

DuPage County Traffic Incident Management Work Group

Work Plan

Work Group Purpose

A Traffic Incident Management (TIM) Work Group is an informal group of emergency responder and transportation agency personnel who regularly collaborate in an effort to apply Intelligent Transportation Systems (ITS) solutions to problems created during highway incidents. ITS offers some new approaches to solving or at least mitigating some of the safety and efficiency challenges presented by highway incidents

A TIM Work Group can accomplish this by encouraging their member organizations to participate in the planning, investment, and operation of ITS tools and processes. These new Intelligent Transportation Systems then become integrated into their day-to-day operations. The Work Group also monitors the performance of these processes to insure that they are receiving an optimal return on their investments. This can then lead to mid-course corrections that produce on-going refinements and can also lead to the development of entirely new systems as the technologies evolve and as more information is acquired from their combined responder experience.

For DuPage County this group meets as needed to provide leadership and direction for each of the projects that the Work Group decides to initiate. As a new tool or process is developed by the Work Group, it then becomes adopted and mainstreamed by one or more of the member agencies in the form of new equipment and processes. These ultimately are translated into documented work procedures to complete the integration. Opportunities for cost-efficient resource sharing are often identified as this process evolves.

This Work Group can also become a good source of relevant ideas for potential changes in agency policies, local regulations, and even state legislation because these people are the frontline personnel for mission critical public services. These responders sometimes find themselves in positions where specific laws and agency policies (or the lack thereof) create impediments to their work. Open discussions within the Work Group can often lead to the identification of needs for interagency cooperation, potential local ordinances, and state legislation or policy changes. These discussions can also lead to creative solutions that might address these challenges. These concepts are then brought to the attention of their appropriate agency managers for their consideration.



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Work Group Mission Statement

To promote agency cooperation and integrate ITS tools that address problems which occur during transportation related incidents in DuPage County.

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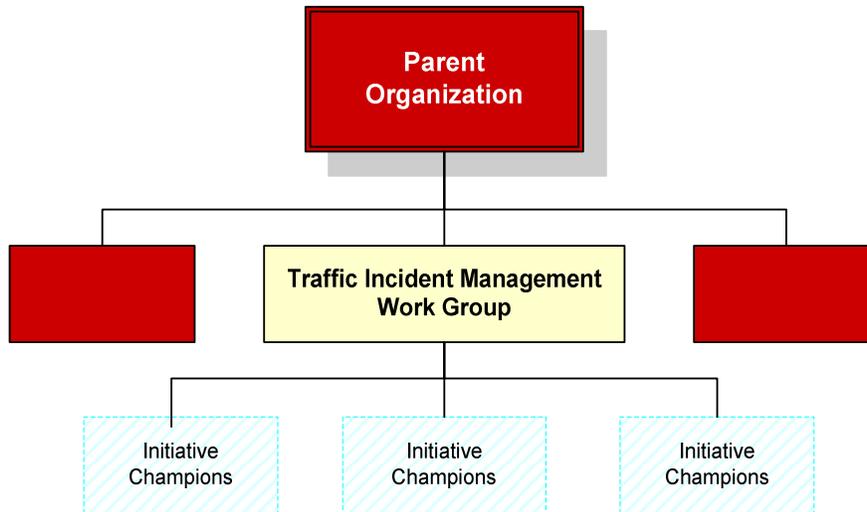
Work Plan

Work Group Organizational Structure

This Work Group is a subcommittee to _____. The following diagram illustrates how this group is organized and how it fits into the _____. The Initiative Champions shown in this diagram are assembled on an as-needed basis to manage initiatives that are assigned by the Work Group who identify specific project scopes and schedules, as well as arrangements for resources.

The TIM Work Group routinely develops and maintains a “wishlist” of potential project concepts (see Appendix B for the current list). When a concept is elevated to an active project, a file is then created in Appendix C where all the documentation relevant to that project is maintained, effectively making this Plan a working document.

The TIM Work Group also provides routine updates to _____.



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Work Plan

Work Group Appendices

A) Work Group Membership information

B) Potential Projects

C) Active Projects

D) Meeting Schedule

E) Interagency Agreements

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Appendix A - Work Group Membership

Agency	Representative	Title	Phone	Email
Fire Agencies				
Police Agencies				
DuPage Co. Sheriff				
Illinois State Police				
DuPage Co. OEM				
EMS/ambulance				
Towing and Recovery				
DuPage Co. DOT				
Local Community DPWs				
IDOT				
Illinois Tollway				
others...				

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Appendix B – Potential Projects

1	Need Category	Problem	Potential Solutions	Comments	Priority
1	Need more effective response to incidents	Response runs are often constrained by lane restrictions	Interagency posting (possible website) of lane restrictions	Requires a comprehensive reporting system for all lane restrictions both current and planned. One agency needs to “own” the website.	
2		Responders on runs often encounter active rail crossings causing life-threatening delay	Dynamic Rail Crossing status reporting system	Electronic devices that monitor crossing status and then post it to a dynamic reporting system	
3		Fire hydrants are sometimes hard to locate, especially on Interstates	1) Conspicuous fire hydrant markings along fence row of highways. 2) GPS log of all available hydrants mapped on a convenient database	1) Low cost solution - small sign on fence line indicates x-hundred feet to hydrant along a perpendicular. 2) Hi-tech solution involves PDA's with GPS units and map software.	
4		Institutional issues arise when wreckers are called.	Coordinated wrecker call out system	Issues relate to service providers' size, capabilities, point of origin, staff training, etc. Good examples from other agencies are available.	
5		Certain traffic signals can be impediments on response runs.	Complete countywide emergency vehicle pre-emption (EVP) system	Much EVP equipment already in service. Issues sometimes relate to who shall maintain.	
6		“E-Bay Strobes” are being used by public to trigger emergency vehicle pre-emption	Establish a standard flash rate for all responders.	Each agency can have its own flash frequency if desired. Compare call log with response runs per agency to identify false call occurrences.	

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	Need Category	Problem	Potential Solutions	Comments	Priority
7		Controlling or accessing utilities are sometimes an issue during incidents	Establish a system whereby responders can get rapid reports of specific utilities on demand.	Security is an issue. Utility agencies will need to be engaged in process. Wireless downloads of drawings will be needed to provide rapid access.	
8		It sometimes takes too long for agencies to become aware of and verify an incident and its severity	Access to available vehicle detectors and CCTV resources	Systems can automatically screen for traffic anomalies and then sound alerts to dispatchers to direct their attention. "Piping" these images to the responders vehicles could prove effective.	
9		Individual agencies do not have enough resources to completely outfit themselves for all types of incidents	Develop a process that addresses total county needs vs agency resources.	By coordinating equipment acquisitions and staff skill sets, and then setting up mutual aid agreements, all bases can be covered countywide.	
10		Inadequate or incorrect resources are dispatched to an incident, causing response delays	Develop a traffic incident management resource identification chart for use by field and dispatching personnel	Could be based on the Towing and Recovery Association of America's (TRAA) Vehicle Identification Guide	
11		Media helicopters sometimes compromise incident scenes	Research what others have done to resolve this problem. Then establish local ordinances/policies to address.	"Sky Cam" images can be shared by the media enhancing the response effort and making a problem into a solution with appropriate guidelines in place.	
12		Potential DuPage County traffic management center (TMC) might evolve without the input of frontline emergency responders	Establish a TIM task force that deliberately engages frontline personnel from all agencies during the design process. Consider co-location of traffic and emergency management personnel at the TMC	The most creative and practical solutions often come from those who "live with the results" everyday.	

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	Need Category	Problem	Potential Solutions	Comments	Priority
13		Emergency vehicle EVP devices are sometimes left on too long causing traffic tie-ups	Establish standard policies and technical solutions	This problem varies with the type of EVP products in place. The problem also varies with the relative position of the responders' vehicles in relation to the intersection	
14		Affordable source of images of the incident scene and immediate surroundings are needed	Real time satellite images may be available	Dept of Defense and national weather agencies might be willing to share images. These could be enhanced and focused on the scene.	
15		Road conditions can severely impact incident response arrival time	Continuous stream of current environmental and pavement condition at the TMC	This information would enable agencies to better respond, to gear up during inclement weather, and to deploy de-icing and anti-icing agents in a timely manner to prevent problems.	
16		Responders (especially new personnel) do not always know the best route to take in order to get to a scene.	In-vehicle mapping tied to a GPS unit in the vehicles	This could also be integrated with current traffic, weather and rail crossing status information at the TMC	
17	Need more effective site management for incidents	Crash investigations sometimes cause lengthy traffic tie-ups (especially fatal crash scenes)	New tools are available for speeding up the investigation process	Special digital image processing software is now available to quickly map out the various incident scene objects in very short times and under live traffic conditions.	
18		Process for documenting incidents (crash reports in particular) is inconsistent and sometimes ambiguous	Automated (web-based) crash reporting system	Integration of in-vehicle computer or laptops with the TMC information and GPS data in the vehicle can dramatically improve crash reporting.	

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	Need Category	Problem	Potential Solutions	Comments	Priority
19		Officers sometimes have difficulty controlling traffic at signalized intersections near an incident	1) Expand the functionality available at the signal cabinet police panel. 2) Change preferentiality to all red flash	1) Manual phase advancing switches (both pigtail and momentary contact switch types) can give an officer the ability to move traffic using the signal 2) All red flash mode brings everyone to a stop and is an acceptable mode of operation with or without police involvement.	
20		Police officers are responsible for traffic control at an incident, taking resources away from investigation tasks	Involve maintenance personnel in setting up traffic control	Would require interagency agreements between law enforcement and DOT personnel. Would also require additional funding for maintenance staff participation during non-working hours	
21	Need safer motorist behavior during incidents	Motorists make risky maneuvers when traffic signals malfunction endangering personnel and other motorists	Coordinated procedures for malfunctioning traffic signals	Standard response procedures, standard signage, uniform policy on signal flash mode (ex. All red flash) and repair procedures	
22		Secondary crashes often occur during an incident	A variety of traveler information systems address this problem	Some of these systems are in place already while others could be added. These include message boards, highway advisory radio, commercial radio, CB messages, rear window LED signs in the rear windows of police vehicles, and temporary signal timing plans for upstream traffic signals.	

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	Need Category	Problem	Potential Solutions	Comments	Priority
23		Motorists get lost or cause backups on alternate routes when roads are closed.	Preplanned dynamic detour routing system for critical routes	Low tech: Pre-drawn paper maps showing alternate routes for each link of highway. High tech: Computer modeling system that accounts for all current conditions and pre-designated conditions creates dynamic maps quickly on demand.	
24		Motorists refuse to clear the roadway during an incident	Move'it laws for arterials	New legislation or promotion of existing legislation to encourage proper motorist response.	
25		County routes can't handle loading when Interstate incidents occur	1) Notification when Interstate "dumps" on local routes to enable faster countermeasure deployment 2) Involvement in Interstate and State Route road work maintenance of traffic plans	Real time notification enables local enforcement to get into position to "babysit" the alternate route. Advance planning with IDOT and ISTHA can enable alternate route upgrades/modifications prior to detour.	
26		It is difficult to communicate information directly to motorists during incidents	Utilize local radio stations (COD)	Commercial radio and public radio stations often are willing to transmit traffic situations. The key is to establish effective notification process and create clear messages	
27	Need to reduce number of crashes that occur	Too many right angle collisions	Red light violation monitoring systems	Light duty monitoring equipment to tally red light violations on a per hour of the week basis. Data can then be used to target engineering and enforcement countermeasures	

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	Need Category	Problem	Potential Solutions	Comments	Priority
28		Too many speed related crashes	Speed screening stations	Network of speed monitoring stations automatically posting statistics to central database. Info can be then be used to establish targeted enforcement program and can also be used to monitor progress.	
29		Difficult to identify root causes of crash trends	Crash data mining program	Crash, weather and demographic statistics run through special database mining software to identify obscure trends	
30	Need for more training	Responders often do not understand other responders' needs	Interdisciplinary training	Agencies routinely produce training for their counterparts in the other Work Group agencies. Topics focus on interagency coordination issues.	
31		Training is expensive	Shared training programs. (FHWA's Peer to Peer program)	Some training is common to a variety of agencies. Ex. Homeland security, first aid, personal safety on the job, legislation that affects work procedures, etc.	
32	Need for better communications	Incidents outside the county create unexpected local traffic problems.	Input to/from GCM Corridor	GCM Corridor's Gateway provides regional picture of traffic conditions.	
33		Response agencies not informed of incidents in a timely manner	Information flow mapping	One diagram is created for each agency showing the communication links between them and the other agencies involved. Map also designates method of communication and the type of information transmitted. Each link then becomes a work procedure.	

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	Need Category	Problem	Potential Solutions	Comments	Priority
34		Agencies can not communicate with each other during incidents	Interoperability with member agencies' radio transmissions. This could also include dedicated center to center communication links.	A variety of wireline and wireless solutions address this problem. Hospitals could also be included.	
35		Local agencies' plans are impacted by outside agencies' road work	Establish routine review process with IDOT and ISTHA to be included in the maintenance of traffic plans	2 step process: 1) Routinely review outside agency work programs, 2) Engage TIM Work Group in MOT process	
36		Special Events often cause unexpected problems during incidents	Increased coordination with sponsors of special events. Archived work plans for specific events that can be used as reference next time.	This process might be linked to any permit process that the County requires for special events.	
37		Cellular systems become overwhelmed during incidents	Working with cellular providers to establish special services. Alternative communication systems	Wireless communication technologies offer several new options to address this problem	
38		Private responders (towing firms, ambulance services, etc.) cannot use public radio systems. This complicates communications during incidents where their services are needed.	Arrange for NEXTEL authorization	This should be a no cost solution for the public agencies.	

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	Need Category	Problem	Potential Solutions	Comments	Priority
39	Progress Measurement	Too many issues for the TIM Work Group to address	System Performance Measures	<p>Very specific measures can be affordably established relating to...</p> <ul style="list-style-type: none"> Operational performance System deployment Progress High level mission goals Loads applied to the systems <p>These measures can be used to establish priorities for most critical issues.</p>	
40		“Committee” Projects sometimes languish or do not get effective results	Project specific performance measures	<p>Measures can be established to evaluate individual project progress. These are designed into the project work plan as measures of success.</p>	

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Appendix C – Active Projects

Project Name	Brief Description	Project Champion	Producing agency	Comments
<i>TIM Resource Identification Guide *</i>	<i>Document that identifies (by name, function, and appearance) the different vehicles, traffic control devices, etc. that may be needed at an incident site</i>	<i>John Smith</i>	<i>DPW</i>	<i>Example Project Planning sheet attached</i>
<i>Rail Crossing status monitor *</i>	<i>Technology installed to keep a real time listing of active rail crossings for responders to use on emergency runs.</i>	<i>Mary Jones</i>	<i>County Highway Dept.</i>	<i>Example Project Planning sheet attached.</i>

** Sample project entries. See next pages for examples of a Project Planning Sheets*

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Sample Project Plan

Sample Project Planning Sheet

Project Name	TIM Resource Identification Guide
Goal	To eliminate response delays caused by the dispatching of inadequate or incorrect resources to an incident site.
Scope	This project will bring together different traffic incident management responders to develop a guide to help dispatchers and field personnel to better direct the appropriate resources to an incident site. The guide could include common nomenclature, icons/pictures, and functional characteristics of TIM resources. By using this guide, the right tool for the job will be more quickly identified and dispatched when needed.
Action Items	<ul style="list-style-type: none"> Identify a champion, develop a work plan, and allocate resources. Conduct a meeting(s) of TIM responders to: 1) identify resources used at an incident site; 2) agree on names for each piece of equipment; 3) develop a layout/format for the TIM Resource Identification Guide Produce draft and final versions of the guide for partner agency review and comment Develop training materials for agency personnel. Distribute the TIM Resource Identification Guide and training materials to TIM responders in DuPage County. Update the guide as new equipment is made available
Deliverables	<ol style="list-style-type: none"> 1) TIM Resource Identification Guide 2) TIM Resource Identification Guide training materials

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Performance Measures	<ul style="list-style-type: none">• Reduction in incident response time• Reduction in secondary crashes
Schedule	6 months
Budget	\$2,500
Projected Operational Savings	This number could be established by identifying the number of false TIM resource dispatches and then applying a reduction factor of 50%. Actual savings could be measured over time.

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Sample Project Plan

Sample Project Planning Sheet

Project Name	Rail Crossing Status Monitor
Goal	To enable emergency responder personnel to make informed route choice decisions when rail crossings are obstructed by trains.
Scope	This project establishes a dynamic reporting system that responders can use on any emergency run to become aware of the current availability of all rail crossings in their path. This entails equipping all crossings with sensing devices, establishing electronic communication links to a central processor, and equipping dispatch centers with graphic display capability to read the dynamic map.
Action Items	<ul style="list-style-type: none"> • Identify a champion, develop a work plan, and allocate resources. • Inventory all crossings and their specific warning system types. • Design and build the system following a systems engineering approach. • Provide training for all appropriate end users. • Establish maintenance and quality assurance programs
Deliverables	<ol style="list-style-type: none"> 1. Work Plan 2. Crossing Inventory 3. Prototype system and consensus documentation 4. Design and procurement documents 5. MOU's with rail companies

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	<ol style="list-style-type: none">6. Training materials7. Quality Assurance Plan8. Maintenance Plan
Performance Measures	<ul style="list-style-type: none">• Number of times system is accessed during emergency runs• Percent of agency personnel trained• Maintenance cost records
Schedule	18 months
Budget	\$100,000
Projected Operational Savings	This number could be established by recording the number of times responders' paths are obstructed over a 6 month period. The additional time required to complete their runs could then be estimated and translated into some sort of life threat factor based on the type of response and the resulting consequences.

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Appendix D – Meeting Schedule

Work Group	Meeting Date/Time	Location	Major Topic/s

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Appendix E – Interagency Agreements

Topic	Date signed	Agencies Involved