

Traffic Incident Management (TIM)

Gap Analysis Outreach Briefing

Executive Decision Makers



Outline

- Briefing Objective and Overview
- Primer Objectives and Outline
- TIM Gap Analysis
- Successful TIM Program
- Implementation Strategies and Action Plan





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Briefing Objective and Overview



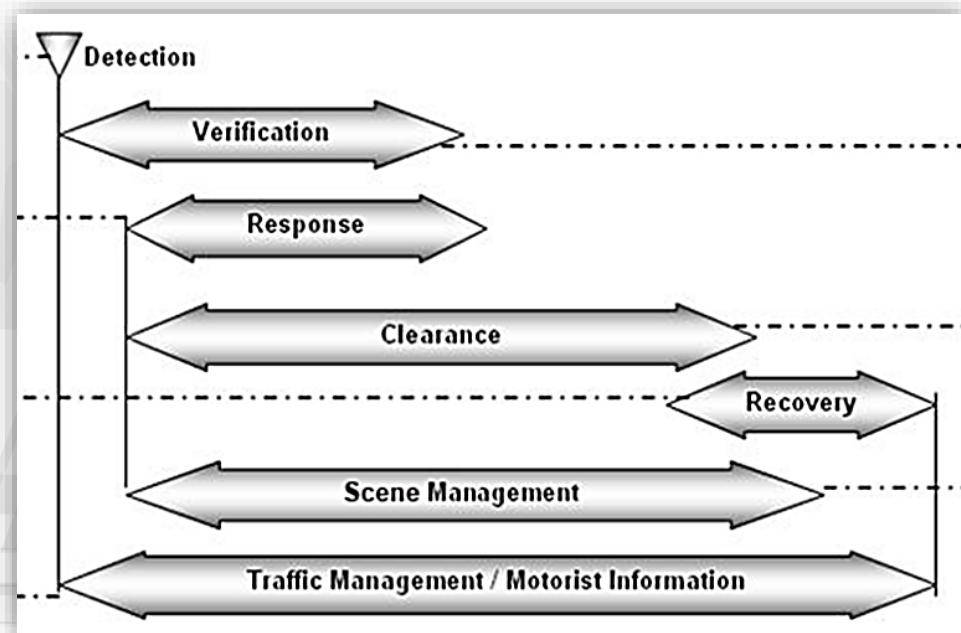
Briefing Objective

- To provide executive leadership and decision makers with guidance to help agencies as they design, operate, and maintain a sustainable traffic incident management program



Overview of Traffic Incident Management (TIM)

- Timeline of Stages in the TIM Process:



Source: FHWA Traffic Incident Management Handbook 2010

	National Averages	
	Roadway Clearance Time	Incident Clearance Time
2012	70.29 min.	55.66 min.
2013	68.90 min.	56.34 min.

Source: 2013 FHWA Traffic Incident Management Self-Assessment Executive Summary



Overview of Traffic Incident Management (TIM)

- Effective TIM programs reduce the duration and impacts of traffic incidents and improves the safety of motorists, crash victims, and emergency responders



Impact of Incidents

- Account for about 25% of all non-recurring congestion
- Significant threat to life safety and influence travel time, economic productivity, and transportation system performance
- Requires proactive planning to achieve quick incident clearance



Overview of TIM Stakeholder Involvement

Traditional Responders	Special/Extreme Circumstance Responders	Incident Information Providers	Transportation System Providers and Users
<ul style="list-style-type: none"> • Law Enforcement • Fire and Rescue • Emergency Medical Services (EMS) • Towing and Recovery • Transportation Agencies 	<ul style="list-style-type: none"> • HazMat Contractors • Coroners and Medical Examiners • Emergency Management Agencies • Environmental/Natural Resources/ Departments of Health (DOH) • Utilities 	<ul style="list-style-type: none"> • Public Safety Communications • Traffic Media • Traveler Information Services • Transportation Agencies 	<ul style="list-style-type: none"> • Traveling Public • Trucking Industry • Insurance Industry • Public Transportation Providers • Motorist Organizations

Source: FHWA Traffic Incident Management Handbook 2010





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Primer Objectives and Outline



Statement of the Problem

- Policies and operating procedures for TIM programs not only vary from state to state, but vary regionally within each state and between rural, suburban, and urban areas



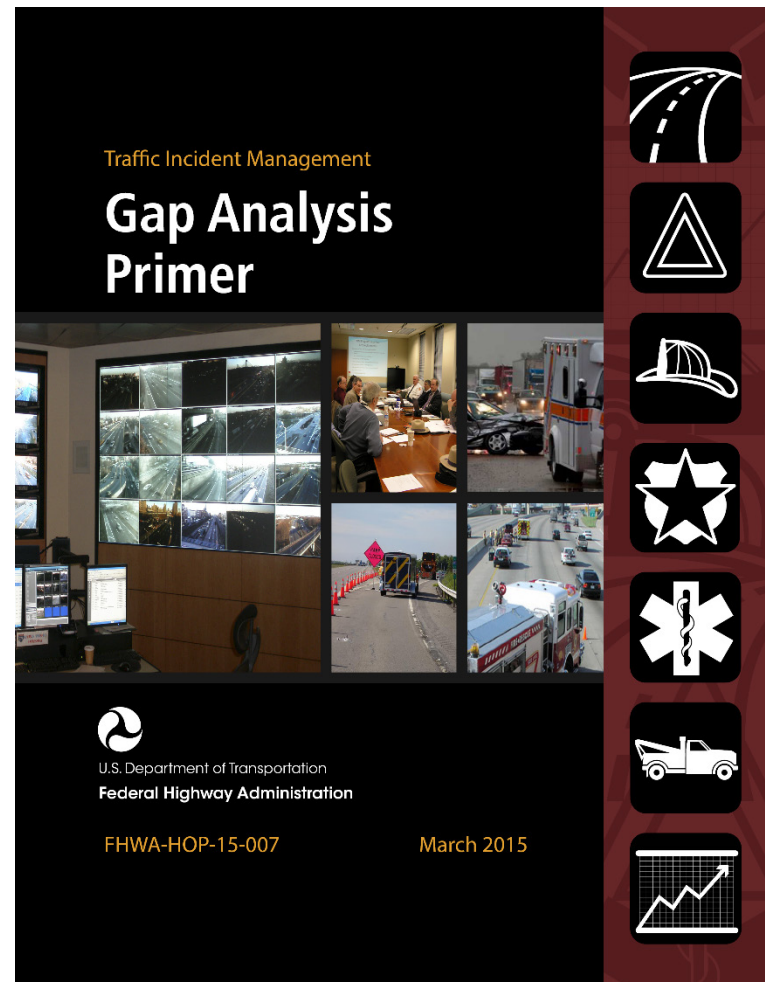
Primer Objectives

- Identify and summarize the current state of TIM practice and activities
- Identify and summarize gaps found in TIM activities/information
- Identify and outline a framework for achieving a complete TIM program utilizing national guidelines
- Outline the key elements that are contained in successful TIM programs



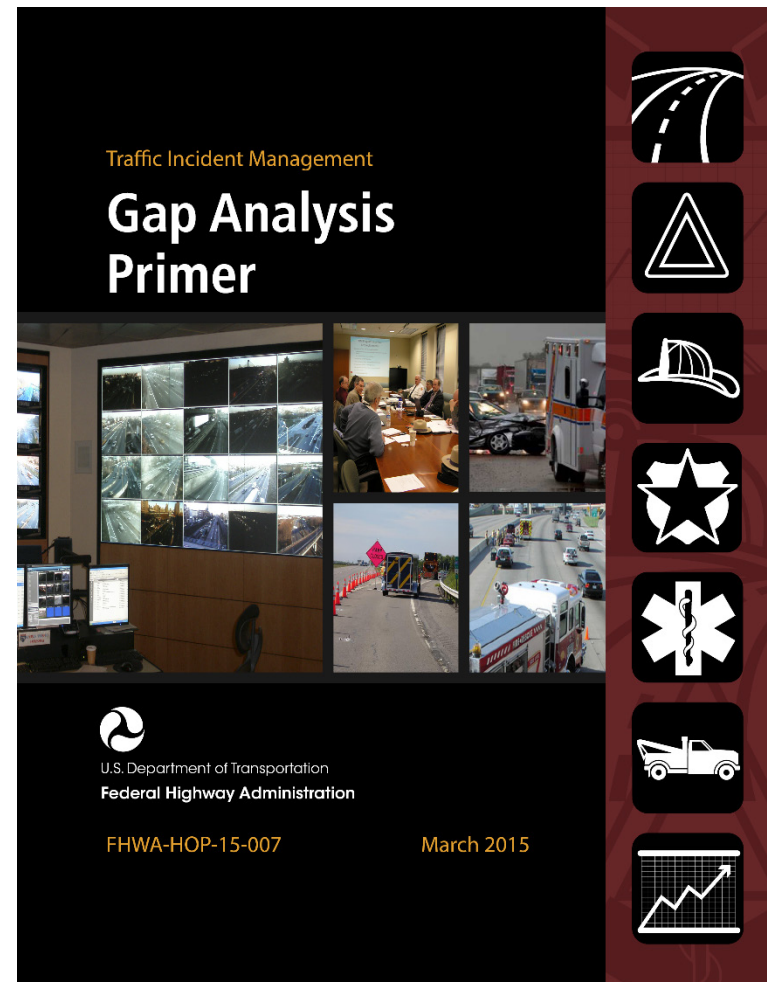
Primer Organization

- Introduction
- TIM Gap Analysis Summary
- Components of Successful TIM Program



Primer Organization

- Roles and Responsibilities of TIM Stakeholders
- TIM Program with Transportation Operations Program
- Conclusions and Recommendations





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TIM Gap Analysis



TIM Gap Analysis

- Inventory of institutional, technical, and financial capabilities of current TIM programs at different government levels
- Two-tier Analysis
 - Federal and National
 - State and Local



Current TIM Gaps

- Represent focus areas for national level TIM agencies in order to most effectively support state/local programs in achieving their TIM goals
- Examples of Program/Institutional Gaps:
 - Multiagency involvement from all TIM partners
 - Formal documentation of the TIM agreements (e.g., MOUs)
 - Multidisciplinary TIM training



Current TIM Gaps

- Examples of Operational Gaps:
 - Responder safety procedures and practices
 - Equipment staging and scene management
 - Accident reconstruction and investigations
- Examples of Communication/Technology Gaps:
 - Emergency communications systems during incident response
 - Prompt incident detection and notification



TIM Gap Analysis Results

- A key role of the national multidisciplinary TIM efforts and agencies is to develop and promote TIM policies and procedures at a national policy level that enhance and advance TIM training and practices at the state/local operations level



TIM Gap Analysis Results

- The ability to efficiently achieve the 18 strategies of the National Unified Goal (NUG), represents the key framework for a successful complete TIM program
 - Cross-Cutting Strategies
 - Responder Safety
 - Safe, Quick Clearance
 - Prompt, reliable Incident Communications



The Nation Unified Goal (NUG) Gap Analysis Framework

- Document the identified challenges and barriers (i.e. gaps) in the current TIM practice
- Develop a means to bridge these challenges and barriers
- Propose the components of a complete TIM program



The NUG Gap Analysis Framework (Examples)

National Unified Goal (NUG) Strategy	Key Elements	Challenges & Barriers	Strategies to Overcome Challenges & Barriers
TIM Partnerships and Programs	Synchronized TIM programs at the state, multistate, regional, and local levels	Departments of Transportation (DOTs) often are not included in emergency planning and preparedness organizations' activities	Agency executive/senior leader engagement and buy-in
Multidisciplinary NIMS and TIM Training	Cross training of the incident scene roles and responsibilities	Volunteer agencies do not have the same time available for training that full-time agencies have	Availability of multidisciplinary TIM training courses and delivery processes appropriate for full-time and volunteer agencies
Goals for Performance and Progress	Having a systematic approach for measuring TIM program performance across national and state/local levels.	Performance metrics vary across agencies, making it difficult to compare results	Development of performance measures (PM) and data collection methods including those for each stage of an incident
TIM Technology	Sustainable and interoperable ITS technologies for TIM	Consistent use of existing technologies by all disciplines	Establishment and implementation of standard and efficient use of technology
Effective TIM Policies	Formal strategic plans and written interagency operational policies.	Lack of interagency coordination at all levels including the senior executive level.	TIM Task Force representatives with information to educate their agencies, senior leaders.
Awareness and Education Partnerships	Develop partnerships to educate responders and motorists on responsibilities of the safe, quick clearance of incidents.	Lack of awareness and education regarding the public's role.	Identification of the best ways of getting information out to the public.



The NUG Gap Analysis Framework (Examples)

National Unified Goal (NUG) Strategy	Key Elements	Challenges & Barriers	Strategies to Overcome Challenges & Barriers
Recommended Practices for Responder Safety	Promote practices to protect responders on-scene.	Lack of coordinated safety practices for TIM responders.	Developing and adopting coordinated safety practices.
Move Over/Slow Down Laws	Ensure that motorists provide a safety buffer for responders when possible.	Lack of and challenges related to legislation and enforcement.	Coordination with the advancement of legislation with multi-organization support.
Driver Training and Awareness	Teach drivers how to prevent secondary incidents from behaviors such as incident scene curiosity.	Driver understanding of what to do in an incident scene.	Use technology to help drivers respond properly to diversions as well as awareness.
Multidisciplinary TIM Procedures	Encourage widespread adoption of procedures for quickly clearing incident scenes.	Coordination of TIM operations.	Active participation of TIM stakeholder agencies.
Response and Clearance Time Goals	Establish benchmarks, or time goals for incident response and clearance.	Lack of data consistency.	Establishment of metrics based on obtainable data.
24/7 Availability	Encourage 24 hours a day, 7 days per week availability of traffic incident responders and equipment.	Organizational capabilities on a 24/7 basis.	Identification of availability of TIM resources on a 24/7 basis.



The NUG Gap Analysis Framework (Examples)

National Unified Goal (NUG) Strategy	Key Elements	Challenges & Barriers	Strategies to Overcome Challenges & Barriers
Multidisciplinary Communications Practices and Procedures	Develop guidelines for standardized communications practices and procedures.	Communication capabilities of TIM organizations.	Common language, operational channels.
Prompt, Reliable Responder Notification	Develop systems and procedures to ensure prompt and reliable notification of incident information to incident responders.	Lack of understanding of information needs of other agencies.	Provide timely notification of incidents to responders.
Interoperable Voice and Data Networks	Create links between incident responder information and communications systems.	Incompatibility of current voice and protocol data networks.	Determine how interoperable communications equipment could improve TIM and promote implementation.
Broadband Emergency Communications Systems	Promote integrated broadband networks linking emergency service providers.	Integration between broadband emergency communication systems.	Promote integration of TMC and law enforcement CAD systems.
Prompt, Reliable Traveler Information Systems	Encourage the development and deployment of traveler information systems to deliver real-time traveler information.	Timely and relevant information to the motorists to avoid additional incidents.	Examine additional outlet mechanisms for traveler information.
Partnerships with News Media and Information Providers	Develop recommended practices for working with news media and ISP to deliver timely and reliable traveler information.	Conflicting priorities and unfamiliarity with the media's TIM role.	Educate media of their TIM role.



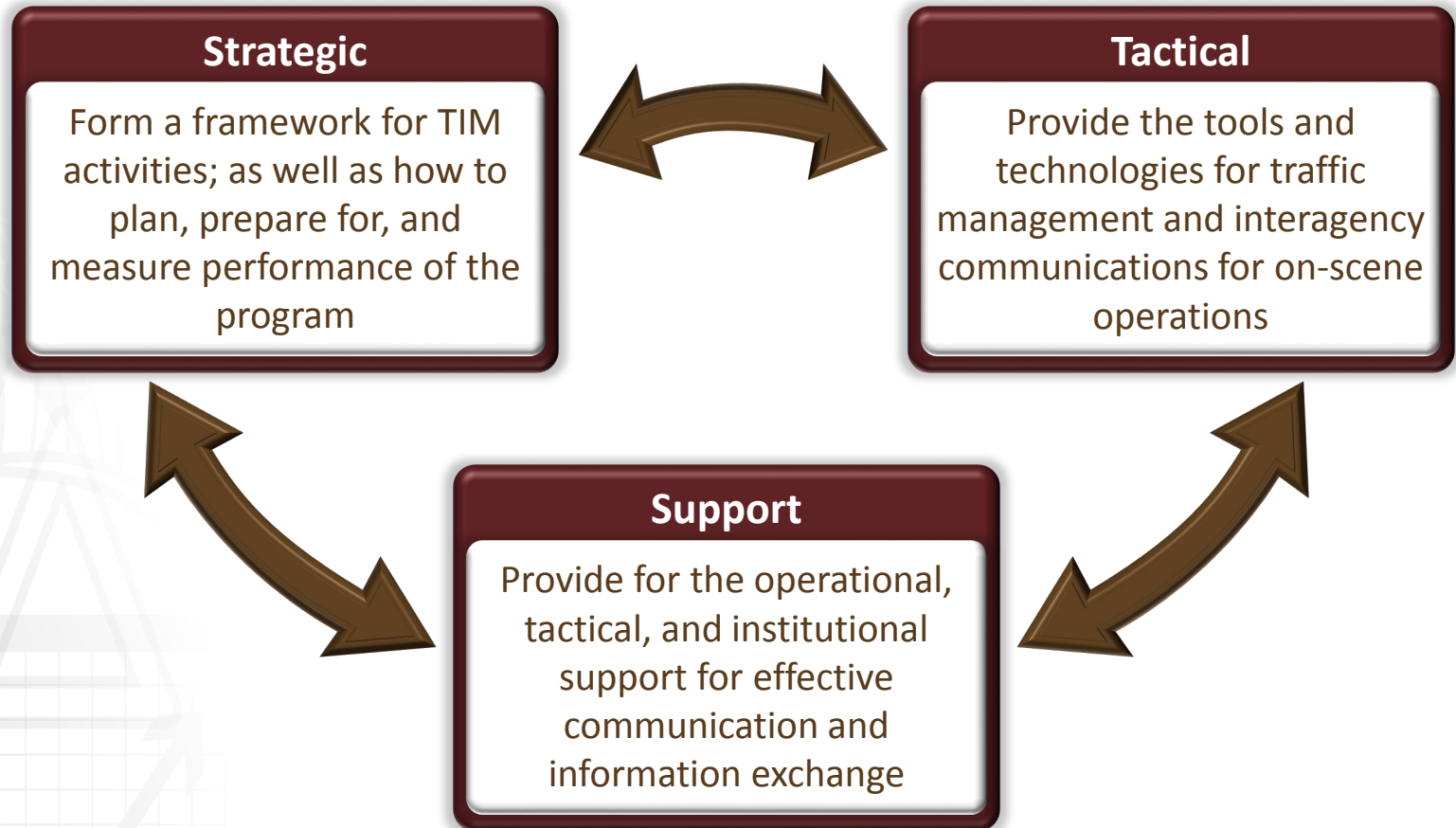


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Successful TIM Program



TIM Program Framework



Key TIM Program Elements

Strategic (Institutional)

- Have a TIM multiagency team or task force which meets regularly to discuss and plan for TIM activities
- Conduct multiagency training held at least once a year on TIM-specific topics:
 - NIMS/ICS 100
 - TIM SHRP2 Training
 - Training of mid-level managers from primary agencies on the NUG
 - Traffic control
 - Work zone safety
 - Safe on-scene parking
- Conduct multiagency post-incident debriefings
- Develop and distribute summaries of after action reports
- Conduct planning for special events:
 - Construction and maintenance
 - Sporting events, concerts, conventions, among others
 - Weather-related events
 - Catastrophic events



Key TIM Program Elements

Strategic (Institutional) – Cont'd

- Have multiagency agreements/MOUs including:
 - Agreements/MOUs signed by top officials from participating agencies
 - Clearly defined incident scene roles and responsibilities for each participating agency
 - Clearly defined agency roles and responsibilities for planning and funding the TIM program
 - Safe, quick clearance goals stated as time goals for incident clearance (e.g., 90 minutes) in the agreement/MOU
- Conduct planning to support the TIM activities across and among participating agencies including the MPO
- Have someone from at least one of the participating agencies responsible for coordinating the TIM program as their primary job function
- Have multiagency agreement on the two PM being tracked:
 - Roadway clearance time
 - Incident clearance time
- Have established methods to collect and analyze the data necessary to measure performance in reduced roadway clearance time and reduced incident clearance time
- Have targets (e.g., time goals) for performance of the two measures



Key TIM Program Elements

Strategic (Institutional) – Cont'd

- Routinely review whether progress is made in achieving the targets
- Track performance in reducing secondary incidents
- Deploy effective and affordable TIM technology to support TIM activities including:
 - Incident detection
 - Prompt and reliable responder notification
- Have 24/7 availability of key responders and equipment
- Develop and perform efficient and effective multiagency resource management based on the utilization of:
 - Appropriate personnel who are best qualified (i.e., capable but not over-qualified) for the various tasks
 - Appropriate equipment by function (i.e., use of the least costly equipment capable of performing the function)
 - Appropriate technology capable of supporting various onsite resource tasks
- Have a multiagency commitment and approach to the establishment of effective budgeting to provide stable funding for TIM within the processes and capabilities of the individual and/or collective agencies as appropriate to the activity
- Education and Awareness Partnerships including driver training and awareness



Key TIM Program Elements

Tactical (Technical/Operational)

- Have “authority removal” laws allowing pre-designated responders to remove disabled or wrecked vehicles and spilled cargo
- Have “driver removal” laws that require drivers involved in minor crashes (i.e., not involving injuries) to move vehicles out of the travel lanes
- Use a safety service patrol for incident and emergency response
- Utilize the ICS on-scene
- Have response equipment pre-staged for timely response
- Identify and document resources so that a list of towing and recovery operators (including operator capabilities and special equipment) is available for incident response and clearance
- Identify and document resources so that a list of HazMat contractors (including capabilities and equipment) is *available* for incident response
- Give at least one responding agency the authority to override the decision to utilize the responsible party’s HazMat contractor and call in other resources
- Have the medical examiner response clearly defined and understood for incidents involving fatalities



Key TIM Program Elements

Tactical (Technical/Operational) – Cont'd

- Have the electric utility companies' role clearly defined for incidents involving downed electrical wires
- Have procedures in place for expedited accident reconstruction/ investigation
- Have a policy in place for removal of abandoned vehicles
- Have "Move Over" laws that require drivers to slow down and if possible move over to the adjacent lane when approaching workers or responders and equipment in the roadway
- Train all responders in traffic control following MUTCD guidelines
- Routinely utilize transportation resources to conduct traffic control procedures for various levels of incidents in compliance with the MUTCD
- Routinely utilize traffic control procedures for the end of the incident traffic queue
- Have mutually understood equipment staging and emergency lighting procedures onsite to maximize traffic flow past an incident while providing responder safety
- Pre-established, signed accident investigation sites
- Have procedures in place for prompt responder notification



Key TIM Program Elements

Support (Financial/Technological)

- Use a TMC/TOC to coordinate incident detection, notification and response
- Share data/video between agencies
- Have specific policies and procedures for traffic management during incident response:
 - Signal timing changes
 - Pre-planned detour and alternate routes identified and shared between agencies
- Provide for interoperable, interagency communications onsite between incident responders
- Have a real-time motorist information system providing incident-specific information:
 - Traveler information delivered via 511/ website
 - Traveler information delivered via mobile applications
 - Traveler information delivered through traffic/news media partnerships/access to TMC/ TOC data/ information
- Provide motorists with travel time estimates for route segments
- Develop and implement Cost Recovery and Management systems including:
 - Costs recovery for the reimbursement for services from sources outside of the direct budget that funds the program seeking reimbursement
 - Cost management includes efforts to maximize the cost-benefit relationship of program activities via a cyclical loop of cost planning, tracking, analysis, and evaluation and reprogramming



Success Story

New York State TIM Program

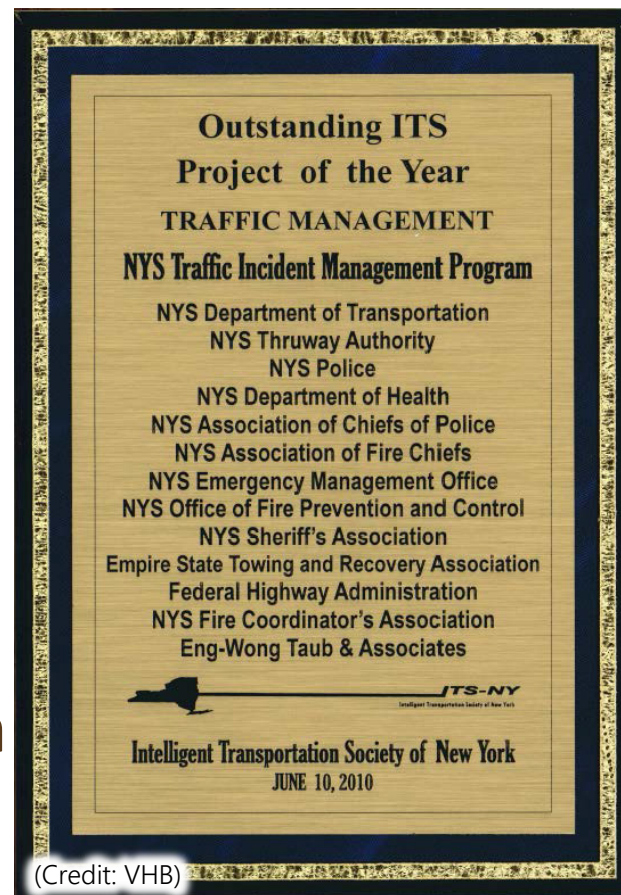
- Established in 2010
- TIM Components
 - A statewide strategic plan.
 - NYS Emergency Traffic Control and Scene Management Guidelines.
 - A “Move Over” law.
 - Numerous well developed regional TIM programs.



Success Story

New York State TIM Program

- TIM Components
 - An active statewide TIM task force.
 - Model partnerships with the state police.
 - A statewide service patrol.
 - TMCs operational for 24 hours and 7 days a week in most regions.





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Implementation Strategies and Action Plan



Steps for Establishing a TIM Program

- Identify Stakeholders
- Define the Problem
- Set Goals and Objectives
- Develop Alternatives
- Evaluate and Select Alternatives
- Implement Alternatives
- Reevaluate Alternatives
- Refine the System



(Credit: VHB)



Implementation Strategies

- Regular TIM meetings
- Multidisciplinary training
- Tracking of performance goals
- Develop and promote TIM procedures and policies
- Coordinate the available resources
- Strategic collaboration



Action Plan

- Establish and formalize a TIM program with the following components:
 - Incident management policies and plans
 - Interagency relationships
 - Organizational structure
 - Staffing and training
 - Performance goals
 - Reporting channels
 - Budget



Key Roles for Executive Management

- Make TIM a Core Program
- Provide leadership at all levels
- Support adequate resources (staff & funding)
- Organize the agency for an effective program
- Require program support at all levels of the organization



Key Roles for Executive Management

- Engage executives from other agencies
- Participate in statewide committees and conferences
- Work to remove jurisdictional barriers
- Support needed policy development and training



For national level questions, please contact:

Laurel Radow

**Traffic Incident and Events Management Team
Office of Operations, Federal Highway Administration
(202) 366-2855 Laurel.Radow@dot.gov**

Thank You!

