

Tow Truck Response Strategy Evaluation

Portland, OR

TSM&O Category: **Incident Management**

Project Team: ODOT Incident Responder, City of Portland Tow Desk, tow truck operators

Problem: Roadway incidents are estimated to contribute to 25 percent of total congestion.

- Incidents reduce freeway capacity (see table)
- Non-recurrent congestion cannot be mitigated by capacity improvements
- Incidents decrease travel time reliability

Solution: Reduce the time it takes to remove vehicles after an incident has occurred.

Project Description: A comparative evaluation of three different towing strategies on the I-5/I-405 loop in downtown Portland. The three strategies are:

- Typical: Tow trucks are dispatched after on-site verification from ODOT Incident Response
- Staged: Tow trucks standing by at a strategic location are dispatched by Incident Response
- Instant: Tow trucks are dispatched by the TMOC after an incident is reported.

Results:

- Staged and instant dispatch strategies reduced tow truck arrival times.
- Instant dispatch was 50 times cheaper than staged dispatch
- Incident management staff recommended dispatching tow trucks as soon as an incident was determined to have operational or safety impacts

Cost: An instant dispatch towing strategy is a low-cost solution to reducing the effects of incident-related congestion. Dispatching tow trucks before verification risks tow cancellation fees, but the value in decreasing incident-related delay far exceeds the additional cost expenditures.

What's in it for me?

- A one-minute reduction in clearing a primary crash reduces the likelihood of a secondary crash by 2.8 percent and improves travel time in the affected area by four minutes
- Improved traffic incident management can reduce average incident duration by about 25%.

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Keywords: incident management, towing, freeways, safety, crashes

Quote: "Implementing the instant dispatch system has increased capacity on our most congested corridor by decreasing towing response times 30 percent at an annual cost of under \$2,000."

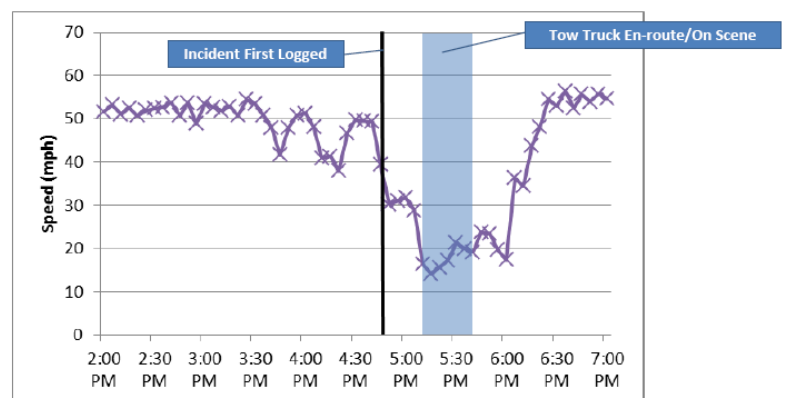
- Dennis Mitchell, ODOT Regional Traffic Engineer



Proportion of Segment Capacity Available under Incident Conditions (2010 HCM Exhibit 10-17)

Number of Lanes	Shoulder Disablement	Shoulder Crash	One Lane Blocked	Two Lanes Blocked	Three Lanes Blocked
2	0.95	0.81	0.35	0.00	-
3	0.99	0.83	0.49	0.17	0.00

Stall Blocking One Lane Speed Profile



Source: Incident Management Evaluation Report (November, 2011)