands, Third Paragraph reads, " Due to the location of wetlands near the sites where Pennsylvania listed species are found, the status of *exceptional value* wetlands was determined for eleven wetlands, six of which may be impacted. As shown in **Table IV**, the only exceptional value wetlands that may be impacted by the I-276 / I-95 Interchange Project are located in the Interchange Element. These are E15, E16, E18B, E24, E28, and E29". However, Table IV lists seven exceptional value wetlands. Please explain or correct this difference. 2

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Lawrence J. Toth - Page 1/2

1 Coastal Zones (FEIS Section IV-I)
The commenter's suggested revisions were incorporated into Section IV-I of the FEIS.

2 Wetlands (FEIS Section IV-K)
The FEIS was revised to list the correct number of exceptional value wetlands. Wetland E30, identified as exceptional value in Table IV-28, was included in the text describing impacts to exceptional value wetlands. The correct number of exceptional value wetlands is seven.

Lawrence J. Toth - Page 2/2

Ms. Deborah Suciu-Smith
Page –2-

If you have any questions concerning these comments, please contact me at 717-772-5622.

Sincerely,

Lawrence J. Toth
Environmental Planner
Coastal Zone Management Program

Lawrence J. Toth - Page 2/2

No Issues – No Responses

Terry S. Fedorchak - Page 1/1

Township of Lower Makefield

BOARD OF SUPERVISORS
Frank J. Fazzalore, Chairman
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Frederick M. Allan, Supervisor

June 28, 2001

Jeffrey Davis
Pennsylvania Turnpike Commission
Pennsylvania Turnpike/Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Dear Mr. Davis:

1 I would like to officially request that the Environmental Impact Statement/Section 4(f) Evaluation for the Pennsylvania Turnpike/Interstate 95 Interchange Project be amended to consider the construction-phase impacts to Lower Makefield Township, and to identify the mitigation measures available to eliminate these impacts. Significant adverse impacts to this community would result from this project over a prolonged seven-year construction period. These impacts were overlooked in the EIS, and need to be addressed. The measures that would mitigate potential impacts are available, as identified below, and should be identified in the EIS and adopted as part of the Record of Decision for the project.

Lower Makefield Township is located approximately 10 miles north of the proposed Interchange Project. Although our township falls outside of the project study area defined in the DEIS, the project will have significant impacts extending beyond the study area boundaries to our township. Our principal concern with the project relates

2 to the construction period, when the transportation of construction materials would increase noise, dust and congestion on out local streets.

2 Stone and asphalt will most likely come from the four quarries located off of Swamp Road in Wrightstown, PA. These quarries are by far the closest quarries to the project site and produce the type of crushed stone and asphalt required for the Interchange Project.

1100 EDGEWOOD ROAD
YARDLEY, PA 19067-1696

TERRY S. FEDORCHAK
Township Manager

(215) 493-3646
FAX: (215) 493-3053
E-Mail: www.lmt.org

Terry S. Fedorchak - Page 1/1

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area was not defined to include all potential sources of construction materials for the I-276/I-95 Interchange Project. The DEIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the DEIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

There is no specific tie-in between the proposed I-276/I-95 Interchange Project and the referenced Wrightstown quarries; nor have any specific impacts upon the Lower Makefield Township been established. Therefore, the inclusion of the Lower Makefield Township into the study area was not appropriate.

2 Construction Impacts

The construction contract policies of the Federal Highway Administration, the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five-county area. Also, some of these quarries are contractor-owned and will likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction material sources and transportation methods are quite variable and unpredictable.

Terry S. Fedorchak - Page 1/2

The shortest, most direct route (Route 332 to Swamp Road to I-95) to the Wrightstown quarries from I-95 is currently impassable by loaded Quarry trucks due to a culvert on Swamp Road with a weight limit of 15 tons. Because the loaded Quarry trucks cannot use this route, they are forced to use an alternate route (Swamp Road to Worthington Mill Road to Route 413 to Stoopville Road to Route 532 to Lindenhurst Road to Route 332 to I-95) that utilizes local roads in our community, which are not adequate for heavy truck traffic. The additional quarry demand related to the project will further worsen the existing problem.

3 Mitigation for this problem exists and should precede the initiation of the project construction phase. Upgrading the existing culvert on Swamp Road to accommodate the loaded Quarry trucks prior to construction of the Interchange Project would mitigate this problem, as it would provide a direct route to I-95.

2 NEPA requires that the EIS consider the reasonably foreseeable direct and indirect effects of the project. Construction-phase impacts, where they occur over a long period (greater than 5-years) have been interpreted as requiring the same consideration as impacts that are predicted to occur during the operational phases of the project. This distinction between evaluation requirements for short and long-term impacts is formalized in USEPA's final conformity rule.

I therefore respectfully request that the EIS is revised to consider these impacts and that the mitigation be included as a condition for the project moving forward.

Sincerely,

Terry S. Fedorchak
Township Manager

cc: Board of Supervisors
Garney Morris
Jim Yeager
Sue Herman

Samuel J. Fenton - Page 1/1

Bristol Township

2501 Bath Road · Bristol, PA 19007 · (215) 785-0500 · Fax (215) 785-2131

June 13, 2001

KCI Technologies, Inc.
Joseph F. Roth, III, P. E.
Project Manager
3220 Tillman Drive
Suite 215
Bensalem PA 19020-2083

Dear Mr. Roth:

1 This letter is to articulate that the Bristol Township Council and Mayor favor the Single Loop and Bridge South alternatives of the Pennsylvania Turnpike/I-95 Project. These alternatives are preferred because they have a lesser impact on our community. The Township does, however, remain opposed to the project as a whole.

Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Samuel J. Fenton
Bristol Township Executive

Cc: Bristol Township Council
Suzanne Newsome, Managing Director

Joseph S. Martz - Page 1/1

CITY OF PHILADELPHIA

JOSEPH S. MARTZ
Managing Director

May 23, 2001

Mr. Jeffrey Davis
Pennsylvania Turnpike Commission
PA Turnpike/I-95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Dear Mr. Davis:

Provided herewith are the City of Philadelphia's comments on the DEIS for the Turnpike/I-95 Interchange.

The City views the lack of a direct Turnpike/I-95 Interchange to be a major detriment to the City in its economic development activities. We need to have access to the main north-south interstate highway network to serve our distribution centers, port operations and hospitality industries. For example, the Port of Philadelphia handles almost 50 million tons of bulk and general cargo annually. A large majority this cargo must be shipped out of the Port by highways that should afford direct access to the rest of the country.

Currently, the only way to access the New Jersey Turnpike for travel northbound other than the circuitous route via I-95 and the existing PA Turnpike/Route 413 Interchange, is to take one of the Delaware River bridges and use local arterial highways to reach any of the entrances. The net results of this long-standing situation are that motorists are often not aware they are passing through the Philadelphia area, and distribution businesses avoid locating here.

The original routing of I-95 through Pennsylvania into New Jersey assumed that there would be a New Jersey link northward. Since that link was deleted from the Interstate system, I-95 through Philadelphia and southeastern Pennsylvania does not function as a true interstate highway. The proposed interchange and bridge and toll improvements will correct this problem.

1 Therefore, the City of Philadelphia strongly endorses the findings of the DEIS and the need for a Turnpike/I-95 Interchange for our future economic well being as well as enhanced highway accessibility to the rest of the country.

Sincerely,

Joseph S. Martz
Managing Director

JSM/lm

Rm. 1450, 1401 John F. Kennedy Blvd., Philadelphia, PA 19102-1683. Phone: (215) 686-3480. FAX: (215) 686-3479

Terry S. Fedorchak - Page 1/2

3 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials were held, and PENNDOT and municipality-sponsored studies were conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan.

See ***Terry S. Fedorchak – Page 1/1*** On Previous Page For The Response to Issue **2.**

Samuel J. Fenton - Page 1/1

1 Project Position

On behalf of the Bristol Township Council and Mayor, the commenter's opposition to the project as a whole is noted. However, the commenter, on behalf of the Bristol Township Council and Major, favors the Single Loop A and Bridge South Alternatives due to the lesser impacts to the community.

Joseph S. Martz - Page 1/1

1 Project Position

The commenter's endorsement of the DEIS findings and the need for the I-276/I-95 Interchange Project based on economic and traffic and transportation benefits, on behalf of the City of Philadelphia, is noted.

Anthony Melio - Page 1/1

ANTHONY J. MELIO, MEMBER
4211 WISTAR ROAD
FAIRLESS HILLS, PENNSYLVANIA 19030
PHONE: (215) 943-TONY(8659)
FAX: (215) 943-2434

HOUSE BOX 202020
HARRISBURG, PENNSYLVANIA 17120-2020
PHONE: (717) 787-3057
FAX: (717) 772-2943

House of Representatives
COMMONWEALTH OF PENNSYLVANIA
HARRISBURG

COMMITTEES
TRANSPORTATION ADVISORY COMMITTEE
TRANSPORTATION, DEMOCRATIC CHAIRMAN, SUBCOMMITTEE ON HIGHWAYS
NATIONAL CONFERENCE OF INSURANCE LEGISLATORS (NCOIL) EXECUTIVE COMMITTEE
INSURANCE
LOCAL GOVERNMENT
POLICY COMMITTEE
AMERICAN-ITALIAN CAUCUS
DRUG AND ALCOHOL CAUCUS
PENNSYLVANIA FIREFIGHTERS' LEGISLATIVE CAUCUS

June 20, 2001

Dear Mr. Jeffrey Davis:

I would like to take this opportunity to respectfully inform you of my concerns regarding the proposed Interstate 95 and Pennsylvania Turnpike Interchange in Bucks County.

1 Residents of the surrounding municipalities of Bensalem, Falls and Middletown Townships have passed resolutions not to support this project. The construction of the interchange will displace numerous homeowners and businesses in Bucks County. As an
2 advocate of advancing small business growth and in concern for the interests of my constituents, I feel the project would impair the quality of commercial and residential
3 property. Furthermore, the interchange does not suggest a reduction of traffic congestion but merely a relief of congestion in the main arteries. The increase of traffic also raises
4 concerns about the increase of air pollution, a luxury these residents cannot afford.

5 In an effort to connect Florida and Maine thru I-95, I suggest the federal dollars be spent in our neighboring state, New Jersey. Exit 7 on the New Jersey Turnpike and Interstate 195 is separated by 1,000 feet of open space. At this site Pennsylvania dollars would not be spent and less businesses and homeowners will be displaced.

Thank you for considering my comments regarding the I-95 and Pennsylvania Turnpike Interchange. I look forward to continuing to work with the Pennsylvania Turnpike Commission in finding a resolution to the proposed interchange.

Sincerely,

Anthony J. Melio
State Representative
141st Legislative District

PRINTED ON RECYCLED PAPER

Anthony Melio - Page 1/1

1 Socioeconomic – Property Acquisition (DEIS/FEIS Sections IV-B.3, C.3)
The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office.

2 Socioeconomic – Economic (DEIS/FEIS Sections IV-B.3, C.3)
Property values could conceivably be affected both positively and negatively. The Economic Impact Study conducted for the I-276/I-95 Interchange Project concluded that overall residential property values will be affected positively by the improved accessibility to the interstates and reductions in local congestion. It is projected that the I-276/I-95 Interchange Project will remove trips from local roads by diverting trips onto I-95 and I-276. The diverted trips originate primarily from travelers wanting to transfer from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project will maintain and/or improve local access. These conditions are expected to increase the market attractiveness of the region. Less traffic on these arterial roadways may encourage increased patronage of these local businesses and conversion of some properties to alternate land uses that generate higher revenues.

3 Traffic and Transportation (DEIS/FEIS Section IV-A.3)
Due to the urbanized nature of the study area, the existing traffic networks are currently operating at or near peak or full capacity. A direct connection will remove trips from local roads by diverting the trips to I-276 and I-95. By removing traffic from the arterial roadway network, a direct connection will improve the operating conditions of the arterial roadway network within the study area. Based on Delaware Valley Regional Planning Commission (DVRPC) traffic data, the traffic delays of the existing roadway network will further degrade if transportation improvements relative to, and including, connecting I-276 and I-95 are not constructed.

4 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
A localized carbon monoxide analysis and a regional ozone analysis were conducted for the project, which satisfy US Environmental Protection Agency (USEPA), Federal Highway Administration, and Pennsylvania Department of Transportation (PENNDOT) guidelines. These analyses were based on traffic scenarios including existing and baseline conditions, the opening year, Build and No-Build interim years (with slow speed and fast speed E-*ZPass*) and Build and No-Build design year. For each case, carbon monoxide levels were below USEPA standards. A regional air quality emissions analysis that included the I-276/I-95 Interchange Project was conducted by the DVRPC. A summary of this analysis was included in Appendix E of the FEIS. This analysis concluded that the levels of pollutants necessary for the formation of ground level ozone, nitrous oxides (NOx) and volatile organic compounds (VOCs), in the region that includes Lower Bucks County would be within standards set by the USEPA by the year 2005. The analysis also concluded that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County.

The Pennsylvania Department of Environmental Protection (PADEP) maintains an air quality monitoring station in Bristol Township. Historic monitoring at this station indicated that regional air quality has steadily improved in the past ten years in the project area (PADEP, 1999). In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

5 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area), and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists will continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, PA without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by PENNDOT prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

Paul A. Ordog, Jr. - Page 1/2

A COMMUNITY WITH CHARACTER AT THE BEND IN THE RIVER

TOWNSHIP OF FLORENCE

OFFICE OF THE ENVIRONMENTAL COMMISSION

August 2, 2001

Jeffrey Davis, Project Manager
Pennsylvania Turnpike Commission
Pennsylvania Turnpike/Interstate 95 Interchange Project Office
3220 Tillman Drive - Suite 215
Bensalem, Pennsylvania 19020-2083

Dar Mr. Davis:

The Florence Township Environmental Commission recently reviewed the Draft Environmental Impact Statement/Draft Section 4 (f) Evaluation for the PA Turnpike/I-95 Interchange Project and wishes to offer the following comments:

1 1) Florence Township Environmental Commission strongly supports Option B. if the new bridge is to be constructed. The new bridge should be constructed on the downstream side of the existing turnpike bridge, which will lessen the excessive noise generated by traffic on the bridge and farther away from the residential area of Florence.

2 2) Design the bridge so that the concrete surface will not generate excessive noise as tires pass over it since the noise on concrete surfaces is much greater than noise on the standard macadam highways – design "quiet" into the bridge.

2 3) Construct noise barriers on the bridge approaches.

3 4) Reduce or eliminate the excessive street lighting that is typically designed into public roadways since there exists too much light pollution - this will also be an energy saving design.

FLORENCE TOWNSHIP MUNICIPAL COMPLEX
711 BROAD STREET
FLORENCE, NEW JERSEY 08518-2323

INCORPORATED MARCH 7, 1972

(609) 499-2525 ADMINISTRATIVE OFFICES
(609) 499-2222 MUNICIPAL COURT
(609) 499-3131 POLICE DEPARTMENT
(609) 499-2130 CONSTRUCTION CODE OFFICIAL

Paul A. Ordog, Jr. - Page 2/2

Jeffrey Davis, Project Manager, PA Turnpike Commission
August 2, 2001
Page 2 of 2.

4 5) Develop a sound method of limiting access to the area under the bridge so that tires, construction debris and other materials cannot be dumped into the area.

The Commission sincerely hopes that our comments will be given consideration in the planning of the proposed bridge.

Sincerely,

Paul A. Ordog, Jr.,
Chairman

Matthew N. Wright - Page 1/1

MATTHEW N. WRIGHT, MEMBER
PA HOUSE OF REPRESENTATIVES
ROOM 415, SOUTH OFFICE BLDG.
HOUSE BOX 202020
HARRISBURG, PA 17120-2020
PHONE: (717) 787-8581
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760 N. WOODBOURNE ROAD
LANGHORNE, PA 19047
PHONE: (215) 757-8535
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E-mail: mwright@pahousegop.com

House of Representatives
COMMONWEALTH OF PENNSYLVANIA
HARRISBURG

COMMITTEES

COMMERCE AND ECONOMIC DEVELOPMENT
CONSUMER AFFAIRS
INSURANCE COMMITTEE
TOURISM & RECREATIONAL DEVELOPMENT
SUBCOMMITTEE CHAIRMAN
ON ARTS AND ENTERTAINMENT
RECYCLING FUND ADVISORY COMMITTEE

June 7, 2001

Mr. John Durbin, Executive Director
PA Turnpike Commission
PO Box 67676
Harrisburg PA 17106-7676

COPY

RE: Proposed Turnpike and I-95 Interchange Construction

Dear Mr. Durbin:

1 I absolutely support the construction of the proposed Turnpike and I-95 interchange. This project has been the issue of many years of discussion and review and it is very apparent that it will benefit the community as a whole.

1 I have personally been involved in many of the detailed community advisory groups and technical panels. This project will be a short-term economic boom relating to its construction phase and a long-term economic generator based on better access to our communities. This project will promote the use of expressway use resulting in congestion mitigation on our local roads and less air pollution through more efficient traveling.

Most of the residents' immediate construction concerns have been reduced or eliminated by revised planning. In fact, some existing community shortcomings will be improved by progressive modifications to the construction plans.

I want my supportive comments submitted as record for the public comment phase.

Sincerely,

Matthew N. Wright
142nd District
Bucks County

MNW/

cc: Honorable James C. Greenwood, U.S. House of Representatives
Honorable Bradley Mallory, PA Secretary of Transportation
Mr. Jay Roth, KCI Industries, Inc.

Paul A. Ordog, Jr. - Page 1/2

1 Project Position
The commenter's support for the Bridge South Alternative, on behalf of the Township of Florence, is noted.

2 Noise (DEIS/FEIS Section IV-O)
Noise generation/reduction characteristics will be considered, as well as other potential factors when design of the bridge and its pavement surface are initiated. The I-276/I-95 Interchange Project's preliminary noise analysis performed during the EIS phase concluded that noise abatement consideration is not warranted adjacent to the Bridge South or Bridge North Alternatives because predicted future noise levels in the adjacent communities are not expected to approach or exceed noise abatement criteria, and predicted noise levels will not substantially exceed existing noise levels. These studies were completed according to the Federal Highway Administration and Pennsylvania Department of Transportation guidelines. However, these communities as well as all noise sensitive areas within the project study area will be re-evaluated for noise abatement consideration during Final Design.

3 Visual Quality
The need for and/or type of roadway and bridge lighting will be evaluated during the design process.

Paul A. Ordog, Jr. - Page 2/2

4 Final Design
Strategies to safeguard and maintain the right-of-way beneath the proposed Delaware River Bridge will be included and evaluated during the Final Design process.

Matthew N. Wright - Page 1/1

1 Project Position
The commenter's support for construction of the project and agreement with findings of the DEIS in relation to economic, traffic congestion, and air quality benefits are noted.

Bill Balas - Page 1/2

PENNSYLVANIA TURN PIKE

Date: 6/19/2001 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Bill Balas

Address: 2633 Woodsview Drive
Bensalem PA 19020

Please print clearly your comments below and provide your signature:

See ATTACHED

Signature (Required): Bill Balas

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

ws

Bill Balas - Page 1/2

No Issues – No Responses

Bill Balas - Page 2/2

INABILITY OF THE FHWA TO CHANGE THE LAW

In a letter dated June 1998 from Thomas Prak, Assoc. Administrator FHWA to Rep. Greenwood a response was received from the FHWA that stated: " in the absence of an interchange between the turnpikes, I understand temporary signing carries I-95 north of the Pennsylvania Turnpike to the Scudders Falls Bridge and then east to the interchange of I-295 and US 1 northeast of Trenton where I-95 ends. Motorists then follow signs "To I-95" via I-295 and I-195 to reach the New Jersey Turnpike. This temporary routing which keeps motorists on interstate highways all the way, is the same one your constituent suggested. It will remain in place until the interchange in Section 162 is constructed."

In a letter dated July 1998 from Fred Skaer, Environmental Operations Div., FHWA to Alex Udowenko, resident a response was received from Mr. Skaer that stated: "Unless the legislation is modified, we cannot shift the I-95 designation to another routing . As a result, we are cooperating with the Pennsylvania Department of Transportation and the Pennsylvania Turnpike Commission to prepare a draft environmental impact statement that will evaluate proposals for a turnpike interchange."

1 Over the past 3 years, what has been done by the FHWA, to further pursue the response of being unable to shift the routing, when the FHWA attests to the fact that a viable interstate "missing link" alternative already exists to satisfy STA ACT of 1983 and all that remains is for the law to be changed?

2 Why wasn't the use of I-195 and I-295 as a viable alternative not considered in the DEIS by the FHWA and the PTC during the preparation of this document?

1 When and to whom was this request to shift the I-95 designation to another routing forwarded to?

Under NEPA, an agency must look at reasonable alternatives, not limited to actions which the agency itself can enact. All federal agencies to the fullest extent must study, develop and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved concerning alternative uses of available resources.

2 The failure of the FHWA agency to review and act upon this alternative implementation violates the principals of the NEPA process itself and renders the DEIS inaccurate and inadequate.

Bill Balas
Bill Balas
2633 Woodview Drive
Bensalem, Pennsylvania

Bill Balas - Page 2/2

1 Legislation (DEIS/FEIS Section I-A)
The commenter mistakenly presumes that the Federal Highway Administration (FHWA) favors a change in the language of Section 162 of the Surface Transportation Assistance Act (STAA) of 1982. The function of the FHWA is to implement federal laws, not change them. Further, no action is pending by or before FHWA that will change the legislated (by STAA of 1982) routing of I-95. Such an action would be inappropriate and inconsistent with FHWA's role as a federal agency charged with enforcement of federal statutes. The FHWA is instead cooperating with the Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission to implement the compatible provisions of the federal STAA of 1982 and of Pennsylvania Act 61 of 1985, with respect to construction of an interchange between I-95 and I-276 in Bucks County, PA.

2 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area), and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives were evaluated, it was essential that they met the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists will continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, PA without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by PENNDOT prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS/FEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative. The fact that further consideration was not given to the I-295/I-195 connection does not violate the National Environmental Policy Act process, but is consistent with it, since a representative number of reasonable alternatives were considered.

Jane B. Bennett - Page 1/1

PENN TURN PIKE

Date: 6-12-01 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: JANE B. BENNETT

Address: 6610 N. RADCLIFFE ST.,
BRISTOL, PA 19007-5723

Please print clearly your comments below and provide your signature:

WHEN BRIDGE SOUTH (OR NORTH) IS (IF!) UNDER CONSTRUCTION CONSIDER THE INCOMING/OUTGOING TIDES OF "OUR" DELAWARE RIVER & THE 40' CHANNEL THAT IS THERE FOR THE SHIPS USING THIS WATERWAY.

1 AS THE SHIPS PASS &/OR THE TIDES CHANGE, etc. THE CHANNEL WILL BE FILLING UP WITH DEBRIS LET ALONE THE STONE BED THAT DO THIS DAILY NOW.

1 AND WHAT ABOUT THE DRILLING FOR SUPPORTS etc. — WILL THIS AFFECT THE NOW EXISTING BRIDGE DEDICATED IN 1956?

2 ALSO — WHY 2 LANES EACH WAY WHEN PRESENT BRIDGE HAD 3 LANES EACH WAY 'TIL AROUND 1978 OR SO. FORT MCHENRY TUNNEL HAS NO EXTRA LANE FOR THAT DANGEROUS ROADWAY — WHY US?)

Signature (Required): Jane B. Bennett

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Jane B. Bennett - Page 1/1

1 Construction Impacts (DEIS/FEIS Section IV-T)
The construction of the proposed additional Delaware River Turnpike Bridge will not impact the existing Delaware River Turnpike Bridge. Foundation design required for bridgework will require extensive geotechnical investigations to identify potential constraints related to project construction. Recommendations will be provided in the foundation reports to address sheeting and shoring of excavations, slope stability, drainage impacts, etc. Construction procedures will be required to follow detailed Erosion and Sediment Control Plans in accordance with the guidelines provided by the Pennsylvania Department of Environmental Protection, the New Jersey Department of Environmental Protection, the New Jersey Department of Agriculture, the Bucks and Burlington Counties Conservation Districts, and the Pennsylvania Department of Transportation Design Manual.

2 Traffic and Transportation (DEIS/FEIS Section IV-A)
The projected traffic for the design year 2025 requires six lanes. The existing structure is not wide enough, nor can it be feasibly widened, to provide six lanes and shoulders, as required by the Interstate Highway Standards. A variety of alternatives were studied during the EIS process, and the construction of a new structure, to operate in conjunction with the existing structure as a one-way pair was selected as the basis for the alternative concepts included in the EIS. Once a second bridge is constructed over the Delaware River as part of the project, each bridge will carry three lanes with shoulders.

Robert Blyler - Page 1/2

PENN TURN PIKE

Date: 6-12-01 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: ROBERT BLYLER

Address: 2711 WOODSVIEW DRIVE
BENSALEM, PA. 19020

Please print clearly your comments below and provide your signature:

SEE ATTACHED

Signature (Required): Robert Blyler

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

WS

Robert Blyler - Page 1/2

No Issues – No Responses

Robert Blyler - Page 2/2

2 OF 2

In 1982, the federally legislated Surface Transportation Act mandated the redesignation of I-95, in the form of an interchange in Bucks County, to eliminate the remaining "missing link" of this interstate system. This action would make I-95 continuous from Florida to Maine. Act 1985-61, by the legislators of the Commonwealth of Pennsylvania, mandated the PTC to "construct turnpike interchange with Interstate Route 95 in Bucks County" to complete this "missing link". Federal law at this time prohibited the use of federal dollars in connecting a toll road with a non-toll road.

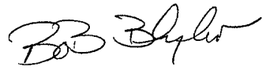
As we are all aware of, I-195 has been connected to I-295 in New Jersey for a number of years, thereby completing the "missing link" from Maine to Florida. This route is recognized and appropriately signed as I-95 by the Federal Highway Administration. The redesignation of this route officially as I-95 would require a legislative amendment, for as the FHWA has stated it remains an administrative agency with no legal authority to amend laws.

Current discussion and value of the construction of this interchange have focused on the fact that it is a critical project for the county, the region, and the state providing a "direct link" between two major highways. Although the federal law prohibiting the use of federal dollars to connect a toll with a non-toll road has been amended in the 1990's, in 1982 and 1985 the legislation enacted and need for an interchange connection were contrary to what is being promoted today. The usage of federal dollars to directly connect these roads would have been prohibited, thus the sole intent by both legislative bodies had to be the completion of the "missing link" and not the "direct linkage" of two major interstates.

1 Can the Pennsylvania Turnpike Commission utilize federal Interstate Completion Funds and state funds to provide a direct link between two major highways when the original legislation prohibited this action and the "missing link" has unofficially been completed? Is the PTC empowered by the state to make this decision? Mr. John Durbin had stated that " I-195 / I-295 at best, may be capable of providing a temporary but circuitous interstate connection between the sections of I-95 in Pennsylvania and New

1 Jersey pending the construction of the proposed interchange." Does the PTC, an administrative agency, have the power to make a legislative decision for the state and also deem that interstate completion dollars can now be used for a purpose not originally legislated by previous lawmakers or is this a decision which should be reviewed by current legislative officials?

Bob Blyler



Robert Blyler - Page 2/2

1 Legislation (DEIS/FEIS Section I-A)

The use of federal and state dollars to design and construct the proposed I-276/I-95 Interchange Project is consistent with federal and state laws and regulations, contingent upon FEIS completion and issuance of a federal Record of Decision to implement the I-276/I-95 Interchange Project. As the commenter stated, the prohibition against the use of federal transportation funds to construct such an interchange project was removed through legislative action. Further, Congress approved an apportionment of Interstate Construction funds for the project.

The language of the Surface Transportation Assistance Act (STAA) of 1982 and Pennsylvania Act 61 of 1985 are consistent and specific in their description of the proposed interchange. The STAA of 1982 does contain specific language concerning the rerouting of I-95, which is not satisfied by the construction of I-295 and I-195 near Trenton, NJ.

The Pennsylvania Turnpike Commission (PTC) has not made a legislative decision for the state. PTC is working in partnership with the Federal Highway Administration and the Pennsylvania Department of Transportation to develop and advance the I-276/I-95 Interchange Project according to federal and state laws. While it is true that I-295 and I-195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection between the sections of I-95 in Pennsylvania and New Jersey, which does not meet the identified project needs.

Timothy A. Boyd - Page 1/1

TIMOTHY A. BOYD **(215) 836-7832**

timboyd@pond.com 30 West Mill Road
Flourtown, PA 19031

May 14, 2001

Mr. Jeffrey Davis, PA Turnpike Commission
PA Turnpike/I-95 Interchange Project Office
320 Tillman Drive
Suite 215
Bensalem, PA 19020-2083

Re: PA Turnpike/I-95 Interchange Project Support

Dear Mr. Davis

I am writing to express my support for the proposed PA Turnpike/I-95 Interchange Project.

1 I am a frequent traveler in this area. I believe a direct interchange between the PA Turnpike and I-95 will not only speed my travels, but also make for a safer trip by eliminating the need for a second high speed interchange merge.

I hope the Pa Turnpike Commission moves forward quickly with this project.

Thank you your time.

Sincerely,

Timothy A. Boyd

Timothy A. Boyd - Page 1/1

1 Project Position

The commenter's support for the project based on travel time and safety benefits is noted.

David Campbell - Page 1/1

PENN TURN PIKE

Date: 6-12-01 Page ___ of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: DAVID CAMPBELL

Address: 153 NESHAMINY RD.
CROYDON, PA 19021

Please print clearly your comments below and provide your signature:

1 I AM UNALTERABLY OPPOSED TO THIS PROJECT WITHOUT SOUND BARRIES BEING INSTALLED ALONG I-95 [redacted] AT LEAST AS FAR SOUTH AS ROUTE 13. PRESENT NOISE LEVELS ARE HIGH. WITH THE ADDITION OF THOUSANDS MORE VEHICLES BROUGHT BY THIS PROJECT, NOISE WILL BE UNBEARABLE.

Signature (Required): David Campbell

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

David Campbell - Page 1/1

1 Noise
The limits established for the proposed I-276/I-95 Interchange Project extend southward along I-95 from the proposed interchange to Neshaminy Creek. The section of I-95 south of that terminus and extending to US 13 is not a part of the interchange project. Noise barriers have been studied, justified and included in the DEIS/FEIS along the east side of I-95 down to the Neshaminy Creek terminus. Consideration of noise abatement needs beyond the project limits cannot be included in the I-276/I-95 Interchange Project. However, in a separate action during October 2002, US Representative James C. Greenwood, Pennsylvania Senator Tommy Tomlinson, PENNDOT District Administrator Andrew Warren, and other state and local officials announced an initiative to provide noise abatement along I-95, south of Neshaminy Creek.

As described in the DEIS/FEIS (Section IV-O), traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined which of those areas warrant noise barrier consideration. For warranted areas, approximately ten miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

Mr. and Mrs. Robert L. Delp - Page 1/1

1 Project Position
The commenter's opposition to the project is noted.

2 Construction Impacts (DEIS/FEIS Section IV-T)
Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be carried out so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

3 Noise (DEIS/FEIS Section IV-O)
As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies determined that for warranted areas, approximately ten miles of noise barriers were feasible and reasonable according to PENNDOT criteria, which have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

During Final Design, neighborhood meetings will occur to present the Final Design noise abatement analysis and obtain comments from the residents regarding their desires for noise abatement and the type, color and texture of noise abatement. Where appropriate, landscaping will be considered on the neighborhood side of proposed noise barriers to soften their appearance.

Mr. And Mrs. Robert L. Delp - Page 1/1

PENN TURN PIKE

Date: ~~June 15,~~ 2001 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Mr. and Mrs. Robert L. Delp

Address: 2464 Greenland Ct.

Bensalem PA 19020

Please print clearly your comments below and provide your signature:

1 Please do not proceed with this link. It will destroy our way of
2 life in Bensalem – years of dirt and construction, of torn up roads and bridges, of horrible traffic tie ups. We moved to Bensalem when we married 28 years ago to escape the city and enjoy a little piece of suburbia (and the "peace" of suburbia). If you put this thing
3,4 in our midst, that way of life will disappear. It will be like dumping a major highway on top of our quiet streets. The noise and air pollution from so many vehicles will be so disturbing. It doesn't matter how
3 many noise barriers you put up - they are so ugly – like prison walls to look at, instead of the cool beautiful trees and grass we love to see. Normally, a town grows up around a highway, but in this case, we, the town, are here first, and this monster moves in and changes and rearranges the whole lay of the land.
5 Please send this back to NJ where it belongs. Does everything always have to come down to money? Do the right thing and say no to this monstrosity. **Signature (Required):** Joyce Delp Robert L Delp

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

4 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
A localized carbon monoxide analysis and a regional ozone analysis were conducted for the project based on traffic scenarios including existing and baseline conditions, the opening year, Build and No-Build interim years (with slow speed and fast speed E-Z*Pass*) and Build and No-Build design year. For each case, carbon monoxide levels were below US Environmental Protection Agency (USEPA) standards. A regional air quality emissions analysis that included the I-276/I-95 Interchange Project was conducted by the Delaware Valley Regional Planning Commission. A summary of this analysis was included in Appendix E of the FEIS. This analysis concluded that the levels of pollutants necessary for the formation of ground level ozone, nitrous oxides (NOx) and volatile organic compounds (VOCs), in the region that includes Lower Bucks County would be within standards set by the USEPA by the year 2005. The analysis also concludes that with the implementation of the I-276/I-

95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County.

The Pennsylvania Department of Environmental Protection (PADEP) maintains an air quality monitoring station in Bristol Township. Historic monitoring at this station has indicated that regional air quality has steadily improved in the past ten years in the project area (PADEP, 1999). In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

5 Legislation (DEIS/FEIS Section I-A)

A complete discussion concerning the need for the I-276/I-95 Interchange Project is contained in Section I of the DEIS/FEIS. This need is based on the lack of continuity of the Interstate system, the missing link section of I-95, relief of congestion, and other factors. The I-276/I-95 Interchange Project originated because of legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the Federal Surface Transportation Assistance Act of 1982.

Joseph Favoroso - Page 1/4

TURN PIKE

Date: 7-1-01 Page 1 of 4

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Joseph Favoroso

Address: 68 Granite Road
Levittown, PA

Please print clearly your comments below and provide your signature:

SEE ATTACHED

Signature (Required): Joseph Favoroso

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

ws

Joseph Favoroso - Page 2/4

The DEIS Executive Summary April 2001, has but one page devoted to the Areas of Public Controversy.

1 | 1) Why is only one page devoted to the public and where are all the letters and questions submitted by concerned citizens, civic associations and public officials prior to the DEIS?

1 | Contrary to what is being shown (1 page), there should be numerous letters and responses, both answered and unanswered, which decision makers should review prior to final decision making. It is unfair to withhold this information and provide only a one page summation, to the public and the decision makers.

The general public has voiced their concerns, over the years , in regards to the indirect socioeconomic impacts (loss of real estate values, community impact studies etc.) to those homes and communities left in the shadow of this 12 year construction project.

2 | 2) Where in the DEIS are the public concerns of this cumulative impact addressed?

2 | 3) Have any studies been completed to show the economic downside for businesses and homeowners in Lower Bucks County?

The DEIS has the study area defined as a "1000 foot" corridor along the turnpike.

3 | 4) Is this narrow corridor really reasonable considering the magnitude and 12 year duration of this project?

3 | 5) Who and why was the study area and area of impact defined so narrowly when in actuality the whole area of Lower Bucks County should have been included?

3 | 6) Can the noise, pollution and other negative aspects of construction really be defined and confined in this 1000 foot area?

3 | 7) Likewise, were the cumulative effects of this project also reviewed and defined by this 1000 foot area?

The DEIS also states that in Bensalem, Bristol and Middletown Townships, that resolutions were passed between 1992 and 1998 to oppose issues and/or impacts with the project alternatives based on information at that time.

4 | 8) Have all the issues stated in the resolutions of opposition been satisfied to date or have only a certain few been addressed?

4 | 9) If not totally addressed, why have they not been prior to the completion of the DEIS?

The DEIS states "it is important to note that the composition and attitudes of these bodies have changed over time, while formal resolutions of support have not occurred." It is important to also note that these resolutions still are in existence and the residents represented by these councils still strongly oppose this project in 2001.

5 | 10) Why were the formal resolutions of opposition , passed in regards to this project, not included in the DEIS so decision makers and the public could review and see the valid reasons for a no build option?

The quote that the attitudes of these bodies have changed is somewhat misleading. As a resident of one of the impacted townships, I've never publicly heard my council members voice such a statement.

Joseph Favoroso - Page 1/4

No Issues – No Responses

Joseph Favoroso - Page 2/4

1 Public Involvement (DEIS/FEIS Section VII, FEIS Appendix C))

The purpose of the Executive Summary is to briefly summarize the main points of the DEIS; public involvement strategies are not described in detail. Section VII, Comments and Coordination, is dedicated to public involvement and discusses in detail project public involvement strategies, such as the Community Advisory Committee and Agency Coordination Meetings, and summarizes the general meetings held with the pubic and public officials. Although specific copies of letters are not found in Section VII, all such correspondence is located in the Technical Support Data, which is, and has been available for review by the general public and decision makers at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057.

2 Construction Impacts (DEIS/FEIS Section IV-T)
The DEIS/FEIS contains an evaluation of Secondary Development and Cumulative Impacts (Section IV-U), including a discussion of quality of life issues such as property values, which was obtained from the project's Economic Impact Study. The Economic Impact Study is available for review on the project's website (www.paturnpike/i95.com) and in the Technical Support Data located at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. The Economic Impact Study used the REMI economic model to forecast economic conditions with and without the interchange. The output from the model was the net effect of building the interchange, and the numbers did not differentiate between positive or negative impacts. In other words, the negative economic effects were already subtracted from those positive effects, with the results being presented in the Economic Impact Study. Due to the dynamic nature of the economy, the model was not able to forecast only the negative impacts of building the interchange.

3 DEIS Study Area (DEIS/FEIS Section II)
The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed. The Secondary and Cumulative Impacts evaluation (Section IV-U) focused on a larger area that included Lower Bucks and Northern Burlington Counties.

The Economic Impact Study focused on Bucks County considering the inputs and regions that are part of the economic model utilized in the analysis. Bristol Township is a part of the county and fair-share proportions were used to estimate Bristol Township impacts. For air quality, the localized carbon monoxide analysis predicted carbon monoxide levels at 29 receptor locations within the 1000' corridor because carbon monoxide levels will be highest for those locations nearest the roadways. A regional ozone analysis that included the nine-county region in southeast Pennsylvania and southern New Jersey was performed by the Delaware Regional Planning Commission (DVRPC), because ozone levels cannot be predicted on a local scale due to transport by wind and complex formation from mobile source pollutants, nitrous oxides (NO_x) and volatile organic compounds (VOCs), and sunlight.

4 Public Involvement (DEIS/FEIS Section VII)
The I-276/I-95 Interchange Project has progressed/evolved/changed since the time that these resolutions were passed, and coordination with the current township officials was extensive and is ongoing.

5 Public Involvement (DEIS/FEIS Section VII)
Resolutions of opposition and support are not presented in the DEIS/FEIS but are contained in the Technical Support Data located at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. Only Cooperating Agency Correspondence was included in the DEIS/FEIS due to the extensive volume of agency, public official, and general public correspondence generated since the project's initiation.

Joseph Favoroso - Page 4/4

6 11) Has the project team met privately in the past to ascertain such comments from public officials in private meetings?

6 12) Where and how was this change in attitudes provided to the project team?

6 13) Could I please be provided with a list and minutes from all privately held meetings with council members and elected officials in which the public was excluded and not permitted to participate in?

6 14) What improvements in infrastructure (ie: Route 1 upgrades in Bensalem etc.) were discussed and offered as a tradeoff for this project without the knowledge or participation of the public?

6 15) If private meetings, without public attendance, had not occurred then where is the project team drawing this change of attitude conclusion from?

Another assumption that is being shown in the DEIS is "history shows that property values increase with increased access to highway interchanges, although they may decrease for properties abutting highways." There is no increased access with this project for local residents. No additional slip ramps or interchanges are being built on the turnpike system!

7 16) Why was such an assumption of increased real estate values made when there is no increased access?

2 17) Where is the cost to benefit and cumulative effects analysis to show how the project will specifically decrease property values for properties and the many communities which currently abut this highway project?

2 18) An economic study was funded to show construction spending and job creation, yet no complete positive/negative socioeconomic study was ever funded. Why?

In the DEIS, it is stated that "the principal opponents have expressed concern that the project would negatively affect air quality." This concern continues to remain unanswered. What has been requested and never provided to the public and elected officials was a baseline NOx and VOC study for the Lower Bucks County Project Area, showing current and future cumulative effects. This study is essential, for the Bucks County area has had the dubious distinction , over the past several years, of having the worst ozone levels in the state of Pennsylvania! This project, as envisioned, is projected to shift millions of daily trips onto these two interstates in the Lower Bucks area. The project team continues to refer back to compliance to CO standards, a component which this region has not failed in NAAQS in over 12 years. Our region continues to fail in ozone whose components are NOx and VOC. The project team continues to insist that this project is included in the states SIP and TIP and does comply with NOx and VOC standards yet has provided no scientific data to support this claim.

8 19) Why has the project team refused to provide opponents and the public a baseline of NOx and VOC levels in regards to this project if this information has to be included and calculated in the TIP?

8 20) What is the baseline cumulative effects of NOx and VOC levels now and in 2025 with a build scenario for Lower Bucks County?

8 21) How, in 1997 prior to EZ Pass, was the DVRPC able to conclude that this project would not increase NOx or VOC in the Lower Bucks County area when this project would require the construction of a mainline toll plaza across the turnpike, thereby stopping all traffic which currently run unimpeded at 55 mph?

Joseph Favoroso - Page 3/4

See ***Joseph Favoroso - Page 2/4*** On This Page For The Response To Issue **2.**

6 Public Involvement (DEIS/FEIS Section VII)
Attendees at Township Briefings were determined by the Township Officials. Some of these meetings were made public, while others were informal briefings. The minutes to these meetings, including the date, time, location and attendees are contained in the Technical Support Data located at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057.

Transportation infrastructure improvements, including US 1 improvements, associated with the I-276/I-95 Interchange Project were determined from analysis of traffic forecasts and existing deficiencies immediately adjacent to the I-276/I-95 Interchange Project.

7 Socioeconomic- Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)
The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

8 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
Background and baseline data were analyzed as part of the DVRPC regional analysis for NOx and VOCs. A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan).

This analysis concluded that NOx and VOC levels in the region that includes Lower Bucks County would be within standards set by the US Environmental Protection Agency (USEPA) by the year 2005. The analysis also concluded that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County. In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that by the time construction of the I-276/I-95 Interchange Project begins, many of the air quality benefits from regulations to reduce particulate matter, sulfur dioxide, carbon monoxide and ground level ozone, will have been realized and that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

A summary of the DVRPC regional analysis is included in Appendix E of the FEIS. Since ozone analyses can only be accurately done on a large scale or regional basis, the contribution of an individual transportation project, such as the I-276/I-95 Interchange Project, on regional ozone levels cannot be determined.

Joseph Favoroso - Page 4/4

8 22) Can the DVRPC provide the public with the scientific data which shows that NOX and VOC levels (air quality) are improved by shifting cars from local roadways onto a turnpike with a mainline toll plaza which would stop or slow all traffic?

8 23) Can the project team provide scientific data on this shifting theory which can substantiate their claim that there really is an improvement of air quality because of this shift?

Given the sensitive nature and poor air quality of Lower Bucks County, it becomes imperative that the public and elected officials be provided with concrete scientific data to calm the ongoing fears of further degradation of our air quality and public health do to the consequences of an increase of NOx and VOC in our communities. The public has the right to know what this project will do in terms of further degradation and permit us to make a choice as to whether we should stay or be forced to vacate our current homes.

9 24) Why is "ongoing dialogue" continuing and "air quality concerns persist" when these questions and issues have repeatedly been requested of the project team and also should have been addressed prior to the completion of the DEIS?

In terms of congestion and air quality, it has been stated numerous times that there will be an improvement in both, due to the decrease of 15,000 Average Daily Trips (ADT) at interchange 28 in Bensalem. In reviewing the traffic data DEIS, there seems to be a glaring discrepancy between the reduction of ADT's at PA 132 North to the Turnpike Interchange 28 and the feeder arterials which

10 connect south of this point. The decrease in ADT's , with a build scenario, is shown as 9,200 (94.4 thousand no-build subtracted from 85.2 thousand with a build) yet the reduction of the feeder arterials (Street Road, Old Lincoln Highway, Byberry Road, Woodhaven Road and Roosevelt Boulevard) when subtracted from numbers shown is actually only decreased by 900 ADT's.

10 25) How does the DVRPC account for this 10 fold difference in trip reduction?

10 26) Which of the 2 numbers of decreased ADT's is correct, a decrease of 9,200 or 900?

10 27) The basis for a reduction of Level of Service on the turnpike and the necessity of additional SOVCAP lanes in an ozone non attainment zone, was based on the premise of the shifting of 14,700 ADT's (5,500 North of INT 28 and 9,200 South of INT 28) onto the Pennsylvania Turnpike. If the number actually is 900, the total shift would be 6400 (5,500+900). How would this marked decrease in shifting of ADT's onto the turnpike impact the LOS compared to 14,700 ADT's being claimed and would this discrepancy also eliminate the need to construct another bridge and add additional SOVCAP lanes in an ozone non attainment zone?

Joseph Favoroso

68 Granite Road
Levittown, Pennsylvania

Joseph Favoroso

Joseph Favoroso - Page 4/4

See ***Joseph Favoroso - Page 3/4*** On Previous Page For The Response To Issue **8**.

9 Public Involvement

The DEIS/FEIS describes the air quality analysis conducted for the I-276/I-95 Interchange Project. The results of the localized carbon monoxide analysis and regional analysis for NO_x and VOCs were found to be within limits set by USEPA (see response 8 on previous page). An air quality dialogue is ongoing between the Project Team, public officials and the general public because the subject matter is complex and the concerns are related to a local versus regional evaluation of pollutants.

10 Traffic and Transportation (DEIS/FEIS Section IV-A)

The DVRPC traffic model, which was run for a 2025 design year on the I-276/I-95 Interchange Project, is complex and contains thousands of roadway links in the nine-county region. The difference between the Build and No-Build traffic model runs show the traffic changes associated with the interchange and improvements related to the I-276/I-95 Interchange Project. The 9,200 vehicle per day decrease on US 1, south of I-276 is the correct number from the traffic study. Because of the dynamic travel changes that the I-276/I-95 Interchange Project will produce, merely adding the volume changes on the small number of US 1 'feeder arterials' depicted does not provide an accurate overall trend analysis. The 2025 level of service analysis results using these volumes required the proposed additional lanes to meet acceptable established criteria.

Lisa P. Fetzer - Page 1/2

PENNSYLVANIA TURN PIKE

Date: 7/02/01 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: LISA P. FETZER

Address: 5793 MICHAEL DRIVE, SALEM POINT
BENSALEM, PA 19020

Please print clearly your comments below and provide your signature:

SEE ATTACHED

SEE ATTACHED

Signature (Required): (LISA P. FETZER)

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Lisa P. Fetzer - Page 1/2

No Issues – No Responses

Lisa P. Fetzer - Page 2/2

Page 2 of 2: Attachment to Written Comment Form

1 The majority of people living in the affected areas of the I-95/PA Turnpike connection project do not want it. There is no problem or missing link anywhere with I-95. In fact, this project has nothing to do with I-95. It is a pure profit venture for the PA Turnpike Commission, which, along with PennDot and politicians, as well as various unions, businesses, contractors and consulting firms, has devised a strategy to enrich itself by concocting a flaw with I-95, thereby getting federal funds for 80% of the cost. It would recoup its own 20% in just four or five years. After that, it's perpetual profit for the Commission. Of course, the aforementioned unions, businesses, contractors and consulting firms will also profit during and after construction.

Sadly, all of what appears in the media is controlled by the Commission and its agencies, telling only its side of the story and not the WHOLE TRUTH.

2 The truth is, we residents and taxpayers will bear all of the risks, consequences and costs while the Commission and business community reap all of the benefits and profits. It's a can of worms for us for which the Commission has no regard--health risks, environmental hazards, sanitation problems, financial losses and countless other dangers and inconveniences--all creating a poor quality of life. How will the Commission spread the wealth and compensate us?

THIS MONEY-MAKING SCHEME IS A SCAM!

3 Do not ruin our health and disrupt our lives for profit and patronage. DO NOT BUILD!

Lisa P. Fetzer
5793 Michael Drive
Bensalem, PA 19020
7-02-01

Lisa P. Fetzer - Page 2/2

1 Legislation (DEIS/FEIS Section I-A)
A complete discussion concerning the need for the I-276/I-95 Interchange Project is contained in Section I of the DEIS/FEIS. This need is based on the lack of continuity of the Interstate system, the missing link section of I-95, relief of congestion, and other factors. The proposed project is based on a partnership between the Federal Highway Administration, the Pennsylvania Department of Transportation, and the Pennsylvania Turnpike Commission (PTC). A combination of federal and state funding will be required to make the construction and maintenance of this project financially feasible. Recovery of the PTC's capital investment is projected to require a 20 to 30 year period of operation.

2 Socioeconomic – Quality of Life (DEIS/FEIS Section IV)
Section IV of the DEIS/FEIS describes impacts and mitigation measures associated with quality of life, such as air, noise and visual quality. It is expected that the incorporation of noise barriers will reduce noise levels for most residential areas to below existing levels. In addition, by the time the I-276/I-965 Interchange Project is constructed; many air quality benefits will have been realized as a result of stricter US Environmental Protection Agency regulations (see Marcia Spink testimony pages I-21 to I-22 for testimony on air quality related to the project). The DEIS/FEIS describes mitigation measures for visual impacts (Section IV-R) including landscaping to screen views of the highway and noise barriers. These and other mitigation measures will be finalized in the Mitigation Report to be completed after the Record of Decision.

3 Project Position
The commenter's opposition to the project is noted.

Ron Fetzer, Jr. - Page 1/1

1 Socioeconomic – Quality of Life (DEIS/FEIS Section IV)
Section IV of the DEIS/FEIS describes impacts and mitigation measures associated with quality of life, such as air, noise and visual quality. It is expected that the incorporation of noise barriers will reduce noise levels for most residential areas to below existing levels. In addition, by the time the I-276/I-965 Interchange Project is constructed; many air quality benefits will have been realized as a result of stricter US Environmental Protection Agency (USEPA) regulations (see Marcia Spink testimony pages I-21 to I-22 for testimony on air quality related to the project). The DEIS/FEIS describes mitigation measures for visual impacts (Section IV-R) including landscaping to screen views of the highway and noise barriers. These and other mitigation measures will be finalized in the Mitigation Report to be completed after the Record of Decision.

2 Socioeconomic–Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)
The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

Ron Fetzer, Jr. - Page 1/1

PENN TURN PIKE

Date: 07/02/2001 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: RON FETZER,JR.

Address: 4812 OXFORD COURT
BENSALEM, PA 19020

Please print clearly your comments below and provide your signature:

THIS PROJECT IS AN UNNECESSARY WASTE OF TAXPAYERS' MONEY.
1 IT DOES NOTHING BUT DESTROY NEIGHBORHOODS AND THE QUALITY OF LIFE
2 FOR THOSE LIVING IN AND AROUND THEM. PROPERTY VALUES DECLINE, HEALTH DECLINES AND THOSE PEOPLE MOST AFFECTED ENJOY NO BENEFIT
1 WHATSOEVER! THOSE IN COMMAND ARE MORE CONCERNED WITH WILDLIFE, WETLANDS, DOLLARS, POLITICAL FAVORS AND PATRONAGE WHEN THEY SHOULD BE CONCERNED WITH THE QUALITY OF LIFE AND HEALTH OF BENSALEM RESI-
3 DENTS. INCREASED TRAFFIC BRINGS ONLY INCRBASED HEALTH HAZARDS.
2 DUST, DIRT AND FUMES ARE INJURIOUS TO HUMANS. THOSE RESIDING NEAR THE INCREASED LANES AS PROPOSED AND NEAR THE TOLL BOOTHS AS PRO-
POSED WILL EXPERIENCE DEPRECIATION IN THEIR PROPERTIES; HOW WILL
THESE PROPERTY OWNERS/BENSALEM RESIDENTS BE COMPENSATED?? DOES
ANYONE CARE?? I DO AND I SAY, THIS PROJECT SHOULD BE CANNED...IT
4 IS A "NO BUILD" AND MANY OTHER BENSALEM RESIDENTS AGREE WITH ME!! JUST ASK!!

Signature (Required): Ron Fetzer Jr.

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

3 Air Quality (DEIS/FEIS Section IV-N)
The Pennsylvania Department of Environmental Protection (PADEP) maintains an air quality monitoring station in Bristol Township. Historic monitoring at this station indicated that regional air quality has steadily improved in the past ten years in the project area (PADEP, 1999). In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions and that the USEPA does not set standards for air toxics for which mobile sources (highway vehicles) are not a significant source.

4 Project Position
The commenter's opposition to the project is noted.

Theresa P. and Ronald H. Fetzer - Page 1/2

PENNSYLVANIA TURNPIKE

Date: 7/02/01 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: THERESA P. FETZER
RONALD H. FETZER

Address: 5793 MICHAEL DRIVE, SALEM POINT
BENSALEM, PA 19020

Please print clearly your comments below and provide your signature:

SEE ATTACHMENT

SEE ATTACHMENT

Signature (Required): Theresa P. Fetzer Ronald H. Fetzer

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Theresa P. and Ronald H. Fetzer - Page 1/2

No Issues – No Responses

Theresa P. and Ronald H. Fetzer - Page 2/2

Page 2 of 2: Attachment to Written Comment Form

1 We vehemently oppose the plan to link I-95 and the PA Turnpike. It is completely unnecessary--nothing but a pork-barrel project to enrich contractors, unions, businesses and politicians. It is nonsensical to create an issue with I-95 just for the purpose of building the turnpike connection.

2 No baseline air quality studies were ever done; what about humans? Why do wetlands and wildlife rate costly studies if humans do not? What are you afraid of? Our health is the most important issue yet has been blatantly ignored. Those who suffer from cardiac and pulmonary issues (to name only some medical problems) will certainly pay the price of even worse health, due to construction and post-construction pollution.

3 Digging+bulldozing+paving+construction+traffic+traffic+stop+start+stop+start=air pollution+noise pollution+sleepless nights+breathing+tasting dirt, dust and fumes--BAD AIR AND BAD HEALTH!!!! This is what increased traffic alone will do; factor in the additional lanes being brought even closer to our homes, and things get even worse. We who live in the project's path will suffer such compromised health FOREVER.

4 Regarding noise control, sound barriers function only as sight barriers--the noise is unchanged. Visits to any neighborhood where homes are supposedly "protected" with barriers is proof of this.

5 Our property value will decline. What will you (FHA, PennDot, Turnpike Commission, politicians, unions and businesses) do to compensate our loss? We will pay a hefty price for your project. Will our home be reassessed to lower property taxes due to its decrease in value? Would you buy our home??? We will have

6 to endure years of inconvenience, sleepless nights, dirt, dust, filth, noise, and rodents inside and outside of our homes, requiring an indeterminate number of years' worth of daily cleaning and maintenance rituals and ongoing exterminating services. A costly, time-consuming and never-ending job for us homeowners....yielding never-ending profits for the PA Turnpike Commission! Where's our share??? What's in this for us??? NOTHING!!!

1 We citizens do not want our homes, our health and our lives disrupted for a project which is of no benefit whatsoever to us.

THIS IS A NO-BUILD!!!!!!

Theresa P. Fetzer
Ronald H. Fetzer
5793 Michael Drive
Bensalem, PA 19020
7-02-01

Theresa P. and Ronald H. Fetzer - Page 2/2

1 Project Position
The commenters' opposition to the project is noted.

2 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
Background and baseline data were analyzed as part of the localized carbon monoxide analysis and the Delaware Valley Regional Planning Commission (DVRPC) regional analysis for nitrous oxides (NOx) and volatile organic compounds (VOCs). The localized carbon monoxide analysis performed by the Project Team included background carbon monoxide levels that are continuously monitored at an air quality monitoring station (maintained by the Pennsylvania Department of Environmental Protection since 1989) located in Bristol Township.

A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan). A summary of this analysis was included in Appendix E of the FEIS.

3 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
A regional air quality emissions analysis that included the I-276/I-95 Interchange Project (and the resultant shifting of vehicles as well as the additional lanes and mainline toll plaza) was conducted by DVRPC. This analysis concluded that NOx and VOC levels in the region that includes Lower Bucks County would be within standards set by the US Environmental Protection Agency (USEPA) by the year 2005. The analysis also concluded that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region including Lower Bucks County. A summary of this analysis was included in Appendix E of the FEIS. In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

4 Noise (DEIS/FEIS Section IV-O)
As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined those areas that are eligible for noise barrier consideration. For eligible areas, approximately ten miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

Numerous studies were conducted nationally to the determine the effectiveness of noise abatement by measuring noise levels on the neighborhood sides of noise abatement and comparing the levels predicted by computer models. One such study involved another project in the area, the I-476 (Blue Route) Expressway. This study evaluated the accuracy of the FHWA noise predictive model used for that project. Noise measurements at 191 sites were performed after the opening of the highway. Results of the study showed that 90 percent of the noise measurements were within 3 decibels of the predicted levels. The same noise predictive models used for the I-476 Project were used for the I-276/I-95 Interchange Project.

5 Socioeconomic – Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)

The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

Owners of properties that will be acquired will be compensated according to the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations.

6 Construction Impacts (DEIS/FEIS Section IV-T)

As discussed in the DEIS/FEIS, construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that study area roads experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

Susan L. Garrison - Page 1/2

PENN TURN PIKE

Date: June 26, 2001 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Susan Garrison

Address: 1717 Eagen Court
Bensalem, PA 19020

Please print clearly your comments below and provide your signature:

Please see attached letter.

Thank you.

Signature (Required): Susan L Garrison

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Susan L. Garrison - Page 1/2

No Issues – No Responses

Susan L. Garrison - Page 2/2

1 Noise (DEIS/FEIS Section IV-O)

As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined those areas that warrant noise barrier consideration. For warranted areas, approximately ten miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (year 2025 Build) noise levels to below existing noise levels for most residential

Susan L. Garrison - Page 2/2

June 26, 2001

1717 Eagen Court
Bensalem, PA 19020

Pennsylvania Turnpike Commission
PA Turnpike/I-95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Dear Mr. Davis:

I am a resident of the Harvest Run West Development located in Bensalem. After attending the information sessions a few weeks ago, I have some concerns about the future changes of the Pennsylvania Turnpike.

1 My house is located right next to the turnpike. It is literally in my backyard. I bought my house in November knowing this and that there could be future changes to the Turnpike regarding a new interchange. Any change that will improve the flow of traffic or make major roads/interstates connect better is a great idea. However, my main concern is the third lane that will be added that will be right behind my house. At the present time, there is no sound barrier wall to block out the noise. With an extra lane, there will be a lot more noise due to the extra traffic. This wall must be put up as a part of this project. At the informative meeting, there were no guarantees stated that this wall would be installed. Since there is not enough money to fund the entire project right now, I am afraid that sound barrier walls will be last on the list. Stop by my house and see how much noise there is now and how close an extra lane will be to my yard and how much more

2 noise it will cause. I see so many areas along the Pennsylvania Turnpike that have the sound barrier walls that don't have anything around them. Why did they get walls and my development didn't? The developers of this project need to take the residents views into consideration. I am

3 sure none of the people who developed this project have homes right next to the Turnpike. There is also concern that a third lane would decrease the safety and value of my home.

4 Another concern is the length of this project and what a mess it will be. I travel quite frequently on the Pennsylvania Turnpike - starting at exit 28 and getting off at exit 6 near Pittsburgh. I have traveled through so many construction zones over the past three years. Sitting in traffic, making a 6-hour trip into an 8-hour trip. Times like that make you want to not use the Pennsylvania Turnpike and find alternate routes. I am sure there are plenty of other travelers that would agree.

5 Thank you for taking the time to view my thoughts and concerns. It seems that the residents of Harvest Run West and those who live near the Turnpike have not been taken into consideration and that this project needs a little more planning. A response, hopefully not a form letter with my name pasted into it, to this letter would be greatly appreciated.

Thank you.

Sincerely,

Susan L. Garrison

Susan L. Garrison

areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

Assuming Final Design noise studies determine that noise abatement is warranted, feasible and reasonable at the Harvest Run West area (preliminary studies described in the DEIS/FEIS have shown that it is), the timing of the construction of the noise abatement in the Harvest Run West area will depend on construction phasing. However, the project, including the additional lanes proposed along I-276 in the Harvest Run West area, will not open to traffic until all the design elements of the project, including noise abatement and other mitigation measures, are completed.

2 Noise (DEIS/FEIS Section IV-O)

Noise abatement is provided only when the construction of noise abatement is warranted, reasonable and feasible at locations identified as noise sensitive

areas. FHWA defines outdoor noise sensitive areas as picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. In Pennsylvania, federal funds are used for noise abatement measures only for the construction of a highway project on new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increase the number of through lanes. Existing I-276 noise abatement meets these conditions.

3 Socioeconomic–Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)
In the case of the Harvest Run West area, the addition of the third lane should not cause a safety problem because the project design phase will consider the need for safety barriers and/or berms. In addition, a continuous noise barrier of significant height (over 14 feet) has been demonstrated to be warranted between the homes in Harvest Run West and I-276 (Section IV-O). This barrier is expected to reduce noise levels to below existing noise levels. Although property values could conceivably be affected both positively and negatively, the introduction of a noise barrier, where none presently exists, is one factor that could result in a positive effect to the property values of homes in the Harvest Run West area.

4 Construction Impacts (DEIS/FEIS Section IV-T)
Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

5 Public Involvement (DEIS/FEIS Section VII)
A variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project. Specific efforts included establishing a local project office; holding general public meetings and public officials meetings; organizing special interest group meetings; facilitating the organization of a Community Advisory Committee and the Community Economic Impact Review Group; distributing public questionnaires, project newsletters and fact sheets; creating a project specific website; providing informational binders to local libraries; and releasing press/public notices. The next project phase, the design phase, will continue to include appropriate involvement of the public.

Responses to comments during the formal comment period were included in this FEIS. Notifications were sent to all commenters acknowledging the receipt of their comments and informing the commenter of how they may review or obtain a copy of the I-276/I-95 Interchange Project FEIS.

James and Cheryl Guiteras - Page 1/2

PENN TURN PIKE

Date: _____ Page ___ of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: James & Cheryl Guiteras

Address: 1935 Ritter Ave
Bristol PA 19007

Please print clearly your comments below and provide your signature:

1 I don't know why this is being forced on the residence
2 of Bucks. The traffic on our small repair needed
roads is not people traveling north, south, east or
west. It's from all the industry in the area, local
3 residence your plan of no relief only worse traffic
jams due to 10 yr construction. When you first
started your study in Fergusonville my house was
for sale. $108,000. After seeing a T.V. news show
about your study and the connection no one wanted
to live here. Some offered $20k less? I had the house
appraised for $100,000.00. If the project goes forward
4 no one has an opportunity to move. You will kill the
housing market in the area. And what about the
5 business your buying who pays the missing taxes over

Signature (Required): James & Guiteras

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

James and Cheryl Guiteras - Page 1/2

1 Legislation (DEIS/FEIS Section I-A)
The I-276/I-95 Interchange Project originated because of a demonstrated need for the project as discussed in Section I of the DEIS/FEIS. In addition, the project is based on legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the Federal Surface Transportation Assistance Act of 1982. The placement of the interchange in Bucks County addresses both the project need and the supporting legislation.

2 Traffic and Transportation (DEIS/FEIS Section IV-A)
It is projected that the I-276/I-95 Interchange Project will remove trips from local roads by diverting trips to I-95 and I-276. The diverted trips are primarily from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project (DEIS/FEIS Figures IV-3A, 3B, and 3C) will maintain and/or improve local access.

3 Construction Impacts (DEIS/FEIS Section IV-T)
Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be employed to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

4 Socioeconomic–Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)
The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

5 Socioeconomic – Commercial Tax Base (DEIS/FEIS Section IV-C.4)
The DEIS/FEIS states that the proposed displacements of local businesses and residences may result in loss of assessed value for the affected municipalities. However, the anticipated loss of assessed value is small (less than 1 percent per alternative and municipality) and will not substantially alter the tax base of the study area. It is expected that this loss will be offset by the investment in existing properties and new development associated with access improvements brought by the construction of the interchange. For instance, the I-276/I-95 point-of-crossing area was identified by the project's Economic Impact Study as being a growth center.

James and Cheryl Guiteras – Page 2/2

6 South To North DEL. 95 To NJ TPK And All North Points. OR 95 - 295 - 195 - NJ TPK Why do we or you need this - FEDERAL FUND. ARE NOT AVAILABLE FOR RD REPAIR IN OUR AREA but. $650M FOR this UNNEEDED CONNECTION is, well it Sucks.

6 Florida To ME. RT 95 N To 295 N will put you right ON NJ TPK. - THAT will complete the Link - 95 AS WE NOW IT Through PA could be RENAMED. YOUR plan is NOT NEEDED

THERE IS NO ONE I know Who is For this project.

1 MY ROAD RAGE GROWS WITH EVERY STONE THAT HITS My CAR. And POLUTION FROM I95, And The INDUSTRIAL PARKS CONSTRUCTION. PLEASE SEND this project back To NJ. Stop TRYING To Shove this down OUR THROATS YOUR CONCERN IS FOR the FEDERAL FUNDS ONLY NOT the QUALITY OF LIFE FOR THOSE IN THE AREA. DON'T build the CONNECTION Thank You

James and Cheryl Guiteras - Page 2/2

6 Project Needs – I-95/I-295 Alternative (DEIS/FEIS Section I-B)

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs. Therefore, the I-276/I-95 routing does not constitute a reasonable project alternative.

The I-295/I-195 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists will continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, PA without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by the Pennsylvania Department of Transportation prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

See ***James and Cheryl Guiteras – Page 1/2*** On Previous Page For The Response To Issue **1.**

Susan Herman / Richard Tonge / Marci Conti – Page 1/6

PENN TURN PIKE

Date: 6/25/01 Page 1a of 126

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name:	Mrs. Susan Herman	Mr. Richard Tonge	Mrs. Marcy Conti
Address:	1997 Boxwood Dr.	10 Primrose Ct.	940 Worthington Hill Rd.
	Newtown, Pa. 18940	Newtown, Pa. 18940	Wrightstown, Pa. 18940

Please print clearly your comments below and provide your signature:

See attached memo dated 6/25/01 and addressed to Mr. Davis.

Signature (Required): Susan Herman / Richard Tonge / Marci Conti (SIC)

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

1a
PH-F

Susan Herman / Richard Tonge / Marci Conti – Page 1/6

No Issues – No Responses

Susan Herman / Richard Tonge / Marci Conti – Page 2/6

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Susan Herman / Richard Tonge / Marci Conti – Page 2/6

No Issues – No Responses

* These pages, included here as written comments, are part of a binder presented to the Project Team.

** The entire binder presented to the Project Team, including these sections, can be found in the Technical Support Data at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. These sections contain maps and past correspondence that does not require formal responses in this FEIS. The oral presentations from the June 16, 2001 Public Hearing for the I-276/I-95 Interchange Project are included in the Public Testimony section of this appendix.

Susan Herman / Richard Tonge / Marci Conti – Page 3/6

Mrs Susan Herman
1977 Boxwood Dr.
Newtown, Pa. 18940
Lower Makefield Twp.
Ph: 215 504-9670

Mr. Richard Tonge
10 Primrose Court
Newtown, Pa. 18940
Newtown Twp.
Ph: 215 579-1228

Mrs. Marcy Conti
940 Worthington Mill Rd.
Wrightstown, Pa. 18940
Wrightstown Twp.
Ph: 215 504-5724

June 25, 2001

Mr. Jeffrey Davis, Pennsylvania Turnpike Commission
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Dear Mr. Davis,

1 We are representatives for a regional group of concerned residents with members from Lower Makefield, Upper Makefield, Newtown, Wrightstown and Northampton Townships. Our group had an opportunity to review the Environmental Impact Statement (EIS) that has been prepared for the proposed Pennsylvania Turnpike/ Interstate 95 Interchange Project and found a significant omission. **Our region was omitted.**

2 1 3 We are not necessarily opposed to the Interchange Project; we are officially neutral. We feel, however, that the impacts of this project will reach further than the municipalities studied in this EIS. As residents of an affected area, we have serious safety concerns regarding transportation of the stone used for construction of the project. Our position is as follows: the Interchange Project must be preceded by the opening of Swamp Rd. to all heavy and commercial truck traffic between the four Wrightstown quarries and the Newtown Bypass (Rte. 332). The four Wrightstown quarries are located on Swamp Road just 3.5 miles north of the Newtown Bypass.

1 **We are writing to ask you to include Lower Makefield, Upper Makefield, Newtown, Wrightstown, and Northampton Townships in the Environmental Impact Statement.**

SAFETY CONCERNS

We currently have a dangerous situation in our region due to the commingling of heavy trucks, cars, buses and pedestrians on residential streets in our neighborhoods. This unsafe condition has been publicly and repeatedly acknowledged by Representative Steil, Senator Conti, Congressman Greenwood, and the local governments of the aforementioned townships.

2

Susan Herman / Richard Tonge / Marci Conti – Page 3/6

1 DEIS Study Area (DEIS/FEIS Section II-A)

The study area is not defined so as to include all of the potential sources of construction materials for the I-276/I-95 Interchange Project. The EIS study area boundaries were defined by considering the limits of the various alternatives developed to meet the defined project needs. The identifiable environmental and socioeconomic impacts caused by the construction of the proposed improvements are contained within these boundaries. Therefore, the EIS study area consisted of a 1000' corridor centered along I-276 and I-95, which terminated at the limits of construction of those alternatives fully developed in the document. These limits were modified during the alternatives development process as the affected area boundaries changed.

2 Project Position

The commenter's neutral position to the I-276/I-95 Interchange Project is noted.

3 Construction Impacts

The construction contract policies of Federal Highway Administration, Pennsylvania Department of Transportation (PENNDOT) and the Pennsylvania Turnpike Commission do not regulate the sources or transportation routes of the materials used by the contractor for project construction. Standard and project-specific materials and construction method specifications are used to attain uniform project quality standards. While it is acknowledged that the Wrightstown-area quarries produce PENNDOT-approved materials, it cannot be ascertained whether these quarries, will, or will not, supply materials for the I-276/I-95 Interchange Project. Numerous approved quarries (20+) are within the PENNDOT District 6-0 five county area. Also, some of these quarries are contractor-owned and would likely be used by their owner-contractors should these contractors be awarded construction contracts. In summary, the factors affecting the selection and use of construction materials sources and transportation methods are quite variable and unpredictable at this time.

4 Swamp Road Improvements

The need for Swamp Road improvements and safety upgrades is a function of the relationship between the existing traffic and infrastructure. In addition, there is no tie-in between the proposed I-276/I-95 Interchange Project and the existing infrastructure needs. Meetings between affected communities and elected officials were held, and PENNDOT and municipality-sponsored studies were conducted. As with other area transportation needs, recommendations for state funded improvements must be forwarded by the respective municipalities through the Bucks County Planning Commission for inclusion in the region's Transportation Improvement Plan (TIP).

Susan Herman / Richard Tonge / Marci Conti – Page 4/6

3 Our premise is that a significant proportion of the stone for the Interchange Project will come from the four Wrightstown quarries, as the stone quarried there meets PennDOT's specifications for road construction. The quarries are in close proximity to the project (See map: Section A, Exhibit 1) and it logically follows that Bucks County sources will be used, as this project has been touted for the economic benefits it brings the county.

3 The Interchange Project will result in millions of tons of additional stone passing through our residential neighborhoods, putting the men, women and children in our neighborhoods at even greater danger than exists today. It is imperative that loaded

4 quarry trucks (weighing 80,000 lbs.) be able to use Swamp Rd. to get from the quarries to the Newtown Bypass, the safest road for commercial truck traffic. Swamp Rd. is the shortest route from the quarries to the Bypass and has fewer access points than the other routes available to truckers.

Currently, loaded quarry trucks cannot choose to use Swamp Rd. to get to the Bypass due to a weight-restricted culvert (rated at only 30,000 pounds) just south of the intersection of Swamp Rd. and Worthington Mill Rd. The loaded quarry trucks are diverted away from the Newtown Bypass onto longer routes through residential neighborhoods en route to Interstate 95 (195).

Only empty quarry trucks are currently able to choose to travel up and down Swamp Rd. between the quarries and the Newtown Bypass.

4 Another concern with the Interchange Project is that it will require enormous volumes of asphalt. Currently, there is already an abundance of "binder" oil tankers supplying the Wrightstown quarries' asphalt production. These 6,000-gallon tankers (hauling flammable oil) are also diverted away from the Newtown Bypass onto longer routes through residential neighborhoods due to the Swamp Rd. restriction. A spill or collision would clearly result in a catastrophe.

****** Please see Exhibits 2-6, Section A, which are oral presentations that were given by group members at the June 16, 2001 public hearing for the Interchange Project. These presentations explain how the restriction on Swamp Rd. affects truck traffic and endangers residents and travelers in our region.

HISTORY OF THE NEWTOWN BYPASS

The Newtown Bypass (a four-lane, controlled access highway) was built to reroute heavy commercial truck traffic around local neighborhood and town roads. The second phase of the Bypass construction was completed in 1992 using 23 million taxpayer dollars ($23,000,000). Mrs. Irene Koehler, a Lower Makefield Township resident, outlined the history of the Newtown Bypass in a speech she gave at a Special Meeting held by Lower

****** Makefield Township on July 1, 1999. Please see Section B, Exhibits 1 and 2 that are, respectively, Mrs. Koehler's speech and the agenda from the Special Meeting. Senator

3

Susan Herman / Richard Tonge / Marci Conti – Page 5/6

Conti, Representative Steil, and Andrew Warren (PennDOT District Administrator) were special guests at this meeting.

As outlined in the oral presentations in Section A, the restriction of Swamp Rd. (the shortest route to the Bypass) forces heavy trucks to bypass the safest road for them, The Newtown Bypass. In addition, truckers opt to use longer, residential routes to and from 195 rather than the Bypass because the traffic lights on the Bypass are not synchronized. As you can imagine, it is clearly a deterrent for an 80,000-lb. truck to stop at nine traffic lights along the Bypass. The Delaware Valley Regional Planning Commission (DVRPC) listed the synchronization of lights on the Bypass as the top priority in Newtown Township in a 1988 report. It is unacceptable to residents that this project still has not been implemented.

It is a known fact that the greater the number of access points along a route, the greater the likelihood that a crash will occur. The Institute for Transportation Engineers states. "Control of access is among the most influential geometric aspects affecting crash

4 frequency on the highway system." **If the Interchange Project proceeds before Swamp Rd. is opened to loaded quarry trucks south of the Swamp Rd./ Worthington Mill Rd. intersection, 80,000 - lb. vehicles will continue to be diverted to the Worthington Mill / Stoopville / Lindenhurst Rd. route with 155 access points versus Swamp Rd. with 16 access points.** Furthermore, Worthington Mill Rd., Stoopville Rd. and Lindenhurst Rd. are all classified as minor, residential, collector roads, the most minor roads in our state road system. Homes tend to be closer to the road on collector roads (less right- of- way) than on higher level state roads. In comparison, Swamp Rd. is classified as a principal arterial highway offering sufficient right-of-ways for improvement.

APPEARANCE OF POLITICAL MANIPULATION OF TRUCK ROUTES

****** Section C (Exhibits 1-10) contains correspondence that gives the appearance that political power has been used to restrict Swamp Rd. to loaded quarry trucks for thirty years. It appears that politicians have worked effectively to keep the trucks away from Bucks County Community College, despite the added danger to residents and travelers along longer, more highly residential roadways.

Our group has consulted with a traffic engineer who stated that the benefit of the concentration of traffic at the college is that there is expectancy. The truckers will expect that the likelihood of having to stop at the long, straight section of road by the college is fairly good. Please note that there currently is a traffic light at one of the two college entrances and also an electronic sign indicating that there is a red light ahead.

****** An added concern, giving the appearance of misuse of political power, is shown in Exhibit 11, Section C. The red houses on the map represent the residences of four of the five current Newtown Township Supervisors and the previous residence of our PennDOT District Administrator. Clearly one might understand that there could be conflict of interest concerning opening Swamp Rd. to heavy trucks.

4

Susan Herman / Richard Tonge / Marci Conti – Page 6/6

RECENT CORRESPONDENCE REGARDING THE DANGEROUS SITUATION AND OPENING SWAMP RD. TO HEAVY TRUCKS

Our group members have relentlessly approached local, state and federal politicians for over two years now, requesting that Swamp Rd. be opened to heavy trucks. Two years ago a Council Rock school bus filled to capacity with students was almost hit by a loaded quarry truck at the Autumn Dr./ Lindenhurst Rd. bus stop. The truck swerved onto a resident's front yard in order to avoid hitting the bus. One of our group members has photographs of the occurrence.

Clearly the large number of "unexpected" access points along the Worthington Mill / Stoopville / Lindenhurst Rd. route, coupled with the 300 foot + stopping distance of heavy trucks, will lead to disastrous consequences. At this very time, new construction is being added (both office and residential) along this route which will make it even more dangerous. It is a fact that an inherently dangerous condition exists when vehicles of vastly different size and weight share the same road (80,000 lb. trucks, 2,500 lb. cars). When passenger vehicles and trucks collide, 98% of the deaths occur to the passenger vehicle occupants.

****** Section D (Exhibits 1-38) contains recent correspondence between residents and politicians, arranged in chronological order. It is interesting to note that Exhibit 38, The 1998 Bucks County Transportation Improvement Program- TIP Projects by Municipality, included Swamp Rd. safety improvements. These improvements were identified in a 1994 engineering study at Wrightstown taxpayer cost of $20,000. This project never materialized.

CONCLUSION

The continued diversion of 80,000- lb. quarry trucks away from the Newtown Bypass is

4 unconscionable. It is critical that Swamp Rd. be opened to loaded quarry trucks BEFORE the Interchange Project begins. We ask that the federal government arrange for funding and implement the improvements before putting additional trucks on the road.

1 **We formally request that you include Lower Makefield, Upper Makefield, Newtown, Wrightstown, and Northampton Townships in the Environmental Impact Statement.**

Very Truly Yours,

Susan Herman	Richard Tonge	Marcy Conti
Representative	Representative	Representative
Lower Makefield Twp.	Newtown Twp.	Wrightstown & Upper Makefield Twps.

5

Susan Herman / Richard Tonge / Marci Conti – Page 4/6

See ***Susan Herman / Richard Tonge / Marci Conti – Page 3/6*** On Previous Page For Responses to Issues **3** and **4**.

** The entire binder presented to the Project Team, including these sections, can be found in the Technical Support Data at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. Oral presentations that were given at the I-276/I-95 Interchange Project Public Hearing are included in the Public Testimony section of this appendix.

Susan Herman / Richard Tonge / Marci Conti – Page 5/6

See ***Susan Herman / Richard Tonge / Marci Conti – Page 3/6*** On Previous Page For Response to Issue **4**.

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Susan Herman / Richard Tonge / Marci Conti – Page 6/6

See ***Susan Herman / Richard Tonge / Marci Conti – Page 3/6*** On Previous Page For Responses to Issues **1** and **4**.

** The entire binder presented to the Project Team, including this section, can be found in the Technical Support Data at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057.

Catherine Johnson - Page 1/1

PENN TURNPIKE

Date: 6-15-01 Page ___ of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Catherine Johnson

Address: 4010 Pine Ave
Newportville Pa 19056

Please print clearly your comments below and provide your signature:

1 I live in the area in question (Newportville). This interchange you are trying to put through will ruin my quality of life. First! The value of my house + neighborhood will drop (a lifetime of keeping my house tip top will go down the drain). Second! The congestion will be terrible. Not to mention the traffic during the 12 years it will take to construct all the ramps. Third! I believe the Project should be in Princeton, New Jersey where it is already connected. It is already connected in Princeton N.J.!! This will ruin my neighborhood!

Signature (Required): Catherine Johnson

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001. 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Catherine Johnson - Page 1/1

1 Socioeconomic – Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)
The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

2 Construction Impacts (DEIS/FEIS Section IV-T)
The DEIS/FEIS states that construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that study area roads experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and informational activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

3 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-195/I-295 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists will continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, PA without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by the Pennsylvania Department of Transportation prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

Denise Kula - Page 1/1

PENN TURNPIKE

Date: 6/12/01 Page ___ of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: DENISE KULA

Address: 2500 AVE. E
NEWPORTVILLE

Please print clearly your comments below and provide your signature:

1 Would like Color Copy of Pages A-8 & A-9 mailed to above address.

Signature (Required): Helen A Kula

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001. 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Denise Kula - Page 1/1

1 Public Involvement
Notifications were sent to all commenters acknowledging the receipt of their comments and informing the commenter of how they may review or obtain a copy of the I-276/I-95 Interchange Project FEIS.

Anne Marie Leone – Page 1/2

PENN-
TURN
PIKE

Date: 7/2/01 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Anne Marie Leone

Address: 3909 Pine Ave
Newportville PA 19056

Please print clearly your comments below and provide your signature:

See ATTACHED

Signature (Required): Anne Marie Leone

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Anne Marie Leone – Page 1/2

No Issues – No Responses

Anne Marie Leone – Page 2/2

1 • Page ES-23 1st paragraph of the executive summary states: "Verbal approvals and acknowledgements have been received from the current members of these councils/boards…". Without names this is hearsay and should not be put into this report.

2 • Why was not FHWA Publication FHWA-PD-96-031 Public Involvement Techniques for Transportation Decision-making followed?

3 • What are the traffic impacts to New Falls Rd. Newportville Rd. and Ford Rd. from the project?

4 • The Pennsylvania Turnpike Commission called meetings between PTC, PennDOT and FHWA "working meetings" and would not allow public to attend these meetings. The PA Sunshine Law's definition of "working sessions" in section 7(c) states "Boards of auditors may conduct working sessions not open to the public for the purpose of examining, analyzing, discussing and deliberating the various accounts and records with respect to which such boards are responsible, so long as official action of a board with respect to such records and accounts is taken at a meeting open to the public and subject to the provisions of this act. Please explain.

Anne Marie Leone – Page 2/2

1 Public Involvement (DEIS/FEIS Executive Summary)
While names are not specifically mentioned, the text of the executive summary has been revised to state: "Verbal acknowledgements have been received from some key members of these councils/boards…". This statement correctly describes the fact that the level of opposition by local officials has decreased as a result of impact minimization and elimination of controversial alternatives.

2 Public Involvement (DEIS/FEIS Section VII)
The Federal Highway Administration document entitled *Public Involvement Techniques for Transportation Decision-Making* (1996) is a reference work or guide that makes a wide variety of public involvement techniques available to transportation agencies. The contents of the report do not constitute a standard, specification or regulation required to be followed as part of the National Environmental Policy Act Process.

A variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project. Specific efforts included establishing a local project office; holding general public meetings and public officials meetings; organizing special interest group meetings; facilitating the organization of a Community Advisory Committee and the Community Economic Impact Review Group; distributing public questionnaires, project newsletters and fact sheets; creating a project specific website; providing informational binders to local libraries; and releasing press/public notices. The next project phase, the design phase, will continue to include appropriate involvement of the public.

3 Traffic and Transportation (DEIS/FEIS Section IV-A)
Existing and projected traffic volumes expressed in the DEIS/FEIS were obtained from the *Pennsylvania Turnpike/I-95 Interchange Study* (DVRPC, 2001). This publication provided traffic estimates for New Falls Road as shown on Figure IV-2 of the DEIS/FEIS. Traffic estimates for Ford Road, and Newportville Road were not included in this publication as only the traffic on the principal arterial roadways feeding the existing I-276 and I-95 interchanges was quantified. The I-276/I-95 Interchange Project will remove trips from local roads by diverting trips to I-95 and I-276. The trips that will be diverted are mostly from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project will maintain and/or improve local access. The reduction of through traffic on local arterials such as US 1, PA 132, PA 513, PA 63, and US 13 may also alleviate congestion on local roads such as Ford Road and Newportville Road that are sometimes used by travelers as a means to avoid congestion on the local arterial network.

4 Public Involvement (DEIS/FEIS Section VII)
The Pennsylvania Right-to-Know Act applies to the Pennsylvania Turnpike Commission (PTC). In accordance with this Act, working meetings of the PTC staff, agencies, or consultants are not public meetings. The Sunshine Law or any other law of Pennsylvania does not provide public access to these meetings. The preliminary design/environmental impact statement process clearly provides for multiple opportunities for public participation and input. As described in the DEIS/FEIS, an extensive public involvement program was established for the I-276/I-95 Interchange Project. Public Involvement was provided in the form of the project website at www.paturnpike/i95.com, public information binders in area libraries, public meetings, and the project office. The public has, and continues to have, the opportunity to submit opinions or questions on the website, in person at the project office, by mail and have answers returned in a timely manner.

Collin F. McNeil – Page 1/2

[redacted]

June 12, 2001

Mr. Jeffrey Davis
Pennsylvania Turnpike Commission
Suite 215
3220 Tillman Drive
Bensalem, PA 19020-2083

Dear Jeffrey,

1 Pursuant to the Comment Period for the I-95/Pennnsylvania Turnpike Interchange Project, we are writing to express the full support of the PENJERDEL Council for completion of the Interchange.

In April of 2000, PENJERDEL released the results of its Delaware Valley Transportation Infrastructure Needs Assessment. This comprehensive inventory and examination of regional transportation assets concluded that the I-95/Pennsylvania Turnpike Interchange project was one of seven key projects vital to the region's economic health. The study

1 urged expedition of the Interchange project. PENJERDEL's Board of Directors unanimously passed a resolution in favor of the Interchange. A copy of the Resolution is included in this mailing. Our Transportation and our Municipal Affairs Committees have tracked the progress of the project for a number of years. It is the organization's firm opinion that the Interchange offers significant long term benefit to the entire region – as a congestion mitigator, as an aid to travelers, as a boon to commerce, and as an investment in the public infrastructure sure to have benefit for local residents as well as citizens in the Philadelphia region, the Northeast, and the Nation.

Were it not for a quirk in federal laws at the time I-95 came through, the Interchange would have been part of the Turnpike for a number of years. It is only logical that now, after a lengthy period of careful evaluation, design, and public comment that the project moves forward. PENJERDEL, the preeminent regional business association of major Delaware Valley Employers dedicated to enhancing the public infrastructure, urges that the Interchange project be completed.

Sincerely Yours,

Collin F. McNeil
President

CFMcN/wp
Encl.

One Penn Square West ◄ Suite 700 ◄ Philadelphia, PA 19102-4826 ◄ Ph (215) 972-0900 F (215) 972-0910

Collin F. McNeil – Page 2/2

RESOLUTION REGARDING THE INTERSTATE 95/PENNSYLVANIA TURNPIKE CONNECTION

Whereas, The PENJERDEL Council, the tri-state alliance of business, industry and the professions serving the Delaware Valley, is committed to enhancing and improving the transportation infrastructure and the general business climate of the Delaware, New Jersey and Pennsylvania region; and

Whereas, The PENJERDEL Council's Board of Directors supports further investment to complete projects that will improve infrastructure and result in a state-of-the-art transportation system for the Delaware Valley; and

Whereas, The Delaware Valley Transportation Needs Assessment, commissioned by The PENJERDEL Council and the Rebuild the Delaware Valley Coalition, identified the construction of the Interstate 95/Pennsylvania Turnpike connection in Lower Bucks County, Pennsylvania as one of the most critically needed projects in the region; and

Whereas, changes in federal legislation now make it possible to link Interstate 95 and the Pennsylvania Turnpike in Lower Bucks County; and

Whereas, this connection is crucial to the efficient movement of goods and people in the Delaware Valley and would mitigate traffic congestion and cut commuting times—thus improving the quality of life in the region; and

Whereas, continued development and optimization of the regional transportation network is vital to attracting business to and retaining business in the region;

Be It Now Therefore Resolved, by The PENJERDEL Council's Board of Directors, that The PENJERDEL Council supports construction of a connection between Interstate 95 and the Pennsylvania Turnpike in Lower Bucks County and will aid interested parties in securing the success of said project; and,

Be it Now Further Resolved, by The PENJERDEL Council's Board of Directors that it fully supports expedited completion of the necessary studies and other preliminary steps so that construction of a connection between Interstate 95 and the Pennsylvania Turnpike in Lower Bucks County can begin as soon as possible.

David J. Packer - Page 1/1

PENN TURN PIKE

Date: 6/16/01 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: David J. Packer

Address: 163 Clayton Ave
Toms River, NJ 08755

Please print clearly your comments below and provide your signature:

1 This interchange is long overdue. The highest priority should be given to completion of the interchange element, if necessary, prior to the bridge and toll plaza elements.

Also, the DEIS proposes that the existing PA turnpike tollplaza be converted to a westbound toll collection point to fund the Turnpike Bridge. Please consider that an alternate to this plan would be to raise the toll at the existing NJ Turnpike toll plaza for westbound vehicles with the added portion of this toll going toward bridge operation. Vehicles exiting at

2 Exit 6A after the toll, but before the bridge that are EZ Pass equipped could actually be refunded the bridge toll to their EZ-Pass account by an EZ-Pass reader mounted on a gantry at the Exit 6A ramp. (Similar in design to PA Turnpike exit 340), insuring that vehicles exiting before the bridge are not charged. Under this plan, the toll plaza on the Pennsylvania side can be eliminated, reducing the impact of the project as well as the cost, while insuring the free flow of traffic.

Signature (Required): David J. Packer

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

ws

Collin F. McNeil – Page 1/2

1 Project Position
The commenter's support for the project and accompanying resolution in favor of the interchange, on behalf of the PENJERDEL Council, is noted.

Collin F. McNeil – Page 2/2

No Issues – No Responses

David J. Packer - Page 1/1

1 Project Position
The commenter's support of the project, with a priority towards the completion of the interchange portion of the project, is noted. Although the interchange portion of the project involves the major component of the project, adjustments to the existing toll system are also necessary to accommodate free flowing movement of traffic through the interchange. A prioritized construction schedule will be developed during the design phase of the project.

2 Alternatives Development (DEIS/FEIS Section III)
The commenter's suggested toll collection method is also noted. Further study will be performed during the design phase of the project to address a system of collection that provides optimum benefits.

Lisa M. Peterson - Page 1/3

TURN PIKE

Date: 6/20/01 Page 1 of 3

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Lisa M. Peterson

Address: 15 Stonybrook Drive
Levittown Pa 19055

Please print clearly your comments below and provide your signature:

See attached.

Signature (Required): Lisa M. Peterson

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

ws

Lisa M. Peterson - Page 2/3

2 of 3

COMMENTS I-95 / TURNPIKE PROJECT

1 | 1} The placement of an interchange in Bucks County, Pennsylvania is a direct consequence of legislation initiated by then New Jersey Senator Bill Bradley and Senator Brady in 1982.

1 | 2} The Surface Transportation Act of 1983, Section 162 a-c, shifted all the economic, social and environmental burdens onto the residents of Bucks County.

1 | 3} The primary objective of the STA Act of 1983, Section 162 a-c, was to remove New Jerseys legal obligation to complete I-95, not to stimulate economic growth in Bucks County.

2 | 4} The admittance by the F.H.W.A. of New Jerseys I-295 and I-195, as a viable continuous interstate connection, eliminates the need to construct this interchange in 2001. All that remains is for this outdated law to be changed.

2 | 5} The resigning of I-295 and I-195, officially to I-95, would complete the missing link from Maine to Florida and also save both state and federal taxpayers $600 million on this pork barrel project.

3 | 6} The quality of life in our neighborhoods would be negatively impacted with the construction of this interchange.

1 | 7} Why hasn't the law been changed yet?

4 | 8} Why do our neighborhoods have to endure 12 years of constant
2 | construction and aggravation, when the missing link is done.

Lisa M. Peterson - Page 1/3

No Issues – No Response

Lisa M. Peterson - Page 2/3

1 Legislation (DEIS/FEIS Section I-A)
The current I-276/I-95 Interchange Project study originated following the passage of legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission (PTC) to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the 1982 Federal Surface Transportation Assistance Act (STAA) of 1982. The 1982 federal legislative language to reroute I-95 through the proposed interchange was introduced by Senator Bill Bradley of New Jersey.

Three federal and state agencies, the Federal Highway Administration, the Pennsylvania Department of Transportation, and the PTC are working in partnership to prepare and complete an environmental study of the project, in accordance with the existing federal and state legislation.

2 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area), and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

Changing the signing of existing I-295 and I-195 to make it all I-95 will add approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the proposed I-276/I-95 Interchange have regional origins/destinations, motorists will continue to use Routes 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross in Bucks County, Pennsylvania without interchanging. The acknowledged need for an I-276/I-95 interchange was studied extensively by PENNDOT prior to the existence of the I-95 rerouting issue, in an effort to address the lack of continuity and local road congestion issues. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

3 Socioeconomic – Quality of Life (DEIS/FEIS Sections IV-N, O, R)
The commenter's opinion regarding negative impacts from the project is noted. Section IV of the DEIS/FEIS describes impacts and mitigation measures associated with quality of life, such as air, noise and visual quality. It is expected that the incorporation of noise barriers will reduce noise levels for most residential areas to below existing levels. In addition, by the time the I-276/I-965 Interchange Project is constructed; many air quality benefits will have been realized as a result of stricter US Environmental Protection Agency regulations (see Marcia Spink testimony pages I-21 to I-22 for testimony on air quality related to the project). The DEIS/FEIS describes mitigation measures for visual impacts (Section IV-R) including landscaping to screen views of the highway and noise barriers. These and other mitigation measures will be finalized in the Mitigation Report to be completed after the Record of Decision.

4 Construction Impacts (DEIS/FEIS Section IV-T)
Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

Lisa M. Peterson - Page 3/3

5 of 5

5 | 9} Why does NEPA permit business stakeholders to have a say in direction of this project and not citizens?

Lisa Peterson
Lisa Peterson
15 Stonybrook Drive
Levittown, Pennsylvania
19055

Lisa M. Peterson - Page 3/3

5 Public Involvement (DEIS/FEIS Section VII)

The I-276/I-95 Interchange Project was conducted in accordance with the National Environmental Policy Act (NEPA), one stipulation of which requires the establishment of a public involvement process. NEPA permits all citizens, including business and residential interests, to have input into the environmental study process.

As described in the DEIS/FEIS, a variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project using a combination of federal and PTC funds. Specific efforts included establishing a local project office; holding general public meetings and public officials meetings; organizing special interest group meetings; facilitating the organization of a Community Advisory Committee (CAC) and the Community Economic Impact Review Group (CEIRG); distributing public questionnaires, project newsletters and fact sheets; creating a project specific website; providing informational binders to local libraries; and releasing press/public notices. In addition to public involvement, state and federal regulatory agencies reviewed and commented on each step of the project development including the project objectives and alternatives development. This resulted in a broad-based, balanced public involvement program process that focused on significant issues important to the public and local officials and state and federal agencies. The next project phase, the design phase, will continue to include appropriate involvement of the public.

Leonard Pundt - Page 1/2

FEEL FREE TO CORRECT ANY TYPOS. LP

PENNA TURN PIKE

Date: 13 JUN 01 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: LEONARD PUNDT

Address: 7324 MONTOUR ST.
PHILADELPHIA, PA 19111-3608

Please print clearly your comments below and provide your signature:

TWO MAJOR CONTINENTAL EXPRESSWAYS THAT CROSS BUT DO NOT DIRECTLY CONNECT IS A FUNDAMENTALLY LUDICROUS SITUATION. IT IS BOTH A REGIONAL AND NATIONAL EMBARRASSMENT. IT IS ALSO AN ECONOMIC HINDRANCE. (THE TWO LARGEST CITIES IN THE NORTHEAST CORRIDOR MAGALOPOLIS ARE ADJACENT YET HAVE NO DIRECT ALL-EXPRESSWAY ROUTE BETWEEN THEM.)
1 A CONNECTION OF SOME TYPE BETWEEN THE TWO EXPRESSWAYS IS AN OBVIOUS IMPERATIVE.
IF THE CONTINUITY OF I-95 WERE INTACT THROUGH CENTRAL NEW JERSEY, A CONVENTIONAL LOW-SPEED INTERCHANGE WITH A TOLL PLAZA WOULD BE APPROPRIATE AND SUFFICIENT. THE SECTION OF I-95 IN CENTRAL NEW JERSEY, HOWEVER, WAS "LEGISLATED OUT OF EXISTENCE" AND WON'T BE BUILT ANYTIME SOON, IF EVER. THIS NECESSITATES A HIGH-SPEED INTERCHANGE WITH TOLL-FREE MOVEMENTS. THIS IS SIMPLY REALITY; MILITATING AGAINST IT IS COUNTERPRODUCTIVE.

Signature (Required): [signature] CONTINUED ON REVERSE

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Leonard Pundt - Page 1/2

1 Project Position

The commenter's support of the I-276/I-95 Interchange Project is noted.

Leonard Pundt - Page 2/2

HAVING PARTICIPATED IN THE PROJECT'S COMMUNITY ADVISORY COMMITTEE (CAC) SINCE ITS INCEPTION, I'VE WATCHED THE PROJECT DESIGN TEAM WORK HARD TO DESIGN A FACILITY THAT HAS THE SMALLEST POSSIBLE IMPACT ON THE LOCAL COMMUNITY AND ON THE ENVIRONMENT. THE TEAM HAS IN MY VIEW STRIVEN SUCCESSFULLY TO INCORPORATE INPUT FROM COMMUNITY MEMBERS AND LEADERS AT EVERY TURN. 2

I HAVE HAD THE OPPORTUNITY TO PERSONALLY SATISFY MYSELF THAT THE PROPOSED FACILITY (IN EACH OF ITS THREE COMPONENTS) WILL BE ONE THAT TRAVELLERS, COMMUTERS, LOCAL USERS, AND NEARBY COMMUNITY MEMBERS ALIKE CAN ALL LIVE WITH AND BE SATISFIED WITH. I BELIEVE IT WILL BE THE BEST POSSIBLE FACILITY THAT CAN BE DEVISED TO BALANCE THE NEEDS AND REQUIREMENTS OF THE VARIOUS "CUSTOMERS." 1

L. Pundt

Rita E. Ratican - Page 1/1

June 21, 2001

Mr. Jeffry Davis
Pa. Turnpike Commission
Pa. Turnpike I95 Interchange
3220 Tillman Drive -- Suite 215
Bensalem, Pa. 19020-2264

Mr. Davis:

I strongly oppose the construction of this Pa. Turnpike Interchange in Bensalem. 1

We have too much construction and traffic in Bensalem as it is without adding more. 2

Have you driven Hulmeville Raod and Street Road?

Rita E. Ratican
Rita E. Ratican

R.E. Ratican
5712 Cavalier Ct. West
Bensalem, PA 19020-2269

Marlene A. Salmon - Page 1/2

PENN-DOT TURN PIKE

Date: 6/5/2001 Page 1 of 2

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Marlene A. Salmon

Address: 5550 Hulmeville Rd.
Bensalem, PA 19020

Please print clearly your comments below and provide your signature:

See Attached Sheet.

Signature (Required): Marlene A. Salmon

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Leonard Pundt - Page 2/2

2 Public Involvement
The commenter's remarks supporting the I-276/I-95 Interchange Project public involvement process, and commending the efforts of the project design team and the balanced design concepts that have been proposed for construction are noted.

See ***Leonard Pundt - Page 1/2*** On Previous Page For The Response To Issue 1.

Rita E. Ratican - Page 1/1

1 Project Position
The commenter's opposition to the project is noted.

2 Traffic and Transportation (DEIS/FEIS Section IV-A)
The I-276/I-95 Interchange Project will remove trips from local roads including Hulmeville Road and Street Road by diverting trips to I-95 and I-276. The diverted trips are primarily from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local traffic. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase.

Marlene A. Salmon - Page 1/2

No Issues – No Responses

Marlene A. Salmon - Page 2/2

Written comment form / I-95 Interchange project
Attachment

We live directly next to the Turnpike on Hulmeville Road by the overpass bridge. The expansion of the this highway directly effects the quality of our lives in many ways. The air pollution from diesel exhaust will increase drastically, the sound levels will be likewise increased. **1,2**

Question 1: **1**
Assuming the project comes to fruition, how can these forms of pollution be diminished to acceptable levels in order to be able to live next door to this construction?

Question 2: **3**
Why does the DEIS fail to include I-195 and I-295 as possible alternatives to the "missing link"?

Question 3: **3**
Can I-195 and I-295 become a possible alternative in the FEIS?

Question 4: **4**
Why are there only TWO proposed build alternatives shown in the DEIS? Shouldn't the Turnpike Commission, PennDot and all the other participating agencies have a greater list of choices?

Question 5: **5**
The current members of the CEIRG are biased. They have everything to gain by having a major construction project since they are almost all business owners that will be used by the Turnpike during construction.

How can the FHWA review the CEIRG recommendations fairly and justly without bias? **5**

Marlene Salmon
5550 Hulmeville Road
Bensalem, PA. 19020
Marlene Salmon

Marlene A. Salmon - Page 2/2

1 Air Quality (DEIS/FEIS Section IV-N FEIS Appendix E)
A localized carbon monoxide analysis and a regional ozone analysis were conducted for the project based on traffic scenarios including existing and baseline conditions, the opening year, Build and No-Build interim years (with slow speed and fast speed E-*ZPass*) and Build and No-Build design year. For each case, carbon monoxide levels were below US Environmental Protection Agency (USEPA) standards. A regional air quality emissions analysis that included the I-276/I-95 Interchange Project was conducted by the Delaware Valley Regional Planning Commission (DVRPC). This analysis concluded that the levels of pollutants necessary for the formation of ground level ozone, nitrous oxides (NOx) and volatile organic compounds (VOCs), in the region that includes Lower Bucks County would be within standards set by the USEPA by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County. A summary of the DVRPC regional analysis is included in Appendix E of the FEIS.

The Pennsylvania Department of Environmental Protection (PADEP) maintains an air quality monitoring station in Bristol Township. Historic monitoring at this station has indicated that regional air quality has steadily improved in the past ten years in the project area (PADEP, 1999). In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

2 Noise (DEIS/FEIS Section IV-O)
As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined those areas that warrant noise barrier consideration. For warranted areas, approximately 10 miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

3 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)
While the Environmental Impact Study for the project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential they meet the five defined project needs.

While it is true that these interstates connect sections of I-95 in Pennsylvania to central New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a temporary but circuitous Interstate connection between the sections of I-95 in Pennsylvania and New Jersey, pending the construction of the proposed I-276I-95 Interchange.

The I-295/I-195 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the interchange have regional origins/destinations, motorists will continue to use Route 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross without interchanging. The acknowledged need for this interchange was studied extensively prior to the existence of the I-95 rerouting issue.

In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

4 Alternatives Development (DEIS/FEIS Section III)
A total of 16 build alternatives in the three project elements (toll plaza, interchange and bridge) were evaluated in detail during the preliminary alternatives analysis. Refer to Section III of the DEIS/FEIS for additional information regarding key advantages and disadvantages for each of the 16 alternatives. Two build alternatives for each element were carried forward for detailed study in the DEIS/FEIS. Federal and state agencies as well as the public were involved in the alternatives development throughout the Transportation Project Development Process.

5 Community Economic Impact Review Group (DEIS/FEIS Section VII)
The I-276/I-95 Interchange Project was conducted in accordance with the National Environmental Policy Act (NEPA), one stipulation of which requires the establishment of a public involvement process. NEPA permits all citizens, including business and residential interests, to have input into the environmental study process. As described in the DEIS/FEIS, a variety of public involvement strategies were implemented to keep the public informed and involved with the progress of the I-276/I-95 Interchange Project using a combination of federal and PTC funds. Specific efforts included establishing a local project office; holding general public meetings and public officials meetings; organizing special interest group meetings; facilitating the organization of a Community Advisory Committee (CAC) and the Community Economic Impact Review Group (CEIRG); distributing public questionnaires, project newsletters and fact sheets; creating a project specific website; providing informational binders to local libraries; and releasing press/public notices. In addition to public involvement, state and federal regulatory agencies reviewed and commented on each step of the project development including the project objectives and alternatives development. This resulted in a broad-based, balanced public involvement program process that focused on significant issues important to the public and local officials and state and federal agencies.

The primary organization to solicit and involve the citizenry in the project development process is the Community Advisory Committee (CAC). This organization has been in place since 1994 and has held 22 meetings (up to January 2002). The Community Economic Impact Review Group (CEIRG) was established in 1999, for the specific purpose of monitoring and assuring the integrity of an economic impact study performed by an independent consultant team with appropriate expertise. Although the CEIRG was established with a specific focus, a conscientious effort was made to solicit citizen input through appropriate elected officials at the federal, state, county, city and township levels; through the inclusion of a member of the project's CAC on the CEIRG; and through the process of dual membership of several of these individuals on both the CEIRG and CAC. Also, the minutes of the CEIRG meetings were provided to each CAC member. The CEIRG meetings were open to any member of the public as an observer; and the public was kept informed through media releases, and mailings of Newsletters and Topic Updates. In summary, the whole process provides the opportunity for all commenter's, both supporter and opponents, to be heard.

Robert W. Salmon - Page 1/5

PENN. TURN-PIKE

Date: 6-5-01 Page 1 of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Robert W. Salmon

Address: 5550 Hulmeville Rd.
Bensalem, PA. 19020

Please print clearly your comments below and provide your signature:

please see attachment.

Signature (Required): Robert W. Salmon

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Robert W. Salmon - Page 1/5

No Issues – No Responses

Robert W. Salmon - Page 2/5

1 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)
Background and baseline data were analyzed as part of the localized carbon monoxide analysis and the Delaware Valley Regional Planning Commission (DVRPC) regional analysis for nitrous oxides (NOx) and volatile organic compounds (VOCs). The localized carbon monoxide analysis performed by the Project Team included background carbon monoxide levels that are continuously monitored at an air quality monitoring station (maintained by the Pennsylvania Department of Environmental Protection since 1989) located in Bristol Township.

Robert W. Salmon - Page 2/5

Written comment form / I-95 Interchange project
Attachment

My wife and I live next to the Hulmeville Road overpass bridge at the Turnpike. The addition of more cars, trucks and busses will assuredly (and logically) increase NOX and VOC emissions for our area. As a PA. certified Inspection Station we are required to test and monitor those emissions.

1 Why then did the DEIS fail to included those readings?
What steps are being taken to include those emissions in the FEIS?
What statistical analysis or scientific study was performed?

2 If the Turnpike construction is allowed, the quality of our lives will be negatively impacted. Noise, dust and air pollution will become excessive.
What steps will be taken to negate or diminish those effects?
Under NEPA, where does it state that I must endure the constant din of construction and aggravation of being disturbed continually?

3 Again NEPA states that all "cumulative effects" be considered. It entails the requirement to study all socioeconomic, cultural, and natural resource impacts. Our business at 5526 Hulmeville Road was NOT
4 considered at all in the DEIS.
Why was our business excluded from the DEIS?

5 The FHWA has accepted the I-195 and I-295 link as a viable alternative in New Jersey to complete the "missing link".
The DEIS shows only two build alternatives.
Why has the DEIS failed to include this as a suitable build alternative?

Lastly, please refer to my commentary that I provided on June 12, 2001. I made several interrogatories. Would you please refer to them and answer them as well?

(I've provided a copy , enclosed.)

Robert W. Salmon
5550 Hulmeville Rd
Bensalem, PA. 19020

A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. A summary of this analysis is located in Appendix E of this FEIS. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan).

2 Construction Impacts (DEIS/FEIS Section IV-T)
Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods.

3 Secondary and Cumulative Impacts (DEIS/FEIS Section IV-U.2)
The Secondary and Cumulative Impacts evaluation for the project is summarized in Section IV-U of the DEIS/FEIS.

4 Socioeconomic (DEIS/FEIS Sections IV-B, C.3)
The manner in which the socioeconomic studies were conducted is consistent with the National Environmental Policy Act. Potential impacts to residences, business and community facilities within the study area were properly evaluated and discussed in the DEIS/FEIS. Property owners within the study area were not contacted on an individual basis. All properties, including residences and businesses within the 1000' study corridor, were inventoried based on tax records from the Bucks County Assessment Board. Detailed information on these studies can be found in the project Technical Support Data located at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. The results of these studies, in conjunction with the preliminary engineering, indicated the residence and business at 5526 and 5549 Hulmeville Road will be displaced with the Split Plaza East Alternative. These displacements were included in Table ES-1. The FEIS Preferred Alternative for the Toll Plaza Element is the Modified Plaza West Alternative, which will not displace these properties.

5 Project Needs – I-295/I-195 Routing (DEIS/FEIS Sections I-B, III)
A total of 16 build alternatives in the three project elements (toll plaza, interchange and bridge) were evaluated in detail during the preliminary alternatives analysis. Refer to Section III of the DEIS/FEIS for additional information regarding key advantages and disadvantages for each of the 16 alternatives. Two build alternatives for each element were carried forward for detailed study in the DEIS/FEIS. Federal and state agencies as well as the public were involved in the alternatives development throughout the Transportation Project Development Process.

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs is to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives are evaluated, it is essential that they meet the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the interchange have regional origins/destinations, motorists will continue to use Route 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross without interchanging. The acknowledged need for this interchange was studied extensively prior to the existence of the I-95 rerouting issue. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

Robert W. Salmon - Page 3/5

6 Socioeconomic – Property Displacement (DEIS/FEIS Section IV-B.3)

The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission (PTC) pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. Just compensation at fair market value will be provided for displaced residents. Property owners are compensated if their property is required as right-of-way for the Interchange Project.

Detailed right-of-way acquisition will be addressed in the Final Design phase of the I-276/I-95 Interchange Project, at which time a final relocation survey will be conducted by PTC in conjunction with PENNDOT, to determine on a case-by-case basis, the number of displaced residents and businesses, and to provide relocation assistance in accordance with applicable regulations. During Final Design, any special groups or individuals, such as the elderly or handicapped that will be displaced will be given special consideration. Replacement property will be offered to displaced persons without discrimination and will be within financial means and provide reasonable accessibility to places of employment and public services. At this time, research shows that there is sufficient replacement housing in the study area. In cases where only portions of a property will be required by the I-276/I-95 Interchange Project, monetary compensation for the portion of property will be provided to property owners in accordance with applicable regulations.

Business owners who suffer a loss or diversion of business during the construction phase will not be compensated. This impact, although a legitimate concern if it comes to exist, is difficult to predict and is not required by law to be compensated.

Robert W. Salmon - Page 3/5

Thank you for the opportunity to speak this evening. My name is Bob Salmon and reside at 5550 Hulmeville Rd. I also represent the families and businesses at 5526 and 5550 Hulmeville Rd. I am the President of Bill Salmon Auto Body, 5526 Hulmeville, a business with over 40 years in the Bensalem community employing seven people.

To give you an idea of our proximity, these properties are immediately south of the TP bridge and directly adjoin to the TP. Either of the DEIS build Alternatives would directly affect our lives and businesses negatively.
Not possibly, but definitely, with far reaching negative results. Allow me to explain.

6 **ONE:**
If the Split-East plan is undertaken, then the complete and planned destruction of those properties is imminent. The DEIS loosely mentions property takes but never included any exact details or specifications of adequately compensating those property owners.
7 The actual specifics and mechanics of that process should be entailed within the DEIS. If the DEIS claims to include all facets and scenarios of future construction then these details have been omitted.
6 What is the exact formula for compensation for property and business loss, if indeed there is one.

TWO:
Now if the Modified West Alternative plan is selected then I pose the following problem:

8 There has been no mention as to the specific dimensions to expand the size of the Hulmeville Rd. Bridge. That is, how much widening of the bridge would occur? Exactly how far away would the bridge be from my home? I request to see the exact plot plans for this construction.

Under NEPA, it stipulates that any Federal tax dollar highway construction to have performed a study of "All cumulative effects" in the study area. Those effects being **all** Socioeconomic and

7 DEIS Contents

The DEIS/FEIS does not claim to include all facets and scenarios of future construction.

8 Alternatives Development (DEIS/FEIS Section III)

Any bridge plans to date are preliminary in nature and will be further refined during the Final Design phase of the I-276/I-95 Interchange Project, when preliminary and final right-of-way plans are developed. Every effort will be made to minimize the impacts to adjacent properties.

Robert W. Salmon - Page 4/5

4 environmental threats to the immediate area. In the DEIS Executive Summary, the "Study area" is defined as a 1000' corridor centered along the TP. Our properties lie within less than 100' feet and yet no one of our family was ever asked to be included in a study. We are clearly part of the defined study area and I request to see the exact demographic study undertaken. If you have not undertaken such a study, then you have violated the NEPA and it is requires that one performed prior to your FEIS. Therefore, I again request that our homes and businesses be included in any future research to that end.

9 Specifically, I want to know the following: if the Hulmeville Rd. bridge is widened exactly how many fewer cars are you expecting to travel that stretch of road ? What statistical study has been done on local traffic patterns? For instance, if there were to be 50% less vehicles on Hulmeville Rd. then I can expect about a 50% reduction in business. Where does the DEIS or the TP Commission, outline fair compensation for lost business revenue? Once again, I refer you back to the NEPA requirement of "Cumulative effects". Loss of business and of revenue is part of the cumulative effects.

10 Next, on page ES-10 of the DEIS Executive Summary, paragraph 2 states; Socioeconomic, cultural, and natural resource impacts associated with these improvements have been included in the impact summary tables for each project element and alternative, such as Table ES-1.
That is a summary table only.

Where is your hard science to back that table up? Specifically, what statistics can you provide?
4 Further, with reference to page ES-10 and that sentence: our homes and businesses were never included in any such study.
Why were we excluded from this study?

Robert W. Salmon - Page 4/5

See ***Robert W. Salmon - Page 4/5*** On Previous Page For The Response To Issue **4**.

9 Construction Impacts (DEIS/FEIS Section IV-T)

While no specific traffic data was generated for the Gibson Road/Hulmeville Road area during the reconstruction of the Hulmeville Road Bridge, two options were discussed with local officials in regards to the maintenance of traffic during reconstruction of the Hulmeville Road and Bensalem Boulevard Bridges. The first option will involve detouring traffic during the construction of one of these bridges to the other bridge using Gibson Road as the detour route. For example, while the Hulmeville Road Bridge is closed, traffic that normally travels north over the Hulmeville Road Bridge will be detoured to Gibson Road to Bensalem Boulevard and over the Bensalem Boulevard Bridge. Traffic that normally travels south over the Hulmeville Road Bridge will be detoured to Bensalem Boulevard and travel over I-276 using the Bensalem Boulevard

Bridge and then use Gibson Road to access Hulmeville Road on the south side of I-276. This option allows for a shorter construction time period. The second option will be to maintain two-directional traffic on each bridge as the bridges are reconstructed. This option will allow for the least amount of detours, but will result in a longer construction time period. Coordination will continue with local officials regarding this matter and specific detour options will be completed during Final Design.

10 Impact Calculations (DEIS/FEIS Appendix C)

The information provided in the Impact Summary Tables presented in the Executive Summary was determined from scientific studies conducted during the detailed study phase of the I-276/I-95 Interchange Project. Support documentation for each of the studies performed for the I-276/I-95 Interchange Project is located in the Technical Support Data available for public review at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. A list of the project's Technical Support Data is located in Appendix C.

Robert W. Salmon - Page 5/5

11 Next, on page ES-12 of the DEIS Executive Summary, you show our property with a symbol depicting an "Air Receptor". Are you saying that you placed an air monitoring device on our property? I assure you that none was ever installed.

11 Since no Air Receptor was ever deployed, where did you get the data for air quality and CO emissions? I would like to review your scientific study on air monitoring quality. In fact, just yesterday I spoke with Mr. Andy Haynes, a KCI representative at 2pm. He confessed that there was only **ONE** air monitoring device deployed along the entire development study area. That device was set up in the Bristol area at some school. So how did you come up with your air quality report based on only one detection system? Why do you show that an Air receptor was installed at our location when there in fact wasn't any?

10 So then, what other elements of the DEIS have been summarized without a scientific study to back it up?

12 Lastly, on page ES-19, para. 2; the DEIS states the following: "However, the No-Build Alternative is repeatedly depicted in the DEIS to emphasize that **it is one** of the alternatives to be reasonably considered." I would like KCI and the TP Commision consider this alternative over the other two.

Thank you.

William R. Salmon - Page 1/3

PENN TURN PIKE

Date: 6-3-01 Page 1 of 3

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: William R. Salmon
Address: 5526 Hulmeville Rd.
Bensalem, PA 19020

Please print clearly your comments below and provide your signature:

please see attached.

Signature (Required): William R. Salmon Jr.

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

ws

Robert W. Salmon - Page 5/5

See ***Robert W. Salmon - Page 4/5*** On This Page For The Response To Issue **10**.

11 Air Quality (DEIS/FEIS Section IV-N)

The air receptor symbols depicted on the DEIS/FEIS graphics do not represent air monitoring devices. A localized carbon monoxide analysis conducted by the Project Team predicted carbon monoxide concentrations at 29 air receptor locations. The air receptor symbol depicted on the DEIS/FEIS graphics on the Salmon property represents one of the 29 locations where carbon monoxide levels were predicted for the No-Build and Build Alternatives using the latest US Environmental Protection Agency (USEPA) computer models, and is not meant to represent an air monitoring device.

Background carbon monoxide concentrations used in the localized analysis were measured at an existing air quality monitoring station in Bristol Township (established by the Pennsylvania Department of Environmental Protection in 1989) and take into account carbon monoxide levels in the area from various sources including mobile and non-mobile sources. To calculate total carbon monoxide concentrations at each of the 29 receptors, such as homes or parks, the levels generated by the USEPA-approved models, which take into account traffic and geometry associated with the No-Build and Build Alternatives, were added to the background concentration. Results were then compared to the National Ambient Air Quality Standards for carbon monoxide.

12 Project Position

The commenter's support for the No-Build Alternative is noted.

William R. Salmon - Page 1/3

No Issues – No Responses

William R. Salmon - Page 2/3

Written comment form / I-95 Interchange project
Attachment

Representative James Greenwood believes that the project is beneficial to business. However, he nor KCI has ever undertaken a study of those businesses directly adjacent to the Turnpike. Specifically, our businesses and homes.

1 Question #1:
Where is the study that shows my business benefiting?

2 Question #2:
If the Turnpike is widened, will the Hulmeville Road overpass bridge be completely shut down both directions of travel?

3 Question #3
How does the Turnpike commission or the Commonwealth of Pa. compensate monetarily for loss of business during construction?

NEPA law requires a study of "all cumulative effects" regarding construction. Diminished property values is among those problems directly caused by Turnpike construction. Suppose I wish to sell our business or homes just prior to construction, then we sell it during construction. Then I pose the following:

3 Question #4:
Does the Turnpike Commission or The Commonwealth of PA. compensate monetarily for actual property value lost?

4 Question #5:
The CEIRG was formed to represent "stakeholders".
Why was I excluded from ever participating in the CEIRG?
I nor any family member was ever invited or contacted in anyway. Yet, we are directly in the path of destruction.

4 Question #6:
Who are the current members of the CEIRG?

4 Question #7:
Can I become a member of the CEIRG?

Excluding me or my family from the CEIRG violates NEPA.

William R. Salmon - Page 2/3

1 Socioeconomic - Economic
All properties, including residences and businesses within the 1000' study corridor, were inventoried based on tax records from the Bucks County Assessment Board. Detailed information on these studies can be found in the project Technical Support Data at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. The results of these studies, in conjunction with the preliminary engineering, indicate the residence and business at 5526 and 5549 Hulmeville Road will be displaced with the Split Plaza East Alternative. These displacements were included in Table ES-1. The FEIS Preferred Alternative for the Toll Plaza Element was the Modified Plaza West Alternative, which will not displace these properties. Specific studies on the effects on individual businesses were not conducted and are not required or expected by the National Environmental Policy Act.

However, as discussed in the DEIS/FEIS, it is projected that the I-276/I-95 Interchange Project will remove trips from local roads by diverting trips to I-95 and I-276. The diverted trips are primarily from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project will maintain and/or improve local access. These conditions are expected to increase the market attractiveness of the region. Less traffic on these arterial roadways may encourage increased patronage of these businesses and conversion of some properties to alternate land uses generating higher revenues.

2 Construction Impacts (DEIS/FEIS Section IV-T)
While no specific traffic data was generated for the Gibson Road/Hulmeville Road area during the reconstruction of the Hulmeville Road Bridge, two options were discussed with local officials in regards to the maintenance of traffic during reconstruction of the Hulmeville Road and Bensalem Boulevard Bridges. The first option will involve detouring traffic during the construction of one of these bridges to the other bridge using Gibson Road as the detour route. For example, while the Hulmeville Road Bridge is closed, traffic that normally travels north over the Hulmeville Road Bridge will be detoured to Gibson Road to Bensalem Boulevard and over the Bensalem Boulevard Bridge. Traffic that normally travels south over the Hulmeville Road Bridge will be detoured to Bensalem Boulevard and travel over I-276 using the Bensalem Boulevard Bridge and then use Gibson Road to access Hulmeville Road on the south side of I-276. This option allows for a shorter construction time period. The second option will be to maintain two-directional traffic on each bridge as the bridges are reconstructed. This option will allow for the least amount of detours, but will result in a longer construction time period. Coordination will continue with local officials regarding this matter and specific detour options will be completed during Final Design.

3 Socioeconomic – Real Estate Values (DEIS/FEIS Section IV-C.3)
Business owners who suffer a loss or diversion of business during the construction phase will not be compensated. This impact, although a legitimate concern if it comes to exist, is difficult to predict and is not required by law to be compensated.

The I-276/I-95 Interchange Project will potentially displace some existing residences and businesses, which will be relocated or compensated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 USC 4601), and the Pennsylvania Eminent Domain Code Act of June 22, 1964, as amended, as well as applicable federal and state regulations. However, the number of potential displacements is small for a project of such magnitude, and totals 12 residences and 12 commercial properties for the FEIS Preferred Alternative. Displacements have been reduced where appropriate through the use of retaining walls and other strategies. The procedures for property acquisition are described in Section IV of the DEIS/FEIS and in two Pennsylvania Turnpike Commission pamphlets entitled *Turnpike Procedure for Property Acquisition* and *Relocation Assistance Bulletin No. 47*. These pamphlets were available at the Public Hearing and are available upon request from the Project Office. Just compensation at fair market value will be provided for displaced residents.

4 Community Economic Impact Review Group (DEIS/FEIS Section VII)
During the joint agency scoping process for the proposed I-276/I-95 Economic Study, the need was recognized for an advisory group to provide the type of oversight and local perspective that would be desirable to maintain the economic study's focus, accuracy and credibility.

Initial consultations with the Federal Highway Administration (FHWA), PENNDOT, Bucks County Enterprise Zone, and Congressman Greenwood's office led to a broad-based approach to the Community Economic Impact Review Group (CEIRG) structure. This resulted in a categorical membership outline which included: appropriate elected officials at the federal, state, county, city and township levels; a limited number of non-profit organizations, large employers, and local business leaders; a representative from the I-276/I-95 Interchange Community Advisory Committee (CAC); and a representative of the opposition organization, Citizens at Risk (CAR).

According to the CEIRG Operating Procedures, which were approved by the CEIRG, membership on the CEIRG is by invitation only. Guests are welcome to observe the proceedings during the meeting; active participation in the meeting is limited to CEIRG members and the Project Team. The current members of the CEIRG include:

Name and Title	Representing
Vitor Vicente, Director Bucks County Department of Community & Business Development	Michael Fitzpatrick, Chairman Bucks County Commissioners
Peter Krauss/ Sean Slack	Congressman James Greenwood
Kenneth Evans, Special Assistant	Senator Arlen Specter
Bill DeVito, Director, Economic Development	Senator Rick Santorum
Al Sutter	PA State Senator Robert Tomlinson
Alex Udowenko/ Mike Aniloff	PA State Representative Eugene DiGirolamo
PA State Representative Thomas Corrigan	self
Anne Titus	PA State Representative Anthony Melio
PA State Representative Matthew Wright	self
Suzanne Newsome, Township Manager/ Ken Worthington, Council	Samuel Fenton, Mayor, Bristol Township
Frank Farry, Middletown Director of Community Services	John Burke, Middletown Township Manager
Garney Morris, Chairman	Bucks County Enterprise Zone
William Rickett, Executive Director	Bucks County Transportation Management Association
Ted Paroly, Transportation Committee Chair	Mike Connor, President, Lower Bucks County Chamber of Commerce
James McMaster	Augustine Salvitti, President Bensalem Chamber of Commerce
Robert Leone, Chairperson	Citizens at Risk (CAR)
Robert Harris	Community Advisory Committee
Bruce Evans/ Carolyn Kane	Wayne Bromley, President, Giles & Ransome, Inc.
Jim Gassaway, Chairman	Grundy Foundation/ PA Economy League
R. Thomas Jaggard, Director	Philip E. Haines, Director, Burlington County
Robert Leipiziger, Owner/President	Rob's Automotive
George Flocco, Executive Director, Bensalem Economic Development Corporation	Joseph DiGirolamo, Mayor, Bensalem Township
Dan Mealey	Mealey's Furniture
Christine Miller, Public Affairs Manager	Rohn and Haas Company
Joel Naroff	Naroff Economic Advisors/ PA Economy League
Robert Ravelli, Assistant Deputy Mayor, Office of Transportation	John Street, Mayor, Philadelphia

William R. Salmon - Page 3/3

Question #8:

5 The quality of life next to the Turnpike construction will be detrimental to my health. How can the Turnpike Commission ensure the continuance of a healthy environment? (i.e. air quality, dust, noise)

Question #9:

6 KCI's DEIS shows such a device on my property called an Air Receptor. Yet there was never any test device located here. What is an "Air Receptor"?

Question #10:

6 If the Air Receptor was SUPPOSED to be used in the DEIS, then KCI violated NEPA by falsifying their results claiming to have had air receptors all along the study area. Do their actions go against NEPA?

William R. Salmon
5526 Hulmeville Road
Bensalem, PA. 19020

William R. Salmon Sr.

William R. Salmon - Page 3/3

5 Construction Impacts (DEIS/FEIS Section IV-T)

The DEIS/FEIS states that construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will be maintained throughout construction. Public involvement and information activities will continue to occur during these periods.

6 Air Quality (DEIS/FEIS Section IV-N)

The air receptor symbols depicted on the DEIS/FEIS graphics do not represent air monitoring devices. A localized carbon monoxide analysis conducted by the Project Team predicted carbon monoxide concentrations at 29 air receptor locations. The air receptor symbol depicted on the DEIS/FEIS graphics on the Salmon property represents one of the 29 locations where carbon monoxide levels were predicted for the No-Build and Build Alternatives using the latest US Environmental Protection Agency (USEPA) computer models, and is not meant to represent an air monitoring device.

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Stephen J. Savoni - Page 1/1

1522 Point Dr.
Bensalem,PA 19020
(215) 741-1485

Mr. Jeffrey Davis
Pennsylvania Turnpike Commission
PA Turnpike/I-95 Project Office
3220 Tillman Dr.
Bensalem,PA 19020-2083

Dear Mr. Davis,

I am writing to you in response to the article in the June 11,2001 edition of the *Bucks County Courier Times*. My questions are the following:

1 **Decreased Home Values**- if this is true do you think the homeowners of these townships will sit still while their hard earned dollars go out the window. I for one can tell you like the rest of the world people will accept many things but don't play with their homes and earnings. I don't think it would be difficult for the homeowners to join together with some type of lawsuit. If in fact this project does go through don't you think the homeowners should be compensated?

2 **Sound Barriers**- these are long overdue since the noise levels in the Salem Point area already exceed allowable noise limits set by the Federal Government. How do you plan to address another potential lawsuit? The studies taken by the Turnpike Commission are obviously negligent.

3 **Location**- This project belongs in New Jersey and the only reason it is not is because of money(Princeton) and a Congressmen who, unlike the one in Pennsylvania , fought for the people of the project area.

In closing, I think that typical government thinking is that the people will eventually give up and go away. And like before they may be underestimating the resolve of the people. I can except many things but to tell me that my home value would decrease by $15-20K is totally unacceptable and I cannot accept that years of mortgage payments went into yourpocket (project).

Looking for answers !

Stephen J. Savoni

EMAIL: STJSAVONI @ AOL.com

Stephen J. Savoni - Page 1/1

1 Socioeconomic – Real Estate Values

The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion. Other determining property

value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

2 Noise (DEIS/FEIS Section IV-O)

As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined those areas warrant noise barrier consideration. For warranted areas, approximately ten miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

Noise abatement is provided only when the construction of noise abatement is warranted, reasonable and feasible at locations identified noise sensitive areas. FHWA defines outdoor noise sensitive areas as picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals. In Pennsylvania, federal funds are used for noise abatement measures only for the construction of a highway project on new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increase the number of through lanes.

3 Legislation (DEIS/FEIS Section I-A)

A complete discussion concerning the need for the I-276/I-95 Interchange Project is contained in Section I of the DEIS/FEIS. This need is based on the lack of continuity of the Interstate system, the missing link section of I-95, relief of congestion, and other factors. The I-276/I-95 Interchange Project originated because of legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the Federal Surface Transportation Assistance Act of 1982.

Ruth Mary Sieger - Page 1/1

PENN TURN PIKE

Date: 6/13/01 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: RUTH MARY SIEGER

Address: 246 Bristol-Emilie Rd
Levittown, PA 19057-2608

Please print clearly your comments below and provide your signature:

1 Send this project BACK to New Jersey, where it WAS originally MEANT to be CONSTRUCTED.

Signature (Required): Ruth Mary Sieger

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Ruth Mary Sieger - Page 1/1

1 Legislation (DEIS/FEIS Section I-A)

A complete discussion concerning the need for the I-276/I-95 Interchange Project is contained in Section I of the DEIS/FEIS. This need is based on the lack of continuity of the Interstate system, the missing link section of I-95, relief of congestion, and other factors. The I-276/I-95 Interchange Project originated because of legislation (Pennsylvania Act 61) that authorized the Pennsylvania Turnpike Commission to build an interchange between I-276 and I-95, and to widen I-276 to six lanes through the study area. This legislation was intended to establish interstate-to-interstate continuity and to facilitate the re-routing of I-95 as required by the Federal Surface Transportation Assistance Act of 1982.

Joseph S. and Joan E. Szafranski - Page 1/1

PENN TURN PIKE

Date: 6-14-01 Page 1 of 1

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Joseph S. & Joan E. Szafranski

Address: 3021 New Falls Rd. Newportville, Pa. 19056

Please print clearly your comments below and provide your signature:

Our concerns are as follows:

1 1. Our property has a shallow well in front of the house. What will happen to our water supply when you start construction? The closest water supply to the property is on Zimmerman Lane and will cost thousands to put in a water line.

2 2. We are located in a "hollow", our property is below New Falls Rd. and I95. The turnpike is below and directly in front of our property. The pollution we receive now is unberable, just think how bad it will be when construction is finished. I use oxygen now every nite - I go away every weekend I can just to get some fresh air.

3 3. The noise level is so high from the turnpike that to watch television, I have to close my front door and windows.

Signature (Required): _____

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Joseph S. and Joan E. Szafranski - Page 1/1

1 Construction Impacts (DEIS/FEIS Section IV-T)

Areas served by wells will be evaluated during Final Design, including the recommendation of pre- and post-construction evaluation and testing. Any residential water supply wells impacted by project construction would be replaced, or the property owners would be connected to a public water supply.

2 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

A localized carbon monoxide analysis and a regional ozone analysis were conducted for the project based on traffic scenarios including existing and baseline conditions, the opening year, Build and No-Build interim years (with slow speed and fast speed E-Z*Pass*) and Build and No-Build design year. For each case, carbon monoxide levels were below US Environmental Protection Agency (USEPA) standards. A regional air quality emissions analysis that included the I-276/I-95 Interchange Project was conducted by the Delaware Valley Regional Planning Commission (DVRPC). A summary of this analysis

was included in Appendix E of the FEIS. This analysis concluded that the levels of pollutants necessary for the formation of ground level ozone, nitrous oxides (NOx) and volatile organic compounds (VOCs), in the region that includes Lower Bucks County would be within standards set by the USEPA by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County.

The Pennsylvania Department of Environmental Protection (PADEP) maintains an air quality monitoring station in Bristol Township. Historic monitoring at this station has indicated that regional air quality has steadily improved in the past ten years in the project area (PADEP, 1999). In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

3 Noise (DEIS/FEIS Section IV-O)

As described in the DEIS/FEIS, traffic noise studies were performed that satisfy FHWA and PENNDOT guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined those areas that warrant noise barrier consideration. For warranted areas, approximately ten miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

During Final Design, neighborhood meetings will occur to present the Final Design noise abatement analysis and obtain comments from the residents regarding their desires for noise abatement and the type, color and texture of noise abatement. Where appropriate, landscaping will be considered on the neighborhood side of proposed noise barriers to soften their appearance.

NOTE: Since the DEIS, the decision was made by the Project Team to displace the Szafranski property (one residence and two commercial businesses) in both the Single Loop A and Flyover A Interchange Alternatives. The Szafranski property is located on New Falls Road in the northwest quadrant of the I-276/I-95 point-of-crossing and currently has unique zoning allowing for both residential and commercial uses. This decision to displace the property was based on the fact that the Szafranski property, although not landlocked, would be surrounded by existing New Falls Road, proposed interchange ramps, and the existing mainline I-276 (future I-95) and would be the only remaining residence in this area after the displacement of two adjacent residences.

Alex Udowenko - Page 1/5

PENNSYLVANIA TURNPIKE

Date: 6-21-01 Page 1 of 5

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Alex Udowenko

Address: 2625 Woodsview Dr
Bensalem, PA 19020

Please print clearly your comments below and provide your signature:

See Attached

Signature (Required): Alex Udowenko

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

WS

Alex Udowenko - Page 1/5

No Issues – No Responses

Alex Udowenko - Page 2/5

COMMENTS REGARDING CEIRG AND PEL ECONOMIC REPORT

1) CEIRG MEETING MINUTES #1 July 1999

Jeff Davis said that doing a study of this type is an unusual step for the PTC. However the PTC feels it is necessary to address the CITIZENS concerns in the project study area and wants to work together to examine the costs and benefits of this proposed transportation project.

When it became clear the PTC could not address the Enterprise Zone's detailed broad based questions about the economic impact of the project, the idea of an independent economic study was developed. Almost simultaneously, Representative James Greenwood was asking similar questions of the PTC and also suggested an economic study.

Since entering politics, he has once again become involved in the Project. Representative Greenwood BELIEVES the interchange would be key to bringing additional business to the area. Since the ASSUMPTION is being challenged by the projects OPPONENTS, HE SUGGESTED to the PTC that an economic impact study be undertaken. If the study shows the project is not beneficial to the community, then the community doesn't need to support it. However, if it shows the project will have real economic benefits, then the project should move forward.

PEL will do the study for $98,000 which will be paid by FHWA funds (90%), through Penndot and PTC funds (10%).

2) CEIRG MEETING MINUTES #2 August 1999

Membership on the CEIRG is by invitation and includes elected officials and representatives of business groups and other organized special interests.

Mr. Hannon explained that the CEIRG membership was chosen to represent certain people and groups that represented stakeholders.

3) Scope work for PEL was the change in economic activity with build and no build scenarios for:

Construction Spending
Traffic Cost Savings
Market Attractiveness

1 Q) These questions represent the Enterprise Zones concerns for future economic potential. As stated by Mr. Jeff Davis in the minutes, which questions are representative of the CITIZENS concerns and where were they addressed in the PEL report?

2 Q) Citizens and elected officials had requested a family economic impact study, yet this request was repeatedly denied by the CEIRG. Why?

During a meeting of the CEIRG, a request on behalf of the citizens for a family impact and environmental study was even denied by Congressman Greenwoods Chief of staff, Peter Krauss, who stated that this economic study will only cost $100,000, so it cannot consider the economic impact of every environmental issue that is raised.

CEIRG MEETING #8 May 2000

To no ones surprise, upon completion and presentation by PEL of its final report:

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1 Economic Impact Study (DEIS/FEIS Section IV-C, Appendix C)

A number of community leaders, led by the Bucks County Enterprise Zone and the office of Congressman James Greenwood, requested that an Economic Impact Study be conducted for the I-276/I-95 Interchange Project. The principal goal of the study was to better analyze, explain, and document how the I-276/I-95 Interchange Project will affect the economies of the Greater Philadelphia region, Bucks, Philadelphia, and Burlington Counties, and three Lower Bucks County Townships, Bensalem, Bristol, and Middletown.

The study was undertaken at a time when the detailed alternative studies were nearing completion and local elected officials were focusing on the I-276/I-95 Interchange Project's potential to cause commercial and residential displacements and degrade the local tax basis. Although the DEIS will

eventually provide a broad based approach and analysis of the social, economic, and environmental effects of the I-276/I-95 Interchange Project, the Bucks County Enterprise Zone, Congressman Greenwood, and other officials saw a need for special focus on the I-276/I-95 Interchange Project's potential for economic effects via a study to be conducted by an independent team with appropriate expertise and recognized integrity. The Pennsylvania Economy League was selected to conduct the economic analysis with assistance from the Economic Development Research Group, which specializes in the modeling and analysis of economic impacts of transportation projects.

The study was structured to consider concerns from all elements of the community, not just businesses in the Enterprise Zone. It involved background research, the assembly of case studies, stakeholder interviews, a multi-faceted economic impact analysis, and a summary report. As such, the study is not biased, but was focused on the areas identified as most important to the Lower Bucks region.

2 Community Economic Impact Review Group (DEIS/FEIS Section VII-B.13)

The Community Economic Impact Review Group (CEIRG) was a carefully selected group (see Response 4, below) that acted independently to assure that the focus and integrity of the study were maintained. The commenter's reference to CEIRG decisions that were contrary to his recommendations (as a participant on the committee) simply reflect the actions of a body of persons charged with the responsibility and authority to make decisions on the scope of the study and to act as a Steering Committee in such matters.

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See ***Alex Udowenko - Page 2/5*** Beginning On The Previous Page For The Responses To Issues **1** and **2**.

3 I-276/I-95 Interchange Project Funding

The scope of the Economic Impact Study and qualifications of the Pennsylvania Economy League and Economic Develop Research Group were reviewed by the governmental agencies charged with specific project responsibility under the National Environmental Policy Act (NEPA). The integrity of the study was further assured and preserved through oversight by the CEIRG. Federal funds for the Economic Impact Study were appropriately used to produce an important technical reference document for the EIS itself.

The project opponents and the general public were given access to both the EIS and the Economic Impact Study report; an extensive public involvement program was conducted, using a combination of federal and Pennsylvania Turnpike Commission (PTC) funds.

4 Community Economic Impact Review Group (DEIS/FEIS Section VII-B.13)

During the joint agency scoping process for the proposed I-276/I-95 Economic Study, the need was recognized for an advisory group to provide the type of oversight and local perspective that will be desirable to maintain the economic study's focus, accuracy and credibility.

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"The bottom line for this project is that the proposed interchange would increase employment in both the region and in Bucks County over the life of the project and Bucks county would get an increased share of the regional job impacts."

"After viewing the results of it, he (Greenwood) is CONFIDENT that the interchange will increase access, employment, property values and quality of life."

" On the basis of the economic study, Congressman Greenwood stated that he is in favor of the project."

1 The PEL economic report remains totally biased, because the 3 questions scoped were developed by business stakeholders only.

3 Q) Does NEPA permit the use of federal FHWA monies to fund a study to substantiate ones belief and prove an assumption being challenged by the projects opponents? Why were the citizen opponents repeatedly denied the equal access and federal funding to provide federal agencies, citizens and community leaders with impacts from this construction project on families? Does this action not go against the mandates of NEPA?

4 Membership by invitation only on the CEIRG and participation limited to CEIRG and project team members only, prohibited the input and participation of all citizens in the process and violated NEPA.

5 The final report has been used unfairly to the advantage of proponents of the project, the PTC and
4 PENNDOT to help promote the glowing economic potential of this project at the expense of the citizens who were denied equal voice and membership on the CEIRG.

1 It is particularly disturbing, in that the PNS states that there is very little undeveloped space remaining along the turnpike , I-95 and the major connector roadways. Therefore, new economic development within the study area will not be a prominent factor in the seed for transportation improvements. Why has it now suddenly become the prominent factor?

2 The purpose and promotion of the PEL report and inadequate participation of citizens as required by NEPA on the CEIRG committee violates the NEPA process and inclusion of the PEL economic report
1 should be prohibited in DEIS and FEIS reports. Why is this economic report permitted by the FHWA to be included in the DEIS when it violates NEPA and it was an unusual step for the PTC to pursue?

Under NEPA, the FHWA has an obligation to exercise a degree of caution when looking at reports which deal with self serving goals from a prime beneficiary of the project.

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Initial consultations with the Federal Highway Administration (FHWA), the Pennsylvania Department of Transportation (PENNDOT), the Bucks County Enterprise Zone, and Congressman Greenwood's office led to a broad-based approach to the CEIRG structure. This resulted in a categorical membership outline which included: appropriate elected officials at the federal, state, county, city and township levels; a limited number of non-profit organizations, large employers, and local business leaders; a representative from the I-276/I-95 Interchange Community Advisory Committee (CAC); and a representative of the opposition organization, Citizens at Risk (CAR).

The actual selection process involved a shortlisting procedure during which a relatively long list of potential membership entities was reduced to a more effectively sized group of 24 invitees. The process involved additional consultation between PTC and the aforementioned agencies. Letters were sent to each invitee, and a balloting process was utilized to select the CAC representative from among its member group. In some cases, the named CEIRG member has delegated their representation to another individual. Also, at its first two meetings, the CEIRG acted to add three additional suggested members. The group now included 27 individuals, and was well qualified to perform the intended function. The fact that the majority of its members had not expressed a pro or con position toward the I-276/I-95 Interchange Project was seen as an advantage. However, approximately nine members had previously expressed negative positions toward the I-276/I-95 Interchange Project in the media or in the public forum.

A conscientious effort was made to solicit citizen input: through their local elected officials; through the inclusion of a member of the project's CAC on the CEIRG; and through the process of dual membership of several of these individuals on both the CEIRG and CAC. Also, the minutes of the CEIRG meetings were provided to each CAC member. The CEIRG meetings were open to any member of the public as an observer; and the public was kept informed through media releases, and mailings of Newsletters and Topic Updates.

Ultimately, the majority of the CEIRG members expressed support for the I-276/I-95 Interchange Project, based on the results of the Economic Impact Study and the inclusion of other impact minimization strategies that resulted from public and agency involvement.

The establishment of functional task forces for specific issues is consistent with NEPA. The project development process used for the I-276/I-95 Interchange Project afforded the public the opportunity to review information on the I-276/I-95 Interchange Project through various means. They included public meetings, a project website (www.paturnpike/i95.com), public information binders in area libraries, and the project office. The public has the opportunity to submit opinions or questions on the website, in person at the project office, by mail and have answers returned in a timely manner.

5 National Environmental Policy Act Process

The project environmental studies were designed to consider and evaluate a broad range of socioeconomic and environmental impacts. The results of these studies were included in the DEIS/FEIS for the I-276/I-95 Interchange Project. The intent of the Economic Impact Study for the I-276/I-95 Interchange Project was more focused. The results of the Economic Impact Study were documented in a report titled *The Value of Connections: The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange* (2000). This report was referenced in Appendix C (Technical Support Data Index) of the DEIS/FEIS, and was not included in its entirety.

The DEIS/FEIS, in Section IV, presents a comprehensive analysis of the Environmental Consequences of the I-276/I-95 Interchange Project, including its economic effects. The DEIS/FEIS contains data from the Economic Impact Study results and information about the CEIRG membership and activities. Although the DEIS/FEIS relied upon the Economic Impact Study as a source of economic impact data, this was not the only such source of economic data.

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The DEIS states that the use of the I-195 and I-295 connector is 12 miles longer than the proposed interchange project.

This statement is inaccurate. In fact, the distance from US 1 NJ- I 295- I 195- exit 7A NJ Turnpike is 14 miles, compared to the distance from the proposed interchange to Exit 7A NJ Turnpike which is 17 miles.

6

How and where was this 12 mile difference in distance derived from for the I-195 and I-295 connector?

What were the beginning and ending points of reference used for comparison between the two connectors?

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6 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)

The 12-mile difference between using I-295 and I-195 and the proposed interchange was approximated using transportation maps. A field view was conducted to verify the mileage and it was determined that it is actually more than a 12 mile difference. Mileage was computed along I-95 from the point-of-crossing with the Pennsylvania Turnpike to Exit 7A of the New Jersey Turnpike using the currently signed route of I-295 and I-195. The mileage was then calculated from Exit 7A of the New Jersey Turnpike to the point-of-crossing using the New Jersey and Pennsylvania Turnpikes. The actual computed mileage difference is 15.6 miles.

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Questions on Project Needs & Alternative Choices:

The DEIS is incomplete and flawed because the PTC has failed to consider the feasibility of the viable alternatives. The PTC, PENDOT & the DVRPC have defined the project needs too narrowly, so as to exclude any reasonable alternatives, such as I-195 and I-295 from consideration. Even the no-build is excluded and is used for reference only. By narrowly defining the project needs the above mentioned agencies have managed to exclude what truly are reasonable "missing link" alternatives and thereby hindered the role of NEPA.

NEPA requires that cumulative effects be evaluated ,along with the direct and indirect effect of each alternative. This ensures that federal decision makers can consider the full range of consequences of actions. The exclusion of these alternatives would cause an uninformed decision by federal agencies.

Similar to a no-build scenario the changing of signage on the highway is a reasonable and viable alternative and would carry no environmental consequences to the communities and save $600 million.

The prime beneficiary of this project is the PTC, who will receive an upgrade of infrastructure with an investment of only 10% monies from the state and the bulk 90% federal tax $.

Questions:

7 1. Why did the PTC fail to consider I-195 and I-295 and or NJ TPK as reasonable alternatives to accomplish the general goal of the "missing link" completion?

7 2. Why wasn't a cost benefit analysis done on the usage of I-195 and I-295 or NJ TPK completed as required by NEPA?

8 3. Why was the project needs defined so narrowly ,as to exclude all other viable "missing link" alternatives?

9 4. Why are the two different build options the only choices provided to federal agencies for decision making purposes?

Based on the above mentioned violations of NEPA, the DEIS and its contents remain inadequate and misleading. Under NEPA a federal agency can not RAM through a project before first weighing the pros and cons of an alternative.

The missing link is complete, change the law and preserve our quality of life, and prevent further economic, social and environmental injustice to our communities.

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7 Project Needs – I-295/I-195 Routing (DEIS/FEIS Section I-B)

When the Environmental Impact Study for the I-276/I-95 Interchange Project began in 1992, one of the first studies undertaken was the Needs Study. After studying the area's transportation deficiencies, two of the five needs were to complete I-95 through the Mid-Atlantic Region (currently, I-95 is discontinuous north of the I-276/I-95 study area) and to provide an improved linkage between I-276 and I-95 via an interchange. Another of these needs was to remove traffic from the local roadways currently used to make the connection between the two interstates. When design alternatives were evaluated, it was essential that they met the five defined project needs.

While it is true that Interstates 295 and 195 connect sections of I-95 in Pennsylvania and New Jersey, they primarily function as a northern beltway around Trenton. At best, they provide a circuitous connection that does not meet the identified project needs.

The I-295/I-195 route adds approximately 12 miles to each trip compared to Routes 413 and 13 currently used by motorists. Considering that approximately 83 percent of the vehicles projected to use the interchange have regional origins/destinations, motorists will continue to use Route 413 and 13 in Pennsylvania, which provide a much shorter connection between the two sections of I-95. In addition, the I-295/I-195 route does not address the lack of continuity in the interstate system, where I-95 and I-276 cross without interchanging. The acknowledged need for this interchange was studied extensively prior to the existence of the I-95 rerouting issue. In summary, the DEIS did not include the I-195 and I-295 link as a viable alternative because it does not meet the project needs and it is not a reasonable project alternative.

8 Project Needs (DEIS/FEIS Section I-A)

The 1993 Needs Study for the I-276/I-95 Interchange Project was prepared in accordance with FHWA Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987); FHWA Policy Statement, *Purpose and Needs in Environmental Documents* (1990); and the PENNDOT "Strike-off Letter" 430-90-27 (1990). The 1993 Needs Study focused on analyzing the connection of I-95 and I-276, because of Pennsylvania Act 61 that authorized the Pennsylvania Turnpike Commission (PTC) to build an interchange between I-276 and I-95 and to widen I-276 to six lanes through the study area. The legislation was intended to establish interstate (I-276) to interstate (I-95) continuity and to facilitate the rerouting of I-95 as required by the 1982 STAA, which stipulated that I-95 will continue from Delaware through Pennsylvania, cross the Delaware River Turnpike Bridge, follow the New Jersey Turnpike and join existing I-95 just north of New Brunswick, NJ.

9 Alternatives Development (DEIS/FEIS Section III)

A total of 16 build alternatives in the three project elements (toll plaza, interchange and bridge) were evaluated in detail during the preliminary alternatives analysis. Refer to Section III of the DEIS/FEIS for additional information regarding key advantages and disadvantages for each of the 16 alternatives. Two build alternatives for each element were carried forward for detailed study in the DEIS/FEIS. Federal and state agencies as well as the public were involved in the alternatives development throughout the Transportation Project Development Process.

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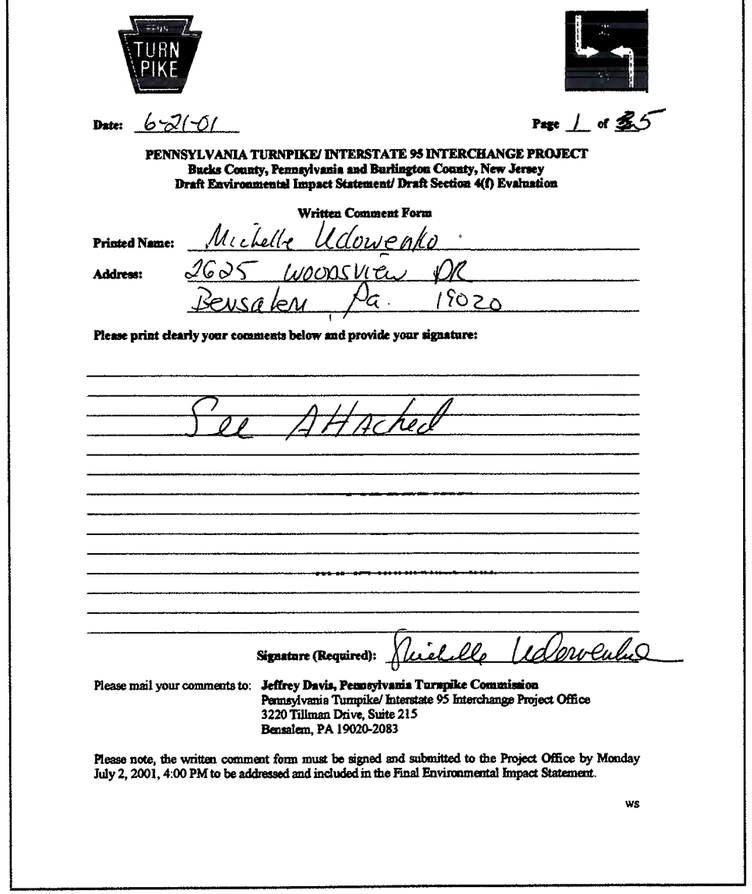

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Date: 6-21-01 Page 1 of 35

Printed Name: Michelle Udowenko

Address: 2625 Woodsview DR
Bensalem, Pa. 19020

Please print clearly your comments below and provide your signature:

See Attached

Signature (Required): Michelle Udowenko

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

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No Issues – No Responses

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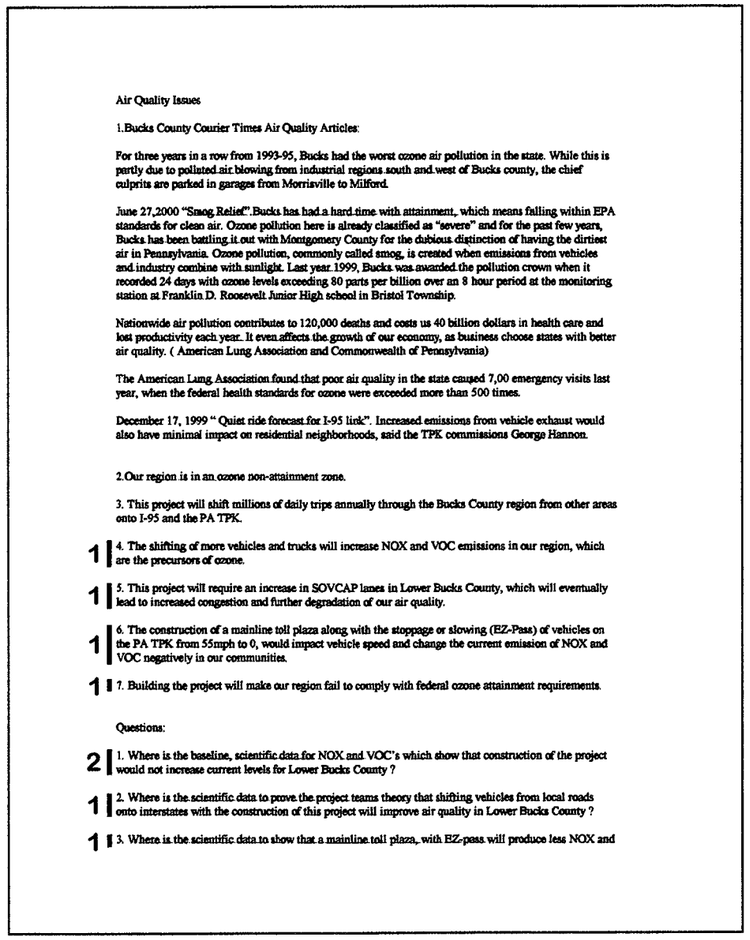

Air Quality Issues

1.Bucks County Courier Times Air Quality Articles:

For three years in a row from 1993-95, Bucks had the worst ozone air pollution in the state. While this is partly due to polluted air blowing from industrial regions south and west of Bucks county, the chief culprits are parked in garages from Morrisville to Milford.

June 27,2000 "Smog Relief".Bucks has had a hard time with attainment, which means falling within EPA standards for clean air. Ozone pollution here is already classified as "severe" and for the past few years, Bucks has been battling it out with Montgomery County for the dubious distinction of having the dirtiest air in Pennsylvania. Ozone pollution, commonly called smog, is created when emissions from vehicles and industry combine with sunlight. Last year 1999, Bucks was awarded the pollution crown when it recorded 24 days with ozone levels exceeding 80 parts per billion over an 8 hour period at the monitoring station at Franklin D. Roosevelt Junior High school in Bristol Township.

Nationwide air pollution contributes to 120,000 deaths and costs us 40 billion dollars in health care and lost productivity each year. It even affects the growth of our economy, as business choose states with better air quality. (American Lung Association and Commonwealth of Pennsylvania)

The American Lung Association found that poor air quality in the state caused 7,00 emergency visits last year, when the federal health standards for ozone were exceeded more than 500 times.

December 17, 1999 " Quiet ride forecast for I-95 link". Increased emissions from vehicle exhaust would also have minimal impact on residential neighborhoods, said the TPK commissions George Hannon.

2.Our region is in an ozone non-attainment zone.

3. This project will shift millions of daily trips annually through the Bucks County region from other areas onto I-95 and the PA TPK.

1 4. The shifting of more vehicles and trucks will increase NOX and VOC emissions in our region, which are the precursors of ozone.

1 5. This project will require an increase in SOVCAP lanes in Lower Bucks County, which will eventually lead to increased congestion and further degradation of our air quality.

1 6. The construction of a mainline toll plaza along with the stoppage or slowing (EZ-Pass) of vehicles on the PA TPK from 55mph to 0, would impact vehicle speed and change the current emission of NOX and VOC negatively in our communities.

1 7. Building the project will make our region fail to comply with federal ozone attainment requirements.

Questions:

2 1. Where is the baseline, scientific data for NOX and VOC's which show that construction of the project would not increase current levels for Lower Bucks County ?

1 2. Where is the scientific data to prove the project teams theory that shifting vehicles from local roads onto interstates with the construction of this project will improve air quality in Lower Bucks County ?

1 3. Where is the scientific data to show that a mainline toll plaza, with EZ-pass will produce less NOX and

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1 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

A regional air quality emissions analysis that included the I-276/I-95 Interchange Project (and the resultant shifting of vehicles as well as the additional Single Occupancy Vehicle Adding Capacity lanes and main line toll plaza) was conducted by the Delaware Valley Regional Planning Commission (DVRPC). A summary of this analysis was included in Appendix E of the FEIS. This analysis concluded that nitrous oxides (NOx) and volatile organic compounds (VOCs) levels in the region that includes Lower Bucks County would be within standards set by the US Environmental Protection Agency (USEPA) by the year 2005. The analysis also concludes that with the implementation of the I-276/I-95 Interchange Project, the levels of NOx and VOCs will continue to be within standards in the years 2005 to 2020 for the region that includes Lower Bucks County. In addition, Marcia Spink, USEPA, provided public testimony (pages I-21 to I-22 of the FEIS) regarding the air quality of the project area. Ms. Spink remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions.

2 Air Quality (DEIS/FEIS Section IV-N, FEIS Appendix E)

Background and baseline data were analyzed as part of the DVRPC regional analysis for NOx and VOCs. A regional air quality emissions analysis to determine conformity with the Clean Air Act was performed by the DVRPC and included the highway pollutants NOx and VOCs, the principle components of ground-level ozone. A summary of this analysis was included in Appendix E of the FEIS. The analysis years for the regional emissions analysis are 1990 (to establish a baseline), 1996 (as the first major milestone year and the only one for which VOC emission budgets were established), 2005 (because it is the year by which the region must attain the ozone standard), 2015 (because it is ten years beyond the attainment year) and 2020 (because it is the horizon year of the region's Long Range Plan).

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1 VOC emission releases, less than current 55mph interstate travel?

1 4. Does this project increase or decrease NOX and VOC in our region due to the shifting of millions of vehicles annually onto 2 interstates?

3 5. Is air quality improvement verifiable with scientific data or is this based solely on assumption and theories, such as vehicle fleets of the future may produce less emissions?

1 6. What is the cumulative effects on our communities and citizens due to this shifting?

4 The construction of this project would cause an environmental injustice to Lower Bucks County, due to the shifting of millions of vehicles thereby causing further degradation of our regions air quality, and hindering an improvement of our communities air quality.

Use of a "benchmark" or "baseline" for purposes of comparing conditions is an essential part of any environmental analysis. "The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process." (CEQ 1997) "To determine how the project will affect the resource's ability to sustain itself, the NEPA document should include a description of the baseline condition that considers how conditions have changed over time and how they are likely to change in the future without the proposed action." (CEQ 1997)

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3 Air Quality (DEIS/FEIS Section IV-N)

The air quality analysis summarized in the DEIS/FEIS for the I-276/I-95 Interchange Project was conducted in accordance with USEPA, Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines. The methodology for the analysis included the best available scientific data and the use of the latest USEPA approved computer models and modeling techniques. These models take into account federal regulations that are currently in place requiring stricter tailpipe emission standards for cars and sport utility vehicles and stricter emissions standards for new and old diesel engines.

4 Air Quality

The commenter's belief that the I-276/I-95 Interchange Project will degrade the region's air quality is noted.

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5 1) How is it that federal tax dollars can be used to upgrade U.S. Route 1 and exit 28 of the Pennsylvania Turnpike when the dollars are intended for interstate completion only?

This upgrade was not part of the original plans proposed and has been recently used to garner the support of this project from Bensalem Townships Mayor and other elected officials. This action is particularly disturbing because a resolution on behalf of the townships residents opposing this project for a number of reasons had already been passed and continues to be in effect.

5 2) Is this offer of improvement of local infrastructure, permitted under NEPA, as a means of gaining support of elected officials in communities that oppose projects such as these?

5 3) How was the public involved and informed of these offers from the project team?

The project construction zone is defined as 1,000 foot proximal to the turnpike in the DEIS. I reside approximately 500 foot from the turnpike and was not informed of this project until February 1997 by a resident from a neighboring community!

6 4) Why was I not informed back in 1992 at the start of this Penndot 10 step process and why was I not included in the "New Connections" mailing distribution list from 1992?

I personally viewed aerial photographs of my homes new construction in 1990 at a public meeting held by the PTC, so they were aware of our presence then.

6 5) Who was responsible for disclosure of this project to the public and to what extent were they required to pursue this action?

6 6) How many other homeowners in the construction zone have not been notified?

7 7) Why is it that air quality is extrapolated on a regional basis with this project, yet all other impacts are confined to this narrowly defined 1,000-foot zone?

We have been informed that at least in one instance, that an air receptor was shown in the DEIS map but was actually never placed there. This was verified with the owner of the property who spoke with a member of the project team who then stated that no air receptors were placed along the project zone.

8 8) Why are air receptors placed in the DEIS map when they were never placed there in the first place?

8 9) How did the project team get baseline CO levels for the project area and where did they extrapolate this data?

2 10) How were NOx and VOC levels measured now and in the future with this project for the Lower Bucks County region?

9 11) Why doesn't the DEIS contain a socioeconomic study to show the cumulative effects of 12 years of construction in an 8 mile corridor of construction?

In 1983, New Jersey had removed their legal obligation to complete I-95 (STA ACT). This federal law placed it in Bucks County in the form of this interchange project. New Jersey was then permitted to keep and use the Interstate Completion Fund dollars as deemed necessary by the state.

10 12) Why were the ICF dollars permitted to be used on other non-federal projects when the shifting of the interchange into Pennsylvania did not satisfy the issues of connectivity and continuity of I-95 required by the original law?

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See ***Michelle Udowenko - Page 2/5*** On The Previous Page For The Response to Issue **2.**

5 I-276/I-95 Interchange Project Funding

The use of project interstate funds to construct certain improvements to the local highway system is appropriate, and is based on qualifying factors such as: the work is closely related to the proposed project and is required to assure the proper functioning of the project; and/or the work is required to properly restore and/or reconstruct facilities that will be disturbed by the proposed project.

Related improvements to the local infrastructure were analyzed and adopted by the Project Team in coordination with local officials. These and other project details were presented at Public Officials meetings, CAC meetings, Public Meetings, in the project newsletters, and in the DEIS/FEIS (Section IV-A).

6 Public Involvement (DEIS/FEIS Section VII)

The Pennsylvania Turnpike Commission (PTC) was responsible for carrying out a public involvement program for the I-276/I-95 Interchange Project in accordance with NEPA. An initial mailing list that formed the foundation for future public involvement mailing lists were based on properties that abutted I-276 and I-95 in the study area. These lists were added to in response to media press releases, the project newsletter, the creation of the CAC, the project website, and project meetings. While it is impossible to contact individual homeowners and business owners in the study area on an individual basis, numerous project announcements were made in a variety of media outlets to maximize project awareness. The PTC is unaware of any homeowners in the construction zone who have not been notified of the I-276/I-95 Interchange Project.

7 DEIS Study Area (DEIS/FEIS Section II-A)

Ozone is not modeled accurately in localized areas because it is not directly emitted in the atmosphere, but is formed from the reaction of oxides of nitrogen and volatile organic compounds in the presence of sunlight; and its formation is dependent on a variety of meteorological conditions including wind transport from other regions.

8 Air Quality (DEIS/FEIS Section IV-N)

The air receptor symbols depicted on the DEIS/FEIS graphics do not represent air monitoring devices. A localized carbon monoxide analysis conducted by the Project Team predicted carbon monoxide concentrations at 29 air receptor locations. The air receptor symbol depicted on the DEIS/FEIS graphics on the Salmon property represented one of the 29 locations where carbon monoxide levels were predicted for the No-Build and Build Alternatives using the latest USEPA computer models, and was not meant to represent an air monitoring device.

Background carbon monoxide concentrations used in the localized analysis were measured at an existing air quality monitoring station in Bristol Township (established by the Pennsylvania Department of Environmental Protection in 1989) and take into account carbon monoxide levels in the area from various sources including mobile and non-mobile sources. To calculate total carbon monoxide concentrations at each of the 29 receptors, such as homes or parks, the levels generated by the USEPA-approved models, which take into account traffic and geometry associated with the No-Build and Build Alternatives, were added to the background concentration. Results were then compared to the National Ambient Air Quality Standards for carbon monoxide.

9 Construction Impacts (DEIS/FEIS Section IV-T)

Although the overall construction period would be lengthy, the construction process that could affect specific localities will be much shorter and involve only a few (not twelve) years. The DEIS/FEIS does discuss socio-economic issues associated with construction such as traffic, air quality and noise.

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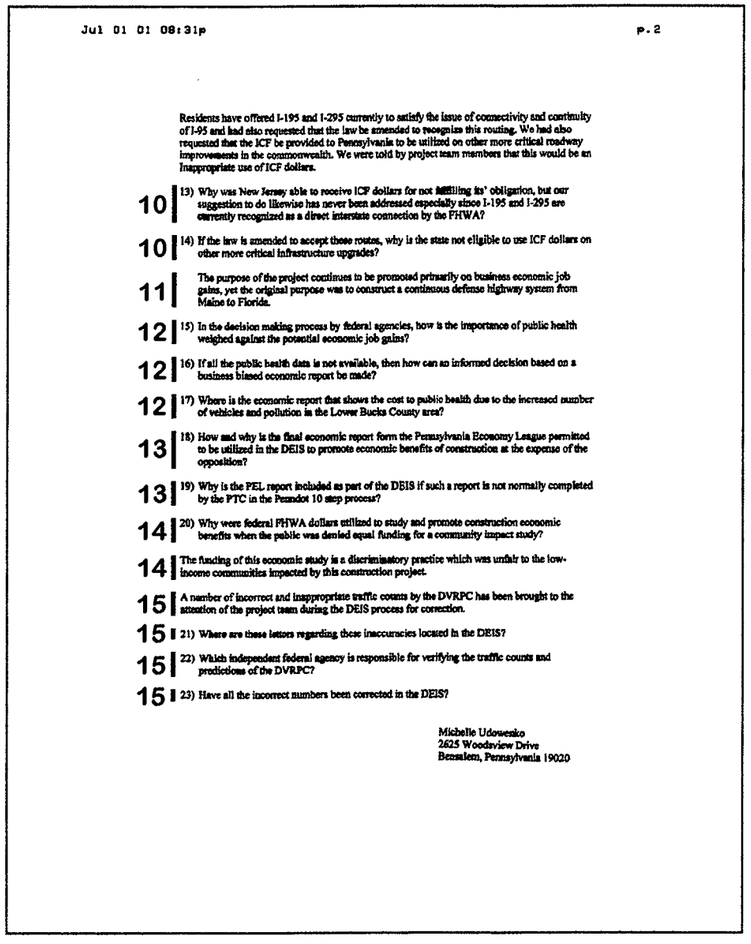

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Residents have offered I-195 and I-295 currently to satisfy the issue of connectivity and continuity of I-95 and had also requested that the law be amended to recognize this routing. We had also requested that the ICF be provided to Pennsylvania to be utilized on other more critical roadway improvements in the commonwealth. We were told by project team members that this would be an inappropriate use of ICF dollars.

10 13) Why was New Jersey able to receive ICF dollars for not fulfilling its' obligation, but our suggestion to do likewise has never been addressed especially since I-195 and I-295 are currently recognized as a direct interstate connection by the FHWA?

10 14) If the law is amended to accept these routes, why is the state not eligible to use ICF dollars on other more critical infrastructure upgrades?

11 The purpose of the project continues to be promoted primarily on business economic job gains, yet the original purpose was to construct a continuous defense highway system from Maine to Florida.

12 15) In the decision making process by federal agencies, how is the importance of public health weighed against the potential economic job gains?

12 16) If all the public health data is not available, then how can an informed decision based on a business biased economic report be made?

12 17) Where is the economic report that shows the cost to public health due to the increased number of vehicles and pollution in the Lower Bucks County area?

13 18) How and why is the final economic report form the Pennsylvania Economy League permitted to be utilized in the DEIS to promote economic benefits of construction at the expense of the opposition?

13 19) Why is the PEL report included as part of the DEIS if such a report is not normally completed by the PTC in the Penndot 10 step process?

14 20) Why were federal FHWA dollars utilized to study and promote construction economic benefits when the public was denied equal funding for a community impact study?

14 The funding of this economic study is a discriminatory practice which was unfair to the low-income communities impacted by this construction project.

15 A number of incorrect and inappropriate traffic counts by the DVRPC has been brought to the attention of the project team during the DEIS process for correction.

15 21) Where are these letters regarding these inaccuracies located in the DEIS?

15 22) Which independent federal agency is responsible for verifying the traffic counts and predictions of the DVRPC?

15 23) Have all the incorrect numbers been corrected in the DEIS?

Michelle Udowenko
2625 Woodview Drive
Bensalem, Pennsylvania 19020

Michelle Udowenko - Page 5/5

10 Legislation (DEIS/FEIS Section I-A)

The withdrawal of the Interstate 95 section in New Jersey was based on language of the Surface Transportation Assistance Act of 1982. At that time, under the provisions of general federal transportation legislation, states in which Interstate withdrawals had been approved were allowed to transfer the Interstate funds to other needed highway and/or transit projects approved by the FHWA.

11 Project Purpose (DEIS/FEIS Section I-D)

The project purpose and needs for the I-276/I-95 Interchange Project are not based on business economic job gains. As stated in the DEIS/FEIS, the project needs for which the project purpose is based are as follows; inadequate I-276 and I-95 linkage for system continuity; lack of I-95 continuity through the Mid-Atlantic Region; inadequate capacity on the current I-276 and I-95 connections; and, prolonged study area travel times and delays.

12 Public Health

Public health as related to air quality is an important factor in the decision making process. As required by NEPA, a localized carbon monoxide (CO) analysis was conducted by the Project Team (Section IV-N). In addition, a regional analysis of ozone including regional estimates of nitrous oxides (NOx) and volatile organic compounds (VOCs) was conducted by the DVRPC (Section IV-N and Appendix E). In each of these studies, levels of CO within the study area, and levels of NOx and VOCs within the region were within limits established by the USEPA. Marcia Spink, USEPA, whose public testimony appears on pages I-21 to I-22 of this FEIS regarding the air quality of the project area, remarked that the I-276/I-95 Interchange Project conforms to all USEPA requirements for regulated emissions and that the USEPA expects the southeastern Pennsylvania region to be within standards set by the USEPA for all regulated emissions by the year 2005. Since public health, as related to air quality, was determined to not be adversely affected by the I-276/I-95 Project, it has no relation to any project related benefits such as economic job gains in the Economic Report or in the DEIS/FEIS.

13 National Environmental Policy Act Process

The project environmental studies are designed to consider and evaluate a broad range of socioeconomic and environmental impacts. The results of these studies are to be included in the DEIS/FEIS for the I-276/I-95 Interchange Project. The intent of the Economic Impact Study for the I-276/I-95 Interchange Project was more focused. The results of the Economic Impact Study are documented in a report titled *The Value of Connections: The Economic Impact of the Proposed Pennsylvania Turnpike and Interstate 95 Interchange* (2000). This report is referenced in Appendix C (Technical Support Data Index) of the DEIS/FEIS. It was not included, in its entirety, in the DEIS/FEIS.

The DEIS/FEIS, in Section IV, presents a comprehensive analysis of the Environmental Consequences of the I-276/I-95 Interchange Project, including its economic effects. The DEIS/FEIS contains data from the Economic Impact Study results and information about the CEIRG membership and activities. Although the DEIS/FEIS relied upon the Report as a source of economic impact data, this was not the only such source of economic data.

14 I-276/I-95 Interchange Project Funding

The scope of the Economic Impact Study and qualifications of the Pennsylvania Economy League and the Economic Develop Research Group were reviewed by the governmental agencies charged with specific project responsibility under the National Environmental Policy Act (NEPA). Likewise, as stated previously, the integrity of the study was further assured and preserved through the oversight of the CEIRG. The federal funds for the Economic Impact Study were appropriately used to produce an important technical reference document for the EIS itself.

The project opponents and the general public were given access to both the EIS and the Economic Impact Study report; an extensive public involvement program was conducted, using a combination of federal and PTC funds.

15 Traffic and Transportation (DEIS/FEIS Section IV-A)

Letters and correspondence concerning misunderstandings related to traffic counts by the DVRPC are located in the project Technical Support Data at the Project Office in Bensalem Township, Pennsylvania, and at the PTC office at 700 South Eisenhower Boulevard in Middletown, Pennsylvania 17057. The DEIS/FEIS contains the latest traffic information provided by the DVRPC in their final traffic report for the I-276/I-95 Interchange Project. The inputs and outputs to this report are reviewed by PENNDOT and FHWA and are based on FHWA approved traffic prediction models and methodologies.

Mr. And Mrs. William C. Wackley - Page 1/1

June 19, 2001

Dear Mr. Davis:

Please reconsider I 95 Interchange. It will not improve ... lovely town of Bensalem. It will ... ease the traffic problems. It will cause so many problems during the 12 yr. construction. We left Phila - 14 yrs ago - to find peace & quiet and trees + grass. So much concrete, heat + dust to look forward to.

Bensalem will appreciate any changes you can make to save our community from such upheaval.

Thank you for listening to my husband and myself.

Praying you will make the correct decision for our community.

Respectfully,
Edna Wm. Wackley

Mr&Mrs William C Wackley
5707 Cavalier Ct
Bensalem PA 19020-2215

Mr. and Mrs. William C. Wackley - Page 1/1

1 Traffic and Transportation (DEIS/FEIS Section IV-A)

The I-276/I-95 Interchange Project will remove trips from local roads by diverting trips to I-95 and I-276. The diverted trips are primarily from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local traffic. Construction will be carried out so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase.

2 Construction Impacts (DEIS/FEIS Section IV-T)

Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents. Construction will be performed to comply with applicable federal, state, and local laws regarding safety, health, and sanitation. Construction will be conducted so that roads in the study area experience as little disruption in service as possible. Staged construction procedures, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase. Every reasonable effort will be made to provide detours or temporary roadways for local access. Access to businesses, residences, and community facilities will always be maintained throughout construction. Public involvement and information activities will continue to occur during these periods. Although the overall project construction period will require a number of years, the construction process that could affect specific localities will be much shorter.

Leonard and Mary Wieczezynski - Page 1/1

PENN TURN PIKE

Date: 6-12-01 Page 1 of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Leonard & Mary Wieczezynski

Address: 14 Keystone Court
Langhorne, PA 19047

Please print clearly your comments below and provide your signature:

In meeting with the Turnpike representatives, we have ascertained that our property is a full residential displacement in the Flyover Alternative.

In the Single loop Alternative our property is listed as a partial residential displacement. We fear that the required new lane construction will come very close to our home, not just the property line. For this reason, if the Single Loop Alternative is selected, we prefer that our property is a full residential displacement.

Mary B. Wieczezynski

Signature (Required): Leonard J. Wieczezynski

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Leonard and Mary Wieczezynski - Page 1/1

1 Socioeconomic – Property Acquisition – (DEIS/FEIS Section IV-B.3)

The commenter's preference for a whole, in lieu of a partial, acquisition of their property is noted. At this point in the project development, it must be emphasized that all potential residential and commercial acquisitions are based on preliminary plans. Following completion of the FEIS and a Record of Decision by the Federal Highway Administration, the Final Design process can begin and the detailed right-of-way and construction plans will be prepared at a larger scale. During that phase, additional, more definitive information regarding the number and scope of parcel acquisitions will be available for public review.

Larry Willard - Page 1/5

PENNSYLVANIA TURNPIKE

Date: 7-2-2001 Page ___ of ___

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: _____

Address: LARRY WILLARD
1927 HAZEL AVE.
BRISTOL, PA 19007

Please print clearly your comments below and provide your signature:

See attached 2 "topics" 2 pages each
4 pages total
(+ cover)

Signature (Required): Larry Willard

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-F

Larry Willard - Page 2/5

1927 Hazel Ave.
Bristol, PA 19007
June 30, 2001

to: All Concerned Parties and
Jeffery C. Davis, PA Turnpike Commission
re: PA TPK/I-95 Interchange Project DEIS and
Draft Section 4(f) Evaluation
topic: Providing for Additional PA 413 Lanes

Dear Sir,

I am a Bristol Township resident, homeowner, taxpayer, voter, and licensed vehicle driver. This letter relates to one Interchange Project topic only, the tunnel that currently allows traffic to travel underneath the PA TPK on state road PA 413 (aka New Rodgers Road at that location). As you should know, the Project includes 2 new additional overpass ramps (to I-95) over 413, and also work on the tunnel embankments and tunnel modification to provide for additional Turnpike lanes (TPK widening requires

1 tunnel lengthening). My comment is that during planning and construction of the Project, not only MUST the 2 additional overpass ramps provide for future additional 413 lanes, but the tunnel MUST also be rebuilt AT THE SAME TIME to provide for 413 additional lanes too. I hope local and county persons would support this necessity for the following reasons:

The Turnpike is a non-negotiable barrier for miles bisecting Bristol Township, impeding movement of people (in vehicles & otherwise), wildlife, waterfowl, and to a lesser extent airflow. Intra and inter-township travel is restricted greatly, and our choices limited. The PA 413 tunnel is approx. 50 years old, and is 2 lanes wide (1 in each direction), with very narrow shoulders. I have personally witnessed a family of 4 walking thrcugh the tunnel, with normal traffic flowing. I imagine school children bicycle and walk through also, besides others. I dare you to measure the "walking lane" (shoulder), then number of cars and average speed! This is a current risk, due to only increase with a lengthened tunnel.

Additional SAFETY concerns can be seen when you realize that on the south side of the turnpike, within 1 mile, are both a Fire Station and the Bristol Twp Police Station, and slightly further is our local Hospital, such that Emergency Vehicles all must use the 413 tunnel to reach Levittown homes in Bristol & Middletown Townships, plus businesses and apartments on 413 and New Falls Road etc.

As I write this, construction is in progress on PA 413 nearby to allow 5 total lanes, which is 2 in each direction and a center Left Turn lane (plus rumors of a sidewalk/bike lane?). This 413 work will stop only a few dozen yards from the tunnel. Our Township Mayor is very proud of these pending improvements and the new appearance it will give, and has piggy-backed his "Gateway to Bristol Township" on this, despite the tunnel choke point.

Larry Willard - Page 3/5

PennDOT knows 413 is heavily used, and indeed has future plans to continue the 5 lanes beyond the current construction, all of the way to Business US Route 1. This would include the turnpike underpass tunnel for 413! I personally feel today's current traffic load up to New Falls Road justifies making this a priority soon, afterall, this is the way people travel to I-95 and the Burlington-Bristol Bridge.

Just as it appears stupid when any newly paved street is partly dug up for sewer or water lines a month later (or during the next year), it would be expensively ridiculous to have 413 tunnel modifications for I-95 demolished within a decade to then rebuild that same tunnel for additional lanes, especially considering 413 is a PA State road and today's traffic & safety concerns.

I have already had difficulties with turnpike representatives attempting to understand their expressions.Therefore I warn all that "wider" is a word that can lead to accidental or deliberate confusion, when parties take a different perspective or reference point of view. For example, someone pointing to a map might say "Yes that will be wider" and rightly mean that the turnpike will be "wider", while a local person could misunderstand that the tunnel would not be wider, but ONLY longer. Please notice that I have called this topic "Providing for Additional PA 413 Lanes" and used the tunnel's point of view. At the June Public Hearing charts indicated that more 413 lanes "May Be" considered, while one turnpike official verbally stated this was not a possibility.

I have not given tunnel Height Clearance any consideration. Also I have not considered if current rain runoff drainage problems could be improved
1 during tunnel rebuilding, so I will ask questions: Would new interchange construction require drainage lines in (under) the 413 tunnel? Does this include runoff from higher airborne ramps that will be built not-so-nearby but leading downhill near 413?

This letter is NOT to be considered an endorsement of any parts of the PA TPK/I-95 Interchange Project, and I reserve all rights for additional comments separately.

Sincerely,

Larry Willard

Larry Willard
merrylarry@earthlink.net

cc: Bristol Twp + Middletown Twp Managers & Supervisors
Bucks County Commissioners
Lynn Bush, Bucks County Planning
Sen. Tomlinson, Rep. Tony Melio, Rep. M. Wright
Andrew Warren, PennDOT
Congressman J. Greenwood
Bucks County Courier Times

Larry Willard - Page 1/5

No Issues – No Responses

Larry Willard - Page 2/5

1 Final Design

The proposed interchange project includes provisions to replace the I-276 bridge over PA 413 (New Rodgers Road). The new structure will be wider to allow for additional lanes on I-276. The bridge length will allow for sufficient lanes on PA 413 to accommodate project traffic volumes and meet Pennsylvania Department of Transportation standards. Detailed plans will be drafted and coordination with local officials will occur during Final Design.

Larry Willard - Page 3/5

A Final Design objective for this project is to collect additional surface water runoff that will result from project construction, as well as from existing surface water runoff. Appropriate stormwater management structures and facilities will be installed to meet construction and post-construction stormwater control requirements. At this point in the project development, details of these designs are yet to be developed, and the commenter's question on a drainage line along PA 413 must be deferred, pending the Final Design phase.

See Larry Willard - Page 2/5 On This Page For The Response To Issue 1.

Larry Willard - Page 4/5

1927 Hazel Ave.
Bristol, PA 19007
June 30, 2001

to: All Concerned Parties and
Jeffery C. Davis, PA Turnpike Commission
re: PA TPK/I-95 Interchange Project DEIS and
Draft Section 4(f) Evaluation
topic: A Bettar Phila. Regional Alternative

Dear Sir,

I am a Bristol Township homeowner and live within the area confined by I-95, the PA Turnpike, and the Neshaminy Creek. It is my understanding that when land is to be taken from private parties for a public project, this should only occur if it is in "the Best Interest" of the general population.

2 I oppose the current PA TPK/I-95 Interchange Project and it's current Alternatives since they do not qualify to take part of our local Tax Base. Nor do I support the "No Build Option", and instead I will suggest a 2 part Alternative I consider "better" than current proposals.

Apparently the Federal Interstate people have only treated the Greater Phila. Region in a piecemeal fashion (the PA TPK and Schuylkill Expressway were pre-existing). The proposed Interchange Project's origin was as part of the "seamless Maine to Florida Interstate Highway". If this ever made sense, a reality check of today's current driving habits, roadways, and anticipated travel times would have the AAA suggest for a Baltimore drive to Connecticut that it is NOT in the Best Interest to drive I-95 in Phila.

3 To fix the missing link, I suggest I-95 should come North from Delaware into Pennsylvania until turning East onto the Commodore Barry Bridge, making that bridge I-95, and then continue North on I-295 which would be renumbered as I-95. "Difficulties" with the current I-295 Greater Phila. Region section(s) scream for attention from the Federal Interstate people. The embarrassment does not end where currently I-295 hits the east-west NJ Turnpike Extension to Penna., since again there is no interchange (yet?). While the I-295 North drive could bring us past Bordantown, NJ, and then to I-195 East to join the NJ TPK at Exit 7A, it seems perhaps that connecting at or near Exit 7 would be shorter. Also, the NJ TPK should then have an additional lane in each direction added for "I-95" from Exit 7 northward!!

The proposed PA TPK/I-95 Interchange figures say around 85% of its vehicles will be local drivers! It is nonsense to pretend people from Brooklyn or Boston should get on the PA Turnpike when driving to
3 Washington D.C.! Congress should amend the 1982 STAA to place I-95 further east in the Greater Phila. Region using New Jersey counties. And redesignate as I-595 (?) all of the road running through Chester, past the Phila. Airport and Penns Landing, across Bucks County, and looping up and around Trenton and down the current I-295 to the

Larry Willard - Page 5/5

3 suggested new I-95 connection at Exit 7, also giving Trenton a direct NJ TPK link south (and west to PA).

The second part of my suggestion for the Project is an additional ("better") alternative to the current PA Turnpike options proposed. Traffic studies do support a new Delaware River Bridge span, an extra lane in each direction from the river to PA Exit 28, and also building the Interchange (for mostly local traffic) at the current I-95 (redesignated here as I-595). This will require Bristol Township to permanently give up some tax base, and it would not be in our best interest unless everything possible was done to reduce air pollution, reduce noise, and reduce land taken. The PA TPK can better do this by
4 NOT building any toll booths in Bensalem Township, and replacing all toll booths with Park + Ride lots (with bus stops) for Exits 29 to 24 and 31 (possibly 32?). The Valley Forge Service Plaza can be replaced with toll booths, and new booths will be needed just north of Exit 31 (Lansdale) or somewhere further north. This, together with the Interstate improvements in NJ will create a regional TOLL FREE PHILA. BELTWAY (except for Del. River Bridge tolls). Just as E-Z Pass reduces noise and air pollution, is more convenient and reduces congestion (safer too), Toll Free urban sections do this even better and the word "Best" does fit. Any E-Z Pass machines in use at the time of change-over can be redeployed elsewhere in the PA TPK system, and "Slip Ramps" would then not need toll booths.

Sincerely,

Larry Willard

Larry Willard

merrylarry@earthlink.net

cc: to be distributed after July 4th,
and presented personally to local government officials,
and citizens with discussion.

Lee R. Winson - Page 1/3

PENNS TURN PIKE

Date: 6/30/02 Page 1 of 3

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: Lee R. Winson

Address: 1911 Yardley Commons
Yardley, PA 19067

Please print clearly your comments below and provide your signature:

I am concerned about the project's adverse impact to the region's economy for the following reasons:

1) Permanent Loss of Ongoing Businesses:

1 a) Regardless of the final routing chosen, there will be some loss of existing industrial and commercial business establishments. This will result in a loss to the mercantile tax base and employment opportunities to the area. I don't see the interchange bringing any new permanent economic development to the area other than required for the construction itself.

1 b) The businesses that now rely on through traffic that travels on local roads will lose that business.

2 c) During construction, there will be numerous detours and more?

Signature (Required): Lee R Winson

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Larry Willard - Page 4/5

2 Project Position
The commenter's opposition to the project is noted

3 Traffic and Transportation – Interstate Designation
The present I-95 routing through Pennsylvania was approved by Congress and the involved states many years ago, and large amounts of federal and state funds were invested in its construction. The 1982 Surface Transportation Act prescribed a specific routing of one section of I-95, and the proposed interchange project is scoped to facilitate that rerouting. Any proposal to revise the I-95 routing would have to be developed by the three states involved, and a legal and administrative re-routing of I-95 would have to occur. If such a re-routing were to occur, the need would still remain to construct an interchange between I-276 and I-95 at Bristol to establish continuity of the Interstate system and serve regional traffic needs.

Larry Willard - Page 5/5

See ***Larry Willard - Page 4/5*** On This Page For The Response To Issue **3**.

4 Alternatives Development (DEIS/FEIS Section III)
The commenter's proposal to make large sections of the Pennsylvania Turnpike toll free is impractical for several reasons. The most prominent reason is the fact that Pennsylvania Turnpike Commission entered into bonded indebtedness to finance the original construction of I-276, and the fare collection proceeds are necessary to pay the interest and eventually retire the bonds.

Lee R. Winson - Page 1/3

1 Socioeconomic – Commercial Tax Base (DEIS/FEIS Section IV-C.4)
Although there will be minor tax base impacts, the impact will be less than one percent of the commercial tax base. In addition, it is projected that the I-276/I-95 Interchange Project will remove trips from local roads by diverting trips to I-95 and I-276. The trips that will be diverted are mostly from travelers moving from one interstate to the other, thereby reducing local congestion and increasing the ability of the local arterials to carry local residential and business traffic. In addition, infrastructure improvements associated with the I-276/I-95 Interchange Project will maintain and/or improve local access. These conditions are expected to increase the market attractiveness of the region. Less traffic on these arterial roadways may encourage increased patronage of these local businesses and conversion of some properties to alternate land uses that generate higher revenues. For example, the project's Economic Impact Study predicted that improved access at Interchange 29 and the reduction of through traffic on US 13

(Bristol Pike) will improve economic opportunities at the Levittown Shopping Center, the Novolog Delaware River port operations, the USX properties in Falls Township, PA, and the rest of the Bucks County Enterprise Zone.

2 Construction Impacts (DEIS/FEIS Section IV-T)

Construction activities associated with the I-276/I-95 Interchange Project could result in temporary disruption to local residents and businesses. The I-276/I-95 Interchange Project does not provide any new interstate highway access points, or highway on new alignment and, therefore, will not divide any existing communities. Access to businesses, residences, and community facilities will always be maintained throughout the construction phase. Staged construction features, signing, temporary barriers and other measures will be used to facilitate traffic movements during the construction phase.

During and after the Final Design phase, the Pennsylvania Turnpike Commission (PTC) is committed to continuing work with the communities and local officials in the project area to provide a "Construction Phasing and Maintenance of Traffic Plan" that minimizes the duration of any inconveniences to the traveling public and to local residential and commercial activities.

Lee R. Winson - Page 2/3

3 Socioeconomic – Residential Tax Base (DEIS/FEIS Section IV-C.4)

There is concern as to how local governments will be able to replace lost property tax revenues that will occur due to property condemnation to make way for new and expanded highway facilities (Section IV-B). However, as this project is a connection of two existing interstates with right-of-ways generally allowing for expansion, the actual loss of property tax ratables is anticipated to be small. Tax base impacts are discussed in more detail in Section IV-C. While not guaranteed, the likelihood is that there will be increased investment in existing properties and new development tied to the connection of I-95 and I-276, potentially off-setting the loss in tax base due to the project property acquisitions.

4 Socioeconomic–Real Estate Values (DEIS/FEIS Sections IV-B.3, C.3)

The specific effects of the proposed transportation improvements on property values are difficult to project. The Economic Impact Study for the I-276/I-95 Interchange Project, completed in April 2000 by the Pennsylvania Economy League, qualitatively discussed the issue of real estate values. By using comparable case studies, history showed that property values increase with increased access to highway interchanges, and that they decrease for properties abutting new highways. In this case, however, the highways are already in place and most of the affected properties are already abutting them. As a result, many local residents and businesses, including those closest to the interchange, will have improved accessibility as a result of new proximity to one or the other major interstates or reductions in local congestion.

Lee R. Winson - Page 2/3

PENNSYLVANIA TURN PIKE

Date: _____ Page 2 of 3

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: WINSON, continued

Address:

Please print clearly your comments below and provide your signature:

2 interference by construction vehicles on local roads. This will adversely impact existing local businesses as well as residents.

2) Loss of Real Estate Tax Base: Real Estate taxes are the primary means that schools and local government are supported in the area. The loss of what is now taxable real estate to non-taxable status will require property owners to make up the difference. If the project is built, perhaps the Pa Tpk could offer money to the affected entities in lieu of property taxes that will be lost.

3

4 3) Property Values: I don't see any neighborhood in the project area that will benefit from increased property

Signature (Required): Lee Winson more>

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

Other determining property value factors include; project design, sound barrier placements, traffic removal, and local property tax rates (An increased commercial property tax base could lower the proportion of local property taxes that are paid by homeowners).

Lee R. Winson - Page 3/3

5 Noise (DEIS/FEIS Section IV-O)

As described in the DEIS/FEIS, traffic noise studies were performed that satisfy Federal Highway Administration (FHWA) and Pennsylvania Department of Transportation (PENNDOT) guidelines for the project. These studies identified noise sensitive areas within the project limits adjacent to I-276 and I-95, and determined those areas that warrant noise barrier

Lee R. Winson - Page 3/3

PENNSYLVANIA TURN PIKE

Date: _____ Page 3 of 3

PENNSYLVANIA TURNPIKE/ INTERSTATE 95 INTERCHANGE PROJECT
Bucks County, Pennsylvania and Burlington County, New Jersey
Draft Environmental Impact Statement/ Draft Section 4(f) Evaluation

Written Comment Form

Printed Name: WINSON, continued.

Address:

Please print clearly your comments below and provide your signature:

4 values because there is no site that will gain value or convenience from the project. However, those residential areas that will be subject to barricade walls or aerial ramps will suffer from reduced property values. While walls can mitigate traffic

5 noise to some extent, they do not do so entirely. Also, walls will not stop unpleasant exhaust smells. Further, the aerial ramps won't have walls. At night, the high intensity street

6 lighting used at the interchanges may be a nuisance to nearby residents despite walls.

Signature (Required): Lee Winson

Please mail your comments to: **Jeffrey Davis, Pennsylvania Turnpike Commission**
Pennsylvania Turnpike/ Interstate 95 Interchange Project Office
3220 Tillman Drive, Suite 215
Bensalem, PA 19020-2083

Please note, the written comment form must be signed and submitted to the Project Office by Monday July 2, 2001, 4:00 PM to be addressed and included in the Final Environmental Impact Statement.

PH-L

consideration. For warranted areas, approximately 10 miles of noise barriers were found to be feasible and reasonable according to PENNDOT criteria. These barriers were shown to have the potential to reduce future (Year 2025 Build) noise levels to below existing noise levels for most residential areas. During Final Design, the project noise studies for noise sensitive areas within the project limits will be re-evaluated (based on final engineering and current FHWA and PENNDOT criteria) to determine exact location, heights, abatement types, and right-of-way requirements.

6 Visual Quality (DEIS/FEIS Section IV-R)

The consideration of the types of lighting used will be evaluated during Final Design.

APPENDIX I
INDEX OF ISSUES
COMMENTS, ISSUES, AND RESPONSES

INDEX OF ISSUES
COMMENTS, ISSUES AND RESPONSES

Commenter	Representing	Comment and Location		Response and Location		EIS Section Reference	
		Comment No.	Page No.	Response No	Page No.	DEIS	FEIS
Agency Coordination							
Frank J. Cianfrani	US Army Corps of Engineers	1A	I-101	1A	I-101	NA	NA
Carol B. Knickerbocker	Pennsylvania Department of Environmental Protection	1	I-106	1	I-106	NA	NA
		5	I-107	5	I-107	Appendix C	Appendix C
Kevin L. Mixon	Pennsylvania Game Commission	1	I-107	1	I-107	VII	VII
Richard V. Pepino	US Environmental Protection Agency	2	I-108	2	I-109	NA	NA
		8	I-108	8	I-109	IV-L, VII, Appendix C	IV-L, VII, Appendix C
Lawrence Schmidt	Office of Coastal Planning & Program Coordination	5	I-111	5	I-111	ES-M	ES-M
David E. Spotts	Pennsylvania Fish and Boat Commission	6	I-112	6	I-112	NA	NA
Willie R. Taylor	US Department of the Interior	1	I-112	1	I-112	NA	NA
Air Quality							
Mr. and Mrs. Robert L. Delp	Resident of Bensalem	4	I-121	4	I-121	IV-N	IV-N, Appendix E
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Michael Fitzpatrick	Bucks County Commissioner	1	I-19, 20	1	I-19	NA	NA
George Flocco	Bensalem Township Redevelopment Authority	1	I-25	1	I-25	NA	NA
Susan Herman (Public Testimony)	Regional Group of Residents from Lower Makefield, Upper Makefield, Newton, Wrightstown and Northhampton Townships	2	I-32	2	I-32	NA	NA
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Joe Mahoney (Public Testimony)	Greater Philadelphia Chamber of Commerce	1	I-59	1	I-59	NA	NA
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Joseph S. Martz	City of Philadelphia	1	I-115	1	I-115	NA	NA
Barbara McCulloh	Resident of Edgely	2	I-37	2	I-37	NA	NA
Collin F. McNeil	PENJERDEL Council	1	I-134	1	I-133	NA	NA
Garney Morris	Business Owner	1	I-30	1	I-30	NA	NA
Paul A. Ordog, Jr.	Florence Township Environmental Commission	1	I-117	1	I-117	NA	NA
David J. Packer	Resident of Toms River	1	I-134	1	I-134	NA	NA
Leonard Pundt	Resident of Philadelphia	1	I-136, 137	1	I-136	NA	NA
Rita E. Ratican	Resident of Bensalem	1	I-137	1	I-137	NA	NA
Bill Rickett	Executive Director of Bucks County TMA	2	I-27	2	I-26	NA	NA
Bob Salmon (Public Testimony)	Families and Business at 5526 and 5550 Hulmeville Road	9	I-49	9	I-49	NA	NA
Robert W. Salmon (Written Comments)	Resident and Business Owner in Bensalem	12	I-141	12	I-141	NA	NA
Lawrence Schmidt	Office of Coastal Planning & Program Coordination	1	I-110	1	I-110	NA	NA
David E. Spotts	Pennsylvania Fish and Boat Commission	1	I-111	1	I-111	NA	NA
Ann Vesce	Resident of Laurel Bend	13	I-30	13	I-30	NA	NA
Larry Willard	Resident of Bristol	2	I-153	2	I-153	NA	NA
Ken Worthington	Bristol Township Council	1	I-40	1	I-40	NA	NA
Matthew N. Wright	PA State Representative, 142nd District	1	I-117	1	I-117	NA	NA
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Michelle Udowenko (Written Comments)	Resident of Bensalem	11	I-150	11	I-150	I-D	I-D

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		3	I-142	3	I-142	IV-C.3	IV-C.3
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Claudia Fountaine (Public Testimony)	Lindenhurst Road Homeowners Association	3	I-79	3	I-78	NA	NA
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Richard Tonge (Public Testimony)	Regional Group of Residents from Lower Makefield, Upper Makefield, Newton, Wrightstown and Northhampton Townships	3	I-63	3	I-63	NA	NA
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David E. Spotts	Pennsylvania Fish and Boat Commission	2	I-111	2	I-111	NA	IV-K, VII, Appendix C
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Paul A. Ordog, Jr.	Florence Township Environmental Commission	3	I-117	3	I-117	NA	NA
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NA = Not Applicable

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