

WORKFORCE AND TECHNOLOGY TO ADVANCE TSMO

By: Pennsylvania Turnpike Commission (PTC)

IN THIS CASE STUDY YOU WILL LEARN:

1. How the Pennsylvania Turnpike Commission (PTC) developed their TSMO program in the areas of training, performance measures, and improved technology to improve safety and efficiency.
2. How the PTC developed training programs to address specific TSMO strategies and activities.
3. How partnerships can advance the adoption of TSMO trainings for regional operations improvements..

BACKGROUND

Over the past three years the Pennsylvania Turnpike Commission (PTC) has increased its investment and resources allotted to the next generation TSMO program by investing in workforce and technology. PTC management supports the need to improve on the existing model and set an example for the transportation industry. The Turnpike is focusing on four key areas in order to improve on the maturity model. The objectives of Traffic Operations was to provide additional training, increase collaboration with partners, communicate visions and goals to the public, and develop the CAAR (Catch it Early, Act, Analyze and Review) program for system integration. Objectives also include:

1. **Safety** – Improve situational awareness of current traffic and incidents to improve coordination and response times for responder services through training provided by Traffic Operations.
2. **Efficiency** – Reduce the number of applications needed to monitor and review current traffic conditions by consolidating tools previously used by Operations.
3. **Innovation** – Use tools, such as GeoAnalytics, big data, social media, weather, streaming videos, video analytics and mobile texting to increase situational awareness. In the future, PennSTART, a premiere research and training facility, will promote innovation and safety.
4. **Continued Improvement** – Continually assess and improve available data sources and technology with the long term goal of creating predictive analytics capabilities.



The CAAR (Catch it Early, Act, Analyze and Review) program for system integration

responders a shared understanding of the requirements for safe, quick clearance of traffic incident scenes; prompt, reliable and open communication; and motorist and responder safeguards.

- **Wreck Master Training** – Wreck master training teaches the skills to work faster, safer and smarter on roadway incidents from a towing perspective. The training was provided to Traffic Engineering & Operations and Maintenance staff.
- **Mass Casualty Training** – Trains employees on how to set-up and begin care with mass casualty incident practices until EMS, fire, and rescue crews could arrive.
- **Updated Unified Incident Command Training** – teaching our PTC staff and emergency responders on how to work together to respond and clear roadway emergencies utilizing the unified command structure.
- **AV Incident Response Plan** – The Automated Vehicle Incident Response plan will teach emergency responders how to interact safely and report incidents involving level 3 and 4 automated vehicles, currently being tested on PA roadways.
- **PTC-101** – Is a field guide designed to help PTC, Troop T and emergency responders with procedures and information needed for working safe and clearing incidents faster on the Turnpike.

WORKFORCE AND TECHNOLOGY TO ADVANCE TSMO

Performance Metrics:

- **ASP Dashboard** – The Authorized Service Provider Dashboard is used to track performance measures of our contracted towers across the Turnpike. The dashboard allows for better tracking and oversight of our towing providers.
- **Deer Dashboard** – The dashboard shows deer hits along the Turnpike. During rut or birthing season our hits spike to over 50% of normal. We want to highlight these encounters via social media or on our DMS signs.
- **IM (Incident Management) Dashboard** – A Qlik-based dashboard focused on the TIM timeline to see overall response using CADS data and crowd-sourcing data.

Driver Assistance:

- **Gas Program by MUW** - The Turnpike Maintenance Utility Workers (MUWs) provide free gasoline to out-of-gas motorists.
- **Pilot Program for Incentive Towing** – The PTC explored an incentive towing pilot program to remove commercial vehicles involved in severe vehicle accidents in a safe, rapid manner.

System and Technology:

- **CAAR program** – With the CAAR program suite of tools, the PTC can “Catch it Early, Act, Analyze and Review” (CAAR). These tools are utilized daily to effectively manage and respond to situations as they arise.
- **HAAS alerts** – This system provides real-time digital alerts to motorists when roadside personnel are on-scene and in-route.
- **Situational Traffic Awareness Response (STAR) Mobile Application** – Collects traffic data from INRIX, Waze, and PTC’s traffic incident database to provide up-to-the-minute information on traffic incidents giving viewers a common operating picture.



- **Early Warning Detection Dashboard** – This Qlik dashboard combines INRIX, Waze, and weather in half-mile segments to create active watch points for the operations center.

COMMUNICATIONS PLANNING AND EXECUTION

PTC is leading an effort partnering with Respondersafety.com, NJDOT, and various state and national committees, focusing on core concepts which form the foundation of the National Unified Goal (NUG) of Traffic Incident Management.

- PennSTART design was started in 2019 through PennDOT, PTC and a Penn State University collaboration. The effort will design and advance a state-of-the-art training and testing facility to address the transportation safety and operational needs of Pennsylvania and the Mid-Atlantic Region. PennSTART’s main focus will be on TSMO related tasks. The PennSTART Business Plan and system requirements are being finalized with the facility planned to open in the Fall of 2022.
- PTC’s Transportation Management Plan (TMP) Design and Outreach efforts have developed formalized TMPs and conducts multiple outreach sessions with communities and emergency responders in and along the project area and detour routes. The program has demonstrated positive impacts across the spectrum for both internal and external customers. The PTC is now able to respond earlier to emergency situations that are on, and or, adjacent to the turnpike. This enables the PTC’s customers to experience a safer, more reliable and convenient alternative to state and local roads.

OUTCOMES, LEARNINGS, AND BENEFITS

The TSMO program has demonstrated success by merging technology, social media and training to become a one-stop-shop solution for Traffic Operations. The program allows for early detections and improved analysis of situations through system integration. The program also reduces response times through training and outreach. Finally, the program provides a safe and secure roadway to all drivers who use the Turnpike. The current TSMO program provides the necessary results to make PTC’s roadways safer and more efficient for the traveling public.

FURTHER INFORMATION

PA Turnpike Traffic Operations Program (TOP):
https://www.paturndpike.com/top_info/top_info.aspx

NOCoE Knowledge Center: <https://transportationops.org/knowledge-center>