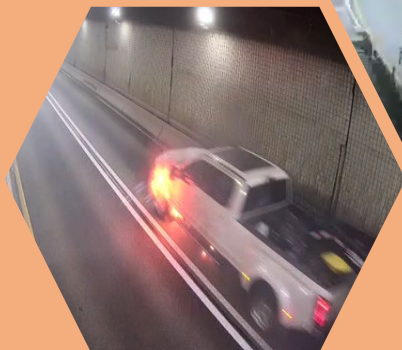
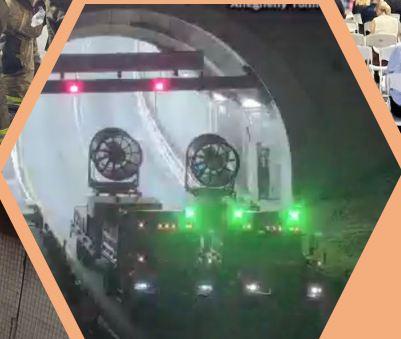




After-Action Review Report

Allegheny Tunnel Vehicle Fire
June 4th, 2026
Milepost T122.7 WB



Prepared for the
Pennsylvania Turnpike Commission By: VHB
September 18, 2026



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List of Acronyms

Acronym	Definition
AAR	After-Action Review
APF	Administrative & Procedural Finding
ASP	Authorized Service Provider
AREP	Agency Representative
CAD	Computer-Aided Dispatch
CCTV	Closed-Circuit Television
CMS	Changeable Message Sign(s)
CSF	Critical Safety Finding
DES	Department of Emergency Services
EMA	Emergency Management Agency
EMS	Emergency Medical Services
GIS	Geographic Information Systems
MVU	Mobile Ventilation Unit
OCS	Operations Center Supervisor
PA	Pennsylvania
PAR	Personnel Accountability Report
PEMA	Pennsylvania Emergency Management Agency
PSP	Pennsylvania State Police
SOF	Significant Operational Finding
SOP	Standard Operating Procedure
STMC	PennDOT Statewide Traffic Management Center
TOC	Traffic Operations Center
VFC	Volunteer Fire Company
VFD	Volunteer Fire Department
WebEOC	Web-based Emergency Operations Center
WEA	Wireless Emergency Alert

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Introduction

On July 28th, 2026, representatives from the Pennsylvania Turnpike Commission met with first responders from numerous state and local agencies to conduct an After-Action Review (AAR) of a vehicle fire which occurred inside the westbound tube of the Allegheny Mountain Tunnel on June 4, 2026. Due to the location inside the tunnel, this event escalated into a complex, multi-agency incident with an extended incident clearance time. A medical emergency, dense concentrations of smoke inside the tunnel, evacuation of trapped customers, and extended overnight recovery and reopening operations led to the need for a more detailed review of PA Turnpike Commission and first responder operations and tactics during and after the incident. Prior to the AAR meeting, registered participants were surveyed to aid meeting facilitators in discovering the topics of highest importance. Based on the survey responses, the AAR leadership team established four core areas that would be the focus of the meeting as follows:

Key Incident Information

Date: June 4th, 2026

Incident Detection Time: 8:13 PM

Incident Termination Time: 6/5/26 11:32 AM

Total Incident Duration: 15 hours, 18 minutes

Location: T122.7WB

County: Somerset County

Municipality: Stonycreek Twp. & Allegheny Twp.

Incident Commander: PA State Police

Weather Conditions:

🌡️ Temperature: 74° • Humidity: 40%

🌬️ Wind: No Wind

💧 Precipitation: 0.0 Inches

🚧 Roadway Conditions: Normal

Communications

Focus Areas:

- PA Turnpike Traffic Operations Center Communications
- 9-1-1 Communications
- PA State Police Communications
- In-Tunnel Communications

Preparedness & Planning

Focus Areas:

- Evacuation Procedures
- Tunnel Pre-Plans
- Training
- Tunnel inspection and repairs

Incident Command

Focus Areas:

- Establishing Command
- Implementing Unified Command
- Responder Accountability

Tunnel Operations & Traffic Management

Focus Areas:

- Customer Safety
- Employee Safety
- Responder Safety
- Ventilation
- Water Supply

The AAR meeting aimed to provide a structured examination of the incident, operational decisions, coordination challenges, and recovery actions to document lessons learned, recognize effective practices, and identify opportunities to strengthen future tunnel incident response. This report will summarize the successes and challenges experienced during the incident and outline suggestions and recommendations resulting from the AAR to help the PA Turnpike Commission and all emergency responders continually improve traffic operations and Traffic Incident Management practices.

Allegheny Mountain Tunnel Overview

The Allegheny Mountain Tunnel is one of the original tunnels constructed in 1939 on the PA Turnpike and carries I-76 through the Allegheny Mountain Ridge in Somerset County. The tunnel is just over one mile in length and operates in a two-tube configuration for bi-directional traffic.

The tunnel is equipped with several safety features, including emergency walkways and crossovers, ventilation systems, CCTV monitoring, and fire protection equipment along the tunnel. The tunnel is monitored 24/7 by tunnel staff and emergency response operators. Tunnel-specific Standard Operating Procedures (SOP) are in place, as well as regular coordination between the PA Turnpike TOC, PA State Police, and emergency responders to maintain tunnel familiarity and operational awareness. Despite continuous monitoring of tunnel conditions and incident detection, the rural location of the tunnel and challenging terrain create a challenging response environment. The confined space of the tunnel and limited geographical access created an especially difficult evacuation and fire response environment as smoke filled the tunnel.

Incident Summary

At approximately 8:14 PM on June 4th, 2026, a fire was reported inside the westbound tube of the Allegheny Mountain tunnel in Somerset County, PA. Initial reports indicated that a pickup truck with a trailer had caught on fire in the tunnel and very few vehicles were able to get past the scene before the fire became too large, resulting in approximately 80 vehicles becoming trapped inside the tunnel.

Figure 1 shows the approximate fire location within the tunnel and the evacuation zone involving approximately 150 customers.

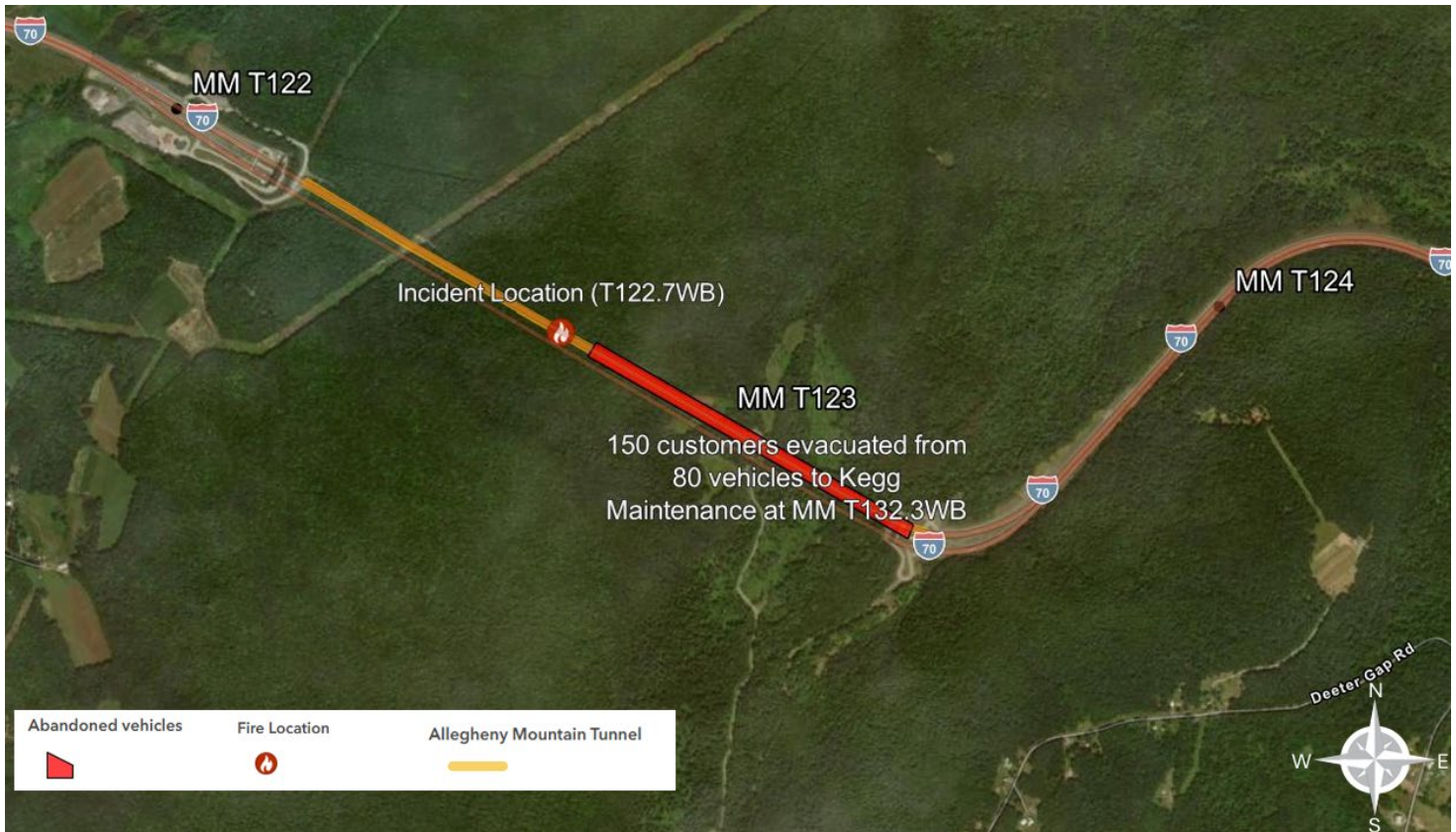


Figure 1

Responding units were immediately directed to respond the wrong way towards the scene due to the backlog of vehicles in the tunnel. At this early stage, the response was limited to the seven units initially dispatched from fire, EMS, and law enforcement, in addition to Turnpike staff, before the incident began to escalate. Approximately 10 minutes after the first report of the fire, additional information was received stating that the driver of the truck that caught fire was suffering a medical emergency inside the tunnel, and it was later confirmed that this occurred after the fire began and did not contribute to the initial incident. Both tunnel tubes were subsequently closed, and motorists were directed to begin evacuating on foot as smoke continued to fill the tunnel. At 8:32 PM, about 20 minutes into the incident, an explosion was reported inside the tunnel and there was a 5-to-7-minute window where communication inside the tunnel was lost, and two firefighters were unaccounted for. After all personnel were accounted for, efforts to extinguish the fire continued through the eastbound corridor and a bi-directional “Plan X” closure was established at 9:20 PM between New Stanton and Breezewood interchanges. At this point, response had expanded to 14 involved units as additional suppression, EMS, command, and support units were added in response to worsening fire conditions.

Early in the event, information continued to flow into the PA Turnpike Traffic Operations Center from a variety of sources. Conflicting, and sometimes contradictory, information resulted in multiple changes to response tactics and resource requests. Additional reports suggested that the fire had spread to multiple vehicles which increased the level of difficulty

for firefighters attempting to reach the seat of the initial fire. Additionally, reports indicated a tanker loaded with asphalt was in the tunnel near the scene of the fire, raising concerns about the possibility of a significant escalation in fire spread. Planning began for both a helicopter landing zone and bus transport for 150 evacuees on the east side of the tunnel at approximately 9:51 PM (1 hour and 35 minutes into the incident). Buses and additional EMS units were staged at mile marker T138.8WB, and additional Pennsylvania Turnpike Maintenance crews were responding from a storage facility near the Tuscarora Tunnel (approximately 64 miles away) with two large trailer-mounted fans. Evacuee transportation began around 10:30 PM, with evacuated customers being relocated to shelter at the Kegg Maintenance Shed 9.6 miles to the east of the incident at mile marker 132.3WB. As evacuation and customer-support operations developed, the response footprint grew further to over 20 units including transportation, rehabilitation, and standby EMS resources in addition to the active fire suppression resources. **Figure 2** below provides a wider aerial view of the impacted roadway corridor, including the vehicle fire location, the bus and EMS staging area, and the Kegg Maintenance shelter site. Beginning at approximately 10:30 PM, the trapped backlog of vehicles began exiting the PA Turnpike at the New Baltimore emergency access gate, reversed direction near the tunnel via the tunnel access road, and additional backlog was relieved at the mile marker 127 and 129.8 gates.

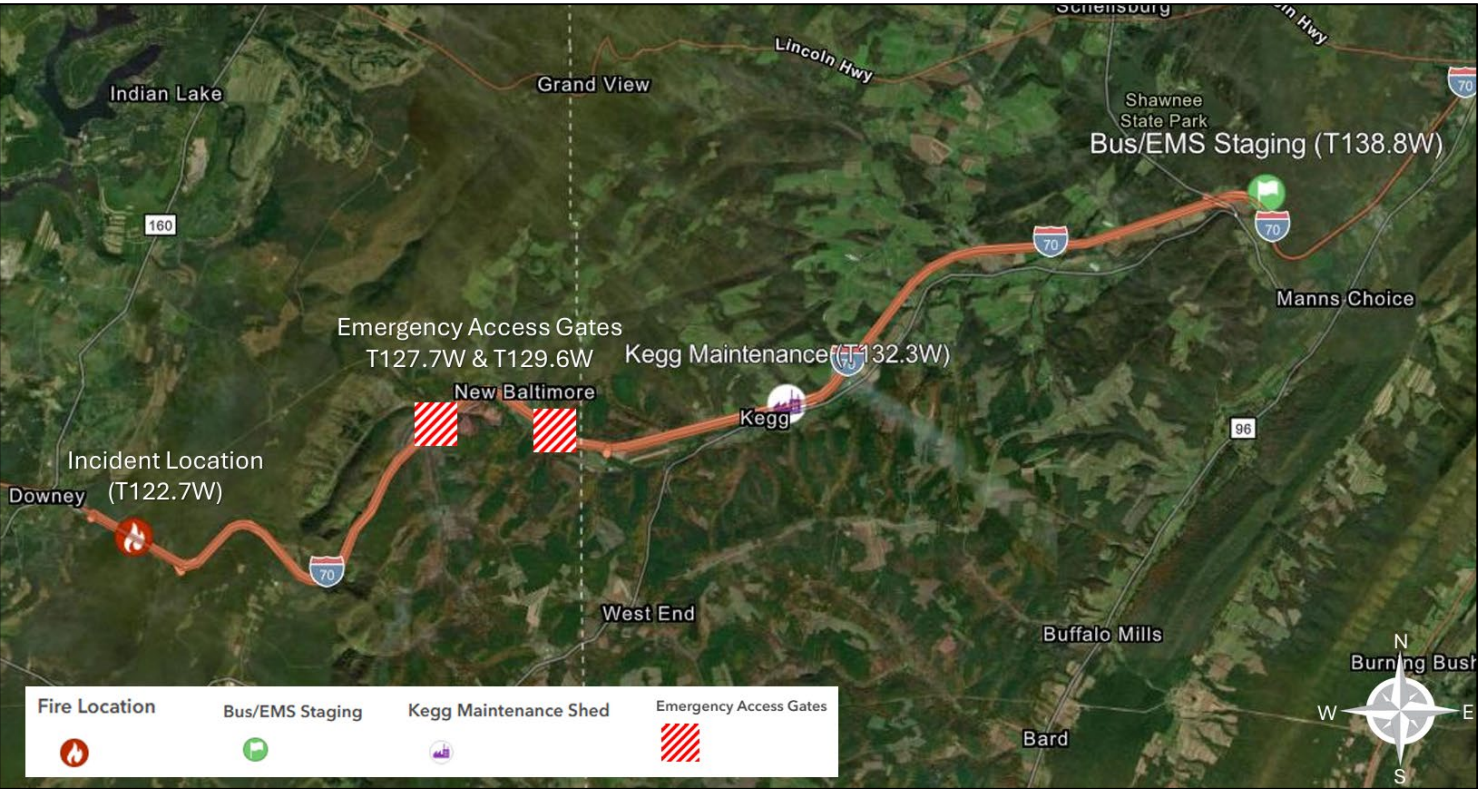


Figure 2

At approximately 10:40 PM, additional EMS units were staged to provide rehabilitation services for fire personnel. Just before 11:00 PM, firefighters continued efforts to extinguish the fire as other units assessed how many vehicles may need to be towed. Heavy towing and recovery resources were then dispatched to the east end of the tunnel. By the time the incident transitioned toward extinguishment and recovery, CAD records show the response had grown to a total of 25 distinct responder units. The fire was officially reported to be extinguished at 11:11 PM, just under 3 hours into the incident. Additional planning and coordination between the PA Turnpike, Bedford County Emergency Management Agency, and Red Cross occurred before it was later determined that Red Cross would not be needed since customers were going to be returned to their vehicles. Following a final check to confirm that no civilians remained at the scene, Bedford EMS began clearing units from the location at 11:44 PM. Traffic was then rerouted to the east side of the tunnel, and shortly afterward, buses began transporting civilians from Kegg Maintenance back to their vehicles. Additional evacuee support was provided as customers returned to the tunnel with water and energy bars provided by the PA Turnpike Commission. Evacuee buses

returned to the tunnel with customers around 2:35 AM, and by 3:25 AM all civilian vehicles were removed from the tunnel and the bi-directional Plan X was lifted. Bi-directional traffic flow was established in the eastbound tunnel as the westbound tunnel remained closed for cleaning and damage inspection. This traffic pattern continued until 2:30 PM on June 5th, when tunnel staff began removing the bi-directional pattern and reopened the westbound tunnel, clearing backlog. In total, 25 distinct responder units were identified through CAD data collected from the PA Turnpike TOC and Somerset & Bedford County 911. The agencies which responded to the incident are outlined in **Table 1** below.

PA Turnpike Commission	Fire Departments	EMS	ASP (Towing & Recovery)	Law Enforcement/Emergency Management
• Executive Leadership • Kegg Maintenance • Somerset Maintenance • Traffic Incident & Emergency Mgmt. Team • Traffic Engineering • Facilities Personnel • Communications Team	• Shawnee Valley VFD • New Baltimore VFC • Somerset VFD • Stoystown VFD • Shanksville VFD • Listie VFC • Sipesville VFD • Berlin VFD	• Bedford Area Ambulance • Raystown Ambulance • Hyndman Area Ambulance • Berlin Ambulance • Somerset Area Ambulance	• Herring Motor Co. • Interstate Emergency Services	• Bedford County 911 • Somerset County 911 • PA State Police

Table 1

Traffic Operations Center Activities

Throughout the duration of the incident, the PA Turnpike Traffic Operations Center (TOC) established and maintained situational awareness and assisted with response coordination through CCTV monitoring, Computer-Aided Dispatch (CAD) updates, coordination with county emergency management personnel, and communication with field incident command, PSP, PEMA, maintenance, engineering, and other support agencies. The TOC confirmed the initial incident details, assisted in coordinating the closure of both tunnel tubes, coordinated wrong-way responder access, supported bi-directional Plan X implementation, monitored trapped queues, and coordinated access-road traffic reversal and gate-based offloading, while also activating Changeable Message Signs (CMS) and Wireless Emergency Alert (WEA) notifications for traveler information, although 511 PA Connect services were unavailable and PEMA had to be contacted by phone and email to issue the WEA alert. In addition to these core response functions, TOC personnel contacted and coordinated with the Operations Center Supervisor(OCS) to arrange buses for patron transport, fielded media calls and routed them to appropriate parties, provided engineering with ongoing updates to support safe navigation given potential tunnel damage, issued Waze closures and social media updates via X (formerly Twitter), continually engaged with patrons on scene to provide reassurances and updates, coordinated food and water provisions to the maintenance sheds where patrons were initially being taken, and maintained ongoing coordination with the PennDOT Statewide Traffic Management Center (STMC). As the incident transitioned to recovery, the TOC coordinated bus operations and Kegg Maintenance support, vehicle and trailer removal, customer return-to-vehicle operations, backlog monitoring, public messaging and customer-service communications, and the phased reopening of the eastbound tube to bi-directional traffic overnight and the westbound tube the following afternoon.

Extensive communications was also coordinated by the PA Turnpike’s Strategy and Communications team, which provided ongoing updates of the incident and road closures to both traditional media outlets (print, radio, broadcast), as well as social media outlets including X (Twitter), Facebook, and Instagram.

Findings & Recommendations

The most important findings from the review are documented as Critical Safety Findings (CSF), Significant Operational Findings (SOF), and Administrative & Procedural Findings (APF). **Table 2** beginning on page 14 provides further details on each of these findings along with corrective actions, responsible agency(ies), and implementation statuses.

Critical Safety Findings (CSF)

Feedback received during the AAR meeting identified three critical safety findings which should be treated as immediate corrective-action priorities because they directly affected responder survivability, accountability, smoke exposure, and civilian protection in a confined tunnel environment.

CSF-1: In-tunnel Communications Reliability and Interoperability

It was determined that radio communications inside of the tunnel between responding parties were insufficient to support consistent responder accountability and situational awareness during the most hazardous phase of the incident when two firefighters were unaccounted for. Radio degradation inside the tunnel required some responders to rely on talk-around communications or switch between county and PA Turnpike channels while operating in smoke-filled conditions. Follow-up review indicates that the issue likely resulted from a combination of incomplete in-tunnel signal propagation, limited PA StarNet performance in the tunnel environment, interoperability constraints, and the absence of a clearly defined tunnel-specific fallback communications structure. This breakdown in accountability, confirmation, and situational awareness was most critical during the 5-7 minutes when two fire personnel were unreachable by radio and unaccounted for immediately after the reported explosion.

CSF-2: Ventilation Systems & Smoke Management

Mechanical issues coupled with procedural conflicts over operation of in-tunnel fans and ventilation systems affected interior firefighting operations as well as the safety of responders, PA Turnpike personnel, and customers. Fire units requested fan activation at 8:49 PM and were advised that the tunnel's exhaust fans were already operating, raising questions about system effectiveness, shared understanding of fan status, and whether smoke could have been managed more effectively. Follow-up discussions with PA Turnpike Facilities personnel indicated that a transformer issue resulted in reduced fan speeds inside the tunnel, requiring supplemental support from Mobile Ventilation Units (MVU). However, these personnel also indicated that even if the fans had been at maximum speed, the MVUs would still have been needed due to the volume of smoke. This finding suggests that the gap was both mechanical and procedural, involving reduced system capacity as well as the need for clearer coordination between field command and PA Turnpike personnel operating under tunnel standard operating guidelines.

CSF-3: Evacuation Procedures

Civilian evacuation and movement control procedures require stronger protocols for smoke-filled tunnel incidents, including support for mobility-limited travelers. Approximately 150 travelers were evacuated from the tunnel, and observations indicated that some evacuees were slow to leave, some sat on barriers, and some crossed the roadway while trapped in backlog. These behaviors increased exposure and complicated both suppression and evacuation operations. Recent follow-up actions, including the purchase of mobile step units, wheelchairs, and designation of customer waiting areas, are appropriate early steps but should be formalized into tunnel evacuation procedures.

Significant Operational Findings (SOF)

This incident demonstrated that the tunnel environment shaped nearly every major tactical and logistical decision. Wrong-way responder access, closure of both tubes, use of crossovers and corridor movement to support fire attack, heavy smoke conditions, and trapped traffic all contributed to a highly complex operating environment. The eastbound tube effectively became part of the operational footprint, and the response required simultaneous coordination of suppression, evacuation, EMS support, traffic relief, customer relocation, towing, engineering review, and reopening.

SOF-1: Incident Command

Unified command visibility, command-post identification, and responder reporting clarity were not established clearly enough during the early operational period for an incident of this complexity. Although key early actions were taken quickly, including tunnel closure, wrong-way responder access, and notifications to partner agencies, responders reported uncertainty regarding where to report, who the point of contact was, and how command functioned across multiple

operating locations. This contributed to reduced command visibility during a period when suppression, evacuation, accountability, and traffic-control decisions were developing simultaneously.

Command responsibilities evolved in three distinct phases:

- Initial life-safety actions involving road closure, access, and fire suppression efforts;
- Expanded multi-location coordination across both portals, the tunnel interior, EMS staging, and Kegg Maintenance;
- Transition to recovery functions including towing, engineering inspection, return-to-vehicle operations, and phased reopening.

This progression indicates the need for earlier unified command formation and a more explicit structure for transition into recovery management.

SOF-2: Responder Operational Awareness and Water Supply

Familiarity with tunnel suppression infrastructure and usable water-supply connections was not sufficiently standardized across responding agencies. Concerns were raised regarding hydrant availability, standpipe familiarity, usable connections, and whether responders knew where those connections were located. Follow-up notes further identified the need for clearer fire department input on preferred water-supply connection points, hydrant repair planning, additional hydrant wrenches, pipe-condition review, and improved visibility of fire department connections through reflective materials or

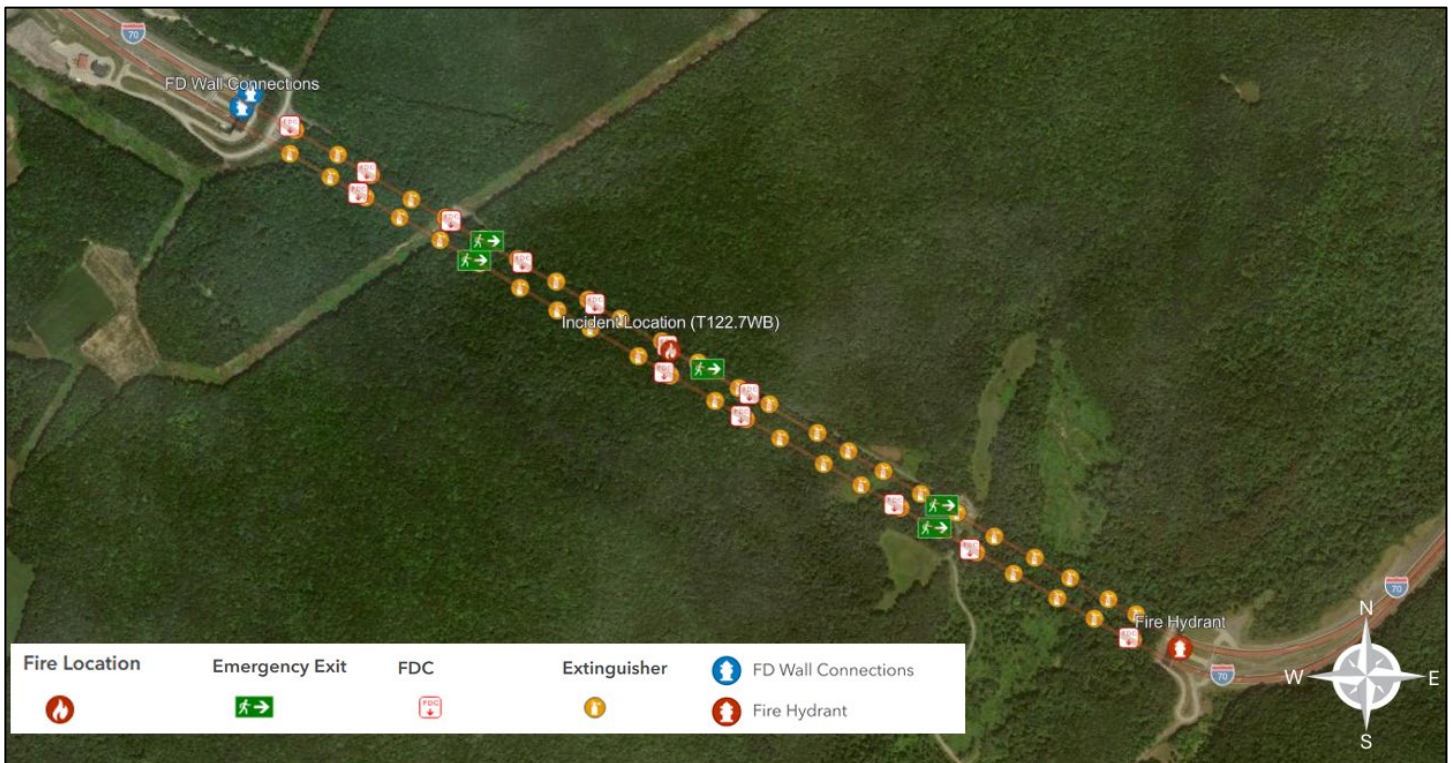


Figure 3

other locator enhancements. The operational consequence was reduced efficiency in an environment where responders should not have to identify key water-supply details during live fire operations. Additional tunnel-specific training opportunities and increased efforts by emergency responders to participate in annual training can help bridge knowledge gaps and enhance operational awareness. **Figure 3** maps the in-tunnel water supply and evacuation infrastructure, including fire hydrants, FD connections, emergency exits, and extinguishers.

SOF-3: Traffic Management and Evacuation Procedures

Traffic-management, customer relocation, and recovery operations were ultimately effective, but they relied heavily on real-time adaptation rather than a fully standardized tunnel closure and recovery playbook. Approximately 150 travelers

were evacuated and relocated to Kegg Maintenance, backlog was relieved through emergency gates, traffic was U-turned near the tunnel, and bi-directional operations supported overnight recovery while the westbound tube remained closed. A bi-directional Plan X was requested at 8:50 PM and went into effect approximately 30 minutes later. **Figure 4** illustrates the relationship between the tunnel fire location and the interchanges used for Plan X closure and recovery operations.

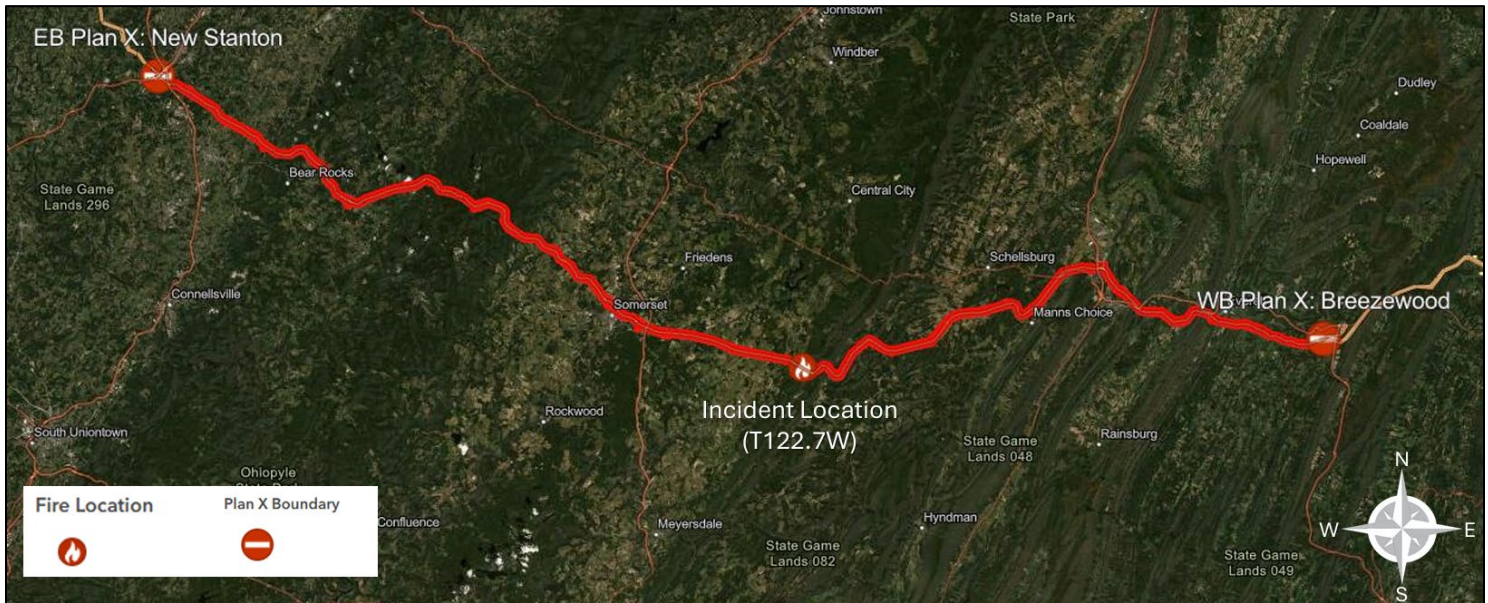


Figure 4

These actions demonstrate strong operational improvisation, but also indicate the need to formalize gate release, queue relief, queue flush versus turnaround strategy, bus routing, customer relocation, and return-to-vehicle procedures for future prolonged tunnel closures. Follow-up discussion also identified a possible operational refinement for future incidents: when conditions permit, trapped traffic may need to be flushed through the affected area rather than turned around. That concept should be evaluated and incorporated into future tunnel traffic-relief procedures and Plan X planning. Strategies for communicating with and maintaining safety and accountability for customers stuck in the backlog of extended incidents is also a priority. Some customers were reportedly seen getting out of their vehicles, sitting on barriers and crossing over barriers before backlog was relieved.

The incident also highlighted the need to better define recovery and reopening decision-making. The westbound tube remained closed for cleanup and inspection until reopening on the afternoon of June 5, but the criteria, authority, and process used to transition from suppression to inspection, recovery, and reopening should be more explicitly documented in future tunnel incident procedures. This is especially important for incidents requiring engineering review, traffic reconfiguration, and phased restoration of service.

Administrative & Procedural Findings (APF)

The AAR meeting identified several administrative and process deficiencies that materially affected preparedness, coordination, and implementation, even where field operations were ultimately successful. These findings relate to tunnel pre-plans, external-agency communications, customer-support resource activation, customer messaging, and corrective-action tracking.

APF - 1: Planning Resources

Tunnel-specific planning framework is not yet complete enough to provide a repeatable multi-agency framework for high-consequence tunnel incidents. The review meeting revealed planning needs that include:

- Evacuation triggers
- Full tunnel closure procedures
- Command-post designation

- Bus staging
- Customer relocation
- Mobility-limited support
- Queue-clearing procedures
- Return-to-vehicle operations
- Recovery sequencing and,
- Reopening criteria.

Follow-up work already underway on pre-plans, GIS mapping, and tunnel reference materials is meaningful progress, but these elements should be consolidated into a formal tunnel incident playbook rather than remain as separate emerging products.

APF - 2: External Agency Communications & Regional Coordination

External-agency communications pathways and failover expectations should be documented more clearly for major tunnel incidents. The review identified the TOC as the intended primary information hub for outside agency coordination, including WebEOC information flow and coordination with designated agency representatives. For external agencies seeking situational awareness, resource coordination, or status updates, this process should clearly define where information originates, who is responsible for providing briefings, how information is verified, and how timely and consistent updates are shared with partners such as PEMA and county emergency management agencies.

The review also indicated that failover expectations should be documented more explicitly when primary contacts are unavailable. Future procedures should identify primary and backup contacts, TOC responsibilities, and notification pathways, while clarifying that the TOC serves as the failover point for continued external coordination when designated representatives are unavailable. Formalizing this process will reduce confusion and improve coordination in the event of future tunnel emergencies.

APF - 3: Logistics and Support Resources Coordination

Customer-support resource activation procedures require clearer ownership and more formal documentation. Follow-up notes identified the need for continued maintenance of bus company contact information at the TOC, a defined methodology for contacting transport providers, identification of shelter and waiting areas, possible lodging or shelter agreements for prolonged events, and clearer assignment of responsibility for arranging these resources. These directly affect how quickly evacuees can be relocated and supported during prolonged tunnel closures.

APF - 4: Customer Messaging

Customer-facing information management should be formalized as part of tunnel incident procedures. The review identified issues involving 511 PA Connect, closure and detour messaging, and backlog notifications. The PA Turnpike's 47676 texting platform was utilized successfully, allowing drivers stuck in unexpected traffic backlogs to receive automated, location-specific updates on incident status and anticipated clearance times every 15-20 minutes. On the day of the incident, the 47676 application experienced a messaging rate approximately five times higher than that of a typical day, demonstrating its value in supporting evacuation, traffic management, customer care, and reopening decisions. Formalizing the use of this service alongside other communication channels into a documented workflow, rather than relying on ad hoc coordination, can strengthen customer awareness during incidents and better inform drivers of expected clearance times.

Strengths, Areas for Improvement, and Training Opportunities

This section provides a balanced assessment of the operation, highlighting key strengths that should be sustained and reinforced, identifying critical areas where performance can be improved, and outlining targeted training recommendations to enhance overall effectiveness. By examining what worked well alongside the challenges encountered, this review aims to inform actionable steps that build on existing capabilities, address gaps in planning and execution, and ensure teams are better prepared for future missions and evolving operational demands. Tunnel-specific training exercises are already under way, with participation from all fire departments that were involved with the tunnel fire response.

Strengths

- Large-scale evacuation and civilian relocation were ultimately completed without reported fire-related civilian injuries, despite heavy smoke conditions and a complex environment.
- Rapid initial recognition of the incident by County 911, the TOC, and tunnel personnel
- Restoration of normal operations within one day.
- Immediate tunnel closure actions and wrong-way responder access were implemented quickly despite trapped backlog conditions.
- Bus movement to Kegg Maintenance and later return-to-vehicle coordination provided an effective temporary solution for motorists.
- Fire suppression, ventilation, towing, engineering review, and phased reopening were sustained through a long-duration operation
- Customer support actions, including water, snacks, blankets, and return-to-vehicle planning, reflected a strong recovery and customer-care effort once immediate life-safety concerns were reduced.

Areas for Improvement

- Improve in-tunnel radio reliability and interoperability so responder communications do not depend on talk-around use or repeated channel switching.
- Clarify unified command expectations, including earlier command-post identification, responder reporting instructions, and point-of-contact procedures.
- Strengthen tunnel-specific pre-plans for both-tube closures, crossover use, bus staging, gate-based traffic release, and return-to-vehicle operations.
- Improve tunnel-system familiarity for responding agencies, including hydrants, standpipes, fire department connections, fan controls, and access points.
- Refine evacuation procedures for tunnel incidents, including movement of mobility-limited customers and designated assembly and support locations.
- Develop more formal traveler and customer messaging workflows for 511, WEA coordination, detour messaging, backlog warnings.
- Review queue-clearing and gate-offload procedures to reduce confusion and backlog relief during prolonged closures

Training Opportunities

- Continue to conduct and emphasize the importance of attending tunnel-specific exercises involving PA Turnpike personnel, PSP, and emergency responder agencies.
- Provide recurring training on in-tunnel radio operations, shared channel procedures, and backup communications procedures.
- Expand practical training and reference map development on crossovers, hydrants, standpipes, fire department connection locations, access gates, tunnel fan operation, and portable fan deployment.
- Practice evacuation and customer-support scenarios, including bus staging, relocation operations, mobility-limited evacuations, and return-to-vehicle operations.
- Exercise queue-reversal, gate-offload, and bi-directional recovery patterns so traffic-control strategies are more standardized in future events.
- Review high-consequence hazard scenarios during future tunnel-response training.

Post Meeting Survey and Next Steps

A post-meeting survey distributed to all attendees indicated that participants viewed the meeting positively and found value in the discussion-topic-driven meeting format. 50% of respondents rated the meeting as “very good” with the remainder rating it as good (32%), or excellent (18%).

Survey comments and meeting discussions reinforced several priority areas for continued work, including multi-agency communications, tunnel-system familiarity, ventilation system understanding, responder access planning, and customer evacuation support. The PA Turnpike has already undertaken numerous corrective actions, including expanded tunnel-specific pre-plan development, GIS-based responder mapping, and increased tunnel familiarization and training exercises for fire companies. This report will be updated on a regular basis to reflect the status of the identified corrective actions until all items have been completed.

The AAR meeting highlighted that the incident response included many effective actions under difficult conditions, while emphasizing the need to turn lessons learned into clear actionable procedures. Priority next steps include improving in-tunnel communications and interoperability, continuing tunnel-specific familiarization and joint exercises, which are already underway and have already included one completed exercise, refining evacuation and customer-support procedures, clarifying unified command expectations, and further formalizing traffic-management, Plan X, and customer-messaging procedures for prolonged tunnel closures.

Corrective Action Plans

Several corrective actions identified through the After-Action Review meeting were already underway in the weeks following the incident. These actions included expanded fire company tunnel familiarization during a maintenance closure, hands-on hydrant and water-supply review, distribution of measured tunnel reference materials, purchase of evacuation support equipment, designation of landing zone and customer safety locations, investigation of hydrant repairs, staging of a portable fan, purchase of storage cabinets for equipment and mapping materials, and continued evaluation of a potential bi-directional amplifier to improve radio coverage through the tunnel.

Table 2 beginning on the next page outlines previously listed findings along with recommendations for corrective actions, agencies responsible for assisting in executing the actions, and the status of implementation.

Observation/Issue Critical Safety Finding (CSF) Significant Operational Finding (SOF) Administrative & Procedural Finding (APF)	Recommended Corrective Action	Responsible Agency(ies)	Implementation Status	Expected Completion Date
CSF-1: In-tunnel communications reliability and interoperability were insufficient for responder accountability during the most hazardous phase of the incident, including the post-explosion period when two fire personnel were temporarily unreachable and unaccounted for. Root Cause(s): Combination of incomplete in-tunnel radio coverage, limited system propagation, interoperability limitations, channel switching, limited PA StarNet performance in the tunnel environment, and the absence of a clearly defined tunnel-specific fallback communications/accountability structure.	Complete a tunnel communications assessment; define primary, secondary, and fallback channels; evaluate and implement a bi-directional amplifier or equivalent coverage solution; expand radio cache and charging/storage capability; and develop a tunnel-specific accountability SOP with PAR triggers, fallback procedures, and branch accountability expectations.	• PA Turnpike (Lead) • Somerset County DES/911 • PSP • Contracted Fire/EMS	 In progress: Turnpike personnel are working with Somerset County DES/911 to evaluate a potential bi-directional amplifier installation through the tubes. Additional radios have been distributed or planned, and cabinets/storage solutions for radio and support equipment are being pursued. Command/support location designation has occurred, but the formal tunnel accountability SOP still needs to be documented and exercised.	<i>Additional information to be provided with future, updated versions of this report</i>
CSF-2: Ventilation effectiveness, smoke management, and fan system readiness directly affected interior operating safety. Root Cause(s): Fan capacity uncertainty, equipment limitations, incomplete coordination between field command and PA Turnpike tunnel operations regarding ventilation support and authority.	Formalize a ventilation decision protocol consistent with tunnel SOPs; document authority and coordination steps; address system readiness issues; and stage supplemental ventilation equipment for future incidents.	• PA Turnpike (Lead) • Contracted Fire Depts.	 Partially Implemented: One portable fan is now stationed at the PA Turnpike's Western Training Facility immediately adjacent to the Allegheny Tunnel, and additional MVUs are being procured to store at each tunnel for quick deployment. Post-incident follow-up identified reduced fan capacity was linked to a transformer issue and limited availability of replacement parts, which were ordered before the incident but can take up to two years to receive. The commission has also purchased a spare transformer to minimize future impacts from supply-chain delays.	<i>Additional information to be provided with future, updated versions of this report</i>
CSF-3: Civilian evacuation and movement-control procedures for smoke-filled tunnel conditions and mobility-limited customers required stronger structure. Root Cause(s): Limited pre-positioned mobility equipment, insufficiently formalized evacuation-support procedures, and lack of fully documented assembly/waiting-area procedures for prolonged closures.	Finalize evacuation playbook including movement instructions, assembly and waiting areas, mobility-limited evacuations, customer control, and use of evacuation support equipment.	• PA Turnpike (Lead) • Contracted Fire/EMS • County EMA • PSP	 In Progress: Foldable steps with railings have been purchased for halfway and crossover passages, and two wheelchairs per tunnel have been purchased to support evacuation of limited mobility customers.	<i>Additional information to be provided with future, updated versions of this report</i>

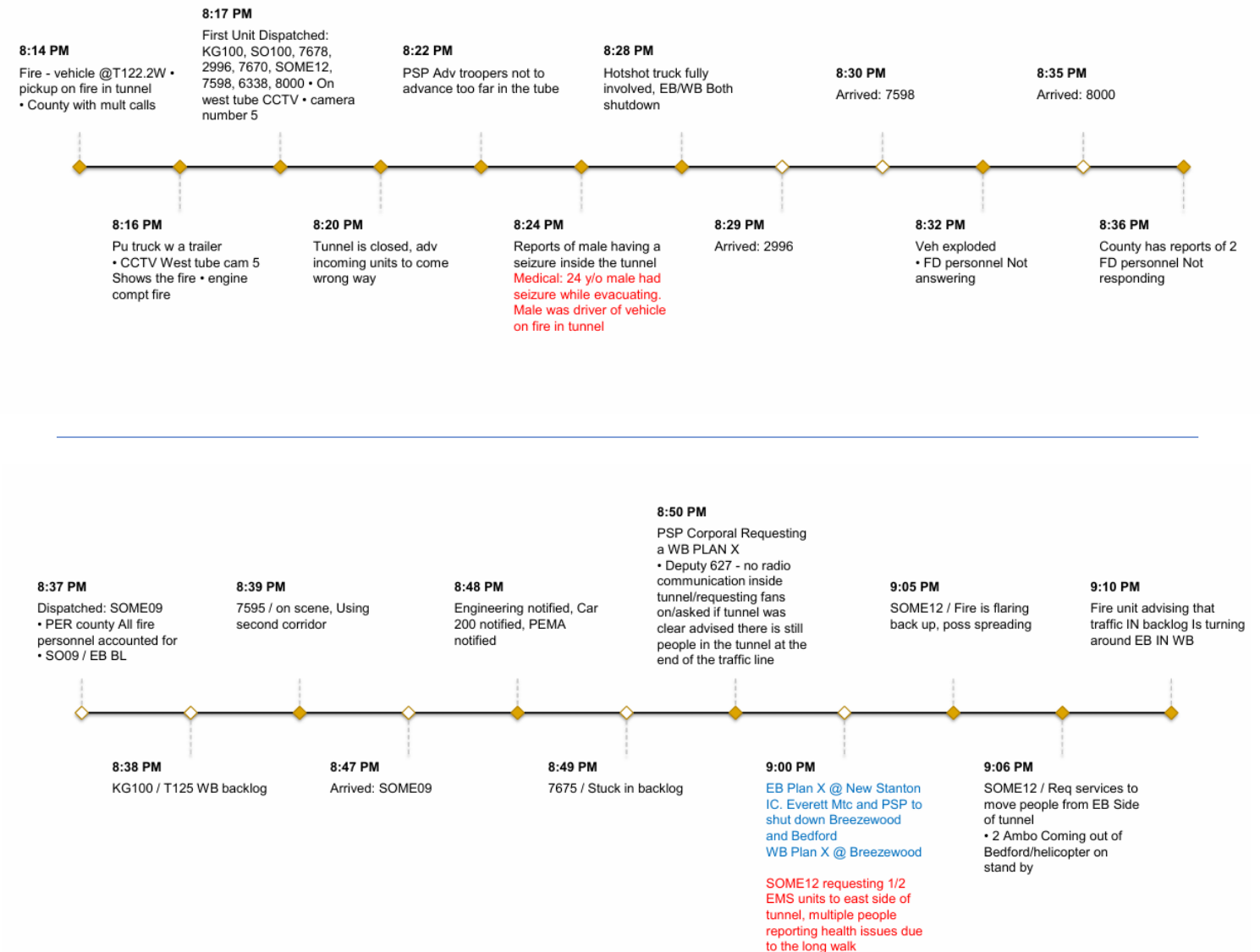
Observation/Issue Critical Safety Finding (CSF) Significant Operational Finding (SOF) Administrative & Procedural Finding (APF)	Recommended Corrective Action	Responsible Agency(ies)	Implementation Status	Expected Completion Date
SOF-1: Unified command visibility, command-post identification, and responder reporting clarity were not established clearly enough early in the incident. Root Cause(s): Multi-location scene complexity and lack of sufficiently formalized early tunnel command structure, including pre-designated command/support locations and reporting expectations.	Develop a tunnel incident command checklist defining command-post location, unified command trigger, responder reporting instructions, and designated support and safety locations.	• PA Turnpike (Lead) • Contracted Fire/EMS • County EMA	 In Progress: Incident command locations and customer safety locations have been identified: Training Center westbound and the grass area on the eastbound side of the tunnel until transportation is available.	<i>Additional information to be provided with future, updated versions of this report</i>
SOF-2: Responder familiarity with tunnel suppression infrastructure and water-supply connections was inconsistent, and hydrant readiness/reference information needed stronger standardization. Root Cause(s): Limited responder hands-on familiarity, incomplete standardization of infrastructure reference materials, and unresolved hydrant condition assessments/repairs.	Continue to offer tunnel walkthroughs and hands-on hydrant familiarization for all response partners; develop, distribute, and stage quick-reference maps/materials for hydrants, access doorways, quarter doors, and halfway doors; improve tunnel storage for support materials; and complete assessment/repair planning for nonfunctioning hydrants.	• PA Turnpike (Lead) • Contracted Fire Depts. • Vendor confined-space team	 In progress: During a tunnel maintenance closure on 8/5/26, contracted fire departments were invited to tour the tunnel to view available water supply and connected to tunnel hydrants. Responders were shown halfway doors and given documentation showing hydrant locations, access doorways, and measured distances. Out-of-service hydrant lid markings were reviewed. Cabinets are being purchased for hydrant wrenches and mapping materials, and a vendor with a confined-space team has investigated repair of non-working hydrants.	<i>Additional information to be provided with future, updated versions of this report</i>
SOF-3: Traffic-management, customer relocation, support-site operations, and recovery procedures relied heavily on real-time adaptation rather than a fully standardized tunnel closure and recovery playbook. Root Cause(s): Tunnel closure, queue relief, customer relocation, support-site designation, and Plan X procedures were not yet fully consolidated into one operational framework.	Develop a major tunnel closure / Plan X operational checklist covering gate offload, queue relief, queue-flush versus turnaround criteria, customer relocation, waiting/safety areas, landing zone use, bus routing, and return-to-vehicle procedures.	• PA Turnpike (Lead) • PSP • County EMA • Contracted Fire/EMS	 In progress: The landing zone was confirmed to remain at the Training Facility. Customer safety/waiting areas were identified at the Training Center westbound and the grass area on the eastbound side, improving readiness for future tunnel closures and relocations.	<i>Additional information to be provided with future, updated versions of this report</i>

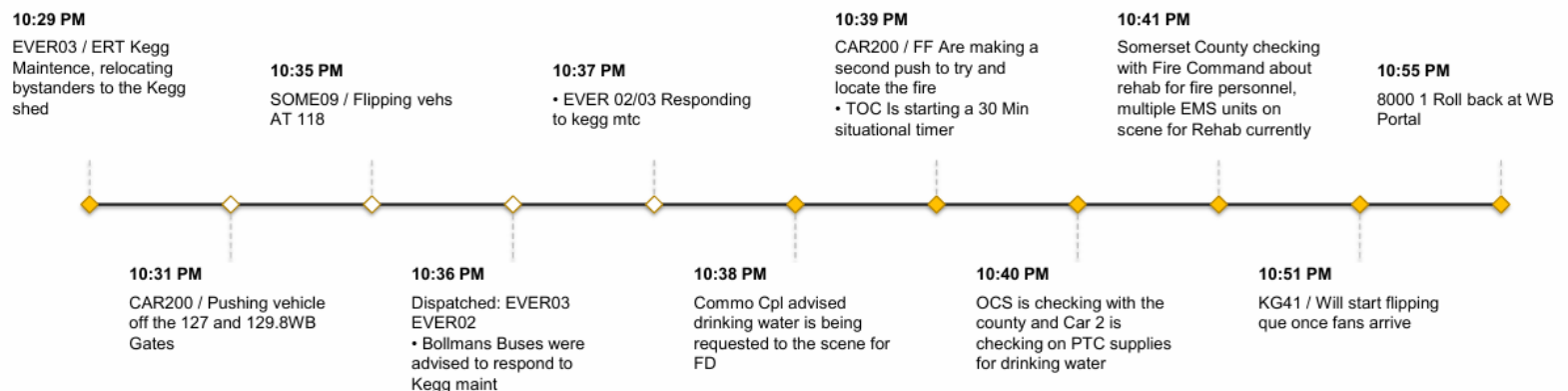
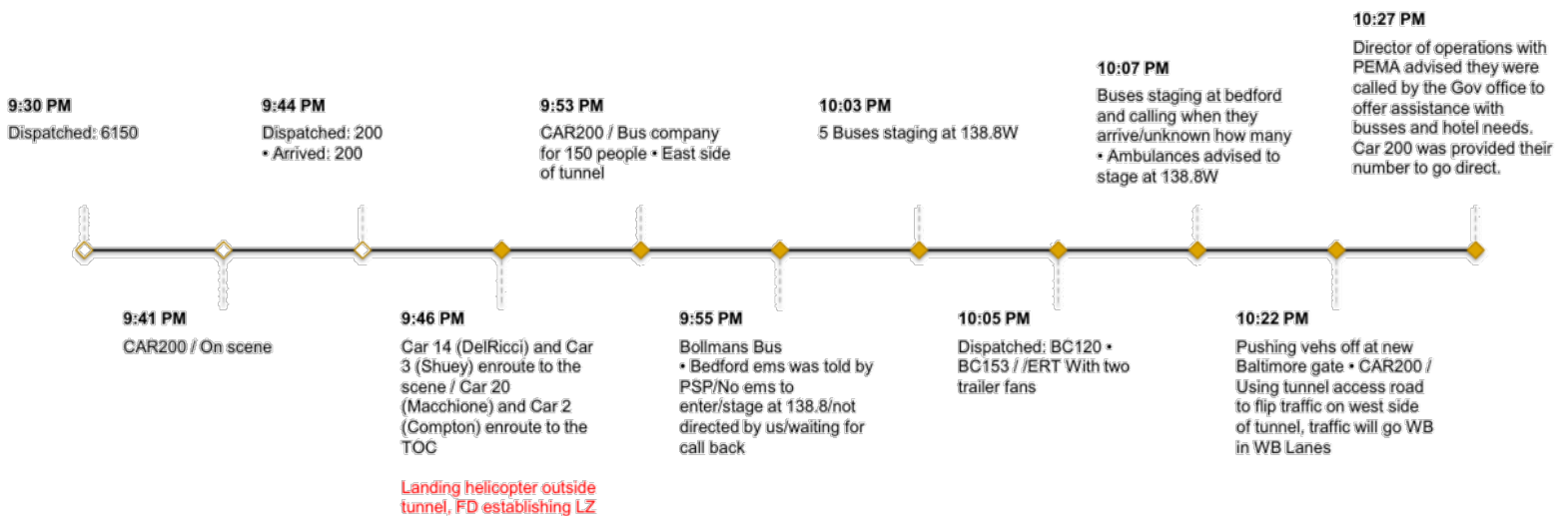
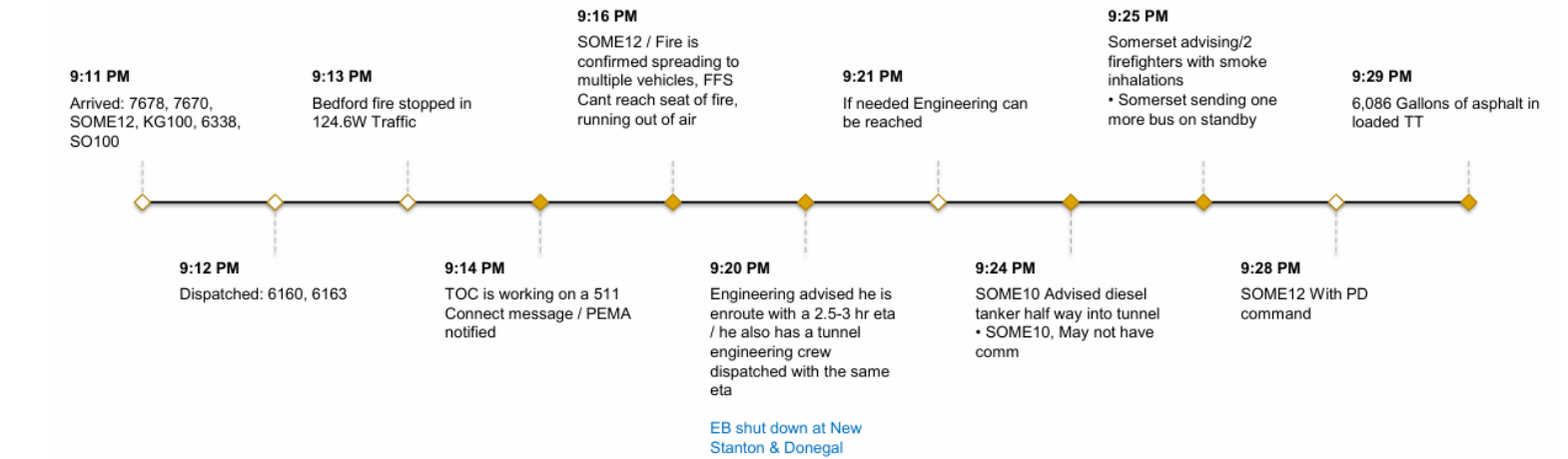
Observation/Issue Critical Safety Finding (CSF) Significant Operational Finding (SOF) Administrative & Procedural Finding (APF)	Recommended Corrective Action	Responsible Agency(ies)	Implementation Status	Expected Completion Date
APF-1: Tunnel-specific planning procedures partially incomplete and unable to provide a fully repeatable multi-agency framework for high-consequence tunnel/critical infrastructure incidents. Root Cause(s): Planning products existed in parts but were not yet consolidated into a complete framework covering operations, support, and recovery.	Consolidate pre-plans, mapping, operational reference sheets, and procedures into a formal tunnel incident playbook addressing evacuation, tube closure, command-post designation, resource staging, customer relocation, mobility support, queue-clearing, recovery sequencing, and reopening criteria.	• PA Turnpike (Lead) • Contracted Fire/EMS • County EMA	 In progress: Walkthroughs have been conducted, maps and measured infrastructure sheets have been distributed, and command/support locations and key equipment placements have been identified, all of which support ongoing playbook development. Additionally, work is underway on a Critical Infrastructure event checklist which supports ongoing tunnel planning efforts.	<i>Additional information to be provided with future, updated versions of this report</i>
APF-2: External-agency communications pathways are not documented as clearly as they could be for major tunnel incidents. Root Cause(s): TOC, WebEOC, AREP, and failover roles appear to function, but are not clearly documented for all partners and external agencies seeking information or support.	Publish an external-agency notification protocol defining TOC role, WebEOC information flow, AREP notification, and failover expectations.	• PA Turnpike (Lead) • PEMA • County EMA • PSP	 Not Started/Needs Documentation: Additional documentation needed on how external-agency communications are expected to work.	<i>Additional information to be provided with future, updated versions of this report</i>
APF-3: Customer-support resource planning requires clearer ownership and formal documentation. Root Cause(s): Resource activation responsibilities, waiting-area planning, and support-site procedures were not sufficiently formalized before the incident.	Develop and maintain customer-support resource plans, including waiting areas, mobility support, transportation-support staging, and formalized support-location procedures.	• PA Turnpike (Lead) • County EMA • Contracted Fire/EMS	 In progress: Waiting areas, mobility equipment, and landing zone/support locations have now been identified or procured, supporting a more formal customer-support structure. Bus company contact information has been recently updated.	<i>Additional information to be provided with future, updated versions of this report</i>
APF-4: Traveler/customer messaging is not yet formalized as a structured tunnel incident workflow. Root Cause(s): Messaging triggers, information ownership, and coordination responsibilities remain dispersed across functions rather than governed by a documented workflow.	Create a tunnel incident customer-messaging checklist covering 511, WEA coordination, detours, backlog messaging, toll-waiver messaging, media routing, and reopening updates.	• PA Turnpike	 Not Started: This task remains a needed administrative action, no specific implementation updates identified.	<i>Additional information to be provided with future, updated versions of this report</i>

Table 2

Appendix A: Incident Timeline

This export contains CAD (Computer-Aided Dispatch) data for four incidents: the tunnel fire, a medical emergency and an eastbound/westbound Plan X. The data has been lightly edited for readability and to remove personally identifiable information.





10:56 PM

Car 20 req 8000 to send a heavy to the scene awhile and have drivers on standby

All WB traffic at Breezewood is stopped

10:59 PM

BEDFORD EMS Moved 50 citizens to Kegg so far

11:01 PM

8000 Sending units to somerset side
• 8180 -- Advised to send multiple units and heavy wreckers to the east end of the tunnel

11:03 PM

EMA available in Bedford co EOC

11:11 PM

CAR200 / FIRE OUT

11:36 PM

8000 HAS 2 Roll backs and 1 heavy responding via Somerset IC/Heavies and recovery trucks on standby

10:58 PM

CAR200 / One unit remains on fire, FF are making a push now
• CAR200 / Will get number of vehicles that need towed

11:00 PM

PEMA will keep the WEA messages playing for now / They are set to expire around midnight

11:02 PM

(BEDFORD SIDE)

11:04 PM

Dispatched: 8184, 8185, 8186

11:29 PM

Bedford EMA advised their Unit 11 is on scene at Kegg MTC requesting water and blankets, said about Red X / Somerset County had already said about Red X for the scene so she will call them direct / Bedford EMA will also call PEMA to see if she has heard from Car 200 in ref to hotels / She was advised 75-100 people at Kegg Mtc and apx 100 more enroute

11:40 PM

8180 / Sending 2 rollbacks and 1 heavy to Kegg MTC

11:44 PM

KG41 / Bedford co EMS Will be clearing after one final check of civilians

12:06 AM

8003 DP

12:26 AM

Dispatched: ATUNNDC

12:35 AM

Engineering advised the tunnel team is on scene and he is apx 5 mins from the scene

12:54 AM

CAR200 / EB Backlog cleared

11:41 PM

All opposing traffic is to stop. Preparing to work on clearing the que on the east side of the tunnel

11:52 PM

KG41 / Starting to flip traffic on east side of tunnel

12:17 AM

Per PSP and Macchione - Busses will be transporting people back to the tunnel for their vehicles

12:29 AM

123.4

12:53 AM

KG41 / 79 Vehs left in tube

12:57 AM

8180 Staging at Kegg Until queue clears

1:25 AM

CAR200 / Veh of origin and trailer are out of tube, ses bringing people back to their vehicles

2:35 AM

ses made it back to the scene with customers to retrieve vehicles.

3:25 AM

SOME10 / All civilian vehicles are out of the tube. PSP Available

3:29 AM

Arrived: SOME06

11:32 AM

Inadvertently closed

1:16 AM

Everett responding to tunnel entrance with water and energy bars

2:03 AM

Del's truck and auto out of Breezewood will be going to the north somerset plaza and remove a comm veh (refer unit), the co was advised they need to get on at the back gate and leave through the same gate as well.

3:16 AM

CAR200 / All vehicles removed from tubes, going bi-directional in the EB tube, WB tube will remain closed for inspection

3:28 AM

Dispatched: SOME06

4:27 AM

Event Closed • Disposition assigned- TOW

EB & WB Plan X event closed
Event Closed: MEDEVAC
5 flew patient to UPMC Mercy