Traffic Incident Management Capability Maturity Framework

U.S. Department of Transportation
Federal Highway Administration

FACTSHEET

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Background

The concept of a capability maturity framework (CMF) emerged from the Strategic Highway Research Program 2 (SHRP2) L01 and L06 projects that promoted a process-driven approach to improve Transportation Systems Management and Operations (TSM&O).

Adapted from the software development world, the notion of CMFs rests on the following three tenets:

- Process matters: Projects fail or do not achieve desired functionality for a variety of reasons unrelated to the technology.
- Prioritizing the right action is important: Is an agency ready, how do they know, and what should they do next?
- Focus on the weakest link: What is holding the agency back in becoming a leader in a particular area?

Building on SHRP2 results, the American Association of State Highway and Transportation Officials (AASHTO) has continued development of this concept and a capability maturity concept was published as part of the TSM&O guidance. SHRP2 implementation activities have successfully used the overall framework to work with State DOTs to develop action plans to improve their TSM&O capabilities.

To continue the emphasis on capability maturity and to provide program-level guidance, Federal Highway Administration (FHWA) developed additional frameworks that focus on improvement actions for specific TSM&O program areas including:

- Traffic Management
- Traffic Incident Management
- Road Weather Management
- Planned Special Events
- Work Zone Management
- Traffic Signal Management

These frameworks are designed for agencies and regions to assess the current strengths and weaknesses and develop a targeted action plan for the program area. More details can be found of the FHWA Operations web site: http://www.ops.fhwa.dot.gov/tsmoframeworktool/index.htm.

Table 1. Capability Maturity Framework Process Overview

Process Improvement Areas

Capability Levels

Dimensions or Process Areas	What is it	Level 1 Ad-Hoc, Low Level of Capability	Level 2 Managed, Medium Level of Capability	Level 3 Integrated, High Level of Capability	Level 4 Optimized, Highest Level of Capability
Business Process	Plans, Programs, Budgets	Statement of Capability			
Systems & Tech	Approach to Building Systems				
Performance Measurement	Use of Performance Measures				
Workforce	Improving Capability of Workforce				
Culture	Changing Culture and Building Champions				
Collaboration	Improving Working Relationships				

Step 1 Self-Assessment. Work with your stakeholders to assess where you are in terms of the capabilities in each area

Step 2 Identify areas of improvement and the desired levels of capability to improve program effectiveness

Step 3 Identify actions that you need to take to move to the desired levels of capability

The Traffic Incident Management Capability Maturity Self-Assessment

Traffic Incident Management (TIM) consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims and emergency responders.

The TIM Capability Maturity Self-Assessment (TIM CMSA) tool was developed by the U.S. DOT Federal Highway Administration with input from state DOTs, law enforcement, and other TIM responders. The TIM CMSA allows an agency to assess and benchmark its existing capabilities, and, upon completion, provides an Action Plan with tangible actions for the agency.

In all these instances, the use of the TIM CMSA will provide a structured approach to review the complex institutional architectures and business processes required to make TIM a success. By reviewing the "non-technical" issues in detail and implementing the prioritized actions, agencies will increase the capability and sophistication of their TIM program.

Structure

Consistent with the SHRP2 guidance, the frameworks are all described as a matrix that defines the process improvement areas and levels (from Level 1, low-level to Level 4, optimized high-level) of capability. Following a self-assessment process, specific actions are identified to increase capabilities across the desired process areas. For TIM, the process improvement areas have been slightly modified, and capabilities are described for the following categories:

- Strategic
  - Formal TIM Programs
  - TIM Training and After-Action Reviews
  - TIM Performance Measures
- Tactical
  - TIM Laws
  - Policies and Procedures for Incident Response and Clearance
  - Responder and Motorist Safety
- Support
  - Data Collection/Integration/Sharing

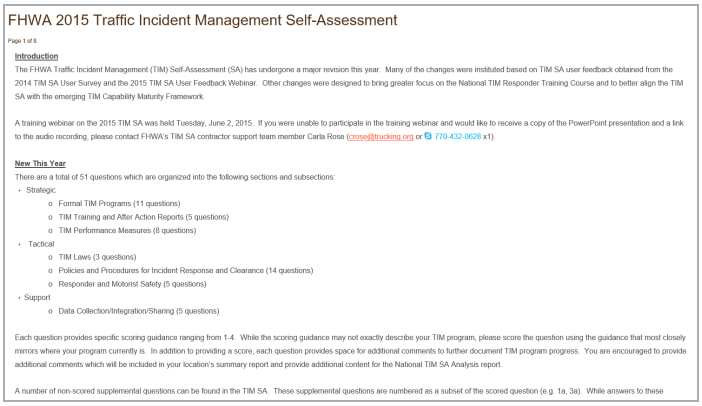
Using the Self-Assessment

The TIM CMSA tool is available at http://www.ops.fhwa.dot.gov/tsmoframeworktool/available_frameworks/traffic_incident.htm.

A collaborative process is recommended for using the TIM CMSA. Typically, a local lead agency will pull together the stakeholders for a day-long workshop to walk through the self-assessment. TIM stakeholders may include transportation, law enforcement, fire/rescue, emergency medical services, towing and recovery, and all other responder or TIM committee disciplines. The outcomes of the workshop are a consensus of the current capabilities across all the dimensions and an initial list of prioritized actions.

The lead agency might then convene future meetings or identify existing forums where the identified actions will be championed and implemented.

The self-assessment is not intended as a benchmarking tool, but rather as a resource for agencies to identify appropriate actions for improving management and operations of traffic incident management systems. Periodic assessments are highly recommended to take place at least annually or when significant organizational changes occur or prior to major investments in the area.



FHWA 2015 Traffic Incident Management Self-Assessment

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Introduction

The FHWA Traffic Incident Management (TIM) Self-Assessment (SA) has undergone a major revision this year. Many of the changes were instituted based on TIM SA user feedback obtained from the 2014 TIM SA User Survey and the 2015 TIM SA User Feedback Webinar. Other changes were designed to bring greater focus on the National TIM Responder Training Course and to better align the TIM SA with the emerging TIM Capability Maturity Framework.

A training webinar on the 2015 TIM SA was held Tuesday, June 2, 2015. If you were unable to participate in the training webinar and would like to receive a copy of the PowerPoint presentation and a link to the audio recording, please contact FHWA's TIM SA contractor support team member Carla Rose (crose@trucking.org or 770-432-0628 x1).

New This Year

There are a total of 51 questions which are organized into the following sections and subsections:

- Strategic
  - Formal TIM Programs (11 questions)
  - TIM Training and After Action Reports (5 questions)
  - TIM Performance Measures (8 questions)
- Tactical
  - TIM Laws (3 questions)
  - Policies and Procedures for Incident Response and Clearance (14 questions)
  - Responder and Motorist Safety (5 questions)
- Support
  - Data Collection/Integration/Sharing (5 questions)

Each question provides specific scoring guidance ranging from 1-4. While the scoring guidance may not exactly describe your TIM program, please score the question using the guidance that most closely mirrors where your program currently is. In addition to providing a score, each question provides space for additional comments to further document TIM program progress. You are encouraged to provide additional comments which will be included in your location's summary report and provide additional content for the National TIM SA Analysis report.

A number of non-scored supplemental questions can be found in the TIM SA. These supplemental questions are numbered as a subset of the scored question (e.g. 1a, 3a). While answers to these

Figure 1. Screenshot of Tool

Get involved:

If interested in using the framework, or hosting a CMF workshop for your agency or region, please contact the FHWA leads for this activity:

Paul Jodoin (paul.jodoin@dot.gov) or
Wayne Berman (wayne.berman@dot.gov).

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