



Increasing the amount, consistency and quality of TIM data collection supports development of performance measures for evaluating and improving traffic incident response.

Traffic incidents on U.S. roadways put travelers' and responders' lives at risk and account for about 25 percent of all delays. The resulting congestion can lead to secondary crashes, further increasing safety risks and economic costs. Traffic Incident Management (TIM) programs are lessening the duration and impact of these incidents through planned, coordinated resource use among different first responder agencies.

Building Blocks of Performance Measurement

An ideal TIM program must rely on efficient data collection, analysis, and reporting to measure performance and identify where and when it can be improved. However, performance management through enhanced data collection remains elusive in many jurisdictions that either do not collect TIM data or collect data for a small percentage of traffic incidents.



As TIM activities increase across the country, so does the need to capture data that can be used to assess program performance and drive improvements.

Through this fourth round of Every Day Counts (EDC-4), the Federal Highway Administration (FHWA) is promoting several low-cost, off-the-shelf technologies, including integrated computer-aided dispatch (CAD), electronic crash reporting, Traffic Management Center software and various smart devices that make data collection simpler. These tools can assist agencies in expanding the amount and quality of data they collect. The data can then be used to recognize trends, institutionalize programs, identify areas for improvement, develop consequence modeling, and inform future planning.

FHWA is also encouraging adoption of three national TIM performance measures—time of lane closure, time responders are on-scene, and number of secondary accidents—that agencies can focus on in data collection and reporting. These three measures will provide a baseline for comparing TIM program assessments across state and regional boundaries.

Using comparable data reporting and metrics will increase transparency in demonstrating program effectiveness to stakeholders. It can also help justify future funding for TIM resources by quantifying its safety and economic benefits. Accelerating this data collection and including it in performance management will help TIM programs realize their full potential for keeping motorists and incident responders safer and roads and highways clear.

STATE OF THE PRACTICE

Improved data collection is proving essential to institutionalizing TIM and addressing TIM program strategies. Almost 50 percent of state departments of transportation (DOTs) already employ some



Using Data to Improve Traffic Incident Management (TIM)

form of crash data collection that could be used to institutionalize information sharing within and between partner agencies.

Sixteen states currently use TraCS (Traffic and Criminal Software) or a similar system for electronic crash reporting. Arizona modified its TraCS system easily and at low cost to collect data for the three key TIM performance measures, and Tennessee uses a locally developed electronic crash reporting system that collects data for one of the key performance measures. These and other successes can be built on in expanding the amount and quality of TIM data collection throughout the country.

Recommended TIM Performance Measures

To help quantify TIM program benefits, FHWA is asking agencies to collect and report on three standard performance measures:

- ▶ Roadway Clearance Time
- ▶ Incident Clearance Time
- ▶ Secondary Crashes

BENEFITS

- ▶ **Increased Transparency.** Increasing the amount and quality of data collection allows agencies to demonstrate program effectiveness through quantified safety and economic benefits.
- ▶ **Improved Operations.** Collecting key TIM data at incident sites provides agencies with the information and knowledge needed to address when and where improvements can be made.
- ▶ **Better Outcomes.** Expanding TIM data collection boosts the measurements needed to improve program performance and resource management, as well as future planning.

RESOURCES

EDC-4 Using Data to Improve Traffic Incident Management: https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/timdata.cfm

Guidance for Implementation of Traffic Incident Management Performance Measurement (NCHRP 07-20): <http://nchrptimpm.timnetwork.org/>

FHWA Traffic Incident Management Knowledgebase: http://www.ops.fhwa.dot.gov/eto_tim_pse/preparedness/tim/knowledgebase/index.htm

EDC-4 Summit Breakout Session: Fall 2016 <https://www.youtube.com/watch?v=Kh4XHym8c4A>

Low-cost, off-the-shelf technologies can simplify data transmission in field operations.



1. Responders log incidents using a mobile device.



2. Incident information is sent in real time to a secure server.



3. Email alerts are sent to predefined user groups.



4. Data is now available for use.

For additional information, please contact:

Paul Jodoin
FHWA Office of Operations
202-366-5465
Paul.Jodoin@dot.gov

Kimberly C. Vasconez
FHWA Office of Operations
202-366-1559
Kimberly.Vasconez@dot.gov



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Every Day Counts (EDC), a State-based initiative of FHWA's *Center for Accelerating Innovation*, works with State, local and private sector partners to encourage the adoption of proven technologies and innovations aimed at shortening and enhancing project delivery.

