



# Pennsylvania Turnpike Commission Achieves Better Dispatching, Response & Reporting

## Pennsylvania Turnpike Commission *United States*

The Pennsylvania Turnpike Commission operates and maintains 546 miles of toll roads and oversees 62 toll collection facilities, 15 service plazas, 26 maintenance facilities, and five tunnels. With such a large area to monitor, it needed a better solution for dispatch, response, and reporting. While the Commission dispatched using a milepost-based method with accuracy to a tenth of a mile, its legacy computer-aided dispatch (CAD) system was limited to an area response zone system encompassing multiple tenth-mile points, which reduced the accuracy and efficiency of emergency response. Additionally, the Commission's existing CAD system did not have ad hoc reporting capabilities, which restricted its ability to confirm and track incident trends. The Commission needed a solution that would replace its outdated CAD software and make dispatching, response, and reporting easier.

### Overcoming Challenges

- Improve accuracy of emergency responses by moving to a tenth-mile-point response system
- Enable ad hoc reporting and mapping to provide automated reporting on incidents

### Realizing Results

The Commission realized its goal of moving from an area response zone system to a tenth-mile-point response

system by implementing software from Hexagon's Safety & Infrastructure division. After Hexagon demonstrated proof of concept during an in-house demonstration, the Commission chose Hexagon's CAD solution based on its ability to define and update emergency responses for each individual tenth-mile marker. Additionally, loading this detailed data into the previous CAD system was an estimated three-person project over three years, but data loading into the Hexagon system only took approximately three weeks.

By building a master spreadsheet with statewide response plans, it took less than one day to bulk load all of the data into the new Hexagon CAD system. This master spreadsheet allows the Commission to change response data on the fly. The system automatically populates the database and loads coverage area changes into the CAD system within minutes.

Using Hexagon's key application for call-taking, dispatching, and resource management, the Pennsylvania Turnpike Commission has improved dispatch efficiency and reduced incident response times for the Traffic Operations Center's approximately 7,000 incidents per month. The Hexagon software also tracks all incidents that occur along Commission roadways.

By incorporating existing cameras into the CAD workflow, the Traffic Operations Center can track lane usage and receive quick visual confirmation on which lanes are blocked for each incident in the system. Using a special map layer that overlays traffic camera locations within the geospatial common operating picture, operators can view any available camera images taken near incident locations. Using these “Lane Status Monitors,” the Commission can determine whether incidents have occurred in construction zones, if a traffic backlog has taken place, and how long the backlog extends.

The Commission has also integrated its emergency call boxes into the CAD system. Each of the 1,029 bright yellow call boxes provides the turnpike traveler with a communications lifeline. Although the boxes do not support voice communications, customers can activate them by selecting any combination of four buttons: accident, police, medical, or service. This self-powered unit then broadcasts a message back to the Traffic Operations Center. The call box decoding device integrates with Hexagon’s software so specific incident types will auto-populate within CAD when valid calls are received.

With incidents tracked in the CAD system, various internal departments can now research incidents using Hexagon’s web-based remote CAD resource. This application allows the risk management department to track damage claims, incident response department to track emergency service providers, and fare collection department to track fare evasions.

The Commission also selected Hexagon’s business intelligence solution, which allows it to easily produce ad hoc and scheduled reports. By using this advanced reporting and analysis system, it can now automatically compile data and generate required monthly reports on topics such as patrols, incident response, and roadside call box usage with no user intervention required.

Another benefit of this reporting is the ability to gain valuable resources as a result of the Commission’s partnership with State Farm, which sponsors its safety

patrol vehicles. In exchange, the Commission provides reports that detail the incidents those vehicles responded to and the data collected from routine patrols.

Hexagon provided implementation and training services for Pennsylvania Turnpike Commission personnel, as well as custom services for the “Lane Status Monitor” capability. Notably, Hexagon met the Commission’s aggressive implementation schedule, completing all data migration, testing, and training activities in a nine-month timeframe.



**The Hexagon team was very professional and went the extra mile to accommodate our needs.”**

**Jeffrey Beard**

Manager of Operations, Safety & Incident Response Technical Services, Pennsylvania Turnpike Commission

“The Hexagon team was very professional and went the extra mile to accommodate our needs,” said Jeffrey Beard, manager of operations, safety, and incident response technical services for the Commission. “As the project progressed and evolved, there were numerous changes that went very smoothly. Hexagon even suggested an alternate approach to our unique Pennsylvania State Police incident classification requirements. We implemented this suggestion because it suited us better than the original proposal. Our project was a success because of the team effort put forth on both sides. We are extremely satisfied with the results.”

## Moving Forward

In the future, the Pennsylvania Turnpike Commission plans to implement a web server for emergency service providers. This web access capability will provide access to the data required to conduct direct research on incidents.

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Hexagon’s Safety & Infrastructure division provides software for smart and safe cities, improving the performance, efficiency and resilience of vital services.

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