

# Next-Generation Traffic Incident Management



Local Programs



Training



Data



Technology

Header Photos Source: Enforcement Engineering, Inc.

## COMPUTER-AIDED DISPATCH INTEGRATION

Public safety agencies, like law enforcement, use Computer-Aided Dispatch (CAD) systems to catalog and coordinate activities. This makes CAD one of the richest sources of real-time incident data, since most road incidents are initially detected through 9-1-1 calls. Timely sharing of this valuable information between public safety and transportation agencies enhances coordination of resources to clear roadways, improve safety, and relieve congestion.

Typically, information sharing occurs with operating systems at a transportation agency's transportation management center (TMC). More than half of State Departments of Transportation (DOTs) have indicated that they have some form of access to real-time public safety CAD data, ranging from manual incident

notifications to fully-integrated data exchanges. Established levels of data sharing from public safety agencies to the State DOT TMC are as follows:

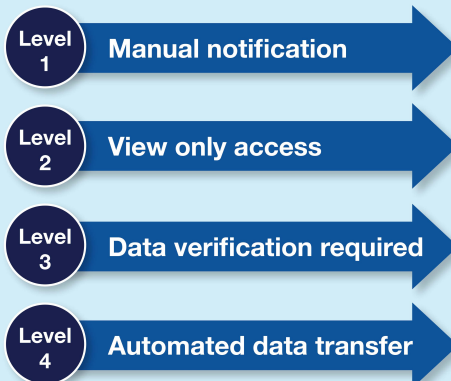
1. Manual notification – incident information is provided via telephone or email.
2. View-only access – TMC operators can view a CAD data feed and enter data into TMC software.
3. Required data verification – CAD data are provided to a TMC, and an operator is required to review, accept, or retype the data into the TMC operating system.
4. Automated data transfer – CAD data are automatically transferred to TMC systems, which create an event within the TMC software.

## Levels of Sharing for CAD Data

Public Safety  
Communications Center



Source: FHWA



Transportation  
Management Center



Source: Minnesota Department of Transportation



## Benefits of CAD Integration

There are many benefits to integrating public safety CAD data with transportation agency operating systems.

### Benefits to Public Safety Agencies

- ▶ Increased officer and responder safety during incident response.
- ▶ Minimal cost or changes to law enforcement agency processes.
- ▶ Reduced coordination time and distraction for dispatchers at communications centers.
- ▶ Streamlined and improved analysis and reporting for Traffic Incident Management performance measures.
- ▶ Reduced time for law enforcement agencies to notify other agencies and travelers.

### Benefits to Transportation Agencies

- ▶ Improved notifications, awareness, and verification of incidents.
- ▶ Faster mobilization of State DOT response resources.
- ▶ Overall improvements to incident response and clearance times.
- ▶ Expanded depth and accuracy of data for performance analysis.
- ▶ Improved traveler information.

## State of the Practice<sup>1</sup>

- ▶ In Minnesota, the TMC is now an allied agency with State Police CAD. An allied agency can view and create incidents in CAD. More than 70 percent of events that the Minnesota DOT responds to come through integrated CAD data from the State Police.

- ▶ Florida Highway Patrol CAD events are automatically sent to Florida DOT TMCs and displayed as alerts in their Advanced Traffic Management System (ATMS). As a result, 42 percent of incident notifications in Florida DOT's ATMS come from Florida Highway Patrol CAD.
- ▶ Oregon DOT saw a 30 percent reduction in incident response time and a 38 percent reduction in incident duration after integrating CAD data.
- ▶ Virginia DOT noted a 34 percent reduction in incident clearance times on I-95 after integrating CAD data.
- ▶ In Maricopa County, Arizona, a data feed from the Phoenix and Mesa Fire CAD systems now provides TMCs with data on more than 90 percent of arterial traffic incidents.
- ▶ In Arizona and Wisconsin, a neutral data platform allows for multiple CAD feeds to be gathered and sent to the State DOT TMCs.
- ▶ The Wisconsin WisTransPortal and InterCAD gather data from Wisconsin State Patrol and three County Sheriff offices. This information is made available to the TMC operators to support WisDOT's Statewide incident management functions.
  - These CAD data sources are also supporting emerging research by the University of Wisconsin and Wisconsin State Patrol to enable predictive analytics of crash risk and crash potential.

## Resources

[FHWA EDC-6 Next-Generation TIM](#)

<sup>1</sup> Please consult the FHWA primer entitled, "Integrating Computer Aided Dispatch Data with Traffic Management Centers, August 2020, FHWA-HOP-20-064.

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