

# **Traffic Incident Management Self-Assessment**

**2006 National Report**

**Prepared for**

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## **EXECUTIVE SUMMARY**

### **Background**

The Traffic Incident Management (TIM) Self-Assessment (SA) provides a tool and a process for state and regional program managers to periodically assess progress in achieving a successful multi-agency program to manage traffic incidents safely and effectively. The tool assists program managers in identifying TIM program components that need special attention. The Self-Assessment also provides the Federal Highway Administration (FHWA) with a national picture of broader program areas on which to focus national program initiatives. The TIM SA process fulfills a number of important goals:

- It helps raise the level of awareness of practices and strategies used in managing traffic incidents;
- It facilitates communication and sharing of best practices among professionals from transportation, public safety and the private sector working together to successfully manage traffic incidents;
- It serves as a working tool to identify gaps in existing efforts to effectively manage traffic incidents;
- It provides an opportunity to benchmark progress at the agency level, and provides information to FHWA to assess current state-of-practice in TIM on a national basis;
- It assists FHWA in measuring the effectiveness of its TIM Program and shaping the future direction of that program.

The TIM SA was launched in 2003 in the nation's top 75 urban areas. Those 75 census areas were subsequently redefined by FHWA Division Offices into 80 operational areas for the SA. Baseline assessments were completed in 78 of the 80 areas and in 2005 re-assessments were completed in 40 areas. In 2006 the TIM SA process was modified so that all 80 areas were requested to complete the assessment on an annual basis. A total of 70 re-assessments were completed in 2006. Table 12 at the end of this report shows the Baseline and re-assessment status of each of the 80 operational areas.

The initial assessments of 78 areas that were completed in 2003 and 2004 (and one in 2005) form the SA Baseline data against which the 2006 assessments and assessments in subsequent years will be evaluated.

### **2006 TIM Self-Assessment Results**

A total of 70 re-assessments were completed in 2006 in urban areas that had established Baseline scores in 2003-2004. Table ES1 compares the results of the 70 re-assessments to the Baseline data.

**Table ES1**  
**Mean Score for Each Section (Baseline and 2006)**

Section	Number of Questions	Mean Score		% Change in Scores from Baseline (n=70)	Section Weights
		Baseline	2006		
Program and Institutional Issues	12	36.3%	48.5%	33.5%	30%
Operational Issues	14	57.6%	65.0%	12.8%	40%
Communication and Technology Issues	8	41.3%	57.1%	38.3%	30%
<b>Overall Total</b>	<b>34</b>	<b>45.9%</b>	<b>57.7%</b>	<b>25.7%</b>	<b>100%</b>

### Program and Institutional Issues (Strategic Level)

The overall increase in Program and Institutional Issues in 2006 from the Baseline was 33.5 percent. As has been the case in previous re-assessments, TIM performance measures, while receiving the lowest mean scores, continue to show the greatest percentage increases from the Baseline. There are four questions on TIM performance measures in the assessment and those four account for four of the bottom five in terms of mean score (Table ES3) while at the same time representing three of the top five in terms of percentage increase from the Baseline (Table ES4).

Credit for this continued increase can be given to the FHWA Traffic Incident Management Focus States Initiative on Performance Measurement, which is designed to improve the state-of-practice in TIM program performance measurement nationwide through the efforts of 11 Focus States. After two initial workshops, the Focus States convened in late-2005 to develop a suite of nationally applicable TIM performance measures, which are now being tracked and analyzed by the participating states. For more on the performance measure scores of the 11 Focus States, see Figure 5a.

The benefits of advances in TIM performance measurement are expected to extend beyond the strategic level. As a result of the consensus building required to develop performance measures (TIM SA subsection 4.1.3), the need for greater inter-agency strategic program planning for TIM will be highlighted (TIM SA subsection 4.1.1), as will the need for stronger technical integration among agencies (TIM SA subsection 4.3.1). The strengthening of strategic and support program levels will enable greater achievement at the tactical level (TIM SA subsection 4.2) – the safe and quick clearance of traffic incidents.

The work of the National Traffic Incident Management Coalition (NTIMC) to develop a National Unified Goal (NUG) for Traffic Incident Management will also give greater

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visibility to the need for (and benefits of) strategic TIM program level efforts at the regional and state levels.

### **Operational Issues (Tactical Level)**

The increase in Operational Issues in 2006 from the Baseline was 12.8 percent, the lowest percentage change of the three sections. However, Operational Issues continue to have the highest score of the three sections at 65 percent. Most new or emerging TIM programs initially concentrate effort at the “tactical level” to clear incidents quickly and safely. Even the most established programs around the country can point to the efforts of a small group of individuals coordinating on operational issues as the genesis of the program.

The single greatest improvement in Operational Issues (47.6%) came from adoption of criteria for classifying “major incidents” using either incident levels or codes, with many areas citing the use of the Manual on Uniform Traffic Control Devices (MUTCD) criteria for defining incidents. Overall, the questions on motorist and responder safety (4.2.2) continue to realize the most consistent improvement. The FHWA/AASHTO Traffic Incident Response (TIR) Scan Tour of four European countries in 2005 focused primarily on tactical operations. A number of the recommendations from the Scan Tour are currently being addressed by both the NTIMC and through the upcoming NCHRP study entitled TIM+Responder Safety.

### **Communication and Technology Issues (Support Level)**

Scoring a cumulative 57.1 percent, Communication and Technology Issues experienced a 38.3 percent increase in 2006 from the Baseline, the largest percentage increase of the three assessment areas. As was the case in 2005, the largest increase (88.7%) came from providing motorists with travel time estimates for route segments (4.3.3.3). As cited in the 2005 TIM SA report, direction from the FHWA Associate Administrator for Operations to the FHWA field offices to encourage the use of dynamic message signs (DMS) for disseminating travel time information may have a role in this continued increase. Additionally, a number of assessments cite widespread use of 511 and traveler information websites as improving communication with motorists on incidents, travel time estimates and alternate routes.

### **Summary**

The Traffic Incident Management Self-Assessment scores increased in 70 urban areas by 25.7 percent in 2006 from the 2003-2004 Baseline scores of 78 urban areas. The highest scores were achieved in Operational Issues (65%). The greatest increases in scores occurred in Communications and Technology Issues (38.3%). The Program and Institutional Issues, which represent work at the strategic level, had the lowest scores in the Baseline and remained the lowest scoring section in the 2006 re-assessment.

The greatest increases in scores for individual questions in the Self-Assessment occurred in TIM Program performance measurement, provision of travel time estimates for route sections, and integrated inter-agency communications.

As shown in Table ES2, the top five highest scoring questions all received a mean score greater than 2.8. All five top scoring questions were in Operational Issues.

**Table ES2  
Top 5 Mean Score (2006)**

<b>Mean Score Rank in 2006/ Baseline</b>	<b>Question Number</b>	<b>Question</b>	<b>2006 Mean Score (n=70)</b>	<b>% Scoring 3 or Higher (2006)</b>	<b>% Change in 2006/ Baseline Mean Scores</b>
<b>1/4</b>	4.2.1.3 Operational Issues	Have a pre-identified (approved) contact list of resources (including special equipment) for incident clearance and hazardous materials response?	<b>3.09</b>	81%	7.9%
<b>2/2</b>	4.2.1.2 Operational Issues	Identify high-ranking agency members available on 24/7 basis to respond to a major incident (Major Incident Response Team)?	<b>3.06</b>	76%	5.4%
<b>3/1</b>	4.2.3.5 Operational Issues	Have a pre-qualified list of available and contracted towing and recovery operators (to include operators' capabilities)?	<b>2.98</b>	77%	2.6%
<b>4/5</b>	4.2.3.6 Operational Issues	Use motorist assist service patrols?	<b>2.96</b>	79%	8.3%
<b>5/6</b>	4.2.3.1 Operational Issues	Utilize the Incident Command System?	<b>2.87</b>	76%	12.6%

Table ES3 lists the five questions that received the lowest scores.

**Table ES3  
Bottom 5 Mean Score (2006)**

<b>Mean Score Rank in 2006/ Baseline</b>	<b>Question Number</b>	<b>Question</b>	<b>2006 Mean Score (n=70)</b>	<b>% Scoring 3 or Higher (2006)</b>	<b>% Change in 2006/ Baseline Mean Scores</b>
<b>34/32</b>	4.1.3.4 Program and Institutional Issues	Conduct periodic review of whether or not progress is being made to achieve targets?	<b>1.29</b>	12%	75.0%
<b>33/33</b>	4.1.3.2 Program and Institutional Issues	Have agreed upon methods to collect and analyze/track performance measures?	<b>1.33</b>	7%	107.7%
<b>32/34</b>	4.1.3.1 Program and Institutional Issues	Have multi-agency agreements on what measures will be tracked and used to measure program performance?	<b>1.41</b>	9%	119.9%
<b>31/30</b>	4.1.3.3 Program and Institutional Issues	Have established targets for performance (Response, Clearance)?	<b>1.62</b>	10%	39.4%
<b>30/27</b>	4.2.2.4 Operational Issues	Have mutually understood equipment staging and emergency lighting procedures on-site to maximize traffic flow past an incident while providing responder safety?	<b>1.73</b>	20%	25.7%

Table ES4 shows the five questions that had the largest gains in mean score in 2006 from the Baseline.

**Table ES4  
Largest Changes in Mean Score (2006 from Baseline)**

<b>Mean Score Rank in 2006/ Baseline</b>	<b>Question Number</b>	<b>Question</b>	<b>2006 Mean Score (n=70)</b>	<b>% Scoring 3 or Higher (2006)</b>	<b>% Change in 2006 Mean Scores from Baseline</b>
<b>32/34</b>	4.1.3.1 Program and Institutional Issues	Have multi-agency agreements on what measures will be tracked and used to measure program performance?	<b>1.41</b>	9%	119.9%

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<b>33/33</b>	4.1.3.2 Program and Institutional Issues	Have agreed upon methods to collect and analyze/track performance measures?	<b>1.33</b>	7%	107.7%
<b>31/30</b>	4.3.3.3 Communication and Technology Issues	Provide motorists with travel time estimates for route segments?	<b>1.87</b>	29%	88.7%
<b>34/32</b>	4.1.3.4 Program and Institutional Issues	Conduct periodic review of whether or not progress is being made to achieve targets?	<b>1.29</b>	12%	75.0%
<b>22/26</b>	4.3.1.2 Communication and Technology Issues	Provide data and video information transfer between agencies and applications (TMC-CAD integration)?	<b>2.22</b>	46%	55.1%