

# JOINT TRANSPORTATION RESEARCH PROGRAM

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## Development of Incident Management Performance Measures Database and Supporting Training Material

### Motivation

Secondary crashes, associated with queued traffic, are a national concern. Traffic Incident Management (TIM), the coordination of multiple stakeholders involved in incident response, is widely viewed as an important tool for reducing secondary crashes. The motivation of this research project was to develop a series of case studies that could be used to evaluate current TIM techniques and be incorporated into TIM training.

### Study

The growth of connected vehicle data integrated with other sources of information such as crash reports and camera images has aided in building a thorough after-action review of incident management that can be incorporated into TIM training and build consensus on best practices. This study describes techniques for compiling various sources of information to prepare comprehensive after-action reports. Table 1 summarizes the types of 294 after-action report events by district compiled during this study.

### Results and Impact

A total of 267 after-action review reports have been prepared for various events on Indiana highways over the period of approximately four years from June 2020 to March 2025. This library of after-action reports is archived and indexed by date, location, route, and broad class of after-action to facilitate easy retrieval. We believe this is the richest and most comprehensive set of after-action reports compiled anywhere in the United States to date. Not only will this archive provide a valuable resource for TIM training, but it is also providing a template for future after-action reports in Indiana as well as across the United States.

### Recommendations

The main recommendations from this study include, but are not limited to the following:

- Including images from ITS Cameras (and in some cases dashboard cameras) provide excellent context that first responders can relate to. Time lapses of the incident response promote pride in work balanced with opportunities for peer dialog on best practices.

Table 1. After-Action Report Events Summarized by District.

Type	Crawfordsville	Fort Wayne	Greenfield	La Porte	Seymour	Vincennes
Car Crash	28	6	31	19	6	0
Semi Crash	64	7	52	27	4	0
Car Fire	2	0	7	2	1	0
Semi Fire	15	2	12	4	5	0
Total	109	15	102	52	16	0

- Inclusion of other data sources to corroborate with crash and Roadway Event Manager (REM) reports provide additional perspective and visuals for responders. The connected vehicle data is particularly valuable for demonstrating the impact of an incident upstream (and across the road) of traffic flow, and in some cases secondary crashes.
- More recent efforts to include dispatch center audio provide additional context for first responders to relate to, and in some cases, provide feedback on best practices on scene and upstream conditions.

[Passenger Vehicle Fire \(202404-22\)](#)

- [Case Study IV: August 28, 2024, I-70 EB MM 104.7 Work Zone Semi Crash and Median Barrier Repair \(202408-14\)](#)
- [Case Study V: July 27, 2024, I-65 NB MM 126.8 Passenger Vehicle Fire \(202407-06\)](#)
- [Case Study VI: December 13, 2024, I-465 OL MM 12.5 Overturned Semi \(202412-03\)](#)
- [Case Study VII: August 30, 2024, I-865 EB MM 4.9 Passenger Vehicle Barrier Wall Crash, with Selected TMC Audio \(202408-16\)](#)

## Supplemental Media

An open-access site of YouTube videos of more than 250 after-action reports is available at the [Joint Transportation Research Program's After Action Reports for Traffic Incident Management repository](#). Illustrative examples of these are described in seven cases studies in Section 5 of the full report. Links to seven example videos for those are below:

- [Case Study I: January 11, 2025, I-65 SB MM 126.6 Passenger Vehicle Slide Off due to Icy Bridge \(202501-02\)](#)
- [Case Study II: December 5, 2024, I-265 EB MM 8.8 Passenger Vehicle Ran Off Road \(202412-01\)](#)
- [Case Study III: April 30, 2024, I-65 NB MM 119.4](#)

## Recommended Citation for Report

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**Figure 1.** ITS Camera Image During an Overturned Semi Along I-465 OL at MM 11.7 on December 13, 2024

