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TRAFFIC INCIDENT MANAGEMENT ENHANCEMENT IN THE NATIONAL CAPITAL REGION

Findings and Recommendations Report from the 2018 COG Traffic Incident Management Enhancement Task Force

November 2018

Metropolitan Washington Council of Governments

TRAFFIC INCIDENT MANAGEMENT ENHANCEMENT IN THE NATIONAL CAPITAL REGION
Prepared by the COG Traffic Incident Management Enhancement Task Force
November 2018

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Motorcade in DC (Mack Male/Flickr); 395 South (sabreguy/Flickr); (Patrick Zilliacus/COG)

The mobility, safety, and reliability of metropolitan Washington's transportation system are vital to its economic well-being. The region experiences disruptions to the transportation system daily due to incidents. It is estimated that approximately 100 regionally significant events occur each month with the potential to cause major traffic delays.[1] Examples of these diverse events might be a multi-vehicle crash cleanup and investigation, a highway hazardous waste spill, or emergency roadwork. Often, these incidents necessitate a coordinated, multi-agency response. This multi-agency response is referred to in the public safety and transportation professions as Traffic Incident Management, or TIM.

In January 2018, the Metropolitan Washington Council of Governments (COG) Board of Directors, under the leadership of Chairman Matt Letourneau, tasked COG with identifying recommendations and actions to enhance traffic incident management in the region. A multi-disciplinary task force, comprised of transportation, law enforcement, fire and emergency medical services subject matter experts, was formed to oversee the effort. The Traffic Incident Management Enhancement (TIME) Task Force met seven times from February to October 2018 and hosted a May 22 regional workshop with expanded participation.

Traffic Incident Management (TIM) encompasses a wide range of topics. COG staff's review of national literature and initiatives found dozens of notable TIM strategies and practices in place. Although many of these initiatives are already being pursued in the region, there were many other new, innovative practices to consider. The region's high traffic volumes and continually growing population and economy mean the area roadway system has little spare capacity to absorb traffic incidents when they do occur.

[1] Metropolitan Area Transportation Operations Coordination (MATOC) program data.

Drawing from this research and the group's experience and expertise, the TIME Task Force put forward seven actionable, top priority items for the region to enhance its TIM.

1. **Update regional agreements and improve consistency of TIM laws and policies.** COG should lead an effort to develop a transportation incident management mutual aid operations plan. Jurisdictions should review and update, as necessary, their laws to ensure the concepts of "move over," "move it," and "hold harmless" are included consistently.
2. **Coordinate regional annual TIM self-assessments.** Convene state and local transportation agencies, public safety agencies, and private sector TIM stakeholders annually for a regional Traffic Incident Management Self-Assessment.
3. **Encourage and coordinate TIM trainings to promote best practices.** Member agencies should require those who have a role in responding to traffic incidents to attend TIM trainings, particularly through the Federal Highway Administration's National TIM Responder Training Program. COG should share information with its members about available TIM training opportunities and host its own regional sessions.
4. **Launch outreach initiatives that better engage the public and officials on TIM.** Identify funding for and develop a regional public outreach campaign that promotes educational messages on moving over for sirens, slowing down near incident scenes, and other TIM-related driver safety messages. Elected officials should also request periodic briefings from transportation and public safety agencies on TIM-related activities and data to inform future decision-making.
5. **Create a regional TIM program.** Identify resources to create and sustain a regional program and stakeholder committee that can coordinate training and exercises, compile and review data, track emerging technologies, and promote best practices. Practitioners are eager to collaborate but must be given a forum.
6. **Designate transportation incident responders as emergency responders regionwide.** As has been done in Maryland, jurisdictions must review and update legislation and policies to ensure transportation emergency responders can get to incident scenes quickly, using flashing lights and audible sirens.
7. **Expand roadway service patrols to federal parkways and other critical major roads not currently covered.** Convene the federal government, District, Maryland, and Virginia public safety agencies, and state and local jurisdictions to negotiate an agreement allowing for the funding and deployment of roadway service patrols on federal parkways and other key highways.

Beyond the seven key recommendations, the task force also identified additional strategies for enhancing TIM in the region that should receive further investigation and discussion.

- Expedite the use of cutting edge technologies, like unmanned aerial vehicles/systems and pan-tilt zoom cameras on roadway service patrol vehicles.
- Improve interjurisdictional communications capabilities by expanding deployment of equipment that allows interoperable communications among all first responders, including transportation responders.
- Expand and improve roadway surveillance cameras.

- Expand automated sharing (Computer Aided Dispatch) of information, particularly incident calls, between public safety and transportation agencies.
- Explore incentives for tow and recovery vehicle contractors for quick clearance of crash scenes.
- Develop a tablet or smartphone app that provides real time data sharing among responders at an incident scene.
- Develop pre-printed field operations guide documents for responders addressing issues that may be faced at the incident scene.
- Form teams that respond to incidents in critical corridors and boundary areas.

The report appendices contain a full listing of the strategies researched by COG staff, and a full listing of the topics discussed by the task force.

With the task force drawing to a close, the group emphasized the need for continued regional prioritization of TIM, including in conversations about transportation planning, construction, and maintenance.

The COG Board of Directors' approval of the findings and recommendations in this report will encourage area jurisdictions to better collaborate and consider innovative methods for fast and safe resolution of traffic incidents.

PURPOSE

The mobility, safety, and reliability of metropolitan Washington's transportation system are vital to its economic well-being. However, the region experiences disruptions to the transportation system daily due to incidents—one study indicates that 52 to 58 percent of the delays experienced by motorists are attributed to crashes and vehicle breakdowns.[2]

In January 2018, the COG Board, under the leadership of Chairman Matt Letourneau, tasked the organization with identifying recommendations and actions to enhance traffic incident management in the region. A multi-disciplinary task force, comprising transportation, law enforcement, fire and emergency medical services subject matter experts, was formed to oversee the effort.

52 to 58 percent of motorist delays can be attributed to crashes and vehicle breakdowns. (Source: FHWA)

The task force was largely motivated by the desire to improve safety of the traveling public and that of first responders, and especially wanted to call attention to how much is at stake in ensuring this safety—deaths and injuries are all too common. The task force also weighed the economic impact of frequent lane closures due to incidents.

The work of the task force is captured in this report, which has two main goals: advising COG Board action upon completion of the 2018 TIME Initiative, and providing strategic advice for future or ongoing regional activities. In addition, appendices provide more information on extensive information available nationally on TIM best practices and activities pursued in other metropolitan areas. It is hoped this information will be an ongoing resource for TIM practitioners in the region.

ABOUT TRAFFIC INCIDENT MANAGEMENT

Nationally, for each minute that a freeway travel lane is blocked during peak use, an estimated four to five minutes of traffic delay results. (Source: US DOT)

According to the Federal Highway Administration, *"Traffic Incident Management is a planned and coordinated program process to detect, respond to, and remove traffic incidents and restore traffic capacity as safely and quickly as possible."* TIM involves a number of public and private sector partners, such as law enforcement, fire and rescue, emergency medical services, towing and recovery, and others.[3]

The anatomy of traffic and traffic incident management practices have been analyzed over many years and at many levels in search of the best approaches for increasing safety and decreasing incident duration. According to the U.S. Department of Transportation, nationally, for each minute

[2] "21st Century Operations Using 21st Century Technologies: A NATIONAL REVIEW OF BEST PRACTICES," FHWA, (December 2008) https://ops.fhwa.dot.gov/publications/fhwahop09005/quick_clear_laws.pdf

[3] https://ops.fhwa.dot.gov/eto_tim_pse/about/tim.htm, last accessed October 31, 2018.

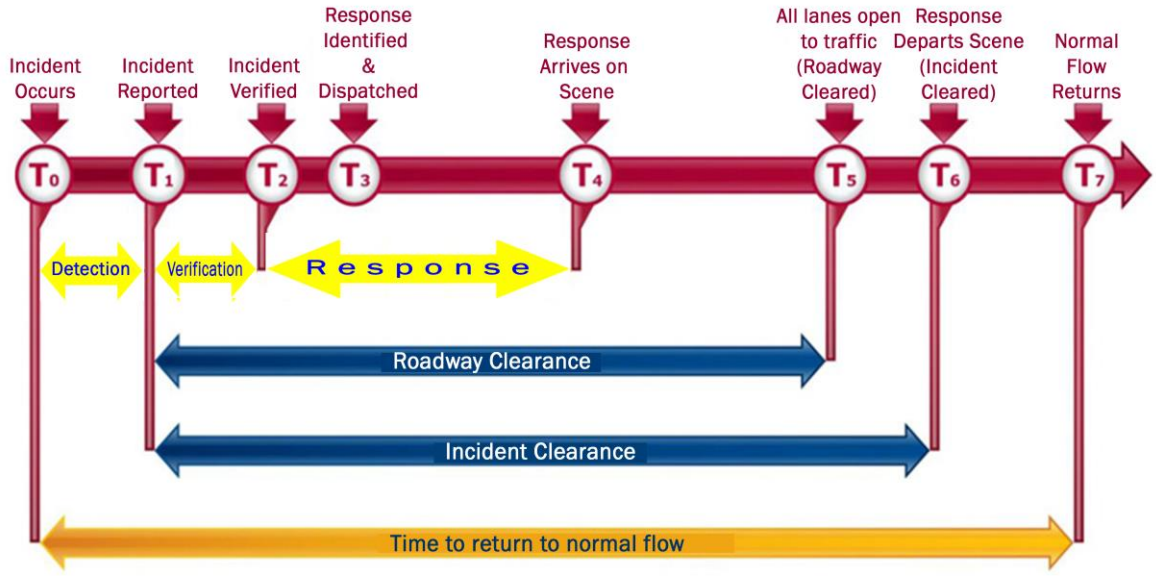
that a freeway travel lane is blocked during peak use, an estimated four to five minutes of traffic delay results.[4]

The federal government provides guidance about defining and managing traffic incidents. According to the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD)[5], a traffic incident is an "emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic." Further guidance on TIM is provided in the "National Unified Goal for Traffic Incident Management", describing strategies to support the objectives of responder safety, safe, quick clearance, and communications. Details may be found in the national goal document included with this report as **Appendix E**.

Temporary traffic controls (TTC) are set up in the incident area—which extends from the first warning device to the point where vehicles clear the incident—by a "public authority or the official having jurisdiction of the roadway." The TTC's primary function is to inform road users of the incident and provide guidance information on the path to follow through the incident area.

Figure 1 from the Federal Highway Administration illustrates the time duration of a traffic incident, from when an incident (such as a crash) first occurs, through the first notification to public authorities, to responders arriving on scene, to complete clearance of the incident, and return to normal traffic flows. Each segment of the duration of an incident has factors that contribute to lengthening overall incident duration; understanding these individual factors as well as pursuing strategies to address these factors, is key for traffic incident management practitioners and central to the TIME Task Force's discussions.

Figure 1 – Traffic Incident Management Conceptual Timeline (Source: FHWA)



[4] Vasconez, K. (2013). Successfully Managing Traffic Incidents is No Accident, Report No. FHWAHRT-13-005, Washington, DC, obtained from: https://www.fhwa.dot.gov/publications/publicroads/13julaug/05.cfm, last accessed October 26, 2018.

[5] "Manual on Uniform Traffic Control Devices for Streets and Highways," Chapter 6i, FHWA (May 2012) https://mutcd.fhwa.dot.gov/htm/2009/part6/part6i.htm

Addressing the frequency of such events, and the time that it takes to clear those events, is an important function. Still, each traffic incident has unique characteristics and needs. Public safety, transportation, and transit agencies devote resources to address incidents, but in a unique, growing, multi-jurisdictional region such as metropolitan Washington with multiple players and multiple responsibilities, continued regional coordination is also of utmost importance.

Unique Aspects and Challenges for the National Capital Region

Similar challenges can be found in many or most places across the country. Heavy traffic, safety issues, weather, training, interagency coordination and communication, and a host of other issues are widely experienced. But it is also worth noting some challenges that are particularly prominent or impactful in the National Capital Region, as part of understanding the ways to strengthen its Traffic Incident Management.

The National Capital Region faces high traffic volumes, evidence of an ongoing strong economy and location along the highly populated East Coast, among other reasons.

Table 1 shows a national comparison of traffic delay, with the National Capital Region in the top 10 nationally across three different reporting entities (ranking first, sixth, or ninth nationally depending on the analysis and methodology used). The roadway system has little spare capacity to absorb the impacts of incidents.

Table 1 - National Comparison of Congestion from Three Reporting Entities (Source: COG)

Texas A&M Transportation Institute (2014 data)			**INRIX Traffic Scorecard (2016 data)**			**TomTom Traffic Index (2016 data)**		
Annual Hours of Delay per Auto Commuter			**Average Hours Wasted in Traffic**			**Extra Travel Time compared to Free Flow Conditions**		
Metro Area	Value	Rank	**Metro Area**	Value	Rank	**Metro Area**	Value	Rank
Washington	82	1	**Los Angeles**	102	1	**Los Angeles**	45%	1
Los Angeles	80	2	**New York**	91	2	**San Francisco**	39%	2
San Francisco	78	3	**San Francisco**	79	3	**New York**	35%	3
New York	74	4	**Atlanta**	70	4	**Seattle**	34%	4
San Jose	67	5	**Miami**	64	5	**San Jose**	32%	5
Boston	64	6	**Washington**	63	6	**Miami**	30%	6
Seattle	63	7	**Boston**	60	7	**Portland**	29%	7
Chicago	61	8	**Chicago**	57	8	**Honolulu**	29%	8
Houston	61	8	**Seattle**	55	9	**Washington**	29%	9
Riverside	59	10	**Dallas**	54	10	**Boston**	28%	10

Source: 2018 Congestion Management Process Technical Report, National Capital Region Transportation Planning Board, September 2018. Data shown are for the most recent years available.

According to the National Highway Traffic Safety Administration, as of 2010, approximately 12%, or $28 billion of the total economic cost of motor vehicle crashes in the United States ($242 billion), was attributed to congestion costs, including travel delay, added fuel usage, and associated adverse

environmental impacts.[6] More locally, a single major June 20, 2018 incident on the Woodrow Wilson Bridge caused over $2 million in estimated additional user delay (fuel and time) costs, just on nearby freeways, compared to typical days.[7]

As home to the nation's capital, the region experiences many diverse events that impact traffic, including dignitary processions (motorcades); demonstrations and First Amendment events (scheduled and unscheduled); presidential inaugurations; and national security events such as visiting heads of state traveling to or through the region. Federal activities strongly impact the region's transportation system. The U.S. Park Police and U.S. Capitol Police, among other federal agencies, directly impact transportation.

According to MATOC, a single major June 20, 2018 incident on the Woodrow Wilson Bridge caused over $2 million in additional user delay (fuel and time) costs, just on nearby freeways, compared to typical days.

The National Capital Region is a multi-state environment, with cross-border coordination among the District of Columbia, Maryland, Virginia, and a number of local jurisdictions an ongoing necessity. The region has a diverse mix of land uses and highway types, from low-speed streets to federal parkways to freeways; and from urban to suburban to rural. There is significant reliance on arterial streets and highways in many parts of the region.

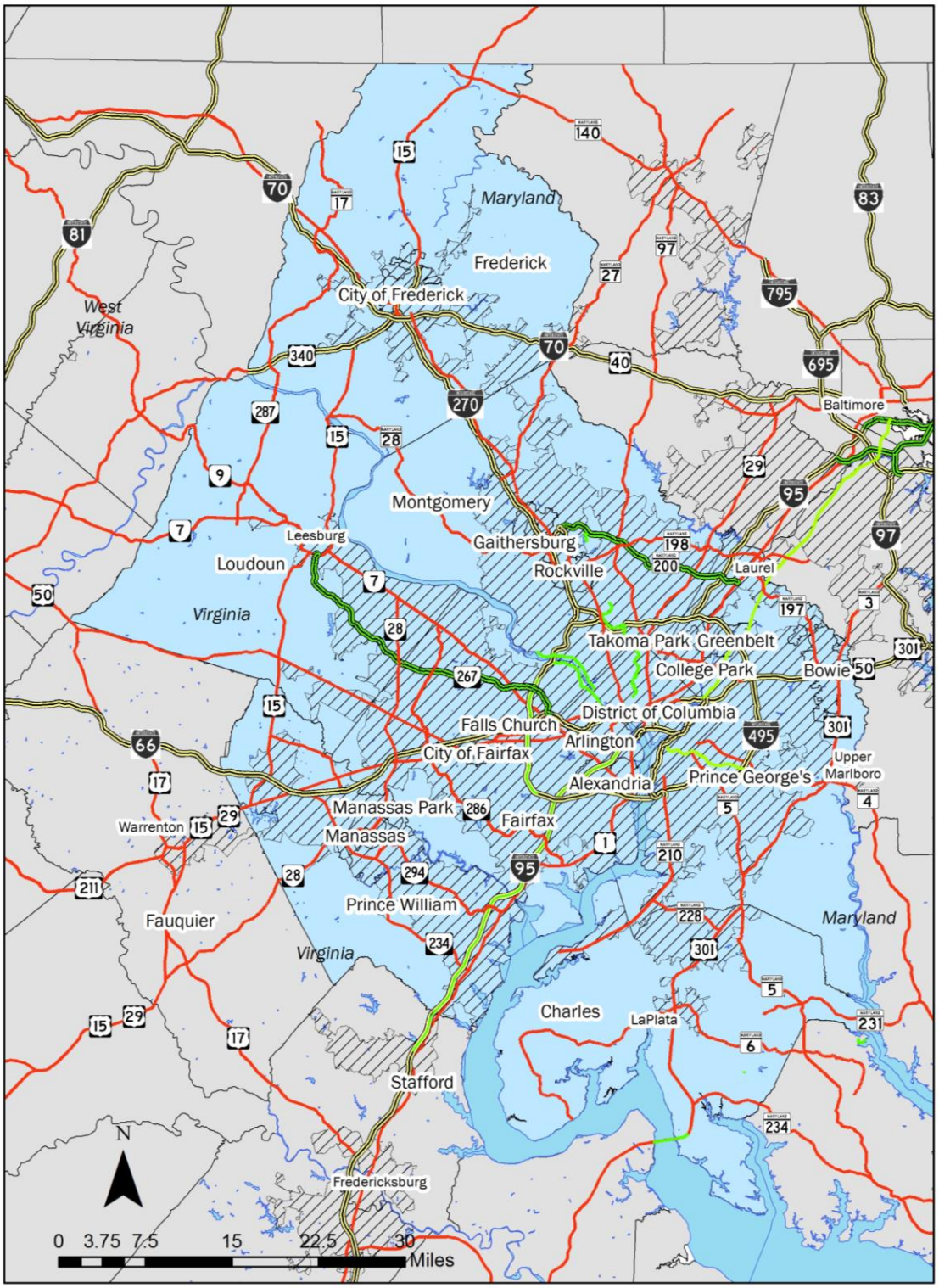
The National Capital Region benefits from the Metropolitan Area Transportation Operations Coordination (MATOC) Program. Since 2009, MATOC has monitored and provided regional situational awareness of major roadway-impacting incidents, sending notifications to participating agencies, and ensuring effecting deployment of the region's major data sharing tool, the Regional Integrated Transportation Information System (RITIS).[8] MATOC is a collaboration of the District of Columbia, Maryland, and Virginia Departments of Transportation, the Washington Metropolitan Area Transit Authority, and the National Capital Region Transportation Planning Board. Though MATOC regularly discusses regional awareness of TIM, its scope and funding focus on transportation agencies and regional (not on-scene) impacts of incidents.

[6] U.S. Department of Transportation, National Highway Traffic Safety Administration's, The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised 2015), Report number DOT HS 812 013, obtained from: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812013, last accessed October 26, 2018.

[7] Metropolitan Area Transportation Operations Coordination Program, MATOC After Action Report: Tractor Trailer Crash & Fire, Woodrow Wilson Bridge (June 20, 2018), unpublished.

[8] For more information on MATOC and RITIS, visit www.matoc.org and www.ritis.org.

Figure 2 - Map of the Region with Urbanized Area Shown in Cross-Hatching (Source: COG)



ABOUT THE TIME TASK FORCE

May 22 Regional TIME Workshop (COG)

In response to the request by the COG Board for the TIME Initiative, COG staff recruited and convened an interdisciplinary team of subject matter experts representing a variety of functional areas involved in Traffic Incident Management, forming the TIME Task Force.

Recruited for Task Force participation were representatives of police, fire, and emergency medical services, 9-1-1 services, transportation operations, public information, and towing/recovery. Participants were from the District of Columbia, Maryland, and Virginia. State and local agencies, the National Park Service, toll roads, and the Washington Metropolitan Area Transit Authority (WMATA) were represented. These participants brought extensive experience in TIM, and expressed strong interest in the success of this initiative. A complete listing of Task Force participants can be found in **Appendix A**.

The TIME Task Force met seven times from February to October 2018, and also hosted a May 22 regional workshop with expanded participation, summarized in **Appendix D** of this report.

Over seven meetings, the Task Force concentrated on a few key topics that were most critical to establishing a process to strengthen TIM in the National Capital Region, largely ongoing collaboration on the topic, training needs, and interjurisdictional sharing and adoption of best practices.

TASK FORCE RECOMMENDATIONS

The COG Board, the TIME Task Force, workshop participants, and COG staff considered a wide range of TIM-related topics during the initiative—more than could be fully examined during its 10-month duration. A comprehensive list of these topics can be found in Appendix B. Although the task force considered many approaches for enhancing TIM, they identified this series of seven actionable, top priority items for the region.

1. UPDATE REGIONAL AGREEMENTS AND IMPROVE CONSISTENCY OF TIM LAWS AND POLICIES

COG should lead an effort to develop a transportation incident management mutual aid operations plan.

Although several regional mutual aid agreements exist, including the National Capital Region Mutual Aid Agreement (NCR MAA), a more encompassing transportation incident management mutual aid operations plan is needed to solidify procedures for communications, unified response among multiple agencies, and chain-of-command at incident scenes. Similar plans exist for other disciplines, including fire and rescue and law enforcement.

There are gaps in existing agreements. For example, the Potomac River Bridges Towing Compact[9] gives the District, Maryland, and Virginia jurisdiction to exercise appropriate authority to respond to incidents anywhere on the Woodrow Wilson Memorial Bridge, Rochambeau Memorial Bridge, George Mason Memorial Bridge, Theodore Roosevelt Memorial Bridge, Francis Scott Key Bridge, Chain Bridge, and American Legion Bridge. Expanding this compact to bridges not now covered, such as the Governor Harry W. Nice/Senator Thomas "Mac" Middleton Memorial Bridge (US 301) and the Point of Rocks Bridge (US 15), as well as to responder agencies (such as transportation agencies) not now covered, would be beneficial.

Jurisdictions should review and update, as necessary, their laws to ensure the concepts of "move over", "move it", and "hold harmless" are consistently included.

These three concepts enhance traffic incident management by reducing the time it takes responders to reach an incident, improving the safety of working conditions at an incident for first responders, maintaining the regular flow traffic for minor incidents, and reducing the time to clear an incident by removing disabled or damaged vehicles and cargo.

Including the concepts of move over, move it, and hold harmless consistently in laws across the region ensures better traveler understanding, allowing responders to more easily do their jobs.

A move over law requires motorists to move over or change lanes to give safe clearance to first responders.

A move it law requests that motorists involved in a fender bender or minor accident, where no injuries have occurred, move their vehicles from travel lanes to prevent obstructing traffic flow.

[9] https://law.lis.virginia.gov/compacts/potomac-river-compact/, last accessed October 30, 2018.

A hold harmless law generally allows for law enforcement and other responder agencies to remove a vehicle and/or cargo involved in an accident from the roadway, without the consent of the owner, and holds them harmless from any damages or claims as long as they are acting in good faith.

Overall, a systematic review of laws, regulations, and agency policies is needed to increase consistency for better traveler understanding, and to enable responder best practices.

2. COORDINATE REGIONAL ANNUAL TIM SELF-ASSESSMENTS

Convene state and local transportation agencies, public safety agencies, and private sector TIM stakeholders annually for a regional Traffic Incident Management Self-Assessment.

Many of the National Capital Region's TIM stakeholder agencies already participate in one or more self-assessments, but not on a region-wide level.

In recent years, the Baltimore metropolitan area has convened a TIM self-assessment, pinpointing opportunities for strengthening TIM region-wide.

Usually undertaken in a workshop format, these self-assessments enable state and local transportation, public safety, and private sector stakeholders to rate aspects of their collective TIM approach, and identify opportunities for improvement. The assessments use a scoring methodology (updated periodically by the Federal Highway Administration) to allow year-to-year comparisons.

TIM self-assessments cover the following areas:

- Strategic - Questions on formal policies and understandings among agencies and TIM partners including performance measure and program evaluation.
- Tactical - Questions covering on-scene response and clearance practices, traffic control, and responder and motorist safety.
- Support - Questions on interagency communications, data sharing, ITS for TIM and traveler information.[10]

3. ENCOURAGE AND COORDINATE TIM TRAININGS TO PROMOTE BEST PRACTICES

Member agencies should require those who have a role in responding to traffic incidents to attend TIM trainings, particularly through the FHWA's National TIM Responder Training Program.

Significant progress has been made in the region to adopt and promote nationally-recognized[11] TIM training processes, particularly the Federal Highway Administration's (FHWA's) Strategic Highway Research Program "SHRP2" TIM Training. However, it is an ongoing challenge to ensure thousands

[10] Federal Highway Administration, https://ops.fhwa.dot.gov/eto_tim_pse/preparedness/tim/self.htm, retrieved October 8, 2018.

[11] The Federal Highway Administration's Strategic Highway Research Program 2 (SHRP2) provides the current recognized national standard Traffic Incident Management training.

of practitioners across jurisdictions and agencies receive this critical TIM training and others, particularly with continuous staff turnover. Requiring training on TIM best practices will help responders in the field increase safety and reduce incident duration.

COG should share information with its members about available TIM training opportunities and host its own regional sessions.

Outreach to leadership of all public safety and other responder agencies in the region to raise awareness and encourage support and buy-in for personnel TIM training will help institutionalize this critical knowledge. COG also could track and report regional progress on numbers of trained personnel. These activities would be contingent on resources being found to sustain such a regional program.

The goals of SHRP2—"save lives; save money; save time"—align with the regional goals of the TIME Task Force. SHRP2 course offerings include a "basic curriculum" for all responders, and a "train-the-trainer" course for sustaining established local training programs.

4. LAUNCH OUTREACH INITIATIVES THAT BETTER ENGAGE THE PUBLIC AND OFFICIALS ON TIM

Identify funding for and develop a regional public outreach campaign that promotes educational messages on moving over for sirens, slowing down near incident scenes, and other TIM-related driver safety messages.

Mayor David Meyer speaks at a Street Smart Safety Campaign kickoff event in Fairfax. The campaign is aimed at reducing pedestrian and bicyclist injuries and deaths (COG)

A public outreach campaign could build on the existing region-wide Street Smart pedestrian and bicyclist safety campaign. The Street Smart campaign is housed at COG, and managed alongside an advisory committee made up of the agencies that provide the campaign funding. The campaign uses broadcast and outdoor advertising, media relations, digital media, and outreach events to raise awareness about pedestrian and bicycle safety. The majority of the program's funding is provided by the District of Columbia, Maryland, and Virginia, using federal transportation safety funds, with additional contributions from COG member jurisdictions and the Washington Metropolitan Area Transit Authority. A similar campaign on TIM would be contingent on the availability of funding.

Elected officials should also request periodic briefings from transportation and public safety agencies on TIM-related activities and data to inform future decision-making.

5. CREATE A REGIONAL TIM PROGRAM

Identify resources to create and sustain a regional program and stakeholder committee that can coordinate training and exercises, compile and review data, track emerging technologies, and promote best practices. Practitioners are eager to collaborate regionally but must be given a forum.

Participants see the merit in this regional effort continuing beyond 2018 and the current scope of the TIME Task Force.

The task force found great value in meeting and collaborating regionally, sharing experiences and best practices, and providing advice and recommendations. Many peer metropolitan areas (see Appendix C) already have such ongoing committees or efforts.

An ongoing program or committee would create a mission statement to clarify topics and activities and for identifying appropriate members to ensure successful efforts. It would coordinate training, exercises, and after-action reporting, assess emerging technologies, produce reference documents, and facilitate data sharing, compilation, and analysis among jurisdictions.

An ongoing TIM committee could operate alongside the existing COG Transportation Emergency Preparedness Committee (Regional Emergency Support Function #1), as well as coordinate with a number of related regional committees and programs. The task force is most concerned with ensuring that vital collaborative TIM efforts continue.

6. DESIGNATE TRANSPORTATION INCIDENT RESPONDERS AS EMERGENCY RESPONDERS REGIONWIDE

As has been done in Maryland, jurisdictions must review and update legislation and policies to ensure transportation emergency responders can get to incident scenes quickly, using flashing lights and audible sirens.

In Maryland, DOT/SHA/CHART is treated as an emergency response agency, follows the emergency service model, and is integrated with law enforcement and other emergency providers, because this speeds resolution of incidents. Maryland's transportation emergency responders have carefully limited by policy (but legal) abilities to get to the scene of an incident quickly, using red flashing lights and audible signals (sirens). Currently, transportation incident responders are not designated as emergency responders in the District of Columbia or Virginia. When stuck in traffic and unable to utilize emergency lights, these responders often cannot quickly get to the incident scene to provide their help in clearing the incident. This action would necessitate policy and potentially legislative changes in affected jurisdictions.

7. EXPAND ROADWAY SERVICE PATROLS TO FEDERAL PARKWAYS AND OTHER CRITICAL MAJOR ROADS NOT CURRENTLY COVERED

Convene the federal government, District, Maryland, and Virginia public safety agencies, and state and local jurisdictions to negotiate an agreement allowing for the funding and deployment of roadway service patrols on all federal parkways and other key highways.

Roadway service patrols, also known as safety service patrols or roadway operations patrols, have a long and successful track record in aiding TIM in the National Capital Region and around the country on roads like the Baltimore Washington Parkway.

(Patrick Zilliacus/COG)

However, there are many major roads in the region not covered by this service. A notable example is the George Washington Memorial Parkway; it is owned by the National Park Service, but it runs through Virginia and the District of Columbia.

There is benefit to expanding such patrols, although significant legal, institutional, and funding issues would have to be resolved for this to take place. Any expansions should not come at the expense of reducing existing coverage.

STRATEGIES RECOMMENDED FOR FURTHER INVESTIGATION

Beyond the seven key recommendations, the task force also identified many additional challenges to and strategies for enhancing TIM in the region. The task force did not determine costs or consider sponsoring agencies or time frames for resolving these challenges or implementing these novel ideas, but in general considers them promising with further investigation and discussion.

Several strategies mentioned have been deployed by TIM programs in other metropolitan areas, and could be considered for new or expanded deployment in the National Capital Region. A full list of the strategies researched by COG staff can be found in **Appendix C**. Each state or region has its own unique challenges, so these strategies would need to be adapted for deployment in the National Capital Region.

A. EXPEDITE DEPLOYMENT OF CUTTING-EDGE TECHNOLOGIES

Emerging technologies may help first responders clear incidents faster and more safely. The task force discussed two emerging, promising examples.

First is the use of unmanned aerial vehicles/systems (UAVs or drones) for crash documentation purposes. Such documentation is mandatory in any crashes involving fatalities. Using current ground-based crash documentation equipment can be time-consuming. Newly available UAVs have shown an ability to significantly reduce the amount of time needed for this documentation. Cautions include that UAVs may not be able to be used at night, in severe weather, or other extreme conditions, and that they cannot be used within the Federal Aviation Administration "no-fly" zone in the National Capital Region (prohibited without authorization within a 15-mile radius of Ronald Reagan Washington National Airport; the 30-mile radius imposes specified operating conditions such as weight and altitude limits).[12] Tethered UAVs may offer opportunities within that no-fly zone.

Second is installation of pan-tilt-zoom cameras on board roadway service patrol vehicles. Such cameras have been successful where deployed to share intelligence of incident scenes remotely, such as to the operations centers of the region's transportation agencies, helping with response, dispatch, and overall situational awareness. Equipping more vehicles will help.

B. IMPROVE INTERJURISDICTIONAL COMMUNICATIONS CAPABILITIES

How do responders communicate at the scene of an incident, especially extensive incident scenes that may be across many lanes, across medians, or occur over significant stretches of roadway? Responders are often from different agencies and/or different jurisdictions, using different radio systems, so the complexity of communications may hinder collaboration.

"Although "interoperable" communications exist among public safety first responders in the NCR, it does not always extend to transportation personnel responding to incidents.

[12] https://www.faa.gov/uas/where_to_fly/no_drone_zone/.

The task force recommends expanding deployment of such communications equipment that enables responders (including transportation responders) to communicate directly with their peers in other jurisdictions, including voice, data, and video. In many cases, there are communications systems in place that can be enhanced to accomplish this objective.

C. EXPAND AND IMPROVE CLOSED CIRCUIT TELEVISION CAMERA COVERAGE OF CRITICAL ROADWAYS AND BOUNDARY AREAS

Roadway surveillance cameras are successful and popular in sharing traffic situational awareness with agencies, elected officials, and the public. Installation and operations costs, physical limitations, and communications connection limitations mean they cannot be provided everywhere. However, the region can consider roadways or segments where closed-circuit television camera (CCTV) coverage is not currently in place but would be beneficial. A related strategy would be to investigate automated incident detection (AID) capabilities for critical locations, which are technological features of certain camera systems to detect and provide alarms to agencies when incident-related phenomena are detected with a video stream. Any such location decisions should be strategic and cost-beneficial.

D. EXPAND 9-1-1 CENTER COMPUTER-AIDED DISPATCH AUTOMATED DATA SHARING SYSTEMS

Public Safety Answering Points (PSAPs), also known as 9-1-1 (or 3-1-1 or #77) centers, are important means of responder agencies first learning about the occurrence of an incident. The sooner that responders know that an incident has occurred, the sooner they can start responding, potentially clearing and restoring open conditions. PSAP personnel use Computer-Aided Dispatch (CAD) systems to receive and prioritize incident calls, identify the status and location of responder assets, and dispatch responder personnel. But these systems were not necessarily built to share information in an automated fashion with other jurisdictions or transportation agencies. Without automated sharing, the process of the PSAP sharing information with these other responder agencies is a human-dependent, time-consuming process that can result in delays.

Automated sharing between public safety and transportation agencies has been established in a number of places, including by the Maryland Department of Transportation, Virginia Department of Transportation, Maryland State Police, Maryland Transportation Authority Police, and Virginia State Police. The challenges of filtering out law-enforcement-sensitive information, or information about non-transportation-impacting calls, have successfully been addressed in these areas to the satisfaction of stakeholders. There are opportunities to expand such “CAD” information sharing to more agencies in the National Capital Region.

E. EXPLORE QUICK CLEARANCE INCENTIVES FOR HEAVY-DUTY TOW AND RECOVERY VEHICLE CONTRACTORS

Defined monetary incentives can be provided to tow operators to quickly clear a crash scene (incidents involving medium- and heavy-duty commercial vehicles), an approach taken by the Metro Atlanta Traffic Incident Management Enhancement (TIME) Task Force Towing and Recovery Incentive Program (TRIP), the Florida Rapid Incident Scene Clearance (RISC) program, and by Metro Seattle/Washington State.

In Atlanta, for example, a (dispatched) tow contractor is paid $600 for response if their services end up not being needed. The tow company "is paid $2,500 if response requirements are met and the roadway is cleared and opened to traffic within 90 minutes after the tow company received the notice to proceed." If the scene is not cleared within three hours, a tow company is charged $600 in liquidated damages and an additional $10 for each minute over three hours that the lane is blocked.[13]


(Patrick Zilliacus/COG)

F. DEVELOP A RESPONDER SMARTPHONE/TABLET APP

Responder Incident Report tablet or smartphone applications have been developed for use by transportation incident first responders to leverage existing technology to promote real-time data sharing from responders at an incident scene. This takes advantage of responders likely already carrying these devices. The technology has been used by the Metropolitan Transportation Commission (San Francisco Bay Area of California), California Department of Transportation, and California Highway Patrol. "The app is designed to streamline the communications process by providing responders with accurate, real-time descriptions of an incident scene."[14]

G. DEVELOP PRE-PRINTED FIELD OPERATIONS GUIDE DOCUMENTS FOR RESPONDERS

Field operations guide documents have been developed and distributed for public safety agency responders to have handy information on transportation issues they may face at the scene of an incident. These documents, used by the Virginia Department of Transportation and the California Department of Transportation, cover issues such as traffic management guidelines and truck/heavy vehicle identification systems with their associated towing needs.

H. FORM CORRIDOR TEAMS FOR CRITICAL ROADWAYS AND BOUNDARY AREAS

Some metropolitan areas, like Greater Philadelphia and Southwest Pennsylvania, have established Traffic Incident Management groups that focus on well-defined transportation corridors or small areas (examples include downtown areas and suburban activity centers such employment centers and airports). These teams can be more focused on the particular corridor or area (including jurisdictional boundary areas) than a regional or statewide program and can convene a more focused set of stakeholders. There are, of course, cost and logistics considerations for supporting multiple groups, but some regions have found those resources.

[13]Information obtained via the Virginia Transportation Research Council's report Traffic Incident Management Quick Clearance Guidance and Implications - http://www.virginiadot.org/vtrc/main/online_reports/pdf/16-R9.pdf.

[14] https://mtc.ca.gov/whats-happening/news/task-force-partners-introduce-new-app-traffic-incident-responders

CONCLUSION

(Patrick Zilliacus/COG)

Regions across the country struggle with disruptions to their transportation systems due to incidents, whether caused by weather, crashes, or a host of other circumstances. When combined with the National Capital Region's high traffic volumes, intermittent high profile federal activities, and the range of land use and highway types operating under different states and localities, the management and resolution of traffic incidents becomes even more complex.

Effective traffic incident management is about more than reducing the amount of time that area residents sit in traffic. What is most important is ensuring safety and protecting lives. The TIME Task Force's work was shaped by its desire to improve safety of the traveling public and that of first responders. However, the group also weighed the economic impact of frequent lane closures due to incidents.

The set of seven priority recommendations in this report emphasize updating regional agreements and achieving more regional consistency of TIM laws, encouraging and promoting TIM training region-wide, and facilitating increased collaboration and conversation around TIM among personnel, elected officials, and the public. It was the feeling of the group that there were many more topics that should be researched and investigated, perhaps necessitating an ongoing, regional TIM committee.

With the task force drawing to a close, the group emphasized the need for continued regional prioritization of TIM, including in conversations about transportation planning, construction, and maintenance. The COG Board of Directors' approval of the findings and recommendations in this report will encourage area jurisdictions to better collaborate and consider innovative methods for fast and safe resolution of traffic incidents.

APPENDICES

Appendix A – Task Force Membership

NAME	TITLE	JURISDICTION/AGENCY
Transportation		
Joseph Sagal, Chair	Director	MDOT-SHA Ofc. of CHART & ITS Development
Michael Wood, Vice Chair	Incident Management Coordinator	VDOT Northern Region Office
Bob Brown	TPB Technical Committee Chair	Loudoun County
Soumya Dey	Associate Director, Transportation Operations & Safety	DDOT
Taran Hutchinson	MATOC Facilitator	MATOC
Katherine Jefferson	Road Operations Manager	Transurban
Bryant McClary	Bus Operations Specialist	WMATA Office of Bus Planning
Kelli Raboy	ITS Program Manager	DDOT
Scott Yinger	Chief, Field Operations Division	MDOT-SHA Ofc. of CHART & ITS Development
Fire and EMS		
Trevor Burrell	Captain	Arlington Co. Fire Dept.
Tony Hughes	Assistant Fire Chief	Prince George's County Fire/EMS Department
Jeff Merryman	Deputy Chief	Alexandria Fire Dept.
Law Enforcement		
Colin Bristow	First Sergeant; SHA Liaison	Maryland State Police
Michael Connor	Sergeant; Acting Commander of Communications	United States Park Police
Jason Pulliam	Captain; Commander of Highways	Maryland Transportation Authority Police
Aaron Saunders	Patrolman First Class	Bowie Police Dept.
9-1-1 Directors		
Dave Mulholland	Administrator, Emergency Communications Center	Arlington County
Tony Rose	Chief, Fire and EMS Communications	Charles County
Public Information		
Ellen Kamilakis	Senior Public Affairs Officer	VDOT, Northern Virginia Office
COG Staff		
Scott Fisher	Chief, Public Safety and Health Preparedness	COG
Andrew Meese	Systems Performance Planning Director	COG

Appendix B – TIME Initiative Topics by Category

This table shows a listing of topics raised during the TIME Initiative by the COG Board, TIME Task Force members, or COG staff.

ID	Classification	Status	Description and discussion
Best Practices	Policy	Board Resolution	Agree to pledge ongoing support for Traffic Incident Management (TIM) best practices
Standing NCR TIM Committee	Policy	Board Resolution	Agree to establish a standing National Capital Region Traffic Incident Management Committee to meet on a regular basis and be staffed by COG staff
Sponsor TIM Practitioner Training	Policy	Board Resolution	Agree to sponsor TIM practitioner training for transportation and public safety personnel that respond to incidents on the region's roadways
Track TIM Training Data	Training	Near Term	A future TIM Committee could track training data and report bi-annually to the COG Board or TPB leadership
Ready TIM Reference	Training	Near Term	Develop a simple, easy to read "ready reference" document of existing NCR TIM initiatives and tools. The high-level purpose of the document would be to promote responders' awareness and use of existing initiatives, tools, and capabilities that are available to support TIM.
Regional Outreach Campaign for Public	Outreach	Board Resolution	Agree to sponsor a regional outreach campaign on what the public needs to do to enable responders to clear incidents faster and more safely (move over for sirens and other actions). Could be based on existing COG/TPB Street Smarts campaign
Review Regional Agreements	Policy	Near Term	Agree to initiate a review and revision of regional agreements, such as The Greater Metropolitan Washington Area Emergency Management Mutual Aid Operations Plan and Potomac River Bridges Compact, to ensure agreements are consistent with current TIM best practices and procedures. There was a plan[1] written in 2012 by the Emergency Managers Committee that would allow a type of mutual aid without requesting help through Emergency Management Assistance Compact (EMAC) process, which has been shared with senior DOT staff in at least one of the states, who were not aware of it, perhaps due to

ID	Classification	Status	Description and discussion
			transfers and retirements of staff that were involved in its drafting in that year.
Systematic Review of TIM Laws and Policies	Policy	Near Term	COG staff asked about a possible systematic review of traffic incident management laws and regulations across the three states to get to some consistency and resulting in recommendations for the report. Perhaps by each state reviewing their own statutes and regulations related to traffic incident management, and then returning to the group and discuss to discuss findings with colleagues in the other states. To then compile a summary of such provisions with the goal being a list of best practices already codified in law and regulations. Every state will be different but examining and discussing differences could be informative and helpful.
Examples of Current TIM Laws	Policy	Near Term	Maryland has a "Move-It law," Virginia has a "Hold Harmless" law, the Potomac River Bridge Compact is already codified into the statutes of D.C., Maryland and Virginia. "Move over" laws protect first responders.
DDOT Proposed Legislation	Policy	Near Term	DDOT staff said that proposed legislation is expected to be sent to the D.C. Council in September 2018 on matters related to traffic incident management ("Move over" and "Move it" as part of a larger Vision Zero package), and this effort might be useful to inform that effort. DDOT staff has met with their Director (Jeff Marootian) who has expressed support for such measures.
Maryland and Virginia Laws are Statewide in Nature	Policy	Near Term	It was mentioned that Maryland and Virginia laws and regulations that relate to traffic incident management are statewide, so a review is statewide in nature and reaches beyond the National Capital Region.
Expanded Roadway Service Patrols	Policy Operations	Research and Investigate	Agree to explore the potential for expanding safety patrols to cover additional roadways, including coverage of federal parkways not now benefiting from patrols.
Expanded Roadway Service Patrols to all National Park Service Parkways	Policy Operations	Research and Investigate	This is a subject that has been discussed in the past (including at the Transportation Planning Board by elected members of that body) and patrols are needed on all federal parkways.
Maryland Currently Provides	Policy Operations	Research and Investigate	A member mentioned there are Maryland CHART patrols on the Baltimore-Washington

ID	Classification	Status	Description and discussion
CHART Coverage for B-W Parkway			Parkway since 1999 in cooperation with the U.S. Park Police (which has its own contract tow services) but there are challenges (including often limited or no shoulders).
Currently no Funding for FSP on the George Washington Memorial Parkway from Alexandria to I-495	Policy Operations	Research and Investigate	Virginia is in favor of patrols on the federal parkways of Northern Virginia (in particular the George Washington Memorial Parkway between Slaters Lane in Alexandria and I-495 near the American Legion Bridge across Arlington and Fairfax Counties (a short section of the Parkway on Columbia Island is in the District of Columbia), but there is no funding, no personnel, and no legal authority currently to provide such services.
Roadway Service Patrol Expansion is not Always a Success	Policy and Operations	Research and Investigate	VDOT's Safety Service Patrol was expanded in a limited fashion to U.S. 1 in Fairfax and Prince William counties, and it was not a success – communications, issues with authority, and familiarity with geography of the roads caused VDOT to end it. It was mentioned that Montgomery County also provided some similar service for a while on certain parts of the county's road system.
No Current Funding to Expand Roadway Service Patrols	Policy and Operations	Research and Investigate	This is an idea that has merit, but also has funding implications, and there are currently no such funds available.
Expedited Deployment of Cutting-Edge Technologies.	Technology	Near Term	Agree to expedite deployment of cutting-edge technologies to help first responders clear incidents faster and more safely, such as use of unmanned aerial vehicles (drones, including tethered drones in no-fly zones) and advanced crash documentation equipment.
Make Deployment of Such Technology A Formal Policy	Technology	Near Term	This is an effort to redouble efforts to deploy such technology by making It policy (which is already under way by several agencies in the National Capital Region).
Interoperable Communications (Voice, Data and Video) Between the Partner Agencies	Technology	Near Term	Implement interoperable communications (voice, data and video) between the partner agencies. It is consistent with NUG best practices and the MATOC communications system (between MATOC member agencies and hosted by D.C.) is a local implementation designed to improve communications between the agencies.
Interoperable Communications	Technology	Research and Investigate	Interoperable communications among operations centers and field personnel

ID	Classification	Status	Description and discussion
Communication Between Other Traffic Management Centers	Policy	Research and Investigate	Statewide TIM with multiple centers with excellent interaction with local partners
Shared Situational Awareness	Policy	Near Term	Situational awareness and information should be shared as they relate to traffic incident management as a matter of routine between the partner agencies.
Transportation First Responders Should be Treated as Emergency Responders Regionwide	Policy	Near Term	Endorsement by the Task Force of emergency services component within the state DOTs such as the model used by Maryland DOT/SHA/CHART, which is treated as an emergency response agency, and follows the emergency service model, and are integrated with law enforcement and other emergency providers, because this speeds resolution of incidents. Maryland's transportation emergency responders have carefully limited by policy (but legal) abilities to get to the scene of an incident quickly - using red flashing lights and audible signals (sirens).
Train Analytical Staff	Training	Research and Investigate	Train analytical staff to analyze data and provide feedback on TIM impacts.
Unmanned Aerial Systems for Crash Reconstruction	Training	Research and Investigate	Unmanned aerial systems to view and reconstruct incidents
SHRP2 Training for all Law Enforcement Officers	Training	Research and Investigate	Training of all law enforcement officers in SHRP2 training
Social Media to Inform Public of Road and Lane Closures	Outreach	Research and Investigate	Use of social media to inform public on road and lane closures
TIM Certification for Control Room Staff	Training	Research and Investigate	Developing the same certification program for traffic control room staff that are used by incident response personnel.
Two Communications Paths for Responders	Training	Research and Investigate	Having two methods of communications reduces response time and provides redundancy if one communications path is down.
Automated Incident Detection (AID) Cameras and Expanded CCTV Cameras	Training	Research and Investigate	Install Automated Incident Detection (AID) cameras in addition to Closed Circuit Television (CCTV) cameras. The AID cameras are fixed; whereas the CCTV cameras have Pan-Tilt-Zoom capabilities.

ID	Classification	Status	Description and discussion
TIM Training for 911, 311 and #77 Call Takers	Training	Research and Investigate	Train 911 center call takers (and others that process such calls for service, such as #77 and 311) to instruct motorists to move vehicles to the shoulder if they can safely get them out of the travel lane.
Use Technology to Aid CADD Dispatchers	Training	Research and Investigate	Using technology to aid the CADD dispatch operators (call center staff pull up appropriate CCTV cameras near a reported crash and inform dispatchers of what they see).
Instant Towing if a Vehicle is Blocking a Lane	Policy	Research and Investigate	Instant towing. If an incident is reported as blocking a lane, a tow vehicle is dispatched to freeway incidents automatically
Push Disabled and Damaged Vehicles out of Traffic with FSP and police vehicles	Policy	Research and Investigate	Pushing disabled or damaged vehicles out of travel lanes using first responder vehicles (police vehicles and roadway service patrol vehicles)
Tiered Approach to TIM from the Operations Center	Policy	Research and Investigate	Tiered approach to TIM from the operations center; resource to match type of incident.
Institutionalize TIM Training Statewide	Training	Research and Investigate	Institutionalizing TIM training statewide for first responders, educational and training institutions adopting the SHRP2 training program
Revise General Orders for Sworn Employees to Include TIM	Policy Legislative	Research and Investigate	Revising general orders (typically issued by fire and police chiefs which the sworn personnel reporting to them must comply with) related to TIM – Policy or Legislative
Use AVL to Aid Dispatch	Technology	Research and Investigate	Automated Vehicle Location (AVL) dispatch. Allows closest unit to be dispatched to incident
Enhance Relationship with Outside Agencies	Outreach	Research and Investigate	Enhancing relationship with outside agencies – Public Outreach
Use ATMS And AVL Data	Technology Data	Research and Investigate	Using ATMS and AVL data to make decisions around traffic incidents. FSP routes based on historical data, decision making using analysis
Cameras on All FSP Vehicles	Technology	Research and Investigate	CCTV, DMS, AVL on safety service vehicles improves situational awareness and pushing public information

Appendix C – Summary of TIM Activities Elsewhere

City or region	State	Agency	Title	Remarks
Austin	Texas	CAMPO	RFQ - Transportation Planning: Development of a Regional Incident Management Strategic Plan and Performance Assessment	Could be a useful model for COG region
Chicago	Illinois	CMAP	Regional Transportation Operations Coalition / Advanced Technology Task Force	Meeting notice and agenda from December 2017
Chicago	Illinois	CMAP	Management and Operations report	Covers strategies that could be useful in evaluation of system performance
Chicago	Illinois	CMAP	Short presentation on highway congestion reduction	Congestion reduction strategies
Chicago	Illinois	CMAP	Regional Transportation Operation Coalition Draft Work Plan from 2010	
Chicago	Illinois	CMAP	Action Strategy Paper: Security and Emergency Management	USDOT Volpe Center for CMAP
Dover	Delaware	DelDOT	DelDOT's Integrated Transportation Management Program and Vision for the Future	Has a very interesting section toward the back about using UAVs in traffic incident management
Denver	Colorado	DRCOG	DRCOG Regional Concept of Transportation Operations	Regional-scale document
Philadelphia	Pennsylvania	DVRPC	Lesson Learned: DVRPC (MPO)-led Task Forces Partner to Lessen the Impact of Incidents Involving Large Trucks	Integrating freight movements by highway with the TIM process
Philadelphia	Pennsylvania	DVRPC	Map of the TIM Task Forces in the DVRPC region	Map
National		U.S. Fire Administration	Traffic Incident Management Systems	TIM from the perspective of fire/EMS responders
National		FHWA	Service Patrol Handbook	Good overview of safety service patrol responsibilities and policies from 2008

City or region	State	Agency	Title	Remarks
National		FHWA	Making the Connection: Advancing Traffic Incident Management in Transportation Planning	The intent of this primer is to inform and guide traffic incident management (TIM) professionals and transportation planners to initiate and develop collaborative relationships and advance TIM programs through the metropolitan planning process. Programs that support regional TIM programs through TIM-focused objectives, performance measures, and TIM strategies and projects.
National		FHWA	Traffic Incident Management Gap Analysis Primer	The research conducted for this gap analysis determined that there is no one-size-fits-all TIM program
National		FHWA	Gap Analysis Outreach Briefing for TIM Program Managers	PowerPoint
National		FHWA	Gap Analysis Outreach Briefing for Executive Decision Makers	PowerPoint
National		FHWA	Traffic Incident Management (TIM) Performance Measurement (PM)	Discussion of TIM Performance Data and Metrics
National		FHWA	2010 Traffic Incident Management Handbook Update	The 2010 version of the TIM Handbook includes the latest advances in TIM programs and practices across the country and offers insights into the latest innovations in TIM tools and technologies.
National		FHWA	Traffic Incident Management (TIM) Talking Points	To be incorporated into other documents - not for stand-alone use

City or region	State	Agency	Title	Remarks
National		FHWA	Transportation Systems Management and Operations in Action	The Federal Highway Administration Office of Operations commissioned these case studies to highlight TSMO strategies throughout the United States
Statewide	Georgia	Georgia DOT	Georgia Traffic Incident Management Guidelines	This is a voluntary set of guidelines, not statutes and not regulations and might be useful for that reason
Atlanta	Georgia	Georgia DOT and GRTA	Metro Atlanta Traffic Incident Management Strategic Vision	Two-page flyer
Hampton Roads	Virginia	Hampton Roads MPO	Hampton Roads RCTO for Highway Incident Management	An executive summary of a longer document
I-95 Corridor Coalition		University of Maryland CATT Lab	3D Virtual Incident Management Training	Overview document
National		ITE	Multi-state Transportation Operations Programs: Towards a National Network of Transportation Operations Infrastructure	From 2002
National		ITE	A Regional Concept of Transportation Operations for Phoenix Metropolitan Region	From 2003
National		ITE	QUICK CLEARANCE LEGISLATION: USING THE LAW TO ENHANCE TRAFFIC INCIDENT MANAGEMENT	From 2005
National		ITE	Traffic Incident Management (TIM) Programs: A Head Start for Surface Transportation Security Planning and Operations	From 2005
National		ITE	RELATIONSHIP BETWEEN ROADWAY CLEARANCE TIME AND INCIDENT CLEARANCE TIME	From 2012 - very quantitative
National		ITE	National Traffic Incident Management Responder Training	From 2014 - TIM Training

City or region	State	Agency	Title	Remarks
National		ITE	Traffic Incident Management and the Role of Transportation/Public Works Agencies	From 2014
National		ITE	Traffic Incident Management Programs and Benefit-Cost Analysis	From 2016
National		ITE	Transportation Planning Council Newsletter with emphasis on emergency services	From 2013
Kansas City	Kansas and Missouri	KDOT and MoDOT	Kansas City Scout Annual Report	From 2015, what a multi-state set of metrics might look like
Kansas City	Kansas and Missouri	KDOT and MoDOT	Standard Operating Procedures	Multi-Agency Emergency Response
Kansas City	Kansas and Missouri	KDOT and MoDOT	Operations Report	From March 2017
Las Vegas	Nevada	Las Vegas FAST	Overview	
Maine Turnpike	Maine	Southern Maine Planning and Development Commission	Traffic Incident Operating Guidelines for Incidents Occurring on Interstate 95 and the Maine Turnpike	Multi-Agency Guidelines
Maine Turnpike	Maine	Southern Maine Planning and Development Commission	Meeting notes from 2017 meeting	
Statewide	Maryland	MDOT/SHA/CHART	Performance Evaluation and Benefit Analysis for CHART in Year 2016	Lots of metrics
Algoma	Michigan		Expedited Vehicle Extraction and IC	Fire/EMS at incident scenes
Southeastern Michigan	Michigan	SEMCOG	Memorandum of Regional Cooperation	Implement a Regional Concept for Transportation Operations
San Francisco Bay Area	California	MTC	Incident Report Responder Communication System	Handheld or tablet app for uniform reporting of incidents
San Francisco Bay Area	California	MTC	Pages from recent MTC UPWP describing TIM entries	

City or region	State	Agency	Title	Remarks
San Francisco Bay Area	California	MTC	Map of roadway service patrol beats and incidents reported to WAZE	
Statewide	New Jersey	NJDOT	Traffic Incident Management Strategic Plan	Numerous agencies listed as cooperating
Statewide	New Jersey	NJDOT	Traffic Incident Management SAFETY GUIDELINES FOR EMERGENCY RESPONDERS	
Statewide	New Jersey	North Jersey Transportation Planning Authority	The Connected Corridor	New Jersey's TSM&O Strategic Plan and ITS Architecture
North Central Texas	Texas	North Central Texas Council of Governments	2016 Safety Program Performance Measures	Safety Statistics
National		National Traffic Incident Management Coalition	ANATOMY OF A TRAFFIC INCIDENT	
National		National Traffic Incident Management Coalition	Benefits of Traffic Incident Management	
National		National Traffic Incident Management Coalition	Prompt, Reliable Traffic Incident Communications	
National		National Traffic Incident Management Coalition	Example Strategies for Building Stronger State Traffic Incident Management Programs	
National		National Traffic Incident Management Coalition	Multidisciplinary TIM Core Competencies	
National		National Traffic Incident Management Coalition	National Unified Goal for Traffic Incident Management	

City or region	State	Agency	Title	Remarks
National		National Traffic Incident Management Coalition	Responder Safety	
Southeastern Wisconsin	Wisconsin	Southeastern Wisconsin Regional Planning Commission	REGIONAL TRANSPORTATION OPERATIONS PLAN FOR SOUTHEASTERN WISCONSIN: 2012-2016	
Southwestern Pennsylvania	Pennsylvania	Southwestern Pennsylvania Commission	Southwestern Pennsylvania Traffic Incident Management Program	TIM Program Guide
Southwestern Pennsylvania	Pennsylvania	Southwestern Pennsylvania Commission	The TIMes Southwestern PA Traffic Incident Management News & Notes - Spring 2015	TIM Newsletter
National		TRB	Joint Meetings Committees on Regional Transportation Systems Management Operations (AHB10) and Freeway Operations (AHB20) Midyear Meeting	Interagency and System Integration PowerPoint
National		TRB	Institutional Architectures to Improve Systems Operations and Management	SHRP2 report
National		TRB	Post-Course Assessment and Reporting Tool for Trainers and TIM Responders Using the SHRP 2 Interdisciplinary Traffic Incident Management Curriculum	SHRP2 report
National		TRB	Sharing Operations Data Among Agencies	Michael L. Pack and Nikola Ivanov
National		TRB	Incident Command System (ICS) Training for Field-Level Supervisors and Staff	
National		TRB	Improve Responder Safety	Goals from TRB meeting 2010
National		TRB	Provide Safe, Quick Clearance	Goals from TRB meeting 2010

City or region	State	Agency	Title	Remarks
National		TRB	Prompt, Reliable Interoperable Communications (Disseminate Operations Information to Stakeholder)	Goals from TRB meeting 2010
National		TRB	Proceedings of the National Conference on Traffic Incident Management: A Road Map to the Future	2002
Statewide	Virginia	VDOT	Traffic Incident Management – TOP 10 Best Practice Tools and Strategies	
Statewide	Virginia	VDOT	After Action Reports & Reviews	
Statewide	Virginia	Virginia State Police	2013 Virginia Traffic Incident Management Plan	
Statewide	Virginia	Virginia State Police	Letter to Traffic Incident Management Partners	

Appendix D – Summary of May 22 Workshop

TRAFFIC INCIDENT MANAGEMENT ENHANCEMENT (TIME) TASK FORCE
Capability and Best Practices Workshop
National Capital Region

Tuesday, May 22, 2018
9:00 A.M. – 4:00 P.M.
COG Ronald F. Kirby Training Room

PARTICIPANTS

The meeting included members of the COG Traffic Incident Management Enhancement (TIME) Task Force, including Chair Joseph Sagal of the Maryland Department of Transportation, State Highway Administration, Office of CHART and ITS Development; Vice Chair Michael Wood, Regional Incident Management Coordinator, Virginia Department of Transportation, Northern Region Operations; and Natalie Jones Best, Emergency Preparedness and Risk Manager of the District Department of Transportation.

Col. Jerry Jones, Chief of the Maryland Transportation Authority Police, gave opening remarks to the group.

COG Board of Directors Chairman Matt Letourneau addressed the workshop participants during lunch and explained the board's emphasis of this subject for calendar year 2018.

There were about 50 attendees, including the FHWA team, staff from COG's transportation planning and public safety departments; state department of transportation operations, security staff and public information; regional and local public transit agencies; representatives of private-sector roadway concessionaires; representatives of the Federal Highway Administration; state, local and federal law enforcement; fire/EMS providers; and the Metropolitan Area Transportation Operations Coordination (MATOC) group.

WORKSHOP FORMAT

The workshop was envisioned as a hybrid of a regional self-assessment and group discussion on the best practices of TIM in the National Capital Region (NCR), not a formal Traffic Incident Management (TIM) Capability Maturity Self-Assessment (CMSA) effort that state DOT's perform.

Facilitators Paul Jodoin and Jim Austrich from FHWA and Steve Cyra from HNTB led the workshop using their combined years of work in the TIM environment and experience presenting CMSA workshops across the country. A combination of video presentations, slide shows, and facilitator led discussions enabled workshop participants to come up with the recommendations discussed below.

MAJOR ITEMS DISCUSSED AND RECOMMENDATIONS

The items discussed and recommendations for the items for the task force to take up are listed below.

- The workshop discussed unique geographic and institutional features which impact TIM were discussed, which include two states and the federal district.
- There was a recommendation that an ongoing National Capital Region TIM committee be established.
- Highlight the TIM mission, purpose, and need to the COG Board of Directors.
- Promote regional FHWA SHRP2 (second Strategic Highway Research Program (2006-2015)) and other TIM training available to the region.
- Consider conducting a formal FHWA TIM capability, maturity and self-assessment annually for the National Capital Region.
- Develop a simple, easy to read "ready reference" document of existing NCR TIM initiatives and tools.
- Share regional TIM data and performance metrics.
- Emphasize importance of TIM for construction and work zones.
- Improve regional consistency and awareness of TIM laws, specifically the Move Over, Driver Removal and Authority Removal laws.

POST-WORKSHOP

The TIME task force used the experience gained from the workshop to help guide its work in post-workshop meetings. Many of the findings and recommendations were used as a basis for the recommendations for the task force's report to the COG board.

Appendix E – National Unified Goal for Traffic Incident Management

National Unified Goal
for Traffic Incident Management

Working Together for Improved Safety, Clearance and Communications

ntimc
National Traffic Incident Management Coalition

WHAT IS THE NATIONAL UNIFIED GOAL?

The Traffic Incident Management National Unified Goal is:

- Responder safety;
- Safe, quick clearance; and
- Prompt, reliable, interoperable communications.

COMMITMENT STATEMENT

The NTIMC is committed to working together to promote, develop, and sustain multidisciplinary, multijurisdictional Traffic Incident Management (TIM) programs to achieve enhanced responder safety; safe, quick traffic incident clearance; and more prompt, reliable, interoperable communications.

HOW WILL THE GOAL BE ACHIEVED?

NTIMC will achieve the three major objectives of the National Unified Goal through 18 strategies. Key strategies include recommended practices for multidisciplinary TIM operations and communications; multidisciplinary TIM training; goals for performance and progress; promotion of beneficial technologies; and partnerships to promote driver awareness.

CROSS-CUTTING STRATEGIES

- **Strategy 1. TIM Partnerships and Programs.** Traffic Incident Management partners at the national, state, regional and local levels should work together to promote, develop and sustain effective Traffic Incident Management Programs.
- **Strategy 2. Multidisciplinary NIMS and TIM Training.** Traffic Incident Management responders should receive multidisciplinary National Incident Management System (NIMS) and Traffic Incident Management (TIM) training.
- **Strategy 3. Goals for Performance and Progress.** Traffic Incident Management partners should work together to establish and implement performance goals at the state, regional and local levels for increasing the effectiveness of Traffic Incident Management, including methods for measuring and monitoring progress.
- **Strategy 4. TIM Technology.** Traffic Incident Management partners at the national, state, regional and local levels should work together for rapid and coordinated implementation of beneficial new technologies for Traffic Incident Management.
- **Strategy 5. Effective TIM Policies.** Traffic Incident Management partners at the national, state, regional and local levels should join together to raise awareness regarding proposed policies and legislation that affect achievement of the National Unified Goal objectives of Responder Safety; Safe, Quick Clearance; and Prompt, Reliable Traffic Incident Communications.
- **Strategy 6. Awareness and Education Partnerships.** Broad partnerships should be

developed to promote public awareness and education regarding the public's role in safe, efficient resolution of incidents on the roadways.

OBJECTIVE 1: RESPONDER SAFETY

- **Strategy 7. Recommended Practices for Responder Safety.** Recommended practices for responder safety and for traffic control at incident scenes should be developed, and widely published, distributed and adopted.

- **Strategy 8. Move Over/Slow Down Laws.** Drivers should be required to Move Over/Slow Down when approaching traffic incident response vehicles and traffic incident responders on the roadway.

- **Strategy 9. Driver Training and Awareness.** Driver training and awareness programs should teach drivers how to react to emergencies on the roadway in order to prevent secondary incidents, including traffic incident responder injuries and deaths.

OBJECTIVE 2: SAFE, QUICK CLEARANCE

- **Strategy 10. Multidisciplinary TIM Procedures.** Traffic Incident Management partners at the state, regional and local levels should develop and adopt multidisciplinary procedures for coordination of Traffic Incident Management operations, based on national recommended practices and procedures.

- **Strategy 11. Response and Clearance Time Goals.** Traffic Incident Management partners at the state, regional and local levels should commit to achievement of goals for traffic incident response and clearance times (as a component of broader goals for more effective Traffic Incident Management--see Strategy 3).

- **Strategy 12. 24/7 Availability.** Traffic Incident Management responders and resources should be available 24/7.

OBJECTIVE 3: PROMPT, RELIABLE INCIDENT COMMUNICATIONS

- **Strategy 13. Multidisciplinary Communications Practices and Procedures.** Traffic incident responders should develop and implement standardized multidisciplinary traffic incident communications practices and procedures.

- **Strategy 14. Prompt, Reliable Responder Notification.** All traffic incident responders should receive prompt, reliable notification of incidents to which they are expected to respond.

- **Strategy 15. Interoperable Voice and Data Networks.** State, regional and local Traffic Incident Management stakeholders should work together to develop interoperable voice and data networks.

- **Strategy 16. Broadband Emergency Communications Systems.** National Traffic Incident Management stakeholders (working through the National Traffic Incident Management Coalition) should work together to reduce the barriers to integrated broadband emergency communications systems development and integration (both wired and wireless).

- **Strategy 17. Prompt, Reliable Traveler Information Systems.** Traffic Incident Management partners should encourage development of more prompt and reliable traveler information systems that will enable drivers to make travel decisions to reduce the impacts of emergency incidents on traffic flow.

- **Strategy 18. Partnerships with News Media and Information Providers.** Traffic Incident Management partners should actively partner with news media and information service providers to provide prompt, reliable incident information to the public.

Appendix F – Glossary of Terms

The terms below are adapted from several online sources, including a review of literature by the Federal Highway Administration and the Federal Highway Administration's Office of Operations Service Patrol Handbook.

Detection Time – the elapse time between when an incident occurs to when it is detected

Preparation Time – the elapse time between when an incident is detected to when the response vehicles are dispatched.

Response Travel Time – the elapse time between when the response vehicle was dispatched and when response vehicles arrive at the incident scene.

Clearance Time – the elapse time between when response vehicles arrive at the incident scene to when traffic completely recovers after the incident.

Response Time – the elapse time between when an incident is detected to when the response vehicles arrive at the scene.

Incident Duration – the elapse time between when an incident occurred to when the response vehicles depart at the scene.

AADT – Annual Average Daily Traffic

AASHTO – American Association of State Highway and Transportation Officials

AED – Automated External Defibrillator

ATIS – Advanced Traveler Information Systems

AVL – Automatic Vehicle Location

CapWIN – Capital Wireless Information Net

CCTV – Closed Circuit Television

CDL – Commercial Driver's License

CHART - Coordinated Highways Action Response Team – a unit of the State Highway Administration, provides freeway service patrols on segments of Maryland's non-tolled highway network, largely in the Washington suburban, Baltimore, Annapolis and Frederick areas of the state. CHART also provides incident management, traffic and roadway monitoring, traveler information, severe weather and emergency operations and traffic operations.

CMAQ – Congestion Mitigation and Air Quality Federal-Aid Transportation funding program

Congestion Initiative – The National Strategy to Reduce Congestion on America's Transportation Network. Announced initiative and plan by U.S. DOT to reverse trends of congestion.

ConOps – Concept of Operations. A formal document that provides a user-oriented view of a proposed new system. (Source: IEEE Guide for Information Technology-System)

DDOT – District Department of Transportation

DMS – Dynamic Message Sign also referred to as a Variable Message Sign (VMS)

DOT – Department of Transportation

DWI – Driving While Intoxicated

EMS – Emergency Medical Services

EMT – Emergency Medical Technician

EOC – Emergency Operations Center

ESF – Emergency Support Function

ETO – Emergency Transportation Operations

FFSP – Full-Function Service Patrol

FHWA – Federal Highway Administration

FSP – Freeway Service Patrol

FTO – Field Traffic Officer

GPS – Global Positioning System

HAZMAT – Hazardous Materials

HAZWOPER – Hazardous Waste Operations and Emergency Response Standard

HOT – High Occupancy Toll

HOV – High Occupancy Vehicle

HSPD – Homeland Security Presidential Directive

IC – Incident Commander

ICS – Incident Command System

IR – Incident Response

IRU – Incident Response Unit

ITS – Intelligent Transportation Systems

ITS JPO – ITS Joint Program Office

MAP – Motorist Assistance Program

MATOC – Metropolitan Area Transportation Operations Coordination Program

MDOT – Maryland Department of Transportation

MDTA - Maryland Transportation Authority. The MDTA is responsible for constructing, managing, operating and improving the State's toll facilities, as well as for financing new revenue producing transportation projects. In the National Capital Region, MDTA operates and maintains the InterCounty Connector (ICC) toll road (MD-200) in Montgomery and Prince George's Counties and the Governor Harry W. Nice Memorial/Senator Thomas "Mac" Middleton Bridge (U.S. 301) over the Potomac River between Charles County, Maryland and King George County, Virginia. MDTA provides freeway service patrols along most of its highways, bridges and tunnels.

MOU – Memorandum of Understanding

MPO – Metropolitan Planning Organization

MUTCD – Manual on Uniform Traffic Control Devices

NFPA – National Fire Protection Agency

NHS – National Highway System

NHTSA – National Highway Traffic Safety Administration

NIMS – National Incident Management System. "The National Incident Management System provides a systematic, proactive approach guiding departments and agencies at all levels of government, the private sector, and nongovernmental organizations to work seamlessly to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life, property, and harm to the environment." (Source: National Incident Management System, FEMA 501, Draft August 2007)

NPS – National Park Service

NRF – National Response Framework

NTIMC – National Traffic Incident Management Coalition

NUG – National Unified Goal. Established by the NTIMC, the NUG is: responder safety; safe, quick clearance; and prompt, reliable, interoperable communications.

OSHA – Occupational Safety and Health Administration

PIO – Public Information Officer

PPP – Public-Private Partnership

RITA – Research and Innovative Technology Administration

ROP – Roadway Operations Patrol, which provides freeway service patrols along DDOT-maintained freeways and expressways in the District of Columbia.

RTMC – Regional Traffic Management Center

SHA – State Highway Administration, a modal agency of the Maryland Department of Transportation

SHSP – Strategic Highway Safety Plan

SOG – Standard Operating Guideline

SOP – Standard Operating Procedure

SPV – Service Patrol Vehicle

SSP – Safety Service Patrol, which provides freeway service patrols along most freeways in Northern Virginia and in some other parts of Virginia. The Metropolitan Washington Airports Authority provides SSP service along the Dulles Toll Road (VA-267) and along the parallel Dulles Airport Access Road. Transurban provides a similar ExpressAssist service to users of the HOV/Toll lanes in the I-95, I-395 and I-495 corridors in Northern Virginia. The private Dulles Greenway (an extension of VA-267 into Loudoun County) also provides SSP service to its patrons.

TCL – Target Capabilities List

TCT – Traffic Control Technician

TIM Responder – Personnel responding to an incident that mitigate its effects. May include personnel from law enforcement, fire service, emergency medical services, HAZMAT, emergency management and public works

TMC – Traffic Management Center, may also be known as a Traffic Operations Center

Traffic Control Device – "All signs, signals, markings, and other devices used to regulate, warn, or guide traffic placed on, over, or adjacent to a street, highway, pedestrian facility, or bikeway by authority of a public agency having jurisdiction." (Source: MUTCD)

Traffic Incident – “An emergency road user occurrence, a natural disaster, or other nonrecurring or unplanned event that affects or impedes the normal flow of traffic” (Source: MUTCD); or “Non-recurring event that causes a reduction of roadway capacity or an abnormal increase in demand” (Source: Freeway Management and Operations Handbook)

TTC – Temporary Traffic Control. In the context of the Service Patrol Handbook, TTC services are used in emergency or traffic incident situations. TTC devices, equipment, and personnel are implemented in response to an unplanned traffic incident. Typically includes resources that are “on-hand” and readily available to TIM responders and the FFSP. Should not be confused with TTC imposed in response to highway maintenance, highway work zones or planned major events with longer durations.

U.S. DOT – United States Department of Transportation

VDOT - The Virginia Department of Transportation (VDOT) is responsible for building, maintaining and operating Virginia’s roads, bridges and tunnels. VDOT partners with several other state agencies and county and municipal agencies to provide traffic incident management across the Commonwealth.

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