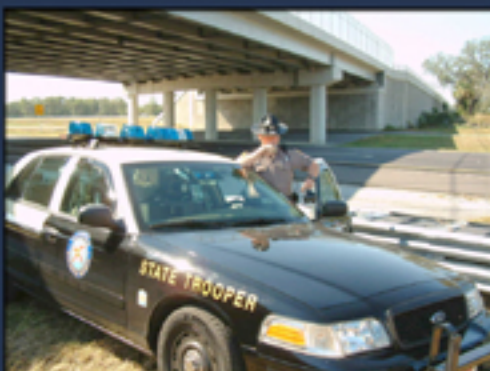




# Florida Traffic Incident Management Program Strategic Plan

February 2006



## Florida Department of Transportation

Traffic Engineering and Operations Office  
Incident Management and Commercial Vehicle Section  
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## Executive Summary

The Traffic Incident Management (TIM) Strategic Plan was developed to identify programs and actions to sustain the commitment to—and expand—the TIM Program in Florida to better meet our travel needs.

Traffic incidents are responsible for up to 60 percent of congestion delays that motorists encounter on the nation's highways. Responders to these incidents—and other travelers—routinely face dangers from prolonged exposure to traffic and are too often victims of secondary crashes.

There are many reasons why multi-agency coordinated traffic incident management is important, but simply stated, clearing incidents faster saves lives, time, and money in all sectors of society. While managing traffic incidents is the primary focus of Florida's TIM Program, the same coordination and communication lessons are essential to successfully managing large-scale emergencies such as wildfires, severe weather, or national security threats; and special events such as sporting, entertainment, political, tourist, and commercial activities.

The TIM Program has already deployed many major initiatives, including photogrammetry to map crash scenes, an 800 MHz Radio Project enabling communication between State Law Enforcement and TIM personnel, and a number of other TIM best practices. Other initiatives like the use of

personal digital assistants for incident logging and expedited clean-up of fuel spills should soon become a reality statewide.

Florida's TIM success to date is the result of a multi-agency effort. Working with transportation and public safety agencies at all levels of government, and with other public and private-sector organizations, the Florida Department of Transportation (FDOT) and its partners have made excellent progress toward better management of traffic incidents. In late 2000, FDOT committed to formalize the TIM Program and the first organizational meeting was held in Orlando in January 2001. FDOT further made a long-term commitment to sustaining the program. The TIM Strategic Plan identifies major programs and specific actions needed to ensure the ongoing success of the TIM Program in Florida.

### Importance of Tim

The primary goals of the TIM Program are to increase mobility and reduce secondary incidents. Traffic incidents have a significant impact on the state's transportation system and lead to loss of life, injuries, and destruction of personal property and commercial goods resulting in costly delays, lost productivity, wasted fuel, and air pollution. Traffic incidents substantially reduce the mobility and security of the traveling public and commercial traffic.

Traffic incident management can be one of the most effective tools available to transportation managers for reducing urban congestion, with benefit/cost (B/C) ratios up to 10:1 nationally for freeway service patrols alone. Current projects nationally are estimated to save 170 million hours of delay at a cost savings to the public of \$3.031 billion, which is more than any other operational strategy considered. If good TIM practices were ubiquitous in the nation, the Texas Transportation Institute (TTI) estimates a saving of 239 hours annually of unnecessary individual delay.

### **Summary Of Recommendations**

The Florida Department of Transportation has reached a milestone where the Department can now invigorate its already successful TIM Program to reach new levels of leadership and vision. The program's future success will include understanding stakeholder needs, a statewide and national perspective on transportation management and operations, and the credibility to lead the TIM community to achieve new goals. The vision for FDOT's TIM Program is to, "Develop an institutionally integrated, fully cooperative association of all public agency and private industry traffic incident management stakeholders to improve the safety and reliability of the Florida transportation system and maintain Florida's status as a national leader in TIM programs."

Below are summaries of the recommendations presented in the TIM Strategic Plan.

### **Statewide TIM Program**

The Statewide TIM program should pursue additional legislative and policy changes to limit the liability of traffic incident responders. Steps are being taken to enable all TIM personnel to participate in a common interagency communications system, but statewide deployment is needed. The TIM

Steering Committee should be expanded to include more stakeholders, such as the Florida Highway Patrol (FHP), Fire and Police Chiefs Associations, and public representation. The Statewide TIM Teams should be reorganized with agency-appointed representatives and highly motivated chairpersons to energize the teams. Qualification/certification—and the necessary training—should be required for wrecker services and for Road Ranger operators. TIM performance measures are essential to gauging the success of the program and justifying institutional support.

The Statewide TIM Program should embrace a multi-agency, integrated TIM regimen with common practices that still recognize regional differences. The Road Ranger Program should transition from a motorist assist service to one of proactive incident management statewide. Program goals like the Open Roads Policy need to be thoroughly implemented at all levels of operations.

### **FDOT Central Office**

An expanded TIM Program will require expanded staffing in FDOT's Central Office. A new position is needed for training, management and operations, quality assurance reviews, etc. A FDOT-FHP liaison position should also be created. The FHP officer should be assigned on a continuing basis to this position and he or she should reside in the Traffic Engineering and Operations Office in the FDOT Central Office in Tallahassee.

### **FDOT Districts**

TIM practices should be harmonized in areas of maintenance, asset management, operations, etc. Gaps in TIM Team and Road Ranger coverage should be filled as soon as possible. FDOT and its partners should focus traffic incident management in the Transportation Management Centers (TMCs), which should be the centroid of all TIM activities regionally. TIM needs to be

fully coordinated with state and county emergency management centers. Inter-agency operations and mutual support agreements are needed between transportation, public safety, and other agencies, such as medical examiners, hospitals, and hazardous materials handlers. Districts with TIM Teams and Road Rangers should require a full time TIM/Road Ranger Manager or two separate positions, depending on the program activity in the region.

### Outreach

TIM should be interactive with other organizations that provide support services to the state's safety program, such as Community Traffic Safety Teams, professional associations, auto clubs, and insurance companies. FDOT should develop a concerted TIM awareness program to educate the public about TIM legislation, such as the Move-It and Move-Over laws, as well as good TIM practices and the TIM Program in general.

### TIM Program Budgeting

As outlined in the recommendations, an ever more aggressive effort is needed to ensure the safety and mobility of our traveling public, including the commercial carriers and tourists that are essential to our economic well being. Sustained and stable financial support is necessary. The table below summarizes the estimated program costs in the TIM Strategic Plan by implementation period (commencing from the publication of this plan).

The programs recommended in the TIM Strategic Plan range from no direct costs (e.g., policy changes) to substantial equipment costs (e.g., replacing Road Ranger vehicles—often no more than pick-ups—with fully equipped incident management units).

Bold actions by the Department of Transportation and its partners will ensure the safest possible travel environment for Florida's citizens, our visitors, and our commercial carriers, thus enhancing the economic welfare and well being of our state.

Term	Time	Initial Cost	Annual Operation
<b>Overall Program Cost Estimates</b>			
Short	Up to 1 year	\$ 2,282,500	\$ 550,500
Medium	1-2 years	\$ 3,007,500	\$ 1,154,000
Long	Over 2 years	\$ 11,525,000	\$ 10,595,000
<b>Total</b>		<b>\$ 16,815,000</b>	<b>\$ 12,299,500</b>
<b>Selected Key Actions*</b>			
Customize data logging/communications system		\$ 750,000	\$ 75,000
Common inter-agency communications system		\$ 1,250,000	\$ 250,000
Wrecker operators training/qualification program		\$ 150,000	
Road Ranger training/qualification program		\$ 1,920,000	\$ 453,600
New interagency joint operations agreements		\$ 150,000	N/A
Heavy wrecker incentive program statewide		\$ 150,000	\$ 500,000
Regional TIM Team support all districts (some costs offset by current contracts)		\$ 1,400,000	\$ 1,470,000
Florida Central Office TIM support		\$ 400,000	\$ 440,000
Convert Road Ranger equipment from motorist assist to TIM		\$ 10,125,000	\$ 2,025,000
Upgrade Road Ranger operators from motorist assist to TIM (some cost offset by current operations)		Included in training	\$ 6,750,000

**\*This is not the complete list—just the most significant actions.**



***Traffic incidents are responsible for approximately 50-60% of the congestion delays motorists encounter on the nation's (and likely Florida's) roadways every day.***



# 1 Introduction

Traffic incidents are responsible for approximately 50-60% of the congestion delays that motorists<sup>1</sup> encounter on the nation's roadways every day. Responders to these incidents routinely face dangers from other traffic and are sometimes victims of secondary crashes, as are other travelers. The economic impact, increased air pollution, motorist frustration, and general quality of life impact of traffic incidents are substantial and must be addressed with a strategic approach.

Working with other public safety partners the Florida Department of Transportation (FDOT) has made excellent progress toward better management of types of traffic incidents. In just six short years Florida's Traffic Incident Management (TIM) efforts have risen from a decentralized, uncoordinated effort to an organized, statewide program that has become a model for many other states.

There are many reasons why multi-agency, coordinated traffic incident management is important, but simply stated, clearing incidents faster

saves lives, time, and money in all sectors. While managing traffic incidents is the primary focus of the TIM program, the same coordination and communication lessons are essential to successfully managing large-scale emergencies, such as wildfires, severe weather, or national security threats, as well as special events, such as sporting, entertainment, political, tourist, and commercial activities.

## 1.1 Purpose

In late 2001 FDOT made a commitment to formalize the TIM program and make it a recognized long-term commitment. This document identifies actions to sustain commitment and expand the TIM Program in Florida to better meet the needs described in the previous discussion.

The following statements of purpose for the TIM strategic evolution have been derived from stakeholder input and FDOT TIM staff.

- Improve the overall management of traffic incidents in the state;
- Increase integration and communication between TIM agencies;

***In its last public "report card" from the public (May 2001), traffic flow was rated lowest in terms of FDOT performance (63% satisfied or very satisfied), trailing rest areas and airports (87%), road signs and markings (86%), state highway overall (78%), and construction zones (71%). [The public appears to be significantly more satisfied with infrastructure, even during construction of same, than operations.]***



<sup>1</sup> "Traffic Incident Management Handbook," Federal Highway Administration, Publication No. DOT-T-01-01, November 2000.

**Definition:**

***A traffic incident is defined as any non-recurrent event, such as a vehicle crash, vehicle breakdown, or special event, that causes a reduction in highway capacity and/or an increase in demand. Coordinated traffic incident management is a tool to achieve and maintain public safety, travel efficiency, and air quality standards by reducing the impacts of these incidents.***

- Improve consistency of incident management operations across the state;
- Raise the profile of TIM as a tool for managing the State Transportation System;
- Support funding for personnel, equipment, and training; and
- Provide recommendations for changes in laws and/or policies.

**1.2 Benefits of Traffic Incident Management**

There is a strong role for TIM in economic growth and benefits to the State Transportation System, particularly on the Florida Intrastate Highway System (FIHS). Incidents cause a significant impact on the state's transportation system and lead to loss of life, injuries, and destruction of commercial goods. They lead to costly delays, air pollution, and wasted fuel. As such, they substantially reduce the mobility of the traveling public and commercial traffic. These are all worsened by all-too-common secondary incidents, which create a spiraling affect on the public and economy.

Incident management can be one of the most effective tools for reducing urban congestion,

with benefit cost ratios ranging from 3:1 to 10:1 for freeway service patrols alone. Current projects nationally are estimated to save 170 million hours of delay at a cost benefit to the public of \$3.031 billion dollars, which is more than any other operational strategy listed. If good TIM practices were ubiquitous in the nation, Texas Transportation Institute (TTI) estimates a saving of 239 million hours of unnecessary delay. Considering the number of motorists that are impacted, it is easy to see the debilitating impact on safety and mobility.

The anticipated specific benefits of a well-coordinated TIM Program can be described as follows:

- Minimize hazard to travelers and responder personnel,
- Minimize travel and shipping delays,
- Improve tourist access;
- Improve the stability of travel and delivery times;
- Reduce environmental impacts and energy use; and
- Increase institutional and public support for TIM.



***The Road Ranger Program is not a “stand alone” program but actually supports the Traffic Incident Management Program as it assists stranded or disabled motorists and provides assistance to the other responders during incidents on our highways.***



## 2 Current Status of Traffic Incident Management In Florida

The State of Florida has been actively participating in incident management planning since the late 1980s, forming regional freeway incident management (FIM) teams initially in South Florida. Subsequently, the number of (now all called) TIM Teams has grown throughout much of the state. The Road Ranger Program, which began in 1999, has likewise spread across the state. The Road Ranger Program is not a “stand alone” program but actually supports the Traffic Incident Management Program as it assists stranded or disabled motorists and provides assistance to the other responders during incidents on our highways. The Road Rangers provide a safety zone for other responders and help relieve the congestion caused by the incident, which greatly lowers the potential for secondary crashes.

### 2.1 Summary of Progress to Date

In recent years, Florida has become a leader in promulgating multi-agency agreements and pilot studies concerning traffic incident management. This includes the following highly significant achievements:

- Open Roads Policy (ORP), signed by the FDOT Secretary and Director of the FHP

in November 2002 (This was only the fifth ORP in the nation and only the second to have quantitative goals).

- Joined the I-95 Corridor Coalition in January 2003, this is a traffic management coalition operated for all the states served by I-95, plus New Brunswick, Canada.
- Formally adopted Guidelines for the Mitigation of Motor Vehicle Fluids (Non-Cargo) in June 2004.
- Developed a Heavy Duty Towing Incentive Program, “Rapid Incident Scene Clearance—RISC,” which was initiated by Florida’s Turnpike Enterprise (FTE) in February 2004.
- Conducted an 800 MHz Radio Pilot Project in the Orlando area, enabling direct communication between State Law Enforcement and TIM personnel utilizing the State Law Enforcement Radio System.







- Identified the need for and deployed “iWitness” photogrammetry software to map crash scenes with digital cameras.
- Developed the Statewide Traffic Management Center Software Library System, or SunGuide<sup>sm</sup>, which has extensive functionality that supports both TIM and Emergency Management.
- Deployed the Severe Incident Response Vehicle (SIRV), a specialized unit equipped for dealing with major incidents, in District 4.
- Florida’s Turnpike Enterprise deployed the “Eye in the Sky for Traffic Management Vehicle Pilot Program” that allows a high-level camera view of an incident and transporting video and other data directly from an incident scene to their TMCs.
- In FDOT District 5 the implementation of a memorandum of understanding with a

Medical Examiner that enables responders to remove deceased victims from the roadway under certain conditions.

A more comprehensive summary of Florida’s major TIM activities is illustrated in the timeline shown on the following page. A brief description of these activities is included in Appendix A of the TIM Reference Document, a more comprehensive version of this plan.

## 2.2 Current Traffic Incident Management Organization

The Statewide TIM Program organization is shown in Figure 2-1. The current roles of the various levels of the TIM Program are summarized below.

### 2.2.1 Central Traffic Incident Management Program

The Steering Committee is led by the FDOT State Traffic Operations Engineer and is a senior-level group that formulates policies and establishes programmatic goals. This committee should meet semiannually.

The Central Office TIM Section staff provides leadership, general direction, and management of the Statewide TIM Program. It develops and promulgates policy, procedures, guidelines, and standards through the Statewide TIM Teams and particularly the Steering Committee. It provides resources, including financial, technical assistance, and training.

As shown in Figure 2-1, the current TIM Team structure has four standing teams that together constitute the Statewide TIM Team:

- Detection, Verification, and Response (DVR);
- Clearance;
- Training; and
- Communications.

The first two are operationally oriented, while the other two deal with cross-cutting, support activities. Collectively, these four TIM Teams are

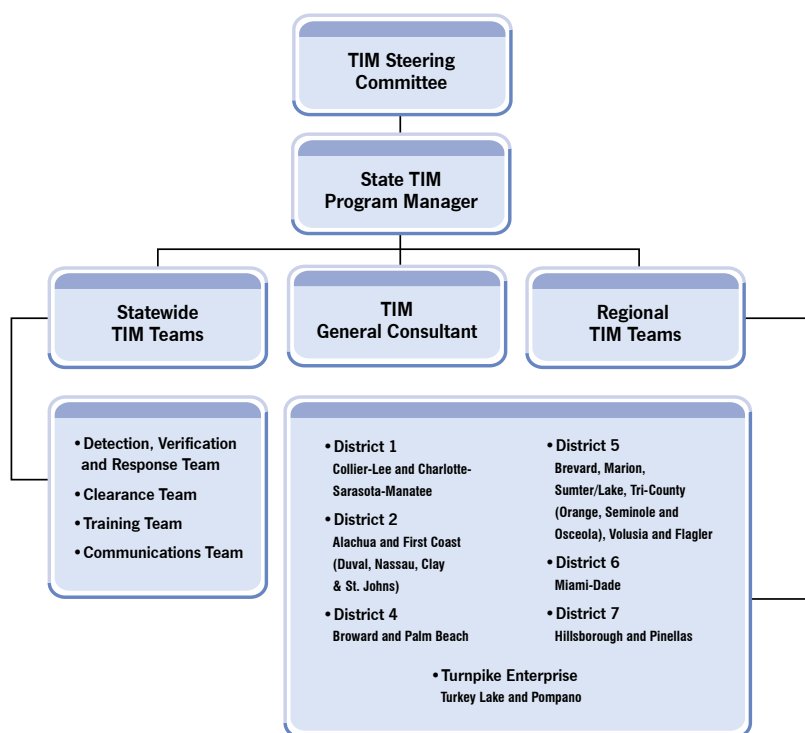


Figure 2-1 Statewide Traffic Incident Management Organization



Florida Traffic Incident Management Program Timeline

the operating core of the TIM Program. The teams meet both jointly and individually on a quarterly basis and carry out the business of their individual teams or joint activities.

Membership in the four teams comes from federal, state, local, academic, and private-sector organizations from throughout the state. The leader of the collective four teams is the State Traffic Incident Manager in the Traffic Engineering and Operations Office (TEOO) in Tallahassee. Each team has a chairperson from a practicing agency, and a facilitator/recorder, who takes notes of the individual team meetings.

## 2.2.2 Regional Traffic Incident Management Program

The FDOT Districts and their partners in public safety carry out the day-to-day operations of the transportation system, and its TIM operations. In short, they implement the policies, procedures, guidelines, and standards developed by the TEOO and Statewide TIM Teams.

Regional TIM Teams currently exist in the various regions as shown organizationally in Figure 2-1. Figure 2-2 shows the geographic coverage of the state. Additionally, several of the Expressway Authorities participate actively in regional teams (notably in Miami and Orlando).

There are gaps in the state, particularly some rural and inter-urban corridors. Part of this disparity is due to the lack of an adequately

funded and structured statewide program.

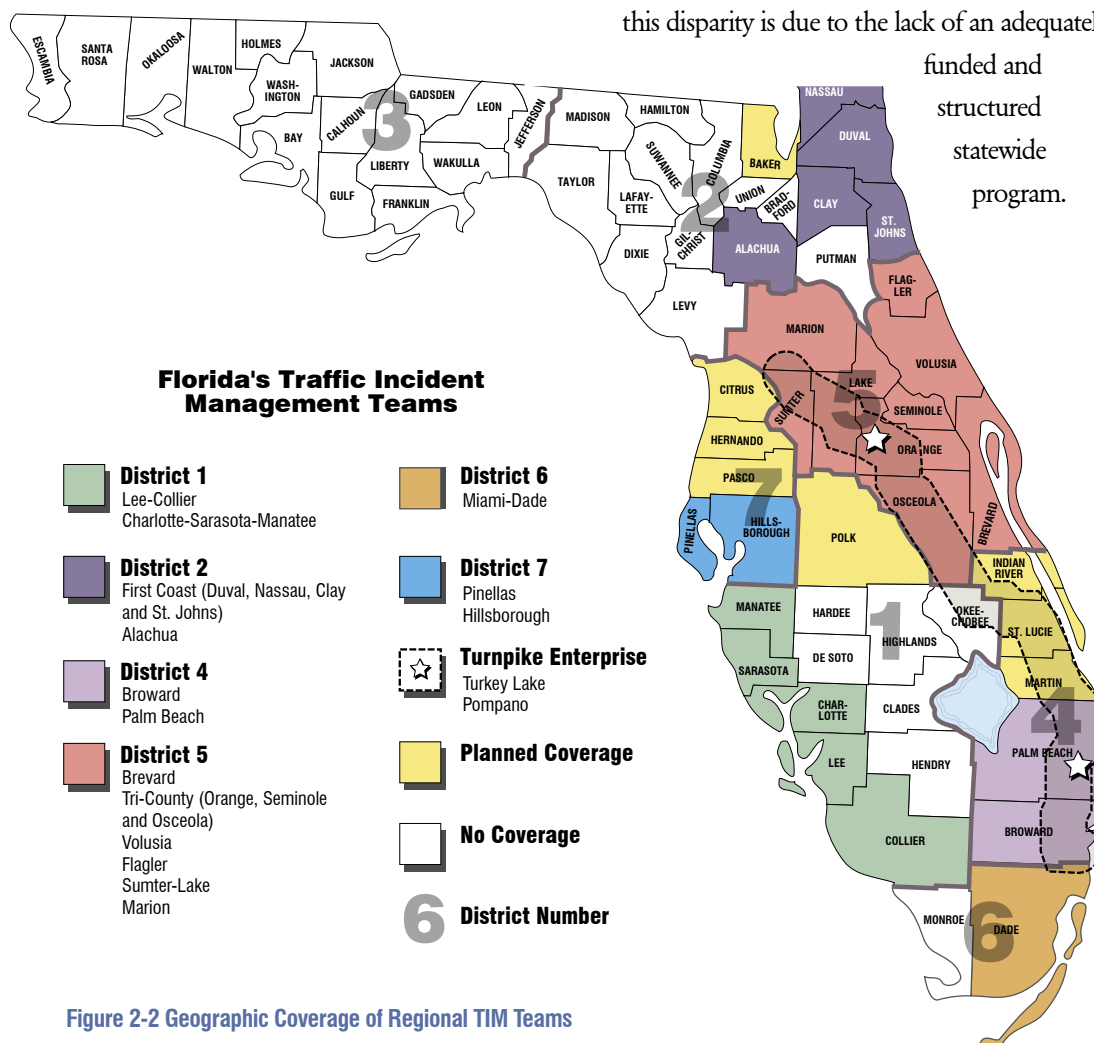


Figure 2-2 Geographic Coverage of Regional TIM Teams



### 2.2.3 Road Ranger Program

The Districts operate the Road Ranger Program, with guidance from the TEOO's Incident Management Section.

The objective of the first program was to assist travelers in need of minor roadside vehicle assistance, such as changing flat tires, jumping dead batteries, or providing enough gasoline for them to reach a filling station. Besides helping stranded motorists, the Road Rangers help remove roadway debris.

The initial Road Ranger success led to expansion of the program and the Road Rangers currently operate 125 units to patrol 1,064 centerline miles as shown in Table 2-1.

The Road Rangers provide a valuable service as they provide support to the incident management program; however, there is also a wide variation in the way they operate from region to region. In some jurisdictions, the Road Rangers are more proactive in actual incident management, such as assisting with traffic control at incident scenes. In order



for the Road Ranger Program to be even more successful, the operation should be analyzed to make sure it is as effective as possible in all areas.

Changing the primary function of the Road Rangers from strictly roadside assistance to that of incident management would benefit the TIM program greatly. The expansion of the areas and hours covered by the Road Rangers may be among the best solutions to improve TIM in Florida.



***The Road Rangers provide a valuable service as they provide support to the incident management program.***

FDOT District	No. of Units	Centerline Miles Served	Highways Served
1	18	241	I-75 and I-275, and I-4
2	8	102	I-10, I-95, and I-295, and J. Turner Butler Blvd.
3	4	20	I-10 and I-110 (interchange construction contract)
4	23	111	I-75, I-95, and I-595
5	12	74	I-4, plus the Orlando-Orange County Expressway Authority (OOCEA), facilities, State Roads (SRs), 408, 417, 429, and 528
6	35	89	I-75, I-95, I-195, I-395, and SR 826 (all District 6); plus Miami-Dade Expressway Authority (MDX) facilities, SRs 112, 836, 874, 878, and 924
7	7	60	I-4, I-75, I-275, and SR 60
FTE	18	368	Turnpike mainline and the Sawgrass Expressway, and operates a joint program with OrlandoOrange County Expressway Authority (OOCEA) that includes: <ul style="list-style-type: none"> <li>East-West Expressway (State Road 408) from Florida's Turnpike to the State Road 50 exit,</li> <li>Central Florida Greenway (State Road 417, aka Southern Connector) I-4 east to International Drive,</li> <li>Central Florida Greenway (State Road 417) from the Orange-Seminole County line north to I-4,</li> <li>The Bee Line Expressway (State Road 528) I-4 east to Boggy Creek Road</li> </ul>
<b>Totals</b>	<b>125</b>	<b>1064</b>	

Table 2-1 Road Ranger Operations Statewide





***As with any program, the regional incident management program must be tailored to the needs, resources, capabilities, and priorities of the region and the participating organizations.***

## 3 Mission, Vision, and Goals and Objectives

Several guiding principles shape the mission, vision, goals and objectives of the Florida TIM Program.

### 3.1 Guiding Principles

FDOT and its partners have reached a milestone where it has an enormously successful TIM Program and the Department can now provide a new level of leadership and vision. The program's future success should be built on this success and include understanding of stakeholder needs, a statewide and national perspective on

transportation management and operations, and the credibility to lead the incident management community forward to achieve new goals. These themes include:

- An all-events approach: the expanding definition of "incidents" introduces efficiencies and safety benefits to combining TIM best practices and special needs of emergency transportation operations.
- Recognition of multiple objectives: public safety agencies have their own values and procedures and must be integrated more fully into incident management and emergency transportation operations.



**Mission:**

***Provide efficient, coordinated, and consistent traffic incident management across the state that will improve the safety and reliability of the transportation network.***

**Vision:**

***Develop an institutionally integrated, fully cooperative association of all public agency and private industry traffic incident management stakeholders to improve the safety and reliability of the Florida Transportation system and maintain Florida's status as a national leader in TIM programs.***

- Structured process: systematic pre-event preparations are essential for efficient and effective response and management.
- Performance-driven approach: improvement depends on (appropriate) performance measurement and management.
- Formalization: “institutionalizing” best TIM practices through joint procedures, legislation, interagency agreements, and innovative contracting, so that TIM is prominent within each organization, particularly at the local/regional levels.

As with any program, the regional incident management program must be tailored to the needs, resources, capabilities, and priorities of the region and the participating organizations. The program should reflect the technical and institutional realities of the region's transportation network, authorities, and travel conditions.

### **3.2 Traffic Incident Management Mission and Vision**

The mission and vision for Florida's TIM Program define what the program is committed to doing and creating a horizon to seek. They are expressed as follows:

**Mission:** Provide efficient, coordinated, and consistent traffic incident management across the state that will improve the safety and reliability of the transportation network.

**Vision:** Develop an institutionally integrated, fully cooperative association of all public agency and private industry traffic incident management stakeholders to improve the safety and reliability of the Florida Transportation system and maintain Florida's status as a national leader in TIM programs.

### **3.3 Traffic Incident Management Goals and Objectives**

The specific goals of the program adopted by the Statewide TIM Teams were derived from the Statewide ITS Strategic Plan<sup>2</sup>, which in turn derived its goals from the 2020 Statewide Florida Transportation Plan (FTP)<sup>3</sup>. The Florida Statewide TIM goals and objectives are presented as follows:

#### **Goal 1: Provide safe transportation for residents, visitors, and commerce.**

##### **TIM Objectives:**

- 1.1. Maximize the coverage and consistency of the TIM program statewide by enhancing and expanding the effectiveness of the Statewide and Regional TIM Teams and Road Ranger Program.
- 1.2. Minimize detection, verification, and response times for incidents by implementing proactive multi-jurisdictional, multi-agency traffic incident management programs.
- 1.3. Minimize incident clearance times through TIM programs emphasizing improved incident scene management, quick vehicle spill clean-up, incentives for towers and recovery companies, and other innovative practices.
- 1.4. Minimize incident recovery times by applying technologies to manage traffic and inform travelers.
- 1.5. Minimize secondary incidents by rapid handling of traffic incidents, improved traffic management and improved motorist information.
- 1.6. Improve Road Ranger operations by implementing more consistent training, policies, and procedures.

<sup>2</sup> “Florida's Intelligent Transportation System Strategic Plan” Final Report developed for the Florida Department of Transportation, August 1999. Update in progress.

<sup>3</sup> “2020 Florida Transportation Plan,” Florida Department of Transportation, December 2000. A 2025 update is in preparation.

- 1.7. Improve incident and emergency management communications by coordinating interagency communication systems and real-time traveler information systems for incidents, evacuations, major route closings, re-routings, or other restrictions.

**Goal 2: Provide protection of the public's investment in transportation.**

**TIM Objectives:**

- 2.1. Provide leadership in incident and emergency management statewide.
- 2.2. Integrate incident and emergency management into operation of the State Highway System, including planning, design, construction, and operations.
- 2.3. Maximize TIM through performance measure tracking.
- 2.4. Protect the public safety and private investments through equitable regulation of traffic and incident management service providers.
- 2.5. Protect responders and their organizations from liability for performing these practices to maximize "open roads."
- 2.6. Assist in providing safe and efficient maintenance of traffic during project construction by deploying smart work zone monitoring systems and real-time traveler information systems.
- 2.7. Minimize institutional barriers to successful incident and emergency management.
- 2.8. Provide for appropriate deployment and operations funding for TIM (including the Road Ranger Program) and emergency management.

**Goal 3: Provide an interconnected transportation system that enhances Florida's economic competitiveness.**

**TIM Objectives:**

- 3.1. Maximize communications between and among the network of traffic management centers (TMCs),



law enforcement joint regional communications centers (JRCCs), state and county emergency operations centers (EOCs), local traffic control centers (TCCs), transit operations centers (TOCs), and other appropriate TIM centers.

- 3.2. Maximize the role of TMCs and Road Rangers in traffic incident management.
- 3.3. Identify needed changes in State Statutes, agency policies and procedure, guidelines, and practices.



**Goal 4: Provide travel choices to ensure mobility, sustain the quality of the environment, preserve community values and reduce energy consumption.**

**TIM Objectives:**

- 4.1. Improve citizen and tourist mobility and access to safe havens during emergencies, particularly evacuations, through the use of specialized traveler information systems and Road Rangers.
- 4.2. Reduce energy use and environmental degradation by means of integrated ITS and TIM “systems management”.
- 4.3. Improve service for special traveler needs in emergencies through the use of ITS applications.
- 4.4. Reduce energy use and delay associated with major incidents through ITS applications, synergistic management, orderly maintenance of traffic (MOT), and judicious, preplanned route diversion.

These formed the basis of over 100 strategic and specific actions developed and reported in the TIM Reference Document.



***The National Traffic Incident Management Coalition has established  
“Nine Keys to Success for Traffic Incident Management Programs.”***



## 4 Traffic Incident Management Strategic Plan

A common tenet of Intelligent Transportation Systems (ITS) is, “Think globally (strategically), plan regionally and deploy locally.” Much the same can be said for TIM. In the context of the Florida Statewide TIM Program, we should “*Think globally (e.g., statewide), plan regionally (FDOT district wide) and practice locally (county wide).*”

As noted above, the priority strategic objectives selected by FDOT are maximizing mobility and minimizing secondary crashes. A number of strategic and specific actions have been suggested that support one or both of these—indeed there are overlaps in actions that benefit each objective. The action list in Table 5-2 of the TIM Reference Document has nearly 110 specific actions, plus other potential actions of a more general nature that were identified in Section 6. Clearly the TIM program cannot tackle all of these at one time. The summary of recommended actions in this Strategic Plan represents the sets that are viewed as having the best “bang for the buck” in terms of having a decisive impact on TIM in Florida. As the program continues, the remaining actions serve as a pool that can be addressed as resources are available.

This section is the core of the Statewide TIM Strategic Plan. The National Traffic Incident Management Coalition (NTIMC) has established “Nine Keys to Success for Traffic Incident

Management Programs.”<sup>4</sup> This excellent framework forms an appropriate organization for the Florida TIM Strategic Plan, so the section is organized along the lines of the nine keys, which are sectioned into programs and institutions, operations, and communications and technology.

### 4.1 Strategic Principles and Definition of Terms

#### 4.1.1 Strategic Principles

Looking to the future, the ultimate vision to “develop an institutionally integrated and fully cooperative association of all public agency and private industry traffic incident management stakeholders” requires a concerted application of the 4-Cs (communication, cooperation, coordination, and commitment) for all phases of traffic incident management in the state, and with our neighbors.

Some of the essential strategic principles to ensure success of this plan are summarized as follows, first statewide:

- Ensure that the TIM community, including the Road Rangers, is organized in a manner that can both provide effective traffic incident management, but also satisfy the mandate placed on the Florida DOT as the responsible agency for highway operations<sup>5</sup>, including incident clearance.



***The priority strategic objectives selected by FDOT are maximizing mobility and minimizing secondary crashes.***

<sup>4</sup> “Nine Keys to Success for Traffic Incident Management Programs,” ITE Intelligent Transportation Systems/Management and Operations (ITS/M&O) Newsletter, Winter 2005. See also <http://timcoalition.org/>.

<sup>5</sup> Florida Statutes, 334.044: (13) “To designate existing and to plan proposed transportation facilities as part of the State Highway System, and to construct, maintain, and operate such facilities.”

- Comply with the relevant portions of the National Incident Management System (NIMS).
- Improve organization and coordination—internal agency restructuring to respond to program requirements as well as equivalent commitments and formal agreements among agencies.
- Predict/detect/deter—improvement in prediction, detection, and warning so that potential incident impacts can be mitigated by protection, deterrence, or predetermined responses.
- Deploy technology/equipment—deployment of best available technology, equipment, and supplies to accommodate all hazards and to minimize the time and cost of key emergency response activities and improve its effectiveness.
- Enhance field response and procedures—clarified policies on appropriate authorities, effective command, and coordination. Develop pre-established protocols for effective and timely scene management, MOT, clearance, and pre-established diversion routes where appropriate.
- Conduct training—continue, indeed expand, joint TIM training in general, MOT, and hazard-specific procedures.

A second overarching effort of the plan would be to transform TIM in the regions from a largely discipline-specific orientation to a fully integrated, multi-agency orientation. The following strategic principles would apply:

- Focus traffic incident management in the TMCs, which should be the centroid of TIM activities.
- Transform the Road Ranger Program's primary mission from motorist assist to traffic incident management.

- Apply the all-events approach combining the best practices from traffic incident management and the range of emergency transportation operations into a single comprehensive framework.
- Recognize the need for multiple objectives in traffic incident management and emergency transportation operations.
- Use a structured process that focuses on preparations that support more efficient and effective steps in the response process based on cooperative preparation and planning of protocols, new technology, and equipment.
- Base all TIM on performance-driven objectives to achieve continuous improvement towards policy objectives of efficiency and effectiveness.
- Adopt a formal program approach to joint procedures and protocols as well as policies, interagency agreements, innovative contracting, and other institutional measures.

Finally, recall that the primary focus of the TIM Program for the next few years will be focused on *maximizing mobility* and *minimizing secondary crashes*.

#### 4.1.2 Definition of Key Terms

For the purpose of this discussion, we define a traffic incident as any non-recurrent event or other special event that causes a reduction in highway capacity (such as a vehicle crash or vehicle breakdown) and/or an increase in demand (such as a sporting major event or even an evacuation).



A secondary incident is one that occurs as a direct or indirect result of a previous incident. Most are generally crashes, but can be other incidents, such as a vehicle overheating and stalling because it is sitting idle in the queue rather than moving. These sometimes lead to tertiary incidents, but all are referred to as “secondary.”

Major emergencies, such as hurricane and wild fires, are incidents as well, but on a much broader scale, and they involve a wider range of responders and—particularly—managers. These are not covered extensively in this TIM Strategic Plan since there are other plans in place to deal with these. To the extent that the actions in this plan apply, of course they are equally applicable to major emergencies.

Many operational aspects, and subsequent performance measures, are derived from the anatomy of an incident. Figure 4-1 illustrates a typical “incident timeline,”<sup>6</sup> namely the common steps of an incident. All of the steps might not occur in a particular incident, and there may be other interwoven relationships, but this represents the typical sequence for most significant incidents. The steps are shown in a staggered fashion simply to illustrate that the incident timeline is not uniform; however, the time increments are purely relative. The duration of particular events are noted as letter pairs in the discussions below. The durations of the common phases of an incident would thus be defined as follows, as illustrated in Figure 4-1(a):

- Detection that an incident has occurred: A-B;
- Verification that the incident has occurred, determining its location, and having sufficient information to enable an appropriate response: B-C;
- Response by dispatching appropriate assets to resolve the incident: C-E;
- Roadway clearance, or the removal of the vehicles, damaged property, and victims from the incident scene, complete reopening of

any blocked lanes, (as defined by the Open Roads Policy): E-K;

- Incident Clearance, or the removal of the vehicles, damaged property, and victims from the incident scene, complete reopening of any blocked lanes, and departure of all responders: E-M, labeled Clearance in Figure 4-1(a) and includes Roadway Clearance; and
- Recovery to normal traffic flow: M-N.

For example, the actual incident duration would be A-M, while the total influence time of the incident is A-N; however, the actual time of the incident is very difficult to establish unless witnessed by a reporting official. Thus for the purposes of this plan, these times begin upon verification, or B-M and B-N, as shown in Figure 4-1(b), respectively. Note that point M is generally when law enforcement leaves the scene following their investigation. They may arrive at points E, G, or even another point in the timeline. It is also highly desirable that the wrecker service be called simultaneously with other resources, point F, rather than point H.

The recovery time (the difference between the total incident influence time and the duration) can be three to five times longer than the actual incident duration. The superimposition of a secondary crash can return this timeline to an earlier stage for the new incident, thus creating an iterative, or cascading, effect. This is very difficult to measure at present, but it should be a long-term goal to be able to measure point N.

Note that at points D and E, the first responder has not been identified. While this is usually law enforcement, in areas with Road Rangers, it is often one of them, and law enforcement would be one of the “secondary” responders (in time, not importance).

Further, this graphic presumes a sufficiently serious incident that a full range of incident

<sup>6</sup> Immediate source: “Quick Clearance and ‘Move-It’ Best Practices, Final Report,” I95 Corridor Coalition, September 2003. Originally adapted from an earlier version of “Traffic Incident Management (TIM) Performance Evaluation for Florida,” Florida Department of Transportation, draft September 2004.

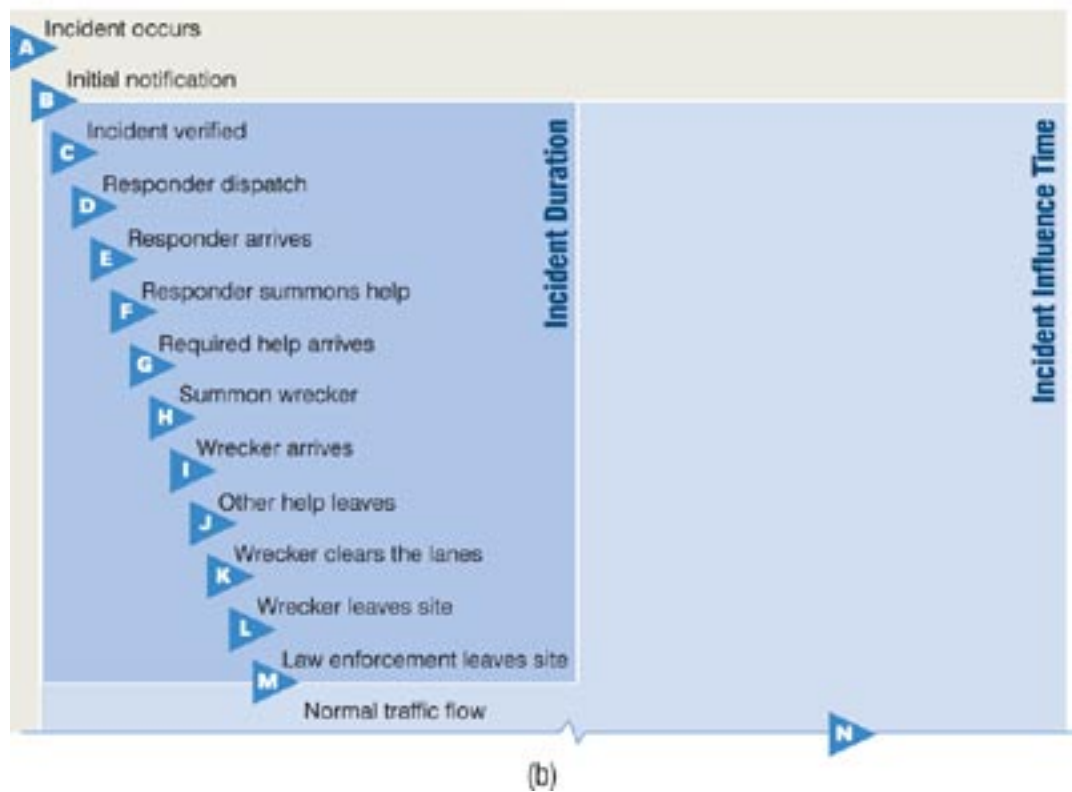
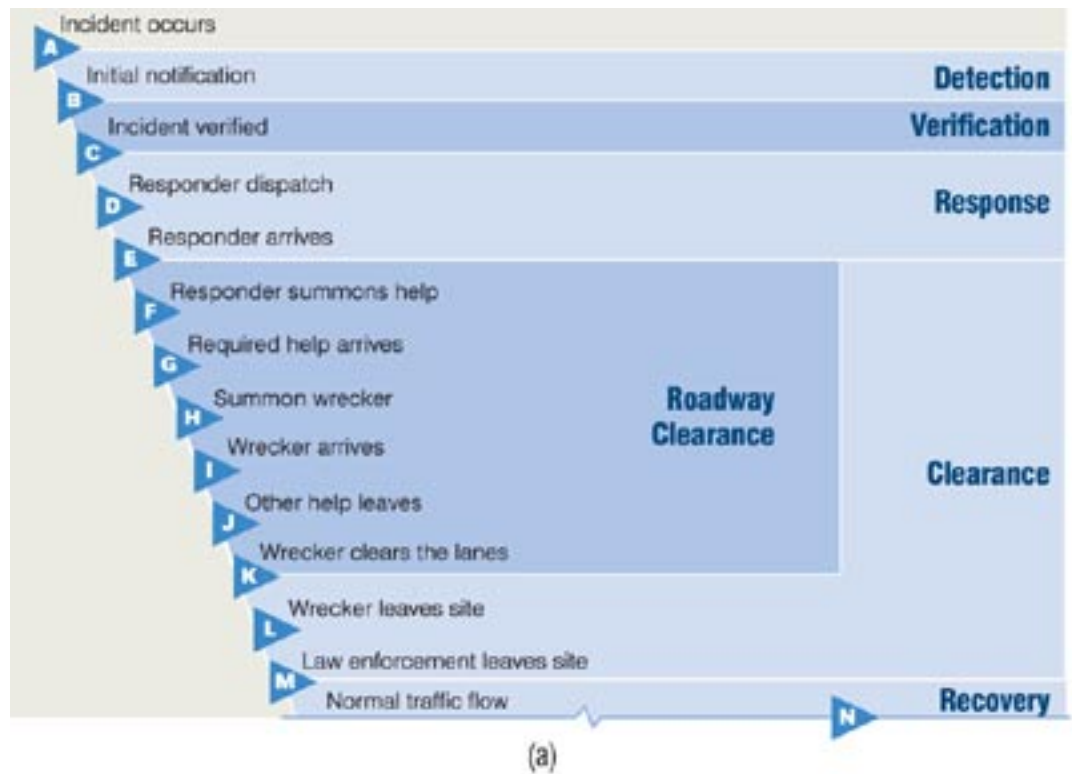


Figure 4-1 Traffic Incident Timeline



management services will be required, almost certainly law enforcement; possibly fire rescue, emergency medical, and hazardous material handling; and wrecker(s). Thus, it likely represents a Level 2 or Level 3 incident. Level 1 incidents generally do not require most of these services.<sup>7</sup>

Finally, one other point needs to be made. The Florida Open Roads Policy defines clearance as beginning with the arrival of the first responding officer, which could be point D, E, or even G, and ends when the travel lanes are clear, point K. The ramifications of this are covered in the Strategic Plan discussions.

These facts are critical to the TIM Strategic Plan because in the development of this plan, the leadership of the TIM Steering Committee determined, as noted earlier, that the immediate and primary focus of the TIM Program should be on maximizing mobility, which is achieved by minimizing the incident influence time, and minimizing secondary crashes, which extend the latter. The visualization of these through Figure 4-1 illustrates clearly the sensitivity of these to the various stages of the incident.

For the Road Ranger Program, several key definitions are provided as follows:

- Stop: one Road Ranger unit stopping at one location or traveling over a segment of roadway to service an incident.
- Service: an assist to a motorist, such as changing a flat tire, providing fuel and the like.
- MOT setup: laying out cones, signs, and other items to provide maintenance of traffic in and about an incident scene. The initial set-up might constitute just a few cones and signs, but a full MOT must conform to the Florida Department of Transportation Design Standards or Manual on Uniform Traffic Control Devices (MUTCD) in areas

not covered in the Florida Department of Transportation Design Standards.

What follows in the next subsections are strategic and specific actions that have been proposed to be undertaken by FDOT, its partners, the Statewide and Regional TIM Teams, and the Road Ranger Program as a whole.

## 4.2 Traffic Incident Management Operations

This is the class of strategic actions that deals directly with the management of resources and the incident itself. There will be overlap among the several categorical areas.

### 4.2.1 Responder and Motorist Safety

First among all TIM activities is the concern for the safety of the motoring public, security of their property and the public's property, and, of course, safety of the responders themselves.

#### 4.2.1.1 Strategic TIM Safety Actions

The key strategic actions related to responder and motorist safety are the following:

- Expand the Road Ranger Program (Action 1.1.7)<sup>8</sup> to full statewide coverage, with emphasis on major corridors where it is currently lacking, mainly I-10 in the Panhandle, and
- Engage Road Rangers more actively with TIM (1.1.9).

#### 4.2.1.2 Specific TIM Safety Actions

These are TIM best practices that improve safety:

- Improve the controlled use of emergency lighting (1.1.10), that is, do not use flashers when unnecessary, and
- Reduce unnecessary equipment at the scene (1.3.4).



***First among all TIM activities is the concern for the safety of the motoring public, security of their property and the public's property, and, of course, safety of the responders themselves.***

<sup>7</sup> The incident levels are 1: no lane blockage, minor traffic impact, and less than 30-min total duration; 2: roadway blockage and traffic impact 30-min or greater; and 3: full directional closure or traffic impact 2 hours or greater. "Impact" refers to traffic queue clearance, not just the incident itself.

<sup>8</sup> These "actions" are fully defined in the TIM Reference Document.

## 4.2.2 Response and Clearance Policies and Procedures

As noted previously, reducing response and clearance times are the best way to reduce overall incident duration and influence time.

### 4.2.2.1 Strategic Response and Clearance Actions

It is not surprising that this category has the most actions, since these are essential to achieving the goals of maximizing mobility and reducing secondary crashes. The following are strategic measures aimed at reducing incident duration, thus also influence time:

- Develop guidelines for TIM Team operations (1.1.3) that are standardized through the state,
- Develop standardized guidelines for Road Ranger Program statewide,
- Provide incentives to towing and recovery companies for quick clearance (expand the RISC program to freeways) (1.3.8), which might take legislative action,
- Road Rangers assume increased role in TIM (1.6.1) as earlier noted,
- Change Open Road Policy (ORP) goal to begin upon verification of the incident (1.9.1) and reconcile ORP and incident levels (1.9.2),
- Conform to National Incident Management System (2.1.6),
- Apply unified command system in TIM (2.2.3) in accordance with NIMS,
- Update towing regulations to improve the equipment needs (2.4.2),
- Localize statewide policies with TIM Team input (2.7.2), and
- Districts should determine the appropriate role of Asset Managers in TIM (2.9.3).

### 4.2.2.2 Specific Response and Clearance Actions

One of the most critical action groups is quick clearance. Actions recommended are:

- Improve public awareness of the Move-It Law (1.2.4),
- Improve responder understanding and use of Move-It Law (1.2.5),
- Responders issue cards to explain “Move” Laws (1.2.7),
- Improve minor spill cleanup by applying approved guidelines (1.3.3),
- Develop guidelines to provide emergency access via median crossovers (1.3.6),
- Provide more formal recognition of Road Ranger operators by public by issuing badges (1.6.5),
- Provide timely notification of responsible agencies (1.7.1),
- Participate in post-evacuation debriefs (1.7.6),
- Initiate multi-agency post-incident debriefs for all Level 3 and selective Level 2 incidents, and all evacuations (1.9.4),
- Construction and maintenance MOT plans include TIM (2.6.1), and
- Vigorously pursue quick clean-up of minor vehicle spills (2.11.2).

## 4.2.3 Procedures for Major Incidents

### 4.2.3.1 Strategic Actions for Major Incidents

While these can be implemented locally, they are viewed as strategic because they require a paradigm shift among most responder agencies:

- Responders proactively remove deceased victims (1.3.5), which requires an agreement with regional Medical Examiners (and ultimately might need legislative intervention to protect responders from exposure to liability),

- Support command and control efforts for evacuation (1.7.3) as required by NIMS and the State Comprehensive Emergency Management Plan, and
- Follow the standardized criteria and agreements for discontinuing toll collection on all expressways during emergencies (1.9.5).

#### 4.2.3.2 Specific Actions for Major Incidents

- Provide preplanned diversion routes (1.3.7),
- Support evacuation guidelines, including contraflow (1.7.4), and
- Support evacuation routing, including contraflow (1.7.5).

### 4.3 Communications and Technologies

#### 4.3.1 Integrated Interagency Communications

The lack of interagency communications has been one of, if not, the most serious concerns among TIM managers and responders. Communications are needed between transportation management and control centers and field units and also between responders at or near the incident scene.

##### 4.3.1.1 Strategic Communications/Technology Actions

The solution is one or both of the following:

- Provide common interagency communications system for all TIM personnel (1.8.2), which could be a regional system, but a better solution is,
- Provide common interagency-communications system for all emergency management personnel (1.8.3).

The opportunity offered by the new M/A-COM 800 MHz State Law Enforcement Radio System (SLERS) makes this a potentially viable solution to this issue.

#### 4.3.1.2 Specific Communications/Technology Actions

An effort is already underway to provide automated data logging and communications system for Road Ranger operators (1.8.1) and should be deployed statewide.

#### 4.3.2 Transportation Management Systems

With ITS and TMCs coming extensively on line around the state, it is critical that TMCs become more proactively involved in TIM, particularly when the TMC is jointly operated with the FHP. The vision is that the TMC is the focal point for TIM and that TIM is their “Job 1!” To do this effectively will require considerable outreach to work closer with the 9-1-1 Centers and emergency agencies that respond to incidents on Florida highways. Data sharing, video sharing, and improved communications will be necessary to make measurable improvements in multi-agency TIM performance.

##### 4.3.2.1 Strategic TMS Actions

- Use ITS to detect incidents (1.2.1), which is a common objective of both the CCTV and sensors (via incident detection algorithms),
- Use ITS to verify incidents (1.2.2), which is an important role for CCTV,



***On Thanksgiving Day Eve, Wednesday, November 24, 2004—one of the heaviest traffic days of the year—the Palm Beach ITMS staff assisted the Turnpike’s Traffic Management Center by relaying information about a jack-knifed tractor trailer on the Turnpike that they were able to monitor via the CCTV at Okeechobee Boulevard. The information was used by the Turnpike TMC to better and more timely inform motorists of the incident and lane blockages.***



- Use ITS to improve first response to incidents (1.2.3) and use ITS to improve secondary response to incidents (1.3.2), where operators advise, even in some cases, dispatch, responders,
- Use ITS to improve incident clearance time (1.3.1), particularly through more effective dispatching and traveler information (see also Subsection 4.3.3), and
- Encourage co-location of FDOT TMC and Law Enforcement Dispatch Centers (2.1.3), which is already being done to some extent statewide, and there is a FDOT/FHP memorandum of understanding to this effect.

In the case of the first four, we might say “expand the use” as TMCs come on line. In the last case, planning must begin very early in the deployment process.

#### 4.3.2.2 Specific TMS Actions

It is clear that TMCs should be the centroid of traffic incident management. The foregoing strategic actions would help ensure that, but several more specific actions are needed as well, which are identified as follows:

- Provide Road Ranger Dispatchers in TMCs or Law Enforcement Dispatch Centers (1.6.4), the “best” approach to which might well depend on whether the operations are co-located or not,
- Provide for integration of TMC and law enforcement CAD systems (3.1.2), which is already under negotiation between FDOT and FHP and a solution might be concluded this calendar year, and
- Develop a Statewide Concept of Operations (ConOps) with TMCs having a primary role in TIM (3.2.1), which could be a part of the proposed Joint Operations Agreement (JOA), or separate.

In the last case, whether this actually becomes a ConOps or simply a policy is immaterial; the result is what is important.

#### 4.3.3 Traveler Information

The previous actions are primarily aimed at improving TIM amongst responders and managers. This section deals with the provision of timely and accurate information to travelers so that they may make more informed decisions in response to incidents, or at least have more piece of mind when adversely impacted by them.

##### 4.3.3.1 Strategic Traveler Information Actions

A number of strategic actions already mentioned have a direct impact on this aspect, such as develop a Statewide Concept of Operations with TMCs having a primary role in TIM (3.2.1), and stressing traveler information as well. A unique one to this area is “use ITS to provide timely and accurate information to motorists impacted by incidents (1.3.13).”





#### 4.3.3.2 Specific Traveler Information Actions

These are actions that can be taken by individual centers, TIM Teams, and/or responders:

- Provide timely incident information to motorists to avoid additional incidents (1.4.1),
- Conduct awareness campaign to avoid rubbernecking (1.4.2),
- Inform motorists of incident in route (1.5.1),
- Responders provide warnings to back of queue (1.5.2), and
- Provide statewide traffic condition system (2.1.4), which is being implemented as part of the iFlorida program.

### 4.4 Programs and Institutions

#### 4.4.1 TIM Administrative Teams

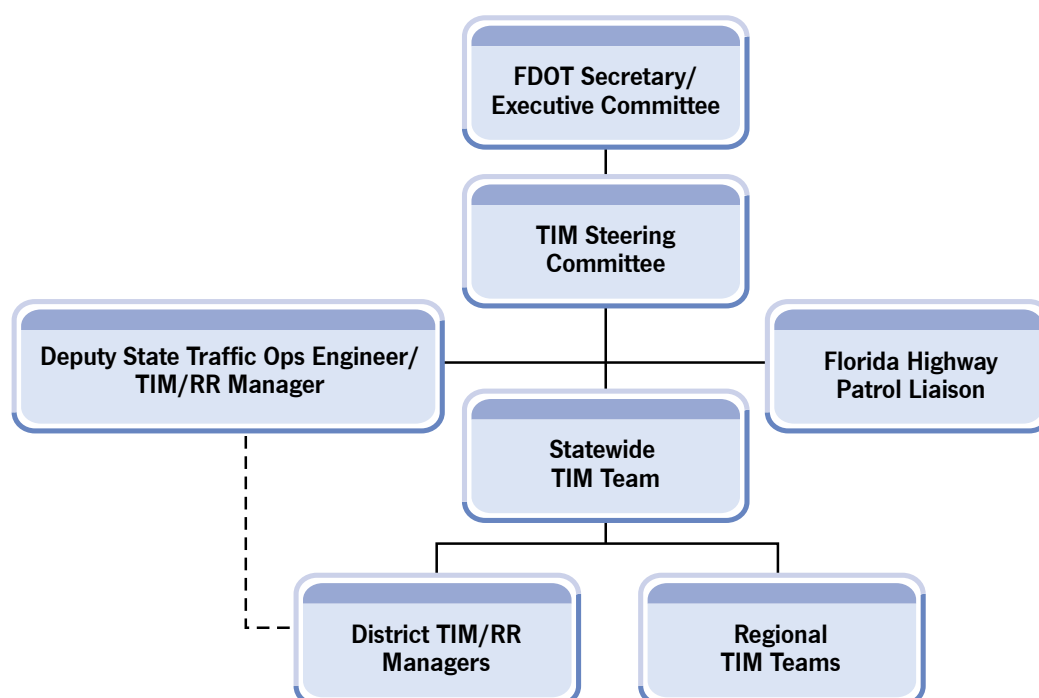
Section 2.2 identified the current TIM program, which includes many stakeholders who are currently active in the state's TIM Program—including transportation, public safety, and other public- and private-sector organizations. As the program takes on a more strategic posture, it is only natural to first look to expand the participation to embrace other stakeholders. Table 4-1 lists the recommended full slate of stakeholders grouped by category to illustrate the breadth and depth of the groups. A more detailed listing is included in Appendix B of the TIM Reference Document, which summarizes the roles and responsibilities of each stakeholder in traffic incident management.

##### 4.4.1.1 Strategic TIM Program Actions

The most appropriate method for this participation is the Statewide and Regional TIM Teams program. A restructuring of the TIM program is recommended, as illustrated in Figure 4-2. Additionally, the following suggestions are made for consideration with respect to organizational and programmatic changes within the Florida DOT and TIM community:

Category	Stakeholder
<b>Federal Agencies</b>	Federal Highway Administration (FHWA)
	Federal Emergency Management Administration (FEMA)
	Department of Homeland Security (DHS) and state counterparts
	National Weather Service and other weather organizations
<b>State Agencies</b>	Florida DOT (and neighboring states in certain regions):
	Traffic Engineering Operations Office and ITS Section
	Planning Office
	Maintenance Office
	Safety Office
	Motor Carrier Compliance Office
	Florida Highway Patrol (FHP)
	Florida Department of Law Enforcement (FDLE)
	Department of Environmental Protection (DEP)
	Division of Emergency Management (DEM)
	Joint [Communications] Task Force
	Joint Regional Communications Centers
<b>Local Agencies</b>	Law enforcement (police and sheriffs)
	Fire rescue
	Emergency medical services (EMS)
	Metropolitan Planning Organizations (MPOs)
	Medical Examiner/Coroner
	City and county public works and traffic engineering
	Emergency Operation Centers (EOCs)
	County 9-1-1 Public Safety Answering Points (PSAPs)
	Transit agencies
<b>Authorities</b>	Expressway Authorities
<b>Private Partners</b>	Towing and recovery operators
	HazMat contractors
	Asset Management contractors
	Insurance industry
	Information Service Providers (ISPs)
	Traffic media
<b>Associations</b>	Professional Wrecker Operators of Florida (PWOFF)
	Florida Independent Towing and Recovery Association (FITRA)
	Technical societies (ITS Florida, Florida Section ITE)
	Professional Wrecker Operators of Florida (PWOFF)
	Florida Independent Towing and Recovery Association (FITRA)
	Technical societies (ITS Florida, Florida Section ITE)
	American Automobile Association (AAA)
	Community Traffic Safety Teams (CTSTs)
	Chambers of Commerce
	Associations of Cities, Counties, Sheriffs, Police, EMS, etc.
<b>Other</b>	Floridians for Better Transportation (FBT)
	HAM radio operators and other civil defense organizations who are vital in major emergencies
	Citizens' groups

Table 4-1 Traffic Incident Management Stakeholders



**Figure 4-2 Proposed Statewide Traffic Incident Management Organization**

1. Create an expanded TIM Steering Committee (1.1.1). The current TIM Steering Committee is composed of senior managers of FDOT and FHP. Several other agencies have been invited, but have not generally participated. The Steering Committee might consider expanding to include more stakeholders, such as AAA, Fire and Police Chiefs' Associations, etc.
2. Foster expert outreach for the exchange of best practices (1.1.2). This would be a two-way exchange, Florida sharing its expertise and experiences with others nationally and Florida learning from others as well.
3. Develop guidelines to standardize the Road Ranger Program, while retaining special needs (1.1.8).
4. Initiate a formal qualification program for Road Ranger operators (1.6.3).
5. Provide inter-agency training (1.9.3). Foster a two-way expert outreach for the exchange of best practices with others in Florida and nationally.
6. Florida join National Traffic Incident Management Coalition (2.1.7).
7. Require qualification/certification of wrecker services (2.4.3). See Subsection 4.4.2.2.
8. Develop a concerted TIM awareness program to educate the public about good TIM practices (in addition to the explicit ones recommended elsewhere, such as action 1.2.4), and the TIM Program in general.

#### 4.4.1.2 Specific TIM Program Actions

The specific actions recommended are summarized as follows:

- Present Executive Forums and TIM Workshops in areas not covered by TIM Teams (1.1.4),

- Strengthen bond between statewide and regional TIM Teams (1.1.5),
- Provide expanded Road Ranger training in TIM (1.6.2),
- Develop operations agreements with other impacted agencies, such as Medical Examiners, hospitals, hazardous materials handlers, etc. (1.9.6), and
- Develop interagency agreements for TIM mutual support (2.1.2).

#### 4.4.1.3 TIM Program Staffing Changes

A substantially expanded TIM Program is being recommended in this TIM Strategic Plan. This has obvious impacts on staffing to support the TIM Program. This subsection summarizes the expected staffing impacts, a recommended restructuring of the Statewide TIM Team and suggestions for closer coordination with other TIM-related groups.

##### FDOT Staffing Recommendations

Suggested staffing levels in the FDOT Central Office and Districts as follows:

- In the Central Office another position is needed for training, management and operations, quality assurance reviews, etc. This does not include the new FDOT/FHP Liaison position which is discussed further under FHP.
- For Districts having one or two TIM Teams and Road Rangers, consider a fulltime TIM Manager to handle the administration of TIM Teams and Road Ranger contracts.
- For Districts with three or more TIM Teams and two or more Road Ranger contracts, consider a fulltime TIM Manager to manage the TIM Program and a separate Road Ranger Manager.
- For extremely active regions, such as District 5, consider an assistant TIM Manager in addition to a separate Road Ranger Manager.

Some of these functions are currently being handled by personnel with other duties and/or supplemented by consultant support. The former would be relieved to concentrate on other operations functions by the suggested new positions, which would report to the District Offices of Traffic Operations.

##### Florida Highway Patrol Liaison to Florida Department of Transportation

Much has been made for the need for interagency communications, cooperation, and coordination, particularly between FDOT and FHP. With the proliferation of TMCs statewide, several of which have co-location of FDOT and Regional Law Enforcement Dispatch Centers<sup>9</sup>, which are operated by FHP, and even FHP District Headquarters, it becomes more imperative to improve the 4-Cs between these state agencies. A FDOT-FHP liaison position is proposed. It is particularly recommended that a FHP officer be assigned on a continuing basis to this position and that he or she reside in the Traffic Engineering and Operations Office in the Central Office in Tallahassee.

Since by State Statute, FDOT is principally responsible to operate and clear the highway to recover from traffic incidents—yet FHP plays a vital role in this process—it would be appropriate for FDOT to fund this position and as mentioned above, provide accommodations in the FDOT's TEOO. The FHP officer would act as “TIM Program Co-manager” and would assist, or assume a number of the responsibilities attributed to the TIM Program Manager, particularly given the expanded role and focus of TIM and the Road Ranger Programs. Fulltime liaison police positions already exist in several states and are funded by the transportation agencies.



***The 2005 Florida Statutes, Title XXVI, Public Transportation Chapter 334, Transportation Administration, Section 334.044, Department powers and duties: (13) To designate existing and to plan proposed transportation facilities as part of the State Highway System, and to construct, maintain, and operate [emphasis added] such facilities.***

<sup>9</sup> The formal name of these is Joint [or the actual location, such as Jacksonville] Regional Communications Centers.

### Reorganization of the Statewide TIM Teams

The Statewide TIM Teams are the primary forums for innovation, debate, and development of the TIM tools that are put into practice by the Regional TIM Teams.

As shown earlier in Figure 2-1, the current TIM Team structure has four standing teams that together constitute the Statewide TIM Team, but the earlier reported issues have led to a need to reform the organization. Accordingly, a new structure is recommended as part of this TIM Strategic Plan,



a strawman of which is shown in Table 4-2. The structure would be organizationally based, with agency-appointed representatives from each of

Agency	Representative Categories	No.	Candidates
FDOT	Central Office TIM Section, Ofc of Maintenance	3	TIM/RR Managers
FDOT Districts	TIM and RR Managers	~12	
	Maintenance, Asset Managers	~8	
FHP	HQ and Troops	10	
Local Law Enforcement	Association of Sheriffs	3	Traffic and Investigations Commanders
	Police Chiefs Association	3	
	Select other LE Agencies	4	JAX, MIA, ORL, TMP
Fire Rescue	Fire Chiefs Association	3	HAZMAT, Training, EMS
Other State Agencies, Assns.	Dept. of Environmental Protection	1	
	Community Traffic Safety Program	1	
	Prof. Wrecker Operators of FL	1	
	Independent Towers of FL	1	
	MPOAC	2-3	
	Insurance Industry	2	Vehicle and Heavy Truck
	Safety	2	AAA, ATSSA
Total membership (max)	Others welcome to be on the mail list	~65-67	
TIM Leadership Committee	FDOT and FHP HQ, 4-6 key members		
Consultant Team	Facilitate, training, outreach		

Table 4-2 Strawman Reorganization of Statewide TIM Team



the targeted organizations. Alternates would be appointed to ensure continuity. Additional participation would not only be permitted, but strongly recommended.

The suggested organization will change dynamically and there will be challenges, the most obvious of which will be the time and expenses associated with TIM Team meetings and project activities, including working meetings between quarterly gatherings, even if conducted telephonically.

A critical factor for success will be the leadership of the TIM Team. The statewide chair and key committee chairs must be able to energize the overall activities of the Team and encourage both meeting attendance and follow-up between meetings. Key chairs should be FDOT TIM staff or champions from partner agencies who are dedicated to the success of the TIM program. This is true of regional TIM Teams as well—perhaps even more so, since that is where the bulk of best TIM practices are applied.

Also, it is suggested that the Regional TIM Teams more explicitly engage the statewide tools. A good example is the “localization of the ORP” that was led by the District 5 TIM Teams. If incident management is to truly be effective, it has to be practiced. The Statewide Teams cannot effectively engage the actual responders—only the regional teams can do this. Thus, they need to be much more proactive in making TIM best practices a total reality. In the context of this section, FDOT at the District level should be proactive in leading its partners in this direction.

The Regional TIM Teams can and do initiate best practices as well. For example, the local agreement with the Central Florida Medical Examiners is an outstanding tool that needs to be carried statewide. Similarly, District 4’s Incident Tracking System and District 6’s planned use of personal digital assistants (PDAs) for incident logging are prime examples.

The latter may soon be a reality statewide, because the TEOO is planning to procure PDAs for all the Road Rangers.

What helps make this work so well is the fact that the Statewide TIM Teams are in fact made up of Regional TIM Team members or at least responders at the local level if a TIM Team doesn’t exist in a particular region.

Finally, to further strengthen the TIM Team and Program, it is proposed that an annual Traffic Incident Management Conference be developed to showcase TIM activity to a larger audience than the TIM Team itself.

### **Other TIM-Related Organizations**

In the context of the FDOT TIM Strategic Plan, other organizations are those that provide support services to the TIM Program and are highly influenced by FDOT as a major stakeholder. Examples are summarized as follows:

- **Community Traffic Safety Teams (CTSTs)**  
are local, multi-agency teams that address general safety issues confronting Florida’s communities, including senior issues, schools, pedestrian and bicycle challenges, and of course traffic safety. The Statewide and Regional TIM Teams should be more interactive and helpful to the CTSTs. There are currently 59 CTSTs in 54 counties statewide; this is a tremendous resource for good in traffic incident management practices. The CTSTs can be a primary channel for “localizing” TIM. These teams should also be invited to the Statewide TIM Team meetings and the proposed Traffic Incident Management Conference should include both these organizations (see below).
- **Professional Associates**, such as the Institute of Transportation Engineers (ITE, and its Florida Section, FSITE), ITS Florida, Associations of Police and Fire Chiefs,



towing and wrecker associations, and other responders' associations are all valuable channels for outreach and promulgation of best practices, and most important political support of the TIM Program.

- Auto clubs (like AAA) and insurance companies can assist the TIM Program in several ways. First, they can assist politically in support of TIM-friendly legislation. Secondly, they can assist in public awareness by promoting good TIM practices on the part of their customers through their newsletters, magazines, and direct mailings.

### Consultant Support to the TIM Teams

The Central Office and several Districts have benefited from consultant support of their TIM and Road Ranger Programs. In addition to assisting

the Central Office, Statewide TIM Teams, and District TIM Teams in “routine” TIM activities, the next few years will see a series of new challenges that expert consultant support can be useful in bringing to bear. Several of these are as follows:

- Assisting the Department in transforming its transportation paradigm from one of capacity improvements to one of management and operations of the transportation system,
- Transforming TIM in the regions from a largely discipline-specific orientation to a fully integrated, multi-agency orientation driven by the 4-Cs, and
- Transform the Road Ranger Program from an emphasis on motorist assistance to traffic incident management.

### 4.4.2 Performance Measures

As Florida’s Traffic Incident Management Program moves to the next level, it will be imperative to measure its progress. Thus TIM performance measures will play an increasingly vital role. The need for performance measures can be summarized as follows:

- To improve the effectiveness of the program and enable tracking the improvement,
- To serve as a basis for upper management support, which affects the funding available for TIM activities,
- To foster public support of the program, and
- To satisfy increased federal emphasis in operations and management.

To complement the assessment process, and to ensure a top quality TIM Program, a “qualification/certification”<sup>10</sup> process should be instituted for TIM, particularly for Road Ranger operators (see Action 1.6.3) and tow truck/wrecker operators (see Action 2.4.3).



<sup>10</sup> Note: in Florida, true “certification” by any state agency is a rule-making process, so unless an existing or external entity can certify subjects, FDOT typically used the term “qualification” to qualify subjects for such purposes to avoid a rule change any time the qualification requirements change.

Four strategic actions dealt with the need for TIM performance measures in general, as follows:

- Develop performance measures and data collection methods for each stage of an incident (2.3.1),
- Develop TIM performance measures (2.3.2),
- FDOT Districts collect, analyze and report performance measures (2.3.3), and
- Report TIM/Road Ranger performance tracking (2.3.4).

Recommended Actions 2.3.1-4 will lead to standards and guidelines for performance measures, data collection, and performance monitoring.

#### 4.4.2.1 Performance Measure Definitions

The primary sources for the TIM performance measures are a study conducted for FDOT by the Center for Urban Transportation Research (CUTR)<sup>11</sup> and one initially done for the Florida Transportation Commission and now being extended by FDOT<sup>12</sup>.

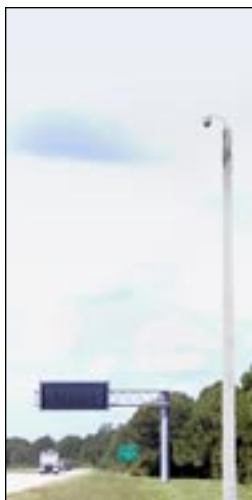
The recommended TIM performance measures are summarized as follows:

- Short-term performance measures for TIM in general and for each responder agency for self-evaluation (letters refer to Figure 4-1):
  - Verification time from initial notification until responder notified (B-C);
  - Response time, from responder notification to arrival of responder, whether this is law enforcement, Road Ranger, or other responder (C-E);
  - Roadway clearance time, from arrival of first responder until the lanes are clear (E-K);
  - Site clearance time, the time all TIM personnel have left the incident scene (K-M); and
  - Incident duration, the accumulation of all the above (B-M).

- Short-term performance measures for Road Ranger operations:
  - Road Ranger response times,
  - Number of Road Ranger stops by cause (e.g., crash, debris, fire, etc.),
  - Number of TIM services by type (e.g., debris removals, move-it assists, etc.),
  - Number of motorist services by type (e.g., battery jumps, gasoline, minor repairs, abandoned vehicle, etc.), and
  - Duration of stop.
- Long-term performance measures for TIM in general:
  - Recovery time, from the last time above until traffic is completely restored to normal (M-N),
  - Incident influence time the accumulation of incident duration and recovery time (B-N),
  - Incident-related delay throughout the incident,
  - Lane-miles of backup, and
  - Secondary crash rates, expressed as a percentage of all incidents.
- Long-term performance measures for Road Ranger (or Incident Response Vehicle) operations, including the number of TIM assists by type (e.g., prior list, plus physical vehicle removals and recoveries, final MOT set-up, assisted extrications, and fluid spill mitigation).
- TIM Program-level performance measures as follows:
  - Aggregate “scores” on FHWA TIM Self-assessment Survey taken biennially by the regional TIM Teams,
  - Incident detection source (e.g., TMC CCTV, TMC sensors, Road Ranger, other responder, motorist cell call, 9-1-1 transfer, or other), and

<sup>11</sup> “Best Practices for Traffic Incident Management in Florida,” Florida Department of Transportation, draft April 2005

<sup>12</sup> “Statewide ITS Performance Measures, Final Report,” Florida Department of Transportation, November 2004. “Recommendation of Florida Statewide ITS Performance Measures,” Florida Department of Transportation, draft, March 3, 2005. A subsequent study of data collection requirements is underway by the same team as the previous.



***Florida has already achieved significant success in TIM initiatives and a consistent program will put FDOT in the enviable position of being one of the top programs in the nation.***

- Road Ranger stop/service detection source (e.g., TMC, Road Ranger, other responder, motorist cell call, 9-1-1 transfer, or other).

The foregoing are the minimum statewide performance measures desired. FDOT Districts are encouraged to gather more to suit their particular needs.

It is expected that much of the data for measuring incident performance will be obtained through a linkage to the FHP CAD. For the more advanced TMCs, a better tracking of incident data can be achieved using other data sources to supplement the FHP CAD records. Road Rangers can be used to record time-stamped changes to incident conditions.

#### **4.4.2.2 Traffic Incident Management Training/Qualification Program**

It is proposed that the Statewide TIM Team consider developing a Statewide Traffic Incident Management Training and Qualification Program (TIMTQP) functionally similar to the FDOT Construction Training/Qualification Program (CTQP). This would also be an ideal opportunity for the FHP liaison to help develop the training for emergency responders consistent with the general goals of safely clearing incidents of all types through better communications, site management, and quick clearance procedures.

The proposed process to create and launch the TIMTQP program is as follows:

1. Determine which specific jobs will require qualification;
2. Form task forces from the TIM Team, Road Ranger managers and contractors, and towing association to create the standards for qualifications;
3. Determine whether any existing certification or qualification programs would be acceptable;

4. Form (or extend the existing) task forces to develop basic training curricula and testing criteria;
5. Formalize the TIMTQP qualifications, training sessions, exercises, and tests; and
6. Initiate the program.

It is likely that a consultant/contractor would be needed to implement and manage all aspects of administering the suggested qualification program, the needed training and testing, maintaining all records in a FDOT-approved database management system, notifying operators when renewals are needed, and all other aspects. The system must accommodate individuals from any organization or company, thus should exist outside FDOT's internal Training Records Evaluation, and Scheduling System (TRESS), but must be able to supply data to TRESS for FDOT employees.

#### **4.4.2.3 Traffic Incident Management Resources**

Several major decisions need to be made before the equipment and other TIM resource needs are known. Some of the possibilities are summarized as follows:

1. If interagency telecommunications becomes a reality, there will obviously need to be a large-scale acquisition of radio equipment.
2. If the decision is taken to change the primary function of the Road Rangers to traffic incident management, instead of motorist assistance, which would continue but as a secondary role, the Road Ranger units will need to be substantially upgraded—both the vehicles, as well as the standard on-board gear and appurtenances. Whether this is a capital investment by FDOT (or others), or continues to be a contractor function will need to be determined.



3. There are new standards for warning materials that require temporary signage with new vibrant colors. Indeed, just to meet the requirements of the revised Manual on Uniform Traffic Control Devices (MUTCD), Road Rangers and other responders, particularly those who have to establish an incident scene to the same standards as a work zone, will need a substantial amount of new signs, barricades, cones, flares, etc.
4. As other quick clearance best practices become more widespread, incidental equipment and materials will be needed, such as more minor spillage clean-up materials and better crash debris removal equipment.

The full impact of these requirements will take more detailed analysis. For the purpose of this Strategic Plan, a broad estimate is included for certain upgrade requirements, which is included in the financial estimates that follow later.

#### 4.4.3 TIM Program Strategic Plan

Traffic Incident Management must be improved and must be part of a FDOT's formal operations program. This is critical to the long-term success of the agency.

Florida has one of the highest fatality rates in the nation at 1.76 per million miles driven; nearly

twice as high as the best states that are under 1 per million miles driven. When secondary crashes with fatalities occur, FDOT and its partners may have been able to prevent them through better response and management of the previous incidents.

Finally, strong TIM programs are a visible, popular method for FDOT and its partners to gain stronger public support for other program improvements.

In the NTIMC framework, this section would cover multi-agency, multi-year budgets, personnel needs, and formal (institutional) agreements. For the purposes of this plan, however, we summarize the foregoing sections with a specific set of strategic actions, including cost estimates.

The recommendations in this plan are consistent with and based on the best practices found in several other states. Florida has already achieved significant success in TIM initiatives and a consistent program will put FDOT in the enviable position of being one of the top programs in the nation.

The combined strategic and specific recommendations that collectively comprise Florida's Traffic Incident Strategic Plan are summarized in Appendix A, which also includes estimates of new FDOT personnel requirements and initial and ongoing cost estimates projected for short-, medium-, and long-term actions.

The actions listed in the table are based on the discussions in the foregoing sections, and through

***In early 2004 the Florida's Turnpike launched an innovative Roadway Incident Scene Clearance (RISC) Program in which pre-approved towing and recovery companies responding to heavy-vehicle highway crashes are paid an incentive if they can meet Florida's Open Roads Policy goal of clearing the roadway within 90 minutes. For the year 2005, there were 88 RISC activations, and since inception a total of 107—the vast majority of which have been successful. The average response time to the scene is 45 minutes. Clearance times (after notice-to-proceed) have ranged from 10 minutes to 86 minutes, with an average of 55 minutes. Nationally, the congestion cost from a single major incident is about \$1 million, with four to six hours of delay. Reducing this delay by about two hours under the RISC Program only costs the Department a couple thousand dollars, which is a huge benefit/cost improvement.***



the TIM Strategic Plan development process. For referencing purposes, the goal-objective-action combination can be identified by their unique number strings, such as “1.2.3.” The “terms” used in the table can generally be classified as follows:

- Short: up to one year from adoption of the TIM Strategic Plan,
- Medium: one to two years, and
- Long: over two years.

This is an aggressive program that will place Florida in the forefront among the states, and, provide its citizens and visitors, personal and commercial with, hopefully, the safest travel environment in the nation.

#### 4.5 Recommended Changes in Laws, Policies, and Procedures

In order to accomplish many of the forgoing changes in the TIM program, there should be some changes in the governance of the program. The specific action, “review all applicable laws, regulations, policies and procedures (3.3.1),” is, in part, being accomplished by this Strategic Planning process.

##### 4.5.1 Potential Legislative Changes

These are legislative changes the FDOT could champion to the Florida Legislature.

1. Direct changes in the FHP authorized wrecker program to create a RISC class of wrecker responses on Interstate corridors and Expressways. This might require legislative approval to use public funds for incentive purposes.
2. Participate in a common interagency communications system for all TIM personnel (1.8.2). This might require legislative action to overcome security barriers of shared telecommunications resources, and financial assistance for some agencies.

Efforts should be made to encourage a law limiting liability to all responders and operations personnel for actions taken while engaged in quick clearance activities (2.5.1).

##### 4.5.2 Potential FDOT Policy Changes

These are policy changes the FDOT could make unilaterally and/or champion among stakeholders. Some are included in foregoing sessions as recommended actions. Others are recommended for policy consideration.

1. Initiate a focus on highway and traffic operations as a primary responsibility of the Florida DOT. This would place traffic management and operations as a principal executive paradigm within the Department.
2. Change the Open Roads Policy to measure performance from the time the incident is verified by a responsible TIM official (1.9.1). This change would make the ORP more consistent with the localization of the ORP. The proposed change in the FDOT/FHP policy is as follows:

*Roadways will be cleared as soon as possible. It is the goal of all agencies that all incidents be cleared from the roadway within 90 minutes of the arrival of the first responder. This goal being made with the understanding those more complex scenarios may require additional time for complete clearance.*

3. Include TIM explicitly in highway designs (2.2.2, but not included previously). Examples of TIM elements to be included in the design plans are access doors and holes for fire hoses through sound barriers, elevated fire hydrants on structures, emergency-crossovers, location reference markers, permanent crash investigation sites,

***Roadways will be cleared as soon as possible. It is the goal of all agencies that all incidents be cleared from the roadway within 90 minutes of the arrival of the first responding officer.***





and emergency access. Such a policy, enforced by TIM sign-off of plans and specifications, would help ensure that TIM has been adequately considered in appropriate designs. While full implementation of Action 2.2.2 is not recommended at this time, it is recommended that a statewide guideline for emergency cross-overs be developed and implemented as requested by the FHWA Florida Division.

4. Ensure that MOT plans include TIM (2.6.1). Similar to the above, MOT plans should be particularly sensitive to TIM requirements for example, portable DMSs, temporary crash investigation areas, etc.
5. Provide TIM as a priority in the FDOT Work Program (2.8.1), including Road Ranger operations. This policy change would ensure ongoing and stable funding support for TIM.
6. Work with public safety and Homeland Security officials to identify ITS applications to preserve and protect the highway infrastructure (2.11.1, not included in the foregoing). This would ensure that mission-critical TIM infrastructure would be adequately monitored. It would better protect the infrastructure from Homeland Security threats as well.
7. Co-locate FDOT TMCs and FHP Dispatch Centers (2.1.3). There is already a FDOT/FHP agreement to this affect in place, but it has not been widely followed. The Department should step up its support of co-location and aggressively pursue partnerships with FHP, counties, cities, and other TIM and traffic management stakeholders.
8. Make TMCs the home for TIM. The TMC, hopefully in partnership with co-located law enforcement, should be

the focal point for TIM (3.2.1). This will enable all of the steps of TIM to be undertaken in a manner than can be managed, documented, and supported by technology, with FDOT involvement throughout the incident.

9. Transform the primary mission of the Road Rangers from motorist assistance to traffic incident management (1.6.1) and establish Road Ranger Dispatch positions within the TMCs or Law Enforcement Dispatch Centers so that response time can be shortened.
10. Determine the appropriate role of Asset Managers in TIM (2.9.3) by re-examining the practice of including TIM operations in Asset Management contracts and/or adjusting the scope and particulars of these contracts. These contracts in general do not adequately address TIM—in most case they refer more to the purely maintenance aspects of reacting to incidents. Indeed, the fundamental principle of Asset Management—that is the transfer of maintenance risk to a contractor working at a fixed price—could be counterintuitive to improved TIM.

#### 4.5.3 Potential FDOT Procedural Changes

Following are suggested procedural changes the FDOT could make unilaterally and/or champion among stakeholders.

1. Develop a new TIM Program Standard Operating Procedure (SOP, or TIM/SOP) to define the roles and responsibilities of FDOT Traffic Engineering and Operations (including ITS), TMCs, TIM Teams, Road Rangers<sup>13</sup>, and other FDOT assets

(a number of specific actions would be covered by this SOP).

2. Champion a new Joint Operations Agreement (JOA) that would be jointly signed by FDOT, FHP, local law enforcement, fire rescue, EMS, Medical Examiners, and other TIM stakeholders (again, a number of specific actions would be covered by this JOA).

#### 4.5.4 Potential FDOT Guideline Changes

Finally, these are suggested changes to FDOT guidelines, either changed unilaterally and/or championed among stakeholders.

1. Strengthen the support for reducing minor spill cleanup by applying the already approved guideline (1.3.3). The current “Guidelines for the Mitigation of Accidental Discharges of Motor Vehicle Fluids (Non-cargo),” approved by FDOT in June 2004, has yet to be widely adopted and rigorously applied. FDOT should “champion” its use.
2. Support evacuation guidelines, including contraflow (1.7.4). FDOT, in cooperation with its partners, should develop more comprehensive guidelines for emergency evacuation, particularly utilizing ITS where it is available.
3. Provide guidelines for more positive access by responder vehicles, including helicopters (1.3.6 and 11, the latter not covered previously). These guidelines should cover crash investigation sites, median cross-overs, special access ramps at strategic locations, predetermined helicopter landing zones wherever practical, and guidelines for lane closures for emergency vehicle access.

<sup>13</sup> A Standard Procedure for Road Rangers is already in development at this writing (cited earlier), which could be incorporated directly or by reference in the more encompassing document.



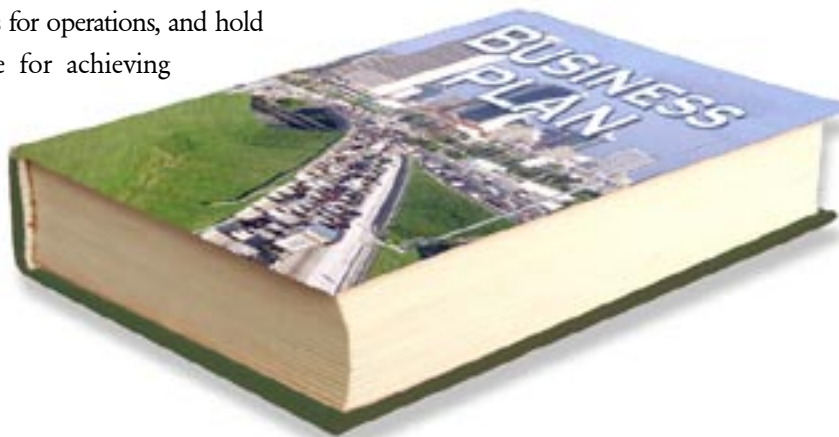
***Traffic incidents create the vast majority of the inefficiencies in the transportation system, not capacity constraints per se, except in a few obvious locations. Thus traffic incident management should be a primary focus of the Department.***

## 5 FDOT'S TRAFFIC INCIDENT MANAGEMENT BUSINESS PLAN

The Florida DOT, like most State DOTs, is primarily oriented toward highway construction and maintenance. Traffic operations, per se, have not traditionally been a primary mission focus. For example, a look at FDOT's home page on its Web site suggests a strong focus on the highway infrastructure part of the mission, with traffic operations' assignment as "oversees studies and projects related to roadway signs, traffic signals, pavement markings, speed limits, school zones, and improved highway safety." The larger purpose of truly operating a transportation system, including all modes, and applying technology and real-time management is largely missing. To truly operate a transportation system, FDOT needs to measure traffic operations in real time, establish performance goals for operations, and hold staff accountable for achieving these goals.

The net result of this paradigm change would be to consider outcomes of the Department's efforts, as opposed to the outputs of programs. Reduced incident rates, severity, and accompanying delay; reduced secondary incidents; and overall improved quality of travel should be primary metrics of performance of the Department, not just miles of asphalt laid or resurfaced. Traffic incidents create the vast majority of the inefficiencies in the transportation system, not capacity constraints per se, except in a few obvious locations. Thus traffic incident management should be a primary focus of the Department.

The key to this is strong support for TIM at the executive level. There are five basic areas where executive-level support is crucial to develop a formal program approach and to ensure that the responsibilities and resources are mobilized and targeted. These include:





- Develop Florida DOT policy through a mission, vision, goals, objectives, and strategic actions that appropriately positions TIM as an agency priority eligible for support and management. These have been outlined in the preceding sections.
- Develop a program with appropriate structure, organization, and plan to fulfill the identified objectives. This and the next three bullets constitute the main purpose of this section.
- Establish performance reporting and accountability through continuous performance improvement support.
- Ensure adequate and sustainable resource support for the program.
- Charge lead agency liaison to develop appropriate policy and working relationships with TIM partners and other key players.

Traffic Incident Management has not been well funded within FDOT and that accounts for the sporadic success rate of initiatives. For consistent performance improvement and longevity, staffing and funding must be stabilized.

FDOT has clearly made a strong commitment to improved TIM both within the organization, as well as in partnership with its public safety colleagues. FDOT needs to consider whether it serves the Department and traveling public better to retain the TIM Program within the Traffic Engineering and Operations Office or to create a separate office. Arguments to the later option

include the interdisciplinary nature of TIM coupled with the expanded scope of the program.

The program has, however, grown strong and stable within TEOO, and given the inclusion of the ITS Section within the office, there appears to be no pressing reason to change at this time. The recent reorganization of the TEOO that created a new position of Deputy State Traffic Engineer for Incident Management and the filling of the vacated Manager for Incident Management and Road Rangers position would seem to satisfy any immediate needs for staffing changes in the Central Office.

If, however, the primary mission of the Road Ranger Program is changed statewide to TIM support, there will be a need for a new FDOT manager to oversee this program. The position would reside in the TEOO's TIM/Road Ranger Section.

The anticipated growth and expanded roles of TIM in the Department's operational context, coupled with the need for increased liaison with law enforcement, suggest the need to a FHP liaison officer, likely located within the TEOO to work with the other FDOT TIM/Road Ranger managers. This was discussed in greater detail in Section 4.4.1.3.

The success of the TIM Program has certainly provided a positive momentum; however, FDOT needs to reenergize the top-level support. It is suggested that the Steering Committee resume regular meetings to guide the program with all the initiatives included in the TIM Strategic Plan.

***In July 2004, the FDOT Executive Committee made a bold step in the recognition of the key role of operations by granting Work Program status to ITS/TMC operations and ITS replacement costs, initially to the tune of \$140 million (\$98 million and \$44 million, respectively) over the next 10 years.***

## 6 CONCLUDING RECOMMENDATION

In conclusion, we come to the recommendation that traffic operations, and particularly traffic incident management, be recognized as a priority function of FDOT and have a permanent line item in the FDOT Work Program. Capacity improvements and maintenance of the physical infrastructure have been the traditional keystones of the Department's Work Program. They will, of course, continue to be so; however, FDOT is rapidly realizing that the operation of the transportation system is of equal, if not more significant importance. Even substandard infrastructure has to be optimally operated—indeed, in this case it is arguably more important. In July 2004, the FDOT Executive Committee made a bold step in the recognition of the key role of operations by granting Work Program status to ITS/TMC operations and ITS replacement costs, initially to the tune of \$140 million (\$98 million and \$44 million, respectively) over the next 10 years. As is often the case, Florida led the nation in this decision, for this is, as well as we know, a unique commitment to operational excellence in the nation.

Now the same bold decision is needed to ensure the effectiveness of that part of system management

and operations that eats most heavily into the economic viability of our transportation system on almost a daily basis—traffic incidents.

The collective actions recommended in this section will demand additional resources. The details in Appendix A are available in a separate spreadsheet that permits dynamic accumulation of the costs associated with applicable actions. As a result, it is strongly recommended that FDOT commit an initial sum of \$16,815,000 to bring the TIM Program up to its full potential over a two-three year period, and further commit up to (initially) \$12,299,500 per year for its continuing improvement, expansion, and sustenance over the next years.

These funds are staged as follows:

- Short-term actions: \$2,282,500 direct cost, with estimated annual costs of \$550,500,
- Medium-term actions: \$3,007,500 and \$1,154,000, and
- Long-term actions: \$11,525,000 and \$10,595,000.

Such bold actions by the Department of Transportation and its partners will ensure the safest possible travel environment for Florida's citizens, our visitors, and our commercial carriers, thus enhancing the economic welfare of our state.

# A

## Appendix A-Estimated Costs

Current Priority					
Term	Action	Responsible Unit	FDOT FTEs	Est. Initial Cost	Est. Annual Cost
	<b>Administrative Actions</b>				
S	6.3.3.1. Statewide TIM consultant support:	OTEO		\$200,000	\$210,000
	<b>Specific Actions</b>				
S	1.1.1. Create an expanded TIM Steering Committee	FDOT			
S	1.1.2. Foster outreach and information sharing with peer agencies	FDOT			
S	1.1.3. Develop guidelines for TIM Team operations	Statewide TIM Teams			
S	1.1.4. Present Executive Forums and TIM workshops in areas not covered by TIM Teams	FDOT		Included in consulting costs	
S	1.1.5. Strengthen bond between statewide and regional TIM Teams	Statewide TIM Teams			
S	1.1.6. Develop standardized guidelines for Road Ranger Program statewide	Statewide TIM Teams/RR Coordinators			
S	1.1.8. Develop guidelines to standardize the Road Ranger Program, while retaining special needs	Statewide TIM Teams			
S	1.1.10. Improve the controlled use of emergency lighting by law enforcement and other responders	FHP, local law enforcement, fire rescue, etc.			
S	1.2.1. Use ITS to detect incidents	FDOT			
S	1.2.2. Use ITS to verify incidents	FDOT			
S	1.2.3. Use ITS to improve first response to incidents	FDOT			
S	1.2.4. Improve public awareness of the Move-It Law	Statewide TIM Teams		\$15,000	\$5,000
S	1.2.5. Improve responder understanding and use of Move-It Law	Statewide TIM Teams			
S	1.2.7. Responders issue cards to explain "Move" Laws	FDOT		\$10,000	\$2,000



Current Priority					
Term	Action	Responsible Unit	FDOT FTEs	Est. Initial Cost	Est. Annual Cost
S	1.3.1. Use ITS to reduce clearance time	FDOT			
S	1.3.2. Use ITS to improve secondary response to incidents	FDOT			
S	1.3.3. Improve minor spill cleanup by applying approved guidelines	FDOT		\$15,000	
S	1.3.4. Reduce unnecessary equipment at the scene	FDOT/FHP/Others			
S	1.3.13. Use ITS to provide timely and accurate information to motorists impacted by incidents	FDOT			
S	1.4.1. Provide timely information to motorists to avoid incidents	FDOT			
S	1.4.2. Conduct awareness campaign to avoid rubber-necking	Statewide TIM Teams		\$30,000	\$6,000
S	1.5.1. Inform motorists of incident in route	FDOT			
S	1.5.2. Responders provide warnings to back of queue	FDOT/FHP/Others			
S	1.6.5. Provide more formal recognition of RR operators by public by issuing badges	FDOT		\$12,500	\$2,500
S	1.7.1. Provide timely notification of responsible agencies	FDOT/FHP/Others			
S	1.7.3. Support command and control efforts for evacuation	FDOT/FHP/Others			
S	1.7.4. Support evacuation guidelines, including contraflow	FDOT/FHP/Others			
S	1.7.5. Support evacuation routing, including contraflow	FDOT/FHP/Others			
S	1.7.6. Participate in post-evacuation debriefs	FDOT/FHP/Others			
S	1.8.1. Provide customized data logging/communications system for RR operators	FDOT/RRs		\$750,000	\$75,000
S	1.8.2. Provide common interagency communications system for all TIM personnel	FDOT/FHP/Legislature		\$1,250,000	\$250,000
S	1.9.2. Reconcile ORP and incident levels	FDOT/FHP/Others			
S	1.9.3. Provide inter-agency training for purposes of cross-training	FDOT/FHP/Others		Included in consulting costs	
S	1.9.4. Initiate multi-agency post-incident debriefs for all Level 3 and selective Level 2 incidents, and all evacuations	FDOT/FHP/Others			

Current Priority					
Term	Action	Responsible Unit	FDOT FTEs	Est. Initial Cost	Est. Annual Cost
S	1.9.5. Follow the standardized criteria and agreements for discontinuing toll collection on all expressways during emergencies	FDOT/Authorities			
S	2.1.3. Encourage collocation of FDOT TMC and Law Enforcement Dispatch Centers	FDOT/FHP/Others		Included in TMC construction costs	
S	2.1.4. Provide statewide traffic condition system	FDOT		Included in iFlorida	
S	2.2.3. Apply unified command system in TIM	FDOT/FHP/Others			
S	2.3.1. Develop performance measures and data collection methods for each stage of an incident	Statewide TIM Teams			
S	2.3.2. Develop Road Ranger performance measures	Statewide TIM Teams			
S	2.11.2. Vigorously pursue quick clean-up of minor vehicle spills	FDOT			
S	<b>Subtotals Short-term</b>		0	\$2,282,500	\$550,500
<b>Administrative Actions</b>					
M	6.4.2.1. Create TIM Qualification program	OTEO		\$150,000	
M	6.5-3. Equip Road Rangers with Current Appurtenances	FDOT		\$67,500	\$13,500
M	6.5-4. Expanded Material for TIM Responders	FDOT		\$300,000	\$60,000
M	6.2.3-1. Develop a new TIM Program Standard Operating Procedure	Statewide TIM Teams		\$50,000	
M	6.2.3-2. Champion a new Joint Operations Agreement	Statewide TIM Teams		\$150,000	
M	6.3.2-1. Create expanded TIM Steering Committee	TIM Steering Committee			
M	6.3.2-3. New staff positions:	FDOT			
	Central Office: fulltime Assistant TIM/RR Manager	FDOT	1		
	District 1: fulltime TIM Manager	D1	1		
	District 3: fulltime TIM/RR Manager	D3	1		
	District 5: assistant TIM Manager for RR	D5	1		
M	Turnpike Enterprise (TPE): fulltime RR/RISC Manager			\$10,000	\$45,000
M	6.3.4. FHP liaison to FDOT	FDOT/FHP		\$10,000	\$81,900
<b>Specific Actions</b>					
M	1.3.6. Provide emergency access via median crossovers	FDOT		Included in construction costs	

Current Priority					
Term	Action	Responsible Unit	FDOT FTEs	Est. Initial Cost	Est. Annual Cost
M	1.3.8. Provide incentives to towers and recovery companies for quick clearance (expand RISC program to freeways)	FDOT		\$150,000	\$500,000
M	1.6.1. Road Rangers assume increased role in TIM	FDOT		Included in 6.5-2	
M	1.6.2. Provide expanded Road Ranger training in TIM	FDOT		Included in 6.5-2	
M	1.6.3. Initiate a formal qualification program for RR operators	FDOT		\$1,920,000	\$453,600
M	1.6.4. Provide RR Dispatchers in TMCs or Law Enforcement Dispatch Centers	FDOT	36		
M	1.9.1. Change Open Road Policy (ORP) goal to begin upon verification of the incident	FDOT/FHP/Others			
M	1.9.6. Develop operations agreements with other impacted agencies (Medical Examiners, hospitals, hazardous materials handlers, etc.)	FDOT/FHP/Others			
M	2.1.6. Conform to National Incident Management System	FDOT/FHP/Others			
M	2.2.2. Include TIM in highway designs	FDOT			
M	2.3.4. Report TIM/RR performance tracking	FDOT			
M	2.4.2. Update towing regulations to improve the equipment needs	FDOT/FHP/Others			
M	2.4.3. Require qualification/certification of wrecker services	FDOT/FHP/Others			
M	2.5.1. Support laws limiting liability to all responders for actions taken while engaged in TIM quick clearance	FDOT/Legislature			
M	2.6.1. Maintenance of Traffic plans include TIM	FDOT			
M	2.7.2. Localize statewide policies with TIM Team input	Statewide/Regional TIM Teams			
M	2.7.3. Expand joint operations agreements	Statewide TIM Teams			
M	2.8.1. Include TIM as a priority line item in the FDOT Work Program	FDOT			
M	2.9.3. Determine the appropriate role of Asset Management in TIM	FDOT			
M	3.1.1. Develop a Joint Operations Manual that is in full conformance with the National Incident	FDOT/FHP/Others		Included in 5.2.3.2	



Current Priority					
Term	Action	Responsible Unit	FDOT FTEs	Est. Initial Cost	Est. Annual Cost
M	3.1.2. Provide for integration of TMC and law enforcement CAD systems	FDOT/FHP/FDLE/Local Law Enforcement			
M	3.2.1. Develop a Statewide Concept of Operations with TMCs having a primary role in TIM	FDOT/FHP/Others		\$200,000	
M	3.3.1. Review all applicable laws, regulations, policies and procedures	Statewide TIM Teams			
M	<b>Subtotals Mid-term</b>		40	\$3,007,500	\$1,154,000
<b>Administrative Actions</b>					
L	6.4.2.2. Operate TIM Training/Qualification Program	OTEO	1		\$350,000
L	6.5-2. Convert Road Rangers to TIM Operations (equipment/personnel)	FDOT		\$10,125,000	\$2,025,000
L	6.3.3.2. Regional TIM support:	FDOT			\$6,750,000
	District 1	D1		\$200,000	\$210,000
	District 2	D2		\$200,000	\$210,000
	District 3	D3	1	\$200,000	\$210,000
	District 4	D4		\$200,000	\$210,000
	District 5	D5		\$200,000	\$210,000
	District 6	D6		\$200,000	\$210,000
	District 7	D7		\$200,000	\$210,000
<b>Specific Actions</b>					
L	1.1.7. Expand statewide coverage of the Road Ranger Program	FDOT		Assumed to be superseded by statewide RR Program	
L	1.1.9. Engage Road Rangers more actively in TIM	FDOT		Assumed to be superseded by statewide RR Program	
L	1.3.5. Responders proactively remove deceased victims	FDOT/FHP/Others			
L	1.3.7. Provide preplanned diversion routes	FDOT/Regional TIM Teams			
L	1.8.3. Provide common interagency-communications system for all emergency management personnel	FDOT/FHP/Others		Further study needed	
L	2.1.2. Develop interagency agreements for TIM mutual support	FDOT/FHP/Others			
L	2.3.3. FDOT Districts collect, analyze and report performance measures	FDOT			
L	<b>Subtotals Long-term</b>		2	\$11,525,000	\$10,595,000
	<b>Grand Totals</b>		42	\$16,815,000	\$12,299,000



**Mission:** Provide efficient, coordinated, and consistent traffic incident management across the state that will improve the safety and reliability of the transportation network.

**Vision:** Develop an institutionally integrated, fully cooperative association of all public agency and private industry traffic incident management stakeholders to improve the safety and reliability of the Florida Transportation system and maintain Florida's status as a national leader in TIM programs.

[www.dot.state.fl.us/trafficoperations/incidentmanagement/incident\\_main.htm](http://www.dot.state.fl.us/trafficoperations/incidentmanagement/incident_main.htm)

