

**REQUEST FOR PROPOSALS FOR**

**Statewide Automated Work Zone Speed Enforcement (AWZSE) Program**

**ISSUING OFFICE**

**Pennsylvania Turnpike Commission**

**Contracts Administration Department**

**On behalf of the**

**Traffic Engineering & Operations Department**

**For**

**The Pennsylvania Department of Transportation**

**And**

**The Pennsylvania Turnpike Commission**

**RFP NUMBER**

**RFP 19-10480-8400**

**February 6, 2019**

**Revised March 4, 2019, Addendum #3.**

**REQUEST FOR PROPOSALS FOR  
STATEWIDE AUTOMATED WORK ZONE ENFORCEMENT (AWZSE) PROGRAM  
RFP 19-10480-8400**

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## CALENDAR OF EVENTS

RFP# 19-10480-8400

The Commission reserves the right to make changes or alterations to this schedule as the Commission determines is in its best interest.

<b>Activity</b>	<b>Date</b>	<b>Time</b>
Request for Proposals Issued	February 6, 2019	N/A
Deadline for Proposers to Submit Questions via email to <a href="mailto:RFP-Q@paturnpike.com">RFP-Q@paturnpike.com</a>	February 19, 2019	2:00 PM
Answers to Proposers questions posted to the Commission website at <a href="https://www.paturnpike.com/Procurement/Bidlist.aspx?RTYPE=O">https://www.paturnpike.com/Procurement/Bidlist.aspx?RTYPE=O</a> ( <i>Estimate Only</i> )	February 26, 2019	N/A
Due Date for Proposals	March 14, 2019	2:00 PM
Field Demonstrations	March 29 – April 12, 2019	TBD
Anticipated Notice to Proceed ( <i>Estimate Only</i> )	August 16, 2019	N/A

## PART I

### GENERAL INFORMATION

- I-1. Purpose.** This request for proposals (RFP) provides to those interested in submitting proposals for the subject procurement (“Offerors”) sufficient information to enable them to prepare and submit proposals for the **Pennsylvania Turnpike Commission’s (Commission’s) and Pennsylvania Department of Transportation’s (Department’s)** consideration on behalf of the Commonwealth of Pennsylvania (“Commonwealth”) to satisfy a need **for a Statewide Automated Work Zone Speed Enforcement (AWZSE) Program** (“Project”). This RFP contains instructions governing the requested proposals, including the requirements for the information and material to be included; a description of the service to be provided; requirements which Offerors must meet to be eligible for consideration; general evaluation criteria; and other requirements specific to this RFP.

The Commission and Department, together the Transportation Agencies, seek a System Administrator (AWZSE System Administrator) to provide AWZSE equipment, data collection services, and violation and appeals processing for work zones located on federal-aid highways under the jurisdiction of the Department and highways under the jurisdiction of the Commission. The term Transportation Agencies may be considered conjunctive or disjunctive, as best suits the context and the best interests of the Commission and the Commonwealth.

- I-2. Issuing Office.** The Pennsylvania Turnpike Commission’s Contracts Administration Department (“Issuing Office”) has issued this RFP on behalf of the Transportation Agencies and the Commonwealth. The sole point of contact in the Commonwealth for this RFP shall be Wanda Metzger, the Issuing Officer for this RFP. Please refer all inquiries to the Issuing Officer.

**Overnight Delivery Address:**  
Contracts Administration Department  
Attn: Wanda Metzger  
PA Turnpike Commission  
700 South Eisenhower Blvd.  
Middletown, PA 17057  
Phone: (717) 831-7429  
Email: wmetzger@paturndpike.com

**US Mail Delivery Address:**  
Contracts Administration Department  
Attn: Wanda Metzger  
PA Turnpike Commission  
P.O. Box 67676  
Harrisburg, PA 17106

- I-3. Overview of Project.** The Pennsylvania State Legislature amended Section 102 and Title 75 Pa C.S. §3369, granting permission for Automated Speed Enforcement (ASE) to be used within active work zones in the Commonwealth. This act, Senate Bill 172, was signed into law on October 19, 2018. The Transportation Agencies seek methods to improve safety in work zones for both construction/maintenance workers and the traveling public. One method that has been proven to reduce excessive speeding in work zones is ASE. This project seeks a System Administrator to provide several field and back office services to support a new Automated Work Zone Speed Enforcement (AWZSE) program.

- I-4. Objectives.**

**A. General.** The Transportation Agencies have embarked on the development of an AWZSE program to reduce crashes in work zones, eliminate excessive speeding in work zones, increase awareness of safety in work zones, and prove AWZSE for permanent use in work zones.

**B. Specific.** The Transportation Agencies seek a System Administrator (AWZSE System Administrator) to provide AWZSE equipment, data collection services, and violation and appeals processing for work zones located on federal aid highways under the jurisdiction of the Department or highways under the jurisdiction of the Commission. The purpose of this program is to increase the safety of the traveling public and construction/maintenance personnel in work zones by increasing public awareness and fining drivers exceeding the posted work zone speed limit. Authority for this program is granted by amendments to Section 102 and Title 75 Pa C.S. §3369 (Appendix K).

**I-5. Type of Contract.** It is proposed that if the Transportation Agencies enter into a contract as a result of this RFP, it will be a **fixed fee per deployment (inclusive of all required services, processing and support to be paid monthly)** contract containing the Contract Terms and Conditions as shown in **Part VI**. The Transportation Agencies, in their sole discretion, may undertake negotiations with Offerors whose proposals, in the judgment of the Transportation Agencies, show them to be qualified, responsible and capable of performing the Project.

**I-6. Rejection of Proposals.** The Transportation Agencies reserve the right, in their sole and complete discretion, to reject any proposal received as a result of this RFP.

**I-7. Incurring Costs.** The Transportation Agencies are not liable for any costs the Offeror incurs in preparation and submission of its proposal, in participating in the RFP process or in anticipation of award of the contract.

**I-8. Questions & Answers.** There will be no pre-proposal conference for this RFP. No negotiations, decisions or actions shall be initiated or executed by a Proposer as a result of any oral discussions with any Transportation Agency member, employee, or consultant/contractor. Written questions may be submitted to clarify any points in the RFP which may not have been clearly understood. Written questions shall be submitted by email to [RFP-Q@paturnpike.com](mailto:RFP-Q@paturnpike.com) with **RFP 19-10480-8400** in the Subject Line to be received no later than the date and time provided on the Calendar of Events. All questions and written answers will be issued as an addendum to and become part of this RFP and will be posted to the Commission's website at (<http://www.paturnpike.com/procurement/Bidlist.aspx?rtype=o>), approximately on or before the date provided on the Calendar of Events and only if necessary. Proposers shall use the form provided in **Appendix A** to submit the questions.

**I-9. Addenda to the RFP.** If the Transportation Agencies deem it necessary to revise any part of this RFP before the proposal response date, the Issuing Office will post an addendum to the website at <http://www.paturnpike.com/procurement/Bidlist.aspx?rtype=o>. It is the Offeror's responsibility to periodically check the website for any new information or addenda to the RFP. Answers to the questions asked during the Questions & Answers period also will be posted to the website as addenda to the RFP.

If the Transportation Agencies issue an addendum less than ten days before the RFP due date, the due date will be extended to maintain the minimum ten-day advertisement duration if the revision alters the project scope or selection criteria. Firms are responsible to monitor

advertisements/addenda to ensure the submitted proposal complies with any changes in the published advertisement.

- I-10. Response Date.** To be considered for selection, proposal submissions as described in **Part I, Section I-11** must arrive in the Commission's Contracts Administration Department, (the Issuing Office), to the address provided in **Section I-2**, Attention: Wanda Metzger, on or before the time and date specified in the RFP Calendar of Events. The Issuing Office will **not** accept proposals via email or facsimile transmission. Offerors who send proposals by mail or other delivery service should allow sufficient delivery time to ensure timely receipt of their proposals. If, due to inclement weather, natural disaster, or any other cause, the Commission office location to which proposals are to be returned is closed on the proposal response date, the deadline for submission will be automatically extended until the next Commission business day on which the office is open, unless the Issuing Office otherwise notifies Offerors. The hour for submission of proposals shall remain the same. The Issuing Office will reject (unopened) any late proposals.

**Please note that use of U.S. Mail, FedEx, UPS, or other delivery method, does not guarantee delivery to the Commission's Contracts Administration Department by the above listed time for submission.**

**I-11. Proposal Requirements.**

- A. Proposal Submission:** To be considered, Offerors should submit a complete response to this RFP to the Issuing Office, using the format provided in **Section I-11B**, submitting five (5) hard copies of the Technical Submittal, five (5) hard copies of the Cost Submittal, and five (5) hard copies of the Diverse Business Participation Submittal. In addition to the hard copies of the proposal, two (2) **complete and exact copies** of the Technical, Cost and DB submittals, along with all requested documents on CD-ROM or Flash Drive in Microsoft Office or Microsoft Office-compatible (including PDF) format. The electronic copy must be a mirror image of the hard copy. The Offerors may not lock or protect any cells or tabs. The CD, DVD or Flash drive should clearly identify the Offeror and include the name and version number of the virus scanning software that was used to scan the CD, DVD or Flash drive before it was submitted. The Offeror shall make no other distribution of its proposal to any other Offeror or Commonwealth official or Commonwealth consultant. Each proposal page should be numbered for ease of reference.

An official authorized to bind the Offeror to its provisions must sign the proposal. If the official signs the Proposal Cover Sheet (Appendix B for this RFP) and the Proposal Cover Sheet is attached to the Proposal, the requirement will be met. For this RFP, the proposal must remain valid for **180** days or until a contract is fully executed. If the Transportation Agencies select the Offeror's proposal for award, the contents of the selected Offeror's proposal will become, except to the extent the contents are changed through Best and Final Offers or negotiations, contractual obligations.

Each Offeror submitting a proposal specifically waives any right to withdraw or modify it, except that the Offeror may withdraw its proposal by written notice received at the Issuing Office's address for proposal delivery prior to the exact hour and date specified for proposal receipt. An Offeror or its authorized representative may withdraw its proposal in person prior to the exact hour and date set for proposal receipt, provided the withdrawing person provides appropriate identification. An Offeror may modify its submitted proposal prior to the exact

hour and date set for proposal receipt only by submitting a clearly identified revised submission package marked as “Revised Proposal” which complies with the RFP requirements.

**B. Proposal Format:** Offerors must submit their proposals in the format, including heading descriptions, outlined below. To be considered, the proposal must respond to all proposal requirements. Offerors should provide any other information thought to be relevant, but not applicable to the enumerated categories, as an appendix to the Proposal. All cost data relating to this proposal and all Diverse Business cost data should be kept separate from and not included in the Technical Submittal. Offerors should not reiterate technical information in the cost submittal. Each proposal shall consist of the following **three** separate files:

**1. Technical Submittal, in response to Part III:**

**a. Technical Submittal**

**b. Complete, sign and include Appendix L – Domestic Workforce Utilization Certification; and**

**c. Complete, sign and include Appendix M, Iran Free Procurement Certification Form.**

**2. Cost Submittal, in response to Part IV.**

**3. Diverse Business Participation Submittal, in response to Part V.**

The Transportation Agencies reserve the right to request additional information which, in the Transportation Agencies’ opinion, is necessary to assure that the Offeror’s competence, number of qualified employees, business organization, and financial resources are adequate to perform according to the RFP.

The Transportation Agencies may make investigations as deemed necessary to determine the ability of the Offeror to perform the Project, and the Offeror shall furnish to the Transportation Agencies all requested information and data. The Transportation Agencies reserve the right to reject any proposal if the evidence submitted by, or investigation of, such Offeror fails to satisfy the Transportation Agencies that such Offeror is properly qualified to carry out the obligations of the RFP and to complete the Project as specified.

**I-12. Economy of Preparation.** Offerors should prepare proposals simply and economically, providing a straightforward, concise description of the Offeror’s ability to meet the requirements of the RFP. The technical submittal is limited to 50 pages in length with page limitations further specified in **Part III**.

**I-13. Alternate Proposals.** The Transportation Agencies have identified the basic approach to meeting its requirements, allowing Offerors to be creative and propose their best solution to meeting these requirements. The Transportation Agencies will not accept alternate proposals.

**I-14. Discussions for Clarification.** Offerors may be required to make an oral or written clarification of their proposals to the Transportation Agencies to ensure thorough mutual understanding and responsiveness to the solicitation requirements. The Issuing Office will initiate requests for

clarification. Clarifications may occur at any stage of the evaluation and selection process prior to contract execution.

**I-15. Prime Proposer Responsibilities.** The selected Offeror must perform the largest percentage of work as compared to its subcontractors and suppliers. Nevertheless, the contract will require the selected Offeror to assume responsibility for all services offered in its proposal whether it produces them itself or by subcontract. Further, the Transportation Agencies will consider the selected Offeror to be the sole point of contact with regard to all contractual matters.

**I-16. Proposal Contents.**

**A. Confidential Information.** The Transportation Agencies are not requesting, and do not require, confidential proprietary information or trade secrets to be included as part of Offerors' submissions in order to evaluate proposals submitted in response to this RFP. Accordingly, except as provided herein, Offerors should not label proposal submissions as confidential or proprietary or trade secret protected. Any Offeror who determines that it must divulge such information as part of its proposal must submit the signed written statement described in subsection (c) below and must additionally provide a redacted version of its proposal, which removes only the confidential proprietary information and trade secrets, for required public disclosure purposes.

**B. Commonwealth Use.** All material submitted with the proposal shall be considered the property of the Commonwealth of Pennsylvania. The Commonwealth has the right to use any or all ideas not protected by intellectual property rights that are presented in any proposal regardless of whether the proposal becomes part of a contract. Notwithstanding any Offeror copyright designations contained in proposals, the Commonwealth shall have the right to make copies and distribute proposals internally and to comply with public record or other disclosure requirements under the provisions of any Commonwealth or United States statute or regulation, or rule or order of any court of competent jurisdiction.

**C. Public Disclosure.** After the award of a contract pursuant to this RFP, all proposal submissions are subject to disclosure in response to a request for public records made under the Pennsylvania Right-to-Know-Law, 65 P.S. § 67.101, et seq. If a proposal submission contains confidential proprietary information or trade secrets, a signed written statement to this effect must be provided with the submission in accordance with 65 P.S. § 67.707(b) for the information to be considered exempt under 65 P.S. § 67.708(b)(11) from public records requests. Refer to **Appendix N** of the RFP for a **Trade Secret Confidential Proprietary Information Notice Form** that may be utilized as the signed written statement, if applicable. If financial capability information is submitted in response to **Part III** of this RFP, such financial capability information is exempt from public records disclosure under 65 P.S. § 67.708(b)(26).

**I-17. Best and Final Offers (BAFO).**

**A.** While not required, the Transportation Agencies reserve the right to conduct discussions with Offerors for the purpose of obtaining "best and final offers." To obtain best and final offers from Offerors, the Transportation Agencies may do one or more of the following, in any combination and order:



1. Schedule oral presentations;
2. Request revised proposals;
3. Conduct an on-site demonstration; and
4. Enter into pre-selection negotiations.

**B.** The following Offerors will **not** be invited by the Transportation Agencies to submit a Best and Final Offer:

1. Those Offerors which the Transportation Agencies have determined to be not responsible or whose proposals the Transportation Agencies have determined to be not responsive.
2. Those Offerors that do not possess the financial capability, experience or qualifications to assure good faith performance of the contract which the Transportation Agencies have determined from the submitted and gathered financial and other information in accordance with **Part II, Section II-5**.

The Transportation Agencies will limit any discussions to responsible Proposers whose proposals the Transportation Agencies have determined to be reasonably susceptible of being selected for award.

**C.** The Evaluation Criteria found in **Part II, Section II-4**, shall also be used to evaluate the Best and Final offers.

**D.** Separate from the Technical Submittal, Proposers may be required to conduct a field test of the proposed equipment. The field test will involve setting up the proposed equipment at a time and freeway location specified by the Transportation Agencies; collecting speeding violation data for up to five (5) lanes of traffic for a minimum of a one-hour period; processing the events; and reporting the results via a written report. A copy of all event images recorded during the field test shall be provided on electronic media to the Transportation Agencies. The field test will be conducted at a designated high-volume freeway site in the Harrisburg area. The Transportation Agencies will limit field tests to responsible Proposers whose proposals the Transportation Agencies have determined to be reasonably susceptible of being selected for award.

**E.** Any reduction to commitments to Diverse Businesses must be proportional to the reduction in the total price offered through any BAFO process or contract negotiations unless approved by the Transportation Agencies.

**I-18. News Releases.** Offerors shall not issue news releases, Internet postings, advertisements or any other public communications pertaining to this Project without prior written approval of the Transportation Agencies, and then only in coordination with the Transportation Agencies.

**I-19. Restriction of Contact.** From the issue date of this RFP until the Transportation Agencies select a proposal for award, the Issuing Officer is the sole point of contact concerning this RFP. Any violation of this condition may be cause for the Transportation Agencies to reject the offending Offeror's proposal. If the Transportation Agencies later discover that the Offeror has engaged in

any violations of this condition, the Transportation Agencies may reject the offending Offeror's proposal or rescind its contract award. Offerors must agree not to distribute any part of their proposals beyond the Transportation Agencies. An Offeror who shares information contained in its proposal with other Commonwealth personnel and/or competing Offeror personnel may be disqualified.

- I-20. Transportation Agencies Participation.** Offerors shall provide all services, supplies, facilities, and other support necessary to complete the identified work, except as otherwise provided in this **Part I, Section I-20**. The Pennsylvania State Police will provide staff to inspect the recorded image and affirm the violations prior to the Notice of Violation being sent to the registered vehicle owner. The Transportation Agencies may not provide office space, reproduction facilities, or other logistical support.
- I-21. Term of Contract.** The term of the contract will commence on the Effective Date and will end **February 16, 2024**. The Transportation Agencies will fix the Effective Date after the contract has been fully executed by the selected Offeror and by the Commonwealth and all approvals required by Commonwealth contracting procedures have been obtained. The selected Offeror shall not start the performance of any work prior to the Effective Date of the contract and the Commonwealth shall not be liable to pay the selected Offeror for any service or work performed or expenses incurred before the Effective Date of the contract. The term of the contract may be extended beyond the initial contract term in one (1) year increments at the discretion of the Transportation Agencies. A maximum of two (2) one-year extensions will be permitted under this contract. For each extension year, the offeror shall provide pricing within their Cost Submittal (see **Part IV and Appendix F**).
- I-22. Offeror's Representations and Authorizations.** By submitting its proposal, each Offeror understands, represents, and acknowledges that:
- A.** All of the Offeror's information and representations in the proposal are material and important, and the Transportation Agencies may rely upon the contents of the proposal in awarding the contract(s). The Commonwealth shall treat any misstatement, omission or misrepresentation as fraudulent concealment of the true facts relating to the Proposal submission, punishable pursuant to 18 Pa. C.S. § 4904.
  - B.** The Offeror has arrived at the price(s) and amounts in its proposal independently and without consultation, communication, or agreement with any other Offeror or potential offeror.
  - C.** The Offeror has not disclosed the price(s), the amount of the proposal, nor the approximate price(s) or amount(s) of its proposal to any other firm or person who is an Offeror or potential offeror for this RFP, and the Offeror shall not disclose any of these items on or before the proposal submission deadline specified in the Calendar of Events of this RFP.
  - D.** The Offeror has not attempted, nor will it attempt, to induce any firm or person to refrain from submitting a proposal on this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal or other form of complementary proposal.

- E.** The Offeror makes its proposal in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive proposal.
  - F.** To the best knowledge of the person signing the proposal for the Offeror, the Offeror, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last **four** years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding or proposing on any public contract, except as the Offeror has disclosed in its proposal.
  - G.** To the best of the knowledge of the person signing the proposal for the Offeror and except as the Offeror has otherwise disclosed in its proposal, the Offeror has no outstanding, delinquent obligations to the Commonwealth including, but not limited to, any state tax liability not being contested on appeal or other obligation of the Offeror that is owed to the Commonwealth.
  - H.** The Offeror is not currently under suspension or debarment by the Commonwealth, any other state or the federal government, and if the Offeror cannot so certify, then it shall submit along with its proposal a written explanation of why it cannot make such certification.
  - I.** The Offeror has not made, under separate contract with the Transportation Agencies, any recommendations to the Transportation Agencies concerning the need for the services described in its proposal or the specifications for the services described in the proposal.
  - J.** Each Offeror, by submitting its proposal, authorizes Commonwealth agencies to release to the Commonwealth information concerning the Offeror's Pennsylvania taxes, unemployment compensation and workers' compensation liabilities.
  - K.** Until the selected Offeror receives a fully executed and approved written contract from the Transportation Agencies, there is no legal and valid contract, in law or in equity, and the Offeror shall not begin to perform.
  - L.** The Offeror is not currently engaged, and will not during the duration of the contract engage, in a boycott of a person or an entity based in or doing business with a jurisdiction which the Commonwealth is not prohibited by Congressional statute from engaging in trade or commerce.
- I-23. Notification of Selection.** The Transportation Agencies will notify all Offerors in writing of the Offeror selected for contract negotiations after the Transportation Agencies have determined, taking into consideration all of the evaluation factors, the proposal that is the most advantageous to the Transportation Agencies.
- I-24. Debriefing Conferences.** Upon notification of award, Offerors whose proposals were not selected will be given the opportunity to be debriefed. The Transportation Agencies will schedule the debriefing at a mutually agreeable time. The debriefing will not compare the Offeror with other Offerors, other than the position of the Offeror's proposal in relation to all other Offeror proposals. An Offeror's exercise of the opportunity to be debriefed does not constitute nor toll the time for filing a protest (See **Section I-25** of this RFP).

- I-25. RFP Protest Procedure.** Protests shall be handled in accordance with Section 1711.1 of the Commonwealth Procurement Code, 62 Pa. C.S. § 1711.1.
- I-26. Use of Electronic Versions of this RFP.** This RFP is being made available by electronic means. If an Offeror electronically accepts the RFP, the Offeror acknowledges and accepts full responsibility to ensure that no changes are made to the RFP. In the event of a conflict between a version of the RFP in the Offeror's possession and the Issuing Office's version of the RFP, the Issuing Office's version shall govern.
- I-27. Information Technology Policies.** This RFP is subject to the Information Technology Policies (ITPs) issued by the Office of Administration, Office for Information Technology (OA-OIT). ITPs may be found at <http://www.oa.pa.gov/Policies/Pages/itp.aspx>.

All proposals must be submitted on the basis that all ITPs are applicable to this procurement. It is the responsibility of the Offeror to read and be familiar with the ITPs. Notwithstanding the foregoing, if the Offeror believes that any ITP is not applicable to this procurement, it must list all such ITPs in its technical response, and explain why it believes the ITP is not applicable. The Transportation Agencies may, in their sole discretion, accept or reject any request that an ITP not be considered to be applicable to the procurement. The Offeror's failure to list an ITP will result in its waiving its right to do so later, unless the Transportation Agencies, in their sole discretion, determines that it would be in the best interest of the Commission and the Commonwealth to waive the pertinent ITP.

- I-28. Data/Information Security Breach Notification.** Refer to Appendix C – Security Requirements for data/information security breach notification requirements.
- I-29. Security Requirements.** Proposer will comply with the Security Requirements are described in Appendix C – Security Requirements.

The Proposer acknowledges that, in the course of performance hereunder, the Proposer may receive personally identifiable information that may be restricted from disclosure under Pennsylvania Law and / or the Payment Card Industry (PCI) Security Standards Council (SSC). Notwithstanding any other provision of this Contract, the Proposer will be responsible for all damages, fines and corrective action arising from disclosure of such information caused by the Proposer's breach of its data security or confidentiality provisions hereunder.

All Customer Service Center (CSC) and Violation Processing Centers (VPC) shall operate in compliance with the latest PCI SSC requirements.

The proposer shall provide PCI compliance documentation (including intrusion detection) prior to Notice to Proceed. Additionally, the Proposer shall provide reports documenting PCI Compliance on an annual basis to the Transportation Agencies.

- I-30. Indemnification.** The Offeror shall be responsible for, and shall indemnify, defend, and hold harmless the Transportation Agencies and their officers, employees, and agents from any claim, liability, damages, losses, causes of action, and expenses, including reasonable attorneys' fees, arising from damage to life or bodily injury or real or tangible personal property caused by the negligence or other tortious acts, errors, and omissions of Offeror, its employees, or its subcontractors while engaged in performing the work of the Agreement or while present on the

Transportation Agencies' premises, and for breach of the Agreement regarding the use or disclosure of proprietary and confidential information where it is determined that Offeror is responsible for any use of such information not permitted by the Agreement. The indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or its subcontractors under Workers' Compensation Acts, Disability Benefits Acts, or other Employee Benefit Act.

**I-31. Liquidated Damages.**

- A. By accepting this Contract, the Offeror agrees to the delivery and acceptance requirements of this Contract. The Transportation Agencies and the Offeror agree that liquidated damages will be assessed and consistent with the "Liquidated Damages" section of **Part III** of this RFP and agree that the Offeror shall pay such amount as liquidated damages, not as a penalty. Such liquidated damages are in lieu of all other damages arising from such delay.
- B. If, the Offeror has not met the schedule for completion or any other obligations as outlined in **Part III** of this RFP, then the Transportation Agencies, at no additional expense and at its option, may either:
  - 1. immediately terminate the Contract and all software, documentation, reports, Developed Materials and any other materials provided for or created for the Transportation Agencies as a result of this Contract shall be given to the Transportation Agencies, and the Transportation Agencies shall be entitled to its remedies under "Termination"; or
  - 2. order the Offeror to continue with no decrease in effort until the work is completed in accordance with the Contract and accepted by the Transportation Agencies or until the Transportation Agencies terminate the Contract. If the Contract is continued, any liquidated damages will also continue until the work is completed.
- C. At the end of the Contract term, or at such other time(s) as identified in the Contract, liquidated damages shall be paid by the Offeror and collected by the Transportation Agencies by deducting them from the invoices submitted under this Contract or any other contract Offeror has with the Transportation Agencies, by collecting them through the performance security, if any, or by billing the Offeror as a separate item.
- D. To the extent that the assessed liquidated damage is caused by the Transportation Agencies, no liquidated damages will be applied.
- E. If the delays are caused by the default of a Subcontractor, and if such default arises out of causes beyond the control of both the Offeror and Subcontractor, and without their fault or negligence, the Offeror shall not be liable for liquidated damages for delays, unless the supplies or services to be furnished by the Subcontractor were obtainable from other sources in sufficient time to permit the Offeror to meet the required performance schedule.

**I-32. Contractor Integrity Provisions.** Contractor Integrity Provisions will apply to this contract upon award and the awarded vendor may be required to complete a Background Qualifications Questionnaire prior to entering into an Agreement with the Transportation Agencies and attend annual ethics training provided by the Transportation Agencies. Offerors can find the Integrity

Provisions and other related documents on the Commission's website at [www.paturnpike.com](http://www.paturnpike.com) (Doing Business, General Information, Integrity Provisions).

Include full disclosure of any potential conflict with the State Adverse Interest Act, 71 P.S. § 776.3, for a State Advisor or State Consultant by the prime or any subconsultant. If there is no adverse interest, you shall include the following statement: "I have reviewed the State Adverse Interest Act and determined that there is no adverse interest for anyone on this Agreement team." This information should be included in your transmittal letter/cover page or executive summary.

**I-33. Subcontracting.** Any use of subcontractors by a Proposer must be identified in the proposal. During the contract period use of any subcontractors by the selected Proposer, which were not previously identified in the proposal, must be approved in advance in writing by the Transportation Agencies.

**I-34. Procurement Schedule of Events.** The current Schedule for Key Procurement Dates for this procurement process leading to an award of the Contract is provided in the Calendar of Events, page 1 of this RFP. The Transportation Agencies reserve the right to make changes or alterations to this schedule as the Transportation Agencies determine is in their best interest. All changes to these dates and/ or times up to and including the due date for Proposals will be issued as an addendum to this RFP and will become part of this RFP and will be posted to the Commission's website at <https://www.paturnpike.com/procurement/Bidlist.aspx?rtype=0>.

Unless otherwise notified in writing by the Transportation Agencies, the dates indicated below for submission of items or for other required actions on the part of a Proposer shall constitute absolute deadlines for those activities and failure to fully comply by the time and date stated shall cause a Proposer to be disqualified. All times stated are in Harrisburg, PA local time and are subject to change.

**I-35. Insurance.** Proposer will comply with the Insurance requirements as described in Appendix D - Insurance Specification.

**I-36. Diverse Business (DB) Requirements.** Proposer will comply with the DB Requirements as described in Appendix E – Diverse Business (DB) Requirements.

## PART II

### CRITERIA FOR SELECTION

**II-1. Mandatory Responsiveness Requirements.** To be eligible for selection, a proposal must:

- A. Be timely received from an Offeror (see **Part I, Section I-10**); and
- B. Be properly signed by the Offeror (see **Part I, Section I-11A**).

**II-2. Technical Nonconforming Proposals.** The two (2) Mandatory Responsiveness Requirements set forth in **Section II-1** above (A-B) are the only RFP requirements that the Commonwealth will consider to be *non-waivable*. The Transportation Agencies reserves the right, in their sole discretion, to (1) waive any other technical or immaterial nonconformities in an Offeror's proposal, or (2) allow the Offeror to cure the nonconformity.

**II-3. Evaluation.** Proposals must be submitted in the format, including heading descriptions, outlined below. To be considered, the proposal must respond to all requirements in this part of the RFP. Any other information thought to be relevant, but not applicable to the enumerated categories, should be provided as an appendix to the proposal. All cost data relating to this proposal and all Diverse Business cost data should be kept separate from and not included in the Technical Submittal. Each proposal shall consist of three (3) separately sealed submittals:

1. Technical Submittal, which shall be a response to RFP **Part III**.
2. Cost Submittal, in response to RFP **Part IV**.
3. Diverse Business Participation Submittal, in response to RFP **Part V**.

The Transportation Agencies reserve the right to request additional information which, in the Transportation Agencies' opinion, is necessary to assure that the Proposer's competence, number of qualified employees, business organization, and financial resources are adequate to perform according to the RFP.

The Transportation Agencies may make such investigations as deemed necessary to determine the ability of the Proposer to perform the work, and the Proposer shall furnish to the Transportation Agencies all such information and data for this purpose as requested by the Transportation Agencies. The Transportation Agencies reserve the right to reject any proposal if the evidence submitted by, or investigation of, such Proposer fails to satisfy the Transportation Agencies that such Proposer is properly qualified to carry out the obligations of the agreement and to complete the work specified.

Proposals will be reviewed, evaluated, and rated by a Technical Evaluation Team (TET) of qualified personnel based on the evaluation criteria listed below. The TET will present the evaluations to the Professional Services Procurement Committee (PSPC). The PSPC will review the TET's evaluation and provide the Commission with the firm(s) determined to be highly recommended for this assignment.

The Commission will select the most highly qualified firm for the assignment or the firm whose proposal is determined to be most advantageous to the Transportation Agencies by considering the TET's evaluation and the PSPC's determination as to each firm's rating. In making the PSPC's determination and the Transportation Agencies' decision, additional selection factors may be considered taking into account the estimated value, scope, complexity and professional nature of the services to be rendered and any other relevant circumstances. Additional selection factors may include, when applicable, the following: geographic location and proximity of the firm, firm's Pennsylvania presence or utilization of Pennsylvania employees for the assignment; equitable distribution of work; diversity inclusion; and any other relevant factors as determined as appropriate by the Transportation Agencies.

**II-4. Evaluation Criteria.** The following criteria will be used in evaluating each proposal:

**A. Technical:** Evaluation will be based upon the following:

**1. Proposer and Personnel Qualifications and Experience**

- a. Proposer's relevant experience and expertise in conducting **AWZSE System Administration services** as it relates to the requirements discussed in **Part III** and outlined in **Part II** of this RFP.
- b. Qualifications, experience and competency of professional personnel who will be assigned to the contract by the Proposer including tenure with firm, length of time in the industry and type of experience.
- c. Financial ability of the Proposer to undertake a project of this size.
- d. Response of references if the Transportation Agencies elect to solicit them.

**2. Approach**

- a. Understanding of the Transportation Agencies' needs and scope of work.
- b. Soundness of proposed approach, methodology, and deliverables for conducting **AWZSE System Administration services** as it relates to the requirements discussed in **Part III** of this RFP.
- c. Responsiveness to the Transportation Agencies' desire for expeditious timeline to establish this program by the fall of 2019. It is the Transportation Agencies desire to launch a small-scale deployment of AWZSE devices prior to completion of the 2019 construction season.
- d. Responsiveness, organization, and clarity of Proposal.

**3. Demonstrations**

This refers to the field demonstrations as described in **Part I, Section I-17, Subsection D.**

**B. Cost:** While this area may be weighted heavily, it will not normally be the deciding factor in the selection process. The Transportation Agencies reserve the right to select a proposal based upon all the factors listed above and will not necessarily choose the firm offering the best price. The Transportation Agencies will select the firm with the proposal that best meets its needs, at the sole discretion of the Transportation Agencies.

**C. Commitment to Diversity and Inclusion:** This refers to the inclusion of DB firms, as described in **Part V.** Participation may be measured in terms of total dollars committed or percentage of total contract amount to certified DB firms.



**D. Domestic Workforce Utilization:** To the extent permitted by the laws and treaties of the United States, each offeror's commitment to use domestic workforce in the fulfillment of the contract will be evaluated. Maximum consideration will be given to those offerors who will perform the contracted direct labor exclusively within the geographical boundaries of the United States or within the geographical boundaries of a country that is a party to the World Trade Organization Government Procurement Agreement. Those who propose to perform a portion of the direct labor outside of the United States and not within the geographical boundaries of a party to the World Trade Organization Government Procurement Agreement will receive less consideration. Offerors must complete and sign the certification attached as **Appendix L**. This certification will be included as a contractual obligation when the contract is executed. Failure to complete and sign this certification will result in no consideration being given to the offeror.

**E. Iran Free Procurement Certification and Disclosure.** Prior to entering a contract worth at least \$1,000,000 or more with a Commonwealth entity, an offeror must: a) certify it is not on the current list of persons engaged in investment activities in Iran created by the Pennsylvania Department of General Services ("DGS") pursuant to Section 3503 of the Procurement Code and is eligible to contract with the Commonwealth under Sections 3501-3506 of the Procurement Code; or b) demonstrate it has received an exception from the certification requirement for that solicitation or contract pursuant to Section 3503(e). All offerors must complete and return the Iran Free Procurement Certification form, (**Appendix M, Iran Free Procurement Certification Form**), which is attached hereto and made part of this RFP. The completed and signed Iran Free Procurement Certification form must be submitted as part of the Technical Submittal.

See the following web page for current Iran Free Procurement list:

<http://www.dgs.pa.gov/businesses/materials%20and%20services%20procurement/procurement-resources/pages/default.aspx#.WDNfJJgo6Ht>

**II-5. Offeror Responsibility.** To be responsible, an Offeror must submit a responsive proposal and possess the capability to fully perform the contract requirements in all respects and the integrity and reliability to assure good faith performance of the contract.

In order for an Offeror to be considered responsible for this RFP and therefore eligible for selection for best and final offers or selection for contract negotiations:

- A.** The technical submittal of the Offeror's proposal must be reasonably susceptible to being selected; and
- B.** The Offeror's financial information must demonstrate that the Offeror possesses the financial capability to assure good faith performance of the contract. The Transportation Agencies will review the Offeror's previous three financial statements, any additional information received from the Offeror, and any other publicly-available financial information concerning the Offeror, and assess each Offeror's financial capacity based on calculating and analyzing various financial ratios, and comparison with industry standards and trends.

An Offeror who fails to demonstrate sufficient financial capability to assure good faith performance of the contract as specified herein may be considered by the Transportation Agencies, in its sole discretion, for Best and Final Offers or contract negotiation contingent upon such Offeror providing contract performance security for the first contract year cost proposed by the Offeror in a form acceptable to the Transportation Agencies. Based on the financial condition of the Offeror, the Transportation Agencies may require a certified or bank (cashier's) check, letter of credit, or a performance bond conditioned upon the faithful performance of the contract by the Offeror. The required performance security must be issued or executed by a bank or surety company authorized to do business in the Commonwealth. The cost of the required performance security will be the sole responsibility of the Offeror and cannot increase the Offeror's cost proposal or the contract cost to the Commonwealth.

Further, the Transportation Agencies will award a contract only to an Offeror determined to be responsible in accordance with the most current version of Commonwealth Management Directive 215.9, Contractor Responsibility Program.

## PART III

### TECHNICAL SUBMITTAL

The technical submittal must be submitted in the format, including heading descriptions, outlined below. To be considered, the proposal must respond to all requirements in this part of the RFP. Any other information thought to be relevant, but not applicable to the enumerated categories, should be provided as an appendix to the proposal. All cost data relating to this proposal and all Diverse Business cost data should be kept separate from and not included in the Technical Submittal.

#### **III-1. Proposal Cover Sheet (See Appendix B).** (Limited to 1 page)

Show the name of your firm, Federal I.D. number, address, name of contact person, contact person's email and telephone number date and the subject: **Statewide Automated Work Zone Speed Enforcement (AWZSE) Program, RFP 19-10480-8400**. Appendix B must be signed by an individual who is authorized to negotiate terms, render binding decisions and commit your firm's resources. In addition, it is required that all information requested in Appendix B be provided including information pertaining to location of office performing the work, contact information, listing of all Pennsylvania offices and total number of Pennsylvania employees, and location of company headquarters.

#### **III-2. Statement of the Project.** (Limited to 2 pages)

Summarize your understanding of the work to be done and make a positive commitment to perform the work necessary. This section should summarize the key points of your submittal. Include in this section or in a transmittal letter/cover page a statement regarding full disclosure of any potential conflict with the State Adverse Interest of State Advisor or Consultant Statute as instructed in Proposal Section 1.6 Contractor Integrity Provisions.

#### **III-3. Table of Contents** (Limited to 1 page)

Include a clear identification of the material by section and by page number.

#### **III-4. Qualifications.**

**A. Company Overview.** (Limited to 1 page) Provide a brief history and description of your firm's business organization and its **AWZSE** service expertise and experience as it relates to the requirements discussed in **Part III** of this RFP. Include the location of offices and the number and types of executive and professional personnel, consultants, technicians or other relevant professional staff in each office. Discuss your firm's presence in and commitment to the Commonwealth of Pennsylvania. Include a discussion of the specific expertise and services that distinguish your firm.

If you propose to subcontract any portion of the work described in your response, the subcontracted firm or firms must be identified in this section. The role of the firm or firms should be explained along with a description of the specific expertise and services that the firm or firms contribute to the overall value of your proposal.

#### **B. Prior Experience.** (Limited to 10 pages)

Provide a narrative statement regarding your Automated Speed Enforcement (ASE) with an emphasis in work zones services expertise and experience as it relates to **Part III** of this RFP.

Additionally, include a statement regarding your understanding of the requirements as outlined in this RFP and your ability to provide **AWZSE** services in accordance with the same.

Describe your firm's experience in providing similar ASE, but with emphasis on work zones services to other clients, especially other governmental entities and/or similar public/private sector transportation organizations. Describe the business practices that enable you to complete these tasks in an efficient, timely and, at times, expeditious manner.

Include a statement regarding any other specialized **Automated Speed Enforcement (ASE)** services your firm may offer.

Provide a list of up to three (3) references of clients for which your firm has performed similar work, as described in this RFP, within the past three (3) years. Provide a summary of the work performed for each of the corresponding references provided. Studies or projects referred to should be identified and the name of the customer shown, including the name, address, and telephone number of the responsible official of the customer, company, or agency who may be contacted. Provide statistical data for the following for the past three (3) years:

1. Number of installed and operational ASE systems/units,
2. Average daily traffic volume and range at camera locations,
3. Average number and range of lanes enforced at each camera location
4. Average and range of posted speed limits at each enforcement location
5. Average number and range of monthly events recorded at camera location,
6. Percent of recorded events rejected due to uncontrollable reasons such as but not limited to missing plates, funeral procession, officer controlled, dealer plate, obstructed plate, or no motor vehicle record found,
7. Percent of recorded events rejects due to controllable errors such as but not limited to improperly lit or dark images, unreadable or cut off license plates, vehicles out of position in the first or second image, missing violation date, incorrect data bar, notice of violations that are too old to be issues,
8. Percent of recorded events resulting in notice of violations approved by police and mailed out to violators,
9. Percentage of notice of violations contested,
10. Percentage of contested notice of violations dismissed, and
11. Percentage of payments by types such as but not limited to Internet payments, telephone payments, and lockbox or any other electronic forms of payment.

**C. Personnel.** (Limited to 5 pages)

Provide the names, proposed roles, background and experience, current professional licenses, office location and availability of the consulting personnel that would perform the **AWZSE** services as described in **Part III** of this RFP. Specifically identify the primary person(s) who will be responsible for managing the relationship with the Transportation Agencies during this endeavor. The Proposer should present a staffing plan for the entire operation showing the responsibilities and reporting relationships including sub-contractor personnel. In addition, the Proposer must submit current resumes for a maximum of five (5) key staff members listing relevant experience and applicable professional affiliations. Resumes shall not exceed three (3) pages per individual and should be included as an attachment to the Technical Submittal (the 5-page limit to this section does not include attached resumes).

### III-5. Work Plan

#### A. Approach. (Limited to 30 pages)

Provide a description of the proposed approach/methodology that you will follow, along with a project plan and realistic timeline that identifies the phases and tasks required to complete the services defined in **Part III** to establish an AWZSE Program in Pennsylvania. Include in this section the deliverables and reports that will be provided, the project controls that will be used to provide program transparency, and the tasks that will be performed. The response should demonstrate the firm's understanding of the services expected; however, simply restating the RFP is neither necessary nor acceptable. The proposal shall clearly state the number of events and notice of violations expected to be processed each month and assumptions made. Provide a description of all of the deliverables that you will provide as an output of the project plan.

Explain in detail how the system you are proposing will meet the Transportation Agencies' requirements, including processing, equipment, website, training and client services, all as outlined in the RFP. Provide the milestone project schedule for the program design, integration and project implementation. The Proposer shall set forth exactly how it proposes to accomplish the scope of services, including any sub-contractor roles and specifically address the PA Law statute, work zone locations and notice of violation process.

Provide relevant samples of deliverables and project plans from similar services that your firm was primarily responsible for producing.

Provide a description of all how you plan to instill QA/QC procedures to ensure program transparency with owning agencies, legislators, and general public. Provide specific examples to address concerns regarding inaccuracy or tampering of equipment to generate excess notice of violations.

1. **Training.** If appropriate, indicate recommended training of agency personnel. Include the agency personnel to be trained, the number to be trained, duration of the program, place of training, curricula, training materials to be used, number and frequency of sessions, and number and level of instructors.
2. **Subcontractors.** Provide a subcontracting plan for all subcontractors, including diverse business subcontractors, who will be assigned to the Project. The selected Offeror is prohibited from subcontracting or outsourcing any part of this Project without the express written approval from the Commonwealth. Upon award of the contract resulting from this RFP, subcontractors included in the proposal submission are deemed approved. For each position included in your subcontracting plan provide:
  - a. Name of subcontractor;
  - b. Address of subcontractor;
  - c. Number of years worked with the subcontractor;
  - d. Number of employees by job category to work on this project;
  - e. Description of services to be performed;
  - f. What percentage of time the staff will be dedicated to this project;
  - g. Geographical location of staff; and

- h. Resumes (if appropriate and available).

The Offeror's subcontractor information shall include (through a resume or a similar document) the employees' names, education and experience in the services outlined in this RFP. Information provided shall also indicate the responsibilities each individual will have in this Project and how long each has been with subcontractor's company.

**III-6. Financial Capability.** Describe your company's financial stability and economic capability to perform the contract requirements. Provide your company's financial statements (audited, if available) for the past three fiscal years. Financial statements must include the company's Balance Sheet and Income Statement or Profit/Loss Statements. Also include a Dun & Bradstreet comprehensive report, if available. If your company is a publicly traded company, please provide a link to your financial records on your company website in lieu of providing hardcopies. The Commonwealth reserves the right to request additional information it deems necessary to evaluate an Offeror's financial capability. This section does not count towards the 50-page limit of the Technical Submittal.

### **III-7. Requirements.**

#### **A. Required Tasks**

- 1. Automated Work Zone Speed Enforcement.** The System Administrator shall supply a minimum of seventeen (17) AWZSE mobile units that will be owned and operated by the System Administrator. The mobile unit shall be either a retrofitted vehicle unit such as a sport utility vehicle or a portable trailer unit. The System Administrator shall make available seven (7) of the AWZSE mobile units for deployment on Commission roadways and the remaining ten (10) AWZSE mobile units for deployment on Department roadways. The System Administrator shall supply spare units, as necessary, to ensure that the base number of vehicles are able to be in operation at all times.

Each AWZSE unit shall include speed measurement devices, violation capturing systems, systems mounts, power supplies, site deployment computers, cables, and data upload systems. For vehicle units, the AWZSE System Administrator shall provide continuous monitoring of each unit during enforcement operations.

The AWZSE System Administrator shall provide an automated violation processing services solution that supports high volume program operations. Processing services will include pre-processing, support for police authorization, notice of violation printing and mailing, payment processing, reporting, hearing and appeals, and courts support services.

- 2. Data Log.** The AWZSE System Administrator shall develop and complete a deployment log for each time enforcement activity takes place. In addition to logging deployments, the AWZSE System Administrator's violation processing system shall immediately generate operations reports remotely. The Transportation Agencies own all of the information in the data log.
- 3. Database.** The AWZSE System Administrator shall develop and maintain a secure AWZSE Program database that is updated daily by the System Administrator or approved

personnel. The Transportation Agencies own the database and all of the information within.

4. **Website.** The AWZSE System Administrator shall develop and maintain a secure AWZSE Program website that is publicly accessible. The System Administrator shall update the content on the website daily at the discretion of the Transportation Agencies. The Transportation Agencies will be responsible for approving all information disseminated on the website.
5. **Data Feeds.** The AWZSE System Administrator shall develop and maintain data feeds in real-time to the Transportation Agencies' PA 511 website indicating which work zones have AWZSE devices deployed.
6. **Violation Administration.** The AWZSE System Administrator shall administer and mail notice of violations to vehicle owners.
7. **Payment Processing.** The AWZSE System Administrator shall process violation payments.
8. **AWZSE System Administrator Support.** The AWZSE System Administrator shall provide administrator and support to the Transportation Agencies.
9. **Customer Service.** The AWZSE System Administrator shall provide customer services, customer support facilities, and a customer support and informational website. The AWZSE System Administrator shall handle citizen inquiries or complaints made by phone, in person visits, mail and/or email concerning the use of AWZSE systems in work zones or about specific violations and payment. The AWZSE System Administrator shall develop a Customer Service Manual and policies consistent with Transportation Agencies' policies. The manual and associated training for the customer representatives shall be approved by the Transportation Agencies and recertified annually. Customer service representatives shall receive training for handling irate customer calls.

## **B. Supplemental Services.**

1. **Pan-Tilt-Zoom Closed Circuit Television (CCTV) Camera.** The Transportation Agencies may request the deployment of mobile video unit(s) that can provide real-time roadside video back to either the Department's State Transportation Management Center (TMC) or the Commissions Traffic Operations Center (TOC).
2. **AWZSE Required Advance Warning Signage.** The System Administrator may be requested to furnish and deploy of ASE-related advance warning signage.
3. **Field Deployment On-Site Monitoring Personnel.** The Transportation Agencies may require the System Administrator provide personnel on-site with each ASE unit for the entirety of each deployment.
4. **Informal Hearing Facility Procurement.** The Transportation Agencies reserve the right to require the AWZSE System Administrator to procure and maintain facilities compliant with Commission and Department requirements for the purposes of conducting informal hearings as a part of Act 86.

## C. Program Specifications

### 1. AWZSE Field Equipment

- a. **Mobile Unit for Speed Detection and Image Capture Equipment.** Within 60 days of Notice to Proceed, AWZSE System administrator shall supply a minimum of four (4) AWZSE mobile units. Within 180 days of Notice to Proceed, the AWZSE System Administrator shall supply a minimum of seventeen (17) AWZSE mobile units that will be owned and operated by the AWZSE System Administrator. The mobile unit shall be either a retrofitted vehicle unit such as a sport utility vehicle or a portable trailer unit. The AWZSE System Administrator shall make available seven (7) of the AWZSE mobile units for deployment on Commission roadways and the remaining ten (10) AWZSE mobile units for deployment on Department roadways. The AWZSE System Administrator shall supply spare units, as necessary, to ensure that the base number of mobile units are able to be in operation at all times.

Each mobile unit shall include speed measurement devices, violation capturing systems, systems mounts, power supplies, site deployment computers, cables, data upload systems, and all other hardware required to operate the system as intended. The AWZSE System Administrator shall monitor the speed enforcement equipment during the operation of each unit (vehicle or portable trailer) and shall be able to respond to each unit within 60 minutes. The AWZSE System Administrator shall be capable of direct communications with the Transportation Agencies at all times. The mobile unit requirements for a vehicle and portable trailer are provided below.

- i. **Vehicle Unit Requirements:** The AWZSE vehicle shall be a climate-controlled van, Sport Utility Vehicle (SUV), or mini-van which can comfortably seat a driver and passenger and house all necessary electronic equipment. The AWZSE vehicle shall be able to be operated in enforcement/data collection mode for a period of at least twelve (12) continuous hours. The AWZSE vehicle shall contain all electronic equipment, as indicated, in a manner that is simple and safe to operate. All data collection, monitoring, and communication equipment must be contained in or on the vehicle. All windows behind the driver's door tinted, in conformance with state law, to minimize observation of the operator but not affect the performance of the data collection equipment. The AWZSE vehicle shall be secure when left unattended. The AWZSE vehicle shall be considered an authorized vehicle per PA Code, Title 67, Chapter 173. Emergency flashing or revolving lights (amber) shall be installed in accordance with PA Code, Title 67, Chapter 173 and shall be illuminated at all times moving into and out of work zones. The AWZSE vehicle shall be easily maneuvered at an enforcement site and capable of negotiating abnormal or unusual conditions to allow safe parking of the vehicle such that all electronic data collection and communication equipment can be used. The AWZSE vehicle shall be operated safely within close proximity to active traffic and construction sites. The AWZSE vehicle's electrical system shall be capable of supporting all radios and electronic devices, including power demand and compatibility. The AWZSE vehicle shall be equipped with Class B and Class C fire extinguishers and a first aid kit. The AWZSE vehicle shall be equipped with left-side, right-side, and rear-view mirrors. The AWZSE vehicle shall be equipped with a back-up camera and back-up alarm. The AWZSE vehicle shall be capable of



being equipped with exterior vinyl or magnetic graphics. The AWZSE System Administrator shall coordinate with the Transportation Agencies for messages or logos prior to implementing enforcement operations. The AWZSE vehicle shall have equipment mounts that do not impede the operator's visibility out of the windshield, driver's window, or front passenger seat window while vehicle is in motion.

**ii. Portable Trailer Unit Requirements:** A portable trailer unit must be able to be legally transported, in accordance with PA Code Title 67, on roadways within Pennsylvania (i.e. markers, break lights). The vehicle towing the trailer and the tow hitch must be rated to tow the gross trailer weight of the portable trailer unit and include emergency flashing or revolving lights (amber), installed in accordance with PA Code, Title 67, Chapter 173. The portable trailer unit shall be considered an authorized vehicle per PA Code, Title 67, Chapter 173. To facilitate maneuvering of the portable trailer unit in constrained work areas, the tow vehicle shall be equipped with both left and right-side rear-view mirrors and a back-up camera. Safety equipment shall include a back-up alarm, first aid kit, Class B and Class C fire extinguishers. The electrical system of the portable trailer unit shall be capable of supporting all electronic devices, including power demand and compatibility. The portable trailer unit must also house all electronic equipment in a manner that is simple and safe to operate. All data collection monitoring and communication equipment must be contained in or on the portable trailer unit. The portable trailer unit shall be able to be operated in enforcement/data collection mode for a period of at least twelve (12) continuous hours. Any equipment mounts on the portable trailer unit shall be positioned in a manner that do not impede the operator's ability to safely transport the trailer. The portable trailer unit should have the ability to be deployed and relocated to and within a work zone efficiently and by one operator.

**b. Work Zone.** Signage of the Automated Speed Enforcement Work area shall be in accordance with the requirements of Title 75 Pa C.S. §3369 (Appendix K). The AWZSE System Administrator shall be responsible for coordinating with the Transportation Agencies' representative for onsite deployment of AWZSE mobile unit. The AWZSE device shall not be operational until the beforementioned signs are installed and activated. The AWZSE System Administrator may be responsible for the purchasing and deployment of ASE-related signage. The AWZSE System Administrator shall be responsible for verifying the appropriate placement and visibility of the beforementioned signs prior to any period of enforcement. The AWZSE System Administrator shall be responsible for the required notice identifying the location of the automated speed enforcement system at the active work zone. The AWZSE System Administrator shall develop a template notice in accordance with Title 75 Pa C.S. §3369 (Appendix K) to be approved by the Transportation Agencies prior to deployment. Each vehicle will collect violation data for eight (8) hours per deployment, although data collection may not be continuous due to operator breaks. The eight (8) hour deployment does not include travel time to/from the work zone, equipment set-up and testing, or operator breaks. Operator shall perform a visual walk around inspection of the mobile unit prior to operation or deployment. The System Administrator will keep a record of the verification of signage noting the location, date, and time verified.

- c. **Speed Detection Equipment.** The speed detection equipment shall include radar, laser (i.e. Lidar), or other proven technology that is International Association of Chiefs of Police (IACP) approved for speed measurement within the Commonwealth with an ongoing maintenance record to assure equipment is calibrated and functioning properly. The speed detection equipment shall be capable of rapid, error-free, setup and self-testing as well as operator simulated tests. The speed detection equipment shall immediately communicate error messages to the operator and record date and time of system shutdown in the event of a malfunction or error. The detection equipment shall be able to be aimed to detect speed at the same location the violation photo is being captured. The speed detection equipment shall be mounted to allow operations behind a concrete safety or other construction barrier and from the left and right shoulders. The speed detection equipment shall be fully contained within or on the mobile unit. No cables are permitted to be placed from the mobile unit to an external device placed along the roadway. Speed detection equipment shall be verified daily that it is operating correctly. The System Administrator will keep a record of daily verification noting the location, date, and time verified. The daily verification shall be performed by a system operator trained and certified by the manufacturer of the ASE system.

The AWZSE system's speed detection technology shall be on the approved list within the PA Bulletin by the time of Notice to Proceed. Temporary regulations are currently in development for the use of LIDAR technology for AWZSE within Pennsylvania. LIDAR regulations will closely resemble current RADAR approval process as outlined in PA Code, Title 67, Chapter 105. Pennsylvania's temporary regulations for LIDAR are anticipated to be reflective of national standards and manufacturer operational standards conforming to national standards to the maximum extent possible. Although it is anticipated that the temporary regulations for LIDAR will be reflective of these standards, national standards and nationally approved equipment documents have been included within the appendices of this document and shall only be used as guidance. At a minimum, the additional information related to national standards for LIDAR specifications can be found in Appendix I - NHTSA Lidar Speed-Measuring Device Performance Specifications. A list of conforming products that meet or exceed the current technical specifications in Appendix I can be found in Part II of Appendix J - LIDAR National Conforming Product List. The AWZSE system shall be capable of capturing violating vehicles based on a speed limit threshold set by the Pennsylvania Consolidated Statutes. Currently, this threshold is set at 11 miles per hour above the posted work zone speed limit. The AWZSE system shall be capable of automatically capturing and storing vehicular volumes and operating speed data (e.g. average volumes, 85th-percentile speeds, 95th percentile speed) for all vehicles passing the mobile unit. Operating speeds will be calculated and stored in 15-minute intervals and updated once a minute. The calibration of every speed measuring device shall be independently certified once per year (365 days) to meet program specifications at one of Pennsylvania's approved testing and calibration laboratories as noted in the PA Bulletin. A signed certificate of calibration will be provided to the AWZSE System Administrator and shall be kept on file in the AWZSE Program Database and admitted as evidence in any court proceeding involving vehicles that were captured violating the speed threshold. The signed certificate of calibration will be posted on the AWZSE System Administrator website. Speed Detection Units shall be capable of detecting speeds for a minimum of five travel lanes in a single direction.

- d. Image Capture Equipment.** The image capture equipment shall be capable of recording front and rear images of a vehicle license plate upon a signal trigger from the speed detection equipment. The image capture equipment detection shall include supporting hardware and software capable of simultaneously collecting readable license plate images in various lighting and environmental conditions without negatively impacting drivers' visibility of the roadway and overall driving performance. Images shall be in color or otherwise approved by the Transportation Agencies. Images shall be captured at sufficient resolution to display plate characters and data at clearly legible quality from both reflective and non-reflective plates. The image capture equipment shall produce a minimum of four (4) digital time stamped images, two (2) frontal and two (2) rear images for each violation that include the same stationary object for frontal and rear images near the vehicle. The image capture equipment shall be in or on the AWZSE unit and capable of operating without the need for open windows or side panels. The ASE system shall record all data required to populate a configurable data bar that is embedded into the even image. The data bar may be required to include such information as a unique violation identifier, timestamp (date/time), location, travel speed and posted speed limit. The image capture equipment shall only be operational after successful daily test, AWZSE signs have been installed and activated, and the construction, maintenance or utility workers are present within the automated speed enforcement work area.
- e. Control, Monitoring, Storage, And Communications Equipment.** Control, monitoring, storage, and communications equipment shall include secure electronic storage and transmission requiring security authorizations at various levels of access. The control, monitoring, storage, and communications equipment shall provide the operator a secure method of logging into the computer and initializing the setup of the system on a daily basis. The equipment shall provide the operator with a visual real time display while simultaneously allowing the operator to visually monitor approaching traffic. Electronic data collection equipment shall be capable of automatic operation after initial set-up and also capable of operator control to selectively collect data. Electronic data collection equipment shall be capable of accurately recording and storing a continuous segment of data, time, and speed of all vehicles entering the enforcement site. Electronic data collection equipment shall incorporate an operator deployment interface with adequate local storage for violation records captured over several successive deployment sessions or shifts. Proposals shall specify the storage capacity in terms of the number of recorded violation events that may be stored in local memory storage. Electronic data collection equipment shall provide data storage within the vehicle for a period of at least 48 continuous hours or ability to transmit and store data remotely. Power data storage within the mobile unit shall be for a period of a minimum of 12 continuous hours. The system shall be capable of operating 24 hours a day with no data collection down time due to data transfer through a cellular modem.

Every 60 minutes, the image capture equipment shall communicate all captured images via a cellular communication network to the AWZSE System Administrator's processing center. In the event no cellular signal is available at the enforcement site, data shall be transmitted to the processing center minimally at the end of each enforcement period via other secure communication channels. The information on the images required as a printed supplement to the notice of violation shall be provided by the AWZSE System Administrator. The image shall include the notice of violation

number, Vehicle License plate, time, date, and location (interstate number, direction of enforcement, mile post) of the violation. An automatic means of creating electronic back-up of all collected data shall be provided. The image shall also contain the collected speed received from the speed collection system and the operator entered work zone speed limit. Back-up data shall be independent of the primary storage device. Back-up data shall be removed from the AWZSE unit at the end of each enforcement period and transferred to a secure server. The violation images and relevant data for each recorded event shall be encrypted to minimize data corruption or tampering and to secure evidence of speed violation. Processing Center shall verify information imbedded on the violation photo is accurate and consistent with the operator's log.

- 2. Deployment Log.** The AWZSE System Administrator shall develop and complete an electronic deployment log each time a deployment takes place. The log shall be uploaded and integrated daily into the AWZSE Program Database. The log shall be printable and able to be made available as evidence in any court proceeding contesting the violation. The contents of the log shall include:
  - a. Date, time and location of the set up;
  - b. Direction being monitored;
  - c. System tests performed at the beginning and end of each set up and the results of the tests;
  - d. Affirmation that the ASE system passed the tests before recording violations;
  - e. Verification that required photo enforced, active photo enforcement, end work zone and speed limit signs or indications are present, properly installed and visible;
  - f. Date and time of the work zone activity (i.e. when workers were present within the automated speed enforcement work area);
  - g. AWZSE System Administrator employee name(s) responsible for deployment, testing and operation of system;
  - h. Date and time of unusual events including, but not limited to, crashes, lane closures, and emergency vehicles passing with flashing lights; and
  - i. Date and time of unusual events including, but not limited to, Automated Enforcement improprieties (tampering with devices, sending out false violations, etc.).
  
- 3. AWZSE Program Database.** The AWZSE System Administrator shall develop and maintain a database to store all pertinent AWZSE program information. Initial information to be stored in the data base includes the data log information, notice of violation information, violation imagery, certifying Pennsylvania State Police officer, registered vehicle owner's number of offenses, notice of violation mailing date, date of and violators response, appeal hearing dates for violators, hearing results, and collections received or outstanding. The database shall be updated daily by the AWZSE System Administrator or approved access personnel. The database shall be secure and accessible through individual login/password by Transportation Agency and Pennsylvania State Police authorized/designated personnel. The database shall be configurable for up to 10 separate user roles, each with specific access capabilities. AWZSE System Administrator shall store, retain and destroy information as required within Title 75 Pa C.S. §3369 (Appendix K). The Transportation Agencies have the authority to add additional functional and performance requirements to the database at their discretion. At the termination of the

AWZSE System Administrator contract or AWZSE pilot program, the AWZSE Program Database and all contents will be the property of the Transportation Agencies.

**4. Enforcement.** A set of images (two front and two rear) captured is considered an “event.” Events may not result in violations for many reasons. Events shall be separated into two (2) categories:

- a. Uncontrollable Violation:** When a violation is recorded within an automated speed enforcement work area, but due to circumstances not related to the automated speed enforcement system or personnel, all of the requirements listed within Title 75 Pa C.S. §3369 (Appendix K) could not be met, or the vehicle is considered an exempt vehicle, and a citation could not be issued to the vehicle owner. Uncontrollable violations may include but are not limited to the following reasons: Canada Plate, Car Obstructed, Dealer Tag, Diplomat "DP" Plate, DMV No Hit, Glare on Plate, Government Tag, Lane ID Error, Multiple Vehicles, No Plate, Plate Damaged, Plate Obstructed, Rejected by Agency, Speed Review Reject, Temporary Tag, Unknown Make, Unknown State, and Vehicle Match Failure.
- b. Controllable Violation:** When a violation is recorded within an automated speed enforcement work area, but due to circumstances directly related to the automated speed enforcement system or personnel, all of the requirements listed in Title 75 Pa C.S. §3369 (Appendix K) could not be met and a citation could not be issued. Controllable violations may include but are not limited to the following reasons: Clarity of Plate, Cropped Vehicle, Dark Environment, Equipment Malfunction, Error Location, Error Operator, Expired, Exposed, Invalid Speed, Overlay Error, Picture Bad, Unclear Tag, Wrong Enforcement Speed, and Wrong Plate Keyed.

The AWZSE System Administrator shall develop a list of controllable and uncontrollable reasons, with detailed descriptions of each reason, to reject an event to be approved by the Transportation Agencies.

The violation enforcement system shall accurately capture and record images of violating vehicles a minimum of 90 percent of the time per location. The system accuracy percentage shall be calculated based on the ratio of the total number of notices issued to the total number of speeding events captured, excluding uncontrollable events (Controllable Issuance Rate). The equation is as follows:

$$\frac{\text{Number of Violations Issued}}{\text{Number of Events} - \text{Number of Uncontrollable events}}$$

The AWZSE System Administrator shall supply an automated violation processing services solution that is capable of supporting high volume program operations. Processing services will include pre-processing, support for the Transportation Agencies or Pennsylvania State Police access or authorization, notice of violation printing and mailing, payment processing, reporting, hearing and appeals, and courts support services. The processing solution will be capable of transferring and receiving files to/from other Transportation Agency operated system applications. The AWZSE System Administrator shall internally monitor automatic processes to assure that all notices of violations are processed through the designated statuses as required per the Operations Process flowcharts (Appendix H). The violation and imaging data

captured in the work zone should be available for processing within 24 hours of the recorded violation. Upon receipt of the violation, as captured by the AWZSE system, the AWZSE System Administrator will perform a first review of the produced image and data collected to verify the violation. The AWZSE System Administrator will match the captured image of the vehicle's license plate with the registered Vehicle Owner. The AWZSE System Administrator shall describe its procedures for matching the captured image of the vehicle's license plate with the registered Vehicle Owner.

The AWZSE System Administrator shall conduct a second review to ensure that the registered vehicle information matches the captured images and send violation to Pennsylvania State Police within 10 days of identification of the registered vehicle owner. The AWZSE System Administrator shall provide a secure Web-based solution for the Pennsylvania State Police authorized representatives to remotely review violation photos and data to seal or affirm the issuance of a notice of violation. The notice is to be mailed by the AWZSE System Administrator within 30 days of identification of the registered vehicle owner. The AWZSE System Administrator shall track all non-violation and affirmed violations in the AWZSE Program Database.

- 5. Violation Administration.** The AWZSE System Administrator shall mail notice of violations approved by the Pennsylvania State Police in envelopes properly marked in accordance with the Pennsylvania Consolidated Statutes to registered owners within 30 days of identification of the registered vehicle owner. Printed notice of violations must meet the requirements of Title 75 Pa C.S. §3369 (Appendix K). The AWZSE System Administrator shall produce a notice of violation template that must be approved by the Transportation Agencies prior to issuance. The notice of violation shall include a three-color digitized violation image of the front or rear license plate (as applicable) of quality acceptable to the Transportation Agencies. The AWZSE System Administrator shall implement a quality control process to assure printed notices of violation are accurate, legible, and properly aligned before mailing. Notice of violations along with return envelope shall be mailed via first class from an office location or approved print shop in Pennsylvania. The AWZSE System Administrator shall provide and mail a one-page (black/white copy) safety message insert (original to be provided by the Transportation Agencies) along with the notice of violation.

The AWZSE System Administrator shall provide a Web-based solution for an alleged violator to review violation photos and pay the notice of violation online or via telephone using an automated pay-by-phone system. The violation produced images shall be protected by a password provided on the notice of violation. This website shall provide the ability to track if the violation was viewed. The AWZSE System Administrator's violation processing system shall provide automated tracking of all violation account information including payments and scheduled hearings to ensure follow-up notices are not erroneously sent to violators. This information shall be integrated into the AWZSE Program Database. The AWZSE System Administrator shall send a second notice to delinquent violators in the event of nonresponse after 30-days. Second notices will inform the violator that their fine is past due, explain the consequences for being late, and include all relevant information provided within the notice of violation. The AWZSE System Administrator shall send a third notice to delinquent violators in the event of nonresponse to the second notice after 60-days. Third notices will inform the violator that the fine is past due, explain the consequences for being late, and include all relevant information provided within the

notice of violation. The AWZSE System Administrator shall send a fourth notice, on behalf of the Transportation Agencies to the violator after 90-days. The fourth notice will inform the violator that the matter will be referred to a credit collection agency within 10-days. These notices are subject to review and approval of the Transportation Agencies prior to being transferred to a collection's agency. It is anticipated that the AWZSE System Administrator will submit on a monthly basis a list of notices to the Transportation Agencies that may be transferred to a collection agency. The Transportation Agencies will then transfer these notices to the appropriate contracted collection agencies. The Transportation Agencies shall inform the AWZSE System Administrator which notices have been transferred each month to the collection agency(ies).

The AWZSE System Administrator shall research errors in addresses for any notice of violation or other mailed correspondence that is returned by the post office as undeliverable or return to sender. The name and address from the undeliverable or return to sender mail shall be entered into the National Change of Address Service system of the United States Postal Service. If no new address information is received from the system on the first attempt, a second attempt to retrieve new address information shall be made at a period specified by the Transportation Agencies. After receiving a new address from this system, a notice of violation shall be mailed to the new address within two (2) days. The AWZSE System Administrator's violation processing system must be able to place a hold on the processing sequence at any point in the sequence for reasons to be provided by the Transportation Agencies. A notice of violation shall be invalid unless provided to the registered owner within 90 days of the offense.

The AWZSE System Administrator shall make violation photos and registered vehicle owner notice of violation data readily available for viewing and printing by authorized representatives of the Transportation Agencies upon request, for appeal and court purposes. Violation processing functionalities include:

- a.** Fully Internet-enabled access and operation;
- b.** Secure user log-in and access control procedures;
- c.** Ability to securely access remotely;
- d.** Processing support for the speed enforcement and ticketing as may be applicable;
- e.** Automatic presentation of produced images and data captured by the AWZSE system onto designated Personal Computers (PCs) for review;
- f.** Remote access and easy review of violation evidence via the Internet;
- g.** Ability to produce a license plate image area from the optimal image in the set to establish vehicle identification, and subsequently print the plate-area image to the notice;
- h.** Ability to enhance viewable images to allow for greater visibility or tag recognition through system options such as hue, contrast and brightness features. The system shall not permit tampering with image elements such as letters, numbers or state;
- i.** Ability to accept or reject violation sets and record rejections according to the Transportation Agencies established rejection code lists;
- j.** Ability to review accepted pre-processed violation evidence for the purpose of certification by an authorized representative of the Transportation Agencies;
- k.** Ability to enlarge these images during review and certification by the AWZSE System Administrator and Pennsylvania State Police;

- l.** Ability to attach the electronic signature and ID number of the Pennsylvania State Police authorized representative certifying the actual notice of violation mailed to the violator;
  - i.** Ability to generate printed warning letters or warning phase notices for operations, at the Transportation Agencies' discretion;
- m.** Ability to automatically generate notices for authorized violations;
- n.** Ability to automatically print authorized violation images to the notice of violation;
- o.** Ability to store and archive all processed violation evidence into the AWZSE Program Database;
- p.** Ability to access any stored violation image 24 hours per day, from the AWZSE Program Database subject to agreed archive rules;
- q.** Ability to generate and immediately view the Informal Hearing Package and Court Evidence Package image sequences displayed as individual high resolution still shots and to send selected images to print locally;
- r.** Ability to support public viewing requests;
- s.** Ability to immediately and accurately generate both standard and user defined reports;
- t.** Automatically generate Electronic Audit Trails to establish chain of evidence; and
- u.** Provide encryption and decryption images and related data.

#### Informal Hearing Process

The AWZSE System Administrator is responsible for maintaining, managing, and coordinating the day-to-day activities of the informal hearing process, including administrative and office space to support this activity. The informal hearing process is outlined below, however, the process is governed by Title 75 Pa C.S. §3369 and must remain compliant with the statute.

The registered vehicle owner may request a hearing to contest liability by appearing before the AWZSE System Administrator either personally or by an authorized agent. To contest the violation, the registered Vehicle Owner must respond to the notice of violation in writing by mailing, within 30-days, the request for a hearing, utilizing the prescribed form attached to the notice of violation. The registered Vehicle Owner may also request a hearing by phone or by electronic submission to notify the AWZSE System Administrator of the violation challenge. The phone number and electronic submission website information must be provided on the prescribed form attached to the notice of violation. On the form, the vehicle owner will have the option to select a preferred location of the hearing. Hearing locations will include Erie, Harrisburg, Philadelphia, Pittsburgh and Scranton. A registered Vehicle Owner has 30-days from the time of mailing to contest the violation.

Upon receipt of a hearing request, the AWZSE System Administrator shall schedule the matter before a hearing officer designated by the Transportation Agencies within 30-days. The day and time will be determined by the AWZSE System Administrator and will be between Monday through Friday, 8:00 AM EST and 5:00 PM EST. The AWZSE System Administrator will mail a written notice of the date, time and place of the hearing to the registered vehicle owner. The AWZSE System Administrator shall prepare an informal hearing package which will consist, at a minimum, the following:

- v.** Large digital image of the front or rear (as applicable) violation photograph;



- w. Digital image of the license plate tag;
- x. A deployment log;
- y. A hearing disposition sheet;
- z. A violation summary;
- aa. Any written correspondence received from the violator;
- bb. Pennsylvania State Police affirmation documentation;
- cc. Any other documentation provided by the Transportation Agencies (such as a diagram of the signage related to the ASE); and
- dd. A copy of the equipment calibration certificate.

The hearing will not take place in the court of law and the rules of evidence will not apply. The registered vehicle owner will be provided the opportunity to state a case before the hearing officer to contest the violation. The decision of the hearing officer shall be final, subject to the right of registered vehicle owner to appeal the decision. The hearing officer may consider the following reasons to overturn a violation:

- ee. The vehicle owner presents proof that the vehicle was stolen at the time of the violation
- ff. The vehicle owner presents proof that they were not the legal owners of the vehicle at the time of violation
- gg. The device being used to determine speed was not in compliance with Title 75 Pa C.S. §3368 (relating to speed timing devices) with respect to testing for accuracy, certification, or calibration.

Should the hearing officer determine that the registered vehicle owner is liable for the violation, the written notice of violation will stand, any temporary holds on the violation sequence shall be lifted, and payment is due within 30-days of the hearing date. Should the hearing officer determine that the vehicle owner is not liable for the violation, the violation is dismissed, and the decision shall serve as a final disposition of the violation case.

### Violation Appeal

Upon determination that the registered vehicle owner is liable by the hearing officer, the vehicle owner has the option to appeal the decision. To appeal the decision, a written appeal must be submitted to the AWZSE System Administrator within 14-days following the date of the hearing. Upon receipt, the AWZSE System Administrator is to schedule a formal hearing with the magisterial district judge where the violation occurred. The magisterial district judge will hear the case and issue a verdict. If the vehicle owner is found liable, the written notice of violation will stand, and payment is due at the time of the judgment. If the vehicle owner is found not liable, the violation is dismissed, and the decision shall serve as a final disposition of the violation case.

The AWZSE System Administrator is responsible for coordinating day-to-day magisterial court activities, including submitting court packages, dockets, and transfer of liability requests, and obtaining court dispositions. The schedule and frequency of these activities, as well as the method of delivery, shall be coordinated with each District Court. In contested cases, the AWZSE System Administrator will be responsible for scheduling hearings, providing notices to alleged violators of court dates, and preparing a judge's disposition sheet along with two (2) docket summaries, unless otherwise directed by the

Transportation Agencies. The AWZSE System Administrator shall provide, as necessary, scientifically reliable expert witness testimony for all court challenges. Such expert witness shall be available, on an as-needed basis, for trial preparation, depositions and court appearances in support of the Transportation Agencies. At each scheduled court date, the AWZSE System Administrator shall provide a program representative to present evidence showing who monitored, tested and operated the equipment as required by laws related to the certification of business records. The AWZSE System Administrator shall arrange for the actual AWZSE system operator to appear and testify for his/her respective cases after receiving notification from the violator that the operator's presence has been requested.

The AWZSE System Administrator shall prepare the court docket and court packages for every scheduled hearing and submit to the District Court in the county where the violation occurred one (1) week prior to the scheduled court date. Any changes to the final court docket shall be submitted to the Court by 8:00 AM on the scheduled court date (or as required by the Court). Court packages will consist, at a minimum of the following:

- hh.** Large digital image of the front or rear (as applicable) violation photograph
- ii.** Digital image of the license plate tag;
- jj.** Operator log indicating the good working order of the ASE system at the time of violation;
- kk.** A court disposition sheet;
- ll.** A violation summary;
- mm.** Any written correspondence received from the violator;
- nn.** Pennsylvania State Police affirmation documentation;
- oo.** Any other documentation provided by the Transportation Agencies (such as a diagram of the signage related to the ASE);
- pp.** Disposition records of the informal hearing; and
- qq.** A copy of the equipment calibration certificate.

The AWZSE System Administrator is responsible for processing all failure to appear (FTA) or unpaid cases which were scheduled for trial unless otherwise directed by the Transportation Agencies. The AWZSE System Administrator shall submit postponement requests to the District Court for approval. On a regular basis, the AWZSE System Administrator shall provide the District Courts with an outlook on the anticipated number of violations and contested cases that will occur in each magisterial district such that the courts can schedule dockets accordingly.

- 6. Payment Processing.** The AWZSE System Administrator shall be responsible for processing all payments received in person, electronically paid on-line, electronically paid by phone, and mailed into a Transportation Agency approved USPS lockbox, including the daily depositing and reconciliation of all receipts. The AWZSE System Administrator shall provide a Web-based solution for an alleged violator to pay the notice of violation online or via telephone using an automated pay-by-phone system. The AWZSE System Administrator may charge an additional fee for credit card payments, to be borne by the violator. The additional fee shall not exceed five (5) percent of the notice of violation. The AWZSE System Administrator shall enable violators to make walk-in payments. The AWZSE System Administrator shall provide adequate staffing to open, count, batch, log, review and process payments and correspondence letters mailed from violators each day. A minimum of 90 percent of all letters shall be processed within one (1) business day of

receipt, with the remaining 10 percent being processed within two (2) business days. The mail processing and payment processing facilities shall be equipped with thorough physical security features including but not limited to cameras, pass-key door lock system, sprinkler system, etc. The AWZSE System Administrator shall provide a detailed description of how mail will be handled, including but not limited to: bulk mail equipment, sorters, imaging system, and other methodologies that reduce turnaround and reduce shipping and handling costs. At a minimum, the AWZSE System Administrator shall provide one mailing and payment processing centers to be located in either the Harrisburg, Philadelphia, Pittsburgh areas.

The AWZSE System Administrator shall utilize lockbox services approved by the Transportation Agencies that will allow for fully automated processing. Control and accuracy shall be essential factors in the lockbox operation. The services provided shall be integrated with numerous levels of control, audit, and redundancy, which will ensure the accurate and timely receipt, processing, and update of mail-in payments. Payments shall be accurately applied to the appropriate notice of violation and procedures should be in place to monitor payment processing accuracy. The AWZSE System Administrator shall describe its procedures for processing payments. Such procedures shall include:

- a.** Method for receipt of payments and database applications;
- b.** Method for making deposits to the restricted accounts as specified by the Transportation Agencies (e.g. file transmission of imaged checks, physical delivery to the banks cash vault location or physical delivery to a bank branch);
- c.** Ability to apply payments by source (cash, check, money order, or credit card);
- d.** Ability to handle electronic reimbursement and ACH;
- e.** Verification of check amounts;
- f.** Batch reconciliation and file update;
- g.** Payment imaging per Pennsylvania Consolidated Statutes requirements, including unique incrementing serial numbers to identify every deposit electronically deposited using imaging;
- h.** Bonded courier service from lockbox pickup and customer service centers and to financial institution;
- i.** Return of payment process (e.g., fraudulent payments, second party checks, etc.);
- j.** Processing exception payments;
- k.** Method for addressing partial payments. It should be noted that partial payments will not be accepted.

The AWZSE System Administrator shall be required to receive all returned payments because of insufficient or inaccurate information for research. The AWZSE System Administrator shall provide research necessary to identify the intended payment account and affix the appropriate payment to reconcile each account. Payments that cannot be identified shall be returned by the AWZSE System Administrator to the payee's address as part of the payment reconciliation process. The AWZSE System Administrator shall deposit into the designated bank account(s), once each 24 hours during normal banking days, an amount equal to the gross receipts of the current day's revenue received. Payments deposited shall be applied to AWZSE System Administrator's database every day and available for online review within 24 hours of deposit/update. The AWZSE System Administrator shall provide procedures for handling payments received that require additional investigation and research. These procedures shall include, but are not limited to overpayments, unapplied payments and

returned checks. The AWZSE System Administrator shall provide procedures to assure that payment is not accepted by AWZSE System Administrator after a violation has been transferred to Collections.

**D. AWZSE System Administrator Support.** The AWZSE System Administrator shall provide for any hardware and software updates and notify the Transportation Agencies within 72 hours of upgrades, repair, replacement, calibration, and maintenance of all electronic equipment, including a completion time frame. The AWZSE System Administrator shall provide on-call support and assistance 24 hours a day, seven (7) days a week for website server software used by the public and the Transportation Agencies to access violations. Any defective cameras or other equipment shall be repaired or replaced within 24 hours. Prior to implementation, the AWZSE System Administrator shall provide certification that all equipment has been tested for critical performance. The AWZSE System Administrator shall provide on-site training and manuals for the Pennsylvania State Police authorized representatives who will be accessing, reviewing and certifying violations. The AWZSE System Administrator shall provide training for field and office administrative tasks until the Transportation Agencies become proficient with all equipment and duties. Training and related training materials shall be provided periodically throughout this contract to accommodate the rotation of authorized representatives. The AWZSE System Administrator is also required to produce mobile units for demonstration purposes at locations identified for the field demonstration.

The AWZSE System Administrator shall provide a list of all AWZSE System Administrator's employees assigned on this project. The AWZSE System Administrator shall recruit, hire, perform security and background checks (State and Federal criminal background check) at the AWZSE System Administrator's expense and train all personnel to perform required services. No future employees shall be allowed to work on the project without background checks. Additionally, any AWZSE System Administrator employee that is working, operating a vehicle, operating the enforcement equipment or any other duties within a work zone shall be required to be trained in work zone traffic control to the Transportation Agencies' satisfaction.

The AWZSE System Administrator shall participate in media campaigns, satisfactory to the Transportation Agencies, to provide awareness to residents and visitors of Pennsylvania. In addition, the AWZSE System Administrator may be required to attend public meetings and other venues to assist the Transportation Agencies in demonstrating the AWZSE vehicle and equipment.

**E. AWZSE Website.** The AWZSE System Administrator shall develop and maintain a Transportation Agencies approved web site of public information material to include but not be limited to:

1. Description of AWZSE system;
2. Locations of work zones using AWZSE and the number of violations issued at each work zone;
3. Key statistics on the work zone program and its effectiveness;
4. A list of answers to frequently asked questions (FAQ), particularly those of interest to drivers who may have received a notice of violation;
5. Before and after statistics and/or studies;
6. Work zone safety information/ traffic safety campaign information.

The Transportation Agencies will be responsible for obtaining domain name and URL for the program. The AWZSE System Administrator shall be required to format and or brand the website according to Transportation Agencies direction to provide a consistent platform and interface.

The AWZSE System Administrator shall provide real-time data feeds of active AWZSE locations to the Transportation Agencies in accordance with security requirements (Appendix C) to display on the Transportation Agencies respective websites as required within Title 75 Pa C.S. §3369 (Appendix K).

**F. AWZSE Interactive Voice Response System (IVR) and Call Management System.** The System Administrator shall provide an IVR and call management system that maximizes ways of use for the caller by providing simple paths to obtain information, make a payment, or speed directly with a customer service representative. Basic system functions shall include:

1. Two toll-free phone numbers
2. Caller shall be able to use the IVR to obtain information on the walk-in center/hearing center locations, hours of operation, etc.
3. Callers shall be able to use the IVR to obtain information on fines owed and to make payments
4. Callers shall be able to use the IVR to speak with a Customer Service Representative (CSR)
5. The IVR and call management system shall track and compile performance metrics statistics for the phone center calls and activities necessary to validate Customer Service Center (CSC) performance requirements.
6. The call management system shall provide full reporting necessary to track and manage all phone activities, both automated and CSR handled calls. The reporting package shall be adequate to assure compliance with all associated performance requirement for call system activities.
7. The IVR system shall have an English and Spanish option.
8. The call management system shall be designed to allow monitoring and recoding of individual calls by the supervisors and quality control personnel.
9. The call management system shall record all phone actives for 100 percent of CSR handles calls and store them for a minimum of 60 days. The Transportation Agencies shall have full remote access to the call recording system for monitoring and QC purposes.
10. Callers in the queue shall be told the approximate wait time and shall be updated at least once every two minutes with the remaining approximate wait time.
11. Authorized users shall be able to review recorded calls based on a combination of selectable parameters, including date range, time range and CSR.
12. AWZSE System Administrator shall respond to e-mails no later than the next business day.
13. Mail correspondence shall be responded to or referred to the Transportation Agencies within two (2) business days.
14. The System Administrator shall generate and mail out-going correspondence letters, which may include responses to citizen inquiries, notice of insufficient funds, notice of a rescheduled court date, etc.
15. The System Administrator shall provide a list of all anticipated system-generated correspondence letters. Content of the letters shall be subject to review and approval of the Transportation Agencies.
16. All incoming and outgoing mail shall be indexed and/or linked to the applicable violation to allow for automatic retrieval and viewing through the AWZSE Program Database.

17. The System Administrator shall provide a correspondence imaging system that ensures all correspondence received from the public is electronically scanned and available for customer service staff, Pennsylvania State Police reviewers, and other authorized AWZSE Program Database users.
18. Printing, toner, paper, envelopes, postage and all other costs associated with issuing notices and all other correspondence are the responsibility of the System Administrator.
19. The AWZSE System Administrator shall develop an issue resolution process with the Transportation Agencies for the occasions when the AWZSE System Administrator is unable to satisfy a citizen complaint or issue.
20. The AWZSE System Administrator shall provide monthly reports on all customer communication and issues with due dates to be determined by the Transportation Agencies.
21. The AWZSE System Administrator shall develop a Customer Service Manual and policies consistent with the Transportation Agencies policies. The manual and associated training for the customer representatives shall be approved by the Transportation Agencies and recertified annually. Customer service representatives shall receive training for handling irate customer calls.

At a minimum, the AWZSE System Administrator shall provide customer service representatives at one location within the Commonwealth in either the Harrisburg, Pittsburgh or Philadelphia areas. A violator shall be able to walk in and make payments, request court dates and view violation images at the customer service location. Each customer service office shall be staffed and operated at a minimum on Monday through Friday, during the hours of 8:00 AM to 12:00 noon and 1:00 PM to 5:00 PM. In addition, each office shall be staffed and operated (8:30 AM to 12:00 noon) the last Saturday of each month. Customer service offices are permitted to be closed on Federal holidays.

Near the end of the contract, at a time required by the Transportation Agencies, the AWZSE System Administrator shall develop a Transition Plan and support end-of-contract transition efforts with technical, project and contract support, and data processing.

**G. Auditing.** The Transportation Agencies reserve the right to perform an audit of all books and records of the AWZSE System Administrator as they may relate to the performance of this contract at any time. It is expected that at a minimum the Transportation Agencies will perform an audit of the AWZSE program on an annual basis. The AWZSE System Administrator shall maintain accurate records at all times. Upon three (3) days' notice, the AWZSE System Administrator shall provide the Transportation Agencies reasonable access to the AWZSE System Administrator's records to verify conformance to the terms of this contract and legislative requirements. The Transportation Agencies shall be permitted to conduct these audits with any or all its own internal resources or by securing the services of a third-party accounting/auditing firm solely at the Transportation Agencies' election. This right to audit shall include subcontractors in which goods or services are subcontracted by the AWZSE System Administrator. The AWZSE System Administrator shall ensure the Transportation Agencies has these rights with the subcontractor(s).

**1. Information Security Audits.** Data Security must always be maintained in Accordance with **Appendix C, Sections 12 and 13**. Annual and periodic audits shall be completed in accordance with audit procedures described in **Appendix C, Sections 12 and 13**.

- H. Coordination.** The AWZSE System Administrator shall coordinate all of the specified services with the Pennsylvania State Police, the Transportation Agencies, their contractors, consultants, and agents; and, applicable courts to ensure the highest degree of design compatibility, uniformity, and safety.
- I. Specifications for Optional Requirements.** (to be included as add-on in Cost Submittal, see **Part IV, Section IV-1, Subsection B**).
- 1. Pan-Tilt-Zoom Closed Circuit Television (CCTV) Camera.** A mobile video unit that can provide real-time roadside video back to either the Department's State Transportation Management Center (TMC) or the Commission's Traffic Operations Center (TOC). The camera unit shall be remotely viewable and controllable by authorized Transportation Agencies personnel through remote means. The camera unit shall be in accordance with PennDOT Publication 408 (most recent revision date) and must have remote PTZ capabilities which can be attached to the exterior of any AWZSE unit and operate off of a 12-volt power source. The camera unit shall be mounted on an extendible arm/pole capable of providing a minimum 360° focal distance of 1000 feet. The CCTV unit must provide a rugged and weatherproof enclosure designed for extreme outdoor environments which would include a hardened pan/tilt/zoom camera with vibration dampening and a high performance, mission-critical cellular gateway approved for use by major cellular providers.
  - 2. AWZSE Required Advance Warning Signage.** Furnish, install, maintain and remove all required signage in accordance with Title 75 Pa C.S. §3369 (Appendix K), and applicable Transportation Agencies' standard drawings and publications.
  - 3. Field Deployment On-Site Monitoring Personnel.** The Transportation Agencies reserve the right to require that AWZSE System Administrator shall be present on-site at all times monitoring the speed enforcement equipment during the operation of each unit (vehicle or portable trailer).
  - 4. Informal Hearing Facility Procurement.** The Transportation Agencies reserve the right to require the AWZSE System Administrator to procure and maintain facilities compliant with Transportation Agencies' requirements for the purposes of conducting informal hearings as a part of Act 86. The informal hearing facilities shall be equipped with thorough physical security features including but not limited to cameras, pass-key door lock system, sprinkler system, etc. The informal hearing facilities are to be located in Erie, Harrisburg, Philadelphia, Pittsburgh and Scranton. This supplemental service shall not be included as part of the cost submittal. Facilities for this supplemental service shall be evaluated and approved by the Transportation Agencies prior to procurement and lease.
- J. Invoicing Requirements.** The AWZSE System Administrator shall be responsible for tracking deployments per Commission and Department owned roadways. Invoicing submitted by the AWZSE System Administrator shall separate deployments per the ownership of the roadway.
- K. Disaster Recovery.** AWZSE units would not be operational during situations of disaster.
- L. Emergency Preparedness.** AWZSE units would not be operational during situations of emergency.

### III-8. Liquidated Damages.

- A. The AWZSE System Administrator shall provide four (4) turnkey ASE systems that meet the requirements of this RFP operational within 60 days of Notice to Proceed. For each day that the four (4) turnkey systems are not operational beyond this 60-day period, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages at the rate of \$2500 per day per vehicle.
- B. The AWZSE System Administrator shall provide a total of 17 turnkey ASE systems that meet the requirements of this RFP operational within 180 days of Notice to Proceed. For each day that the 17 turnkey systems are not operational beyond this 180-day period, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages at the rate of \$2500 per day per vehicle.
- C. Each Notice of Violation that is overturned by the hearing officer or court due to errors under the control of the AWZSE System Administrator shall result in the assessment of liquidated damages in the amount of \$150.
- D. For each deployment the AWZSE System Administrator fails to meet the requirements of **Part III** or fails to deliver valid images for a particular ASE deployment session, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages of \$150 multiplied by the number of lost violations. With each invoice, the AWZSE System Administrator shall provide a listing of each deployment completed during the invoice period and the associated system accuracy percentage. For any deployments with a system accuracy percentage less than 90 percent, the liquidated damages calculation shall be provided and assessed. The number of violations to reach 90 percent system accuracy shall be rounded up to the nearest whole number. The number of notice of violations to reach 90 percent system accuracy shall be rounded up to the nearest whole number.

The number of lost notice of violations shall be calculated as follows:

Ninety percent of the difference between the number of events and number of uncontrollable rejects minus the number of notice of violations issued, i.e.,

$$[0.90 * (\text{Number of Events} - \text{Number of Uncontrollable Rejects})] \\ - \text{Number of Notice of Violations Issued}$$

- E. For each day the AWZSE System Administrator fails to deliver valid images for a particular ASE deployment session, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages equal to the average daily total penalties assessed for violations issued per day during the five (5) days immediately before the missed day that the ASE system was in operation at that location.
- F. Each State approved notice of violation that cannot be mailed within the 30-day time period for as a result of non-performance shall result in the assessment of liquidated damages in the amount of \$150. For each notice of violation that could not be issued in situations where images never reached the Pennsylvania State Police within the allotted approval slate, the



AWZSE System Administrator shall be assessed liquidated damages in the amount \$150. Expired notice of violations shall be excluded from the liquidated damages calculations associated with the system accuracy percentage, as explained above.

- G.** For each day the violation processing cannot be completed, or payment cannot be accepted due to the malfunction of service, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages equal to the average daily total penalties assessed for violations issued per day during the five (5) days immediately before the missed day that the ASE system was in operation.
- H.** For each day that the prescribed annual audit is not conducted on schedule, or for each day that audit findings have not been addressed beyond 60 days of the finding, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages at the rate of \$2500 per day per vehicle.

### **III-9. Reports and Project Control.**

#### **A. Status Reports.**

- 1. Monthly Reports.** The proposer shall provide a monthly report containing a summary of deployments. This report shall be submitted on or prior to the 60<sup>th</sup> calendar day after the calendar month being reported. This time frame allows for more accurate data reporting.
- 2. Daily Reports.** The proposer shall provide a daily report for the Transportation Agencies containing a listing of the number of notice of violations waiting for authorized representative processing and the timeframe they need to be processed.
- 3. Ad Hoc.** The proposer shall provide Ad Hoc reports, with the ability to query information for any given deployment or group of deployments over a specified time frame.

#### **B. Operations Reports.** The AWZSE System Administrator's violation processing system shall be capable of generating operations reports remotely including:

- 1.** Events recorded;
- 2.** Events where notices of violation were not sent, including the reason(s) why they were not sent;
- 3.** Notice of violations mailed; and
- 4.** Status of issued notices of violations.

#### **C. Requested Monthly Reports.** The AWZSE System Administrator shall submit a monthly report on the AWZSE program that includes, but is not limited to, Statewide and location specific summaries of the following:

- 1.** AWZSE deployment activities during the month;
- 2.** Number of speeding events captured;
- 3.** Percentage of events captured that were rejected;
- 4.** Number of notice of violations mailed and an explanation of claims, disputes or other issues;
- 5.** Traffic volumes and notice of violations by location;

6. Number of events not resulting in notice of violations;
7. Breakdown of event rejection categories and amounts;
8. Breakdown of notice of violations by location and total to date;
9. Breakdown of notice of violations by AWZSE system and total to date;
10. Number and dollar amounts of fines collected monthly and total to date;
11. Status of notice of violations issued (outstanding, paid, in collection status, etc.);
12. Adjudication hearings scheduled and held;
13. Equipment hours of service;
14. Camera maintenance status and downtime with reasons;
15. Frequent violators report by tag;
16. Frequent violators report by owner (e.g., Business Name, Company, etc.);
17. Breakdown of violations by state of registration;
18. Breakdown of traffic volume and speed of vehicles;
19. Breakdown of violations by hour of day and day of week; and
20. Notice of violation overpayment report and Accounts receivable aging report based on the mailing date of each notice of violation.

The AWZSE System Administrator shall provide the Transportation Agencies with the ability to remotely access the reporting system including vehicle operating speeds via the Internet and generate through a user friendly interface ad hoc reports of work zone AWZSE operations using user selectable variables and parameter values, including at a minimum, hours of use by work zone site, results achieved by each AWZSE system by site (controllable and uncontrollable processing), violations recorded by site to date, notice of violations issued for select periods by a selected AWZSE unit, equipment malfunctions and status of notices issued. All reports shall be available for export in text (.txt) and comma separate value (.csv). Formal reports shall be made available in PDF. The AWZSE System Administrator shall develop a performance scorecard with conditions, milestones, and requirements. The scorecard may additionally record matters related to price, service, quality and other factors deemed important.

**III-10. Objections and Additions to Standard Contract Terms and Conditions.** The Offeror will identify which, if any, of the terms and conditions (contained in **Part VI**) it would like to negotiate and what additional terms and conditions the Offeror would like to add to the standard contract terms and conditions. The Offeror's failure to make a submission under this paragraph will result in its waiving its right to do so later, but the Transportation Agencies may consider late objections and requests for additions if to do so, in the Transportation Agencies' sole discretion, would be in the best interest of the Commonwealth. The Transportation Agencies may, in its sole discretion, accept or reject any requested changes to the standard contract terms and conditions. The Offeror shall not request changes to the other provisions of the RFP, nor shall the Offeror request to completely substitute its own terms and conditions for **Part VI**. All terms and conditions must appear in one integrated contract. The Transportation Agencies will not accept references to the Offeror's, or any other, online guides or online terms and conditions contained in any proposal.

Regardless of any objections set out in its proposal, the Offeror must submit its proposal, including the cost proposal, on the basis of the terms and conditions set out in **Part VI**. The Transportation Agencies will reject any proposal that is conditioned on the negotiation of the terms and conditions set out in **Part VI or to other provisions of the RFP as specifically identified above.**

**PART IV**  
**COST SUBMITTAL**

**IV-1. Cost Submittal.** The information requested in this **Part IV** shall constitute the Cost Submittal. The Cost Submittal shall be submitted in accordance with **Part I, Section I-11**. The total proposed cost should be broken down into the components set forth in **Appendix F – Cost Submittal Worksheet**. The percentage of commitment to Diverse Businesses should not be stated in the Cost Submittal. Offerors should **not** include any assumptions in their cost submittals. If the Offeror includes assumptions in its cost submittal, the Transportation Agencies may reject the proposal. Offerors should direct in writing to the Issuing Office pursuant to **Part I, Section I-8** of this RFP any questions about whether a cost or other component is included or applies. All Offerors will then have the benefit of the Issuing Office’s written answer so that all proposals are submitted on the same basis.

The contract shall be paid on a per monthly basis as follows:

**A. AWZSE Service Lump Sum Cost per Deployment (fixed fee per deployment)**

1. NOTE: Work zones will be located throughout the Commonwealth of Pennsylvania. The following assumptions should be utilized for determining cost and may not be reflective of actual deployment during any of these periods:
  - a. 4 units will be deployed during daytime and nighttime hours (2 shifts per day) 6 days per week for September 2019 through March 2020. Beyond March 2020 is below;
  - b. 31 daily weekday deployments (includes nighttime and daytime shifts) 5 days per week, for the months of March through November;
  - c. 16 daily weekday deployments (includes nighttime and daytime shifts) 5 days per week, for the months of December through February;
  - d. 25 daily weekend deployments (includes nighttime and daytime shifts) 2 days per week, for the months of March through November;
  - e. 13 daily weekend deployments (includes nighttime and daytime shifts) 2 days per week, for the months of December through February;
  - f. Most deployments will take place in work zones along limited-access highways with 2 lanes of traffic in each direction.

**B. Supplemental Services – not to be included in the fixed fee per deployment cost. (see **Part III-7.B and Part III-7.I** for additional information)**

1. Pan-Tilt-Zoom Closed Circuit Television (CCTV) Camera.
2. AWZSE Required Advance Warning Signage.
3. Field Deployment On-Site Monitoring Personnel.
4. AWZSE Service Lump Sum Cost per Deployment, Extension Year 1
5. AWZSE Service Lump Sum Cost per Deployment, Extension Year 2

As noted in **Part III, Section III-7.I**, Informal Hearing Facility Procurement shall not be included as part of the cost submittal.

Any costs not provided in the cost proposal, outside of the those associated with the efforts noted in **Part III, Section III-7.I**, Informal Hearing Facility Procurement, will be assumed as no charge to the Transportation Agencies.

**The Transportation Agencies will reimburse the selected Offeror for work satisfactorily performed after execution of a written contract and the start of the contract term, in accordance with contract requirements, and only after the Transportation Agencies has issued a notice to proceed.**

## **PART V**

### **DIVERSE BUSINESS REQUIREMENTS AND SUBMITTAL**

#### **V-1. Diverse Business (DB) Requirements (Appendix E).**

The Commission's Diverse Business (DB) Requirements for this procurement and a resulting contract are identified in Appendix E. There is no minimum participation level (MPL) for DBs established for this contract. However, the utilization of DBs are encouraged and will be considered as a criterion in the evaluation of proposals and may be considered as a factor in the Transportation Agencies selection of a firm for this contract.

The Proposer must include in its DB participation submittal that it meets the requirements set forth in the Commission's DB Requirements - Appendix E. In particular, the Proposer shall address the section of the DB Requirements labeled, "Actions Required by Proposer during the procurement/consultant selection phase". In addition, the DB participation submittal shall indicate the amount of DB participation incurred in the proposal in terms of dollars committed or percentage of total contract amount.

## **PART VI**

### **CONTRACT TERMS AND CONDITIONS**

See Appendix G for a Sample Standard Contract for standard Terms and Conditions.

Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		Proposer Name:			
#	Page	Section	Section Description	Proposer Question	Transportation Agencies Response
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

**APPENDIX B – PROPOSAL COVER SHEET**  
**Pennsylvania Turnpike Commission**  
**Statewide Automated Work Zone Speed Enforcement (AWZSE) Program**  
**RFP# 19-10480-8400**

Enclosed in three separately sealed submittals is the proposal for the Proposer identified below for the above referenced RFP:

<b>Proposer Information:</b>	
Proposer Company Name	
Proposer Mailing Address	
Proposer Website	
Proposer Contact Person/Title	
Contact Person's Phone Number	
Contact Person's Fax Number	
Contact Person's Email Address	
Proposer Federal ID Number	
Location of Headquarters	
Location of Office(s) Performing the Work	
Listing of all Pennsylvania Offices and Total Number of Pennsylvania Employees	

<b>Submittals Enclosed and Separately Sealed:</b>
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<input type="checkbox"/> Technical Submittal <input type="checkbox"/> Diverse Business Participation Submittal <input type="checkbox"/> Cost Submittal
<b>Signature</b>
Signature of an official authorized to bind the Proposer to the provisions contained in the Proposer's proposal: _____
Print Name
Title

**An official authorized to bind the Proposer to its provisions must sign the proposal. If the official signs this Proposal Cover Sheet and the Proposal Cover Sheet is attached to the proposal, the requirement will be met.**



## APPENDIX C: DATA SECURITY PROVISIONS

1. **Scope.** This exhibit outlines the terms and conditions with which the Contractor must comply under any applicable Agreement it forms with the Department and/or Commission, together the Transportation Agencies, that involves Personal Information (“PI,” as defined in this exhibit), or if the Contractor has access to PI during its performance under an Agreement. The requirements of this exhibit are in addition to and not in lieu of other requirements of the Agreement, its exhibits, appendices, attachments, modifications, and supplements. In the event of a conflict between the Agreement and this exhibit, the terms that best protect the Transportation Agencies and the Commonwealth of Pennsylvania will apply.
2. **Definitions.** The following terms shall have the meanings set forth below.

**Applicable Laws** means the federal and state laws and regulations, local ordinances, and Commonwealth policies applicable to release and use of vehicle record information, including 75 Pa. C.S. 6114 (Limitation on sale, publication and disclosure of records); 67 Pa. Code, Chapter 95 (Sale, Publication, or Disclosure of Driver, Vehicle, and Accident Records and Information); 18 U.S.C. §§ 2721-2725 (Federal Driver’s Privacy Protection Act); 15 U.S.C. §§ 1681-1681x (Federal Fair Credit Reporting Act); and 73 P.S. § 2301 et seq (the Breach of Personal Information Notification Act).

**Business Partner** means an individual or company involved with the Contractor's business dealings, including owning or managing the Contractor's business, or having a cooperative alliance, whether by contract or not. A business partner can be a subcontractor, supplier, intermediary (like an agent or reseller), or a vendor of complimentary offerings. The Contractor’s customers are End Users (defined below), not Business Partners.

**Business Partner Agreement** means a written agreement with a Business Partner specifying the purpose for which vehicle record information (“PI”) is provided, and prohibiting the Business Partner from selling, assigning, viewing, or otherwise transferring PI to a third party for another purpose.

**End Users** means people using the Contractor’s products and services, the Contractor’s customers, potential customers, and other users of and visitors to the Contractor’s physical and electronic properties (including users of applications that use PI-related data, like users of an Internet connected device, visitors to a website, users of a mobile app, users of an IoT device, and visitors on an advertisement, landing page, or campaign). End Users shall not be considered Business Partners, and Business Partners shall not be considered End Users.

**Permitted Uses** means use of PI for obligations to the Transportation Agencies per this Agreement, as required by law, or as otherwise authorized by the Transportation Agencies, for programs determined by the Transportation Agencies to be in the public interest, per the Transportation Agencies written approval.

**Personal Information (“PI”)** means an individual’s name, address, license plate number, or a combination of that information, or any of those items with other PI, as per 18 U.S.C. § 2725(3), the Breach of Personal Information Notification Act, 73 P.S. § 2301, et seq., Commonwealth IT Policy ITP-SEC019 (Policy and Procedures for Protecting Commonwealth Electronic Data), and the applicable OPD documents publicly available at: <https://www.oa.pa.gov/Policies/Pages/itp.aspx>

3. **No Representations or Warranties.** The Transportation Agencies have made their best efforts to ensure the accuracy and completeness of the shared data. The Transportation Agencies make no warranties with respect to the accuracy of the shared data and assumes no responsibility for its use or reliability.
  
4. **DISCLAIMERS.** DATA IS PROVIDED “AS IS” AND ON AN “AS AVAILABLE” BASIS. NEITHER OF THE TRANSPORTATION AGENCIES NOR THEIR EMPLOYEES OR AGENTS MAKE ANY WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. THE TRANSPORTATION AGENCIES MAKE NO REPRESENTATION, WARRANTY, OR GUARANTEE THAT THE TRANSPORTATION AGENCIES TECHNOLOGY WILL MEET THE CONTRACTOR’S REQUIREMENTS OR EXPECTATIONS, THAT PI WILL BE ACCURATE, COMPLETE, OR PRESERVED WITHOUT LOSS, OR THAT THE TRANSPORTATION AGENCIES TECHNOLOGY WILL BE TIMELY, UNINTERRUPTED, OR ERROR-FREE. THE TRANSPORTATION AGENCIES DO NOT GUARANTEE THAT SECURITY MEASURES WILL BE ERROR-FREE AND SHALL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED ACCESS BEYOND ITS REASONABLE CONTROL. THE TRANSPORTATION AGENCIES SHALL NOT BE RESPONSIBLE OR LIABLE FOR CONTRACTOR PROPERTIES, THIRD-PARTY PRODUCTS, THIRD-PARTY CONTENT, OR NON- THE TRANSPORTATION AGENCIES SERVICES (INCLUDING FOR DELAYS, INTERRUPTIONS, TRANSMISSION ERRORS, SECURITY FAILURES, AND OTHER PROBLEMS CAUSED BY THESE ITEMS), FOR DATA RECEIVED FROM CONTRACTOR IN BREACH OF THIS AGREEMENT, FOR THE COLLECTION, USE AND DISCLOSURE OF DATA AUTHORIZED BY THIS AGREEMENT, OR FOR DECISIONS OR ACTIONS TAKEN (OR NOT TAKEN) BY THE CONTRACTOR BASED UPON THE TRANSPORTATION AGENCIES’ DATA, TECHNOLOGY, OR THE TRANSPORTATION AGENCIES’ RELATED SERVICES (INCLUDING

CHANGES TO THE CONTRACTOR'S PROPERTIES). THE DISCLAIMERS IN THIS SECTION SHALL APPLY TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT. THE CONTRACTOR MAY HAVE OTHER STATUTORY RIGHTS. HOWEVER, STATUTORILY REQUIRED WARRANTIES UNDER APPLICABLE LAW, IF ANY, SHALL BE LIMITED TO THE SHORTEST PERIOD AND MAXIMUM EXTENT PERMITTED BY LAW.

5. **Intended Use.**

- a. **Business Partner Agreements.** The Contractor shall execute a Business Partner Agreement with each Business Partner before providing PI. The Business Partner Agreement shall ensure Business Partners meet the requirements of this Agreement. Business Partner Agreements shall not restrict a Business Partner's ability to provide information necessary to meet legal obligations arising from an authorized transaction. Upon request, the Contractor shall provide copies of its Business Partner Agreements to the Transportation Agencies.
- b. **Business Partner Information.** The Contractor shall maintain a record of the Business Partner (including the name, address, and telephone number) for each request for PI. The Contractor shall provide the record to the Transportation Agencies upon request.
- c. **Compliance with Laws.** The Contractor shall comply, and shall require its Business Partners to comply, with the Applicable Laws, and the federal, state, and local laws, regulations, and policies applicable to its services. The Contractor shall procure at its expense necessary licenses and permits. If an existing law, regulation, or policy is changed, or if a new law, regulation, or policy is enacted affecting this Agreement, the parties shall modify this Agreement to the extent necessary to ensure compliance. Any ambiguity in this Agreement shall be resolved to permit the Transportation Agencies to comply with the Applicable Laws.
- d. **End User Approval.** The Contractor may make limited information available to End Users who will not have direct access to PI. The Contractor shall disclose the type of information to be released, manner of release, estimated number of End Users, and data sharing policies before receiving a notice to proceed. The Transportation Agencies' approval shall be approval to provide access to End Users to the extent disclosed in the End User submission. If limited information disclosure is approved by the Transportation Agencies, the Contractor may make the information available to End Users without following the requirements in this Agreement intended for Business Partners. The Contractor may request waivers from individual requirements of this Agreement for specific End Users or classes

of End Users; waivers may be granted, in writing, at the Transportation Agencies' sole discretion. If the Contractor fails to disclose its intended End Users, the Transportation Agencies may refuse to issue a notice to proceed until the submission is made.

- e. **End User Access.** The Contractor's data sharing policies shall determine the product sharing settings applicable to the Contractor's End Users for specific purposes. The Contractor shall implement End User responsibility controls. End Users shall first contact the Contractor with a request to stop access, storage, or use of personal information.
- f. **Order of Precedence for Compliance with Laws.** The Contractor's obligations pursuant to this Agreement may be stricter than those in an applicable law, rule, or regulation. If a law, rule, or regulation is more protective than those obligations set out in this Agreement, Contractor shall comply with the law, rule or regulation (in addition to complying with its obligations under this Agreement). If Contractor's obligations under this Agreement are more protective than those obligations set out in an applicable law, rule, or regulation, than Contractor shall comply with its obligations under this Agreement (in addition to complying with the applicable law, rule or regulation).
- g. **Incorporation of Changes, Amendments, and Interpretations.** If any of the Applicable Laws are superseded by new or modified Applicable Laws (including decisions or interpretations by a relevant court or governmental authority), the new or modified Applicable Laws shall be deemed to be incorporated into this Agreement, and the Contractor shall promptly begin complying with the Applicable Laws.

**6. The Transportation Agencies Business Partner Approval.**

- a. **Business Partner Approval is Needed for Access to PI.** The Contractor's Business Partners may be subcontractors, and Business Partners shall comply with the requirements for approval of intended uses in Section 3 of this Agreement whether they are classified as subcontractors, independent contractors, consultants, agents, or otherwise. Subcontractors shall be approved in writing by the Transportation Agencies before receiving PI; approval shall not be unreasonably withheld. In its Business Partner Agreements with subcontractors, the Contractor shall require its Business Partner subcontractors to notify the Contractor of a change of the Business Partner subcontractor's ownership within five calendar days of the change (where, in the case of a publicly traded or held subcontractor, a change in ownership means a transfer, exchange, sale or acquisition of ten percent or more of the voting securities or stock of the approved subcontractor). The Contractor shall then notify the

Transportation Agencies within ten calendar days of becoming aware of an approved Business Partner subcontractor's ownership change. The Contractor shall be the single point of contact for the Transportation Agencies. The Contractor shall not provide Personal Information to a Business Partner who has been denied or disapproved, or whose approval has been rescinded by the Transportation Agencies.

- b. **Guidance to Business Partners.** The Contractor shall have a documented security program and policies providing guidance to its Business Partners to ensure the security, confidentiality, integrity, and availability of PI and systems maintained or processed by the Business Partners and providing express instructions regarding the steps to take in the event of a compromise or other anomalous event.
- c. **Business Partner Approval Requirements.** Before seeking the Transportation Agencies' approval, the Contractor shall provide the Transportation Agencies with details of the proposed Business Partner's involvement (including the identity of the Business Partner, its data security record, the location of its processing facilities, a description of the access to PI proposed, and other information the Transportation Agencies may reasonably request to assess the risks involved in allowing a subcontractor to process PI).
- d. **Business Partner Data Security.** The Contractor's Business Partner Agreement with an approved Business Partner shall contain equivalent terms to this Agreement (including data destruction). The Contractor shall not be entitled to permit a Business Partner to further sub-contract or otherwise delegate the Contractor's services. The Business Partner Agreement shall provide the Transportation Agencies with third-party beneficiary rights to enforce the terms; or shall require the Business Partner to enter into a data security agreement with the Transportation Agencies directly if privity of contract is required by law (or at the Transportation Agencies' sole discretion).
- e. **Contractor to Remain Responsible.** The Contractor shall be responsible and accountable for the acts or omissions of its Business Partners to the same extent it is responsible and accountable for its own actions or omissions under this Agreement (including data destruction).
- f. **Termination of Business Partners and Employees.**
  - i. **Reasons for Termination.** If the Contractor terminates a Business Partner or employee, the Contractor shall immediately terminate access to PI. The Contractor shall document the termination (including the basis for termination and confirmation of termination). Upon request, the Contractor

shall provide proof of termination in a manner satisfactory to the Transportation Agencies. If a Business Partner is terminated, the Business Partner shall no longer be an approved Business Partner. Previously terminated Business Partners shall be approved by the Transportation Agencies before receiving PI.

- ii. **Data Destruction.** The Contractor shall ensure terminated Business Partners and employees immediately destroy data in their possession or control, whether electronic or otherwise, per this Agreement.

## 7. Data and Information Ownership and Property Rights

- a. **The Transportation Agencies Own the Data.** As between the parties, PI is the sole and exclusive property of the Transportation Agencies. If the Contractor generates data based on the PI, the data is also the Transportation Agencies' sole and exclusive property. Proprietary rights (including patent rights, trademarks, and proprietary rights, in and to PI) shall be and remain in the Transportation Agencies, subject to the rights granted in this Agreement. PI may only be re-disclosed by Contractor according to the Transportation Agencies' written approvals.
- b. **The Contractor's Rights.** To the extent consistent with the Applicable Laws, the Transportation Agencies grant the Contractor a non-exclusive, non-transferable, revocable, limited license during the term or a renewal term of this Agreement to access and use PI for the Permitted Uses and for no other purpose.
- c. **Data Sharing is Limited.** Transfer and use of PI shall not obligate or entitle either party to enter into arrangements or agreements other than those stated in this Agreement. No right, title, or interest in or copyrights, trademarks, or other proprietary information is being transferred from the Transportation Agencies to the Contractor. No other right, license, or authorization, express or implied, to use or disclose PI is granted. The parties shall enter separate terms governing the release of PI for other purposes.
- d. **Acknowledgement and Preservation of Rights.** The Contractor shall not remove, alter, cover, or obfuscate acknowledgements, copyright notices, trademarks, or other proprietary right notices placed by the Transportation Agencies on the data. The Contractor shall comply with directions given by the Transportation Agencies regarding the form and placement of proprietary rights notices on products generated by the Contractor using PI.
- e. **Infringement.** Unauthorized use or distribution of the shared data may subject the Contractor to claims and penalties for intellectual property infringement.

- f. **Internal Re-Use.** Shared data shall not be distributed, repurposed, or shared across the Contractor's other applications, environments, or business units. PI shall not be transmitted, exchanged or otherwise passed to other vendors or interested parties except on a case-by-case basis as specifically agreed to in writing by the Transportation Agencies.
- g. **No Transformational Use.** PI shall not be used to create or update a file to be used by the Contractor or its Business Partners to develop their own source of PI.
- h. **Secondary Products are not Contemplated.** PI has been provided for sole use by the Contractor to perform the work defined in this Agreement and shall not be used to create derivative works or other forms of data. PI and tangible expressions of the data shared, in any media, shall remain the Transportation Agencies' property.
- i. **Contractor Requests to Use or Create Secondary Products.** The Transportation Agencies may agree to Contractor ownership of intellectual property derived from or combined with PI and other shared data as follows:
  - i. **Contractor's Existing Intellectual Property.** The Contractor shall notify the Transportation Agencies, as soon as possible but no later than the issuance date of the notice to proceed, of data, discoveries, developments, inventions (whether patentable or not), improvements, methods of use or delivery, processes, know-how, or trade secrets in use by the Contractor, and which the Contractor intends to use or combine with PI provided per this Agreement (the "Existing Intellectual Property").
  - ii. **Contractor's New Intellectual Property.** The Contractor shall notify the Transportation Agencies, promptly and in writing, of data, discoveries, developments, inventions (whether patentable or not), improvements, methods of use or delivery, processes, know-how, or trade secrets made by the Contractor as a result of the use of data provided per this Agreement (the "New Intellectual Property").
  - iii. **Review and Approval.** The Transportation Agencies shall undertake a comprehensive appraisal of the Existing Intellectual Property and the New Intellectual Property to determine its components and evaluate its conformance to this Agreement (including the data confidentiality and security provisions). The Transportation Agencies shall have the right to review all aspects of the Contractors Existing Intellectual Property and the New Intellectual Property necessary to assess overall condition, compliance

or non-compliance with the Applicable Laws and Commonwealth information technology policies, and other matters the Transportation Agencies deems relevant. The Contractor shall not use Existing Intellectual Property or New Intellectual Property to perform under this Agreement without the Transportation Agencies' written consent.

- iv. **Inventorship.** Inventorship of Inventions (including processes) shall be determined by application of United States laws pertaining to inventorship. "Invention" means a useful discovery or invention, (whether patentable or not), and the intellectual property rights (including related patents and patent applications), solely or jointly invented or otherwise made by the Contractor with use of or reference to PI. For avoidance of doubt, for purposes of this Agreement the term "Invention" does not include discoveries or inventions made solely by the Transportation Agencies.
- v. **Sole Contractor Inventions.** All rights, title and interests in and to intellectual property invented or otherwise made solely by the Contractor ("Sole Contractor Inventions") shall be assigned to the Contractor.
- vi. **Ownership of the Transportation Agencies' Intellectual Property and Derivative Works.** The Contractor shall acquire no ownership rights in PI or derivative works based on PI, or intellectual property deemed to be owned by the Transportation Agencies because of this Agreement. The Contractor shall, when requested by the Transportation Agencies (whether during or after the term of this Agreement), disclaim in writing property interests and ownership in PI.
- vii. **Notice.** The Contractor shall include the following language in secondary products developed from PI: This [product] was developed using data provided by the Commonwealth of Pennsylvania. This is a secondary product and has not been verified or authorized by the Commonwealth of Pennsylvania.
- viii. **The Transportation Agencies License to Use Secondary Products.** The Contractor grants to the Transportation Agencies a perpetual, non-exclusive, fully-paid up, royalty-free, irrevocable, worldwide, unrestricted license to New Intellectual Property and Sole Contractor Inventions for the Transportation Agencies use, with the right to sublicense through multiple tiers. If additional assistance from the Contractor is requested beyond the rights supplied by the non-exclusive license, the Contractor shall provide reasonable assistance to the Transportation Agencies, upon commercially reasonable terms at least as favorable to the Transportation Agencies as the terms agreed with another licensee for the assistance, to allow the



Transportation Agencies to use the New Intellectual Property and Sole Contractor Inventions. If required to comply with this Section, and at no cost to the Transportation Agencies, the Contractor shall obtain written agreements with Business Partners assigning, without additional consideration, appropriate rights and interests in New Intellectual Property and Sole Contractor Inventions to the Contractor for subsequent licensing to the Transportation Agencies.

## 8. Constraints on Use.

- a. **Consents.** The Contractor shall ensure neither the Contractor nor its Business Partners avoid a provision of this Agreement requiring the Transportation Agencies approval or consent by obtaining waivers or consents from individuals whose data resides in PI or other shared data (whether for marketing purposes or otherwise). When required by this Agreement, the Transportation Agencies' approval or consent shall be considered cumulative.
- b. **Required Disclosure.** If the Contractor is required to disclose PI by law, the Contractor shall promptly notify the Transportation Agencies to provide the Transportation Agencies an opportunity to seek a protective order or other relief. If the Transportation Agencies does not elect to seek, or is unable to obtain, a protective order or other relief, the Contractor may disclose the required PI, after first giving the Transportation Agencies written notice of the specific PI to be disclosed as far in advance of its disclosure as practicable. The Contractor shall use reasonable efforts to obtain assurances the entity receiving PI uses at least the same degree of care in safeguarding the disclosed PI as the Contractor is obligated to use pursuant to this Agreement (including appropriate confidentiality agreements and court orders).
- c. **No Direct Mailing or Advertising.** Except as approved by the Transportation Agencies, the Contractor shall not use or permit others to use PI (including for direct mail advertising, marketing, survey research, or other types of mailings (including electronic transmittals)).
- d. **Online Publication.** The Contractor shall provide the Transportation Agencies with website addresses, web services, and other places PI is placed online by the Contractor and its Business Partners. The website address, web service, or online location shall be given when first used, and a comprehensive list of online publications providing PI shall be given to the Transportation Agencies by January 31st each year. The Contractor shall ensure its Business Partners comply with the Applicable Laws and Commonwealth information technology policies for online publications.

- e. **Sharing Requests to be Referred to the Transportation Agencies.** If the Contractor receives a request to make available information owned or the primary responsibility of the Transportation Agencies, the Contractor shall refer the request to the Transportation Agencies.

9. **Data Storage.**

- a. **Data Storage Standard of Care.** PI shall be uniquely stored so it can be destroyed within 24 hours. The Contractor shall destroy PI when it is no longer needed by Contractor for meeting its performance obligations under this Agreement within 24 hours if no alternative period is requested or approved by the Transportation Agencies. The Contractor's Business Partners are not permitted to retain PI unless required by Federal law or regulation, or when permitted by the Transportation Agencies, in writing.
- b. **Data Encryption.** The Contractor shall ensure neither it nor its Business Partners transfer PI through an electronic, nonvoice transmission to a person outside of the Contractor's secure system unless the Contractor uses encryption to ensure the security of electronic transmission; or move a data storage device containing PI beyond the logical or physical controls of the Contractor or its data storage contractor unless the Contractor uses encryption to ensure the security of the information. Data shall be encrypted in transit and at rest per Commonwealth information technology policies.
- c. **Data Residency.** PI processed and stored in an information technology system shall remain within the United States of America's borders (physically or logically stored). The Contractor shall ensure PI is not moved outside of the United States of America.

10. **Contractor Warranty.** The Contractor: warrants its operations shall be in substantial conformity with the information and representations upon which the Transportation Agencies' approval was sought and obtained; agrees to inform the Transportation Agencies promptly of a material variation in operations; and agrees a material deficiency in operations shall be deemed a material breach of this Agreement. The Contractor certifies and warrants it is and shall remain compliant with applicable state and federal laws, regulations, and policies regarding the PI's protection (including the Applicable Laws and Commonwealth information technology policies).

11. **Data Confidentiality Standard of Care.**

- a. **Permissions.** The Contractor may: keep and update the PI for the Permitted Uses only for as long as required and approved by the Transportation Agencies and disclose PI for Permitted Uses on a need-to-know basis to employees, Business

Partners bound by Business Partner Agreements, and End Users.

- b. **Requirements.** The Contractor shall: ensure Business Partners receiving PI do not use PI for a purpose other than the Permitted Uses; ensure no one obtains, transfers, uses, or stores PI in facilities not owned or operated by the Contractor or its approved Business Partners; and keep records of data disclosures (including the names of the parties to which Contractor may have disclosed shared data and the legitimate interests under this Agreement or the Applicable Laws, if any). If this Agreement does not specifically address a data security or privacy standard or obligation, the Contractor shall use appropriate, generally accepted privacy practices to protect the confidentiality, security, privacy, integrity, availability, and accuracy of PI.
- c. **Prohibitions.** The Contractor shall not: use or otherwise disclose PI in a manner conflicting with the Transportation Agencies' interests; use or disclose PI for a purpose other than the Permitted Uses; publish PI or allow it to be published without the Transportation Agencies' prior written approval; sell, distribute, reproduce, send, or otherwise disclose PI to a party not a signatory to this Agreement without the Transportation Agencies' prior written approval; use PI to provide information to another entity or person without the Transportation Agencies' prior written approval; transfer, copy, replicate, or otherwise distribute PI to the public, or make it available on the Internet without the Transportation Agencies' prior written approval; attempt to identify the vehicle owners from whom PI was generated or combine PI with data from other sources leading to identification of an individual; or contact individuals whose data is contained in PI (unless instructed by the Transportation Agencies); or retain, store, combine, save, or link PI with other data by the Contractor or its Business Partners without the Transportation Agencies' prior written approval.
- d. **Personal Identification Prohibited.** The Contractor shall collect, access, and use shared data in a manner that does not permit personal identification of information deemed confidential per the Applicable Laws by individuals other than Contractor's employees and subcontractors who have necessary and legitimate interests in Personal Information for meeting Contractor's performance obligations under this Agreement. The Contractor shall notify the Transportation Agencies within 24 hours if PI is re-identified, intentionally or inadvertently, or aggregated, anonymized, or de-identified data is used in publicly-available documents.
- e. **End User Data Processing.** The Contractor shall only handle PI per this Agreement and the Transportation Agencies' documented instructions for: (i) Processing initiated by End Users in their use of the Contractor's services for the Permitted Uses; (ii) Processing to comply with other documented, reasonable

instructions provided by End Users (including via email) where those instructions are consistent with this Agreement. The Contractor shall not be required to comply with or observe an End User's instructions if those instructions would violate applicable data privacy laws.

- f. **Anonymizing Data.** For personal information that can reasonably be aggregated or anonymized, or both, the Contractor shall do so before sharing with Business Partners and End Users. The Contractor shall alter the personal information, so it cannot reasonably be used to identify a person or relate the information back to a person. The Contractor shall also contractually require the recipients to not attempt to re-identify the data. For personal information that cannot be completely aggregated or anonymized, the Contractor shall de-identify the information before sharing it with Business Partners and End Users. This means the information can no longer reference or be linked directly to a person by name, driver license number, address, or unique vehicle identifier (or other information restricted by the Applicable Laws). Before sharing de-identified information with Business Partners and End Users, the Contractor shall contractually require they may not identify a person, relate de-identified personal information back to a person, and strictly limit the purposes for which they can use the de-identified information. The Contractor may share aggregated, anonymized, or de-identified information with Business Partners and End Users so they may provide a product or service, develop new products and services, perform data analysis, store or process information for us, or otherwise help the Contractor operate its business.
- g. **Required Disclosures.** Nothing in this Agreement prevents the Contractor from disclosing PI to the extent required by law, subpoenas, or court orders. The Contractor may share Personal Information under exigent circumstances, to protect its rights, property, or legal interests, including to enforce the Contractor's and its Business Partner's End User agreements, or as part of a merger, acquisition, divestiture, or other corporate reorganization. Other than to Business Partners and End Users approved per this Agreement, the Contractor shall not share PI with unaffiliated third parties without aggregating, anonymizing, and de-identifying it first (to the extent possible), unless the Contractor obtains the Transportation Agencies' prior written consent. If the Contractor combines PI with other information the Contractor collects, the combined information shall be treated as PI for as long as it remains combined. The Contractor shall use commercially reasonable efforts to first notify the Transportation Agencies and obtain the Transportation Agencies' consent before making a required disclosure, unless prohibited by law from doing so, and shall notify the Transportation Agencies within 24 hours after a required disclosure is made, if prior disclosure cannot be made.
- h. **Security Awareness Training.**

- i. **Training Standards.** The Contractor shall educate and hold its Business Partners, agents, employees, contractors, and subcontractors to standards at least as stringent as those contained in this Agreement.
  - ii. **Training.** The Contractor shall conduct formal security awareness training, with a testing component, for Business Partners, agents, employees, contractors, and subcontractors as soon as practicable after execution of this Agreement and then annually. The Contractor shall retain documentation of security awareness training, confirming the training and subsequent annual recertification process have been completed, and make the documentation available for review by the Transportation Agencies upon request.
  - iii. **Confidentiality and Disclosure.** The Contractor shall ensure work performed by it and its Business Partners shall be under the supervision of the Contractor's responsible employees. Each officer or employee of the Contractor to whom PI may be made available or disclosed shall be notified in writing by the Contractor that information disclosed can be used only to the extent authorized by this Agreement. Further disclosure, by any means, for a purpose or to an extent unauthorized by this Agreement, may subject the offender to criminal sanctions per the Applicable Laws.
- i. **Confidentiality of Safeguards.** The Contractor shall not publish or disclose, without the Transportation Agencies' written consent, the details of safeguards designed or developed by the Contractor under this Agreement or otherwise supplied by the Transportation Agencies.

## 12. Data Security.

- a. **Information to be Secure.** The Contractor shall ensure its Business Partners, agents, employees, contractors, subcontractors, and others receiving or using PI obtained or derived from the Contractor have ensured the security and protection of PI and have taken necessary steps to prevent the release or use of PI in a manner not expressly permitted by this Agreement. Business Partner Agreements shall require Business Partners keep PI in a controlled access area (physical and electronic, as applicable). Storage arrangements shall be subject to inspection or audit by the Transportation Agencies.
- b. **Data Security Standard of Care.** The Contractor shall: implement appropriate measures to protect against the unauthorized release of PI; protect PI according to industry standard security best practices (including Commonwealth information technology policies); have appropriate technical and organizational security measures with regard to the risks inherent in the processing and to the nature of

PI; prevent unauthorized reading, copying, alteration, or removal of storage media; prevent unauthorized input; prevent unauthorized disclosure, alteration, or erasure of stored PI; prevent unauthorized using of data-processing systems by means of data transmission facilities; ensure authorized users of a data-processing system can access only the PI to which their access right refers; record which PI has been communicated, when, and to whom; design its organizational structure to meet data protection requirements; ensure no one is able to download, save, edit, photograph, print, or transfer all or a portion of PI for an unauthorized purpose, or remove, bypass, circumvent, neutralize, or modify technological protection measures, or share a username, password, or other account details with a third party or otherwise provide a third party with PI.

- c. **Minimum Security Safeguards.** The Contractor shall not transmit unencrypted PI over the Internet or a wireless network and shall not store PI on a mobile computing device (like a laptop computer, USB drive, or portable data device), except where a business necessity exists, and then only if the mobile computing device is protected by industry-standard encryption software approved by the Transportation Agencies. At a minimum, the Contractor's safeguards for protection of PI shall include: limiting access to employees and other persons to the Permitted Uses; securing business facilities, data centers, paper files, servers, back-up systems, and computing equipment (including mobile devices and other equipment with information storage capability); implementing network, device application, database, and platform security; securing information transmission, storage, and disposal; implementing authentication and access controls within media, applications, operating systems, and equipment; encrypting PI stored on mobile media; encrypting PI transmitted over public or wireless networks; strictly segregating PI from information of the Contractor or its Business Partners so PI is not commingled with other types of information; implementing appropriate personnel security and integrity procedures and practices (including conducting background checks consistent with applicable law); and providing appropriate privacy and information security training to the Contractor's employees.

d. **Compliance with Information Technology Management Standards.**

- i. **Commonwealth Information Technology Policies ("ITPs").** The Contractor shall comply with the information technology standards and policies issued by the Governor's Office of Administration, Office for Information Technology (located at <http://www.oa.pa.gov/Policies/Pages/itp.aspx>), including the accessibility standards set out in ITP ACC001, Accessibility Policy. If so required, the Contractor shall ensure its services comply with the applicable standards. The Contractor may request a waiver from an ITP by providing detailed written justification as to why the ITP cannot be met. The Transportation Agencies may waive the ITP in whole, in part, or conditionally,

or require the Contractor provide an acceptable alternative. The Transportation Agencies waiver shall be in writing.

- ii. **Information Technology Industry Standards.** Unless the Transportation Agencies have specified an alternative standard in this Agreement, the Contractor shall implement administrative, physical, and technical safeguards to protect PI no less rigorous than accepted industry best practices (including the International Organization for Standardization's standards: ISO/IEC 27001:2005 – Information Security Management Systems – Requirements and ISO-IEC 27002:2005 – Code of Practice for International Security Management, and other applicable industry standards for information security), and shall ensure the safeguards (including the manner in which PI is collected, accessed, used, stored, processed, disposed of, and disclosed), comply with applicable data protection and privacy laws, and this Agreement.
  
- e. **Data Destruction.** If PI is required to be permanently deleted from magnetic, electronic, or optical media (or other type of storage method) owned, operated, or used by the Contractor, the media shall be purged (sanitized to protect the confidentiality of information against a laboratory attack) or destroyed (by a method, including disintegration, incineration, pulverizing, shredding, or melting, after which the media cannot be reused as originally intended), or both, in accordance with the NIST SP800-88 Guidelines for Media Sanitization. The Contractor shall maintain documented evidence of data destruction and shall provide written and signed proof of destruction within 24 hours of destruction (including certification the destruction was per the NIST standards).
  
- f. **Physical Security.** Backup and archival media containing PI shall be contained in secure, environmentally-controlled storage areas owned, operated, or contracted for by the Contractor, and backup and archival media containing PI shall be encrypted.
  
- g. **Information Security Audits.** Before receiving a notice to proceed, the Contractor shall deliver to the Transportation Agencies copies of certifications it maintains (along with relevant supporting documentation) applying to the systems, policies, and procedures that govern PI handling. The Contractor shall promptly notify the Transportation Agencies if the Contractor has failed or no longer intends to adhere to those certifications or successor frameworks. Examples of potentially relevant certifications include: SSAE 16 – SOC1, SOC2, SOC3; ISO 27001:2013; ISO 27018:2014, EU Binding Corporate Rules; APEC Cross Border Privacy Rules System; EU-US and Swiss-US Privacy Shields; and Federal Information Security Management Act (FISMA) Compliance Certification. The Contractor shall have an independent service auditor annually perform an examination in accordance with attestation standards established by the American Institute of Certified Public

Accountants (“AICPA”) (Attestation Engagements AT Section 101) in the form of a SOC 2 Type 2 report. This report, unless otherwise determined by the Transportation Agencies in writing, shall provide:

- i. **Description of System.** A description of the Contractor’s system and an opinion on the fairness of the presentation of the description of the system;
  - ii. **Controls.** The suitability of the design of the controls and the operating effectiveness of the controls to meet the criteria for the principles set forth in TSP Section 100, Trust Services Principles, Criteria, and Illustrations for Security, Confidentiality, Privacy, Processing Integrity, and Availability (AICPA, Technical Practice Aids) (applicable trust services principles); and,
  - iii. **Results.** A description of the tests of controls and test results.
- h. **Relevant Principles.** The examination shall cover the following relevant principles: Security, Confidentiality, Privacy, Processing Integrity, and Availability throughout the related 12-month period. If a control within a principle is not applicable, as determined by the auditor, the report shall include the auditor’s determination and the basis for the determination.
- i. **Scope of Audit.** SOC 2 Type 2 reports shall include the Contractor and Business Partners who handle PI, host or assist with a related implemented system, and assist the Contractor in the critical functions of the Agreement.
- j. **Audit Period.** The Contractor shall complete one SOC 2 Type 2 audit per calendar year. The Contractor and Business Partners shall provide a complete copy of the final SOC 2 Type 2 reports to the Transportation Agencies within 30 calendar days of the date the report is received from the auditor. This reporting requirement shall continue until the expiration date or until the termination of this Agreement. The Contractor shall provide to the Transportation Agencies, within 60 calendar days of the issuance of each report, a documented corrective action plan addressing each exception contained in a report. The corrective action plan shall identify in detail the remedial action to be taken by the Contractor or Business Partners (or both) along with the dates when each remedial action is to be implemented.
- k. **Exception for Cloud Service Providers.** The Contractor’s Business Partner may satisfy the audit requirement by providing an appropriate SOC 3 report if the Business Partner is a cloud-based (network-accessed) data center and is not providing other services per this Agreement. Business Partners engaged in other services shall complete the SOC 2 Type 2 report. The Transportation Agencies may accept a SOC 3 report posted on a cloud service provider’s website with a seal indicating compliance. SOC 3 reports may be accepted for the hosted



infrastructure only. SOC 2 Type 2 reports are required for applications, data, and processes residing on the hosted infrastructure.

1. **Penetration Testing.** During the term of this Agreement, the Contractor shall engage, at its own expense and at least one time per year, a third-party vendor reasonably acceptable to the Transportation Agencies to perform penetration tests and vulnerability assessments with respect to the Contractor's systems. The objective of the penetration tests and vulnerability assessments is to identify design or functionality issues in infrastructure of the Contractor's systems that could expose PI and its computer and network equipment and systems to risks from malicious activities. Penetration tests and vulnerability assessments shall probe for weaknesses in network perimeters or other infrastructure elements as well as weaknesses in process or technical countermeasures relating to the Contractor's systems that could be exploited by a malicious party. Penetration tests shall identify, at a minimum: OWASP Best Practices; insecure storage; denial of service; insecure configuration management; proper use of updated encryption technology (TLS 1.2 or latest); and commodity anti-virus protection, malware, ransomware, and advanced persistent threats. Within a reasonable period after the annual penetration test has been performed, the Transportation Agencies may request from the Contractor a report of the highest two security risk categories (i.e., critical, severe, high, medium) revealed during the penetration test. The Transportation Agencies may request certification in writing that the highest revealed categorical issues have been remediated. If security issues were revealed during a penetration test, the Contractor shall subsequently perform, at its own expense, an additional penetration test within a reasonable period to ensure continued resolution of identified security issues.
- m. **Information Risk Management.** Risk assessment is the process of assessing potential business impact, evaluating threats and vulnerabilities, and selecting appropriate controls to meet the business requirements for information security. The Contractor shall have a risk management framework certified in a SOC 2 Type 2 report and conduct a yearly risk assessment of its environment and systems to understand its risks and apply appropriate controls to manage and mitigate those risks. Threat and vulnerability assessment shall be periodically reviewed, and remediation actions taken where material weaknesses are found. The Contractor shall provide the Transportation Agencies with the reports and analysis upon written request, to the extent disclosure would not violate the Contractor's own information security policies, or applicable law.
- n. **Notice.** If new or unanticipated threats or hazards are discovered by the Transportation Agencies or the Contractor, or if existing safeguards have ceased to function, the discoverer shall immediately bring the situation to the attention of the other party.

- o. **End User Software.** Software and applications available for online use or downloading from the Contractor shall be subject to this Agreement and to any End User license agreement accompanying the software, as applicable. Software and applications designed for End Users shall run in the standard user context without elevated system administration privileges.

### 13. Compliance Review and Audit.

- a. **Security Review.** The Transportation Agencies shall have the right to review the Contractor's and Business Partners information security before providing PI, and from time to time during the term of this Agreement. During the term of this Agreement, the Contractor or Business Partner may be asked to complete a security survey or attestation document designed to assist the Transportation Agencies in understanding and documenting the Contractor's security procedures and compliance with the requirements contained in this Agreement. The Contractor's failure to complete either of these documents within the reasonable timeframe specified by the Transportation Agencies shall constitute a material breach of this Agreement. The Contractor shall provide the Transportation Agencies with information concerning the Contractor's security practices as they pertain to the protection of PI, as the Transportation Agencies may from time to time request. Failure of the Contractor to complete or to respond to the Transportation Agencies' request for information within the reasonable timeframe specified by the Transportation Agencies shall constitute a material breach of this Agreement.
- b. **Right to Audit.** The Transportation Agencies or an appointed audit firm (the "Auditors") has the right to audit the Contractor. The Contractor's Business Partner Agreements shall provide the Transportation Agencies with a right to audit Business Partners to the same extent as the audit requirements in this Section. The degree, conduct, and frequency of the audits shall be at the Transportation Agencies' sole discretion, except the Transportation Agencies shall not conduct more than one audit per fiscal year (July-June). The Contractor shall afford the Transportation Agencies access to the Contractor's facilities, installations, technical capabilities, operations, documentation, records, and databases. The Contractor shall cooperate with the Transportation Agencies' auditors and shall ensure cooperation by its Business Partners (including insurance company agents). If a Business Partner refuses to cooperate with the Auditors, the Contractor shall stop providing them PI.
- c. **Conduct of Audit.** The Transportation Agencies shall announce their intent to audit the Contractor by providing at a minimum ten calendar days' notice to the Contractor. A scope document along with a request for deliverables shall be

provided at the time of notification of an audit. If the documentation requested cannot be removed from the Contractor's premises, the Contractor shall allow the Auditors access to the site. Where necessary, the Contractor shall provide a personal site guide for the Auditors while on site. The Contractor shall provide a private accommodation on site for data analysis and meetings; the accommodation shall allow for a reasonable workspace, with appropriate lighting, electrical, a printer, and Internet connectivity. The Contractor shall make necessary employees or contractors available for interviews in person or on the phone during the time frame of the audit. In lieu of the Transportation Agencies or its appointed audit firm performing their own audit, if the Contractor has an external audit firm perform a certified SOC 2 Type 2 audit, the Transportation Agencies may review the controls tested and the results, and may request additional controls to be added to the certified SOC 2 Type 2 review for testing the controls having an impact on PI.

#### 14. Data Breach or Loss.

- a. **Data Breach Notification Requirements.** The Contractor shall comply with applicable data protection, data security, data privacy and data breach notification laws (including the Breach of Personal Information Notification Act, Act of December 22, 2005, P.L. 474, No. 94, as amended, 73 P.S. §§ 2301–2329). The Contractor shall also comply with applicable Commonwealth information technology policies.
- b. **Incidents.** For PI in the possession, custody, and control of the Contractor or its Business Partners, employees, or agents, an "Incident" means a suspected, successful, or imminent threat of unauthorized access, use, disclosure, breach, modification, theft, loss, corruption, or destruction of information; interference with information technology operations; or interference with system operations.
- c. **Notice to the Transportation Agencies.** The Contractor shall report an Incident to the Transportation Agencies within two hours of when the Contractor knows of or reasonably suspects an Incident, and the Contractor shall immediately take reasonable steps to mitigate the potential harm or further access, use, release, loss, destruction, or disclosure of PI.
- d. **Notice to Affected Individuals; Credit Monitoring.** The Contractor shall provide timely notice to individuals that may require notice under an applicable law or regulation because of an Incident. The notice shall be pre-approved by the Transportation Agencies. At the Transportation Agencies' request, the Contractor shall, at its sole expense, provide credit monitoring services to individuals that may be impacted by an Incident requiring notice.

- e. **Contractor Responsible for Damages.** The Contractor shall be solely responsible for costs, losses, fines, or damages incurred by the Commonwealth due to Incidents.
- f. **Immediate Response Required.** As to PI fully or partially in the possession, custody, or control of the Contractor and the Transportation Agencies, the Contractor shall immediately perform the duties required in this Agreement in cooperation with the Transportation Agencies, until the time at which a determination of responsibility for the Incident, and for subsequent action regarding the Incident, is made final.
- g. **Post-Incident.** The Contractor shall cooperate with the Transportation Agencies in post-incident investigation, remediation, and communication efforts. The Contractor shall conduct a forensic and security review and audit in connection with an Incident and, if appropriate to the nature and scope of the Incident, retain an independent third-party auditor to perform an audit or assessment of the Contractor's information security procedures, systems, and network (including testing the system of controls, appropriate systems implementation, vulnerability analysis, and penetration testing). If a material security-related risk is identified by the Contractor or auditor, the Contractor shall take timely remedial action based on industry best practices and the results of the assessment, audit, or risk identification.
- h. **Default.** The Contractor shall not, and shall not permit another to, interfere with system operations; or access, use, disclose, breach, modify, steal, lose, corrupt, or destroy PI, in a manner not authorized by the Transportation Agencies. The Transportation Agencies may consider each of these acts or failures to act an event of default. The Transportation Agencies may terminate this Agreement for cause upon a default.

15. **Contractor Data Sharing Costs.**

- a. **Contractor to Bear All Costs.** The Contractor shall bear the cost of providing PI to Business Partners and End Users, at no cost to the Transportation Agencies (including costs of computer hardware, software, services, personnel, networks, licenses, transportation, insurance, bonds, or installation). The Contractor may charge fees to its Business Partners and End Users. The Transportation Agencies does not guarantee the Contractor can recover the costs it incurs under this Agreement.
- b. **Information Security Audit Costs.** SOC 2 Type 2 reports, including by the

Contractor and relevant Business Partners, shall be provided at no expense to the Transportation Agencies.

- c. **Compliance Audit Costs.** The Contractor shall pay the costs of financial and performance audits. Payment for each audit shall be submitted within 45 calendar days of receipt of an invoice from the Transportation Agencies or the Transportation Agencies' designated auditor.
  - d. **Normal Delays and Downtime.** The Transportation Agencies shall not be responsible for loss of work or income resulting from system downtime due to hardware or software malfunction, extended power failure, communications line failures, and other normal and usual consequences of operation of a computer network.
16. **Notification Requirements.** Unless prohibited by law enforcement or court order, the Contractor shall notify the Transportation Agencies by telephone within 24 hours when the Contractor has reason to believe it or a Business Partner may have violated this Agreement. Written confirmation shall be submitted to the Transportation Agencies within five calendar days of initial notification. The Contractor shall notify the Transportation Agencies within 24 hours if the Contractor is under investigation and shall provide the Transportation Agencies with the name of the investigating entity and the reason for the investigation, if known. The Contractor shall provide follow-up documentation requested by the Transportation Agencies and cooperate in the Transportation Agencies' investigations.
17. **Confidentiality of Contractor Information and Communications.** The Transportation Agencies shall not treat the contents of the Contractor's communications, information, data, or reports (including those related to the Contractor's data security and certifications) as confidential unless marked by the Contractor as confidential per the Pennsylvania Right to Know Law, which requires an agency to notify a third party when a request meets both of the following conditions: (a) The third party provided the records to the agency; and (b) The third party included a written statement signed by a representative of the third party stating that the record contains a trade secret or confidential proprietary information (See 65 P.S. § 67.707(b)).
18. **Indemnification.**
- a. **Data Breach or Loss.** The Contractor shall indemnify, defend, and hold the Transportation Agencies harmless from and against claims, actions, suits, and proceedings resulting from the cost of notification of affected persons, third-party

credit monitoring services (which shall be provided for at least one year to affected parties), establishing and maintaining a call center in the event of a data breach or loss, and costs of an investigation (including computer forensic work) to assess and mitigate the effects of a data breach or loss. Indemnification shall include:

- i. **Legal Breaches.** Breach of security and privacy laws, rules, or regulations globally, as presently constituted or amended.
  - ii. **Hacking and Theft.** Data theft, damage, unauthorized disclosure, destruction, or corruption, including unauthorized access, unauthorized use, identity theft, theft of personally identifiable information or confidential corporate information in whatever form, transmission of a computer virus or other type of malicious code, and participation in a denial of service attack on third-party computer systems.
  - iii. **Denial of Service.** Loss or denial of service.
  - iv. **Breach of Contract.** Breach of contract, privacy and security liability, privacy regulatory defense and payment of civil fines, payment of credit card provider penalties, and breach response costs (including notification costs, forensics, credit protection services, call center services, identity theft protection services, and crisis management/public relations services).
  - v. **Employees and Business Partners.** Indemnification without limitation if caused by a Business Partner, employee of the Contractor, independent contractor working on behalf of the Contractor in performing services under this Agreement, or End User.
  - vi. **Negligence.** Indemnification for wrongful acts, claims, and lawsuits anywhere in the world.
- b. **The Transportation Agencies' Duty to Notify.** The Transportation Agencies shall notify the Contractor promptly when the Transportation Agencies knows of a claim for a loss the Contractor might be obligated to pay. The Transportation Agencies' failure to give timely notice does not terminate the Contractor's obligation, except to the extent the failure prejudices the Contractor's ability to defend the claim or mitigate losses.
- c. **Legal Defense of a Claim.** The Transportation Agencies have control over defending a claim for a loss (including settling it), unless the Contractor elects to control the defense as described below, or the Transportation Agencies direct the Contractor to control the defense. Upon receiving notice of a claim for a loss, the Contractor may take control of the defense by notifying the Transportation

Agencies. If the Contractor takes control, the Contractor may retain legal counsel, and the Transportation Agencies may retain their own legal counsel. The Contractor shall not settle litigation without the Transportation Agencies' written consent if the settlement imposes a penalty, non-monetary obligation, imposes limits on the Transportation Agencies program or project, admits the Transportation Agencies' fault, or does not fully release the Transportation Agencies from liability.

- d. **Legal Costs and Insurance.** Except as otherwise agreed to by the parties, and regardless of who has control over the defense, the Contractor shall pay the Transportation Agencies' costs of litigation or other disputes brought by third parties related to this Agreement (including reasonable attorney's fees incurred by the Transportation Agencies in asserting claims or defenses), except the Transportation Agencies shall bear its own costs of litigation or disputes (including attorney's fees) for liability solely caused by the Transportation Agencies' negligence or intentional acts, and for litigation or other disputes between the parties. If the Contractor purchases general liability or cyber liability insurance (or both) to satisfy this obligation, the Transportation Agencies shall be named an additional insured on the policy and the Contractor shall deliver a certificate of insurance to the Transportation Agencies before the effective date of the notice to proceed. Policies shall be occurrence-based and provide for 30 days' notice to the Transportation Agencies before cancellation (15 days for non-payment of premium).
- e. **No Limitations.** The indemnification obligations in this Section (including Business Partner indemnification), shall apply without regard to a limitation in insurance coverage. The Transportation Agencies' rights under this Section do not affect other rights the Transportation Agencies might have.

## 19. Termination or Expiration.

- a. **Termination for Convenience.** A termination for convenience shall automatically convert to termination for cause if an ongoing data breach is discovered after the termination, upon notice to the Contractor.
- b. **Termination for Changes in the Law.** This Agreement may be terminated immediately, upon written notice, should changes in governing state or federal laws or regulations render performance illegal, impracticable, or impossible. Should this Agreement be terminated for changes in the law, the Contractor shall remain liable for the payment of charges accrued up to and including the date of termination.
- c. **Termination for Cause.** The Contractor's failure to comply with this Agreement

shall be grounds for immediate termination.

- d. **Termination for Cause - Gratuities.** The Transportation Agencies may, by written notice to the Contractor, terminate if the Secretary of Transportation or the Secretary's duly authorized representative finds, after notice and hearing, gratuities in the form of entertainment, gifts, or other incentives were offered or given by the Contractor (or an agent or representative of the Contractor) to an officer or employee of the Transportation Agencies with a view to the awarding or amending of this Agreement, or the making of determinations with respect to its performance. The existence of the facts upon which the Secretary or the Secretary's duly authorized representative makes shall be in issue and may be reviewed in a competent court. The Transportation Agencies shall be entitled to pursue the same remedies against the Contractor as it could pursue for a breach of contract and, in addition to other damages to which it may be entitled by law and this Agreement, shall be entitled to exemplary damages in an amount determined by the Secretary or the Secretary's duly authorized representative, which shall not be less than three nor more than ten times the costs incurred by the Contractor in providing gratuities to an officer or employee.
- e. **Post-Termination and Post-Expiration Obligations.** Upon termination or expiration of this Agreement, the Transportation Agencies' intellectual property licenses granted in this Agreement shall be deemed revoked, and the Contractor shall transfer and deliver to the Transportation Agencies reports and other documentation in the Contractor's possession (including those in the possession of its Business Partners) pertaining to PI, subject to Contractor's obligation to retain a record of its service. The Contractor shall no longer purchase or receive PI. The Contractor's duty to return PI includes written, electronic, and other forms of media in which PI is embodied along with copies and extracts. Memoranda, notes, reports, designs, plans, schedules, lists, and other writings prepared by Contractor based on PI shall either be immediately delivered to the Transportation Agencies or destroyed, as the Transportation Agencies request. Contractor shall promptly certify compliance with the requirements of this Section to the Transportation Agencies in writing. Contractor shall comply with its obligations pursuant to this Section within 30 calendar days of termination or expiration of this Agreement, or within another time as the parties mutually agree.
- f. **End of Agreement Data Handling.** The Contractor shall maintain timely communication with the Transportation Agencies, and document its communication activities, to avoid unduly impairing business operations by hasty destruction or return of component data files. No PI shall be retained when files are returned or destroyed unless authorized in writing by the Transportation Agencies.





be construed either disjunctively or conjunctively to effectuate the intent of the parties.

- b. **Use of “Including.”** The words “including,” “includes,” or “include” are to be read as listing non-exclusive examples of the matters referred to, whether words like “without limitation” or “but not limited to” are used in each instance.

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Before starting any work and until completion and final payment is made for the work, or final acceptance of the work, the Contractor will provide and maintain the following minimum levels of insurance at Contractor's own expense. The cost of the required insurance shall be included in the Contractor's cost proposal and no adjustment shall be made to the contract price on account of such costs. Contractor shall furnish Certificates of Insurance showing the effective date of coverage as outlined below. No work may be performed until the required evidence of Insurance is provided in accordance with the terms of the contract. Contractor shall be responsible for ensuring that all Subcontractors hired by the Contractor are properly insured. Contractor shall not permit any such Subcontractors to start work until such evidence has been provided to the Contractor.

- a) All insurance shall be procured from insurers permitted to do business in the State in which the project is taking place and having an A.M. Best Rating of at least "A-, Class VIII".
- b) Contractor shall not have a Self-Insured Retention (SIR) on any policy greater than \$50,000, which is the responsibility of the Contractor. If Contractor's policy(ies) has a Self-Insured Retention exceeding this amount, approval must be received from the Commission prior to starting work. In the event any policy includes an SIR, the Contractor is responsible for payment within the SIR of their policy(ies) and the Additional Insured requirements specified herein shall be offered within the SIR amount(s).
- c) All insurance required herein, except for Professional Liability, Network Security and Privacy Liability Insurance and Crime, shall be written on an "occurrence" basis.
- d) The Contractor's insurance carrier(s) shall agree to provide at least thirty (30) days prior written notice to the Transportation Agencies in the event coverage is canceled or non-renewed, unless cancellation is for non-payment of premium. In the event of cancellation or non-renewal of coverage(s) for any reason, it is the Contractor's responsibility to replace coverage to comply with the Contract requirements so there is no lapse of coverage for any time period.

If the insurance carriers will not issue or endorse their policy(s) to comply with the above it is the responsibility of the Contractor to report any notice of cancellation or non-renewal at least thirty (30) days prior to the effective date of this notice.

- e) Contractor shall provide the Transportation Agencies with Certificates of Insurance, showing the insurance coverages listed below, ten days prior to the start of work of this Project and thereafter upon renewal or replacement of each coverage. The Contractor shall not begin any work until the Transportation Agencies have reviewed and approved the Certificate of Insurance.

Failure of the Transportation Agencies to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the Transportation Agencies to identify a deficiency from evidence that is provided

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shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Upon completion of the contract, an additional certificate(s) of insurance evidencing coverage shall be provided to the Transportation Agencies with final application for payment.

- f) Pennsylvania Turnpike Commission, and its Commissioners, officers, employees and agents and the Pennsylvania Department of Transportation and its officers, employees and agents shall be added as ADDITIONAL INSUREDS on all required liability policies (except Workers' Compensation and Professional Liability) for ongoing operations and completed operations on a primary noncontributory basis.

There shall be no "Insured versus Insured Exclusion" on any policies; all policies will provide for "cross liability coverage".

- g) Waiver of Rights of Subrogation: Contractor shall waive all rights of recovery against the Commission and/or the Department and all the additional insureds for loss or damage covered by any of the required insurance (except Professional Liability).
- h) The amount of insurance in the required coverages shall not be construed to be a limitation of the liability on the part of the Contractor.
- i) The carrying of insurance described below shall in no way be interpreted as relieving the Contractor of any responsibility or liability under the contract.
- j) Any type of insurance or any increase in limits of liability which the Contractor requires for its own protection or on account of statute shall be its own responsibility and at its own expense.
- k) Contractor shall promptly notify the Transportation Agencies and the appropriate insurance company(ies) in writing of any accident(s) as well as any claim, suit or process received by the insured Contractor arising in the course of operations under the contract. The Contractor shall forward such documents received to its insurance company(ies), as soon as practicable, or as required by its insurance policy(ies).

**REQUIRED COVERAGES - the following may be provided through a combination of primary and excess policies in order to meet the minimum limits set forth below:**

1. **Workers' Compensation and Employer's Liability:**

Provided in the State in which the work is to be performed and elsewhere as may be required and shall include:

- a) Workers' Compensation Coverage: Statutory Requirements
- b) Employers Liability Limits not less than:

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Bodily Injury by Accident:	\$500,000 Each Accident
Bodily Injury by Disease:	\$500,000 Each Employee
Bodily Injury by Disease:	\$500,000 Policy Limit

- c) Includes sole proprietorships and officers of corporation who will be performing the work.

**2. Commercial General Liability:**

Provided on standard ISO forms or an equivalent form including Premises - Operations, Independent Contractors, Products/Completed Operations, Broad Form Property Damage, Contractual Liability, and Personal Injury and Advertising Injury.

- a) Occurrence Form with the following limits:
  - (1) General Aggregate: \$2,000,000
  - (2) Products/Completed Operations Aggregate: \$2,000,000
  - (3) Each Occurrence: \$1,000,000
  - (4) Personal and Advertising Injury: \$1,000,000

**3. Automobile Liability:**

- a) Coverage to include All Owned, Hired and Non-Owned Vehicles (or "Any Auto"). If Contractor does not have any Owned Vehicles, Contractor is still required to maintain coverage for Hired and Non-Owned Vehicles as either a stand-alone policy or endorsed onto the Commercial General Liability policy above
- b) Per Accident Combined Single Limit \$1,000,000

**4. Commercial Umbrella Liability:**

- a) Policy(ies) to apply on a Following Form Basis of the following:
  - (1) Commercial General Liability,
  - (2) Automobile Liability, and
  - (3) Employers Liability Coverage.
- b) Minimum Limits of Liability
  - Occurrence Limit: \$4,000,000
  - Aggregate Limit (where applicable): \$4,000,000

**5. Professional Liability:**

- a) The definition of "Covered Services" shall include the services required in the scope of this contract.
- b) Minimum Limits of Liability:
  - Per Claim: \$2,000,000
  - Aggregate: \$2,000,000
- c) If the policy is issued on a claims-made form, the following requirements will apply:

- 1. The retroactive date must be on or before the start of work under this contract;

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2. In the event of policy termination, cancellation or non-renewal, the Contractor must purchase "tail coverage/an extended reporting period" or maintain coverage for a period of three (3) years after the completion of their work/final payment.

6. **Network Security and Privacy Liability (can be included in Professional Liability):**

- a) Contractor shall maintain the following coverage including but not limited to:
  - (1) Network Security Liability for third party liability arising out of hacking, network system intrusions, unauthorized access/use to data or systems, distribution of malicious code, denial of service and cyber extortion.
  - (2) Privacy Liability for third party liability arising out of breach of privacy, inclusive of confidential and proprietary business information, HIPAA violations and other breaches of personally identifiable information and /or protected health information that may arise from their work with this contract.
- b) Minimum Limits of Liability (including Payment Card Information (PCI) Loss:  
Per Claim: \$5,000,000  
Aggregate: \$5,000,000
- c) Minimum Limits of Liability:  
Privacy Breach Notification and Credit Monitoring: \$5,000,000 Per Occurrence

7. **Crime Insurance:**

- a) Include the Employee Theft and Theft, Disappearance and Destruction coverage parts. The Employee Theft Coverage part shall include the Clients' Property Endorsement (ISO Form CR 04 01, or its equivalent).
- b) Minimum Limits of Liability: Per Occurrence: \$1,000,000

8. **Property Coverage/Installation Floater:**

- a) Contractor shall provide coverage for damage to their materials to be part of the work zone (on-site and off-site), damage to property in the course of set-up within the work zone and while in transit to the work zone.

**APPENDIX E – RFP19-10480-8400**  
**Pennsylvania Turnpike Commission**  
**DIVERSE BUSINESS (DB) REQUIREMENTS**

**Diverse Business Participation.** The Commission and the Department, together the Transportation Agencies, are committed to Diverse Business (DB) participation on competitive contracting opportunities. Firms or entities that have not previously performed work or provided services to the Transportation Agencies are encouraged to respond to the solicitations. RFPs may include DB participation as part of the criteria for the evaluation of proposals, and the Transportation Agencies may consider DB participation as a selection factor.

**Minimum Participation Level (MPL).** The minimum participation level (MPL) for the inclusion of DBs will be established in the RFP/advertisement as a percentage.

**(a) General Requirements.** Section 303 of Title 74 of the Pennsylvania Consolidated Statutes, 74 Pa.C.S. § 303, requires proposer on contracts funded pursuant to the provisions of Title 74 (Transportation) and 75 (Vehicle Code) administered and issued by the Transportation Agencies to make Good Faith Efforts to solicit subconsultants that are Diverse Businesses (DBs) as defined in Section 303. The DB requirements of Section 303 apply to this contract.

Section 303 requires proposers to make Good Faith Efforts, as described below, to solicit subconsultants that are DBs during the proposal process to maximize participation of DBs in competitive contracting opportunities.

The Transportation Agencies are committed to participation by DBs and will enforce the requirements of Section 303 and this section. Failure to make Good Faith Efforts and demonstrate such Good Faith Efforts in the solicitation of subconsultants may result in the proposer being declared ineligible for the contract.

Proposers shall document and submit to the Transportation Agencies all Good Faith Efforts, as described in this section, to solicit subconsultants that are DBs during the solicitation process.

Proposers are encouraged to utilize and give consideration to consultants offering to utilize DBs in the selection and award of contracts.

Proposers shall not discriminate on the basis of gender, race, creed or color in the award and performance of contracts in accordance with 62 Pa.C.S. §3701.

Failure to comply with the requirements of Section 303 or this specification may result in the imposition of sanctions as appropriate under section 531 of the Procurement Code, 62 Pa.C.S. § 531 relating to debarment and suspension.

The Commission's Director of the Office of Diversity and Inclusion, or designee, is designated the Responsible Official who shall supervise the DB program and ensure that the Commission complies with the DB program.

**(b) Definitions.** The following definitions apply to terms used in this specification:

**1. Disadvantaged Business** – A business that is owned or controlled by a majority of persons, not limited to members of minority groups, who are subject to racial, social, ethnic prejudice or cultural bias.

**2. Diverse Business** – A disadvantaged business, minority-owned or women-owned business or service-disabled veteran-owned or veteran-owned small business that has been certified by a third-party certifying organization.

**3. Minority-owned Business** – A business owned and controlled by a majority of individuals

who are African Americans, Hispanic Americans, Native Americans, Asian Americans, Alaskans or Pacific Islanders.

**4. Professional Services** – An industry of infrequent, technical or unique functions performed by independent contractors or consultants whose occupation is the rendering of the services, including: (1) design professional services as defined in 62 Pa.C.S. § 901 (relating to definitions); (2) legal services; (3) advertising or public relations services; (4) accounting, auditing or actuarial services; (5) security consultant services; (6) computer and information technology services; and (7) insurance underwriting services.

**5. Pro Forma Effort**-The act of completing a form or document identifying efforts to solicit DBs for a project in order to satisfy criteria with little or no expectation that the DBs contacted or identified will perform any of the work.

**6. Service-Disabled Veteran-Owned Small Business** – A business in the United States which is independently owned and controlled by a service-disabled veteran(s), not dominant in its field of operation, and employs 100 or fewer employees.

**7. Subconsultant**- Any individual, partnership, firm, or corporation entering into a contract with the prime consultant for work under the contract, including those providing professional and other services.

**8. Third-party Certifying Organization** – An organization that certifies a small business, minority-owned business, women-owned business or veteran-owned small business as a diverse business. The term includes: (1) the National Minority Supplier Development Council; (2) the Women’s Business Development Enterprise National Council; (3) the Small Business Administration; (4) The Department of Veteran Affairs; (5) the Pennsylvania Unified Certification Program.

**9. Veteran-owned Small Business** –A small business owned and controlled by a veteran or veterans.

**10. Women-Owned Business** – A business owned and controlled by a majority of individuals who are women.

**(c) Actions Required by Proposer during the procurement/consultant selection phase**

**1. Submission Requirements – Consultant Responsiveness.**

- a. **Minimum Participation Level (MPL) Documentation** - If the documentation submitted with the proposal demonstrates that the proposer has identified DBs sufficient to meet the MPL established for this contract, the proposer will be deemed to have satisfied the DB requirement during this phase. The proposer is required to provide the business name and business address of each DB and supporting documentation that includes proof of certification.

If the consultant’s proposal demonstrates the consultant’s inability to meet the MPL established for this contract, the proposer shall demonstrate Good Faith Efforts with its proposal. Failure to submit the required documentation demonstrating Good Faith Efforts as further described below with the proposal may result in a rejection of the proposal.

- b. If no MPL has been established for this contract, the proposer is required to either provide a statement of intent that it will self-perform 100% of the work for the agreement, or demonstrate Good Faith Efforts to solicit subconsultants that are DBs.



In either case documentation shall be provided with the proposal.

Failure to submit the required information identified above with the proposal may result in a rejection of the proposal.

**2. Good Faith Effort Requirements:** The documentation of Good Faith Efforts must include the business name and business address of each DB considered. Supporting documentation must also include proof of certification and any explanation of Good Faith Efforts the proposer would like the Transportation Agencies to consider. Any services to be performed by a DB are required to be readily identifiable to the agreement. Good Faith efforts are demonstrated by seeking out DB participation in the project given all relevant circumstances. The Transportation Agencies require the proposer to demonstrate more than Pro Forma Efforts. Evidence of Good Faith Efforts includes, but is not limited to:

- a. Consultant solicits through all reasonable and available means the interest of all certified DBs with the capacity to perform the scope of work set forth in the agreement.
- b. The proposer must provide written notification at least 5 business days before proposals are due to allow the DBs to respond to the solicitation.
- c. The proposer must determine with certainty if DBs are interested by taking appropriate steps to follow up initial solicitations.
- d. The proposer must make efforts to select portions of the work to be performed by DBs to include, where appropriate, breaking out contract work into economically feasible units to facilitate DB participation;
- e. It is the proposer's responsibility to make a portion of the work available to DBs and, to select those portions of the work, so as to facilitate DB participation.
- f. The proposer shall provide evidence of such negotiations that include the names, addresses, and telephone numbers of DBs considered; A description of the information provided regarding the required work and services for the work selected for subconsultants; and evidence as to why additional agreements could not be reached for DBs to perform the work.
- g. Proposers cannot reject or withhold solicitation of DBs as being unqualified without sound reasons based on a thorough investigation of their capabilities.
- h. The DB's standing within its industry, membership in specific groups, organizations or associations and political or social affiliations (for example union v. non-union employee status) are not legitimate causes for the rejection or non-solicitation of proposals in the proposer's efforts to meet the Good Faith Efforts requirement.
- i. Efforts to assist interested DBs in obtaining bonding, lines of credit or insurance.

**3. Actions Taken by the Transportation Agencies.** As part of the proposal review process, the Transportation Agencies will review the submissions to determine whether the proposer has complied with Section 303 and this requirement in the selection of DB subconsultants. The Transportation Agencies will determine whether the proposer has either met the MPL or provided acceptable documentation as noted above. The Transportation Agencies reserve the right to contact proposers for clarification during the review and negotiation process.

If the Transportation Agencies determine that the proposer has failed to either meet the MPL or provide acceptable documentation as noted above, the proposal may be rejected.

**(d) Consultant Requirements During Performance of Services.**

**1. Replacement of a DB Subconsultant.** Consultant must continue good faith efforts through completion of the contract. The obligation to make Good Faith Efforts to solicit subconsultants for any type of service extends to additional work required for any service which is identified to be performed by a DB.

If at any time during the performance of the work, it becomes necessary to replace or add a subconsultant that is a DB, the consultant, as appropriate, shall immediately notify the Transportation Agencies and seek approval in writing in accordance with the Agreement of the need to replace the DB, which notice shall include the reasons for the replacement. If a prime consultant who originally indicated that it would self-perform all work subsequently decides to use a subconsultant for any work under the contract, the consultant must submit documentation of all Good Faith Efforts as to the work for which a subconsultant is obtained.

**2. Records.** Maintain project records as are necessary to evaluate DB compliance and as necessary to perform the reporting function addressed below. Maintain all records for a period of 3 years following acceptance of final payment. Make these records available for inspection by the Transportation Agencies, its designees or agents. These records should indicate:

**2.a.** The number of DB and non-DB subconsultants and the type of services performed on or incorporated in this project.

**2.b.** The progress and efforts made in seeking out DB subconsultant organizations and individual DB consultants for work on this project to increase the amount of DB participation and/or to maintain the commitments made at the time of the proposal to DBs.

**2.c.** Documentation of all correspondence, contacts, telephone calls, and other contacts made to obtain the service of DBs on this project.

**3. Reports.** Maintain monthly reports and submit reports as required by the Transportation Agencies concerning those contracts and other business executed with DBs with respect to the records referred to in subsection (e)2. above in such form and manner as prescribed by the Transportation Agencies. At a minimum, the Reports shall contain the following:

**3.a** The number of Contracts with DBs noting the type of services provided, including the execution date of each contract.

**3.b** The amounts paid to each DB during the month, the dates of payment, and the overall amounts paid to date. If no payments are made to a DB during the month, enter a zero (\$0) payment.

**3.c** Upon request and upon completion of individual DB firm's work, submit paid invoices or a certification attesting to the actual amount paid. In the event the actual amount paid is less than the award amount, a complete explanation of difference is required.

#### **4. Subconsultant Contracts**

**4.a.** Subcontracts with DB firms will not contain provisions waiving legal rights or remedies provided by laws or regulations of the Federal Government or the Commonwealth of Pennsylvania or the Transportation Agencies through contract provisions or regulations.

**4.b.** Prime consultant will not impose provisions on DB subconsultants that are more onerous or restrictive than the terms of the prime's contract with non-DBs.

**4.c.** Executed copies of subcontracts/purchase orders are to be received by the Transportation Agencies before the commencement of work by the DB.

**5. Payments to DB Subconsultants.** Payments to DBs are to be made in accordance with the prompt payment requirements of Chapter 39, Subchapter D of the Procurement Code, 62 Pa.C.S. §3931 et

seq. Performance of services by a DB subconsultant in accordance with the terms of the contract entitles the subconsultant to payment.

**(e) Actions to be Taken by the Transportation Agencies After Performance of Services.** Following completion of the Consultant's services, the Director of the Commission's Office of Diversity and Inclusion or his/her designee will review the overall DB participation to assess the Consultant's compliance with Section 303 and this contract. Appropriate sanctions may be imposed under 62 Pa.C.S. § 531 (relating to debarment or suspension) for a Consultant's failure to comply with Section 303 and the requirements of the contract.

**APPENDIX F – COST BREAKDOWN**  
**Pennsylvania Turnpike Commission**  
**Statewide Automated Work Zone Speed Enforcement (AWZSE) Program**  
**RFP# 19-10480-8400**

**This form is to be completed in its entirety, is not to be altered in any way and is to contain only the price or prices stipulated on the form.**

Pricing shall be submitted as follows and shall include all costs associated with performance of the work required under this RFP.

Offeror shall submit an all-inclusive cost per Automated Work Zone Speed Enforcement (AWZSE) deployment to operate a turnkey service for the Transportation Agencies' AWZSE Program. The cost per deployment shall include, but not necessarily be limited to, all necessary equipment, hardware, software, data collection services, speed camera system operator, violation and payment processing, contractor maintenance and customer service support, reporting, training, technological integration and any other related costs as more fully described in Section III-7, Requirements.

The rates requested below will be firm for the five (5) year period of the contract, except as noted in items 5 and 6.

<b>Item</b>	<b>Description</b>	<b>Vendor's Unit Cost</b>
1	AWZSE Service Lump Sum Cost per Deployment (fixed fee per deployment) in accordance with the terms, conditions, and specifications stated herein	\$  per deployment
2	Supplemental Service: Pan-Tilt-Zoom Closed Circuit Television (CCTV) Camera Lump Sum Cost Per Deployment (fixed fee per deployment)	\$  per deployment
3	Supplemental Service: AWZSE Required Advance Warning Signage Lump Sum Cost Per Deployment (fixed fee per deployment)	\$  per deployment
4	Supplemental Service: Field Deployment On-Site Monitoring Personnel Lump Sum Cost Per Deployment (fixed fee per deployment)	\$  per deployment

5	Supplemental Service: Extension Year 1 - AWZSE Service Lump Sum Cost per Deployment (fixed fee per deployment) in accordance with the terms, conditions, and specifications stated herein	\$ per deployment
6	Supplemental Service: Extension Year 2 - AWZSE Service Lump Sum Cost per Deployment (fixed fee per deployment) in accordance with the terms, conditions, and specifications stated herein	\$ per deployment

## AGREEMENT

This **AGREEMENT** is made this \_\_\_\_\_ day of \_\_\_\_\_, 2018, between the **Pennsylvania Turnpike Commission** (“**COMMISSION**”), an instrumentality of the Commonwealth of Pennsylvania, with principal offices at 700 South Eisenhower, Blvd., Middletown, Pennsylvania 17057 (mailing address: P. O. Box 67676, Harrisburg, PA 17106-7676);

### AND

**(name of contractor)** (“**CONTRACTOR**”), a **(state)** corporation, with its principal office at **(address)**.

### WITNESSETH:

**WHEREAS**, the **COMMISSION** desires to satisfy a need for the **(name of solicitation)**;

**WHEREAS**, by Act No. 211 of the General Assembly of the Commonwealth of Pennsylvania, approved May 21, 1937, and its amendments, the **COMMISSION** is authorized and empowered to enter into an Agreement with the **CONTRACTOR**;

**WHEREAS**, the **COMMISSION** desires to retain the services of **CONTRACTOR** upon the following terms; and

**NOW, THEREFORE**, in consideration of these mutual covenants, and intending to be legally bound, the parties agree as follows:

#### Contractor’s Scope of Work

The **CONTRACTOR** will perform the work described in **(solicitation identification, i.e. RFP number)** dated **(date of solicitation)**, titled **(Title of solicitation)** and the **CONTRACTOR’S** proposal dated **(date of contractor’s proposal)**. These documents are made a part of this Agreement by reference.

#### Commission’s Responsibilities

**(As defined in Section I of the RFP, “Commission Participation”)**

The **COMMISSION** shall furnish the **CONTRACTOR** access to key personnel, relevant documents, and adequate workspace for completing the work.

#### Compensation

For the work, services, and material as defined in this Agreement, the **CONTRACTOR** shall be paid a not-to-exceed amount of **(agreement dollar value)**.

The **CONTRACTOR** agrees that the **COMMISSION** may set off the amount of any state tax liability or other obligation of the **CONTRACTOR** or its subsidiaries to the Commonwealth against any payments due the **CONTRACTOR** under any contract with the **COMMISSION**.

#### Duration of Agreement

The term of this Agreement shall be for a period of **(agreement term)** and shall commence on the Effective Date as defined below.

The Effective Date shall be fixed by the **COMMISSION** after the Agreement has been fully executed by the **CONTRACTOR** and by the **COMMISSION**, and after all approvals required by the **COMMISSION** contracting procedures have been obtained.

This Agreement will not terminate until the **COMMISSION** accepts all work as complete and tenders final payment to the **CONTRACTOR**.

#### Termination

Either party may terminate this Agreement at any time upon thirty- (30) calendar days written notice. If this notice is given, the **CONTRACTOR** shall be paid only for the services already rendered upon the date of the notice and for the services rendered to the date of termination, subject to all provisions of this Agreement. The notice will be effective on the date of receipt. The right to cancel may be exercised as to the entire project, or as to any particular phase or phases, part or parts, and upon one or upon several occasions, but any termination may not be revoked except upon written consent of the parties through a supplemental Agreement to this Agreement.

#### Insurance

The **CONTRACTOR**, prior to execution of this Agreement, shall furnish to the **COMMISSION** the certificates of insurances as required in attached **Exhibit "X"** and made a part of this Agreement.

#### Diverse Business (DB) Requirements

The **CONTRACTOR** agrees to comply with the requirements set forth in the **COMMISSION'S** DB Requirements - **Exhibit X**, attached and made part of this Agreement. In particular, the **CONTRACTOR** agrees to comply with section (d) Consultant Requirements During Performance of Services.

#### Assignment and Delegation

The **CONTRACTOR** may not transfer, assign, or delegate any terms of this Agreement, in whole or in part, without prior written permission from the **COMMISSION**.

The **CONTRACTOR** shall not engage the services of any person or persons currently employed by

the **COMMISSION**, except with the **COMMISSION's** approval.

The **CONTRACTOR** shall neither assign this contract, in part or in whole, nor the right to any monies due it under this Agreement. Any part of the work to be done or material furnished under the contract shall not be sublet except to those firms indicated as part of the team in the initial Proposal, without the **COMMISSION's** prior consent in the form of a letter signed by the *Department Head (update accordingly)*.

#### Governing Law

This Agreement will be interpreted according to the laws of the Commonwealth of Pennsylvania.

#### Observance of Laws

The **CONTRACTOR** agrees to observe all relevant federal, state, and local laws and to obtain in its name all necessary permits and licenses.

#### Work for Hire

Except for hardware, third party licensed software, and software previously developed by **CONTRACTOR**, all Deliverables, including but not limited to source code, software, specifications, plans, designs and engineering, drawings, data, information or other written, recorded, photographic, or visual materials, trademarks, service marks, copyrights or other Deliverables produced by **CONTRACTOR** or any supplier in the performance of this Agreement shall be deemed "Work Product". All Work Product shall be considered services for hire. Accordingly, except as set forth earlier in this paragraph, all Work Product shall be the exclusive property of the **COMMISSION**.

The **CONTRACTOR** agrees to notify the **COMMISSION** in writing before using any of **CONTRACTOR's** previously developed software for services provided under this Agreement. The **CONTRACTOR** and the **COMMISSION** will honor all applicable preexisting licenses, copyrights, trademarks, service marks, and patents. If as part of an expense item under this Agreement, the **CONTRACTOR** purchases the right to any license, the agreements for the use or ownership of such license will be placed in the name of the **COMMISSION** along with all other rights and obligations. In addition, the **CONTRACTOR** will mark all **COMMISSION** content or previously unprotected work product designated by the **COMMISSION** with a notice as follows: "Pennsylvania Turnpike Commission, (Year)".

#### Audit/Retention of Records

**CONTRACTOR** and its subcontractors shall maintain books and records related to performance of this Agreement or subcontract and necessary to support amounts charged to the **COMMISSION** in accordance with applicable law, terms and conditions of this Agreement, and generally accepted accounting practice. **CONTRACTOR** shall maintain these books and records for a minimum of three (3) years after the completion of the Agreement, final payment, or completion of any contract, audit or litigation, whichever is later. All books and records shall be available for review or audit by



the **COMMISSION**, its representatives, and other governmental entities with monitoring authority upon reasonable notice and during normal business hours. **CONTRACTOR** agrees to cooperate fully with any such review or audit. If any audit indicates overpayment to **CONTRACTOR**, or subcontractor, the **COMMISSION** shall adjust future or final payments otherwise due. If no payments are due and owing to **CONTRACTOR**, or if the overpayment exceeds the amount otherwise due, **CONTRACTOR** shall immediately refund all amounts which may be due to the **COMMISSION**. Failure to maintain the books and records required by this Section shall establish a presumption in favor of the **COMMISSION** for the recovery of any funds paid by the **COMMISSION** under this Agreement for which adequate books and records are not available to support the purported disbursement.

#### Dispute Resolution

All questions or disputes regarding any matter involving this Agreement or its breach shall be referred to the Board of Claims of the Commonwealth of Pennsylvania pursuant to 62 Pa.C.S.A. § 1701 *et seq.* If the Board of Claims either refuses or lacks jurisdiction, these questions or disputes shall proceed as provided in 42 Pa.C.S.A. § 7301 *et seq.* (Statutory Arbitration).

The panel of arbitrators will consist of a representative of each of the parties and a third party chosen by the representatives, or if the representatives are unable to choose, by the American Arbitration Association.

#### Indemnification

The **CONTRACTOR** shall be responsible for, and shall indemnify, defend, and hold harmless the **COMMISSION** and its Commissioners, officers, employees, and agents from any claim, liability, damages, losses, causes of action, and expenses, including reasonable attorneys' fees, arising from damage to life or bodily injury or real or tangible personal property caused by the negligence or other tortious acts, errors, and omissions of **CONTRACTOR**, its employees, or its subcontractors while engaged in performing the work of this Agreement or while present on the **COMMISSION**'s premises, and for breach of this Agreement regarding the use or disclosure of proprietary and confidential information where it is determined that **CONTRACTOR** is responsible for any use of such information not permitted by this Agreement. The indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or its subcontractors under Workmen's Compensation Acts, Disability Benefits Acts, or other Employee Benefit Act.

#### Data/Information Security Breach Notification

"Breach" shall mean any successful unauthorized acquisition, access, use, or disclosure of **COMMISSION** data that compromises the security or privacy of such data.

"Commission Data" means **COMMISSION** provided information and **COMMISSION** related information acquired as a result of the services provided to **COMMISSION** under this Agreement.

**CONTRACTOR** shall report to the **COMMISSION** any Breach affecting **COMMISSION** Data. The notice to be provided to the **COMMISSION** by **CONTRACTOR** shall be provided without unreasonable delay and no later than within 48 hours of **CONTRACTOR**'s discovery of any Breach. A Breach shall be deemed to be discovered on the first day on which the **CONTRACTOR** knows or reasonably should have known of the Breach. The notice to be provided to the **COMMISSION** by **CONTRACTOR** shall be made in writing to the **COMMISSION**'s Information Security Officer and shall include the following content: (i) the nature of the Breach; (2) the specific Commission Data affected by the Breach; (3) the steps the **CONTRACTOR** is taking to remediate the Breach; and (4) steps the **CONTRACTOR** is taking to mitigate future Breaches. Following notification of the Breach, **CONTRACTOR** shall cooperate with the **COMMISSION**'s investigation of the Breach and provide any other information regarding the Breach or the Commission Data affected which the **COMMISSION** may reasonably request. Should notice to individuals whose information was part of Commission Data be required under any applicable data privacy law, including, but not limited to, individual state data breach notice laws or federal laws such as HIPAA and Graham Leach Bliley Act, **CONTRACTOR** shall provide the **COMMISSION** with copies of any template notification letters and draft regulatory correspondence for **COMMISSION**'s prior approval. **CONTRACTOR** shall provide any notifications required under the applicable data privacy laws on behalf of the **COMMISSION** at the request of **COMMISSION**. The **COMMISSION** reserves the right to handle any notifications required and shall notify **CONTRACTOR** if the **COMMISSION** will be handling the required notifications. Upon request, **CONTRACTOR** shall provide the **COMMISSION** with its cyber-security policies and procedures. **CONTRACTOR** agrees to reimburse the **COMMISSION** for any and all reasonable costs associated with the **COMMISSION**'s response to **CONTRACTOR**'s Breach, including any fees associated with the **COMMISSION**'s investigation of **CONTRACTOR**'s Breach, notification costs, and any reasonable offer of credit or identity monitoring product.

#### Liquidated Damages

- A. The AWZSE System Administrator shall provide four (4) turnkey ASE systems that meet the requirements of this RFP operational within 60 days of Notice to Proceed. For each day that the four (4) turnkey systems are not operational beyond this 60-day period, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages at the rate of \$2500 per day per vehicle.
- B. The AWZSE System Administrator shall provide a total of 17 turnkey ASE systems that meet the requirements of this RFP operational within 180 days of Notice to Proceed. For each day that the 17 turnkey systems are not operational beyond this 180-day period, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages at the rate of \$2500 per day per vehicle.
- C. Each Notice of Violation that is overturned by the hearing officer or court due to errors under the control of the AWZSE System Administrator shall result in the assessment of liquidated damages in the amount of \$150.

- D.** For each deployment the AWZSE System Administrator fails to meet the requirements of **Part III** or fails to deliver valid images for a particular ASE deployment session, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages of \$150 multiplied by the number of lost violations. With each invoice, the AWZSE System Administrator shall provide a listing of each deployment completed during the invoice period and the associated system accuracy percentage. For any deployments with a system accuracy percentage less than 90 percent, the liquidated damages calculation shall be provided and assessed. The number of violations to reach 90 percent system accuracy shall be rounded up to the nearest whole number. The number of notice of violations to reach 90 percent system accuracy shall be rounded up to the nearest whole number.

The number of lost notice of violations shall be calculated as follows:

Ninety percent of the difference between the number of events and number of uncontrollable rejects minus the number of notice of violations issued, i.e.,

$$[0.90 * (\text{Number of Events} - \text{Number of Uncontrollable Rejects})] \\ - \text{Number of Notice of Violations Issued}$$

- E.** For each day the AWZSE System Administrator fails to deliver valid images for a particular ASE deployment session, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages equal to the average daily total penalties assessed for violations issued per day during the five (5) days immediately before the missed day that the ASE system was in operation at that location.
- F.** Each State approved notice of violation that cannot be mailed within the 30-day time period for as a result of non-performance shall result in the assessment of liquidated damages in the amount of \$150. For each notice of violation that could not be issued in situations where images never reached the Pennsylvania State Police within the allotted approval slate, the AWZSE System Administrator shall be assessed liquidated damages in the amount \$150. Expired notice of violations shall be excluded from the liquidated damages calculations associated with the system accuracy percentage, as explained above.
- G.** For each day the violation processing cannot be completed, or payment cannot be accepted due to the malfunction of service, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages equal to the average daily total penalties assessed for violations issued per day during the five (5) days immediately before the missed day that the ASE system was in operation.
- H.** For each day that the prescribed annual audit is not conducted on schedule, or for each day that audit findings have not been addressed beyond 60 days of the finding, the AWZSE System Administrator shall pay the Transportation Agencies liquidated damages at the rate of \$2500 per day per vehicle.

Security Requirements

The Security Requirements are attached as **[Exhibit X]** and made a part of this Agreement.

Contractor Integrity Provisions

The Contractor Integrity Provisions are attached as **Exhibit X** and made a part of this Agreement.

Confidentiality Provisions

1. As a consequence of the performance of its duties with the **COMMISSION, CONTRACTOR** may learn, be given, or become aware of certain information, including, but not limited to, matters pertaining to internal communications, information, proprietary information, individually identifiable health information, trade practices, business operations, or other sensitive information collectively known as Confidential Information. Regardless of how transmitted or received by **CONTRACTOR**, whether by receipt, sending, or merely becoming available to **CONTRACTOR** through its relationship to the **COMMISSION, CONTRACTOR** agrees to maintain and treat as proprietary and confidential to the **COMMISSION** all such Commission Confidential Information, and shall not discuss, reveal, or use for any purpose outside the performance of its contract with the **COMMISSION** such Commission Confidential Information. Confidential Information shall not include any information that (i) is or becomes available to the public other than as a consequence of a breach by any individual, a partnership, a corporation, an association, a limited liability company, a joint stock company, a trust, a joint venture, an unincorporated organization (each a "Person") of any fiduciary duty or obligation of confidentiality, including, without limitation, catalogues, publications, product descriptions and sales literature that the **COMMISSION** has distributed to the public generally; or (ii) information which at the time of disclosure to the **CONTRACTOR** is in the public domain; or (iii) is disclosed as required by a final, unappealable court order and no suitable protective order, or equivalent remedy, is available, or (iv) the **CONTRACTOR** was aware of prior to its disclosure to the **CONTRACTOR** by the **COMMISSION** from a source not bound by a confidential obligation and the **CONTRACTOR** provides the **COMMISSION** written notice of such fact prior to the execution of this Agreement or promptly upon the **CONTRACTOR**'s learning that the information was Confidential Information; or (v) information which the **CONTRACTOR** can demonstrate with competent written evidence was independently developed by or for the **CONTRACTOR** without use of or reliance on the Confidential Information.

2. With respect to its employees, **CONTRACTOR** agrees to:

- a) require all of its employees to maintain such confidentiality;
- b) take appropriate action against its employees, officers, and subcontractors for any and all violations of this Agreement.

3. With respect to any subcontractors that **CONTRACTOR** wishes to employ to perform any of its obligations under any agreement with the **COMMISSION**, **CONTRACTOR** agrees to require any such approved subcontractor to execute written confidentiality agreements that require each such **CONTRACTOR** and its employees to comply with all the requirements set forth above.
4. **CONTRACTOR** agrees that any breach of these Confidentiality Provisions may result in civil and/or criminal penalties, for **CONTRACTOR**, its officers and employees, and subcontractors.
5. Notwithstanding any other provision to the contrary, **CONTRACTOR** agrees that these provisions shall survive the termination of this and any and all agreements between the **CONTRACTOR** and the **COMMISSION**.
6. **CONTRACTOR** agrees to treat the information in the same way **CONTRACTOR** treats its own most confidential information and to inform each such person of these provisions.
7. **CONTRACTOR** agrees to immediately notify the **COMMISSION** of any information which comes to its attention which does or might indicate that there has been any loss of confidentiality or information.
8. **CONTRACTOR** shall return to the **COMMISSION** upon demand any and all Confidential Information entrusted to it by the **COMMISSION** pursuant to this Agreement (including any and all copies, abstracts, compilations or analyses thereof and memoranda related thereto or incorporating the Confidential Information) or the **CONTRACTOR** may request permission from the **COMMISSION**, which permission may be granted or denied in the **COMMISSION**'s sole discretion, to destroy all such Confidential Information and provide a certificate of destruction to the **COMMISSION** signed by the **CONTRACTOR**. The **CONTRACTOR** further agrees that neither itself nor its employees or representatives will copy, in whole or in part, any such Confidential Information without the prior written consent of the **COMMISSION**.
9. **CONTRACTOR** agrees that if they have had or will have an SSAE16 audit that they will comply with and abide by the findings of such audit to protect **COMMISSION** information.

Use of Unmanned Aircraft Systems: (remove if not applicable to this Agreement)

The **CONTRACTOR** shall not use or operate Unmanned Aircraft Systems (UAS) without the express written approval of the **COMMISSION**. Such approval shall be determined upon review and authorization of a written request from the **CONTRACTOR** by the **COMMISSION**'s Legal Department and UAS program managers. If approved, the **CONTRACTOR** shall execute a separate Authorization to Operate UAS or other applicable third-party agreement prepared by the **COMMISSION**'s Legal Department setting forth the necessary indemnification, release and insurance requirements. The Authorization shall define the requirements the **CONTRACTOR** must follow in order to operate UAS within **COMMISSION** right-of-way and property. All approved UAS operations shall be conducted using Small Unmanned Aircraft Rule (Part 107) (14 CFR Part 107) of the Federal Aviation Administration (FAA) Regulations.

Entire Agreement

This Agreement, together with any writings either attached as exhibits or incorporated by reference, constitutes the entire understanding between the parties and there are no other oral or extrinsic understandings of any kind between the parties.

Modification

This Agreement may be modified only by a writing signed by both parties.

**[SIGNATURES ARE SET FORTH ON THE NEXT PAGE]**

IN WITNESS WHEREOF, the Pennsylvania Turnpike Commission and **(Contractor Name)** have executed this Agreement by their duly authorized officers on the date written above.

ATTEST:

PENNSYLVANIA TURNPIKE COMMISSION

_____	_____	_____	_____
Ann Louise Edmunds	Date	Leslie S. Richards	Date
Assistant Secretary-Treasurer		Chair	

APPROVED AS TO FORM AND LEGALITY:

_____	_____	_____	_____
Albert C. Peters II	Date	Pennsylvania Attorney General	Date
General Litigation & Contracts Counsel			

ATTEST: **(Contractor Name)**

Signature_____	_____	Signature_____	_____
	Date		Date

Name_____	Name_____
-----------	-----------

Title_____	Title_____
------------	------------

Federal Tax ID No. \_\_\_\_\_

## CONTRACTOR INTEGRITY PROVISIONS

It is essential that those who seek to contract with the Pennsylvania Turnpike Commission (“Commission”) observe high standards of honesty and integrity. They must conduct themselves in a manner that fosters public confidence in the integrity of the Commission contracting and procurement process.

**I. DEFINITIONS.** For purposes of these Contractor Integrity Provisions, the following terms shall have the meanings found in this Section:

- a. “Affiliate”** means two or more entities where (a) a parent entity owns more than fifty percent of the voting stock of each of the entities; or (b) a common shareholder or group of shareholders owns more than fifty percent of the voting stock of each of the entities; or (c) the entities have a common proprietor or general partner.
- b. “Consent”** means written permission signed by a duly authorized officer or employee of the Commission, provided that where the material facts have been disclosed, in writing, by prequalification, bid, proposal, or contractual terms, the Commission shall be deemed to have consented by virtue of the execution of this contract.
- c. “Contractor”** means the individual or entity, that has entered into this contract with the Commission, and “Contractor Related Parties” means any affiliates of the Contractor and the Contractor’s executive officers, Pennsylvania officers and directors, or owners of 5% or more interest in the Contractor
- d. “Financial Interest”** means either:
  - i. Ownership of more than a five percent interest in any business; or
  - ii. Holding a position as an officer, director, trustee, partner, employee, or holding any position of management.
- e. “Gratuity”** means tendering, giving, or providing anything of monetary value including, but not limited to, cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind. See Commission Policy 3.10, Code of Conduct.
- f. “Non-bid Basis”** means a contract awarded or executed by the Commission with Contractor without seeking bids or proposals from any other potential bidder or offeror.

**II.** In furtherance of this policy, Contractor agrees to the following:

- 1.** Contractor shall maintain the highest standards of honesty and integrity during the performance of this contract and shall take no action in violation of state or federal laws or regulations or any other applicable laws or regulations, or other requirements applicable to Contractor or that govern contracting or procurement with the Commission.



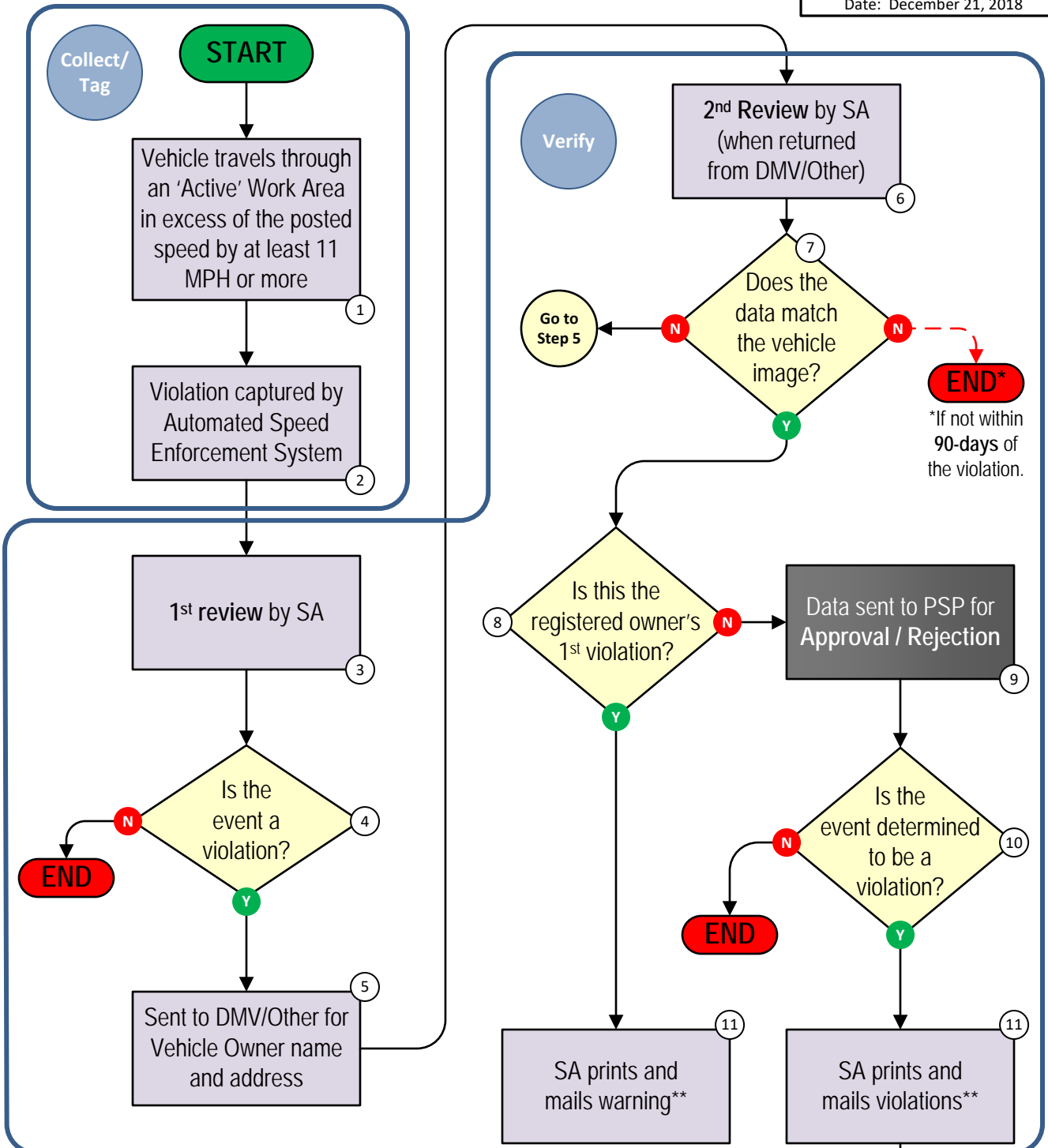
2. Contractor shall establish and implement a written business integrity policy, which includes, at a minimum, the requirements of these provisions as they relate to Contractor activity with the Commission and Commission employees and which is made known to all Contractor employees. Posting these Contractor Integrity Provisions conspicuously in easily-accessible and well-lighted places customarily frequented by employees and at or near where the contract services are performed shall satisfy this requirement.
3. Contractor, its affiliates, agents, employees and anyone in privity with Contractor shall not accept, agree to give, offer, confer, or agree to confer or promise to confer, directly or indirectly, any gratuity or pecuniary benefit to any person, or to influence or attempt to influence any person in violation of the Public Official and Employees Ethics Act, 65 Pa.C.S. §§1101 et seq.; the State Adverse Interest Act, 71 P.S. §776.1 et seq.; Commission Policy 3.10, Code of Conduct or in violation of any other federal or state law in connection with performance of work under this contract, except as provided in this contract.
4. Contractor shall not have a financial interest in any other contractor, subcontractor, or supplier providing services, labor, or material under this contract, unless the financial interest is disclosed to the Commission in writing and the Commission consents to Contractor's financial interest prior to Commission execution of the contract. Contractor shall disclose the financial interest to the Commission at the time of bid or proposal submission, or if no bids or proposals are solicited, no later than Contractor's submission of the contract signed by Contractor.
5. Contractor certifies to the best of its knowledge and belief that within the last five (5) years Contractor or Contractor Related Entities have not:
  - a. been indicted or convicted of a crime involving moral turpitude or business honesty or integrity in any jurisdiction;
  - b. been suspended, debarred or otherwise disqualified from entering into any contract with any governmental agency;
  - c. had any business license or professional license suspended or revoked;
  - d. had any sanction or finding of fact imposed as a result of a judicial or administrative proceeding related to fraud, extortion, bribery, bid rigging, embezzlement, misrepresentation or anti-trust; and
  - e. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or civil anti-trust investigation by any federal, state or local prosecuting or investigative agency.

If Contractor cannot so certify to the above, then it must submit along with its bid, proposal or contract a written explanation of why such certification cannot be made and the Commission will determine whether a contract may be entered into with the Contractor. The Contractor's obligation pursuant to this certification is ongoing from and after the effective date of the contract through the termination date thereof. Accordingly, the Contractor shall have an obligation to immediately notify the Commission in writing if at any time during the term of the contract it becomes aware of any event which would cause the Contractor's certification or explanation to change. Contractor acknowledges that the

Commission may, in its sole discretion, terminate the contract for cause if it learns that any of the certifications made herein are currently false due to intervening factual circumstances or were false or should have been known to be false when entering into the contract.

6. Contractor shall comply with the requirements of the Lobbying Disclosure Act (65 Pa.C.S. §13A01 et seq.) regardless of the method of award. If this contract was awarded on a Non-bid Basis, Contractor must also comply with the requirements of the Section 1641 of the Pennsylvania Election Code (25 P.S. §3260a).
7. When Contractor has reason to believe that any breach of ethical standards as set forth in law, Commission Policy 3.10, Code of Conduct, or these Contractor Integrity Provisions has occurred or may occur, including but not limited to contact by a Commission officer or employee which, if acted upon, would violate such ethical standards, Contractor shall immediately notify the Commission contracting officer or the Chief Compliance Officer in writing.
8. Contractor, by submission of its bid or proposal and/or execution of this contract and by the submission of any bills, invoices or requests for payment pursuant to the contract, certifies and represents that it has not violated any of these Contractor Integrity Provisions in connection with the submission of the bid or proposal, during any contract negotiations or during the term of the contract, to include any extensions thereof. Contractor shall immediately notify the Commission in writing of any actions for occurrences that would result in a violation of these Contractor Integrity Provisions. Contractor agrees to reimburse the Commission for the reasonable costs of investigation incurred by the Chief Compliance Officer for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Commission that results in the suspension or debarment of the Contractor. Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.
9. Contractor shall cooperate with the Chief Compliance Officer in investigating any alleged Commission agency or employee breach of ethical standards and any alleged Contractor non-compliance with these Contractor Integrity Provisions. Contractor agrees to make identified Contractor employees available for interviews at reasonable times and places. Contractor, upon the inquiry or request of the Chief Compliance Officer, shall provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by the Chief Compliance Officer to Contractor's integrity and compliance with these provisions. Such information may include, but shall not be limited to, Contractor's business or financial records, documents or files of any type or form that refer to or concern this contract. Contractor shall incorporate this paragraph in any agreement, contract or subcontract it enters into in the course of the performance of this contract/agreement solely for the purpose of obtaining subcontractor compliance with this provision. The incorporation of this provision in a subcontract shall not create privity of contract between the Commission and any such subcontractor, and no third party beneficiaries shall be created thereby.
10. For violation of any of these Contractor Integrity Provisions, the Commission may terminate this and any other contract with Contractor, claim liquidated damages in an

amount equal to the value of anything received in breach of these Provisions, claim damages for all additional costs and expenses incurred in obtaining another contractor to complete performance under this contract, and debar and suspend Contractor from doing business with the Commonwealth. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those the Commission may have under law, statute, regulation, or otherwise.

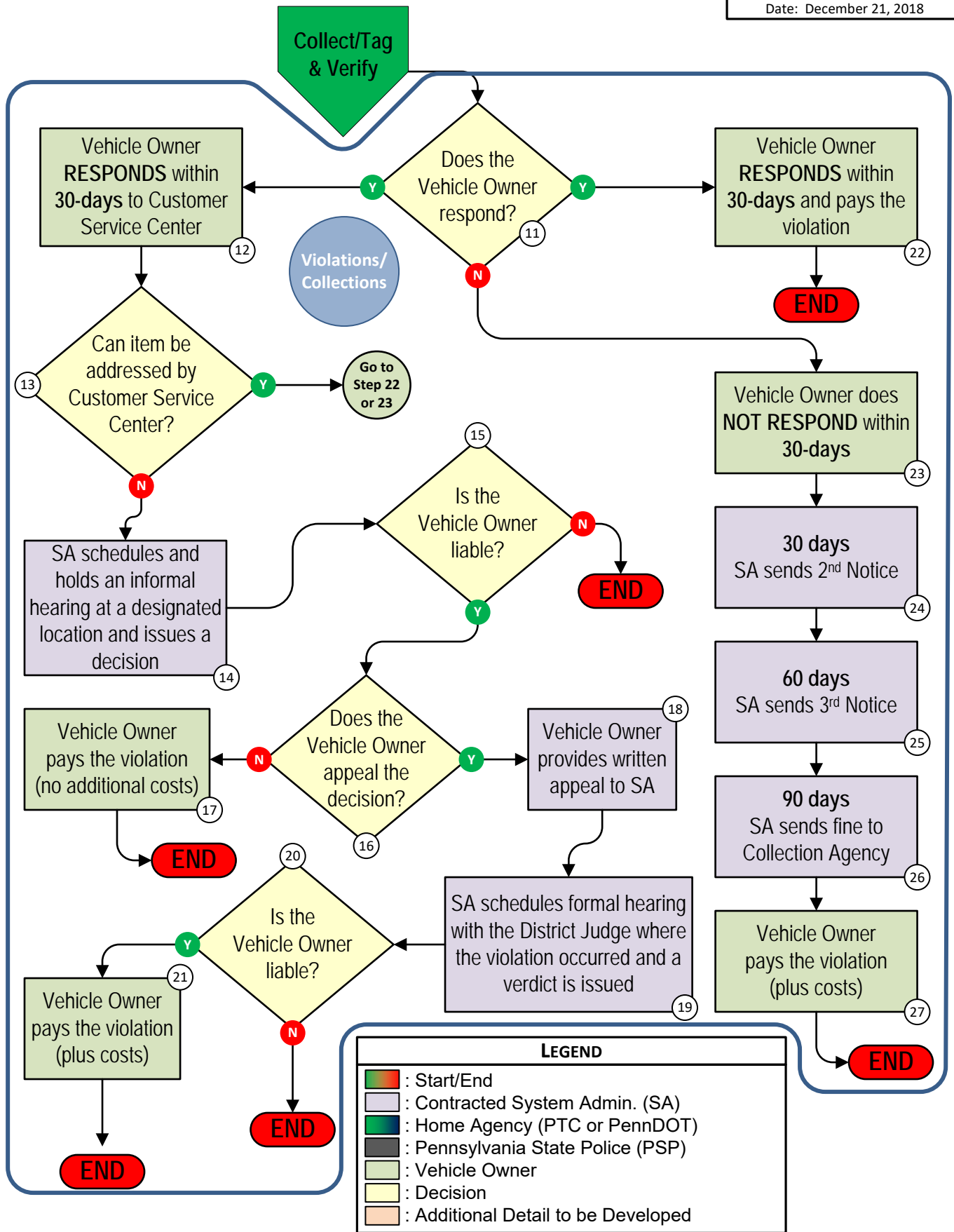


**END\***  
\*If not within 90-days of the violation.

LEGEND	
	: Start/End
	: Contracted System Admin. (SA)
	: Home Agency (PTC or PennDOT)
	: Pennsylvania State Police (PSP)
	: Vehicle Owner
	: Decision
	: Additional Detail to be Developed

\*\*Violation/warning must be sent within 30-days of the incident or when the vehicle owner is determined; whichever is later. Violation cannot be sent more than 90-days from the date of the incident.







U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**



DOT HS 809 811

March 2013

# **LIDAR Speed-Measuring Device Performance Specifications**

## DISCLAIMER

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade names, manufacturers' names, or specific products are mentioned, it is because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Suggested APA Format Reference:

NHTSA. (2013, March). *LIDAR speed-measuring device performance specifications*. (Report No. DOT HS 809 811). Washington, DC: National Highway Traffic Safety Administration.

This document contains the LIDAR speed-measuring device performance specifications developed by the National Highway Traffic Safety Administration through a Cooperative Agreement with the International Association of Chiefs of Police (IACP) and in consultation with the National Institute of Standards and Technology (NIST), Office of Law Enforcement Standards (OLES). Because this document is designed as a development and procurement aid, it is highly technical.

This document supersedes the *Model Performance Specifications for LIDAR Speed-Measurement Devices* (DOT HS 809 811, June 2004) and all subsequent revisions.

By defining minimum performance requirements and verification procedures, this technical document establishes a baseline for acceptable traffic LIDAR speed-measuring device and LIDAR system performance. The public, the courts, and law enforcement officers should be assured that LIDAR speed-measuring models, determined by test to comply with these performance specifications, will provide the high quality of service they require.

LIDAR equipment buyers should use these performance specifications as minimum specifications when developing purchasing criteria. We suggest these specifications be incorporated into procurement documents requiring that LIDAR speed-measuring devices offered for purchase meet, as a minimum, these specifications.

Manufacturers are encouraged to produce LIDAR speed-measuring devices and LIDAR systems that meet or exceed these performance specifications.

These performance specifications are subjected to continuing review. Technical comments and recommended revisions are welcome. Please send suggestions to:

Enforcement and Justice Services Division  
National Highway Traffic Safety Administration  
1200 New Jersey Avenue SE.  
Washington, DC 20590

Before citing these performance specifications, or any part of them, users should verify they are referencing the most recent edition of this document.

NHTSA believes that these performance specifications for LIDAR speed-measuring devices will assist law enforcement administrators to assess the accuracy and reliability of LIDAR devices and LIDAR systems they plan to purchase. NHTSA also believes that these performance specifications and testing protocols will increase the confidence of the public, the courts, and law enforcement officers in the accuracy and reliability of this equipment.



## **ACKNOWLEDGMENTS**

NHTSA wishes to express its appreciation to the following people and agencies who have contributed to the publication of this document:

Members of the Enforcement Technologies Advisory Technical Subcommittee (ETATS.)

Highway Safety Committee, International Association of Chiefs of Police.

Sarah Horn, Program Manager, International Association of Chiefs of Police

Appreciation is also extended to the manufacturers of LIDAR speed-measuring devices for their cooperation in the preparation of this document.

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## Section 1 - General Information

**1.1 Scope** This module is limited in scope to laser speed-measuring devices and systems used by law enforcement agencies to enforce vehicle speed regulations

**1.2 Purpose** The purpose of this module is to specify minimum performance specifications and test procedures for LIDAR devices used by law enforcement agencies to enforce vehicle speed regulations.

**1.3 Application** This document applies to laser speed-measuring devices and systems that transmit coherent infra-red light pulses, measure the time of flight for the pulses reflected from moving vehicles, then calculate and display or output the speed of the target vehicle, and may automatically record images of those vehicles which exceed a preset speed.

### 1.4 Definitions

1.4.1 Accuracy - the degree to which the LIDAR device measures and displays the speed of a vehicle.

1.4.2 Acquired Target - a vehicle that enters the beam of a LIDAR device, allowing for a measurement of its speed.

1.4.3 Ambient Interference - the conducted and/or radiated electromagnetic interference and/or mechanical motion interference at a specific test location and time that might be detrimental to proper LIDAR device performance.

1.4.4 Attended Operation - an operator is an integral part of the evidence acquisition process.

1.4.5 Automatic Lock - a control function of a LIDAR device that, when activated, causes the device to automatically retain the displayed speed of a target vehicle whenever the target speed exceeds some preset value, and to preserve that displayed speed until manually reset by the operator.

1.4.6 Automatic Mode - a mode in a LIDAR system, which automatically determines a target vehicle's range and speed and records images. This mode applies to both attended and unattended operation.

1.4.7 Certified Radar Unit - a radar unit selected from the IACP's current Consumer Products List (CPL) that has been modified by its manufacturer to display speed in one-tenths units and certified by an IACP-approved testing laboratory to be accurate to within +0.2 km/h, -0.3 km/h (+0.1 mph, -0.2 mph) over a speed range of 32 km/h to 144 km/h (20 mph to 90 mph).

1.4.8 Closing Speed - the speed at which a target is moving toward the speed-measuring device, measured as the rate of change of the distance separating the device and the target.

1.4.9 Cosine Angle Effect - the discrepancy between the target vehicle's speed along its path and the closing speed measured by the device.

1.4.10 Display - a visual readout device.

- 1.4.11 Erroneous Reading - an incorrect target speed displayed by the LIDAR device that is not due to a target vehicle, or which is not within the required accuracy tolerance of a target vehicle's speed after accounting for the cosine angle effect.
- 1.4.12 Functional Beam width - the angular range over which a small, stationary diffusely reflective, white target can be detected against a background of sky or distant scenery.
- 1.4.13 Horizontal Beam width - the functional beam width measured in the horizontal plane, usually expressed in milliradians (mrad).
- 1.4.14 I/O Port - an Input/Output interface for connecting external devices to the LIDAR unit.
- 1.4.15 Laser Speed-Measuring Device - a LIDAR unit.
- 1.4.16 LCD – a Liquid Crystal Display; a type of electronic display.
- 1.4.17 LED – a Light Emitting Diode; a type of electronic display.
- 1.4.18 LIDAR - (from Light Detection And Ranging) the technology of measuring target range using reflected light. In today's engineering usage LIDAR includes many intricate devices, but this standard is concerned with class of LIDAR devices that determine target range and speed from the time-of-flight of laser pulses.
- 1.4.19 LIDAR Device (Unit) - down-the-road speed-measuring equipment that determines target range and speed based on the time-of-flight of laser light pulses reflected off a target. LIDAR device is synonymous with "laser speed-measuring device" and "LIDAR unit" for the purpose of this standard.
- 1.4.20 LIDAR System - a LIDAR device that incorporates additional equipment that is used to gather, process and/or record images to be used as part of speed enforcement efforts.
- 1.4.21 Low-Voltage Indicator - a LIDAR device component that alerts the operator to the fact that a low supply-voltage condition exists. This indicator may be a visual indicator, an audio indicator, or a combination of the two.
- 1.4.22 Manual Mode - a mode in a LIDAR system where an operator manually aims the LIDAR system to track the movement of a target vehicle while the vehicle's range and speed are determined and images recorded.
- 1.4.23 Nominal Value - the numerical value of a performance characteristic of a device as specified by the manufacturer or as used for identification. For instance, vehicle batteries often have a nominal voltage of 12V, although in normal driving the terminal voltage can be above 14V.
- 1.4.24 Operational Test - a test involving realistic conditions of operation. For instance, a LIDAR unit receiving its power from a stationary patrol vehicle and used to measure the speed of another vehicle traveling at a known speed.

- 1.4.25 Power Supply - an electric energy source used to power the LIDAR device and/or LIDAR system. For example, electric energy to power the LIDAR device might be derived from the electrical ignition system of a patrol vehicle, a battery pack external to the LIDAR device, or a battery internal to the LIDAR device itself.
- 1.4.26 Range - the distance from the reference plane of the LIDAR unit to the point where the transmitted beam strikes the target, for which valid distance measurements can be acquired.
- 1.4.27 Recorded Images - images recorded on photographs, microphotographs, electronic images, videotape, or any other medium.
- 1.4.28 Remote Control - a means by which many functions of the LIDAR unit can be controlled through a computer or a separate control panel.
- 1.4.29 Remote Trigger - a means by which the LIDAR unit can be triggered remotely. It is envisioned (though not required) that a remote control would involve a two-way computer data link, while a remote trigger can be as simple as a pair of wires leading from a switch to the LIDAR unit.
- 1.4.30 RS-232 - an Electronics Industries Association (EIA) standard for serial digital communications. Historically, this standard was put into wide use before the details were well-defined, and it was often a challenge to interconnect two devices claiming to meet RS-232 specifications. In the 1980s, following the adoption of standard RS-232 by EIA, implementation became more consistent.
- 1.4.31 Serial Port - a module within a computer or a computerized instrument which permits communication over a cable. The individual bits of a data byte are sent or received one after the other, or "serially."
- 1.4.32 Target Discrimination - the ability of a speed-measuring device to differentiate between target vehicles.
- 1.4.33 Target Speed - the speed of the target vehicle along its path, with respect to the ground.
- 1.4.34 Target Speed Simulator - a laboratory device capable of receiving light pulses from a LIDAR unit and then sending return pulses with changing delays. The changing delays simulate a target vehicle moving at a specified speed and direction, and at a particular range.
- 1.4.35 Target Vehicle - the vehicle at which the LIDAR unit is aimed using the unit's visual sighting device.
- 1.4.36 Unattended Operation - an operator is not an integral part of the evidence acquisition process.
- 1.4.37 UUT - the Unit Under Test.
- 1.4.38 Unit Under Test - a LIDAR device or LIDAR system whose performance is being tested, as distinguished from other equipment used to do the test.

1.4.39 Vertical Beam Width - the functional beam width measured in the vertical plane, usually expressed in milliradians (mrad).

## 1.5 Units of Measure

This document is a specification for practical measuring devices of comparatively low precision. The goal has been to make rules that are practical, whether the UUT reads in kilometers per hour (km/h) and meters (m), or miles per hour (mph) and feet (ft). The speed accuracy requirement as stated below is +2 km/h, -3 km/h (+1 mph, -2 mph). Direct conversion from km/h to mph would give a tolerance band of +1.24 mph, -1.86 mph. Practical LIDAR devices read to integer precision only, so some decision must be made in order to give the tolerances in integers.

The same spirit of practicality is carried over into other measurements. For instance, to check a LIDAR device's distance measurement function, two somewhat arbitrary baselines are needed, as specified in §2.4.1. One baseline shall be in the range of 6 m (20 ft) to 30 m (100 ft), and the other shall be at least 90 m (300 ft). Again, the conversions are not exact.

In the simulator software, the settings for the primary system of units are those that are appropriate for the UUT. These determine the ranges and units of most inputs and outputs. Again, some liberty was taken in rounding the range limits. The presence of round off discrepancies should not motivate sloppy measurement. When the actual baseline is set up, it should be measured by surveying methods to an accuracy of 1 cm or better. Also, if the measured baseline is, for instance, 90 m (295.28 ft), a traditional-units LIDAR device should be moved forward 0.28 ft from the fiduciary mark, so that it is presented with a less ambiguous measurement task.

## Section 2 - Requirements

### 2.1 Manufacturer-Provided Equipment

The following equipment shall be provided by the LIDAR unit's manufacturer to the test laboratory, as applicable. Such equipment shall remain the property of the LIDAR unit's manufacturer and be returned upon completion of testing unless other agreements are made.

The manufacturer of a LIDAR device or LIDAR system who is requesting approval of a characteristic that is outside the specifications contained in this document is required to provide suggested revisions for review by the appropriate IACP Highway Safety Committee designee when submitting the UUT. The manufacturer shall supply any adapters or unique test equipment required to test the UUT.

2.1.1 Tripod Adapter. In parts of the acceptance testing, a tripod must be used to steady the LIDAR unit. If a LIDAR unit requires an adapter for mounting to a tripod, the manufacturer shall furnish the adaptor.

2.1.2 I/O Port Test Set-Up. If the LIDAR unit features an I/O port for output that is claimed to meet a standard such as RS-232, the manufacturer shall supply the cabling and simple software with which the test laboratories can connect the UUT to a PC-compatible computer or other intended device and test the operation of the I/O port. In this context, "simple software" means a short program in a high-level language such as BASIC or C, with source code supplied. The purpose of this software is to verify the operation of the port, and it may be different from proprietary software provided for police use.

2.1.3 Switching Output Indicator Box. If a switching output is claimed, the manufacturer shall supply the test laboratories with cabling and a simple indicator box which can be used to verify this output. The indicator box, which might contain such parts as a battery, a resistor, and an LED, shall be accompanied by a schematic and shall make the voltage at the switched pins accessible for measurement.

2.1.4 Remote Control Test Setup. If remote control by computer is claimed, the manufacturer shall supply the cabling and simple software with which the test laboratories can connect the UUT to a PC-compatible computer and test the data input functions. In this context, "simple software" means a short program in a high-level language such as BASIC or C, with source code supplied. This simple software may be different from proprietary software provided for police use. If the simple software does not exercise all remote-control functions and proprietary PC-compatible software is available for this purpose, that software shall also be supplied. Source code of the proprietary software is not required.

2.1.5 Remote Trigger Test Setup. If the unit to be tested has a remote trigger input in lieu of or in addition to a remote control port, the manufacturer shall provide a switch box and cable to the test laboratories. The switch box shall have parts that are visible and electrically accessible for testing. If the switch box incorporates parts beyond a switch, a schematic shall be supplied.

2.1.6 Receive-Send Unit. This specification requires the LIDAR unit to be tested on a target simulator, which may return light pulses of a different shape and energy level from those of a real target. Each LIDAR device submitted for testing must interact properly with the simulator. The



manufacturer may, at its option, supply the receive-send unit to be used with its LIDAR device; or it may supply an interface, perhaps employing fiber optics, to deal with the optical aspects of the receive-send interface.

## **2.2 Manufacturer-Provided Information**

Each LIDAR device submitted for testing in accordance with the provisions of these specifications shall be accompanied by the following minimum information:

2.2.1 Complete Operating Instructions. This includes test procedures, required maintenance, and any operating characteristics that are indicative or symptomatic of possible malfunction of the LIDAR unit.

2.2.2 Laser Wavelength. The operating wavelength of the LIDAR unit.

2.2.3 Laser Safety Classification. The LIDAR unit shall be rated Class I as regulated by the Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (21 CFR 1040.10 and 1040.11 or as amended).

2.2.4 Nominal Power Supply Voltage and Currents. For each of the power-supply options (§1.4.25), separate nominal voltage and current values for different operating states, as appropriate.

2.2.5 Supply Voltage Limits. For each of the power-supply options (§1.4.25), the lowest and highest supply voltages at which the LIDAR unit is designed to operate.

2.2.6 Low-Voltage Indicator Characteristics. For each of the power-supply options (§1.4.25): the nominal low-voltage value for each indicator to activate; the nature of the low-voltage indicator—i.e., a visual indicator, an audio indicator, or a combination of the two; the purpose of each low-voltage indicator, if more than one exists for the LIDAR unit.

2.2.7 Image Recording Equipment. The image recording equipment shall be submitted to support testing where applicable. The image recording equipment submitted for testing in accordance with the provisions of these specifications shall be accompanied by the following minimum information:

2.2.7.1 *Installation instructions*. Complete instructions for connecting the supplied equipment to the LIDAR device and verifying their operation, including test procedures, required maintenance, and operating conditions indicative or symptomatic of a possible malfunction of the LIDAR system.

2.2.7.2 *Operating instructions*. Complete instructions for operating the supplied equipment.

2.2.8 Speed Measurement Range. Expressed as the highest and lowest speeds that can be measured by the LIDAR unit for approaching or receding targets.

2.2.9 Temperature Limits. The highest and lowest temperatures at which the LIDAR system is designed to operate.

2.2.10 Temperature-Humidity Limit. The highest temperature and humidity combination at which the LIDAR system is designed to operate.

2.2.11 Reference Plane. The plane on the LIDAR unit from which distance measurements are taken. If not stated, the reference plane is assumed to be the front surface of the device.

2.2.12 Horizontal and Vertical Functional Beam Widths. Functional beam widths shall be stated in milliradians.

2.2.13 Pulse Repetition Rate. The Manufacturer shall provide the pulse repetition rate (PRR).

## **2.3 Manufacturer Labeling**

The control panel of the LIDAR device shall be permanently marked with the functions and settings of all switches, controls, and displays. It shall not be possible to set the controls to a functional mode of operation that is not explained in the user manual. Every control shall be labeled, and the labeling shall, at a minimum, be consistent with one of the functions of the control (§5.3).

**2.4 Range Accuracy** For a baseline distance between 6 m (20 ft) to 30 m (100 ft) and for a baseline distance at least 90 m (300 ft), the target range reading shall be correct to within  $\pm 0.3$  m ( $\pm 1$  ft).

**2.5 Long Range** The LIDAR unit shall be capable of measuring distances of at least 300 m (1,000 ft).

## **2.6 Beam Characteristics**

2.6.1 Beam Alignment. The transmitted beam and the sighting optics of the LIDAR unit shall be properly aligned, both horizontally and vertically, in accordance with §5.6.1.

2.6.2 Range. The LIDAR unit shall accurately display the range of each presented target as measured in accordance with § 5.6.2.

2.6.3 Target Discrimination. The functional beam width of the LIDAR unit shall not exceed 5 mrad as tested in accordance with §5.6.3.

## **2.7 Environmental Extremes**

Any LIDAR system not enclosed in an environmentally-controlled cabinet shall be tested to determine the ability of the LIDAR system to operate in environmental extremes using the test methods described in §5.7. LIDAR systems in an environmentally enclosed cabinet shall be certified by the manufacturer to comply with (§2.7.1.1) and (§2.7.2).

## 2.7.1 Operational Temperatures

2.7.1.1 LIDAR Device Temperature Limits Let  $T_{dLow}$  be defined as  $-30^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$ ) or the lowest temperature at which the manufacturer states that the LIDAR device will operate properly (§2.2.7), whichever is lower. Let  $T_{dHigh}$  be defined as  $60^{\circ}\text{C}$  ( $140^{\circ}\text{F}$ ) or the highest temperature at which the manufacturer states that the device will operate properly (§2.2.7), whichever is higher. Then, when tested in accordance with §5.7.1, following exposure to  $T_{dLow}$  or  $T_{dHigh}$ , each LIDAR device shall continue to be able to generate speed reading that meet the speed accuracy requirements of §2.11.

2.7.1.2 LIDAR System Temperature Limits Let  $T_{sLow}$  be defined as the lowest temperature at which the manufacturer states that the LIDAR system will operate properly (§2.2.7). Let  $T_{sHigh}$  be defined as the highest temperature at which the manufacturer states that the LIDAR system will operate properly (§2.2.7). Then, when tested in accordance with §5.7.1, following exposure to  $T_{sLow}$  or  $T_{sHigh}$ , each LIDAR system shall continue to be able to generate speed readings that meet the speed accuracy requirements of §2.11. In addition when a LIDAR system is tested in accordance with §5.7.1, following exposure to  $T_{dLow}$  or  $T_{dHigh}$ , the LIDAR system shall not generate any erroneous speed readings. During these tests, a blank target speed display is not an erroneous reading.

2.7.2 Operational Humidity. When tested in accordance with §5.7.2 following exposure to 90% relative humidity at  $37^{\circ}\text{C}$  ( $99^{\circ}\text{F}$ ) for a minimum of 8 h, each LIDAR device or LIDAR system shall continue to meet the speed accuracy requirements of §2.11.

## 2.8 **Low-Voltage Indicator**

Each LIDAR device shall have at least one low-voltage indicator (§1.4.21) that alerts the operator when the supply voltage is reduced below threshold.

### 2.8.1 Manufacturer Provided Information.

2.8.1.1 *Nominal Power Supply Voltage and Currents*. For each of the power-supply options (§1.4.25), the manufacturer shall provide the nominal power supply voltage and currents.

2.8.1.2 *Supply Voltage Limits*. For each of the power-supply options (§1.4.25), the manufacturer shall provide the lowest and highest supply voltages at which the LIDAR unit is designed to operate (§2.2.5).

2.8.1.3 *Low-Voltage Indicator Characteristics*. For each of the power-supply options (§1.4.25), the manufacturer shall describe the characteristics of each low-voltage indicator (§2.2.6).

2.8.2 Low-Voltage Indicator Characteristics. Each low-voltage indicator shall be tested in accordance with §5.8.2 to verify the claims made by the manufacturer in §2.2.5 and §2.2.6.

## 2.9 **Supply Voltage Tolerance**

The requirements of this section shall be satisfied when the LIDAR device is tested in accordance with §5.9.

2.9.1 Speed Accuracy. Each LIDAR unit shall display the speed to within +2 km/h, -3 km/h (+1 mph, -2 mph). For devices that have the option of being operated from the electrical ignition system of a patrol vehicle, the minimum operating range for the supply voltage shall be 10.8 V to 16.3 V. (Note: If the manufacturer specifies a wider operating voltage range, the device shall meet the speed-accuracy requirement for this extended range.

2.9.2 Pulse Repetition Rate. The pulse repetition rate shall not vary by more than 0.1% from its value at the standard supply voltage.

2.9.3 Range and Speed. The UUT shall interact with the simulator at various range and speed settings and continue to meet the speed accuracy requirements of §2.11.

## **2.10 Speed Display**

The speed display characteristics listed below shall be tested in accordance with §5.10 and shall meet the following requirements:

2.10.1 Display Readability. The display shall be clearly readable when tested in accordance with §5.10.1 and used as intended by the manufacturer.

2.10.2 Speed-Display Lock. The LIDAR unit may include a means to lock a vehicle's speed in the display. The speed-display lock function shall require manual actuation by the LIDAR operator and shall not be capable of automatic self-lock. The LIDAR unit shall not recall a previous speed reading when the speed- display-lock function is activated (§5.10.2).

2.10.3 Display-Clear Function. When the LIDAR unit is activated to begin a new measurement, the display shall be cleared of any previous reading (§5.10.3).

2.10.4 Internal-Circuit-Test Function. The LIDAR device shall have a self-test function that, when activated, determines if the internal signals will be processed and displayed to within  $\pm 2$  km/h ( $\pm 1$  mph). The LIDAR device shall display the correct reading(s) when performing the internal circuit test function, or the LIDAR device shall display an error message at the end of the test if the test function fails. It shall not be possible for the LIDAR device to lock in speeds displayed by this test. The internal circuit test switch shall not be labeled cal or calibrate.

### **2.10.5 Low and High Speed Display Limits**

2.10.5.1 *Low Speed*. The LIDAR unit shall function as specified in test procedure §5.10.5 at a speed of 16 km/h (10 mph) or the lowest speed at which the manufacturer states that the device will operate properly, whichever is lower.

2.10.5.2 *High Speed*. The LIDAR unit shall function as specified in test procedure §5.10.5 at a speed of 320 km/h (200 mph) or the highest speed at which the manufacturer states that the device will operate properly, whichever is higher.

2.10.6 Audio Tones and Error Messages. If the LIDAR unit emits audio tones which vary under conditions of valid and invalid data, then the relationship of the sounds to the displayed reading shall be consistent (§5.10.6).

2.10.7 Speed Monitor Alert. The LIDAR device shall not have a speed monitoring alert capability (§5.10.7).

## 2.11 Speed Accuracy: Laboratory Simulation

For simulated speeds of 16 km/h to 320 km/h (10 mph to 200 mph), each LIDAR unit shall display the speed to within +2 km/h, -3 km/h (+1 mph, -2 mph). For speed accuracy requirements for field operation, see §2.15.

2.11.1 Smoothly Moving Target. When tested on the simulator in accordance with §5.11.1 at twenty or more combinations of speed and distance which are within its working range, the LIDAR unit shall give no erroneous speed readings. A blank display is not in itself an erroneous reading, but trials that give a blank display or an error message shall be repeated, and the unit shall ultimately give an accurate speed reading at every setting tried. There is no requirement on the range reading in this test.

2.11.2 Smoothly Moving Target with Sawtooth Perturbation. The simulator permits a periodic perturbation in distance to be added to the simulation of a smoothly moving target. When tested on the simulator in accordance with §5.11.2, using a perturbation with an approximate sawtooth shape having a period of about 200 ms and a peak-to-peak amplitude corresponding to a distance of about 1.5 m (5 ft), the LIDAR unit shall give no erroneous speed readings. A blank display is not an erroneous reading.

## 2.12 Auxiliary Equipment and Interface

Auxiliary equipment needed for testing shall be present and working.

2.12.1 Output Port. An output port is not required. If a model has an output port, and the port is claimed to be of a standard type such as RS-232, then the manufacturer shall certify that the port indeed meets that standard as commonly interpreted. When connected to a personal computer, using the cabling and software supplied by the manufacturer, the output port shall transmit data in the manner claimed by the owner's manual (§5.12.1).

2.12.2 Switching Output. Some units may have a switching output, which can be used to trigger a camera, for instance. If a unit is claimed to have such an output, then it shall function as stated in the owner's manual when tested using the indicator box as described in §5.12.2.

2.12.3 Remote Control. A remote control or remote trigger is not required. If a model has a connector for remote control that is claimed to be of a standard type such as RS-232, the manufacturer shall certify that the port indeed meets that standard as commonly interpreted. When tested using the cabling and software supplied by the manufacturer, the remote control shall function as stated in the owner's manual. If more complicated proprietary remote control software is needed to fully exercise the remote control function, the LIDAR unit shall also function as claimed when additional features are tested with that software (§5.12.3).

2.12.4 Remote Trigger. If a remote trigger is supplied in lieu of or in addition to a remote control port, the LIDAR unit shall be triggered reliably using the switch box supplied by the manufacturer. Also the operation of the switch box shall meet the requirements specified in the owner's manual (§5.12.4).

## 2.13 Conducted Electromagnetic Interference

The susceptibility of the LIDAR device to conducted electromagnetic interference (EMI) from the vehicle alternator, vehicle ignition, air conditioner/heater motor, windshield wiper motor and typical police and citizens band transceivers shall be tested in accordance with §5.13. A LIDAR device powered by a battery pack and designed to also accept a nominal 12V automotive system and adaptor as an optional source of power, shall also be tested for susceptibility to EMI (§5.13.1 through §5.13.4) utilizing this adaptor. During these tests, a blank target speed display shall not be considered an erroneous reading. Each LIDAR unit, when tested in accordance with §5.13, shall meet the following requirements:

2.13.1 Simulated Vehicle Alternator Interference. When subjected to a pulse signal 10 $\mu$ s to 20 $\mu$ s wide and 1V peak to peak (p-p) amplitude (except for transition spikes) having maximum rise and fall times of 2 $\mu$ s (both excluding ringing), a ringing time no greater than 8 $\mu$ s, and a PRR between 200 pulses per second (pps) and 10,000 pps, the LIDAR unit shall not display any erroneous readings (§5.13.1).

2.13.2 Simulated Vehicle Ignition, Air Conditioner/Heater Motor, and Windshield Wiper Motor Interference. When subjected to a negative-ramp sawtooth signal having a 1V p-p amplitude with a positive rise time back to zero of not more than 2 $\mu$ s, and having a frequency range of 200Hz to 10kHz, the LIDAR unit shall not display any erroneous speed readings (§5.13.2).

2.13.3 Simulated Police FM Transceiver Interference. When subjected to a 10mW frequency modulated (FM) radio frequency signal in each police radio band, the LIDAR unit shall not display any erroneous speed readings (§5.13.3).

2.13.4 Simulated Citizen Band (CB) AM Transceiver Interference. When subjected to a 5mW, amplitude modulated (AM) radio frequency in any of the CB channels specified in §5.13.4, the LIDAR unit shall not display any erroneous speed readings.

## 2.14 Radiated Electromagnetic Interference

The susceptibility of a LIDAR device to electromagnetic radiation from police FM or citizens band AM transceivers shall be subjected to field tests in accordance with §5.14. During these tests, a blank target speed display is not an erroneous reading. Each LIDAR device shall meet the following requirements:

2.14.1 Police FM Transceiver Interference. This test requires a police FM radio transceiver properly installed in a patrol vehicle. When tested in accordance with §5.14.1, the UUT shall display no erroneous readings when either the installed transceiver or a hand held police FM transceiver with integral antenna is operated within two meters of it.

2.14.2 Citizens Band (CB) AM Transceiver Interference. This test requires a CB AM transceiver properly installed in a patrol vehicle. When tested in accordance with §5.14.2, the UUT shall not display any erroneous readings when the AM radio is transmitting high frequency audio within two meters of it.

## **2.15 Speed Accuracy: Field Operation**

When tested in accordance with §5.15, the LIDAR UUT must display the speed of a target vehicle within +2, -3 km/h (+1, -2 mph).

## **2.16 Vehicle Determination (LIDAR Systems Only): Field Operation**

Speeding violations shall be documented with a recorded image (or images) displaying the target vehicle in an appropriate position defined by the LIDAR system manufacturer. If the LIDAR system is used in unattended operation, the evidential image must show at a minimum, the target vehicle's license plate, speed, location, date, time, and administrating officer's identification. For comparison purposes, the manufacturer shall provide sample images.

2.16.1 Attended Operation. The ability of the LIDAR system to discriminate between target vehicles shall be demonstrated using the field-test methods described in §5.16.1.

2.16.2 Unattended Operation. If the LIDAR system is to be considered for unattended operation, the manufacturer of the system shall provide a secondary method for verifying that the evidential recorded image properly identifies the target vehicle and reflects this vehicle's true speed, as described in §5.16.2.

## Section 3 - Test Conditions

### 3.1 Standard Conditions

Allow all measurement equipment to warm up until the system is stable enough to perform the measurement. Unless otherwise specified, perform all measurements under standard test conditions as follows:

3.1.1 Standard Temperature. Standard ambient temperature shall be between 20 °C (68 °F) and 30 °C (86 °F).

3.1.2 Standard Relative Humidity. Standard relative humidity shall be between 10% and 85%.

3.1.3 Standard Supply Voltage. For a device intended to operate from a nominal 12 V automotive system, the standard supply voltage shall be 13.6 V  $\pm$  0.1 V. For devices utilizing a battery pack, the standard supply voltage shall be a value specified by the manufacturer. A well-filtered electronic power supply capable of a voltage adjustment of  $\pm$ 25 % from the nominal should be used for laboratory testing and is recommended for other tests in place of the battery for safety and convenience. The standard supply voltage shall be applied to the input terminals of the dc supply cables (including all connectors and circuit protectors) as furnished by the manufacturer. Adjust the power supply to within 1% of the specified standard voltage.

3.1.4 Special Instructions. Each time a test method requires that the LIDAR device interact with the target speed simulator, the LIDAR device shall also be connected to the standard supply voltage source and its optics properly coupled to the simulator.



## **Section 4 - Test Equipment**

### **4.1 Test Equipment**

The test equipment discussed in this section is limited to that equipment which is most critical in making the measurements discussed in this document. All other test equipment shall be of laboratory instrumentation quality. All test equipment shall be provided with instruction manuals.

### **4.2 Tripod**

The tripod shall provide sturdy support and multi-axis adjustment, including a hinge-like joint that permits the LIDAR UUT to be tipped 90° to one side.

### **4.3 Test Range for Target Distance Feature**

Two baselines shall be established, probably outdoors, to check the LIDAR unit's range feature at zero target speed. Each baseline shall have at one end a fiduciary mark by which the LIDAR unit can be positioned, and at the other end a well-anchored flat target perpendicular to the line of sight along the range. The target might be a building wall or a sign on a sturdy post. It will be helpful if the target is retro reflective. The exact target area and the working height of the LIDAR unit shall be decided and recorded first. Then, the distance shall be surveyed along the line of sight. One baseline distance shall be in the range of 6 m (20 ft) to 30 m (100 ft). The other baseline shall be at least 90 m (300 ft). (Note: a routine survey may give you horizontal distances only. That information cannot be used directly because the LIDAR device does not provide any means to measure the angle of elevation. Therefore, the baseline data must be complete enough to determine the heights above or below a horizontal reference plane of the targets and a UUT and allow the line-of-sight distance to be calculated to within 1 cm (0.4 in).

### **4.4 Long-Range Target**

The long-range target consists of a rectangle of white retro-reflective material, centered on a circular black background, (see fig. 6). The retro reflective material shall be "engineering grade," Type I as specified in ASTM D 4956. The rectangle shall measure 300 mm  $\pm$  5 mm horizontally, by 150 mm  $\pm$  5 mm vertically. The background shall be matte black poster board, 610 mm  $\pm$  3 mm in diameter. The retro reflective material may be affixed to the background with hook and loop material, (e.g., Velcro) or otherwise.

### **4.5 Beam Width Measurement Apparatus**

The beam width measurement apparatus is an outwardly simple custom-made device that must meet the optical performance required in §5.6. Mechanical details may vary, so long as the optical performance is met.

### **4.6 Environmental Chamber**

The environmental chamber or chambers shall produce air temperatures and humidities that meet the requirements of §2.7.1 and §2.7.2 while shielding the UUT from direct heating or cooling air currents. The temperature of the LIDAR device shall be measured with a thermometer that is separate from the sensor used to control the chamber air temperature and has an uncertainty no

greater than  $\pm 1$  °C ( $\pm 2$  °F). Likewise, humidity shall be measured with a hygrometer that is separate from the sensor used to control humidity and has an uncertainty no greater than  $\pm 2\%$ .

#### **4.7 Target Speed Simulator**

The target speed simulator is composed of three subassemblies (see Figure 1):

4.7.1 Optical Interface – receives optical pulses from the LIDAR Unit Under Test and transforms these signals into electrical pulses that are sent to the Programmable Pulse-Delay Generator; receives electrical pulses from the Programmable Pulse-Delay Generator and transforms these signals into optical pulses that are sent to the LIDAR Unit Under Test.

4.7.2 Programmable Pulse-Delay Generator – receives electrical pulses from the optical interface and then transmits delayed electrical pulses to the optical interface.

4.7.3 Computer – executes an application program that enables a user to select target speeds and target ranges to be simulated and programs the Programmable Pulse-Delay Generator with this information.

#### **4.8 Pulse Generator**

The pulse generator shall be capable of producing 10 V p-p across a 50  $\Omega$  load impedance, with rise and fall times of less than 1 $\mu$ s and PRRs of 200 pps to 10,000 pps.

#### **4.9 Sawtooth Wave Generator**

The sawtooth wave generator shall be capable of producing 10 V p-p across a 50  $\Omega$  load impedance. It shall also be capable of producing a sawtooth waveform that has a negative going ramp and a positive-going trailing edge with a rise time of less than 1 $\mu$ s. It shall be frequency adjustable over a range of 200Hz to 10kHz.

#### **4.10 Pulse-Sawtooth Coupling Circuit**

Injection of pulse and sawtooth waves into the power line of the UUT requires the circuit of figure 3. In the prototype, the capacitor was 10  $\mu$ F  $\pm 10\%$ , 200V dc. The inductor had an iron core; it was in fact the secondary of a filament transformer whose primary circuit was open. The inductor's impedance, given by  $Z = V_{rms}/I_{rms}$  with an applied sine-wave voltage, varied from 45.8  $\Omega$  at 200Hz to 309  $\Omega$  at 10kHz. Its inductance, determined by  $L = Z/(2\pi f)$ , varied from 36.4mH at 200Hz to 4.9mH at 10kHz. The inductor used must have an impedance of at least 40  $\Omega$  over this frequency range.

#### **4.11 FM Signal Generator**

The FM signal generator shall be capable of producing 20 mW output power at frequencies from 30 MHz to 500 MHz and shall have an audio frequency modulation variable from 500 Hz to 5 kHz, a 50  $\Omega$  output impedance, a maximum standing-wave ratio of 1.2, and a variable output level. It shall also have a deviation meter or calibrated control for determining the peak frequency deviation with an uncertainty no greater than 10%.

#### **4.12 AM Signal Generator**

The AM signal generator shall cover the 25 MHz to 30 MHz frequency range, be capable of producing at least 20 mW output power with 99% modulation depth over frequencies from 500 Hz to 5 kHz, have a 50  $\Omega$  output impedance, and have a maximum standing-wave ratio of 1.2. The generator should include a digital frequency counter having an uncertainty no greater than 1 part in  $10^6$  and a monitor or calibrated control for determining the modulation depth with an uncertainty no greater than 10%. If an integral frequency counter is not provided, a separate frequency counter having the required accuracy shall be provided.

#### **4.13 Line Impedance Stabilization Network (LISN)**

The LISN, constructed as in figure 5, serves to couple the signal from the radio-frequency signal generator into the power line of the UUT, while the UUT is also receiving its power from the dc supply.

#### **4.14 RF Power Meter**

The power meter shall have 50  $\Omega$  feed-through detectors for measuring both the forward and reflected power over a frequency range of 20MHz to 500MHz. It shall have the ability to handle powers up to 50 mW with an uncertainty of no greater than 10 %.

#### **4.15 Slide Whistle**

The slide whistle, a wind instrument with a notched hollow tube and a variable displacement, shall be capable of producing audio frequency notes from 500Hz to 3kHz.

#### **4.16 Oscilloscope**

A digital sampling oscilloscope (DSO) is required for routine setup and adjustment of the simulator (see fig. 1) and for detailed verification that the simulator is working correctly. It shall have an analog bandwidth of at least 500MHz and a minimum sampling rate of at least 2 gigasamples/sec ( $2 \times 10^9$ ). It shall have at least two input channels. Each channel shall have 50  $\Omega$  input impedance and an auxiliary high-impedance probe. The DSO shall have automatic measurement capability for such parameters as the interval between pulses, amplitude, and frequency. It shall have Fast Fourier Transform capability. It shall have a repetitive single-shot mode which can trigger on one pulse, store 2,000 or more points on two channels, then repeat when a new trigger occurs after 2 ms so that a train of 80 or more two-channel recordings is made. When operating in repetitive single-shot mode, it shall record the time of each trigger; for this purpose, the first trigger may be taken as time = 0.0, or time may be recorded as clock time (year, month, day, hour, minute, second), so long as the trigger times can be retrieved to a precision of 0.1 ms or less.

## Section 5 - Test Procedures

### 5.1 (Reserved)

### 5.2 (Reserved)

### 5.3 Labeling and Operation Tests

With the LIDAR unit in hand, the test engineer shall review the instructions and the markings on the controls to verify that the controls operate as explained in the manual and consistently with their markings. The simulator or normal traffic may be used for input data. It is permitted for controls to have secondary functions beyond those marked; in these cases, there is a particular obligation for the manual to be written in plain English and to describe the use of the controls accurately.

While it is impossible for this test to be exhaustive, the test engineer shall look for:

- (a) controls that are unmarked, or marked in a misleading way;
- (b) modes of operation that are not documented;
- (c) misleading labels appearing in an alphanumeric display; and
- (d) lack of clarity in the manual, including possible typographical errors.

No misleading wording is permitted on the control panel and display, or in the manual. If an undocumented mode does turn up, such as an engineering test mode for instance, the resulting display shall be clearly different from the display in normal speed-measurement mode.

### 5.4 Range Accuracy

This test applies only to the accuracy of measurements of the distance to stationary targets. Target ranging shall be checked on the two measured baselines. The reference plane on the LIDAR unit is the front surface (the surface with the lenses) unless the manufacturer has clearly defined a different reference (see fig. 2). Set the LIDAR unit at the predetermined height (§4.3) and aim it at the correct target area. If the surveyed distance is not an integer number of meters or feet, corresponding to the system of units of the LIDAR device, make an auxiliary mark a fraction of a meter (or foot) forward of the fiduciary mark so that the range becomes an integer number of units. Repeatedly record the target range or error indication until five range measurements are recorded. All five readings must be correct to a tolerance of  $\pm 0.3$  m ( $\pm 1$  ft). Perform this test and calculate the arithmetic mean of the readings for each of the pre-surveyed baselines.

### 5.5 Long-Range Test

Elevate the long-range target (see fig. 6) so that its center, as seen from the LIDAR UUT, is at least 2 m above the ground or other obstacle. The background should be sky. Determine the greatest range at which the LIDAR unit can measure the distance to the target. Pay attention to the beam width of the UUT and the target's clearance from the ground; be sure that the UUT is ranging to the target and not something else. If a range exceeding 300 m (1,000 ft) has been measured and conditions do not permit the UUT to be backed farther away, the test may be stopped. Record detailed observations as the LIDAR operator moves back from the target, including all distances at which the UUT obtained range measurements and the reason for stopping the test.

## 5.6 Beam Characteristics Test

Set up the apparatus as illustrated in Figure 7. Note that this figure is not drawn to scale but is dimensioned to verify beam alignment, range accuracy, and beam width. Mount the LIDAR unit under test (UUT) upright on a tripod with the laser beam parallel to the ground (floor) and at the same elevation as the center points of the targets. The tripod mount shall permit the UUT to be rotated so the center line of the laser beam can be aimed at the center point of each target. To facilitate aligning the laser beam with the target, a small flashlight may be held just above the target. The flashlight must be removed before the test readings are taken. A 60 inch carpenter's level may be used to help align the front of the UUT with the reference mark.

### 5.6.1 Beam Alignment.

5.6.1.1 *Horizontal.* Slowly sweep the beam horizontally across target TC and observe that the range of TC is displayed only when the target is in the reticule of the sight, indicating lateral alignment.

5.6.1.2 *Vertical.* Rotate the UUT on its side on the tripod, so that it is at a right angle to its normal position. Repeat the process to verify vertical alignment.

### 5.6.2 Range.

Aim and record the distances to each of the three targets: TL, TC and TR. Repeat until ten range measurements have been recorded for each target. Verify that the UUT is capable of measuring and displaying the correct range to each target.

### 5.6.3 Target Discrimination.

5.6.3.1 *Horizontal.* Carefully sight the UUT at the space between TL and TC to demonstrate that the LIDAR beam is slender enough to pass between the targets without causing a reflection and range reading from either target. Repeat for targets TR and TC.

5.6.3.2 *Vertical.* Turn the UUT on its side on the tripod mount and repeat the procedure to verify that the beam width requirement is also satisfied in the vertical plane of the UUT.

## 5.7 Environmental Tests

5.7.1 Operational Temperature Test. Choose three speeds within the capability of the UUT and store them in a file for use by the simulator software as a "Standard Speed Series." (The speeds should be integer values in the UUT native system of units.) Place the UUT, with the power off, in the environmental chamber and adjust the chamber to the required low temperature,  $T_{dLow} \pm 2 \text{ }^{\circ}\text{C}$  ( $\pm 3.6 \text{ }^{\circ}\text{F}$ ). Allow the UUT to reach thermal equilibrium and maintain it at this temperature for 30 min. Prepare the simulator hardware and software so it is ready to run a test. Use protective gloves and remove the UUT from the environmental chamber. Connect the UUT to the standard supply voltage, turn it on, and optically couple it to the simulator. Measure the PRR and then test the UUT at the three simulated speeds. Work quickly, as frost may be forming on the external lens surface. Perform the high temperature test during the same day to dry out the unit.

A simulator test should remain valid despite a thin layer of frost. If the UUT fails to read the simulated speed accurately, repeat the test. The UUT shall meet the requirements of §2.7 within 15 min of operation. Any external frost in itself is not an intended feature of this test, and if it is possible to reduce ambient humidity, this may be done.

Repeat the test just described at the required high temperature,  $T_{dHigh} \pm 2 \text{ }^{\circ}\text{C}$  ( $\pm 3.6 \text{ }^{\circ}\text{F}$ ). In the high-temperature case, energize the UUT when it is removed from the chamber, but wait 2 min before performing any measurements, including the test of PRR.

If the UUT is a LIDAR system, then repeat the test just described at the required low temperature,  $T_{sLow} \pm 2 \text{ }^{\circ}\text{C}$  ( $\pm 3.6 \text{ }^{\circ}\text{F}$ ).

If the UUT is a LIDAR system then repeat the test just described at the required high temperature,  $T_{sHigh} \pm 2 \text{ }^{\circ}\text{C}$  ( $\pm 3.6 \text{ }^{\circ}\text{F}$ ).

**5.7.2 Operational Humidity Test.** Place the UUT, with the power off, in a humidity chamber. Adjust the relative humidity to a minimum of 90% at 37 °C (99 °F) and maintain the UUT at these conditions for at least 8 h. Remove the UUT from the chamber and bring it quickly to the simulator. If the UUT is a LIDAR system, wait for the UUT to cool to  $T_{sHigh}$ . Connect the UUT to the standard supply voltage, then wait 2 min before performing any measurements. The UUT shall meet the requirements of §2.7 within 15 min of operation.

## **5.8 Low Supply Voltage Indicator Test**

A simple connection box, as shown in figure 8, will permit meters to be connected for measurement of voltage and current. Comparison with figure 3 will show that this can be the same box used to inject the pulse and sawtooth signals.

Connect the LIDAR UUT to the adjustable supply voltage and properly couple its optics to the target speed simulator. Switch the UUT on and let it warm up for 2 min. at its standard supply voltage. Set the system to consume maximum power. Set the target speed simulator to simulate a vehicle moving at 110 km/h (70.0 mph). Measure the simulated speed with the LIDAR unit. Decrease the LIDAR unit's supply voltage by 0.2 V and again measure the simulated speed. Continue to decrease the supply voltage and measure simulated speed until the low voltage alert is activated. Record the supply voltage level. Send each reading to the computer file, annotated by the voltage at which it occurs. No erroneous speed reading should occur. Increase the supply voltage until the low voltage indicator is deactivated, and again measure the simulated speed to verify that the UUT reads 110km/h (70.0 mph).

Also, for a battery powered LIDAR device designed to accept a 12 V automotive adapter, verify that when using this adapter the device works properly down to its low voltage alert level. The low voltage alert levels are specified in §2.8.

## **5.9 Supply Voltage Tolerance Tests**

Use the setup as in the previous section with a meter to monitor the supply voltage to the LIDAR UUT. Determine the working voltage range according to §2.9.

5.9.1 Pulse Repetition Rate. For units capable of a fixed PRR, set the simulator to measure PRR. Step through voltages as in §5.8, reaching the high and low limits according to §2.9 while noting the voltage and PRR. Be sure to record all digits of the PRR. The PRR shall not vary more than 0.1% from the nominal value specified by the manufacturer.

5.9.2 Range and Speed. In this part, the simulator software can be used to record the data. Prepare a table of distance-speed combinations according to the approach in §5.11. Set the simulator for normal speed simulation, including the description of the UUT. Next step through the voltage range as in §5.9.1, setting a different distance and speed at each voltage step. The UUT shall not display any erroneous speed readings. A blank display is not considered an erroneous reading. If a blank occurs, the test must be repeated, and an accurate non-blank speed must be obtained at each step.

## 5.10 Speed Display Tests

5.10.1 Display Readability. Establish a simulated target speed and verify that the display is clearly readable when used as intended by the manufacturer.

5.10.2 Speed-Display Lock. For convenience, these tests may be performed in conjunction with the display clear test of §5.10.3. The LIDAR device must have one condition under which the display is intended to lock; such as "as soon as a valid target is acquired after the press of the trigger" or "when the trigger is released." Verify that the display locks under the specified condition and not under other circumstances.

5.10.2.1 *Valid-Target Lock*. If the display locks as soon as a valid target is acquired after the press of the trigger, lock to a simulator speed setting, and then while the display is locked change the simulator's speed setting. Verify that the reading does not change.

5.10.2.2 *User-Initiated Lock*. If the display locks upon an action by the user, such as releasing a trigger, clear the display and establish a simulated target. Activate the LIDAR unit, but stop one step short of the step at which the display is intended to lock. For instance, if the display is intended to lock upon release of the trigger, squeeze the trigger and hold it down. Now turn off the simulated target, wait three seconds, and then take the next step, such as releasing the trigger. Verify that the speed display reads blank or zero.

5.10.3 Display-Clear Function. Connect the LIDAR unit to the target simulator, energize it, and establish a simulated target. Press and release the trigger, locking in a speed reading. Turn off the simulated echo. Press and release the trigger a second time. The display should clear. Now operate one of the control switches (speed, range, display intensity, timing mode, etc.) and verify that the display remains clear. Start over by reading the nonzero speed of a simulated target and then repeat these steps for each control switch on the UUT. In the absence of a (simulated) target, no sequence of switch operations shall cause a nonzero speed to be displayed after the display has been cleared.

5.10.4 Internal-Circuit-Test Function. Perform the internal circuit test according to the manufacturer's instructions. This may simply require the LIDAR unit to be switched off and on. Verify that only the correct readings are displayed, and that all readings are cleared automatically when the test is completed. Repeat the internal circuit test and attempt to actuate the speed lock while the readings are displayed. Verify that no nonzero reading is retained by the display.

5.10.5 Low-Speed and High-Speed Display Limits. Let "slow limit" be 16 km/h (10 mph) or the lowest speed at which the manufacturer states that his device will operate, whichever is lower. Let

"fast limit" be 320 km/h (200 mph) or the highest speed at which the manufacturer states that the device will operate properly, whichever is higher. By definition, these limits are positive or zero. Set the simulator to each of the following conditions and record data. An accurate non-blank reading should be obtained in each case.

- (1) Initial distance = 61m (200 ft); speed = - (slow limit)
- (2) Initial distance = 302m (990 ft); speed = (slow limit).
- (3) Initial distance = 61m (200 ft); speed = - (fast limit).
- (4) Initial distance = 302m (990 ft); speed = (fast limit).

5.10.6 Audio Tones and Error Messages. It is not required for the LIDAR device to emit audio signals. If it does make sounds, test it on the simulator or simply beside a road, and generate a mixture of valid readings and error indications. If necessary, turn on the audio signal. Make written notes of the relationship between the display and the sounds generated. Then continue to generate valid and invalid readings and verify that the relationship is consistent.

5.10.7 Speed Monitor Alert. Verify that the LIDAR device does not have a speed monitor alert.

**5.11 Speed Accuracy: Laboratory Simulation Tests**

5.11.1 Smoothly Moving Target. Begin by noting the stated limitations of the simulator and the UUT. Determine the range of speeds and distances that are available both to the simulator and to the UUT and, thus, can be used for testing.

Record range and speed from the display of the UUT. The simulator software will automatically record the simulated range and speed. No erroneous speed readings shall occur. A blank display or an error message is not an erroneous reading; if the UUT gives a blank display or an error message, repeat the test and adjust the simulator if necessary. It is required for the UUT to give a reading at all settings tested within the working range.

Distance, ft	Speed, mph
4,000	200
100	-200
2,000	20
2,000	-20
800	70
800	65
1,000	60
600	55
300	-55
300	25
300	-30
500	35
500	-35
200	-65
100	-80
400	80
400	-85
600	85



600	90
600	-90
500	73
500	77
300	-40
300	44
300	47
333	52
222	-54
777	100
777	97
777	111

5.11.2 Smoothly Moving Target with Sawtooth Perturbation. A LIDAR unit can potentially read an erroneous speed if successive laser pulses are not all reflected from the same part of the same target vehicle. It is the user's job to hold the laser device steady, but there is also a need for the instrument to reject bad data based on clues contained in the data set. That is, raw data of range versus time should ideally plot as a straight line; when the raw data deviate from straightness, the speed derived from the data is suspect, and it should not be displayed. The exact criteria for rejecting suspicious data have been a matter of engineering development and are proprietary to the LIDAR manufacturers. This section will verify that the UUT has some ability to reject suspicious data.

The simulator software has a perturbation feature that permits a periodic disturbance to be added to the normal simulation of a target moving at constant speed. The user must describe the perturbation in an ASCII file, rather than interactively. The file specifies the distance as a function of time by an ordered list of pairs beginning at time 0.0 s. The unit of distance may be chosen as feet or meters. The program interpolates the function linearly between the given points and then applies the appropriate perturbation to the delay of the return laser pulse. The perturbation has a period equal to the interval of the given function. The standard perturbation is defined by the four points listed below. This perturbation is based on a realistic view of what bad data may look like, but it is by no means a basis for writing an error-trapping algorithm.

Time, s	Distance, ft
0.0	0.0
0.010	0.0
0.012	5.0
0.200	0.0

If entered in just this form, the perturbation is null for 10 ms after the first pulse of the UUT. It then jumps to about 5 ft in 2 ms and ramps back down to zero by the end of the total time interval of 200 ms. It immediately repeats. The test laboratory may optionally shift the perturbation cycle in time. If the perturbation is shifted in time, the total time interval still must be less than the period between laser pulses from the UUT. In general, it might take five points to redefine the function in time-shifted form, and a small change in the function may result because of the way the software splices the end of one cycle onto the beginning of the next. In any event, the software allows the operator to review the net perturbation exactly as it will be applied, pulse by pulse.

In testing with perturbed data, the expected result is "no reading," or perhaps an error message. The procedure that follows includes frequent control experiments to verify that all the wires, switches, and optical alignment are correct, and that an occurrence of "no reading" is indeed a valid rejection of invalid data. Prepare a list of at least 12 different distance-speed simulator settings similar to that in §5.11.1. Start the simulator and follow its top-level menu to write the PRR, time, and a description of the experiment into a header for a results file. Test the UUT at the first setting, with the perturbation OFF. Record the reading. If no reading is obtained, adjust the setup until reliable readings are obtained; then record one reading. At the same distance-speed setting, and at three other settings, record data with the perturbation ON. Although the simulator software will automatically note that the perturbation is on, the detailed perturbation file(s) shall be kept with the data and printed out for complete documentation. Using the next distance-speed setting, record another reading with the perturbation OFF. Again verify that the simulator and UUT are working. Then, with the perturbation ON, record data at that setting and the next three. Repeat this process until the list of settings is used up. It may be convenient to select a different perturbation file after each grouping of five measurements. (See the previous discussion about shifting the time origin.)

No erroneous readings are permitted. A blank display or an error message is not an erroneous reading.

## 5.12 Auxiliary Equipment and Interface Tests

5.12.1 I/O Port. If the UUT has a computer I/O port, such as RS-232, use the information, software, and cabling supplied by the manufacturer to verify that the port is operational. That is, the

LIDAR unit's I/O port should send data in the manner specified and in the sequence claimed. Exhaustively detailed testing is not required.

5.12.2 Switching Output. If the UUT has a switching output, use the information and indicator box supplied by the manufacturer to verify that the switching output functions as claimed. In a typical instance, the indicator LED shall go off and on in the expected way, and further checking of the circuit and the terminal voltage shall show that the output is sourcing or sinking a current at the times claimed.

5.12.3 Remote Control. If the UUT has a connector for remote control that is claimed to be a computer port of a standard type, use the information, simple software, and cabling supplied by the manufacturer to verify that the remote control function is operational. That is, the LIDAR unit's I/O port should receive data in the manner specified, and act on the commands issued. If more elaborate proprietary remote control software is sold for use with the UUT, test the functionality of that software with the unit. All functions tested should work as claimed, but testing need not be exhaustive.

5.12.4 Remote Trigger. If the UUT has a remote trigger function, test it with the information and switch box supplied by the manufacturer. Verify that the switch box triggers a measurement in the manner claimed, and that the circuitry of the switch box is consistent with the description in the owner's manual.

### **5.13 Conducted Electromagnetic Interference Tests**

If the unit under test is intended to be connected to an external source of power, then connect the LIDAR unit to the simulator and to the other test equipment as shown in figures 1 and 3. Activate the UUT and verify that it is interacting with the simulator and correctly measuring the simulated speed.

In §5.13.1 and §5.13.2, the amplitude of the pulse or sawtooth wave must be set with a dummy load in place of the UUT. The dummy load is a 10  $\Omega$  resistor with a power rating of at least 20 W. [ $V^2/R = (13.6 \text{ V})^2/10 \Omega = 18.5 \text{ W}$ .] The dummy load may be removable, as indicated, or the output may be switchable between the dummy load and the UUT. In the prototype, the dummy load was made from a 10  $\Omega$  nominal resistor, with an adjustable tap; since the end-to-end resistance exceeded 10  $\Omega$ , the slider was set to give a resistance within 1 % of nominal. A high-impedance oscilloscope probe must be attached across the dummy load. With the dummy load in place, it will show somewhat distorted pulse and sawtooth waveforms. At the fast edges of the distorted waveforms, narrow transient spikes may appear. Although these transients may be an important potential source of interference, they are to be ignored in setting the peak to peak amplitude of the waveforms. Figure 4 shows an oscilloscope display of a distorted pulse. "Markers" have been set on the oscilloscope to show the approximate baseline and top line of the waveform.

#### **5.13.1 Simulated Vehicle Alternator Interference.**

5.13.1.1 *Frequency Dependence*. Connect the pulse generator and the oscilloscope to the coupling circuit of figure 3. Set the generator's PRR to 200 pps, the pulse width to 10  $\mu\text{s}$  to 20  $\mu\text{s}$ , and the pulse amplitude to 1 V p-p or 7.5 % of the standard supply voltage in use (whichever is lower), as measured by the oscilloscope across the dummy load. Remove the dummy load from the coupling circuit and replace it with the LIDAR UUT. Establish a simulated target speed of 64 km/h (40 mph) and slowly vary the generator's frequency from 200 pps to 10,000 pps and back to

200 pps in convenient steps. Operate the UUT at 10 or more of these steps and record detailed data using the simulator software. Verify that no erroneous readings appear.

5.13.1.2 *Amplitude Dependence at 1500 pps.* Perform §5.13.1.1 using a constant pulse rate of 1500 pps while slowly varying the pulse amplitude from 0 to 1 V p-p or 7.5 % of the standard supply voltage in use (whichever is lower) and back to 0 V, as measured by the oscilloscope. Operate the UUT at five or more of these steps and record detailed data with the simulator software.

5.13.1.3 *Amplitude Dependence at 3100 pps.* Repeat §5.13.1.2 using a constant PRR of 3100 pps.

5.13.2 Simulated Vehicle Ignition, Air Conditioner/Heater Motor, and Windshield Wiper Motor Interference. Connect the sawtooth wave generator and dummy load in place of the pulse generator and LIDAR UUT. Set the generator's output frequency to 200 Hz and the waveform amplitude to 1 V p-p or 7.5 % of the standard supply voltage in use (whichever is lower) as measured by the oscilloscope across the dummy load. Remove the dummy load from the coupling circuit and replace it with the LIDAR UUT. Establish a simulated target of 64 km/h (40 mph) and slowly vary the generator frequency from 200 Hz to 10 kHz and back to 200 Hz. Operate the LIDAR UUT at 12 or more values of the sawtooth frequency, including 200 Hz and 10 kHz, recording data with simulator software. Verify that no erroneous readings appear.

5.13.3 Simulated Police FM Transceiver Interference.

5.13.3.1 *160 MHz.* Connect the LIDAR UUT and the FM signal generator to the line impedance stabilization network, as shown in figure 10, such that the rf signals are coupled onto the power line of the UUT, and establish a simulated target of 64 km/h (40 mph).

5.13.3.1.1 *Frequency Dependence.* Set the generator to an rf carrier frequency of 160 MHz with an output of 10 mW and no more than 1 mW of reflected power as measured by the power meter. Set the signal generator's frequency deviation (modulation width) to 5 kHz and vary the modulation frequency from 200 Hz to 10 kHz in convenient steps. Operate the UUT at 12 or more values of modulation frequency, including 200 Hz and 10 kHz, and record detailed data with the simulator software. Verify that no erroneous readings appear.

5.13.3.1.2 *Amplitude Dependence for FM Modulation.* Set the modulation frequency to a constant 1.5 kHz and vary the FM signal generator output power from 0 mW to 10 mW and back to 0 mW in convenient steps. Record data at 10 or more points with the simulator software. Change the modulation frequency to 3.1 kHz, and record detailed data at 10 or more points from 0 mW to 10 mW and back to 0 mW with the simulator software. Verify that no erroneous readings appear.

5.13.3.2 *40 MHz.* Repeat all of §5.13.3.1 for a carrier frequency of 40 MHz.

5.13.3.3 *460 MHz.* Repeat all of §5.13.3.1 for a carrier frequency of 460 MHz.

5.13.4 Simulated Citizens Band (CB) AM Transceiver Interference.

5.13.4.1 *Frequency Dependence.* Connect the AM signal generator to the line impedance stabilization network, as shown in figure 10, such that the rf signals are coupled onto the LIDAR unit's power line. Establish a simulated target of 64 km/h (40 mph). Set the generator to a frequency of 27 MHz with an output of 5 mW and reflected power of no more than 1 mW, as

measured by the power meter. Adjust the generator modulation depth to 99 % and vary the modulation frequency from 200 Hz to 10 kHz. Operate the LIDAR unit and record data using the simulator software at 12 or more modulation frequencies, including 200 Hz and 10 kHz. Verify that no erroneous readings appear.

5.13.4.2 *Amplitude Dependence for 1.5 kHz Modulation.* Perform §5.13.4.1 using a constant modulation frequency of 1.5 kHz and vary the AM signal generator output from 0 mW to 5 mW and back to 0 mW. Operate the LIDAR unit and record data at 10 or more points, including the extremes of the power level.

5.13.4.3 *Amplitude Dependence for 3.1 kHz Modulation.* Perform §5.13.4.2 using a constant modulation frequency of 3.1 kHz.

## **5.14 Radiated Electromagnetic Interference Tests**

In this test, the LIDAR device will be tested for potential interference from two types of vehicle-mounted transceivers, and from a handheld transceiver. The LIDAR shall be operated by a person either seated in either front seat of a patrol vehicle of the type normally used for law enforcement or standing close by that vehicle. This patrol vehicle shall be the same one containing the rf transceiver. In addition to the person operating the transceiver and slide whistle and the person aiming the UUT, it may be helpful to have an additional person to write down readings from the UUT as they show up in the display. It may also be possible to record the readings via a serial link to a computer; in this case, the software must be arranged so that the relevant data for each test are clearly labeled. It may be helpful to steady the LIDAR with a tripod or other support.

The patrol vehicle shall be located alongside a straight road or test track and the UUT shall be used to measure the speed of a target vehicle that is at least 120 m (400 ft) away and traveling at a speed of approximately 80 km/h (50 mph).

When the slide whistle is used, it shall be blown very hard in order to generate strong overtones that modulate the rf carrier at audio frequencies higher than those of the fundamental notes.

### **5.14.1 Police FM Transceiver Interference Test.**

5.14.1.1 *Patrol Vehicle Transceiver.* Run the patrol vehicle engine at idle. Activate the push-to-talk switch and use the slide whistle to generate audio that is coupled into the transceiver via the microphone. Blow the whistle hard and vary the slide position over the entire range while measuring the speed of the distant target vehicle with the UUT. Observe or record the readings from the UUT, looking for erroneous readings. Repeat two more times.

5.14.1.2 *Handheld Transceiver.* Turn off the FM transceiver and perform the test of §5.14.1.1 using a Handheld FM transceiver with an integral antenna and an output power of 2 W or more positioned at the patrol vehicle driver's location.

### **5.14.2 Citizens Band (CB) AM Transceiver Interference.**

Mount a 4 W minimum output CB transceiver in a typical front seat location and install its antenna as recommended by the manufacturer; or use any vehicle which has a CB installed. Run the vehicle engine at idle. Switch on the CB transceiver, set it to channel 20, activate the push-to-talk switch, and use the slide whistle to generate audio that is coupled into the transceiver via the microphone. Blow the whistle hard and vary the slide position over the entire range while

measuring the speed of the distant target vehicle with the UUT. Observe or record the readings from the UUT, looking for erroneous readings. Repeat for channels 1 and 40.

## **5.15 Speed Accuracy: Field Operation Test**

5.15.1 Speedometer-Correction Factor. Establish a measured distance of at least 402 m (1320 feet) on an open, level location away from other moving targets. Drive the target vehicle over the measured distance at a constant speed, preferably using the vehicle's cruise control, and measure the elapsed time with a stopwatch while recording the speedometer readings. Repeat the procedure twice in each direction, maintaining the same speed for all four runs. Use the stopwatch to determine the target vehicle's average speed and use this speed to calculate the target vehicle's speedometer correction factor. The corrected speedometer reading shall be compared with the speed reading provided by the certified radar unit and that of the LIDAR UUT to determine the accuracy of the UUT.

### **5.15.2 Speed Test**

5.15.2.1 *Power supply*. For this test, the UUT may be powered from a vehicle, a portable battery, or a power supply adjusted to the standard power supply voltage.

5.15.2.2 *Safety Considerations*. For safety reasons, the UUT may be mounted on a tripod or handheld and may be as far as 4 m (13 feet) from the centerline of the test roadway. The distance from the speed measurement region to the UUT shall at least be 20 times the UUT's offset from the center of the roadway. (If the UUT is 4 m (13 feet) to one side and 100 m (328 feet) downrange, the cosine effect will be less than 0.1%.) These distances shall be recorded. The distance of the UUT from the speed-measurement region may be measured with the UUT's range function, provided the range accuracy of the UUT has been previously been established.

5.15.2.3 *Certified Radar Unit*. The certified radar unit shall be positioned in a manner similar to the LIDAR UUT. This radar unit should be used to obtain independent target-vehicle speed readings. These readings shall be recorded and compared to the UUT's speed readings of the target vehicle.

5.15.2.4 *Target Vehicle*. For each test run, drive the target vehicle through the measured test range at a constant speed. Test runs shall be performed with the target vehicle both approaching and receding from the UUT at speeds of approximately 32 km/h, 80 km/h and 112 km/h (20 mph, 50 mph and 70 mph). The driver of the target vehicle shall maintain the assigned speed before reaching and until after passing through the measured test range.

5.15.2.5 *Data Collected for Each Test Run*. For each test run, measure and record the following: 1) the elapsed time for the target vehicle to pass through the measured test range; 2) the exact distance of the measured test range; 3) the minimum, maximum and average speedometer readings; 4) the minimum, maximum and average radar readings; 5) the minimum, maximum and average UUT readings or a single reading for a LIDAR system; 6) any anomalies associated with the run.

Each certified radar speed reading on the target vehicle shall be recorded. The certified radar speed reading and the speedometer corrected speed reading shall be compared to determine the average speed of the target vehicle over the test course. This speed shall be used to compare with speed readings of the LIDAR UUT for overall speed accuracy.

## 5.16 Vehicle Determination (LIDAR Systems Only): Field Operation

If requested by the LIDAR System manufacturer, test the LIDAR system for each mode of operation supported—i.e., manual, attended automatic, and unattended automatic, as specified by the manufacturer.

Install and connect the supplied imaging equipment in accordance with instructions provided by the manufacturer. Ensure the LIDAR system is oriented for the direction of enforcement, whether operating in the receding mode or approaching mode. Verify that evidential images meet the requirements of §2.16.

### 5.16.1 Attended Operation.

#### 5.16.1.1 *Direction Discrimination.*

5.16.1.1.1 Approaching Targets. Place the LIDAR system in the approaching mode, if applicable, with a threshold speed of 35 mph. Drive an automobile at 50 mph through the laser beam in the approaching direction. Repeat, but drive the automobile in the opposite direction through the LIDAR system beam. The LIDAR system shall only record the approaching automobile or provide information indicating the target vehicle's direction of travel.

5.16.1.1.2 Receding Targets. Repeat the test with receding mode if applicable. The LIDAR system shall only record the receding automobile or provide information indicating the target vehicle's direction of travel.

#### 5.16.1.2 *Speed Discrimination.*

5.16.1.2.1 Approaching Targets. Place the LIDAR system in the approaching mode, if applicable, with a threshold speed of 65 mph. Drive an automobile at 50 mph through the laser beam in the approaching direction. The LIDAR system shall not record the automobile. Repeat test a second time.

5.16.1.2.2 Receding Targets. Repeat the test with the LIDAR system with the receding targets. The LIDAR system shall not record the receding automobile. Repeat test a second time.

#### 5.16.1.3 *Multiple Vehicles.*

5.16.1.3.1 Approaching Targets. Place the LIDAR system in the approaching mode, if applicable, with a threshold speed of 50 mph. Drive two automobiles at any speed slower than the threshold speed so that they are operating in different lanes and in close proximity to each other. The LIDAR system shall not record any speed.

5.16.1.3.2 Receding Target. Repeat the test with the LIDAR system in the receding mode, if applicable. The LIDAR system shall not record any speed.

5.16.2 Unattended Operation. Repeat the tests of §5.16.1 supplemented by the manufacturer's secondary method for verifying that the evidential image correctly identifies the target vehicle and its speed.

# APPENDIX

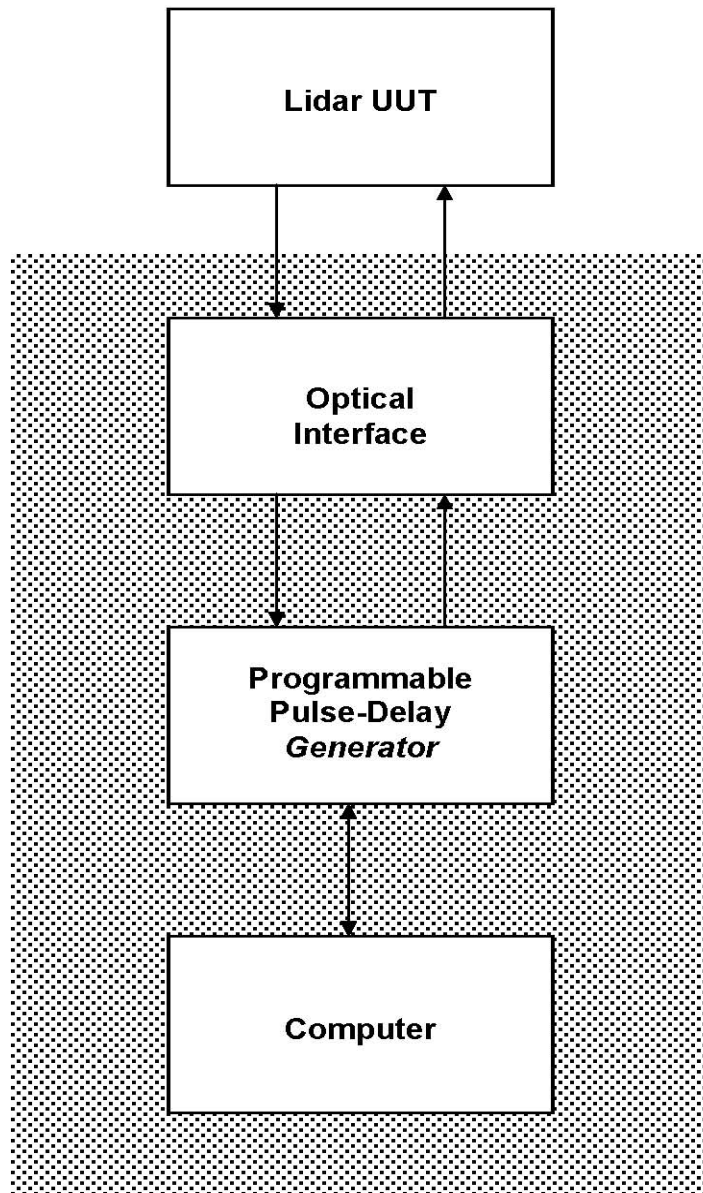


**Table 1 - Minimum Performance Specifications for LIDAR Speed-Measuring Devices and Systems**

<b>Performance Characteristic</b>	<b>Minimum Requirement</b>	<b>Section</b>
Wavelength of pulsed laser*	Infrared	§1.3
Pulse repetition rate	≤ 1 kHz	§2.9.1
Pulse repetition rate variation*	≤ 0.1 %	§2.2.12
Low supply voltage†	≤ 10.8 V	§2.9
Horizontal functional beam width	≤ 5 mrad	§2.6.3
Vertical functional beam width	≤ 5 mrad	§ 2.6.3
Display readability	Easily readable when used as intended	§2.10.1
Maximum low speed	16 km/h (10 mph)	§2.10.5.1
Minimum high speed	320 km/h (200 mph)	§2.10.5.2
Speed accuracy	±2 km/h, -3 km/h (+1 mph, -2 mph)	§2.11
Speed error trapping	Periodic sawtooth perturbation: 200 ms, 1.52 m (5 ft) peak	§2.11.2
Long range	300 m (1,000 ft) minimum	§2.5
Range accuracy	±0.3 m (+1 ft)	§2.4
Vehicle determination	Documented with a recorded image (or images)	§2.16

\*Not a functional requirement, but relates to the present limitations of the test instrumentation, in particular the target speed simulator. The manufacturer may be required to provide test equipment (§2.1) if these specifications are exceeded.

† Applicable for LIDAR units that can be powered from a nominal 12 V automotive system. Self-powered units have a different minimum specification for low supply voltage (§2.8).



*Figure 1. Block diagram illustrating the Lidar Unit Under Test (Lidar UUT) interfaced with the Target Speed Simulator (TSS). The TSS is composed of three components: the Optical Interface, the Programmable Pulse-Delay Generator and the Computer.*

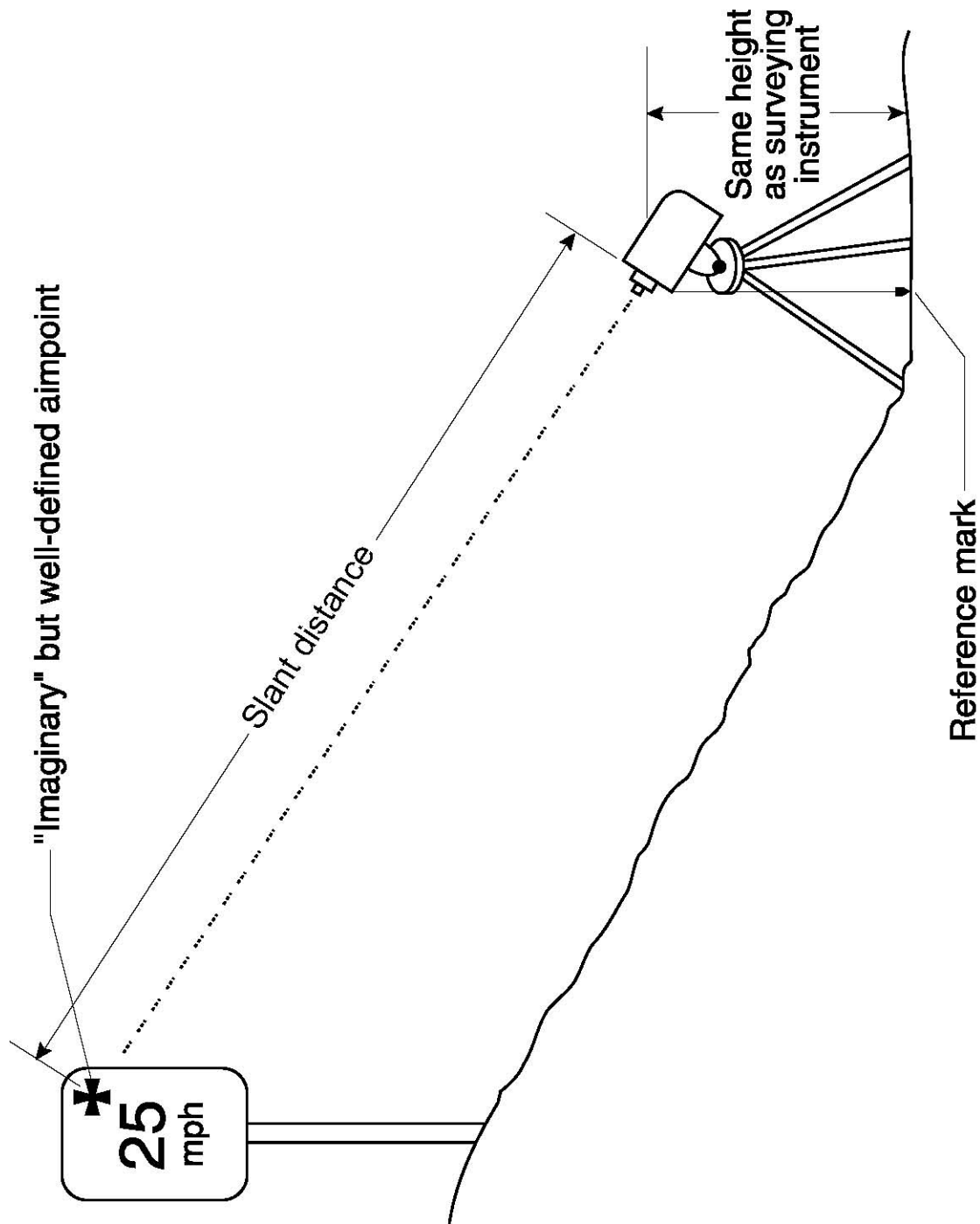


Figure 2. Schematic of the test range for the target distance feature

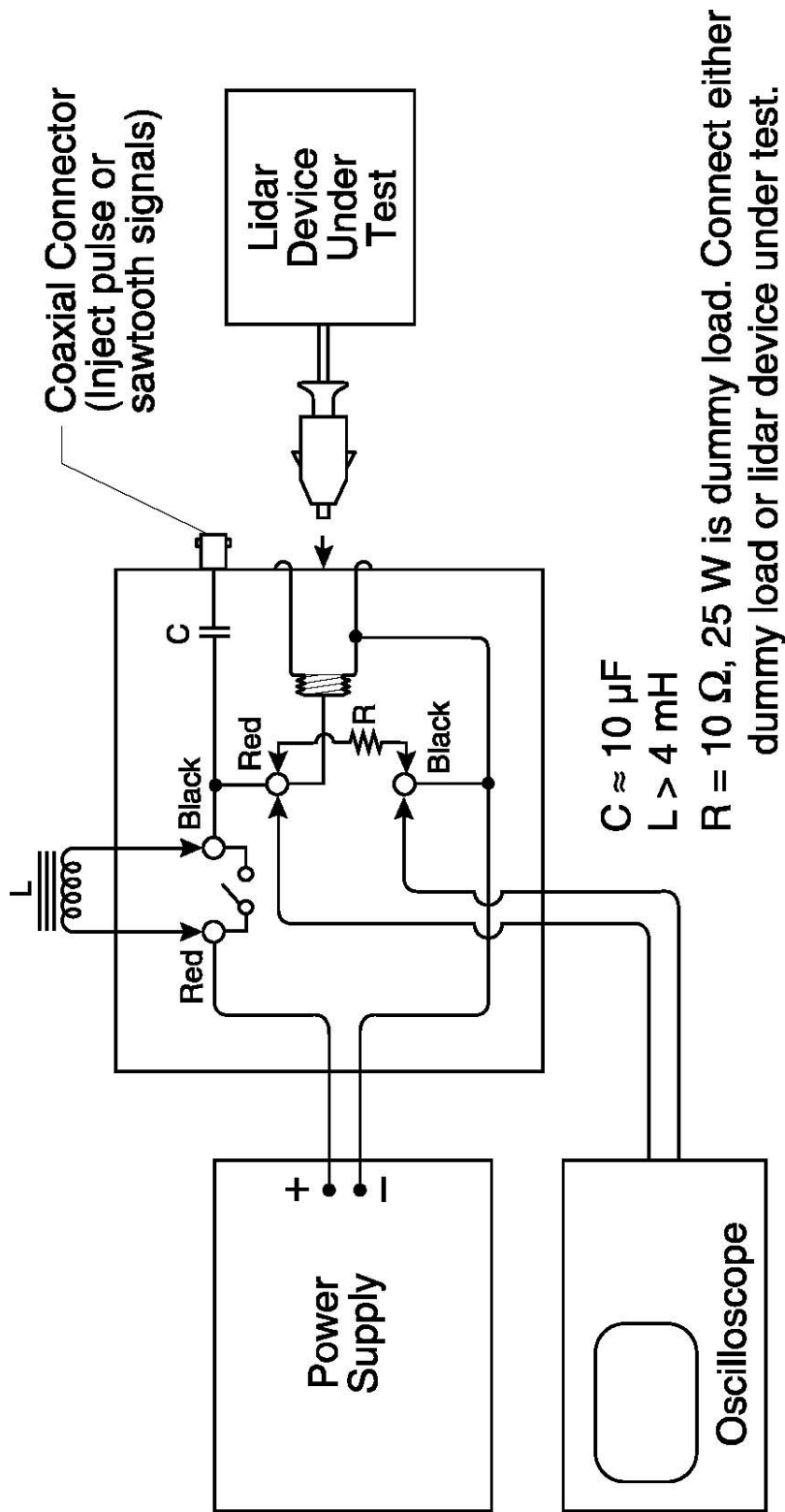


Figure 3. Block diagram of the pulse-sawtooth coupling circuit

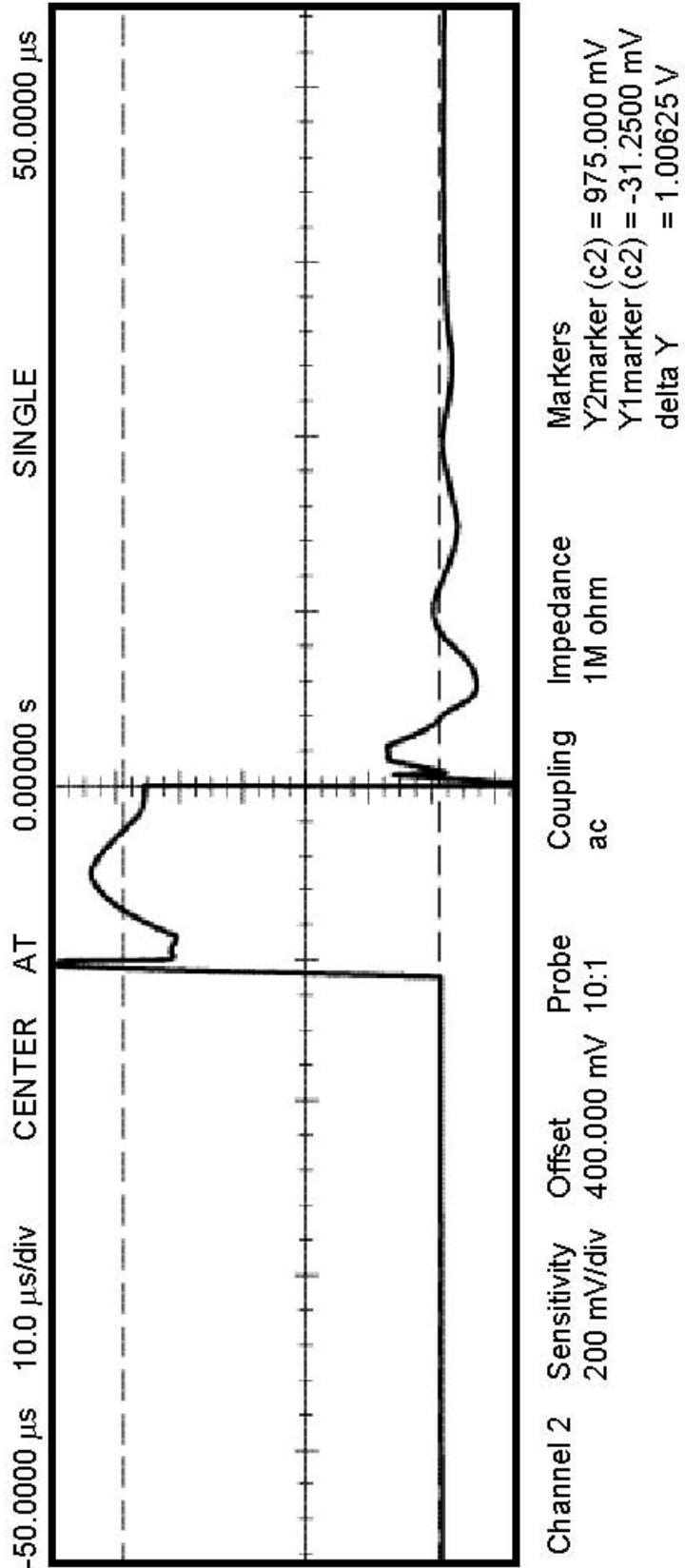


Figure 4. Oscilloscope of a rectangular pulse, coupled through the circuit of figure 3 into the 10  $\Omega$  dummy load

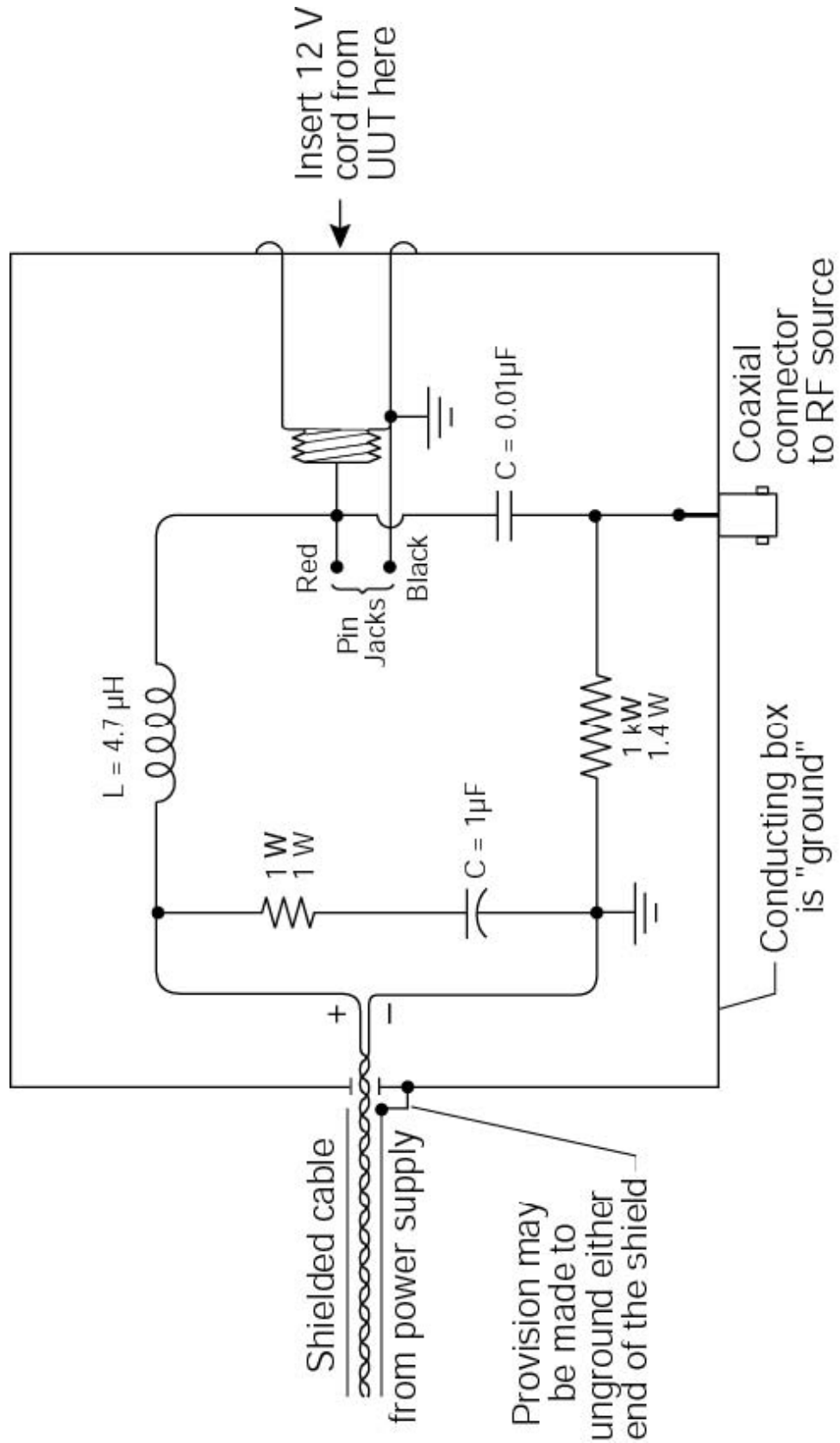


Figure 5. Block diagram of the line impedance stabilization network (LISN)

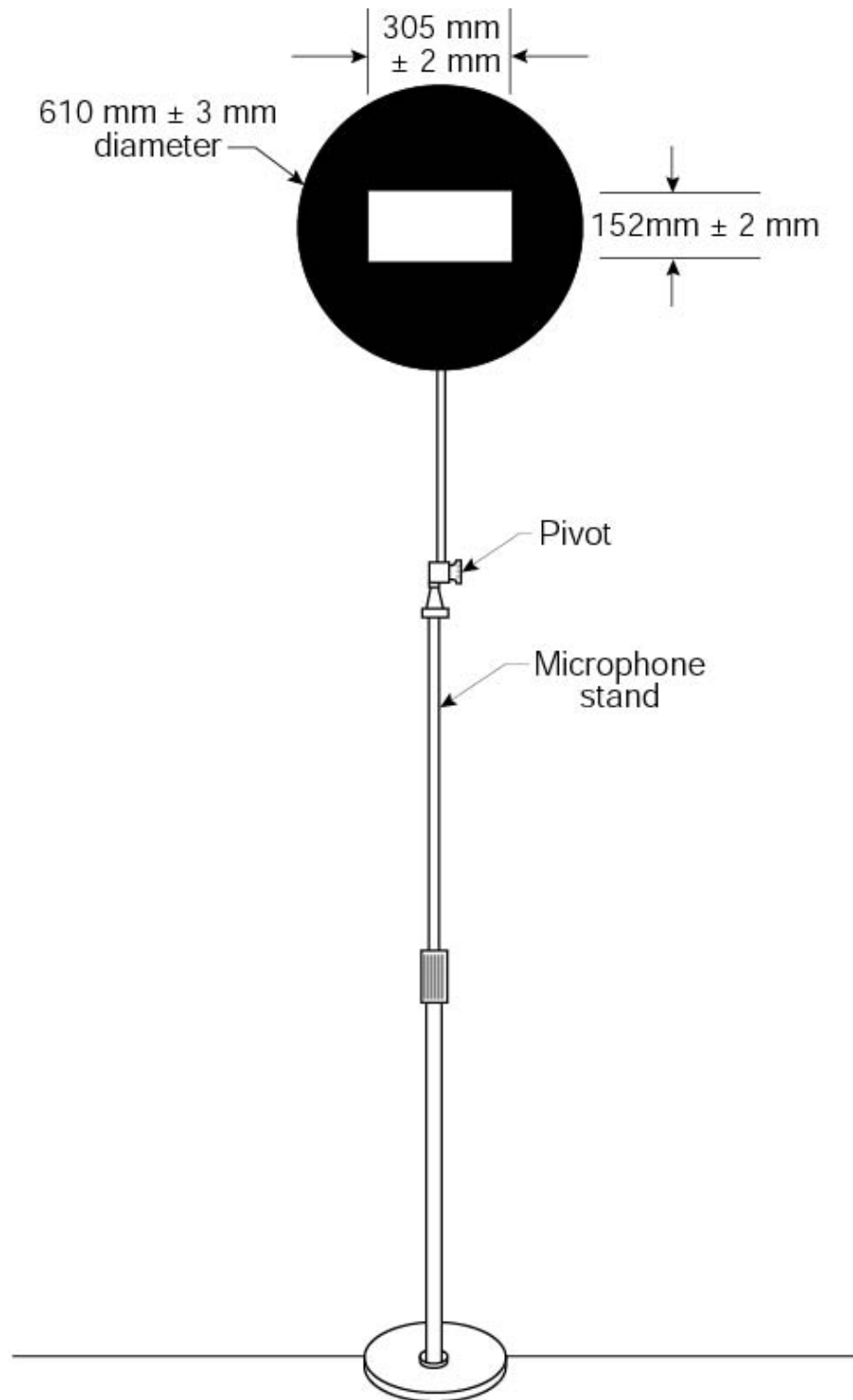


Figure 6. Schematic of the long-range target apparatus

### Measured Distances

D1 = 202.5 ft  
D2 = 200.5 ft  
D3 = 204.5 ft  
D4 = 12.0 in  
D5 = 12.0 in

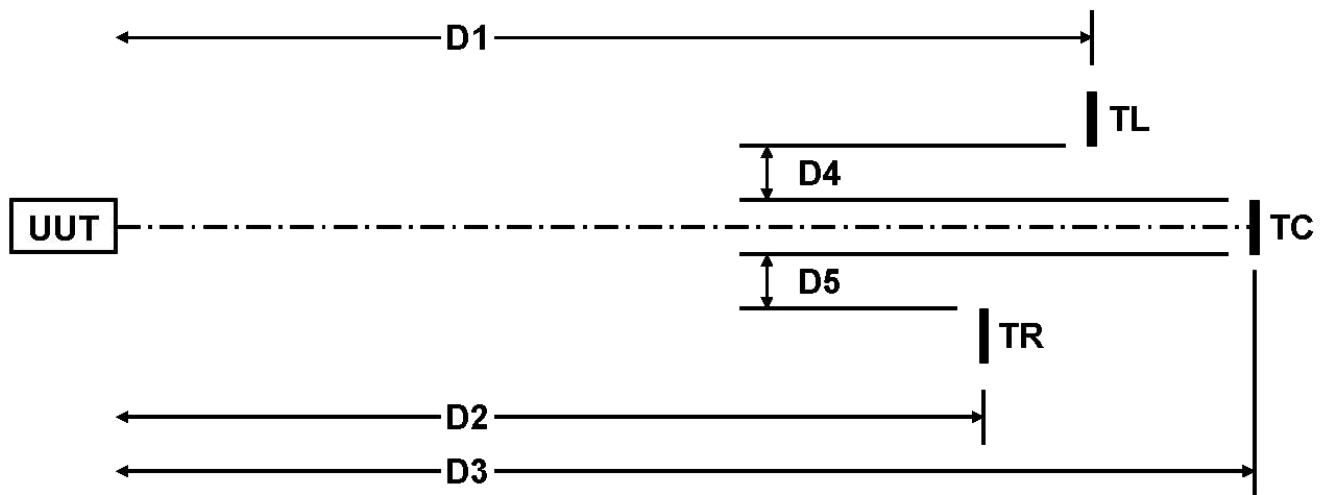
### Targets

The targets are flat disks of diffusely reflective white material

TL = Target Left = 50 mm = 1.97 in Diameter

TC = Target Center = 30 mm = 1.18 in Diameter

TR = Target Right = 50 mm = 1.97 in Diameter



### Notes:

1. D1, D2, D3 are measured within approximately  $\pm 1$  in.
2. D4 and D5 are measured within  $\pm 0.1$  in.
3. The diameters of the targets constructed within approximately  $\pm 1$  mm.
4. The axes perpendicular to the plane of the targets are parallel.
5. The center points of the targets are 64 in  $\pm 0.1$  in above the ground (floor).

Figure 7. Schematic of the beam characterization apparatus



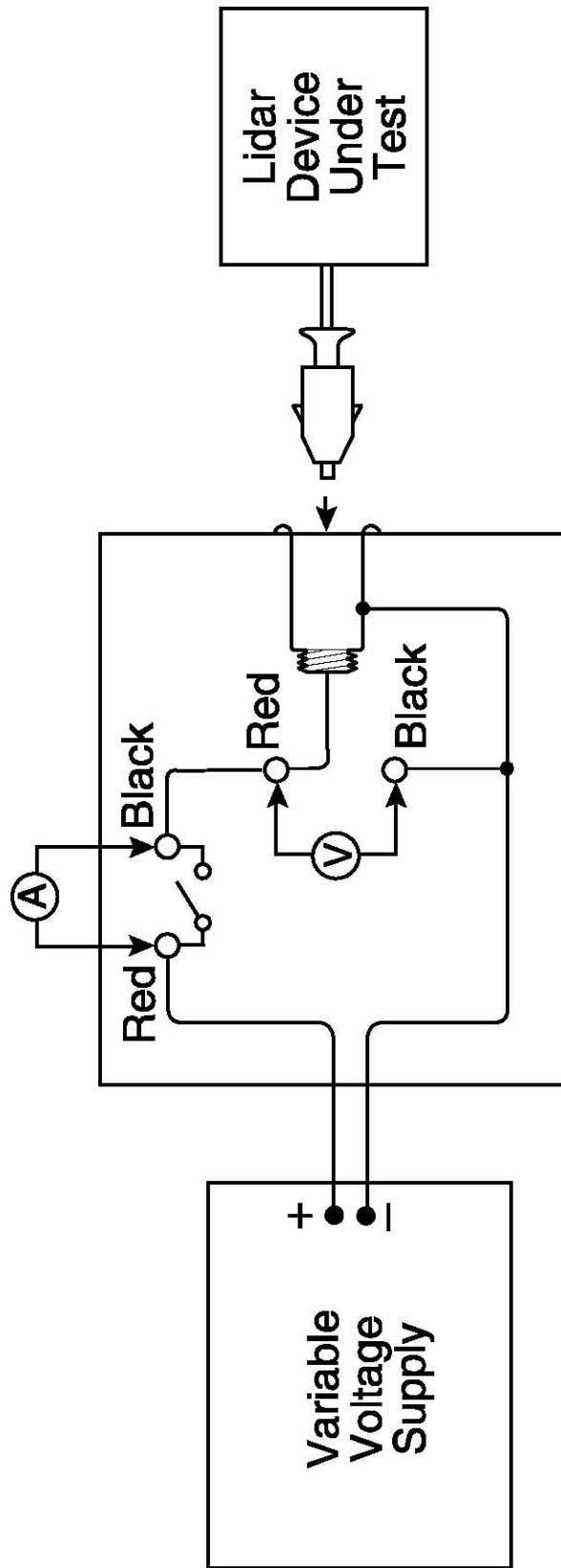


Figure 8. Block diagram of the low-voltage test circuit

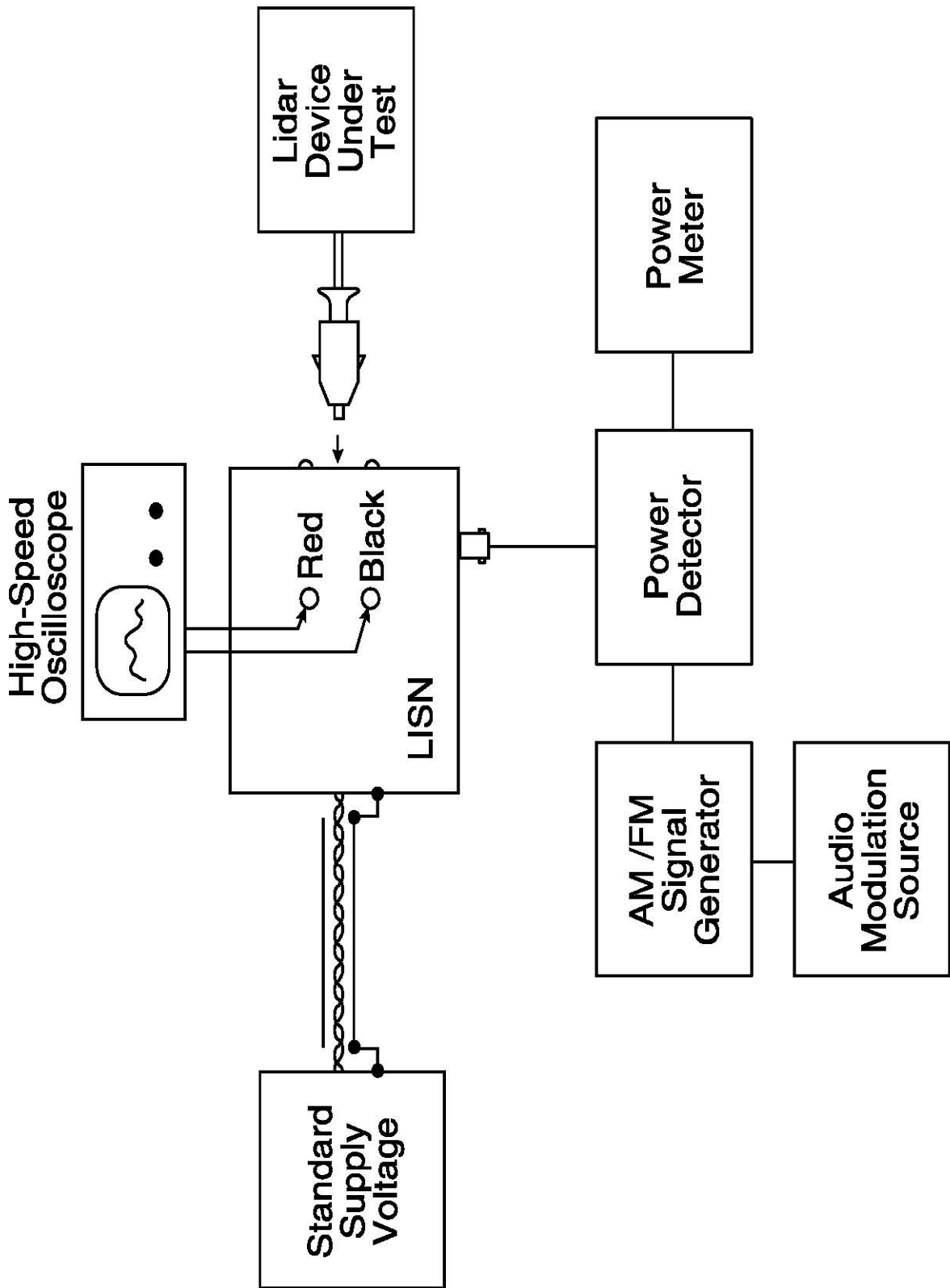


Figure 9. Block diagram of the radio-frequency test circuit

DOT HS 809 811  
March 2013



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**



[www.nhtsa.gov](http://www.nhtsa.gov)

9255-032213-v1a

**CONFORMING PRODUCT LIST (CPL)  
Speed-Measuring Devices**

**September 30, 2016<sup>1</sup>**

The Conforming Product List (CPL) is a document of the National Highway Traffic Safety Administration; United States Department of Transportation informs which speed measuring devices are eligible for purchase using Federal highway safety grant funds, based on the device having been subjected to, and meeting or exceeding the technical specifications for Radar and Lidar devices maintained by NHTSA.

Speed measuring device models that appear on the CPL have been tested and found to be in compliance with the established performance specifications that were in effect when the model was first placed on the CPL. These performance specifications are intended to ensure that the devices are accurate and reliable when properly operated and maintained. Law enforcement agencies are strongly encouraged to consult the Conforming Product List as one of their criteria in determining which speed measuring devices they choose to procure. Additionally, law enforcement agencies should be aware of applicable Federal, State, and local requirements related to the purchase, operation, and maintenance of speed measuring devices. To ensure proper use of speed measuring devices, law enforcement agencies are strongly encouraged to ensure operators of speed measuring devices have received proper training for Radar and Lidar devices, have been trained in the appropriate use of the specific device being operated in the field, and maintain accurate records for the use and maintenance of the devices.

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PART I: DOWN-THE-ROAD RADAR SPEED-MEASURING DEVICES

PART II: LIDAR SPEED-MEASURING DEVICES AND SYSTEMS

PART III: UNITS APPROVED BUT NO LONGER IN PRODUCTION

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<sup>1</sup> This version supersedes all previous versions of the Conforming Product List.

## PART I: DOWN-THE-ROAD RADAR SPEED-MEASURING DEVICES

The following Down-the-Road speed-measuring device models have been tested and meet all the requirements of the *Speed-Measuring Device Performance Specifications: Down-the-Road Radar Module* (DOT HS 812 266, April, 2016) published by NHTSA and available at <http://www.nhtsa.dot.gov/people/injury/enforce/DownTheRoadWeb/pages/index.html>. For additional information, refer to the **Notes** section at the end of this portion of the CPL.

MANUFACTURER	MODEL	BAND	Mode (S/M)	HANDHELD	SAME DIRECTION	FASTEST TARGET	DISCRIMINATE DIRECTION
Applied Concepts	Stalker Dual SL	Ka	S/M		•	•	
Applied Concepts	Stalker Dual DSR	Ka	S/M		•	•	•
Applied Concepts	Stalker DSR 2X	Ka	S/M		•	•	•
Applied Concepts	Stalker II SDR	Ka	S	•		•	•
Applied Concepts	Stalker II MDR	Ka	S/M	•	•	•	•
Applied Concepts	Stalker Patrol	K	S/M		•	•	
Decatur Electronics	Genesis GHD	K	S	•		•	•
Decatur Electronics	Genesis II Select <sup>2</sup>	K, Ka	S/M		•	•	• (K band only)
Decatur Electronics	Scout	K	S	•		•	•
Kustom Signals	Eagle II	Ka	S/M				
Kustom Signals	Golden Eagle II	Ka	S/M		•	•	
Kustom Signals	Directional Golden Eagle II	Ka	S/M		•	•	•
Kustom Signals	Falcon HR	K	S/M	•	•	•	•
Kustom Signals	Talon II	Ka	S/M	•	•	•	
Kustom Signals	Directional Talon	Ka	S/M	•	•	•	•
Kustom Signals	Raptor RP-1	K, Ka	S/M		•	•	•
MPH Industries	BEE III <sup>3</sup>	K, Ka	S/M		•	•	•
MPH Industries	Enforcer	K, Ka	S/M		•	•	
MPH Industries	Python III <sup>4</sup>	X, K, Ka	S/M		• (K and Ka Only)	• (K and Ka Only)	
MPH Industries	Ranger EZ <sup>5</sup>	K	S/M		•	•	•
MPH Industries	SpeedGun Pro	K	S/M	•	•	•	•

<sup>2</sup> The radar mirror is approved as a substitute for the original display unit of the Genesis II Select radar.

<sup>3</sup> The patch antenna is approved as a substitute for the original K-band antenna of the Bee III radar.

<sup>4</sup> The PYN antenna is approved as a substitute for the original Ka band antenna of the Python III radar.

<sup>5</sup> MPH, Ranger EZ, K-Band, please note that the directional feature was not tested due to the lab equipment not being compatible with the Ranger's radar technology.

**NOTES:**

- 1) Mode “S” refers to the stationary mode and mode “M” refers to moving mode.
- 2) Some of the models listed on the CPL may have operational features that are not a part of the model minimum performance specifications. It is important to understand that these features have not been tested, even though the device itself has met the model minimum performance specifications.
- 3) Inclusion on the CPL for any individual device model will be voided by any third party modifications not specifically approved by the original equipment manufacturer.

Test results and analysis contained herein do not represent product endorsement by any party or the National Highway Traffic Safety Administration, the U.S. Department of Transportation, the National Institute of Standards and Technology, or the U.S. Department of Commerce.

## PART II: LIDAR SPEED-MEASURING DEVICES AND SYSTEMS

The following Lidar speed-measuring device models have been tested and meet all the requirements of the *Speed-Measuring Device Performance Specifications: Lidar Module* (DOT HS 809 811, March 2013) published by NHTSA and available at [http://www.nhtsa.gov/people/injury/speedmgmt/speed\\_lidar\\_module/pages/index.html](http://www.nhtsa.gov/people/injury/speedmgmt/speed_lidar_module/pages/index.html). For additional information, refer to the **Notes** section at the end of this portion of the CPL.

MANUFACTURER	MODEL	LIDAR DEVICE <sup>(1)</sup>	LIDAR SYSTEM <sup>(2)</sup>		
			MANUAL <sup>(3)</sup>	AUTOMATIC <sup>(4)</sup>	
				ATTENDED <sup>(5)</sup>	UNATTENDED <sup>(6)</sup>
Applied Concepts, Inc.	Stalker RLR	•			
Applied Concepts, Inc.	Stalker XLR	•			
Applied Concepts, Inc.	Stalker XS	•			
DragonEye Technology, LLC	DragonEye Compact Speed Lidar	•			
DragonEye Technology, LLC	DragonEye Speed Lidar	•			
Kustom Signals, Inc.	LaserCam 4	•	•	•	
Kustom Signals, Inc.	ProLaser III	•			
Kustom Signals, Inc.	ProLaser 4	•			
Kustom Signals, Inc.	Pro-Lite +	•			
Laser Technology, Inc.	LTI 20/20 TruCAM	•	•	•	
Laser Technology, Inc.	TruSpeed	•			
Laser Technology, Inc.	TruSpeed LR	•			
Laser Technology, Inc.	TruSpeed S	•			
Laser Technology, Inc.	TruSpeed SXB	•			
Laser Technology, Inc.	Ultralyte 100 LR	•			
Laser Technology, Inc.	Ultralyte 200 LR	•			
Laser Technology, Inc.	Ultralyte LR B	•			
MPH Industries/Laser Atlanta	SpeedLaser® B	•			
MPH Industries/Laser Atlanta	SpeedLaser® R	•			
MPH Industries/Laser Atlanta	SpeedLaser® S	•			
MPH Industries/Laser Atlanta	SpeedLaser® T	•			
Unipar Services	SL700	•			

**NOTES:**

- 1) Lidar Device – down-the-road speed-measuring equipment, which determines target range and speed based on the time-of-flight of laser light pulses reflected off a target. The term “lidar device” is synonymous with “laser speed-measuring device” and “lidar unit.”
- 2) Lidar System – a lidar device that incorporates additional equipment that is used to gather, process and/or record images to be used as part of speed enforcement efforts.
- 3) Manual Mode – a mode in a lidar system where an operator manually aims the lidar system to track the movement of a target vehicle while the vehicle’s range and speed are determined and images recorded.
- 4) Automatic Mode – a mode in a lidar system, which automatically determines a target vehicle’s range and speed and records images. This mode applies to both attended and unattended operation.
- 5) Attended Operation – an operator is an integral part of the evidence acquisition process.
- 6) Unattended Operation – an operator is not an integral part of the evidence acquisition process.
- 7) Some of the models listed on the CPL may have operational features that are not a part of the model minimum performance specifications. It is important to understand that these features have not been tested, even though the device itself has met the model minimum performance specifications.
- 8) Inclusion on the CPL for any individual device model will be voided by any third party modifications not specifically approved by the original equipment manufacturer.

Test results and analysis contained herein do not represent product endorsement by any party or the National Highway Traffic Safety Administration, the U.S. Department of Transportation, the National Institute of Standards and Technology, or the U.S. Department of Commerce.



**PART III: UNITS APPROVED BUT NO LONGER IN PRODUCTION**

DOWN-THE-ROAD RADAR SPEED-MEASURING DEVICES - <i>Approved but no longer in production</i>							
MANUFACTURER	MODEL	BAND	Mode (S/M)	HANDHELD	SAME DIRECTION	FASTEST TARGET	DISCRIMINATE DIRECTION
Applied Concepts	Stalker Basic	K	S/M	•			
Applied Concepts	Stalker ATR	Ka	S/M	•		•	
Applied Concepts	Stalker Dual	K, Ka	S/M			•	
Applied Concepts	Stalker Dual SL	K	S/M		•	•	
Broderick Enforcement	BEE 36	X, K	S/M				
CMI	Speedgun Magnum	X	S/M	•			
Decatur Electronics	Genesis I	X, K, Ka	S/M				
Decatur Electronics	Genesis I Remote Display	K	S/M				
Decatur Electronics	Genesis II	K, Ka	S/M		•	•	
Decatur Electronics	Genesis II Directional <sup>6</sup>	Ka	S/M		•	•	•
Decatur Electronics	Genesis GHD	Ka	S	•		•	•
Decatur Electronics	Genesis GHS	K	S	•			
Decatur Electronics	Genesis II Select Harley-Davidson	Ka	S/M		•	•	
Decatur Electronics	Genesis-VP	K	S	•		•	
Decatur Electronics	Genesis-VP Directional	K, Ka	S	•		•	•
Decatur Electronics	Harley-Davidson Genesis VP Directional	K	S	•		•	•
Decatur Electronics	Hunter	X	S/M				
Decatur Electronics	Hunter HHM	X	S/M	•			
Decatur Electronics	MVR-715	X	S/M				
Decatur Electronics	MVR-724	K	S/M				
Decatur Electronics	RA-GUN GN-1	X	S	•			
Decatur Electronics	RA-GUN KN-1	K	S	•			
Decatur Electronics	SpeedTrak	K, Ka	S/M		•	•	
Decatur Electronics	SpeedTrak	KD	S/M		•	•	•
Federal Signals	Enforcer	K	S/M				
Kustom Signals	Eagle	X, K, Ka	S/M				
Kustom Signals	Eagle II	K	S/M				
Kustom Signals	Eagle Plus	X, K, Ka	S/M			•	
Kustom Signals	Eagle Plus II	K, Ka	S/M			•	

<sup>6</sup> The radar mirror is approved as a substitute for the original display unit of the Genesis II Directional radar.

Kustom Signals	Silver Eagle	X, K, Ka	S/M			•	
Kustom Signals	Golden Eagle	X, K	S/M		•	•	
Kustom Signals	Golden Eagle Plus	Ka	S/M		•	•	•
Kustom Signals	Golden Eagle II	K	S/M		•	•	
Kustom Signals	Falcon	K	S	•			
Kustom Signals	HR-8	K	S	•			
Kustom Signals	HR-12	K	S/M	•			
Kustom Signals	HAWK	K	S/M				
Kustom Signals	KR-10SP	X, K	S/M				
Kustom Signals	KR-11	K	S/M				
Kustom Signals	Pro-1000	K	S/M				
Kustom Signals	Pro-1000(DS)	K	S/M				
Kustom Signals	Road Runner	K	S	•			
Kustom Signals	Talon	Ka	S/M	•	•	•	
Kustom Signals	Trooper	X, K	S/M				
Kustom Signals	PRO-1000 (DS)	X	S/M				
MPH Industries	BEE 36A	X, K, Ka	S/M				
McCoy's LAW LINE	SpeedTrak Elite Ka	Ka	S/M		•	•	
McCoy's LAW LINE	SpeedTrak Elite K	K	S/M		•	•	
McCoy's LAW LINE	SpeedTrak Elite KD	K	S/M		•	•	•
MPH Industries	Enforcer	K	S/M		•	•	
MPH Industries	K-15	X, K	S	•			
MPH Industries	K-35	X, K	S				
MPH Industries	K-55	X, K	S/M				
MPH Industries	S-80	X, K	S/M				
MPH Industries	S-80 MC	X, K	S/M				
MPH Industries	Python (Series I)	X, K, Ka	S/M				
MPH Industries	Python Series II	X, K, Ka	S/M		• (Ka Only)	• (Ka Only)	
MPH Industries	Speedgun	K	S/M	•	•	•	
MPH Industries	Z-15	K	S	•			
MPH Industries	Z-25	K	S	•			
MPH Industries	Z-35	K	S	•			
Tribar Industries	Muni Quip KGP	K	S	•			
Tribar Industries	Muni Quip MDR	X, K	S/M		•		

**LIDAR SPEED-MEASURING DEVICES AND SYSTEMS - *Approved but no longer in production***

MANUFACTURER	MODEL	LIDAR DEVICE <sup>(1)</sup>	LIDAR SYSTEM <sup>(2)</sup>		
			MANUAL <sup>(3)</sup>	AUTOMATIC <sup>(4)</sup>	
				ATTENDED <sup>(5)</sup>	UNATTENDED <sup>(6)</sup>
Applied Concepts, Inc.	Stalker Lidar	•			
Applied Concepts, Inc.	Stalker Lidar LR	•			
Kustom Signals, Inc.	DTMS	•		•	•
Kustom Signals, Inc.	LaserCam II	•	•		
Kustom Signals, Inc.	ProLaser II	•			
Kustom Signals, Inc.	Pro-Lite	•			
DragonEye Technology, LLC	Laser Ally	•			
Laser Technology, Inc.	Marksman 20/20	•			
Laser Technology, Inc.	Micro Digi-Cam System	•	•	•	
Laser Technology, Inc.	Ultralyte 100	•			
Laser Technology, Inc.	Ultralyte 200	•			
Laser Technology, Inc.	Ultralyte Compact	•			

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THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL

No. 172 Session of  
2017

INTRODUCED BY ARGALL, SCHWANK, VULAKOVICH, SCAVELLO, BREWSTER,  
TARTAGLIONE, COSTA, YUDICHAK, RAFFERTY, BARTOLOTTA, BROWNE,  
REGAN AND BLAKE, JANUARY 23, 2017

AMENDMENTS TO SENATE AMENDMENTS, HOUSE OF REPRESENTATIVES,  
SEPTEMBER 25, 2018

AN ACT

Amending Title 75 (Vehicles) of the Pennsylvania Consolidated Statutes, in general provisions, further providing for definitions; and, in rules of the road in general, further providing for speed timing devices and providing for automated speed enforcement systems in active work zones and establishing a pilot program for automated speed enforcement system on designated highway.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Section 102 of Title 75 of the Pennsylvania Consolidated Statutes is amended by adding definitions to read:

§ 102. Definitions.

Subject to additional definitions contained in subsequent provisions of this title which are applicable to specific provisions of this title, the following words and phrases when used in this title shall have, unless the context clearly indicates otherwise, the meanings given to them in this section:

\* \* \*

"Automated speed enforcement system." An electronic traffic sensor system that:

(1) is able to automatically detect vehicles exceeding the posted speed limit with a type of speed timing device;

(2) produces a recorded image that shows:

(i) a clear and legible identification of only the vehicle's license plate;

(ii) location; and

(iii) date and time.

"Automated speed enforcement work area." The portion of an active work zone where construction, maintenance or utility workers are located on the roadway, berm or shoulder and workers are adjacent to an active travel lane and where an automated speed enforcement system is active. For the purposes of this definition, workers shall also be considered adjacent to an active travel lane where workers are present and are protected by a traffic barricade.

\* \* \*

Section 2. Section 3368(c)(2) of Title 75 is amended, subsection (c) is amended by adding a paragraph and the section is amended by adding a subsection to read:

§ 3368. Speed timing devices.--

\* \* \*

(c) Mechanical, electrical and electronic devices authorized.--

\* \* \*

(2) Except as otherwise provided in paragraph (3), electronic devices such as radio-microwave devices [(commonly], commonly referred to as electronic speed meters

or [radar)] radar, may be used only as part of an automated speed enforcement system or by members of the Pennsylvania State Police.

\* \* \*

(5) Light detection and ranging devices, commonly referred to as LIDAR, may be used only as part of an automated speed enforcement system or by members of the Pennsylvania State Police.

\* \* \*

(f) LIDAR testing and calibration.--

(1) The department may, upon publication in the Pennsylvania Bulletin, provide that LIDAR speed measuring devices and LIDAR systems shall be calibrated and tested using the testing procedures in department regulation.

(2) LIDAR speed measuring devices and LIDAR systems shall be calibrated and tested every 365 days at a minimum before being utilized by the Pennsylvania State Police or as part of an automated speed enforcement system.

(3) The certification that the LIDAR device and system, as applicable, have been tested and found to be accurate shall create a presumption that the requirements of this subsection have been fulfilled.

(4) As used in this subsection, the following words and phrases shall have the meanings given to them in this paragraph unless the context clearly indicates otherwise:

"LIDAR." The technology of measuring target range using reflected light to determine target range and speed from the time-of-flight of laser pulses.

"LIDAR speed-measuring device." Speed-measuring

equipment that determines target range and speed based on the time-of-flight of laser light pulses reflected off a target.

"LIDAR system." A LIDAR speed-measuring device that incorporates additional equipment that is used to gather, process and record images, as applicable, to be used as part of speed enforcement efforts.

Section 3. Title 75 is amended by adding sections to read:  
§ 3369. Automated speed enforcement systems in active work zones.

(a) Establishment.--A program is established to provide for automated speed enforcement systems in active work zones.

(b) Applicability.--This section shall apply to Federal aid highways only under the jurisdiction of the department and the Pennsylvania Turnpike Commission. An automated speed enforcement system may not be used unless:

(1) At least two appropriate warning signs are conspicuously placed before the active work zone notifying the public that an automated speed enforcement device is in use.

(2) AT LEAST ONE OF THE SIGNS INDICATE IF THE AUTOMATED SPEED ENFORCEMENT SYSTEM IS ACTIVE OR NOT ACTIVE.

(3) AN APPROPRIATE SIGN IS CONSPICUOUSLY PLACED AT THE END OF THE ACTIVE WORK ZONE.

~~(2)~~ (4) A notice identifying the location of the automated speed enforcement system is posted at the active work zone and on the department's or Pennsylvania Turnpike Commission's publicly accessible Internet website. The notice on the websites shall remain throughout the period of use.

(c) Liability.--Driving in excess of the posted speed limit

in an automated speed enforcement work area by at least 11 miles per hour is a violation of this section.

(c.1) Owner liability.--For each violation under this section, the owner of the vehicle shall be liable for the penalty imposed unless the owner is convicted of the same violation under another provision of this title or has a defense under subsection (g).

(d) Notice of violation.--

(1) (i) An action to enforce this section shall be initiated by an administrative notice of violation to the registered owner of a vehicle identified by an automated speed enforcement system as violating this section. A notice of violation based upon inspection of recorded images produced by an automated speed enforcement system and sworn or affirmed by an authorized member of the Pennsylvania State Police shall be prima facie evidence of the facts contained in the notice. The Pennsylvania State Police shall receive certification from the department, the Pennsylvania Turnpike Commission or the system administrator when an automated speed enforcement system is active in accordance with subsection (b).

(ii) The notice of violation must include written verification that the automated speed enforcement system was operating correctly at the time of the alleged violation and the date of the most recent inspection that confirms the automated speed enforcement system to be operating properly.

(iii) An automated speed enforcement system operator shall complete training offered by the manufacturer of



the automated speed enforcement system, including training on any devices critical to the operation of the system, or the manufacturer's representative in the procedures for setting up, testing and operating an automated speed enforcement system. Upon completion of the training, the manufacturer or manufacturer's representative shall issue a signed certificate to the automated speed enforcement system device operator, which shall be admitted as evidence in any court proceeding for a violation involving an automated speed enforcement system device. An automated speed enforcement system device operator shall fill out and sign a daily log for an automated speed enforcement system, which:

(A) states the date, time and location of the device setup;

(B) states that the automated speed enforcement system device operator successfully performed and the automated speed enforcement system device passed the self-tests specified by the manufacturer of the automated speed enforcement system device;

(C) shall be kept on file; and

(D) shall be admitted in any proceeding for a violation involving an automated speed enforcement system device.

(iv) An automated speed enforcement system device shall undergo an annual calibration check performed by a calibration laboratory. The calibration laboratory shall issue a signed certificate of calibration after the annual calibration check, which shall be kept on file and

shall be admitted as evidence in any proceeding for a violation involving an automated speed enforcement system device.

(v) The following shall be attached to the notice of violation:

(A) A copy of the recorded image showing the vehicle with its license plate visible.

(B) The registration number and state of issuance of the vehicle registration.

(C) Verification that the automated speed enforcement system was operating correctly at the time of the alleged violation and the date of the most recent inspection that confirms the automated speed enforcement system to be operating properly.

(D) The date, time and place of the alleged violation.

(E) Notice that the violation charged is under this section.

(F) Instructions for return of the notice of violation.

(2) In the case of a violation involving a motor vehicle registered under the laws of this Commonwealth, the notice of violation shall be mailed within 30 days after the commission of the violation or within 30 days after the discovery of the identity of the registered owner, whichever is later, to the address of the registered owner as listed in the records of the department.

(3) In the case of a violation involving a motor vehicle registered in a jurisdiction other than this Commonwealth,

the notice of violation shall be mailed within 30 days after the discovery of the identity of the registered owner to the address of the registered owner as listed in the records of the official in the jurisdiction having charge of the registration of the vehicle.

(4) A notice of violation shall be invalid unless provided to an owner within 90 days of the offense.

(5) The notice shall include the following text:  
This notice shall be returned personally, by mail or by an agent duly authorized in writing, within 30 days of issuance. A hearing may be obtained upon the written request of the registered owner.

(6) Notice of violation must be sent by first class mail. A manual or automatic record of mailing prepared by the system administrator in the ordinary course of business shall be prima facie evidence of mailing and shall be admissible in a judicial or administrative proceeding as to the facts contained in the notice.

(e) Penalty.--

(1) IF A PERSON VIOLATES THIS SECTION AS A FIRST OFFENSE, THE PERSON SHALL RECEIVE A WRITTEN WARNING.

~~(1)~~ (2) The penalty of a violation under this section shall be a fine of \$75 for the ~~first~~ SECOND offense and \$150 for the ~~second~~ THIRD and subsequent offenses, and the fine shall not be subject to 42 Pa.C.S. § 3571 (relating to Commonwealth portion of fines, etc.) or 3573 (relating to municipal corporation portion of fines, etc.).

~~(2)~~ (3) The fine OR WARNING is not authorized during times when the automated speed enforcement work area is not

active.

~~(3)~~ (4) A penalty imposed under this section shall not:

(i) be deemed a criminal conviction;

(ii) be made part of the operating record of the individual upon whom the penalty is imposed under section 1535 (relating to schedule of convictions and points);

(iii) be the subject of merit rating for insurance purposes; or

(iv) authorize imposition of surcharge points in the provision of motor vehicle insurance coverage.

(f) Limitations.--

(1) Recorded images collected as part of the automated speed enforcement system may record only violations of this section and may not be used for any other surveillance purposes. The restrictions provided in this paragraph shall not preclude a court of competent jurisdiction from issuing an order directing that the information be provided to law enforcement officials, if the information is requested solely in connection with a criminal law enforcement action and is reasonably described.

(2) Notwithstanding any other provision of law, information gathered and maintained under this section that is kept by the Commonwealth, its authorized agents or its employees, including recorded images, written records, reports or facsimiles, names and addresses, shall be for the exclusive purpose of discharging its duties under this section. The information shall not be deemed a public record under the act of February 14, 2008 (P.L.6, No.3), known as the Right-to-Know Law. The information shall not be

discoverable by court order or otherwise or be admissible as evidence in a proceeding except to determine liability under this section. The restrictions provided in this paragraph shall not preclude a court of competent jurisdiction from issuing an order directing that the information be provided to law enforcement officials, if the information is requested solely in connection with a criminal law enforcement action and is reasonably described.

(3) Recorded images obtained through the use of automated speed enforcement systems deployed as a means of promoting traffic safety in automated speed enforcement work areas shall be destroyed within one year of final disposition of a notice of violation, except that images subject to a court order under paragraph (1) or (2) shall be destroyed within two years after the date of the order, unless further extended by court order. The department, the Pennsylvania Turnpike Commission or the system administrator shall retain evidence that the records have been destroyed in accordance with this section.

(4) Notwithstanding any other provision of law, registered vehicle owner information obtained as a result of the operation of an automated speed enforcement system under this section shall be the exclusive property of the Commonwealth and not the property of the manufacturer or vendor of the automated speed enforcement system and may not be used for a purpose other than prescribed in this section.

(5) A violation of this subsection shall constitute a misdemeanor of the third degree punishable by a \$500 fine. Each violation shall constitute a separate and distinct

offense.

(g) Defenses.--

(1) It shall be a defense to a violation under this section that the vehicle was reported to a police department as stolen prior to the time the violation occurred and was not recovered prior to that time.

(2) It shall be a defense to a violation under this section that the person receiving the notice of violation was not the owner of the vehicle at the time of the offense.

(3) It shall be a defense to a violation under this section that the device being used to determine speed was not in compliance with section 3368 (relating to speed timing devices) with respect to testing for accuracy, certification or calibration.

(h) Authority and duties of department and Pennsylvania Turnpike Commission.--

(1) The department and Pennsylvania Turnpike Commission shall establish a five-year automated speed enforcement system program not later than 18 months following the effective date of this section.

(2) (i) The department and Pennsylvania Turnpike Commission may promulgate regulations for the certification and the use of automated speed enforcement systems.

(ii) In order to facilitate the prompt implementation of this section, regulations promulgated by the department and Pennsylvania Turnpike Commission under this section shall be deemed temporary regulations and not subject to:

(A) Sections 201, 202, 203, 204 and 205 of the act of July 31, 1968 (P.L.769, No.240), referred to as the Commonwealth Documents Law.

(B) The act of June 25, 1982 (P.L.633, No.181), known as the Regulatory Review Act.

(C) Section 204 (b) of the act of October 15, 1980 (P.L.950, No.164), known as the Commonwealth Attorneys Act.

(3) (i) The department and Pennsylvania Turnpike Commission shall serve directly or through a contracted private service as the system administrator of the program. Compensation under a contract authorized by this paragraph shall be based only upon the value of equipment and services provided or rendered in support of the automated speed enforcement system program and may not be based on the quantity of notices of violation issued or amount of fines imposed or generated.

(ii) The system administrator shall prepare and issue notices of violation.

(iii) Two restricted accounts are established in the State Treasury for fines remitted under this section to the department and Pennsylvania Turnpike Commission, respectively. The system administrator of the department or Pennsylvania Turnpike Commission, if any, shall send an invoice to the department or Pennsylvania Turnpike Commission based, respectively, on the services under subparagraph (i) and the Pennsylvania State Police under subsection (d)(1)(i). The department, Pennsylvania Turnpike Commission and the Pennsylvania State Police

shall use the appropriate restricted account to pay for the administration of the pilot program and the system administrator's invoice costs, if applicable. Remaining fines shall be allocated by the department or Pennsylvania Turnpike Commission for the first three years as follows:

(A) Forty-five percent of the fines from violations occurring in an automated speed enforcement work area shall be deposited into a restricted account in the State Treasury on a quarterly basis. The Department of Revenue shall, within 90 days of the date of deposit, transfer to the Pennsylvania State Police an amount equivalent to the previous quarterly deposit to be used by the Pennsylvania State Police as follows:

(I) Fifty-five percent of the funds shall be dedicated and used for the purpose of recruiting, training or equipping Pennsylvania State Police Cadets.

(II) Forty-five percent of the funds shall be dedicated and used to pay for an increased Pennsylvania State Trooper presence in work zones on the State road system managed by the department or the Pennsylvania Turnpike Commission. Funds under this subclause shall be in addition to any contractual agreement between the department or the Pennsylvania Turnpike Commission and the Pennsylvania State Police for enforcement in work zones on the State road



system managed by the department or the Pennsylvania Turnpike Commission.

(B) Fifteen percent of the fines from violations occurring in an automated speed enforcement work area shall be transferred to the department or the Pennsylvania Turnpike Commission, whichever State road system utilized the automated speed enforcement system, for the purpose of work zone safety, traffic safety and educating the motoring public on work zone safety, at the discretion of the department or Pennsylvania Turnpike Commission.

(C) Forty percent of the fines from violations occurring in an automated speed enforcement work area shall be deposited in the Motor License Fund and shall be appropriated by the General Assembly.

(iv) Remaining fines shall be allocated by the department or Pennsylvania Turnpike Commission for the last two years to develop a Work Zone and Highway Safety Program. At a minimum, funds from the Work Zone and Highway Safety Program shall be used for improvement projects and countermeasures to improve the safety in work zones and on highways. Funds may also be used to increase awareness of distracted driving and transportation enhancements established under section 3116 (relating to automated red light enforcement systems in first class cities).

(v) If the amount of funds under subparagraph (iii)(A) is lower than the amount of funds under subparagraph (iii)(A) for the previous fiscal year, funds

from the Motor License Fund may not be used to supplement the funds for the current fiscal year. Funding provided for under subparagraph (iii)(A) shall be supplemental and shall not prohibit the Pennsylvania State Police from obtaining additional funding from any other means.

(vi) If the five-year program is not extended by the General Assembly, any remaining fines remitted to the department or Pennsylvania Turnpike Commission shall be used as provided under subparagraph (iv).

(vii) The system administrator shall provide an appropriate printed form by which owners may challenge a notice of violation and convenient hearing hours and times in each of the following metropolitan areas for challenges to be heard as provided in this section: Erie, Harrisburg, Philadelphia, Pittsburgh and Scranton. the form may be included with or as part of the notice of violation.

(4) Not later than April 1 annually, the department, the Pennsylvania Turnpike Commission and the Pennsylvania State Police shall submit a report on the program for the preceding calendar year to the chairperson and minority chairperson of the Transportation Committee of the Senate and the chairperson and minority chairperson of the Transportation Committee of the House of Representatives. The report shall be a public record under the Right-to-Know Law and include:

(i) The number of vehicular accidents and related serious injuries and deaths in all work zones and in automated speed enforcement work areas where the program operated.

(ii) Speed data.

(iii) The number of notices of violation issued.

(iv) The amount of fines imposed and collected.

(v) Amounts paid under contracts authorized by this section.

(vi) The number of hours of Pennsylvania State Police presence in work zones that were provided as a result of the funds under paragraph (3)(iii)(A)(II).

(vii) Use of funds under paragraph (3)(iv).

(i) Payment of fine.--

(1) An owner may admit responsibility for the violation and pay the fine provided in the notice personally, through an authorized agent, electronically or by mailing both payment and the notice of violation to the system administrator.

(2) Payment by mail must be made only by money order, credit card or check made payable to the Commonwealth, the Pennsylvania Turnpike Commission or the system administrator, as applicable.

(3) Payment of the fine shall operate as a final disposition of the case.

(4) If payment is not received within 90 days of original notice, the department or Pennsylvania Turnpike Commission may turn the matter over to applicable credit collection agencies.

(j) Contest.--

(1) An owner may, within 30 days of the mailing of the notice, request a hearing to contest liability by appearing before the system administrator either personally or by an

authorized agent or by mailing a request in writing on the prescribed form. Appearances in person shall be only at the locations and times set by the system administrator.

(2) Upon receipt of a hearing request, the system administrator shall in a timely manner schedule the matter before a hearing officer designated by the department or Pennsylvania Turnpike Commission. Written notice of the date, time and place of hearing must be presented or sent by first class mail to the owner.

(3) The hearing shall be informal and the rules of evidence shall not apply. The decision of the hearing officer shall be final, subject to the right of the owner to appeal the decision.

(4) If the owner requests in writing that the decision of the hearing officer be appealed, the system administrator shall file the notice of violation and supporting documents with the office of the magisterial district judge for the magisterial district where the violation occurred, and the magisterial district judge shall hear and decide the matter de novo.

(k) Expiration.--This section shall expire five years from the effective date of this section.

§ 3370. Pilot program for automated speed enforcement system on designated highway.

(a) General rule.--A pilot program is established to provide for an automated speed enforcement system on the designated highway.

(1) A city of the first class, upon passage of an ordinance, is authorized to enforce section 3362 (relating to

maximum speed limits) by recording violations using an automated speed enforcement system approved by the department.

(2) This section shall only be applicable in a city of the first class in areas agreed upon by the system administrator and the Secretary of Transportation using the automated speed enforcement system on U.S. Route 1 (Roosevelt Boulevard) between Ninth Street and the Philadelphia County line shared with Bucks County.

(b) Owner liability.--For each violation under this section, the owner of the vehicle shall be liable for the penalty imposed unless the owner is convicted of the same violation under another section of this title or has a defense under subsection (g).

(c) Certificate as evidence.--A certificate, or a facsimile of a certificate, based upon inspection of recorded images produced by an automated speed enforcement system and sworn to or affirmed by a police officer employed by the city of the first class shall be prima facie evidence of the facts contained in it. The city must include written documentation that the automated speed enforcement system was operating correctly at the time of the alleged violation. A recorded image evidencing a violation of section 3362 shall be admissible in any judicial or administrative proceeding to adjudicate the liability for the violation.

(d) Penalty.--The following shall apply:

(1) The penalty for a violation under subsection (a) shall be a fine of \$150 unless a lesser amount is set by ordinance. The ordinance may create fines for first offense,

second offense and third and subsequent offenses, but no single fine shall exceed \$150.

(2) A penalty is authorized only for a violation of this section if each of the following apply:

(i) At least two appropriate warning signs are conspicuously placed at the beginning and end and at two-mile intervals of the designated highway notifying the public that an automated speed enforcement device is in use.

(ii) A notice identifying the location of the automated speed enforcement system is posted on the department's publicly accessible Internet website throughout the period of use.

(3) A fine is not authorized during the first 30 days of operation of an automated speed enforcement system.

(4) The system administrator may provide a written warning to the registered owner of a vehicle determined to have violated this section during the first 30 days of operation of the automated speed enforcement system.

(5) A penalty imposed under this section shall not be deemed a criminal conviction and shall not be made part of the operating record under section 1535 (relating to schedule of convictions and points) of the individual upon whom the penalty is imposed, nor may the imposition of the penalty be subject to merit rating for insurance purposes.

(6) No surcharge points may be imposed in the provision of motor vehicle insurance coverage. Penalties collected under this section shall not be subject to 42 Pa.C.S. § 3571 (relating to Commonwealth portion of fines, etc.) or 3573

(relating to municipal corporation portion of fines, etc.).

(e) Liability.--Driving in excess of the posted speed limit along the designated highway by 11 miles per hour or more is a violation of this section.

(f) Limitations.--The following shall apply:

(1) No automated speed enforcement system shall be utilized in such a manner as to take a frontal view recorded image of the vehicle as evidence of having committed a violation.

(2) Notwithstanding any other provision of law, camera equipment deployed as part of an automated speed enforcement system as provided in this section must be incapable of automated or user-controlled remote surveillance by means of recorded video images. Recorded images collected as part of the automated speed enforcement system must only record traffic violations and may not be used for any other surveillance purposes, but may include video of the area enforced when triggered by a violation. The restrictions set forth in this paragraph shall not be deemed to preclude a court of competent jurisdiction from issuing an order directing that the information be provided to law enforcement officials if the information is reasonably described and is requested solely in connection with a criminal law enforcement action.

(3) Notwithstanding any other provision of law, information prepared under this section and information relating to violations under this section which is kept by the city of the first class, its authorized agents or its employees, including recorded images, written records,

reports or facsimiles, names, addresses and the number of violations under this section, shall be for the exclusive use of the city, its authorized agents, its employees and law enforcement officials for the purpose of discharging their duties under this section and under any ordinances and resolutions of the city. The information shall not be deemed a public record under the act of February 14, 2008 (P.L.6, No.3), known as the Right-to-Know Law. The information shall not be discoverable by court order or otherwise, nor shall it be offered in evidence in any action or proceeding which is not directly related to a violation of this section or any ordinance or resolution of the city. The restrictions set forth in this paragraph shall not be deemed to preclude a court of competent jurisdiction from issuing an order directing that the information be provided to law enforcement officials if the information is reasonably described and is requested solely in connection with a criminal law enforcement action.

(4) Recorded images obtained through the use of automated speed enforcement systems deployed as a means of promoting traffic safety in a city of the first class shall be destroyed within one year of final disposition of any recorded event except that images subject to a court order under paragraph (2) or (3) shall be destroyed within two years after the date of the order, unless further extended by court order. The city shall file notice with the Department of State that the records have been destroyed in accordance with this section.

(5) Notwithstanding any other provision of law,



registered vehicle owner information obtained as a result of the operation of an automated speed enforcement system under this section shall not be the property of the manufacturer or vendor of the automated speed enforcement system and may not be used for any purpose other than prescribed in this section.

(6) A violation of this subsection shall constitute a misdemeanor of the third-degree punishable by a \$500 fine. Each violation shall constitute a separate and distinct offense.

(g) Defenses.--The following shall apply:

(1) It shall be a defense to a violation under this section that the person named in the notice of the violation was not operating the vehicle at the time of the violation. The owner may be required to submit evidence that the owner was not the driver at the time of the alleged violation. The city of the first class may not require the owner of the vehicle to disclose the identity of the operator of the vehicle at the time of the violation.

(2) If an owner receives a notice of violation pursuant to this section of a time period during which the vehicle was reported to a police department of any state or municipality as having been stolen, it shall be a defense to a violation under this section that the vehicle has been reported to a police department as stolen prior to the time the violation occurred and had not been recovered prior to that time.

(3) It shall be a defense to a violation under this section that the person receiving the notice of violation was not the owner of the vehicle at the time of the offense.

(4) It shall be a defense to a violation under this section that the device being used to determine speed was not in compliance with section 3368 (relating to speed timing devices) with respect to testing for accuracy, certification or calibration.

(h) Department approval.--

(1) No automated speed enforcement system may be used without the approval of the department, which shall have the authority to promulgate regulations for the certification and use of the systems which regulations may include the use of radio-microwave devices, commonly referred to as electronic speed meters or radar, or light detection and ranging devices, commonly referred to as LIDAR, in their operations.

(2) Notwithstanding any other provision of law, the devices identified in paragraph (1) shall be tested for accuracy at regular intervals as designated by regulation of the department.

(i) Duty of city.--If a city of the first class elects to implement this section, the following provisions shall apply:

(1) The city may not use an automated speed enforcement system unless there is posted an appropriate sign in a conspicuous place before the area in which the automated speed enforcement device is to be used notifying the public that an automated speed enforcement device is in use immediately ahead.

(2) The city shall designate or appoint the Philadelphia Parking Authority as the system administrator to supervise and coordinate the administration of notices of violation issued under this section. COMPENSATION UNDER A CONTRACT

AUTHORIZED BY THIS PARAGRAPH SHALL BE BASED ONLY UPON THE VALUE OF EQUIPMENT AND SERVICES PROVIDED OR RENDERED IN SUPPORT OF THE AUTOMATED SPEED ENFORCEMENT SYSTEM PROGRAM AND MAY NOT BE BASED ON THE QUANTITY OF NOTICES OF VIOLATION ISSUED OR AMOUNT OF FINES IMPOSED OR GENERATED.

(3) The system administrator shall prepare a notice of violation to the registered owner of a vehicle identified in a recorded image produced by an automated speed enforcement system as evidence of a violation of section 3362. The notice of violation must be issued by a police officer employed by the police department with primary jurisdiction over the area where the violation occurred. The notice of violation shall have the following attached to it:

(i) a copy of the recorded image showing the vehicle;

(ii) the registration number and state of issuance of the vehicle registration;

(iii) the date, time and place of the alleged violation;

(iv) notice that the violation charged is under section 3362; and

(v) instructions for return of the notice of violation, which shall read:

This notice shall be returned personally, by mail or by an agent duly authorized in writing, within 30 days of issuance. A hearing may be obtained upon the written request of the registered owner.

(j) System administrator.--The following shall apply:

(1) The system administrator may hire and designate

personnel as necessary or contract for services to implement this section.

(2) The system administrator shall process notices of violation and penalties issued under this section.

(3) Not later than April 1 annually, the system administrator shall submit an annual report to the chairperson and the minority chairperson of the Transportation Committee of the Senate and the chairperson and minority chairperson of the Transportation Committee of the House of Representatives. The report shall be considered a public record under the Right-to-Know Law and include for the prior year:

(i) The number of violations and fines issued and data regarding the speeds of vehicles in the enforcement area.

(ii) A compilation of penalties paid and outstanding.

(iii) The amount of money paid to a vendor or manufacturer under this section.

(iv) The number of vehicular accidents and related serious injuries and deaths along the designated highway.

(k) Notice to owner.--In the case of a violation involving a motor vehicle registered under the laws of this Commonwealth, the notice of violation must be mailed within 30 days after the commission of the violation or within 30 days after the discovery of the identity of the registered owner, whichever is later, and not thereafter to the address of the registered owner as listed in the records of the department. In the case of motor vehicles registered in jurisdictions other than this

Commonwealth, the notice of violation must be mailed within 30 days after the discovery of the identity of the registered owner to the address of the registered owner as listed in the records of the official in the jurisdiction having charge of the registration of the vehicle. A notice of violation under this section must be provided to an owner within 90 days of the commission of the offense.

(l) Mailing of notice and records.--Notice of violation must be sent by first class mail. A manual or automatic record of mailing prepared by the system administrator in the ordinary course of business shall be prima facie evidence of mailing and shall be admissible in any judicial or administrative proceeding as to the facts contained in it.

(m) Payment of fine.--The following shall apply:

(1) An owner to whom a notice of violation has been issued may admit responsibility for the violation and pay the fine provided in the notice.

(2) Payment must be made personally, through an authorized agent, electronically or by mailing both payment and the notice of violation to the system administrator. Payment by mail must be made only by money order, credit card or check made payable to the system administrator. The system administrator shall remit the fine, less the system administrator's operation and maintenance costs necessitated by this section, to the department for deposit into a restricted receipts account in the Motor License Fund. Fines deposited in the fund under this paragraph shall be used by the department for a Transportation Enhancement Grants Program as established by section 3116 (relating to automated

red light enforcement systems in first class cities). The department shall award transportation enhancement grants on a competitive basis. The department may pay actual administrative costs arising from the department's administration of this section. The department may not reserve, designate or set aside a specific level of funds or percentage of funds to an applicant prior to the completion of the application process, nor may the department designate a set percentage of funds to an applicant. Grants shall be awarded by the department based on the majority vote of a selection committee consisting of four representatives of the department appointed by the secretary and four members appointed by the mayor of the city of the first class, with the secretary or a designee of the secretary serving as chairperson. Priority shall be given to applications seeking grant funds for transportation enhancements in the municipality where the automated speed camera system is operated.

(3) Payment of the established fine and applicable penalties shall operate as a final disposition of the case.

(n) Hearing.--The following shall apply:

(1) An owner to whom a notice of violation has been issued may, within 30 days of the mailing of the notice, request a hearing to contest the liability alleged in the notice. A hearing request must be made by appearing before the system administrator during regular office hours either personally or by an authorized agent or by mailing a request in writing.

(2) Upon receipt of a hearing request, the system

administrator shall in a timely manner schedule the matter before a hearing officer. The hearing officer shall be designated by the city of the first class. Written notice of the date, time and place of hearing must be sent by first class mail to the owner.

(3) The hearing shall be conducted pursuant to 2 Pa.C.S. Ch. 5 (relating to practice and procedure) and will be subject to appeal pursuant to 2 Pa.C.S. Ch. 7 (relating to judicial review).

(o) Compensation to manufacturer or vendor.--If a city of the first class has established an automated speed enforcement system deployed as a means of promoting traffic safety and the enforcement of the traffic laws of this Commonwealth or the city, the compensation paid to the manufacturer or vendor of the automated speed enforcement system may not be based upon the number of traffic citations issued or a portion or percentage of the fine generated by the citations. The compensation paid to the manufacturer or vendor of the equipment shall be based upon the value of the equipment and the services provided or rendered in support of the automated speed enforcement system.

(p) Revenue limitation.--A city of the first class may not collect an amount equal to or greater than 2% of its annual budget from the collection of revenue from the issuance and payment of violations under this section.

(q) Expiration.--This section shall expire five years from its effective date.

Section 4. The Secretary of Transportation and the Chief Executive Officer of the Pennsylvania Turnpike Commission shall transmit a notice to the Legislative Reference Bureau for

publication in the Pennsylvania Bulletin when the automated speed enforcement system is operational along the designated highway work zones under 75 Pa.C.S. § 3369.

Section 5. The Secretary of Transportation shall transmit a notice to the Legislative Reference Bureau for publication in the Pennsylvania Bulletin when the automated speed enforcement system is operational along the designated highway under 75 Pa.C.S. § 3370.

Section 6. This act shall take effect as follows:

(1) Except as set forth in paragraph (2), the addition of 75 Pa.C.S. § 3369 shall take effect in 120 days.

(2) The addition of 75 Pa.C.S. § 3369(c) shall take effect 60 days after publication in the Pennsylvania Bulletin of the notice under section 4.

(3) Except as set forth in paragraph (4), the addition of 75 Pa.C.S. § 3370 shall take effect in 60 days.

(4) The addition of 75 Pa.C.S. § 3370(e) shall take effect 60 days after publication in the Pennsylvania Bulletin of the notice under section 5.

(5) The following provisions shall take shall take effect immediately:

(i) This section.

(ii) The remainder of this act.



**DOMESTIC WORKFORCE UTILIZATION CERTIFICATION**

To the extent permitted by the laws and treaties of the United States, each ~~offeror's proposal will be scored for its~~ commitment to use ~~the~~ domestic workforce in the fulfillment of the contract ~~will be evaluated~~. Maximum consideration will be given to those offerors who will perform the contracted direct labor exclusively within the geographical boundaries of the United States or within the geographical boundaries of a country that is a party to the World Trade Organization Government Procurement Agreement. Those who propose to perform a portion of the direct labor outside of the United States and not within the geographical boundaries of a party to the World Trade Organization Government Procurement Agreement will receive ~~a correspondingly smaller score for this criterion~~ less consideration. ~~In order to be eligible for any consideration for this criterion,~~ Offerors must complete and sign the following certification. This certification will be included as a contractual obligation when the contract is executed. Failure to complete and sign this certification will result in no consideration being given to the offeror ~~for this criterion~~.

I, \_\_\_\_\_ [title] of \_\_\_\_\_ [name of Contractor] a \_\_\_\_\_ [place of incorporation] corporation or other legal entity, (“Contractor”) located at \_\_\_\_\_ [address] do hereby certify and represent to the Commonwealth of Pennsylvania (“Commonwealth”) (Check **one** of the boxes below):

All of the direct labor performed within the scope of services under the contract will be performed exclusively within the geographical boundaries of the United States or one of the following countries that is a party to the World Trade Organization Government Procurement Agreement: Armenia, Aruba, Austria, Belgium, Bulgaria, Canada, Chinese Taipei, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Liechtenstein, Lithuania, Luxemburg, Malta, Moldova, Montenegro, New Zealand, the Netherlands, Norway, Poland, Portugal, Romania, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Ukraine and the United Kingdom.

OR

\_\_\_\_\_ percent (\_\_\_\_%) [Contractor must specify the percentage] of the direct labor performed within the scope of services under the contract will be performed within the geographical boundaries of the United States or within the geographical boundaries of one of the countries listed above that is a party to the World Trade Organization Government Procurement Agreement. Please identify the direct labor performed under the contract that will be performed outside the United States and not within the geographical boundaries of a party to the World Trade Organization Government Procurement Agreement and identify the country where the direct labor will be performed:

\_\_\_\_\_

[Use additional sheets if necessary]

The ~~Department of General Services [or other purchasing agency]~~ Pennsylvania Turnpike Commission shall treat any misstatement as fraudulent concealment of the true facts punishable under Section 4904 of the *Pennsylvania Crimes Code*, Title 18, of Pa. Consolidated Statutes.

Attest or Witness:

\_\_\_\_\_  
Corporate or Legal Entity's Name

\_\_\_\_\_  
Signature/Date

\_\_\_\_\_  
Signature/Date

Appendix L – RFP 19-10480-8400

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Printed Name/Title

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Printed Name/Title

**IRAN FREE PROCUREMENT CERTIFICATION FORM**

**(Pennsylvania’s Procurement Code Sections 3501-3506, 62 Pa.C.S. §§ 3501-3506)**

To be eligible for an award of a contract with a Commonwealth entity for goods or services worth at least \$1,000,000 or more, a vendor must either: a) certify it is **not** on the current list of persons engaged in investment activities in Iran created by the Pennsylvania Department of General Services (“DGS”) pursuant to Section 3503 of the Procurement Code **and** is eligible to contract with the Commonwealth under Sections 3501-3506 of the Procurement Code; or b) demonstrate it has received an exception from the certification requirement for that solicitation or contract pursuant to Section 3503(e).

To comply with this requirement, please insert your vendor or financial institution name and complete **one** of the options below. Please note: Pennsylvania law establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts. (Section 3503 of the Procurement Code.)

**OPTION #1 - CERTIFICATION**

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor/financial institution identified below, and the vendor/financial institution identified below is **not** on the current list of persons engaged in investment activities in Iran created by DGS **and** is eligible to contract with the Commonwealth of Pennsylvania Sections 3501-3506 of the Procurement Code.

<i>Vendor Name/Financial Institution (Printed)</i>	
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	<i>Date Executed</i>

**OPTION #2 – EXEMPTION**

Pursuant to Procurement Code Section 3503(e), DGS may permit a vendor/financial institution engaged in investment activities in Iran, on a case-by-case basis, to enter into a contract for goods and services.

If you have obtained a written exemption from the certification requirement, please fill out the information below, and attach the written documentation demonstrating the exemption approval.

<i>Vendor Name/Financial Institution (Printed)</i>	
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	<i>Date Executed</i>

**Trade Secret/Confidential Proprietary Information Notice**

Instructions:

The Commonwealth will not assert on behalf of a third party an exception to the public release of materials containing information believed to be exempt from public disclosure, including trade secrets or confidential proprietary information, unless the materials are accompanied, at the time they are submitted, by this form or a document containing similar information. In addition, in order to protect the safety and security of individuals, infrastructure, and information technology systems, the Commonwealth requires third parties to designate as confidential any information submitted by the third parties that, if disclosed, would be reasonably likely to jeopardize safety or security.

It is the responsibility of the party submitting this form to ensure that all statements and assertions made below are legally defensible and accurate. The Commonwealth will not provide a submitting party any advice with regard to Pennsylvania's *Right-to-Know Law*, [65 P.S. §§ 67.101—67.3104](#), or laws relating to trade secret or confidential proprietary information.

Name of submitting party:

Contact information for submitting party:

Please provide a brief overview of the materials that you are submitting (e.g. bid proposal, quote, grant application, statement of work, technical schematics):

Please provide a brief explanation of why the materials are being submitted to the Commonwealth (e.g. response to bid, RFP or RFQ #12345, application for grant XYZ being offered by the Department of Health, documents required to be submitted under law ABC):

**Please indicate if any information has been included that you believe is exempt from public disclosure by checking the appropriate box below:** (*Note: Financial information submitted in response to an RFP or IFB to demonstrate economic capability is exempt from public disclosure in accordance with Section 708(b)(26) of the Right-to-Know Law, 65 P.S. 67.708(b)(26).*)

- No information has been included that I believe is exempt from public disclosure.**
- Information has been included that I believe is exempt from public disclosure.**

**Please provide a list detailing which portions of the material being submitted you believe are exempt from public disclosure. This includes trade secret, confidential or proprietary information, or information that if disclosed would be reasonably likely to jeopardize the safety or security of an individual, infrastructure, or information technology system. Please provide an explanation of why you think those materials constitute a trade secret, confidential or proprietary information, or why disclosure of those materials would be reasonably likely to jeopardize safety or security. Also, please mark the submitted material in such a way to allow a reviewer to easily distinguish between the parts referenced below. (You may attach additional pages if needed)**

**Note:** Without substantial justification, the following information will not be considered a trade secret or confidential proprietary information:

- Any information submitted as part of a vendor’s cost response.
- Information submitted as part of a vendor’s technical response or statement of work that does not implicate safety and security, or pertain to specific business practices or product specification.
- Information submitted as part of a vendor’s technical or small diverse business and small business response that is otherwise publicly available or otherwise easily obtained.
- Information detailing the name, quantity, and price paid for any product or service being purchased by the Commonwealth.

<u>Page Number</u>	<u>Description</u>	<u>Explanation</u>

## **Acknowledgment**

The undersigned party hereby agrees that it has read and completed this form, and has marked the material being submitted in accordance with the instructions above. The undersigned party acknowledges that the Commonwealth is not liable for the use or disclosure of trade secret, confidential or proprietary information, or information that if disclosed would be reasonably likely to jeopardize the safety or security of an individual, infrastructure or information technology system, where that data or information has not been clearly marked as such, and which was not accompanied by a specific explanation included with this form.

The undersigned agrees to defend any action seeking release of the materials it believes to be trade secret, confidential or proprietary, or would be reasonably likely to result in a safety or security risk if disclosed. The undersigned also agrees to indemnify and hold harmless the Commonwealth, its agents and employees, from any judgments awarded against the Commonwealth in favor of the party requesting the materials, and any and all costs connected with that defense. This indemnification survives so long as the Commonwealth has possession of the submitted material, and will apply to all costs unless and until the undersigned provides a written statement or similar notice to the Commonwealth stating that it no longer wishes to exempt the submitted material from public disclosure.

The undersigned acknowledges that the Commonwealth is required to keep all records for at least as long as specified in its published records retention schedule.

The undersigned acknowledges that the Commonwealth reserves the right to reject the undersigned's claim that the information is trade secret, confidential, proprietary or is reasonably likely to result in a safety or security risk if disclosed, if the Commonwealth determines that the undersigned has not met the burden of establishing that the information constitutes a trade secret, confidential, or is otherwise exempt. The undersigned also acknowledges that if only a certain part of the submitted material is found to constitute a trade secret, is confidential or proprietary, or is otherwise exempt, the remainder of the submitted material will become public; only the protected information will be removed and remain nonpublic.

If being submitted electronically, the undersigned agrees that the mark below is a valid electronic signature.

---

Signature

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Title

---

Date

## **Addendum No. 1**

RFP # 19-10480-8400

Statewide Automated Work Zone Speed Enforcement (AWZSE) Program

**Prospective Respondents: You are hereby notified of the following information in regard to the referenced RFP:**

### **REVISION**

1. The original RFP document that was issued on February 5, 2019 has been modified and replaced in its entirety on February 6, 2019 to correct nomenclature errors in Part III and references to incorrect nomenclature in Part IV.

All other terms, conditions and requirements of the original RFP and the modified RFP dated February 6, 2019 remain unchanged unless modified by future Addendum(s).

## Addendum No. 2

RFP # 19-10480-8400

### Statewide Automated Work Zone Speed Enforcement (AWZSE) Program

**Prospective Respondents: You are hereby notified of the following information in regard to the referenced RFP:**

#### **REVISION**

1. Replace the Calendar of Events on page 1 of 45 of the RFP (3 of 191 in original RFP PDF file) in its entirety with the following:

<b>Activity</b>	<b>Date</b>	<b>Time</b>
Request for Proposals Issued	February 6, 2019	N/A
Deadline for Proposers to Submit Questions via email to <a href="mailto:RFP-Q@paturndpike.com">RFP-Q@paturndpike.com</a>	February 25, 2019	10:00 AM
Answers to Proposers questions posted to the Commission website at <a href="https://www.paturndpike.com/Procurement/Bidlist.aspx?RTYPE=O">https://www.paturndpike.com/Procurement/Bidlist.aspx?RTYPE=O</a> ( <i>Estimate Only</i> )	March 4, 2019	N/A
Due Date for Proposals	March 14, 2019	2:00 PM
Field Demonstrations	March 29 – April 12, 2019	TBD
Anticipated Notice to Proceed ( <i>Estimate Only</i> )	August 16, 2019	N/A



**QUESTIONS AND ANSWERS**

Following are the answers to questions submitted in response to the above referenced RFP as of February 19, 2019. All of the questions have been listed verbatim, as received by the Pennsylvania Turnpike Commission.

Proposer Questions			<b>Pennsylvania Turnpike Commission (PTC)</b>		
			RFP19-10480-8400		
#	Page	Section	Section Description	Proposer Question	Commission Response
1.				We would like to request a one-week extension to the question submission deadline - extending it to February 26 at 2:00pm. This additional time will allow us to prepare a full list of questions to gather accurate information about your program expectations.	See Revision #1 above.

All other terms, conditions and requirements of the original RFP dated February 5, 2019 and Addendum 1 remain unchanged unless modified by this Addendum.

## **Addendum No. 3**

RFP # 19-10480-8400

### Statewide Automated Work Zone Speed Enforcement (AWZSE) Program

**Prospective Respondents: You are hereby notified of the following information in regard to the referenced RFP:**

#### **REVISIONS**

1. Revise pages 30 to 38 of 45 of the original RFP to reflect nomenclature errors within Part III-7.C.5 through the remainder of Part III-7. The entire RFP has been attached to this Addendum #3 2019-0304 with the corrected pages. Page numbers have been revised to reflect this Addendum's Revision #1 and #2 and Addition #1.
2. **Part III, Section III-7.G.1 – Information Security Audits.** Remove entire paragraph and replace with the following: Data Security must always be maintained in Accordance with **Appendix C, Sections 12 and 13.** Annual and periodic audits shall be completed in accordance with audit procedures described in Appendix C, Sections 12 and 13. This revision has been reflected in the attached revised RFP (Revised March 4, 2019, Addendum #3).

#### **ADDITION**

1. **Part III, Section III-7.C.1.c. – Speed Detection Equipment.** Add the following at the end of the last paragraph: Speed Detection Units shall be capable of detecting speeds for a minimum of five travel lanes in a single direction. This addition has been reflected in the attached revised RFP (Revised March 4, 2019, Addendum #3).

#### **QUESTIONS AND ANSWERS**

Following are the answers to questions submitted in response to the above referenced RFP as of February 25, 2019. All of the questions have been listed verbatim, as received by the Pennsylvania Turnpike Commission.

Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		RFP#19-10480-8400			
#	Page	Section	Section Description	Proposer Question	Commission Response
1.	42	IV-1 A.1	Cost Submittal	Is it correct that the total number of deployments are as follows? 1a=1008 1b=6045 1c=1040 1d=1950 1e=338	As indicated in IV-1.A.1, the number of deployments should be used as assumptions for determining cost and may not be reflective of actual deployment during any of these periods.
2.	44	V-1	Diverse Business (DB) Requirements (Appendix E)	Can the Transportation Agencies provide a list of qualified Disadvantaged Businesses for the Offers to contact?	The transportation agencies do not maintain a list of qualified DB firms. All DB submissions shall be in accordance with Appendix E of the RFP.
3.	24	III-7 C.1.c.	Speed Detection Equipment	Can the Transportation Agencies identify the PA Code Title and Chapter for where to find the list of qualified testing and or calibration labs for annual certifications?	The current list of approved electronic device testing stations is available in the PA Bulletin.
4.	25	III-1 C.1.d	Image Capture Equipment	For the required front facing vehicle photos - do the Transportation Agencies have any privacy concerns regarding the driver and or passengers being potentially visible?	Privacy must always be maintained in accordance with Title 75, Section 102 and Section 3369.
5.	12	I-33	Subcontracting	How do the Transportation Agencies define the key difference(s) between a vendor/supplier vs a sub-contractor?	For the purposes of this RFP, identify subcontractors who will be performing services.
6.	17	III-2	Statement of the Project	Is a Transmittal Letter required in addition to the Statement of the Project?	A transmittal letter is not required.
7.	42	IV-1 A.1	Cost Submittal	Can the Transportation Agencies provide any statistics on the average, minimum, maximum duration for active work zones?	These statistics cannot be provided. Refer to page 23 III-7 C.1.b for requirements related to deployment time frames.
8.	37	III-7 H.2 and H.3	AWZSE Required Advance Warning Signage/Field Deployment On-Site Monitoring Personnel	Can the Transportation Agencies provide any statistics on the average, minimum, maximum number of work zones which are active at any one time?	These statistics are not available. Refer to page 23 III-7 C.1.b for requirements related to deployment time frames.

Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		RFP#19-10480-8400			
#	Page	Section	Section Description	Proposer Question	Commission Response
9.	5	I-12	Economy of Preparation	If the Offeror includes an appendix with more detail on certain subjects would those pages count towards the 50 page limit for the Technical Submittal?	As indicated in Part III, any information thought to be relevant that does not apply to the enumerated categories should be provided as an appendix to the proposal. The appendices to the proposal do not count towards the 50-page limit. Any topic addressed within Part III and with a set page limit may not be included in an appendix.
10	37	III-7 H.1	Pan-Tilt-Zoom Closed Circuit Television (CCTV) Camera	Approximately how many PTZ CCTV Cameras do the Transportation Agencies expect the offerors to purchase and deploy at one time?	Assume one Pan-Tilt-Zoom Closed Circuit Television (CCTV) Camera for each Mobile Unit.
11	23	III-7 C.1.b.	Work Zone	Will the Transportation Agencies provide a weekly or monthly calendar to the Offeror in advance for the days and hours that each Work Zone is scheduled to be Active? If not, how will this information be communicated and on what frequency?	At a minimum, the Transportation Agencies will provide a weekly calendar to the Offeror in advance for the days and hours that each work zone is scheduled to be active.
12	2	I-1	Purpose	Could the Commission please provide a list of the highways that would be covered by this program, if it is available? Also, if possible, could the Commission indicate which highways are federally-aided?	All highways under Commission jurisdiction are candidate roadways for this program. A list of federal-aid highways under Department jurisdiction is not available, however, it is intended that the program will be focused on limited-access and high classification highways within the Commonwealth.
13	19	III-5.A	Approach	In order to estimate the monthly number of expected events and notices of violation, could the Commission please provide any recent speed violation data that it has on file for the areas that may be part of this program?	This information cannot be made available.

Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		RFP#19-10480-8400			
#	Page	Section	Section Description	Proposer Question	Commission Response
14	20-41	III-7 to III-10	Requirements	Is there a page limit to the responses within the proposal that are provided for Section III-7 (A-J) and Sections III-8, III-9, III-10?	Sections III-7 to III-10 are program requirements and should be addressed in the proposal as part of the Work Plan described in Section III-5.
15	1	Appendix C	Data Security Provisions	Do the requirements pertaining to "Business Partners" only apply to those business partners having access to Personal Information?	The requirements for Business Partners are consistent regardless of their accessibility to personal information. All Business Partners must meet the requirements set forth in the RFP and its Appendices.
16	5	I-12		<p>Please confirm whether each of the following are included in the page limits:</p> <ul style="list-style-type: none"> <li>a) Title page</li> <li>b) Required forms or attachments</li> </ul>	Per section III-1 of the RFP, the Proposal Cover Sheet is limited to one page and does count towards the 50-page limit. A title sheet separate from the cover sheet is not required and does not count towards a page limit. Per section III of the RFP, any other information thought to be relevant, but not applicable to the enumerated categories, should be provided as an appendix to the proposal. All cost data relating to this proposal and all Diverse Business cost data should be kept separate from and not included in the Technical Proposal. The required forms, including the Domestic Workforce Utilization Form and the Iran Free Procurement Form do not count towards the 50-page limit.

Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		RFP#19-10480-8400			
#	Page	Section	Section Description	Proposer Question	Commission Response
17	24; 26 of PDF	III-7. Requirements, C) 1) c)	The speed detection equipment shall include radar, laser (i.e. Lidar), or other proven technology that is International Association of Chiefs of Police (IACP) approved for speed measurement within the Commonwealth with an ongoing maintenance record to assure equipment is calibrated and functioning properly.	Would the PTC require the speed detection devices to be PennDOT certified (via eCAMMS) in lieu and place of IACP certification since the ETATS Enforcement Technologies, Advisory Technical Sub Committee was disbanded and no group within the IACP is setting standards for Automated Enforcement Devices anymore?	All speed detection devices proposed for use as part of the Automated Work Zone Speed Enforcement system will need to be approved and certified by a PennDOT-appointed facility prior to deployment as part of a system. As noted in Section III-7.C.1.c of the RFP, the speed detection technology shall be on the approved list within the PA Bulletin by the time of Notice to Proceed.
18	42; 44 of PDF	IV-1. A) 1) a-f)	NOTE: Work zones will be located throughout the Commonwealth of Pennsylvania. The following assumptions should be utilized for determining cost and may not be reflective of actual deployment during any of these periods: a.-f.	Does PennDOT have a schedule of planned work zones throughout the calendar year that you can provide? Pennsylvania is a very large state and understanding the location and the calendar of those deployments is necessary for planning of staff, response time and resources.	See answer to question 11.
19	42; 44 of PDF	IV-1. A) 1) f)	Most deployments will take place in work zones along limited-access highways with 2 lanes of traffic in each direction.	Will most deployments for all 17 systems take place on highways with 2 lane of traffic in each direction or is this just the expectation for the 4 units mentioned in (a)? If not, what is the type of expected roadway in terms of numbers of lanes for the remaining 13? More violations will occur as the number of lanes expand.	Most deployments will take place on highways with two lanes in each direction for all 17 systems throughout the duration of the contract. Refer to additional requirements for Part III, Section III-7.C.1.c. – Speed Detection Equipment included in this Addendum
20	42; 44 of PDF	IV-1. A) 1) f)	Most deployments will take place in work zones along limited-access highways with 2 lanes of traffic in each direction.	Does this mean that the highway will be reduced from a greater number of lanes down to 2 lanes for deployments or is this suggesting the highway is only 2 lanes and may be reduced down to one lane?	Refer to additional requirements for Part III, Section III-7.C.1.c. – Speed Detection Equipment included in this Addendum. The actual conditions present in the field will vary by work zone.

Proposer Questions			Pennsylvania Turnpike Commission (PTC)		
			RFP#19-10480-8400		
#	Page	Section	Section Description	Proposer Question	Commission Response
21	21; 23 of PDF	III-7.; B) 2)	AWZSE Required Advance Warning Signage. The System Administrator may be requested to furnish and deploy of ASE-related advance warning signage.	Why is warning signage priced separately as a supplemental service when it is required legislatively? Will the PTC consider making warning signage a requirement as part of the offerors fixed fee as warning signs are legislatively required?	Proposers shall respond to the RFP as written, with warning signage priced separately as a supplemental service.
22	25; 27 of PDF	III-7.; C) 1) d)	Image Capture Equipment. The image capture equipment shall be capable of recording front and rear images of a vehicle license plate upon a signal trigger from the speed detection equipment.	Will the PTC consider removing the requirement of capturing front images of the vehicle since SB172 prohibits this practice ("No automated speed enforcement system shall be utilized in such a manner as to take a frontal view recorded image of the vehicle...")?	Title 75, Section 3369 is the governing legislation for this program.
23	N/A	N/A	N/A	The RFP does not mention a requirement for Public Awareness to educate the public on the safety benefits that can be realized by implementing automated speed enforcement. Will the PTC consider adding this as an addendum so that each responder can explain their strategy and so that responder will have to account for those costs in their response?	Per Section III-7.D – AWZSE System Administrator Support, the AWZSE System Administrator shall participate in media campaigns, satisfactory to the Transportation Agencies, to provide awareness to residents and visitors of Pennsylvania. In addition, the AWZSE System Administrator may be required to attend public meetings and other venues to assist the Transportation Agencies in demonstrating the AWZSE vehicle and equipment.

Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		RFP#19-10480-8400			
#	Page	Section	Section Description	Proposer Question	Commission Response
24	3		Calendar of Events	Since the deadline to submit questions and due date for the TPC to respond with answers was each extended by one (1) week, we would respectfully ask the TPC to extend the due date for the response by one (1) week to March 21st at 2:00 pm. The answers that will come back to questions could significantly change an offeror's solution that may require additional time to provide a responsible and accurate response.	No extension to the submission deadline will be provided.
25	42; 44 of PDF	IV-1. A) 1) a-f)	NOTE: Work zones will be located throughout the Commonwealth of Pennsylvania. The following assumptions should be utilized for determining cost and may not be reflective of actual deployment during any of these periods: b. 31 daily weekday deployments (includes nighttime and daytime shifts) 5 days per week, for the months of March through November.	Can you please provide an example of 31 daily weekday deployments? For example, would this be 16 units deployed during the daytime and 15 units deployed during the nighttime?	Refer to section III-7 A.1 of the RFP for requirements related to the number of available mobile units.
26	42; 44 of PDF	IV-1. A) 1) a-f)	NOTE: Work zones will be located throughout the Commonwealth of Pennsylvania. The following assumptions should be utilized for determining cost and may not be reflective of actual deployment during any of these periods: a-f.	How many hours per daytime and nighttime shift will each unit be deployed? What is the expectation for number of enforcement hours per deployment?	Refer to page 23 III-7 C.1.b for requirements related to deployment time frames.



Proposer Questions		Pennsylvania Turnpike Commission (PTC)			
		RFP#19-10480-8400			
#	Page	Section	Section Description	Proposer Question	Commission Response
27	26 of 45	III-7.C.3	AWZSE Program Database	Will any material changes to the database that are requested after the initial design is agreed upon be handled through a change order to address the AWZSE System Administrator's cost for additional work?	All database development and sustainability costs should be included in the cost submittal.
28	36 of 45	III-5.F	Auditing	If the Transportation Agencies secure the services of a third-party accounting/auditing firm to perform any audits, will a Non disclosure agreement protecting the AWZSE System Administrator's confidential and proprietary information be required before the third party has access to the contract related books and records?	Yes.
29	38 of 45	III-8.F	Liquidated Damages	Any notice of violation that is received timely but not approved timely by the State will not be subject to an assessment of liquidate damages, correct?	The AWZSE System Administrator shall comply with all requirements prescribed within this RFP including time frames and deadlines. Liquidated damages shall not be imposed on the AWZSE System Administrator for factors affecting the prescribed deadlines outside of the AWZSE System Administrator's control.
30	45 of 45	Part VI Appendix G	Contract Terms and Conditions	What is the order of precedence between the Part VI Appendix G Contract, the RFP with any addendums, and the submitted proposal?	Appendix G was provided for information only and is a draft version of the contract. The order of precedence will be the (1) final contract agreement, (2) the RFP, and (3) the vendor's proposal.
31	17	Part III	Technical Submittal	Confirm the following items are excluded from page count: confidential letter, forms, tabs, or appendices.	See the response to Question 31.
32	17	III-2	Technical Submittal	Is the transmittal letter / cover page a separate one page section? Where should this letter be inserted in the proposal submittal format?	Per section III-1 of the RFP, the Proposal Cover Sheet is limited to one page and does count towards the 50-page limit.

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33	5 and 17	Parts I and III	Technical Submittal	Confirm the technical submittal document tab layout. For example, shall we include three tabs outlined under Part I, pg. 5, b.1 (technical submittal, appendix L, appendix M) or a tab for each section of the technical submittal (part III, pg. 17, III-2, III-3, etc.)?	It is the proposer's responsibility to determine how best to respond to the RFP.
34	29	C.5		RFP indicates that the Transportation Agency will approve and transfer collection eligible citations to an approved collection agency (ies). Will the Transportation Agency manage collection efforts up to and including any service agreements with the approved collection agency (ies)? If selected will the AWZSE be responsible for managing the collection agency on behalf of the Transportation Agency?	The transportation agencies will manage the collections process, however, the SA will be responsible for coordination with the transportation agencies' collections agencies.
35	32	C.5		RFP indicates that the AWZSE System Administrator is responsible for processing all failure to appear (FTA's) or unpaid cases which were scheduled for trial otherwise directed by the Transportation Agencies. Will the district maditrates court systems by responsible for providing all hearing disposition outcomes or will the court systems need be provided access to the AWZSE System Administrator database for updating hearing dispositions?	The system administrator will be responsible for preparing all pertinent materials for hearings. The system administrator will be responsible for recording and updating their own database with the outcomes of any hearing.
36	32	C.6		Will the Transportation Agency allow for electronic deposits using Check21 Electronic Funds Transfer (EFT)?	Proposer shall detail its procedures as required in Section III-7 C.6.a-k (Payment Processing).
37	32	C.6		What is the anticipated first notice issuance or approval rate? Q What is the anticipated payment rate?	This information is not available.

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38	33	C		RFP indicates the AWZSE System Administrator shall provide on-call support and assistance 24 hours a day, seven (7) days a week for website server software used by the public and the Transportation Agencies to access violations. Is the expectation that the public will be able to use the 24/7 service by directly contacting support services to meet this requirement?	Section III-7 D – AWZSE System Administrator Support – the 24/7 on-call requirement relates to website server software used by the public and Transportation Agencies to access violations. Refer to Section III-7.F (AWZSE Interactive Voice Response System (IVR) and Call Management System) for customer service IVR and call management system requirements.
39	34	C		RFP states that AWZSE System Administrator must provide a list of all employees assigned to the project and are required to perform necessary background checks. Does this include all support staff; customer service, help desk, programmers, etc., if so, does new hire notifications need to be provided to the Agency? RTSI has an already established strict background requirement for all employees as a hiring practice, including our contracted / outsourced staffing.	Per Section III-7.D – AWZSE System Administrator Support, the System Administrator is required to provide a list of all System Administrator employees assigned to this project. This includes any employee in any type of service assigned to this project. This list shall be kept up-to-date to reflect employee departures or new hires. Per the RFP, any new hires are subject to background checks.
40	35	E.14		RFP indicated the System Administrator shall generate and mail outgoing correspondence letters that may include responses to citizen inquiries, notice of NSF's, notice of hearing reschedules, etc. If we receive any of the aforementioned inquiries via email, can the AWZSE System Administrator respond via email to satisfy this requirement?	A formal response letter can be transmitted electronically to inquiries received via email.

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41	35	E.20		RFP indicates that AWZSE shall provide monthly reports on all customer communication and issues with due dates to be determined by the Transportation Agency (ies). Q. Can you elaborate more on this by providing an example of what type of information the Agencies are looking for outside of already requested phone statistics and correspondence scanning?	Information should include, but is not limited to, statistics validating customer service center requirements, statistics of issue resolutions, status of unresolved issues, etc.
42		IV	Cost Submittal 4-1.a-1.f	Cost submittal identifies the deployment volume schedule. Can the Transportation Agency provide statistics on the expected detections per deployment?	This information is not available.
43		IV	Cost Submittal 4-1.a-1.f	Can the Transportation Agency provide statistics on the expected approved/issued citations per deployment?	This information is not available.
44	22	C.b.		The AWSE System Administrator may be responsible for purchasing and deployment of the ASE-related signage; How many signs must be installed with each mobile unit deployed? What is the expected cost for each sign?	Signage requirements for the Automated Work Zone Speed Enforcement system are outlined in Title 75, Section 3369, Part (b). Per the RFP, the proposer is responsible for developing and submitting a cost for the required advance warning signage as a Supplemental Service. Temporary Sign Specifications can be found in Commission Specification 901.
45		IV	Cost Submittal 4-1.a-1.f	Please clarify what is meant by a "deployment" For example, if there are a total of 17 units available for deployment, at least 15 units should be deployed during each shift to equal a total of 31 daily deployments? 16 units deployed during the daytime shift, 15 for the nighttime shift to equal 31?	Refer to section III-7 A.1 of the RFP for requirements related to the number of available mobile units and to Section III-7.C.1.b for deployment details.

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46	18 and 19 of 26	Appendix C 13 c	Conduct of Audit	Can we alternate between a SOC 1 and SOC 2 audit each year?	Per the RFP Section III-7.G.1 - Information Security Audits, a SOC 2 audit is required annually.
47				Knowing that the IACP no longer approves Photo enforcement products due to the complexity of the associated technology and lack of formalized test plans, and the approved products listed on the CPL for LIDARS and RADARS only includes complete standalone RADAR/LIDAR Systems as opposed to speed detection components which are much different than the devices needed for our photo enforcement systems; will more stringent product approval certifications be permitted for submission of these detection devices?	See answer to question 17.
48				It is stated in SB 172 3370 (f) (1) Limitations.-- The following shall apply: No automated speed enforcement system shall be utilized in such a manner as to take a frontal view recorded image of the vehicle as evidence of having committed a violation. Is the requirement for two front images an oversight or is there a specific configuration (i.e field of view, acceptable image composition, etc) needed to meet the requirement and keep in compliance with the above limitation?	Title 75 Section 3369 is the governing legislation pertaining to this program.

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49				What is the minimum interval between the two images (from the same direction i.e. front and/or rear) that would be acceptable to achieve the expected result? Will a failure to capture both images from a single direction with a vehicle visible in the image) be considered a controllable or uncontrollable violation?	Refer to section III-7 C.1.d for Image Capture Equipment requirements.
50				It was noted on page 42 in the pricing section that 'most deployments will take place in work zones along limited-access highways with 2 lanes of traffic in each direction'. IS bi-direction enforcement (from a single deployment location) a requirement or will the system only be required to capture vehicles in a single direction of travel?	The Automated Work Zone Speed Enforcement system is only required to capture vehicles in a single direction of travel.
51				In the RFP the commission reference the desire for mobile vehicles and trailers as potential offerings, will the commission accept other deployment platforms such as portable or relocatable systems that may be more suitable for the anticipated environment unique to workzones?	Field equipment for deployments shall be made in accordance with Section III-7.C.1.
52				The CCTV PTZ camera requirement is a bit unclear, can you provide information on the number of expected systems that can be anticipated ? Or is there a desire to have this capability on each system?	See answer to question 10.

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53				Additionally is this a separate standalone system that would be deployed independently from the enforcement system? Or can the system be integrated into the enforcement system?	The complete and operational CCTV system must be wholly separated from the enforcement system.
54				Is there a desire to integrate this into the current CCTV system currently in use by PennDOT?	The supplemental CCTV do not need to be integrated into PTC or PennDOT's current Video Management systems.
55				The existing CCTV requirement references older technology (i.e. CCD cameras) which have performance limitations which may be detrimental to achieving expected performance. Will the commission consider other technology that achieves or exceeds current system results as related to performance?	The CCTV requirement is a minimum specification. CCTV technology that meets or exceeds specified performance would be considered.
56				Is there a requirements for a certain number of manned (vehicle) vs unmanned (Trailer) systems out of the total population of 17 systems?	There are no requirements for this stated in the RFP.
57		III-7.a.5	Data Feed	For the data feed to the Agencies PA 511 website, does this requirement call for a data feed (i.e. realtime file transfer/updates) or more complex integration with website?	Refer to Section III-7.E – AWZSE Website for additional data feed requirements.
58				In the RFP it is stated that 'the Transportation Agencies may require the System Administrator provide personnel on-site with each ASE unit for the entirety of each deployment'; What is the likelihood of this requirement has an impact on pricing?	Per the RFP, the proposer is responsible for developing and submitting a cost for Field Deployment On-Site Monitoring Personnel as a Supplemental Service.

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59	20	III-7.A.1	Automated Work Zone Speed Enforcement	Would the Commission accept a self-contained portable speed unit as another option that proposers can offer, in addition to a vehicle-based or trailer-based speed unit?	See answer to question 51.
60	24	C.1.c	Speed Detection Equipment	We understand that the most recent IACP Conforming Product List that included Across-the-Road Speed-Measuring Devices and Systems was last published in 2015 and that the IACP has not overseen the speed measurement device testing program as of October 1, 2015. Would the Pennsylvania Turnpike Commission accept solutions that represent the latest in photo enforcement technology, including three-dimensional radar, but are not on the current CPL?	See answer to question 17.
61	25	C.1.d	Image Capture Equipment	In reference to the Commission's requirement for four images with the same stationary object in all four images, would the Commission accept solutions that capture the four required images (with the same stationary object in only two of the images whether front or rear)?	Clarification of Section III-7C.1.d: "...shall produce a minimum of four (4) digital time stamped images, two (2) frontal and two (2) rear images for each violation that include the same stationary object <i>respectively</i> for frontal and rear images near the vehicle."
62	25	C.1.d	Image Capture Equipment	In reference to the four-image requirement, would the Commission accept solutions that capture a set of two images (either a set of frontal images or a set of rear images)?	Refer to Section III-7C.1.d for image capture minimum requirements.
63	30	C.5	Informal Hearing Process	Would the Commission allow the Contractor to have one informal hearing officer who travels between the five hearing facilities and attends the hearings as they are scheduled?	The informal hearing officer will be designated by the Transportation Agencies and will not be provided by the System Administrator. However, the System Administrator will be required to have a representative present at these informal hearings.



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64	42	IV-1.A.1	Cost Submittal	Could the Commission please clarify the total number of deployments that are expected during the contract period?	The proposer should reference IV-1.A.1 for an assumed number of deployments during the program. Additionally, see answer to question 1.
65	42	IV-1.A.1	Cost Submittal	Could the Commission please provide the upcoming construction schedule for the areas where the speed cameras are expected to be deployed?	This information is not available.
66	42	IV-1.A.1	Cost Submittal	For planning purposes, how far in advance will the Commission notify the Contractor of the deployment locations and schedule (e.g. one week in advance)?	See answer to question 11.
67	42	IV-1.A.1	Cost Submittal	Does the Commission foresee any significant gaps in deployment (i.e. winter)?	See answer to question 64.
68	22	C.1.a	AWZSE Field Equipment	What is the maximum distance the Commission will require between the speed camera and the traffic flow?	The distance between the automated speed enforcement unit and the traffic flow will vary depending on conditions present at any given work zone where the system is deployed.
69	22	C.1.a	AWZSE Field Equipment	Does the Commission desire that the Contractor perform site surveys to determine optimal deployment locations?	Site surveys are not a requirement of the AWZSE System Administrator within the RFP.

All other terms, conditions and requirements of the original RFP dated February 5, 2019, Addendum 1 and Addendum 2 remain unchanged unless modified by this Addendum.