

Enhancing traffic incident management initiatives across the state



Georgia Traffic Incident Management Guidelines

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Welcome to the Georgia Traffic Incident Management Guidelines

We recognize that working in and around traffic is a dangerous task. Tragically, more and more incident responders are struck by vehicles on our nation's highways each year causing countless injuries and, in many cases, fatalities. Having a uniform and proven approach to guide incident management activities helps provide the safest possible work environment for all Georgia incident responders.

The Georgia Department of Transportation established a task force of transportation and public safety representatives to address critical issues of mobility and safety related to incident management in the Metro Atlanta region in 2002. Since then, the task force expanded its coverage to address the needs of traffic incident management (TIM) across the state. The *Georgia Traffic Incident Management Guidelines* were developed as the culmination of the task force's collective efforts and hard work.

The *Georgia Traffic Incident Management Guidelines* are not intended to function as a manual, nor can they replace technical expertise, practical experience, or effective judgement. These guidelines have been designed to be general and broad-based due to the unique nature of each traffic incident. Ultimately, the Incident Commander is still required to assess specific conditions presented by each traffic incident. To ensure the adequacy and safety of equipment positioning and warning device placement, it is necessary to continually reexamine and reevaluate assessment results and corresponding actions.

The *Georgia Traffic Incident Management Guidelines* will undergo periodic review and will be revised as conditions, technology, and equipment change. We encourage you to participate in this process by submitting suggestions for revisions or new content through your TIM Teams and TIM area analysts.

We value your continued support and efforts in enhancing TIM in Georgia and remain committed to keeping you and our motorists safe on our highway system.

Revisions Table

File Version	Chapter / Section	Revision Description	Author	Date
2010 v1		First publication of GA TIM Guidelines.	Delcan	12/22/2010
2024		Second publication of GA TIM Guidelines following document-wide updates and addition of new content.	AtkinsRéalis	1/12/2024

Publication History

The *Georgia Traffic Incident Management Guidelines* were developed at the direction of the Georgia Department of Transportation (GDOT) and with the guidance of Georgia's Traffic Incident Management Enhancement (TIME) Task Force. Since 2002, the TIME Task Force has been educating incident responders on the importance of improving responder safety, quickly clearing traffic incidents, and reducing secondary crashes. Through discussions and training sessions with numerous statewide responders, it was determined that Georgia needed to adopt common incident management practices and provide comprehensive guidelines to help uniformly train incident responders. This decision led to the publication of the first version of the *Georgia Traffic Incident Management Guidelines* in 2010.

The 2010 version of the *Georgia Traffic Incident Management Guidelines* represented the best practices, stakeholders, and major traffic incident management (TIM) services available at the time. Its primary audience was field responders – those who are directly engaged in real-time response activities at the scene of an incident. This includes members of law enforcement, fire, and emergency medical services, towing and recovery, and GDOT field forces, like maintenance personnel and Highway Emergency Response Operators. The 2010 *Georgia Traffic Incident Management Guidelines* were successful in their goal to establish recommended standards for TIM and have supported responder education in Georgia for over a decade.

Now, a new version of the *Georgia Traffic Incident Management Guidelines* is available to TIM partners across the state. This latest publication acknowledges new stakeholders and expands its focus to new audiences including TIM Team participants and TIM policymakers. It also provides guidance on a wider range of common incident scenarios that stakeholders regularly encounter. Like the previous version, the new *Georgia Traffic Incident Management Guidelines* were written based on feedback provided by Georgia's responder community. This level of input will ensure the *Georgia Traffic Incident Management Guidelines'* continued success by faithfully representing the combined knowledge and experience of every discipline from every corner of our state.

Acknowledgements

The Georgia Department of Transportation (GDOT) and the Traffic Incident Management Enhancement (TIME) Task Force would like to thank the following agencies/organizations for their time, dedication, and contributions to the development of these *Guidelines*:

- Local first responders and TIM stakeholders throughout Georgia, including representatives from the following:
 - City of Atlanta
 - Barrow County
 - Bartow County
 - Bulloch County
 - City of Butler
 - Candler County
 - City of Cartersville
 - Chatham County
 - Cherokee County
 - Cobb County
 - City of Columbus
 - City of Emerson
 - Gordon County
 - Houston County
 - Jackson County
 - Laurens County
 - Macon-Bibb County
 - City of Marietta
 - Pickens County
 - City of South Fulton
 - Spalding County
 - Troup County
 - Twiggs County
- Georgia State Patrol
- Motor Carrier Compliance Division
- GDOT District staff
- GDOT's HERO, CHAMP, and TMC staff
- Georgia's State Road and Tollway Authority
- Federal Highway Administration – Georgia Division
- Georgia Office of EMS and Trauma
- Georgia's community of private sector responders including Towing and Recovery and Ambulance/EMS
- Mothers Against Drunk Driving
- AtkinsRéalis

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Acronyms/Abbreviations/Definitions

AASHTO	American Association of State Highway and Transportation Officials
AIR	After Incident Review
ANSI	American National Standards Institute
CCTV	Closed-circuit Television
CHAMP	Coordinated Highway Assistance and Maintenance Program
CMSA	Capability Maturity Self-Assessment
DMS	Dynamic Message Sign
DOC	District Operations Center
DOT	Department of Transportation
DPS	Department of Public Safety
EAG	Emergency Access Gate
EMS	Emergency Medical Services
EPD	Environmental Protection Division
ERG	Emergency Response Guidebook
FHWA	Federal Highway Administration
GDOT	Georgia Department of Transportation
GEMA	Georgia Emergency Management Agency
GPS	Global Positioning System
GSP	Georgia State Patrol
HAZMAT	Hazardous Material
HERO	Highway Emergency Response Operator
HOV	High-occupancy Vehicle
IAFC	International Association of Fire Chiefs
ICS	Incident Command System
ITS	Intelligent Transportation Systems
LED	Light-emitting Diode
LEO	Law Enforcement Officer
LERP	Livestock Emergency Response Plan
LZ	Landing Zone for helicopters
MCCD	Motor Carrier Compliance Division
ML	Managed Lanes
MOU	Memorandum of Understanding
MP	Maintenance Personnel
MUTCD	Manual on Uniform Traffic Control Devices
NFPA	National Fire Protection Association

NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NTIMC	National Traffic Incident Management Coalition
NUG	National Unified Goal
PDMS	Portable Dynamic Message Sign
PIO	Public Information Office
PPE	Personal Protective Equipment
SHRP2	Strategic Highway Research Program 2
SOP	Standard Operating Procedure
SRTA	State Road and Tollway Authority
SSP	Safety Service Patrol
STIMS	Statewide Traffic Incident Management Services
TCC	Traffic (or Transportation) Control Center
TIM	Traffic Incident Management
TIMA	Traffic Incident Management Area
TIME	Traffic Incident Management Enhancement
TMC	Transportation Management Center
TMZ	Towards Minute Zero
TRIP	Towing and Recovery Incentive Program
TSMO	Transportation Systems Management and Operations
TTC	Temporary Traffic Control
US	United States
USDOT	United States Department of Transportation
WZ	Work Zone

1 Introduction

1.1 Call to Action

The roadway network is an essential and fundamental part of our daily lives. It drives our economy and enables us to connect with our community. We are all users of the roadway. However, the overwhelming frequency of traffic incidents puts the safety of road users in a state of constant risk. In 2020, traffic incidents resulted in more than 38,000 fatalities in the United States (US).¹ Though the 2020 fatality rate was the highest in over a decade, fatalities rose an additional 10 percent in 2021 to nearly 43,000 deaths.¹ The National Highway Traffic Safety Administration (NHTSA) estimates that, on average, **crashes kill one person every 4 minutes** and injure four people every minute. The United State Department of Transportation (USDOT) describes this situation as “a crisis.”

This crisis also extends to the brave men and women of our responder community who are called out to an average of 12,200 roadway incidents every day in the US.² Traffic incidents are the leading cause of death in the towing and recovery profession and the second-most common cause of death for fire and emergency medical services (EMS) personnel.² According to the National Institute for Occupational Safety and Health, at least **one law enforcement officer is killed every week in a traffic incident**. Between 2019 and 2022, at least 205 responders were struck and killed while working at traffic incidents.²

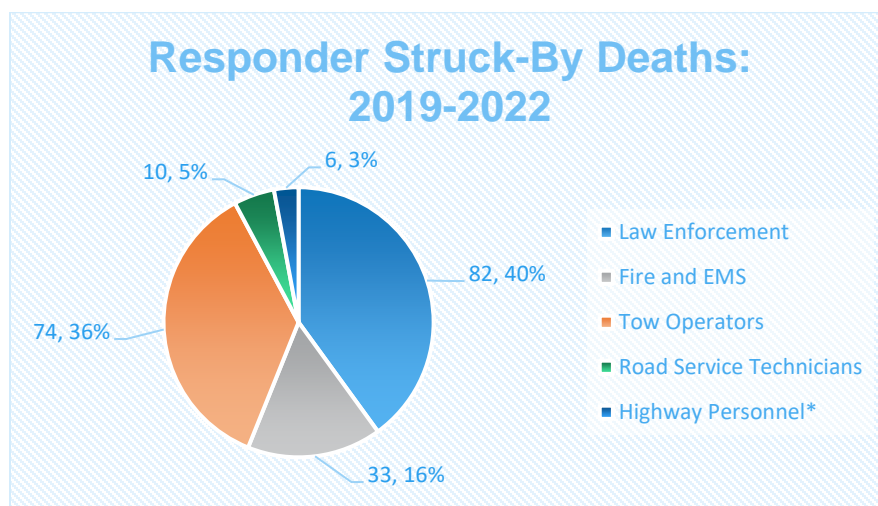


Figure 1. Responder Struck-by Deaths (2019-2022)

Though tragic, these deadly trends are not inevitable. As members of the traffic incident management (TIM) community, each of us has the means and the responsibility to make our roads

¹ NHTSA

² ResponderSafety.org

* "Highway Personnel" most commonly refers to safety service patrol or transportation staff engaged in traffic incident response activities. This does not account for transportation workers killed at road construction sites due to traffic crashes. USDOT reported 51 deaths of this kind in 2020 alone.

safer. The *Georgia Traffic Incident Management Guidelines* establish the knowledge and practices necessary to clear traffic incidents quickly while keeping ourselves and the public safe. By consistently applying the guidance found here, each of us can prevent another year of record-breaking loss. To that end, we encourage all TIM partners to take the following action:

1. Educate yourself on essential TIM knowledge.
2. Carefully evaluate your own practices – do they align with safe, quick clearance?
3. Push yourself to act in accordance with the *Georgia Traffic Incident Management Guidelines* every day.
4. Pursue opportunities to educate others to help them recognize the value of safe, quick clearance.

1.2 Purpose

The purpose of the *Georgia Traffic Incident Management Guidelines* is to establish recommendations for TIM and operations to support responder safety and quick clearance. These guidelines are not a textbook, nor should they replace agency's standard operating procedures (SOP) or training. Instead, they provide incident management principles that should be locally adopted to improve responder safety and decrease the likelihood of secondary incidents. As no two incidents are alike, these guidelines are not to serve as a substitute for technical knowledge, experience, or effective judgement. Rather, every responder should assess each incident scene to determine the appropriate response based on the unique conditions and challenges present. Situational awareness and the availability of equipment and personnel should guide the appropriate response during any incident.

1.3 Intended Audience

The *Georgia Traffic Incident Management Guidelines* are intended to represent a holistic view of TIM, inclusive of all partners in the responder community and stakeholders that support roadway operations. This includes public agencies and private companies as well as organizations operating at national, state, or local levels. Any individual or agency who interacts with live traffic or is engaged in TIM activities should follow these guidelines. The sections below describe the intended audiences that the guidelines were written for.

1.3.1 Field Responders

This refers to stakeholders who are directly engaged in the real-time, on-scene response to traffic incidents. This includes the primary and support responders listed below:

Primary Responders:

- Law enforcement
- Fire and rescue personnel
- EMS
- Georgia Department of Transportation (GDOT) field staff



- Local department of transportation (DOT) or municipal transportation agency field staff
- Towing and recovery personnel
- Public works and utilities field staff

Support Responders:

- Coroners / medical examiners
- Hazardous material (HAZMAT) mitigation agents
- Environmental Protection Division (EPD) personnel
- Georgia Emergency Management Agency (GEMA) personnel

1.3.2 Communication Centers

This refers to stakeholders who support real-time response to traffic incidents from control rooms or communication centers. This includes stakeholders listed below:

- 911 dispatchers and other public safety telecommunicators
- GDOT transportation management center (TMC) operators
- District operation center (DOC) or local traffic control center (TCC) staff
- Managed lanes (ML) operators
- Call center staff, especially those who initiate their organization's response



1.3.3 TIM Team Participants

TIM Teams are multi-disciplinary groups, typically comprised of responders from various agencies, who meet frequently to share information, plan for upcoming events, and generally work towards mutually beneficial goals related to TIM. TIM Team participants are individuals from any agency who lead TIM Teams, regularly participate in TIM Team activities, or are seeking to establish a TIM Team in their area.



1.3.4 TIM Policymakers

This refers to any individual who is responsible for establishing or influencing TIM-related policies for their respective organizations. This also includes stakeholders who may develop or procure TIM-related resources for their groups or who lead TIM-related training activities. Though TIM policymakers often hold positions of leadership, this audience includes anyone with the means and ability to shape how their organization operates.

1.3.5 Other Partners

This refers to any stakeholder who may play an infrequent or indirect role in TIM. Some examples include members of the news media, who can be an invaluable resource for spreading critical information; local animal handlers, who can help manage traffic incidents involving livestock; or academic institutions, who perform in-depth research to support effective TIM-related decision-making.

1.4 Updates and Maintenance

The *Georgia Traffic Incident Management Guidelines* are intended to be a “living document,” routinely updated to continuously reflect current knowledge and best practices. All stakeholders are encouraged to submit suggestions or recommended changes as they identify information that will benefit Georgia’s responder community. Stakeholders should submit recommendations through their local TIM Teams and TIM area analysts. Alternatively, stakeholders may submit recommendations to the Traffic Incident Management Enhancement (TIME) Task Force during regular meetings or online at www.timetaskforce.com.

1.4.1 Periodic Maintenance Plan

GDOT initiates and authorizes revisions to the *Georgia Traffic Incident Management Guidelines*. To ensure the guidelines remain up-to-date and representative of current knowledge and best practice, **the guidelines will be reviewed, revised, and re-published every two years**. This should coincide with the end of Georgia’s Legislative Session, so the guidelines may reflect any legislative changes relevant to TIM.

Review and revision activities will be conducted under GDOT’s Statewide Traffic Incident Management Services (STIMS) contract. Depending on the scale of revisions, various stakeholders may be asked to review draft content to ensure changes are appropriate and accurate. Final approval of revised content will come from GDOT. Changes to the guidelines will be tracked in the [Revisions Table](#) at the beginning of this document. The current version of the guidelines will be published and housed on the TIME Task Force website.

2 Georgia's Traffic Incident Management Program

2.1 Purpose and Background

Georgia's TIM Program is a multi-agency, multi-discipline coalition of statewide and local partners who are committed to the safe, efficient operation of Georgia's roadways. The TIM Program represents a collective agreement between its members to establish and work towards a common goal and to prioritize that common goal above any individually held goals. For the TIM Program, that common goal is clearly expressed in **Georgia's Open Roads Policy**, which directs law enforcement and transportation and local public safety agencies to re-open lanes and restore traffic to normal conditions as soon as possible following a traffic incident.

The TIM Program is a formal and structured organization that promotes stakeholder coordination; continuous development and training for responders; and increased public support for TIM in Georgia. The TIM Program provides a variety of services including support of new legislation to authorize and protect responders; funding for new resources; implementation of real-time incident management programs; and platforms for responders to collaborate and build lasting relationships.

Georgia's TIM Program arises out of a collective acknowledgement of the dangers posed by working in the roadway and of the severe consequences of traffic incidents. Hastened by the extreme congestion levels for which Metro Atlanta is famous, the evolution of Georgia's TIM Program was rapid by necessity, but intentional in execution. By tracking the development of Georgia's TIM Program, alongside other national milestones, our place as TIM leaders and innovators is clear.

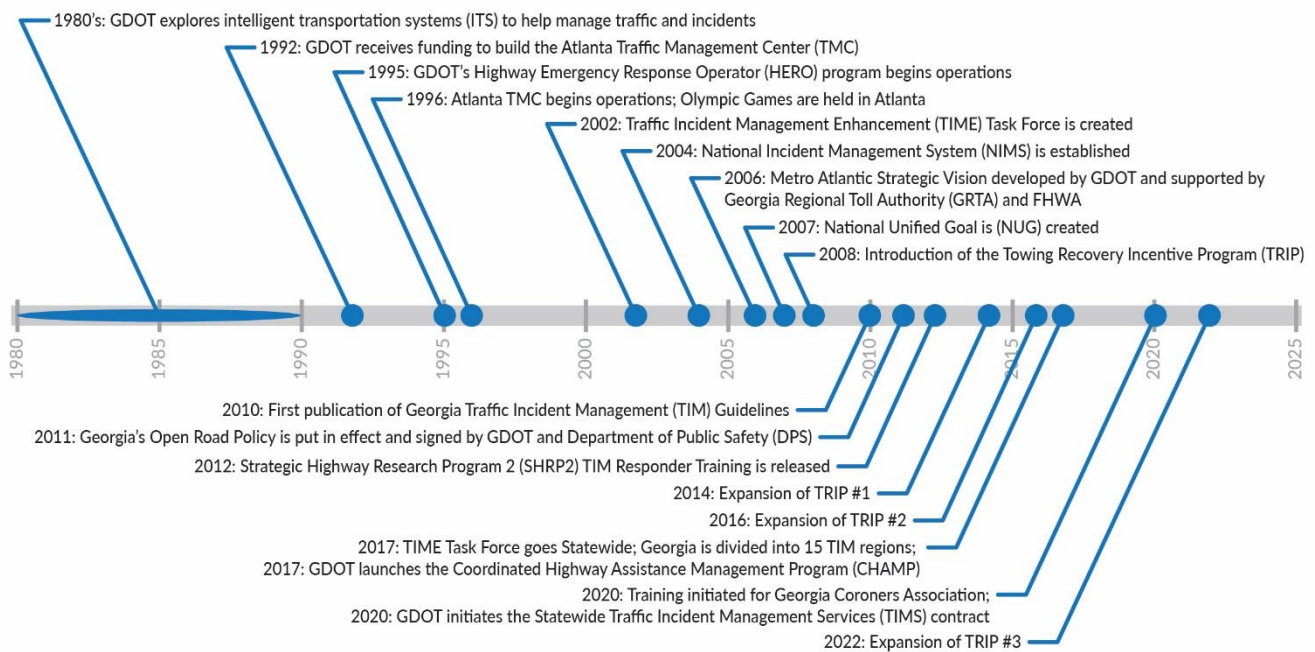


Figure 2. Timeline of GDOT Program Establishment

2.2 Organization

The organizational structure of Georgia's TIM Program is comprised of many diverse groups representing TIM agencies and stakeholders of every discipline and from across the state. Groups at various levels perform different functions – some groups maintain a statewide perspective and are committed to supporting all stakeholders and the TIM Program, overall; some groups maintain a local perspective and focus on delivering the TIM Program's core mission of safe, quick clearance of traffic incidents. Groups at all levels and functions are closely interconnected to maximize the TIM Program's pool of knowledge and available resources.

2.2.1 *TIME Task Force*

The Traffic Incident Management Enhancement (TIME) Task Force is the administrative body of Georgia's TIM Program. Initiated by GDOT in 2002, it is led by a multi-disciplinary board of responder and transportation agencies including local law enforcement, Georgia State Patrol (GSP), fire, EMS, towing and recovery, GEMA, and the Federal Highway Administration (FHWA).

The TIME Task Force supports the entire TIM Program and all TIM stakeholders across the state. The Task Force's mission is to develop and sustain a statewide incident management program to facilitate the safest and fastest roadway clearance, lessening the impact on emergency responders and the motoring public. The purpose of the TIME Task Force is three-fold:

1. To continue the dialogue on ways to improve inter-agency coordination and cooperation.
2. To create an opportunity for multi-agency training that promotes teamwork.
3. To serve as a platform for participants to develop common operational strategies and a better understanding of other agencies' roles and responsibilities.

The TIME Task Force provides many services that support Georgia's TIM Program. Some examples include:

- Promoting multi-disciplinary responder training – often at no cost – to help responders continuously improve their skills, leverage new strategies, and support other stakeholders.
- Hosting quarterly and annual meetings for all Georgia TIM partners to engage with their peers and with TIM experts from around the world.
- Supporting local TIM Team activities to help partners develop operational practices that improve their ability to communicate and work together to clear incidents safely and quickly.
- Organizing resources and influencing major state agencies to fund critical projects, to enhance legislation, and to deliver other benefits that positively impact all TIM stakeholders.



2.2.2 Statewide Traffic Incident Management Services

To be effective and to grow, Georgia's TIM Program requires a significant amount of on-going research, development, and delivery of essential services that aid TIM Teams and facilitate real-time incident response. Recognizing this need for dedicated support, GDOT initiated the STIMS contract. The STIMS team performs critical tasks that enable Georgia's TIM Program to be successful and to remain at the cutting edge. Examples of STIMS support include:

- Providing TIM area analysts to directly engage with local TIM Teams across the state to assist their coordination efforts, help them access information or training, and to bring local input forward to statewide TIM groups.
- Administering the Towing and Recovery Incentive Program (TRIP) which engages qualified towing companies to support quick clearance by rapidly removing vehicles involved in crashes within established timeframes.
- Developing SOPs and creating training and certification programs for GDOT's Highway Emergency Response Operator (HERO).
- Developing and/or delivering multi-disciplinary training for all TIM stakeholders including topics like Strategic Highway Research Program 2 (SHRP2), emergency medical responder training, ML operations, and Livestock Emergency Response Plan (LERP) training.
- Enhancing data-driven decision-making by establishing effective performance measures, producing regular reports and analysis, and developing innovative tools like performance dashboards to improve user access to critical data.
- Performing research, analysis, and real-world tests to evaluate new tools, like smart sequential road flares, for possible future use in the field.
- Compiling industry best practices and collecting stakeholder feedback to develop key documents like *Georgia's Traffic Incident Management Guidelines*.

2.2.3 TIM Areas and Regions

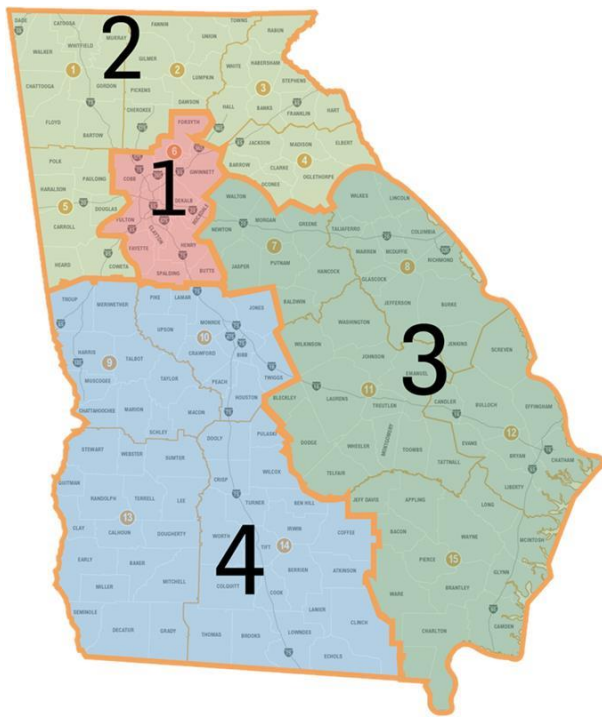


Figure 3. Map of Georgia's TIM Areas/Regions

Geographically, Georgia's TIM Program is organized into four TIM areas and 15 TIM regions. Each TIM area is comprised of multiple TIM regions. Each TIM region is comprised of multiple counties.

TIM regions help responders in their communities meet regularly with their peers to network, share experiences and lessons learned in a safe and secure environment, and collaborate to deliver safer TIM activities for travelers and responders. Each region has an established TIM Team, which typically represents smaller, local TIM Teams within the region.

TIM areas are responsible for promoting activities in their region to statewide partners and to other areas/regions. A TIM area analyst supports each TIM area by facilitating or assisting with TIM Team meetings, delivering TIM-related training, coordinating response efforts and plans with local responders, and facilitating after incident reviews (AIR) and major incident debriefings. TIM area analysts provide local responders with a direct line to state-level TIM partners to request support or recommend improvements.

Local TIM Teams		
1 North West Region Catoosa, Whitfield, Murray, Gordon, Bartow-Cartersville, Dade, Walker, Floyd, Chattooga	6 Atlanta Region Metro Atlanta, Cobb, Spalding/Butts, Henry, Rockdale/DeKalb, Gwinnett, Forsyth, Fayette	11 Mid GA Region Wilkinson, Laurens, Treutlen, Johnson, Telfair, Emanuel, Toombs, Tattnall, Montgomery, Wheeler, Dodge, Bleckley, Screven
2 North Central Region Cherokee, Pickens, Gilmer, Dawson, Lumpkin, Union, Fannin, Towns	7 Central Region Greene, Newton, Walton, Morgan, Hancock, Baldwin, Putnam, Jasper, Wilkes	12 Chatham Region Effingham, Chatham Area, Liberty, Bryan, Candler, Evans, Bulloch, Jeff Davis
3 North East Region Hall, Banks, Franklin, White, Hart, Stephens, Habersham, Elbert, Rabun	8 East Central Region Columbia, Richmond, McDuffie, Taliaferro/Warren, Augusta-Richmond, Lincoln, Burke, Jenkins, Jefferson, Glascock, Washington	13 South West Region Dougherty, Mitchell, Webster, Sumter, Lee, Baker, Grady, Decatur, Seminole, Miller, Early, Calhoun, Randolph, Terrell, Clay, Quitman
4 Athens Region Jackson, Barrow, Clarke, Polk, Madison, Oconee, Oglethorpe	9 West Central Region Troup, Meriwether, Talbot, Harris, Taylor, Macon, City of Columbus/Muscogee, Pike, Schley, Marion, Chattahoochee	14 South Central Region Lowndes, Tift, Crisp, Pulaski, Wilcox, Ben Hill, Irwin, Coffee, Berrien, Atkinson, Clinch, Echols, Lanier, Brooks, Thomas, Colquitt, Cook, Worth, Turner
5 West Region Pickens, Paulding, Haralson, Carroll, Coweta, Heard, Douglas	10 Macon Region Lamar, Monroe, Macon-Bibb, Houston, Jones, Peach, Twiggs, Crawford, Upson, Stewart	15 South East Coastal Region McIntosh, Glynn, Camden, Ware, Charlton, Brantley, Pierce, Bacon, Appling, Long, Wayne

Figure 4. Georgia's TIM Regions/Counties

2.2.4 TIM Teams

TIM Teams are the most foundational units of Georgia's TIM Program. All efforts and activities of the TIM Program are ultimately intended to benefit TIM Teams across the state. TIM Teams are comprised of members representing responders and transportation organizations that directly support the team's local community. TIM Teams may be formed to represent a county or a local municipality. A larger, regional TIM Team represents each local TIM Team.



TIM Teams allow first responders and public safety personnel to meet and focus on coordinated efforts for detecting and removing incidents to restore traffic to normal conditions as safely and quickly as possible. TIM Teams typically focus on issues or events specific to their area, such as on-going road work, upcoming events, or recent incidents. TIM Teams leverage their in-depth understanding of their areas to create effective response plans and establish protocols that will improve how they work together. TIM Teams are an excellent platform to share information so all partners are on the same page and aware of items that may impact them. TIM Teams provide responders with an opportunity to pool their resources, request assistance, and achieve more as a group than they could individually. When a TIM Team's needs exceed their resources, TIM area analysts can help them seek support from Georgia's entire TIM community.

2.3 Foundational Principles

Georgia's TIM Program has a solid foundation in the best practices and core concepts established by national and Georgia-based leaders in TIM.

2.3.1 Georgia's Open Roads Policy

Georgia's Open Roads Policy is at the heart of the TIM Program. This policy states that whenever a roadway or travel lane is closed or partially blocked by a collision or traffic incident, law enforcement, transportation, and local public safety agencies shall re-open the roadway as soon as possible on an urgent basis with the highest priority given to the safety of the public and responders. Other critical points made in this policy include:



- Roadways will not be closed or restricted any longer than is necessary.
- The goal of all traffic incident response agencies is that **all traffic incidents be cleared from the travel portion of the roadway within 90 minutes.**
- Whenever practical, traffic incidents on controlled access highways will be relocated to off-ramps, frontage roads, accident investigation sites, or other safe areas away from the road.

- Damage to vehicles/cargo may occur as a result of clearing the roadway on an urgent basis. While responders should make reasonable attempts to avoid such damage, their higher priority is to re-open lanes and restore traffic to normal conditions.
- Responders will not unnecessarily delay reopening a roadway to allow a commercial vehicle company to dispatch its own equipment to off-load hazardous cargo or to recover a vehicle or load during peak traffic hours if the incident is creating a traffic hazard.
- Law enforcement investigations will be conducted in an expedient manner. Non-critical portions of the investigation should be delayed until lighter traffic conditions permit.

Georgia's Open Roads Policy was initiated in 2011 and signed by GDOT and the Department of Public Safety, which oversees the GSP, Capitol Police, and the Motor Carrier Compliance Division. Since 2011, many more agencies and stakeholders have committed to abide by this policy and to conduct their activities in a manner that supports safe, quick clearance. The Open Roads Policy and a complete list of stakeholders who have signed it can be found at the [TIME Task Force website](#).

2.3.2 Federal Highway Administration

The FHWA is an agency within the USDOT that supports state and local governments in the design, construction, and maintenance of the Nation's highway system. The FHWA provides financial and technical assistance to support the safe and efficient operation of our roads.

As part of the FHWA Emergency Transportation Operations program, FHWA's Office of Transportation Operations has three major program areas: Traffic Incident Management, Traffic Management for Planned Special Events, and Emergency Transportation Operations for Disasters. The TIM Program focuses on integrated interagency communications, on-scene TIM operations, and regional and statewide programs and institutional coordination.

FHWA is a prolific source of thoroughly researched and well-grounded recommendations for TIM and traffic operations that Georgia's TIM Program has drawn from. This includes TIM performance measures; basic guidance for state and local TIM programs; guidance for promoting and legislating quick clearance; and methods to develop and improve safety service patrols (SSP).

FHWA also developed the TIM Capability Maturity Self-Assessment (CMSA) tool. This tool is used by TIM stakeholders throughout the US and Georgia to regularly assess the level of progress they have made towards achieving their strategic goals. Based on their self-assessment, organizations can better prioritize their efforts and adapt to changing conditions. See [Self-Assessment](#) in this document for additional details.

Additional information on TIM-CMSA can be found online at [FHWA Office of Operations](#)

2.3.3 National Incident Management System

The Department of Homeland Security developed the National Incident Management System (NIMS) in 2004, primarily to improve responders' ability to effectively coordinate with other agencies. NIMS training provides a systematic approach to enable all agencies with responsibilities

to manage an incident together by establishing a common set of incident objectives and strategies. NIMS training supports the incident command system (ICS) to standardize on-scene response that promotes agency integration, coordinated response, and common procedures. See [Incident Command System](#) in this document for additional information on ICS.

Additional information on NIMS can be found online at [FEMA National Incident Management System](#).

2.3.4 National Unified Goal

The National Traffic Incident Management Coalition (NTIMC) is a coalition of various incident responder organizations, including the American Automobile Association, American Association of State Highway and Transportation Officials (AASHTO), International Association of Fire Fighters, and International Association of Fire Chiefs, to promote the safe and efficient management of traffic incidents. This coalition established the National Unified Goal (NUG) in association with the national and international traffic incident responder's organizations.

The NUG is organized into three main objectives:

1. Responder safety
2. Safe and quick clearance
3. Prompt and reliable interoperable incident communications

The NUG promotes these objectives through 18 strategies such as creating TIM partnerships at state, regional, and local levels; continuously training responders to support safe, quick clearance; and leveraging technology to improve interoperability.

Additional information on NUG can be found online at [AASHTO National TIM Coalition](#).

2.3.5 Transportation Systems Management and Operations

Transportation Systems Management and Operations (TSMO) is an integrated set of strategies that focus on operational improvements with the goal of getting the most performance out of the transportation facilities we already have without relying on major capital investments. TSMO formalizes the long-held adage in the TIM and traffic operations community that, ***“you can’t build your way out of congestion.”***

TSMO adopts a holistic and comprehensive perspective of traffic operations. Rather than focus on a single strategy, stakeholder, or region, TSMO views them as a unified whole with all elements working together to support improved performance across the entire system. To this end, TSMO prioritizes integration and interoperability.

Other TSMO core concepts include:

- Considering operational improvements and incident management during the design phase of a road construction project.
- Prioritizing near-term, lower-cost improvements that can provide benefit now, rather than overly relying on long-term, higher-cost activities that will deliver results in 10+ years.
- Developing a workforce that values and prioritizes the organization's major goals and highest priorities, like safe, quick clearance.

Additional information on TSMO can be found online at [FHWA TSMO Plans](#).

2.3.6 *GDOT's Towards Minute Zero Initiative*

GDOT instituted the Towards Minute Zero (TMZ) initiative with a primary focus on aligning strategies and partners in reducing congestion delays and incident response times to address future transportation mobility and safety needs of travelers. As its name suggests, the goal of the TMZ initiative is to reduce time-related factors in the lifespan of an incident as much as possible, ideally to zero. This includes reductions to the following:

- Time needed for responders to detect and verify incidents after they have happened.
- Time needed to launch an effective response after an incident is verified.
- Time needed to reopen all lanes after responders arrive.
- Trip buffer time, which is the additional time travelers must add to their average travel time to account for potential delays and arrive on-time.

To achieve these reductions, the TMZ initiative is exploring solutions involving innovative responder training methods; integrating and unifying systems used by different stakeholders; and enhanced use of data analytics and performance measurement to monitor and steer operational improvements.

2.4 **Traffic Incident Management Legislation**

Responders across the state rely on TIM-related legislation to authorize certain clearance activities and to protect them from possible liability. Georgia's TIM Program continues to work towards more comprehensive and supportive legislation including laws discussed in this section.

To keep responders and the traveling public safe, it is essential that law enforcement agencies hold motorists accountable when they fail to comply with driving laws. Officers must use their training and judgement to decide how to best handle each situation. However, letting an infraction go without taking action is not recommended.

2.4.1 *Authority Tow Law (32-6-2)*

This law gives towing and recovery companies and other responders liability exemption and the authority to remove vehicles/cargo from the roadway under the authorization of state or local law enforcement, fire departments, or DOT.

This law also establishes that it is unlawful for vehicles to be left unattended for longer than 48 hours and should, therefore, be removed immediately.

NOTE: Georgia law 40-11-3, sometimes referred to as the “Abandoned Vehicle Law,” was repealed in 2019. However, the key provisions of the Abandoned Vehicle Law – especially those allowing for the immediate removal of abandoned vehicles to improve safety or mitigate congestion – are also granted under the Authority Tow Law (32-6-2).

Excerpt from Authority Tow Law (32-6-2):

*State or local law enforcement officers and the department are further authorized, **with or without the consent of the owner**, to remove or have removed any obstruction, cargo, or personal property which is abandoned, unattended, or damaged as a result of a vehicle accident which the department determines to be a threat to public health or safety or to mitigate traffic congestion, and **any person or towing service** that is removing an obstruction, cargo, or personal property at the location of such obstruction, cargo, or personal property upon instruction by a law enforcement officer, an official of a fire department acting under the authority of paragraph (1) of Code Section 25-3-1 or paragraph (3) of Code Section 25-3-2, or an official of the department shall be liable only for gross negligence.*

*It shall be **unlawful for any person to park or leave unattended any vehicle upon the right of way of any public road on the state highway system for over 48 hours.***

The complete text of this law can be found at the [Georgia General Assembly's website](#).

2.4.2 Steer It and Clear It (40-6-275)

This law requires drivers involved in minor property damage collisions (i.e., incidents with no serious injuries or deaths) to move vehicles from travel lanes and then exchange information.

Excerpt from Steer It and Clear It Law (40-6-275):

*When a motor vehicle traffic accident occurs with no apparent serious personal injury or death, it shall be the duty of the drivers of the motor vehicles involved in such traffic accident, or any other occupant of any such motor vehicle who possesses a valid driver's license, to **remove said vehicles from the immediate confines of the roadway into a safe refuge on the shoulder, emergency lane, or median** or to a place otherwise removed from the roadway whenever such moving of a vehicle can be done safely and the vehicle is capable of being normally and safely driven, does not require towing, and can be operated under its own power in its customary manner without further damage or hazard to itself, to the traffic elements, or to the roadway. The driver of any such motor vehicle may request any person who possesses a valid driver's license to remove any such motor vehicle as provided in this Code section, and any such person so requested shall be authorized to comply with such request.*

The complete text of this law can be found at the [Georgia General Assembly's website](#).

2.4.3 Move Over Laws (40-6-16)

This law requires passing vehicles to move over and/or to slow down when approaching stationary emergency vehicles (including towing, recovery, or maintenance vehicles) whose emergency lights are activated.

Procedure for passing stationary authorized emergency vehicles, stationary towing or recovery vehicles, or stationary highway maintenance vehicles:

Excerpt from Move Over Law (40-6-16):

*The operator of a motor vehicle approaching a stationary authorized **emergency vehicle that is displaying flashing yellow, amber, white, red, or blue lights** shall approach the authorized emergency vehicle with due caution and shall, absent any other direction by a peace officer, proceed as follows:*

- (1) **Make a lane change** into a lane not adjacent to the authorized emergency vehicle if possible in the existing safety and traffic conditions; or*
- (2) If a lane change under paragraph (1) of this subsection would be impossible, prohibited by law, or unsafe, **reduce the speed of the motor vehicle** to a reasonable and proper speed for the existing road and traffic conditions, which **speed shall be less than the posted speed limit**, and be prepared to stop.*

*The operator of a motor vehicle approaching a stationary **towing or recovery vehicle, a stationary highway maintenance vehicle, or a stationary utility service vehicle that is utilizing traffic cones or displaying flashing yellow, amber, or red lights** shall approach the vehicle with due caution and shall, absent any other direction by a peace officer, proceed as follows:*

- (1) **Make a lane change** into a lane not adjacent to the towing, recovery, or highway maintenance vehicle if possible in the existing safety and traffic conditions; or*
- (2) If a lane change under paragraph (1) of this subsection would be impossible, prohibited by law, or unsafe, **reduce the speed of the motor vehicle** to a reasonable and proper speed for the existing road and traffic conditions, which **speed shall be less than the posted speed limit**, and be prepared to stop.*

The complete text of this law can be found at the [Georgia General Assembly's website](#).

2.4.4 Road Debris Removed by Towers (40-6-276)

This law states that towing and recovery personnel are responsible for clearing crash-related debris from the roadway.

Excerpt from Road Debris Removed by Towers Law (40-6-276):

*The driver of each wrecker truck towing away any vehicle from the scene of a wreck **shall also take away all parts belonging to the vehicle** which he is towing away, or, if they consist of small parts or broken glass, he **shall clear the streets of said small parts or glass**, unless the driver is ordered not to do so by the investigating police officer due to circumstances at the scene of the accident. (b) Any person violating subsection (a) of this Code section shall be **guilty of a misdemeanor** and, upon conviction thereof, shall be **punished by a fine not to exceed \$100.00**.*

The complete text of this law can be found at the [Georgia General Assembly's website](#).

2.4.5 Delegation of Duties by a Coroner (45-16-23)

This law states that coroners or county medical examiners may delegate some duties related to crash investigation to other, authorized medical examiners.

Excerpt from Delegation of Duties by a Coroner Law (45-16-23):

Any coroner or county medical examiner may delegate to a local medical examiner, forensic consultant, or medical examiner's investigator the power to perform those duties of such coroner or medical examiner if the person to whom such power is thus delegated meets the applicable requirements for the performance of such duties. The performance of those delegated duties shall not infringe upon or diminish the authority of the peace officer in charge at the scene.

The complete text of this law can be found at the [Georgia General Assembly's website](#).

2.4.6 Adverse Weather Legislation

Removal of Obstructions during State of Emergency (32-6-4). This law authorizes responders, towing and recovery personnel, and DOTs to immediately remove any road obstruction during adverse weather and provides liability protection when a state of emergency has been declared.

Excerpt from Removal of Obstructions during State of Emergency Law (32-6-4):

*State or local law enforcement officers, including fire department officials, and the department are authorized, upon the issuance of an executive order by the Governor declaring a **state of emergency**, with or without the consent of the owner, to remove or*

*have removed any natural or manmade obstruction, cargo, or other personal property which is abandoned, unattended, or damaged and the law enforcement officer or the department determines such object to be a **threat to public health or safety or to be contributing to traffic congestion**. Any person, contractor, towing service, or other entity that is removing an obstruction, cargo, or other personal property pursuant to the instruction of a law enforcement officer, an official of a fire department acting under the authority of paragraph (1) of Code Section 25-3-1 or paragraph (3) of Code Section 25-3-2, or the department, and under the provisions of this Code section, shall be liable for damage or harm at the location where the obstruction, cargo, or other personal property was left abandoned or unattended, only when the person, contractor, towing service, or other entity was grossly negligent in the performance of his or her assigned duties; provided, however, nothing in this Code section shall limit liability for any damage or harm caused at a location different from the location where the obstruction, cargo, or other personal property was left abandoned or unattended.*

The complete text of this law can be found at the [Georgia General Assembly's website](#).

Closing Roads or Limiting Access during State of Emergency (32-6-4). This law authorizes the DOT to close roads or limit access during inclement weather, when a state of emergency has been declared. When access is limited, the DOT may further require vehicles to use certain equipment, like tire chains, snow tires, etc. DOT must deploy signs to notify drivers of closures or restrictions.

Excerpt from Closing Roads or Limiting Access during State of Emergency Law (32-6-4):

*The department may close or limit access to any portion of road on the state highway system **due to a declared state of emergency for inclement weather** conditions that results in dangerous driving conditions. There shall be erected or posted signage of adequate size indicating that a portion of the state highway system has been closed or access has been limited. When the department determines a road shall have limited access due to a declared state of emergency for inclement winter weather conditions, notice shall be given to motorists through posted signage that **motor vehicles must be equipped with tire chains, four-wheel drive with adequate tires for existing conditions, or snow tires with a manufacturer's all weather rating in order to proceed**. Such signage shall inform motorists that it shall be unlawful to proceed on such road without such equipment.*

*This Code section shall **not apply to a tow operator towing a motor vehicle** or traveling to a site from which a motor vehicle shall be towed **or to emergency responders traveling the roadway in order to fulfill their duties**.*

The complete text of this law can be found at the [Georgia General Assembly's website](#).

2.5 Other Traffic Incident Management Programs and Services

Georgia's TIM Program provides many programs and other services to support TIM stakeholders and to directly enhance real-time response to traffic incidents. Each of these programs and services are specifically tied to one or more of the TIM Program's strategic goals.

2.5.1 Traveler Information

Traveler information is information on traffic incidents and travel conditions that is distributed to the motoring public with the goal of influencing driver behavior. The core philosophy of traveler information is that **"better informed motorists make better travel decisions."** By providing accurate, up-to-date traveler information, motorists can avoid routes affected by traffic incidents or take immediate action to prevent collisions with responders or road workers.

Traveler information is distributed to motorists in many forms and by numerous groups including official agencies and TIM stakeholders as well as private third parties such as the news media, navigation companies, etc. GDOT plays a significant role in producing traveler information and uses the following methods to keep motorists informed:

Georgia NaviGator website. This publicly accessible site provides details about current travel conditions, congestion, and incidents including crashes and roadwork. Users can view images and streaming video from DOT traffic cameras located throughout Metro Atlanta and on major routes across the state. Users can also define their own routes and subscribe to receive real-time alerts of traffic incidents impacting their commutes.

Responders can visit 511ga.org to view live streaming video from DOT traffic cameras to help monitor incidents and response activities in-real time.

Additional information on Georgia NaviGator can be found online at Georgia 511.

511 phone service. This telephone service allows motorists to access free, real-time traveler information by dialing 5-1-1 from any phone, anywhere in Georgia. Traffic incident details come directly from the Georgia NaviGator website. 511 callers can also connect to a live TMC operator 24/7/365 to find additional information, report a traffic incident, or request assistance from GDOT's SSP programs – HERO or Coordinated Highway Assistance and Maintenance Program (CHAMP). In addition to traffic incidents, callers can access information related to the following:

- Transit operations like Metro Atlanta Rapid Transit Authority, Ridesharing, Amtrak, or Greyhound
- Airport operations in Atlanta or Savannah
- Georgia tourism
- Similar 511 systems for neighboring states

Dynamic Message Signs. These signs are located on roads throughout Metro Atlanta and on major routes across the state. These signs can be programmed to automatically display helpful information like travel times to nearby destinations or they can be activated by TMC operators as needed to advise motorists of traffic incidents or adverse travel conditions. Dynamic message signs (DMS) can significantly contribute to responder safety and the reduction of secondary crashes by warning motorists of traffic incidents ahead and by instructing them to move over to avoid responders before they reach the scene of an approaching crash.

*DMS can protect responders on-scene.
Responders should contact TMC
operators to request DMS activation.*



2.5.2 TIM Responder Training

Education is one of the most important strategies used by Georgia's TIM Program to improve responder safety and promote quick clearance practices. The TIM Program uses nationally developed training curriculums like NIMS and SHRP2 as well as custom-built training programs specifically tailored to Georgia's TIM community. The TIME Task Force and STIMS team help coordinate and deliver training to TIM partners across the state and also provide train-the-trainer sessions to train local stakeholders to further the education of their peers.

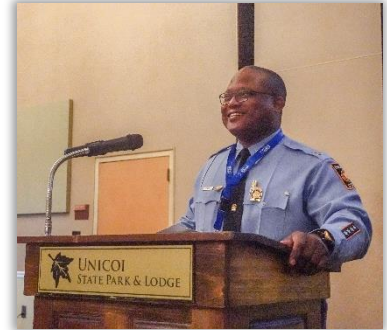
TIM training is provided in a variety of formats including in-person or virtual group sessions as well as self-led e-learning. A range of training methods are used, such as classroom presentations, hands-on demonstrations, table-top exercises, and even full-scale incident scenarios using actual vehicles and emergency equipment. TIM training often involves participants learning alongside classmates from other agencies or disciplines to help build relationships and improve real-world coordination.

Through Georgia's TIM Program, stakeholders have access to a large and diverse library of training topics including quick clearance, responder safety, tanker truck emergencies, vehicle placement and emergency lights, HAZMAT response, traffic control techniques, heavy-duty towing and recovery, work zone safety, vehicle relocation, and more. TIM partners can access or request TIM training through their TIM area analysts or by visiting the [TIME Task Force](#).

2.5.3 Conferences and Meetings

In addition to regular local and regional TIM Team meetings, Georgia's TIM Program hosts several events each year including:

- **Quarterly Meetings:** Georgia emergency responders, transportation officials, and other representatives discuss issues and operational procedures to improve safe, quick clearance.
- **Bi-Annual Conference:** held every other year, this is a 2-day conference where hundreds of responders from various agencies participate in hands-on exercises, hear state and national experts share best practices, and build multi-discipline relationships.
- **Intelligent Transportation Systems (ITS) Georgia Annual Meeting:** a 2-day conference for members of Georgia's ITS Society; this event focuses on technologies and other innovations that support traffic operations and incident management. Information on the annual meeting can be found by visiting [ITS Georgia](#).



2.6 Looking Ahead

Like most aspects of everyday life, TIM has changed significantly in the last 20 years. Phones, computers, and other devices have gotten smaller, smarter, and more prevalent. Wireless connectivity, like 5G, has untethered users, allowing them to do almost anything from anywhere. And, in a world where people have grown accustomed to on-demand access and immediate results, the public's expectations for roadway and responder performance has increased.

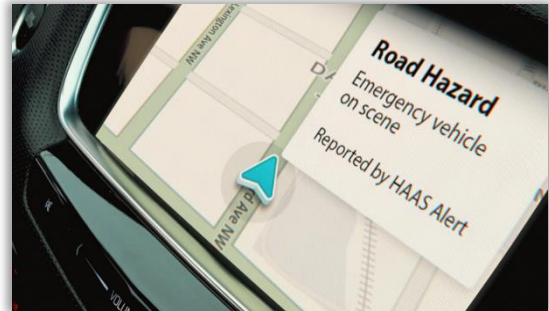
Georgia's TIM Program continues to look ahead at emerging technologies, strategies, and other innovations that will improve our ability to deliver safe, quick clearance in the future. This section describes forward-thinking TIM Program activities that are currently underway or planned in the near-term.

Remote Connectivity. ITS, which includes closed-circuit television (CCTV) traffic cameras, DMS, traffic signals, and the software platforms that control them, are essential for monitoring and operating the roadway. Deployment of these resources has been historically limited due to the need for physical data connections and the sheer size of Georgia's roadway network. With 5G and other advancements in wireless data, GDOT and other transportation agencies are harnessing improved remote connectivity in fascinating ways, including:

- Increased deployment of ITS devices, especially CCTV traffic cameras and DMS on more roads, filling in coverage gaps and expanding service to more roadways in rural areas.
- Increased connection to more traffic signals, enabling state/local DOT operators to remotely adjust signal timing to improve traffic flow in response to major traffic incidents.
- Remote operations capability for GDOT communication centers. Though recently used in response to the COVID-19 pandemic, remote operations allow GDOT to quickly increase

staffing levels during major events and provides redundancy should any emergency or outage force a communication center to close.

Direct Engagement with Drivers. Getting traveler information to drivers is challenging. DMS are not everywhere and (with some exceptions) drivers must intentionally use the Georgia NaviGator website or 511 phone service. Because of these limitations, drivers may already be stuck in traffic by the time they find out what is happening. Improved remote connectivity and the prevalence of smart devices is presenting opportunities to provide drivers with helpful traveler information right in their cars, right when they need it. In the not-too-distant future, fully autonomous vehicles may eliminate the need for traveler information by automatically detecting and avoiding traffic incidents. However, traveler information remains an essential strategy and the items below describe some innovative approaches being explored in Georgia:



- Geofence Alert Systems – GDOT’s Atlanta TMC and local emergency management agencies are using systems that allow operators to define a specific area on a map (i.e., a “geofence”) and send custom text messages to mobile phones within the defined area. This message could warn motorists of significantly hazardous travel conditions or keep drivers apprised of clearance operations (e.g., when motorists cannot exit the roadway due to a major incident ahead, etc.). These systems can also continue to send messages as new drivers approach the geofenced area. Emergency management partners use these systems to notify citizens of non-travel-related hazards affecting specific areas.
- In-Vehicle Warning Systems – Many vehicles on the road today come equipped with smart, in-vehicle navigation or infotainment systems. These displays offer a convenient way to deliver alerts and traveler information directly to drivers. GDOT and other first responders throughout Georgia are exploring the use of in-vehicle warning systems to notify motorists as they approach a responder’s vehicles. In most deployments, these systems activate when the response vehicle’s emergency lights are turned on. The system then uses the response vehicle’s global positioning system (GPS) location and sends alerts to the navigation or infotainment displays of nearby vehicles, advising them to slow down or move over.
- GPS Location from Mobile Devices – Motorists are frequently stranded on the side of the road when their cars break down. However, they rarely know their exact location when they call for help. GDOT’s Atlanta TMC and many 911 dispatch centers are using systems that allows motorists to transmit their exact GPS location to TMC/911 operators via their personal cell phones. Operators can then dispatch field responders like law enforcement, HERO or CHAMP to assist the motorist. Communication center staff are encouraged to share location information with other responding agencies to ensure the fastest response.

3 Core Concepts for Incident Management

This chapter addresses core incident management concepts and fundamental knowledge that all TIM stakeholders should possess.

3.1 SHRP2 Responder Training

The National Traffic Incident Management Responder Training Program developed by SHRP2 is a multi-disciplinary training program that educates responders on real-world practices that support safe, quick clearance. It is the primary source of instructional guidance for core TIM activities, applicable to all responders. **All field responders should complete SHRP2 Responder Training.**



SHRP2 Responder Training focuses on defining TIM, promoting safe, quick clearance, and providing actionable guidance on topics including initial assessment and notifications (i.e., “Windshield Size-Up”), TIM stakeholder roles and coordination, vehicle placement on-scene, and temporary traffic control (TTC) applications.

Though originally designed for field responders, SHRP2 Responder Training is appropriate for other TIM stakeholders or anyone who works in/near the roadway. **Other variations have been developed for specific audiences including SHRP2 for Coroners and SHRP2 for Transportation Engineers.** Georgia’s TIM area analysts deliver SHRP2 training regularly as well as the SHRP2 Train-the-Trainer program, which prepares participants to deliver SHRP2 training to their peers.

3.2 Traffic Incident Timeline

Georgia has adopted the national traffic incident timeline, shown in [Figure 5](#). This timeline helps to provide an understanding of the major milestones and general order of events that occur throughout the lifespan of a single traffic incident. The major milestones are often used as the basis for TIM-related performance measures. See [Performance Measurement](#) in this document for further details.

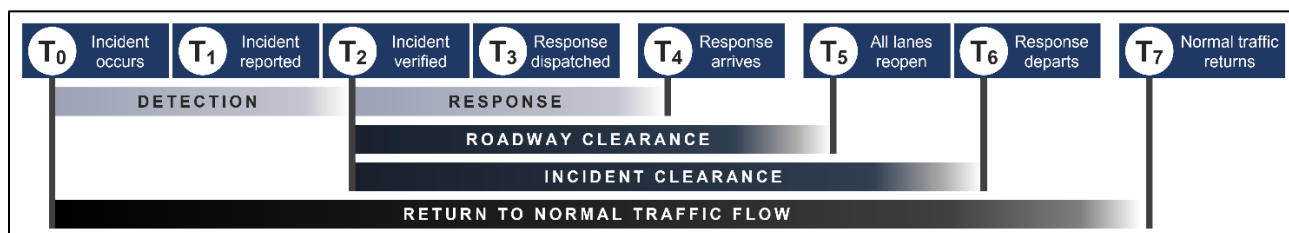


Figure 5. Traffic Incident Timeline

3.2.1 Detection

The detection phase falls between when the incident occurs (T_0) and when the incident is verified (T_2). Within this phase, the incident is being reported or is otherwise coming to the attention of responders – sometimes by a responder witnessing the incident or arriving on-scene while patrolling, or by the incident generating an observable impact, like an area of abnormal congestion that TMC operators may detect and investigate.



TIM stakeholders most commonly involved in incident detection include field responders like law enforcement or HERO/CHAMP drivers whose time between incidents is routinely spent patrolling roadways or TMC operators who are actively monitoring incident detection sources like CCTV traffic cameras or congestion maps. Motorists and members of the news media often detect and report incidents as well. 911 dispatchers are typically the first among responders to be aware of an incident because bystanders or incident victims usually call 9-1-1 quickly after the incident occurs.

Early detection is vital to ensuring the safety of motorists, who are most vulnerable before additional help arrives. Early detection is also essential to the primary goal of safe, quick clearance because it allows a response to be initiated sooner.

The detection phase is often impeded by incomplete or inaccurate information. It is imperative that all responders work together to quickly assemble a clear picture of the incident and to relay a complete account to the appropriate responders.

3.2.2 Response

The response phase occurs between when the incident is verified (T_2) and when responders arrive on-scene or are otherwise in-place and ready to act (T_4). Here, “response” focuses on the notification and mobilization of responders more so than all incident clearance activities that may occur during an incident’s lifespan.



Early notification is the key for a quick incident response. Following notification, response involves reacting to an incident with appropriate and available technical, material, and human resources. Effective coordination protocols between stakeholders and up-to-date stakeholder contact information are critical to support early notification and rapid response. All TIM partners must have a clear understanding of other stakeholders’ roles in TIM, the resources/services they are able to provide, and how to contact them for assistance.

See [Stakeholder Matrix](#) in this document for additional information on stakeholder response.

Proactive notification is another practice that can enable rapid response. Many response activities are delayed because a critical stakeholder is only notified when the need for them is fully confirmed. Though no two incidents are the same, traffic incidents do follow predictable patterns. All responders should continuously assess each incident and identify likely response activities that may be required. If the response activity is highly likely, it is often appropriate to proactively notify the stakeholder, providing them with the opportunity to expedite their response.

For example, GDOT should be notified immediately whenever a lane-blocking incident occurs on a state roadway.

3.2.3 Roadway Clearance and Incident Clearance

Roadway clearance and incident clearance are two of the most prominent TIM performance measures.

Roadway clearance is the number of minutes between verifying the incident (T_2) and when all lanes are open and available for traffic flow (T_5). GDOT's goal for roadway clearance is 30 minutes or less for minor incidents and 90 minutes or less for major incidents.

Incident clearance is the number of minutes between verifying the incident (T_2) and when the last responder has departed the scene (T_6). This is an important measure because **traffic will not recover while responders are still on-scene**, even when all travel lanes have reopened. Systematic improvements, such as exiting the highway to finish incident reports, should be made to reduce the incident clearance time. A reduction in incident clearance time will improve responder safety by reducing responders' exposure to traffic, thereby limiting the potential for secondary incidents.

3.2.4 Return to Normal Flow

Traffic has returned to its normal flow when it is proceeding at its standard or expected rate of speed for a particular segment of roadway and current time of day. Traffic can only return to its normal flow once all lanes have reopened, and all responders have departed the scene. Until traffic returns to normal, the risk of secondary crashes remains high because motorists do not expect and may not react well to the lingering congestion or reduction in speed they encounter.

3.3 Incident Types/Classifications

A traffic incident is a non-recurring (i.e., unplanned) event that causes a reduction of roadway capacity or an abnormal increase in demand.

There are three classifications of traffic incidents: major, intermediate, and minor. The distinction between these classifications is the incident's expected duration. In general, incident duration is closely connected with the following incident characteristics:

- Scale and complexity of response – as duration increases, more responders are typically required and additional, often specialized, response measures are needed.

- Extent and persistence of impact – as duration increases, incident impacts (especially congestion levels) typically become more severe, affect a wider area, and take longer to return to normal conditions.
- Likelihood of secondary incidents – as duration increases, secondary crashes become more likely and the potential for additional injuries or loss of life is higher.

The distinction between incident classifications is the incident's EXPECTED duration, NOT its actual duration. Responders should anticipate and proactively initiate response measures that will likely be needed based on their experience.

3.3.1 Major

Expected Duration: 2+ hours

Major traffic incidents typically involve hazardous materials, fatalities, numerous vehicles and/or large commercial vehicles, and other natural or man-made disasters. These traffic incidents often involve closing all or part of a roadway for an extended period. Common examples of major incidents include:



- Chain reaction crashes, typically involving numerous vehicles
- Crashes that require a significant medical response, a coroner response (e.g., fatal crashes), and/or a crash reconstruction response
- Incidents involving advanced, prolonged environmental clean-up (e.g., HAZMAT)
- Overturned tractor-trailers
- Complex commercial vehicle incidents with large debris fields or cargo fires
- Structural damage or potential damage requiring an inspection
- Wildfires near the roadway
- Severe adverse weather including flooding, landslides, etc.
- Acts of terrorism

3.3.2 Intermediate

Expected duration: 30 minutes to two hours

Intermediate traffic incidents usually require TTC on-scene to divert road users past the blockage. Full roadway closures might be needed for short periods to facilitate incident clearance and vehicle removal activities. Common examples of intermediate incidents include:

- Major roadway debris
- Overturned cars, recreational vehicles, or small trailers
- Multi-vehicle crashes
- Commercial carrier crashes

3.3.3 Minor

Expected duration: 30 minutes or less

Minor traffic incidents are typically disabled vehicles and minor crashes that may result in brief lane closures. On-scene responders typically include law enforcement and towing companies, and occasionally GDOT service patrols. Common examples of minor incidents include:



- Disabled vehicles in a travel lane or on the shoulder
- Minor crashes that can be moved or relocated to the shoulder
- Minor roadway debris

3.4 Priorities at an Incident Scene

NIMS establishes three priorities for responders at an incident scene. These priorities are NOT sequential steps in a process where one priority, once addressed, is no longer a concern. All three priorities exist continuously through an incident's lifespan and should be regularly reassessed and accounted for.

3.4.1 P1: Life Safety

The most important concern is the protection of emergency responders, incident victims, and the public. ***Safety must be the first priority throughout the incident.***

3.4.2 P2: Incident Stabilization

To enhance operational safety, actions must be taken to stabilize the incident. The goal of incident stabilization is to stop the incident from getting worse and to prevent secondary incidents from occurring. Critical activities that can help stabilize the incident include:

- Minimizing exposure to traffic by only closing travel lanes if absolutely necessary and/or by quickly reopening travel lanes if possible (e.g., by applying Georgia's Authority Tow law, GA Code 32-6-2).
- Providing advance warning to warn approaching traffic that there is a hazard ahead.
- Deploying emergency TTC to separate the crash scene and responders from on-coming traffic.
- Quickly identifying and mitigating other safety risks including hazardous materials, fluid spills, fires, etc.

3.4.3 P3: Protection of Property and Evidence

Priority 3 contains two distinct aspects. The first aspect being "Protection of Property," which includes personal property (e.g., motorist's vehicle, cargo, etc.), responder vehicles/equipment, and

roadway infrastructure. Regarding protection of property, it is understood that damage to vehicles and/or cargo may occur as a result of clearing the roadway on an urgent basis. Responders will make reasonable attempts to avoid such damage by exercising care and sound judgement. However, responders' higher priority will be to reopen travel lanes and restore traffic to normal conditions, as stated in Georgia's Open Roads Policy.

The second aspect is "Protection of Evidence." Responders will make every effort to minimize the impact their presence may have on critical evidence at an incident scene. In addition to care and sound judgment, responders should discuss clearance activities with law enforcement to ensure such activities do not adversely impact investigations. When appropriate, investigators are encouraged to employ strategies that expedite investigations and/or allow clearance activities to proceed in tandem with the investigation.

3.5 Incident Command System

ICS, a component of NIMS, is a systematic tool for the command, control, and coordination of an emergency response (i.e., traffic incident). ICS allows agencies to work together using common terminology and operating procedures for controlling personnel, facilities, equipment, and communications at a single incident scene. **All responders should be trained to operate according to ICS guidelines.** This section provides an overview of ICS and considerations for its application to traffic incidents in Georgia.



Traffic incidents vary widely in severity, from a minor crash involving a single response agency (e.g., law enforcement), to a major crash or natural disaster that requires a multiagency response across jurisdictions and disciplines. It is important to note that most traffic incidents are minor and do not require the formal structures, roles, and protocols established in ICS. Rather, ICS is intended for more complex incidents (i.e., intermediate to major incidents) where multiple responders are involved and multiple operational priorities exist (e.g., patient care, hazard mitigation, vehicle removal, etc.).

The most important component of ICS is the command function, which carries out the following:

- Coordinating with other responders/agencies
- Establishing an incident action plan
- Prioritizing and delegating response activities
- Arranging for additional resources, manpower, or other support

The individual who leads the command function is the Incident Commander.

3.5.1 Single Command vs. Unified Command

ICS provides for two approaches for the command function: Single Command and Unified Command. A simplified distinction between the two is provided below:

- **Single Command** – when the command function is performed by a single Incident Commander and is used for incidents requiring limited overlap in jurisdictions or functional responsibilities.
- **Unified Command** – when the command function is carried out by multiple ranking personnel who make decisions together and who each represent a responding agency/stakeholder.

Most intermediate to major traffic incidents employ the Unified Command approach. Unified Command provides flexibility, allowing different groups to retain their familiar organizational hierarchy while retaining the collaborative, interoperable decision-making, and oversight function necessary for ICS. Therefore, this section of the *Georgia Traffic Incident Management Guidelines* will focus on the principles established for Unified Command.

3.5.2 Command Authority

Though Unified Command employs a collaborative approach to overall planning and decision-making, levels of command authority may shift across command personnel depending on the current operational focus of response activities. In other words, as the incident evolves and new tasks become the priority, the role of Incident Commander shifts to different personnel who are most aligned with and capable of directing the current priority. Unless otherwise limited by existing legislation or formal agreements, the Incident Commander then has decision-making responsibility to direct and authorize responders' efforts, including those of other agencies/organizations.

[Table 1](#) below describes different operational focus areas and identifies the organization that is best aligned with that focus and who may be the appropriate Incident Commander while that focus is the main priority.

Table 1. Command Authority

Operational Focus	Common Activities	Appropriate Incident Commander(s)
Scene Stabilization	<ul style="list-style-type: none"> • Initial scene protection via lane-blocking or minimal TTC. • Immediate first aid. • Hazard identification and mitigation (if minor). • Request for additional responders 	Law enforcement, HERO, or CHAMP initially Fire and rescue if medical care/hazard mitigation required to fully stabilize the scene
Medical Care and Rescue	<ul style="list-style-type: none"> • Patient assessment, care, and transport • Rescue and/or extrication of victims 	Fire and rescue

Operational Focus	Common Activities	Appropriate Incident Commander(s)
Hazard Mitigation	<ul style="list-style-type: none"> Fighting fires Containing, removing, and/or mitigating risks from HAZMAT Prevention of further contamination or exposure from HAZMAT (including HAZMAT-related evacuations) 	Fire and rescue (Other organizations may step in depending on severity)
Crash Investigation	<ul style="list-style-type: none"> Collecting evidence Documenting incident and scene 	Law enforcement
Damage Assessment and Repair	<ul style="list-style-type: none"> Inspecting damaged infrastructure and determining if road is safe for travel Repairing infrastructure Arranging for additional/specialized equipment and manpower 	DOT
Traffic Management	<ul style="list-style-type: none"> Deploying and upgrading TTC Establishing alternate routes and official detours Coordinating traveler information Facilitating release of traffic stuck behind closures (i.e., "trapped queues") 	DOT
Recovery and Lane Clearance	<ul style="list-style-type: none"> Establishing plans to relocate/remove vehicles, cargo, and other obstructions Coordinating towing and recovery activity Directing responders and apparatus to positions out of lanes/off roadway Arranging for additional/specialized equipment and manpower 	DOT

3.5.3 Establishing and Transitioning Command

The first responder arriving at the scene of a traffic incident establishes the incident command. This is most often law enforcement, HERO, or CHAMP. The Incident Commander will be the highest-ranking member of the agency that arrives first. Initially, incident command will focus on stabilizing the scene, assessing the incident, and requesting other responders.

As soon as possible, the Incident Commander should also establish a shared communication channel for all responding agencies to use to communicate and maintain situational awareness. Ideally, this "shared channel" is a mutual aid radio channel, accessible to all responders. For responders who cannot access the shared channel, telephone or face-to-face communication must be used. All responders on-scene and all associated communication centers (e.g., 911 dispatch,

TMCs, etc.) should monitor the shared channel until the incident is resolved. When communicating on the shared channel, agencies should not discuss other incidents and should use Plain English, instead of any coded phrases or jargon they may normally use.

Especially in the early stages of an incident, command is transferred to responders of higher rank and authority, as they arrive on scene. If Unified Command is established, the role of Incident Commander is transferred to the ranking representative of the agency most aligned with the current operational focus. Whenever command is transferred, the hand-off between commanders should involve a clear debrief of the incident, stakeholders involved, and current and anticipated response activities. Key stakeholders and command staff should be informed of the transfer of command.

Proper command relies on real-time, first-hand observations and direct interaction with other stakeholders. Therefore, the individual serving as Incident Commander should be on scene. Leaders and decision-makers who are not yet on scene may still participate in Unified Command remotely (i.e., via radio or cell phone) but should defer final decision-making authority to an appropriate leader on scene.

3.5.4 *Taking Charge and Sharing Control*

Proper execution of ICS is vitally important to responder safety and quick clearance. Despite its importance, TIM stakeholders throughout Georgia consistently report the following experiences with improper incident command:

No one takes charge. This is usually described as a lack of leadership, where response agencies narrowly focus on their own tasks and fail to communicate with one another. When this occurs, critical activities are overlooked, essential information is not shared, improper action goes unchallenged, and response efforts are disorganized and ineffective.

Stakeholders fight for control. This is typically described as leaders from different organizations strongly insisting that they are in-charge and attempting to assert their authority over other organizations. When this occurs, valid input is ignored, major priorities are threatened, and long-term relationships are damaged.

In either circumstance, **safety is jeopardized.**

Every organization has their own capabilities and priorities. However, no organization has the means to effectively manage every incident or scenario. Multiple organizations will always be involved. They are most effective when someone takes charge and ensures everyone receives timely information and clear direction.

Every TIM stakeholder has an official mandate to perform their organization's duties. Some can even point to a state law that, without further context, seems to grant them absolute authority. In reality, priorities change as an incident progresses. As one priority becomes the focus, the organization best aligned with that priority should take the lead. The notion of one party with a single-minded focus and absolute control is in direct opposition to ICS, Georgia's TIM Program,

and common sense. Control must be shared. Decisions must be made as a group, with respect for other parties' input.

Strong relationships between TIM stakeholders leads to effective coordination, which results in safe, quick clearance. If your organization experiences improper incident command, the solution is to build stronger relationships with TIM stakeholders in your area – especially with the agency you feel needs the most improvement. On-going TIM Team participation is the best avenue for this. There, you can work with your peers to address past disputes and come to consensus on how to move forward.

4 Traffic Incident Management Stakeholders

The *Georgia Traffic Incident Management Guidelines* are inclusive of all partners in the responder community and stakeholders that support roadway operations. This includes public agencies and private companies as well as organizations operating at national, state, or local levels. Any individual or agency who interacts with live traffic or is engaged in TIM activities is considered a TIM stakeholder.

4.1 Stakeholder Matrix

The following Stakeholder Matrix is provided as an informative overview and quick reference. It is intended to show a high-level summary of common TIM stakeholders, their primary role in TIM, and identify some of their core services/capabilities. Readers should continue to use their organization's existing resources and protocols when coordinating with other responders and TIM stakeholders.

It should also be noted that all TIM stakeholders have jurisdictions and other operational boundaries that govern where and how they may respond. These boundaries may be established by geographic limits, specific route types, or coverage areas; hours of operation; or even criteria that must be met before a response is initiated. All TIM partners are encouraged to do the following to understand and navigate the various boundaries of stakeholders:

- Identify TIM stakeholders in your area; understand where and when they operate, what they will or will not do, and what they need from you to respond effectively.
- Identify potential areas of overlap between stakeholders, where there may be duplication of effort or conflict.
- Work with your TIM Teams to evaluate potential areas of overlap/conflict and establish coordination protocols for all stakeholders involved to mitigate these issues.
- When issues of jurisdictional confusion arise, be part of the solution to help figure out who is the appropriate stakeholder.

Table 2. Stakeholder Matrix

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
Law Enforcement	<ul style="list-style-type: none"> • Verify incidents • Request notification of additional responders • Initial scene stabilization • Conduct investigations 	<ul style="list-style-type: none"> • Assessing and relaying critical incident details • Establishing initial incident command • Collecting evidence and documenting incident scene 	Making arrests Authorizing removal by towing and recovery Activating TRIP	LIMITED - vehicle blocking, some cones, and flares Can direct traffic at intersections

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
911 / GSP Dispatch	<ul style="list-style-type: none"> Receive and relay incident details to support other stakeholder's response. 	<ul style="list-style-type: none"> Receiving incident reports and requests for assistance Dispatching law enforcement officers (LEO), fire, EMS, and wreckers Notifying and relaying info to DOT and other stakeholders 	Supporting and guiding 911 callers until help arrives	NONE
Fire and Rescue	<ul style="list-style-type: none"> Fully stabilize incident scene Coordinate activities to save lives or resolve hazards/fires 	<ul style="list-style-type: none"> Immediate medical care Incident commander for rescue or hazard/fire mitigations 	Firefighting Rescuing or extricating patient	LIMITED - vehicle blocking, some cones, and flares Can direct traffic at intersections.
EMS	<ul style="list-style-type: none"> Immediate medical care Patient transport 		Air ambulance / Life Flight (helicopter transport)	NONE (unless first on-scene)
Towing and Recovery	<ul style="list-style-type: none"> Reopen travel lanes by transporting vehicles, cargo, and debris from the roadway 	<ul style="list-style-type: none"> Deploying and operating tow trucks and other apparatus Coordinating with incident command to establish removal/clean-up plans Transporting uninjured motorists from roadway Assisting with fluid spills and leaks 	Light and heavy-duty vehicle towing	LIMITED - vehicle blocking, some cones, and flares

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
HERO and CHAMP	<ul style="list-style-type: none"> • Detect and verify incidents • Deploy TTC • Reopen travel lanes 	<ul style="list-style-type: none"> • Motorist assistance: fuel, tires, jumpstarts, etc. • Incident Management: debris removal, relocating vehicles, mitigating fuel spills, etc. • Incident commander for general lane clearance and traffic management 	Activating TRIP	ENHANCED - specially trained and fully equipped (cones, flares, arrow panels, static signs, etc.)
TMC Operations (including toll/ML operations)	<ul style="list-style-type: none"> • Detect and verify incidents • Receive requests for DOT assistance • Coordinate DOT's response 	<ul style="list-style-type: none"> • Monitoring travel conditions and proactively detecting incidents • Managing traveler information • Dispatching HERO, CHAMP, and other DOT resources • Arterial management and connected signal operations • Toll/ML operations 	Coordinating TRIP and documenting TRIP times GA Alert (text messages to motorists)	ENHANCED - DMS activation, end of queue monitoring, signal timing adjustments

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
Roadway Maintenance	<ul style="list-style-type: none"> • Deploy TTC • Repair/maintain road infrastructure 	<ul style="list-style-type: none"> • Incident commander for general lane clearance and traffic management • Assisting with lane clearance and removal of obstructions (large debris, tree, etc.) • Inspecting and repairing road damage 	<p>Authorizing road for continued use (if damaged)</p> <p>Authorizing official detours</p> <p>Coordinating additional heavy equipment and manpower</p>	ENHANCED - specially trained and fully equipped (additional devices to fully upgrade TTC for longer-term closures)
Traffic Signal Technicians	<ul style="list-style-type: none"> • Maintain and repair traffic signals 			NONE (beyond signal repair)
Work Zone Contractors	<ul style="list-style-type: none"> • Advanced coordination with other TIM partners to plan for work zone activities and impacts 	<ul style="list-style-type: none"> • Conducting work activities safely, with minimal disruption • Advanced notification to stakeholders about upcoming work plans 		VARIES - typically limited to use of existing traffic control in place for work zone
Traffic Engineering and Managers	<ul style="list-style-type: none"> • Establish TIM policies and procedures 	<ul style="list-style-type: none"> • Overseeing DOT's programs, resources, and people dedicated to TIM • Establishing hours of operation, coverage areas, etc. for DOT's TIM services • Developing internal SOPs and multiagency agreements 	Incorporating TIM concepts and stakeholder priorities into roadway design and other official processes	NONE (directly; can marshal DOT's TTC resources)

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
Crash Investigators	<ul style="list-style-type: none"> Conduct crash investigations 	<ul style="list-style-type: none"> Collecting statements and evidence Documenting incident scene Coordinating with incident command to align investigation with other clearance activities 	Evidence collection	NONE
Medical Examiners	<ul style="list-style-type: none"> Assess crash victims Authorize clearance activities to commence 	<ul style="list-style-type: none"> Assessing victims and ascertaining critical info (e.g., cause of death) Assisting with crash investigations Coordinating removal /transport of victims from scene 	Confirming fatalities Authorizing continuation of clearance activities	NONE
HAZMAT Agencies	<ul style="list-style-type: none"> Prevent HAZMAT-related injury, death, or contamination Contain, remove, and mitigate HAZMAT 	<ul style="list-style-type: none"> Supporting incident command for HAZMAT mitigation Identifying and assessing HAZMAT, risks, precautions, etc. Coordinating with other agencies (e.g., EDP, GEMA, etc.) 	Containing, transporting, storing, and disposing of HAZMAT	NONE

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
Public Works / Utilities	<ul style="list-style-type: none"> Resolve issues with civil infrastructure (e.g., water, power, gas, communications) 	<ul style="list-style-type: none"> Performing urgent repairs and routine maintenance for civil infrastructure Deploying heavy-duty equipment, specialized apparatus, and trained technicians 	Accessing and repairing civil infrastructure	LIMITED - may carry some cones but workers are inconsistently trained to operate in traffic or to deploy TTC
Livestock Responders	<ul style="list-style-type: none"> Assist with incidents involving livestock (typically cows, horses, pigs, etc.) 	<ul style="list-style-type: none"> Capturing, securing, and/or transporting livestock from the roadway 	Handling livestock safely	NONE
Emergency Management Agency	<ul style="list-style-type: none"> Manage response to emergencies, disasters, and significant events in Georgia 	<ul style="list-style-type: none"> Advanced planning and preparation for events Coordinating agencies and stakeholders Supporting full event situational awareness of all stakeholders Coordinating response relief efforts 	Access to responders/resources to address uncommon circumstances	VARIES - based on event and GEMA presence

Stakeholder	Primary TIM Role	Core Functions / Services	Unique Capabilities	TTC Support
Public Information Office (PIO)	<ul style="list-style-type: none"> Manage distribution of incident information to the public 	<ul style="list-style-type: none"> Collecting incident and response information Crafting a clear, accurate, effective message Managing engagement with news media Leveraging news media to broadcast key messages 	Access to their agency's staff and sensitive information	NONE
News Media	<ul style="list-style-type: none"> Manage distribution of incident information to the public 	<ul style="list-style-type: none"> Collecting incident and response information Crafting a message Broadcasting message to public via multiple platforms (TV, radio, web, social media, etc.) 	High level of visibility to a large audience (able to widely distribute information quickly)	NONE

4.2 Law Enforcement

Law enforcement describes the agencies and employees responsible for enforcing laws, maintaining public order, and managing public safety. For the *Georgia Traffic Incident Management Guidelines*, law enforcement will be used to refer to all state and local law enforcement agencies that respond to traffic incidents, including GSP.

LEOs are the most common TIM stakeholder found at the scene of a traffic incident. Law enforcement responds to incidents of all types and severity and is closely involved in all major



TIM activities throughout an incident's lifespan. LEOs may detect incidents while patrolling or are dispatched by the 911 or public safety communication center associated with their agency.

Law enforcement's primary role in TIM is to verify traffic incidents and prompt additional responder notifications, provide initial incident stabilization, and conduct investigations to determine and document cause.

Law enforcement responsibilities can vary depending on the type of incident or situation involved. The following provides a general overview of law enforcement functions and capabilities at an incident scene:

- Incident detection and verification
- Assessing and relaying critical incident details (e.g., incident type, location, impacts, etc.)
- Prompting notifications to additional responders for assistance
- Providing initial incident stabilization
- Establishing and/or participating in incident command
- Coordinating with towing and recovery to remove damaged/disabled vehicles
- Engaging with motorists including crash victims, witnesses, suspects, etc.
- Conducting and/or supporting investigations by collecting and documenting evidence

Especially for minor incidents including non-injury crashes or small debris removal, law enforcement may be the only responder involved and may clear the incident on their own. LEOs also tag abandoned vehicles and coordinate with towing and recovery companies for their removal from the roadway. LEOs may also provide a limited range of motorist assistance services including helping to change tires, providing some protection while assistance is rendered, or helping to arrange for other assistance (e.g., tow truck, etc.).

Law enforcement's ability to support TTC activities is limited due to the minimal traffic control equipment their vehicles typically carry. This equipment may include flares and a small number of traffic cones. LEO vehicles are often used to provide initial blocking, but additional responders and traffic control equipment are needed for intermediate or major incidents (e.g., where closures or increased threat from traffic will persist for greater than 30 minutes). LEOs may also direct traffic at intersections in cases where traffic signals are malfunctioning or when detours/alternate routes are in use.

4.3 911 Dispatchers and Public Safety Telecommunicators

911 dispatchers and public safety telecommunicators refer to various communication center personnel who initiate and support the response of LEOs and other public safety agencies. For the *Georgia Traffic Incident Management Guidelines*, 911 dispatch will be used to refer to all state and local public safety telecommunicators, including those who dispatch GSP troopers.



Though 911 dispatchers rarely detect incidents themselves, they are often the first among responders to be aware of an incident because bystanders or incident victims usually call 9-1-1 quickly after an incident occurs. Their primary role in TIM is to receive and relay incident details to initiate the response of law enforcement and other TIM stakeholders including fire, EMS, towing, and DOT.

911 dispatcher responsibilities can vary depending on the communication center in question and the law enforcement agency they support. The following provides a general overview of 911 dispatch functions and capabilities related to TIM:

- Receive incident reports and requests for assistance
- Capture and document critical incident details required to support response
- Dispatch law enforcement officers to the scene
- Coordinate with other TIM stakeholders to request assistance
- Follow-up with LEOs on-scene to acquire additional information as needed
- Follow-up with other stakeholders to relay new information and/or advise of incident clearance

Some 911 dispatchers may also provide a significant level of psychological and practical support to citizen callers – especially crash victims or witnesses. In these cases, 911 dispatchers are also assisting in incident stabilization by keeping the caller calm and providing potentially life-saving instruction until responders arrive.

4.4 Fire and Rescue

Fire and rescue personnel respond to all traffic incidents involving fire, injuries, fatalities, spills, or HAZMAT. Rarely involved in incident detection, fire and rescue personnel are dispatched by 911 dispatchers and typically arrive on-scene after law enforcement and/or HERO/CHAMP.

Due to their extensive training in a wide range of hazards and their ability to rapidly mobilize specialized response apparatus, fire and rescue personnel support numerous functions beyond firefighting. Their primary role in TIM is to fully stabilize the incident scene and to coordinate activities to save lives, control hazards, and combat fires. Fire and rescue responsibilities can vary depending on the type of incident or situation involved. The following provides a general overview of fire and rescue functions and capabilities at an incident scene:

- Incident stabilization activities including:
 - Initial lane blocking
 - Immediate medical care
- Hazard identification and mitigation



- Assisting with lane clearance including removal of debris or vehicles from travel lanes
- Serving as Incident Commander while response remains actively focused on medical care, hazard mitigation, or rescue/extrication of victims
- Performing and coordinating activities to save lives, control hazards, and combat fires
- Escalating response and coordinating with specialized responders to address major spills, HAZMAT, and other situations resulting in extreme impacts or threats to safety

Fire and rescue most often support TTC activities by positioning their response vehicles in travel lanes to provide a physical barrier between responders and approaching traffic. In many cases, fire and rescue will use the Lane-Plus-One approach which involves blocking an additional lane beyond those that are already impacted. Though appropriate in many circumstances, **Lane-Plus-One should NOT be the default strategy.** Rather, it should only be applied when absolutely necessary.

Regardless of the real or perceived necessity to do so, blocking lanes always increases a responder's exposure to traffic and, therefore, increases their risk of injury or death. Ultimately, the only way to reduce this risk is to minimize our exposure to traffic, which includes only blocking lanes when absolutely needed.

Blocking, as the primary method to control traffic, is acceptable in the initial stages of response only. Additional traffic control measures – especially those provided by HERO, CHAMP, or DOT – are needed if lanes may be closed for more than 30 minutes.

4.5 Emergency Medical Services

EMS may be a separate agency or part of the fire and rescue department, depending on the region. For the *Georgia Traffic Incident Management Guidelines*, EMS will refer to responders dedicated to assessment, treatment, and/or transport of potential patients at an incident scene. Rarely involved in incident detection, EMS personnel are dispatched by 911 dispatchers and typically arrive on-scene after law enforcement and/or HERO/CHAMP.



EMS personnel's primary role in TIM is to render immediate life-saving care and to transport patients from the scene for more comprehensive treatment.

To protect patients and facilitate rapid patient transport, EMS personnel or vehicles should only be used to support traffic control if they are the first to arrive on-scene. In such cases, the EMS vehicle may be used as a block to on-coming traffic.

4.6 Towing and Recovery

Towing and recovery personnel operate light and heavy-duty tow trucks and other apparatus to transport vehicles, cargo, and debris from the roadway. Towing and recovery companies are privately operated businesses who receive payment for providing TIM-related services. After law enforcement, towing and recovery companies may be the most common TIM stakeholder found at the scene of a traffic incident. They respond to incidents of all types and severity from disabled/abandoned vehicles to major commercial vehicle crashes.



Tow companies are locally based, meaning they will respond to incidents within proximity to their headquarters and/or vehicle storage locations. Tow companies may detect incidents while patrolling but are most often contacted directly for assistance by motorists, TMC operators, or 911 dispatchers. Since tow companies are private businesses and there are often multiple tow companies operating in the same area, public agencies like law enforcement or DOT should follow established guidelines when requesting tow assistance to ensure opportunities are shared as equitably as possible. The following items describe some of these methods for coordinating tow assistance:

- **Motorist requests** – when a motorist requires a tow truck to transport their disabled vehicle, LEOs or HERO/CHAMP may provide the motorist with a list of tow companies operating in the area and allow the motorist to determine which company to contact.
- **Assigned routes** – in some areas, specific tow companies are assigned to service a particular area or route. Additional criteria including service hours or incident types may also be applied. When tow assistance occurs in a particular area, 911 dispatchers – or TMC operators in cases involving TRIP activation – contact the appropriate tow company to respond.
- **Rotation lists** – law enforcement agencies establish a list of tow companies that regularly rotates different tow companies to the top of the list. 911 dispatchers then contact whichever tow company is at the top of the list to respond. This is the most common method in use.

The primary role of tow companies in TIM is to reopen travel lanes by transporting vehicles, cargo, and debris from the roadway. Individual tow company responsibilities can vary depending on the company's available equipment (e.g., light or heavy-duty) and how they train their tow operators. The following provides a general overview of towing and recovery functions and capabilities at an incident scene:

- Assessing the scene and working with incident command to establish a removal/clean-up plan
- Dispatching their company's equipment and manpower to the scene

- Performing and coordinating activities to retrieve and transport vehicles, debris, and cargo
- Working with other responders to maintain traffic control measures during clearance activities, including recovery activities that are postponed until after non-peak travel times
- Storing vehicles, cargo, etc. at appropriate storage facilities off the roadway
- Transporting uninjured motorists to safer locations off the roadway
- Assisting in fluid spill clean-up and leak mitigation
- Handling financial negotiations and compensation, outside the incident scene and not while clearance activities are underway

4.6.1 Towing and Recovery Incentive Program



Large commercial vehicle crashes are often complicated and result in extended road closures, causing major traffic delays. Traditional towing and recovery practices were also not sufficiently aligned with safe, quick clearance goals, which further exacerbated delays and increased risk of secondary crashes. In 2008, GDOT initiated TRIP to improve the way that events involving large, commercial vehicles are resolved. Major elements of TRIP that have resulted in operational improvements include:

- Reducing time to identify and notify an appropriate tow company by pre-identifying properly trained and equipped heavy-duty tow companies and assigning them to specific coverage areas.
- Reducing confusion and coordination delays by establishing clear roles and coordination protocols for all TRIP stakeholders.
- Improving tow company response times by defining clear response requirements (i.e., specific equipment and manpower to bring) and setting strict targets for response times.
- Aligning tow company performance with safe, quick clearance goals by offering monetary incentives for meeting response times and reopening all lanes quickly.

The processes and guidelines to activate and conduct TRIP response are detailed in GDOT's SOPs. This section is intended as an informational overview.

TRIP can be activated 24-hours a day, 365-days a year on interstates in the Metro Atlanta area as well as SR 166 and SR 316. When an incident involves a large, commercial vehicle that is difficult or dangerous to move, an approved on-scene responder activates TRIP by contacting the Atlanta TMC. **Only approved stakeholders defined in GDOT's SOPs may activate TRIP.** This is primarily on-scene law enforcement or GDOT personnel but may include TMC operators or other responders in some circumstances. Once activated, the TMC operator notifies the appropriate tow company based on the incident's location.

The responding tow company must then respond to the scene – usually within 30-45 minutes – with the appropriate equipment and personnel. When removal and clean-up activities are able to

All TRIP communication must occur via the dedicated TRIP line: 404-635-2477.

Only approved stakeholders may activate TRIP or relay TRIP response times to the TMC.

Only the TMC can document official TRIP response times.

begin, law enforcement, HERO/CHAMP, etc. give the tow company Notice to Proceed. Barring requests for additional equipment or other approved circumstances, the tow company has 90 minutes to reopen all travel lanes. Critical event milestones and tow company response times are relayed by approved on-scene personnel to TMC operators for official documentation. If the tow company successfully meets all response and lane clearance targets, they receive a monetary incentive in addition to their standard compensation.

As discussed previously, only approved stakeholders may activate TRIP. Once an approved stakeholder has determined whether or not to activate TRIP, towing companies participating in the program must abide by that decision. Under no circumstances should a participating tow company seek to influence a TRIP activation decision while the incident is underway. After the incident is over, tow companies are encouraged to bring disputes or other concerns to a TIM area analyst or to the STIMS point of contact responsible for administering TRIP. Participation in TRIP is voluntary for all participating tow companies.

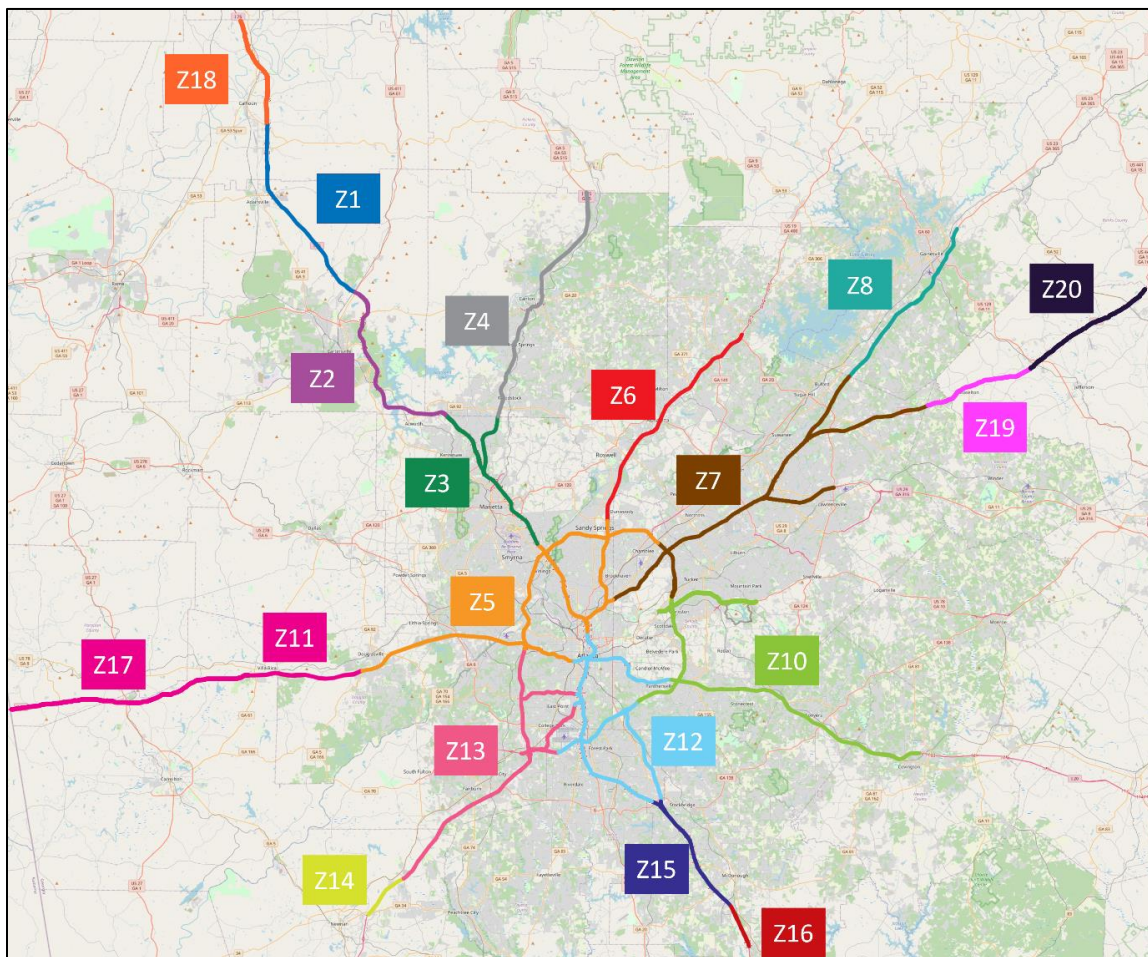


Figure 6. TRIP Zone Map

The map above is subject to change. The current TRIP Zone Map is located on the [TIME Task Force website](#).

4.7 State/Local Transportation Agencies

Georgia's roadway network and associated infrastructure is managed and operated by state and local transportation agencies and DOTs. State agencies include GDOT and the State Road and Tollway Authority (SRTA) who are responsible for state-maintained roadways, including all interstate routes and ML corridors. Local agencies include county or municipal DOTs who are responsible for locally maintained roads in their areas, which typically include arterial routes and some residential roadways.

GDOT, a state agency, is further organized into seven districts, which are each comprised of several counties. GDOT's district personnel are directly responsible for managing and operating state-maintained roads in their districts. District personnel include traffic engineers, roadway designers, and field staff such as maintenance personnel and signal technicians.



Figure 7. GDOT District Map

4.7.1 HERO and CHAMP

In addition to its other field forces, GDOT operates two SSP programs dedicated to real-time incident management support: HERO and CHAMP. These programs use specially trained and equipped staff to assist stranded motorists and help responders clear traffic incidents safely and quickly. [Table 3](#) provides a high-level comparison of the HERO and CHAMP programs.

Table 3. HERO and CHAMP Comparison

Program	Location	Routes Covered	Hours of Operation	Dispatched by
HERO	Metro Atlanta	All Interstates	24/7/365	Atlanta TMC
CHAMP	Each GDOT District (1-6)	All Interstates	Actively patrols 16 hours a day, but available to respond to major incidents 24/7/365	DOCs during the center's operating hours. Atlanta TMC when DOCs are closed.

HERO and CHAMP's primary role in TIM is to detect and verify incidents, deploy TTC, and to reopen travel lanes. HERO and CHAMP provide a similar scope of services described below:

Motorist Assistance

- Dispensing fuel
- Changing flat tires
- Jump starting dead batteries
- Providing water for overheated vehicles
- Assisting with minor mechanical repairs
- Helping to secure loose cargo
- Helping motorists arrange for additional assistance (e.g., tow truck)
- Transporting motorists to safe locations off roadway

Incident Management

- Detecting and verifying incidents
- Participating in Incident Command
- Coordinating with TMC and DOT in field
- Tagging and initiating removal of abandoned vehicles
- Removing debris from travel lanes
- Deploying emergency TTC
- Relocating vehicles from travel lanes
- Mitigating fluid spills and supporting HAZMAT response
- Providing basic first aid to crash victims
- Providing additional scene lighting

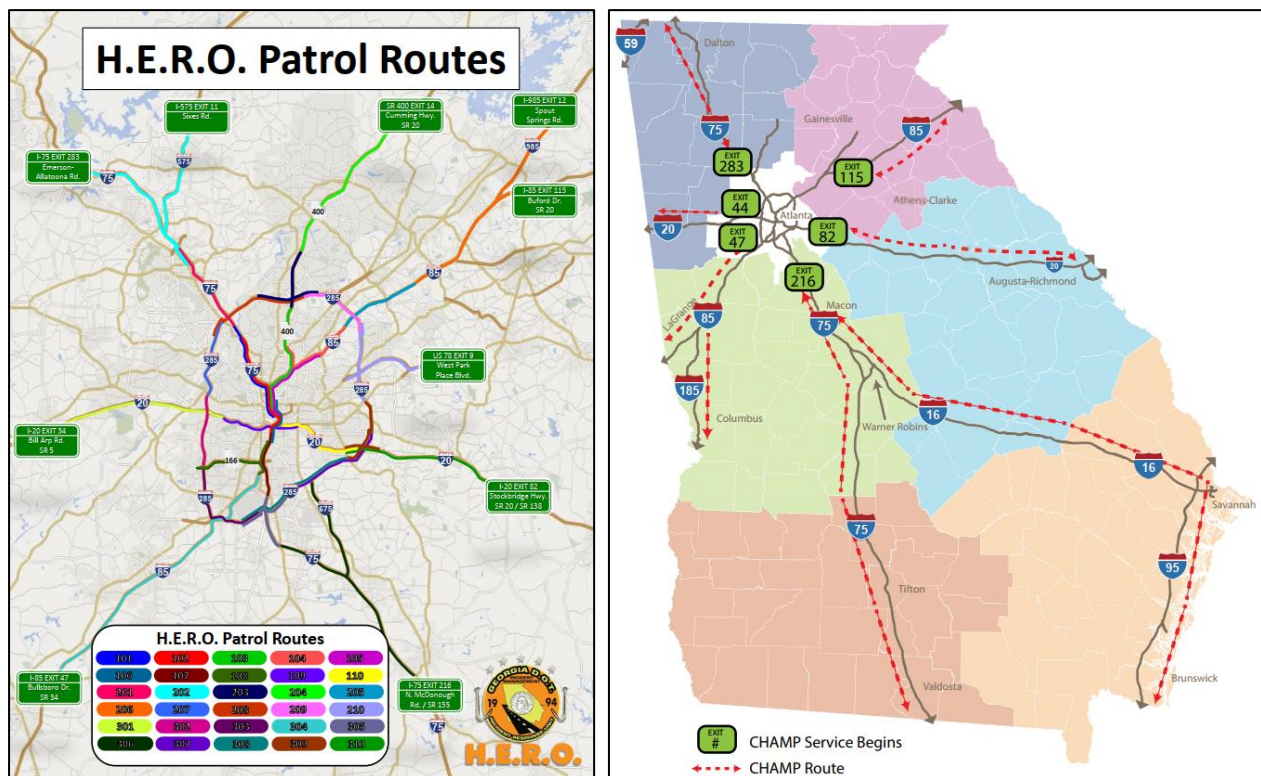


Figure 8. HERO and CHAMP Route Maps

The maps above are subject to change. Current maps can be found on the GDOT website: [HERO Patrol Routes](#) map and [CHAMP Patrol Routes](#) map.

4.7.2 Transportation Management Center Operations

State and local DOTs employ communication and operations centers to support day-to-day maintenance and operation of roadways and related infrastructure. The different types of DOT centers operating in Georgia include:

- Transportation Management Centers (TMC)
- District Operation Centers (DOC)
- Local/municipal Traffic Control Centers (TCC)

Though these centers vary in name, operational focus, and coverage area, they all share the same primary role in TIM: to serve as an access point for external stakeholders to request DOT assistance, and to coordinate DOT's response to traffic incidents.

For the *Georgia Traffic Incident Management Guidelines*, we will focus on GDOT centers – especially the Atlanta TMC – unless otherwise noted.

GDOT – Statewide TMC (Atlanta, GA). The Atlanta TMC takes an active role in the management of all state-maintained roads in Georgia and is the only center in the state that operates 24 hours a day, 365 days a year. The TMC is a communication hub that collects, processes, and fuses traffic information with other operational data to implement real-time response measures to planned events and unplanned traffic incidents; to provide traveler information; to notify and initiate the response of other GDOT forces; and to facilitate the exchange of information between responders. TMC operators support the following tasks relevant to TIM:



- Proactive monitoring of travel conditions
- Incident detection and verification
- Delivery of traveler information via the Georgia NaviGator website and 511 phone system
- Activation of DMS to provide traveler information and advanced warning of traffic incidents
- Dispatch for HERO and CHAMP
- Response coordination related to TRIP
- Receiving requests for DOT assistance from external partners
- Notifying and initiating response by GDOT field forces including maintenance personnel, signal technicians, bridge inspectors, etc.
- Arterial management and operation of connected signal systems
- Tolling/ML support including activation of reversible lane systems
- After-hours support for all DOCs – including the Macon TMC

GDOT – District 3 Operations Center (Thomaston, GA). The District 3 operations center is a regional center responsible for state-maintained roads in GDOT’s District 3 and is open 24x7. The District 3 operations center supports incident management in District 3 by coordinating with responders, providing traveler information, and dispatching District 3 CHAMP units. The District 3 operations center oversees all statewide construction support and manages the overflow of 511 calls. HERO units in District 3 are dispatched by the Atlanta TMC.

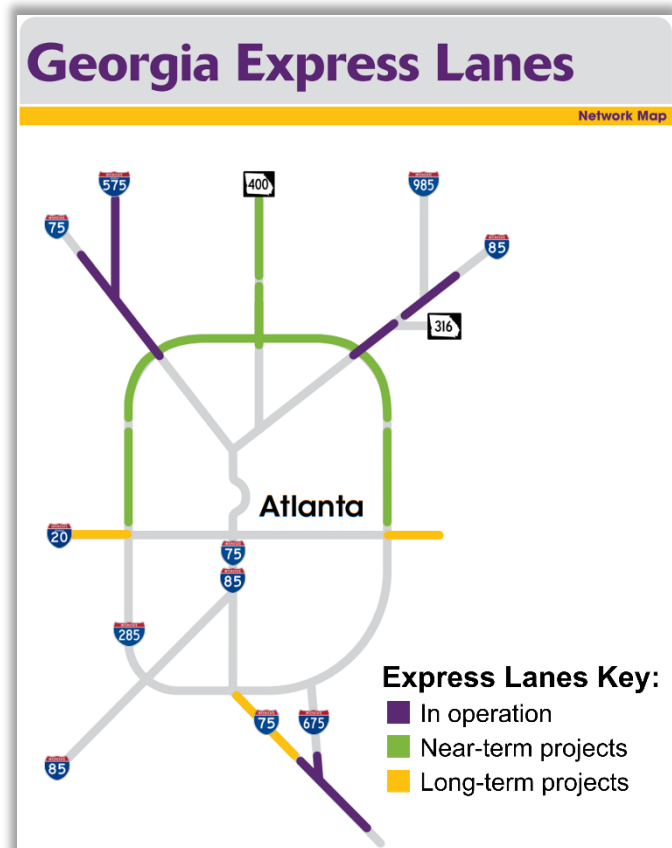
4.7.3 Tolls and Managed Lanes

Tolled roads and ML corridors are unique roadway segments characterized by the collection of fees (aka, “tolls”) from roadway users and/or the application of other usage restrictions (e.g., vehicle occupancy) to mitigate congestion and provide users with reliable commutes. SRTA operates all tolled roads and ML corridors in Georgia, which include express lanes on I-75, I-75/I-575, and I-85 in Metro Atlanta and approximately 90 miles of HOV lanes. The I-75 South Metro Express Lanes are reversible, meaning that at pre-determined times of the day, the express lanes carry traffic in one direction and then switch to service another direction of travel.

SRTA and GDOT work closely together to manage traffic incidents occurring on tolled roads and ML corridors. Toll operators work out of GDOT’s Atlanta TMC and have the same primary role in TIM as TMC operators. GDOT’s HERO program actively patrols and responds to tolled roads and ML corridors. Tolled roads and ML corridors have their own field responders and maintenance staff. However, these personnel operate in the same capacity as other GDOT field staff and external TIM partners like law enforcement can request their assistance by contacting the Atlanta TMC.

Though incident management activities on toll/ML corridors is generally the same as on general purpose roadways, some unique considerations exist including:

- Full closures of toll/ML corridors require immediate escalation to SRTA leadership to assess possible toll rate adjustments. This will be handled by toll operators at the TMC.
- Traffic may not be diverted onto a toll/ML corridor without authorization by SRTA. Responders must submit this request via toll operators at the TMC.



- The express lane system is an immediate tow zone. Vehicles are prohibited from stopping on any portion of express lanes, including shoulders. Any vehicles abandoned on express lanes should be towed away immediately.
- Express lanes in the South Metro Corridor and Northwest Corridor are equipped with emergency access gates (EAG). EAGs allow emergency responders additional access points to the express lane system. An EAG provides a 42-foot opening in the concrete barrier wall that allows emergency vehicles to access express lanes during emergency situations. EAG locations are provided in the table below.

Table 4. EAG Locations

Highway	Location	Mile Post
I-75 South Metro Corridor: McDonough Rd (SR 155) to Stockbridge Hwy (SR 138)		
I-75 South	South of Jonesboro Rd	220.5
I-75 South	North of Jodeco Rd (Piedmont Henry Hospital)	223.5
I-75 South	North of Eagle's Landing/Hudson Bridge (Piedmont Henry Hospital)	225
I-75/I-575 Northwest Corridor: I-75 Akers Mill Rd to Hickory Grove Rd; I-575 to I-75 to Sixes Rd		
I-75 South	South Marietta Pkwy	263.5
I-75 South	North Marietta Pkwy	265.4
I-75 South	Bells Ferry Rd	267.7
I-75 North	Barret Pkwy	269.6
I-75 North	Barret Lakes Blvd	272.2
I-575 North	Big Shanty Rd	2.3
I-575 North	Bells Ferry Rd	4.3
I-575 North	Alabama Rd (SR 92)	6.7
I-575 South	Towne Lake Pkwy	8.2

4.7.4 Roadway Maintenance

GDOT maintenance personnel (MP) support numerous activities to operate and maintain state roadways. This includes planned, routine maintenance tasks such as mowing, inspections and scheduled repairs as well as unplanned maintenance tasks such as TIM and emergency replacement of damaged guardrail, traffic signs, etc. For the *Georgia Traffic Incident Management Guidelines*, we will focus on the unplanned maintenance tasks most relevant to TIM.



TMC operators notify GDOT-MP to respond to traffic incidents or other requests for DOT assistance. GDOT-MP will respond to and deploy resources to major traffic incidents 24-hours a day, 7-days a week. Each GDOT district has developed response procedures to meet the goal of providing assistance within 30 minutes of notification during normal working hours or within 60 minutes afterhours.

GDOT-MP's primary role in TIM is to deploy TTC and to ensure roadway infrastructure is in proper working order to conduct traffic safely and efficiently. GDOT-MP responsibilities can vary depending on the type of incident or situation involved. The following provides a general overview of GDOT-MP functions and capabilities at an incident scene:

- Providing full TTC by deploying additional traffic control devices
- Establishing alternate routes and official detours
- Assisting with lane clearance including removal of debris or other obstructions from travel lanes
- Serving as incident commander with direct oversight for lane clearance and/or congestion mitigation activities
- Directing and/or coordinating other DOT response efforts including HERO/CHAMP, TMC, etc. and arranging for additional manpower or specialized equipment as needed
- Assessing and repairing damage to roadway and related infrastructure
- Inspecting road damage to determine if road is still safe for travel

GDOT-MP are directly responsible for ensuring that any operation occurring within the state's right-of-way is conducted in a safe, timely manner and with minimal disruption to normal traffic flow. This includes TIM activities supported by other agencies or TIM partners. Therefore, barring immediate medical response, crash investigation, or other circumstance beyond GDOT's purview, GDOT-MP should serve as incident commander while on-scene.

GDOT-MP can coordinate additional manpower and specialized equipment to support activities that may be beyond the capabilities of other responders. This may include forklifts and other heavy equipment to relocate cargo or heavy obstructions; sweepers and loaders to clear large debris spills (e.g., gravel); or chainsaw crews to remove large trees from travel lanes.

Among all TIM stakeholders, GDOT-MP are uniquely trained and equipped to upgrade TTC to provide more comprehensive protection to responders and to better conduct traffic around the impacted area. This includes deploying DMS and static signage to provide advance warning, barriers to fully close roads or divert traffic, and trail-blazing markers to direct motorists along official detours.

Similar to GDOT-MP are GDOT personnel dedicated to state-maintained bridges and overhead sign structures. Bridges and overhead sign structures are vital to Georgia's transportation network but can present a hazard to safety if damaged or otherwise compromised. Due to the critical nature of these structures, GDOT uses escalated communication protocols to support rapid response and a centralized coordination channel to maintain situational awareness of bridge/overhead sign issues, resolution activities, and supporting documentation like pictures of damage. When these issues occur, the GDOT TMC notifies GDOT bridge/overhead sign personnel who investigate and resolve the issue. These personnel must fully inspect the bridge or overhead sign structure and certify that it is safe before normal traffic operations can resume. Whenever the following items are observed relevant to a bridge or overhead sign structure, all TIM stakeholders should notify the GDOT TMC immediately:

- Involved in a traffic incident (e.g., struck during a crash, impacted by a vehicle fire, exposed to corrosive hazardous materials, etc.)
- Damaged by adverse weather
- Damaged by vandalism (including graffiti if sign information is obscured)
- Structural damage is apparent (e.g., large cracks or voids, hanging or fallen pieces, etc.)
- Structure or any of its parts obstructs travel lanes
- Other potentially hazardous observations including excessive movement/deflection, abnormal orientation (i.e., leaning), etc.

4.7.5 Traffic Signal Technicians

GDOT traffic signal technicians are field staff responsible for installing and repairing traffic signals at state-maintained intersections. Though generally not involved in response to traffic incidents, their primary role is to ensure that traffic signals continue to function properly.

When signal malfunctions occur, the signal usually goes into "Flash Mode" meaning each signal head displays a flashing yellow or red signal, instructing motorists to stop and/or proceed with caution. If a signal goes out completely, standard driving rules direct motorists to treat the intersection as a 4-way stop. Because of these understood rules and mitigation measures, traffic signal malfunctions do not require the same urgent response as other incident types, like crashes. However, GDOT traffic signal technicians will respond to signal malfunctions 24-hours a day, 7-days a week, though their response time may be extended afterhours.



GDOT traffic signal technicians are notified by TMC operators when a signal malfunction is reported, typically by law enforcement. Before contacting the TMC to request assistance for a signal malfunction, the reporting party must first determine if power is on to the signal. Restoring power to the signal can only be done by the local power company. Until power is restored, GDOT traffic signal technicians cannot service the signal.

4.7.6 Work Zone Contractors

Work zone (WZ) contractors generally refer to crews working at roadway construction sites. WZ contractors are often in direct proximity of on-coming traffic, especially when deploying or dismantling traffic control measures. Though generally not involved in the response to traffic incidents, their primary role is to conduct work activities safely, and with minimal disruption to normal traffic flow.

Most often, WZ contractors do not support real-time incident response. Rather, their role in TIM is typically focused on coordinating with other TIM stakeholders to provide advance notice of construction activities, establishing response plans (especially with GDOT) to mitigate congestion resulting from road work, or arranging for assistance from law enforcement, HERO, or CHAMP to support various work activities.



4.7.7 Traffic Engineering and Managers

GDOT traffic engineers and managers oversee all TIM-related programs and services offered by GDOT. This includes ITS devices, TMC operations, HERO and CHAMP patrols, incident management programs like TRIP, and TIM services like responder training. In each of GDOT's districts, traffic engineers and managers oversee the day-to-day operations of maintenance personnel and other field staff. They also manage delivery of new roadway projects from design to construction.

The primary role in TIM for GDOT traffic engineers and managers is to establish TIM policies and procedures. This includes developing internal SOPs and multi-agency coordination protocols; establishing operating hours, coverage areas, and staffing levels for TIM-related services; and incorporating TIM concepts and stakeholder priorities into roadway design and other processes.

4.8 Crash Investigators

Crash investigators are members of law enforcement whose primary role in TIM is to conduct investigations to help determine the possible cause of an incident and identify responsible parties. All crashes involve some level of investigation. In most cases, responding LEOs conduct these investigations with minimal impact or delay to other clearance activities. For the *Georgia Traffic Incident Management Guidelines*, crash investigators will refer to additional or specialized law enforcement personnel conducting larger, more extensive investigations that do impact other

clearance activities, usually by requiring such activities to hold off until investigations are complete.

Crash investigations are typically required for traffic incidents that involve serious injuries or fatalities, or injury/death of an emergency responder. Crash investigators are called to incident scenes by 911 dispatchers. Crash investigator responsibilities vary depending on the incident, but typically include:

- Collecting statements from citizens including crash victims and potential witnesses
- Collecting and securing physical evidence
- Documenting the incident scene through photographs and field sketches
- Coordinating with incident command to align investigation activities with other clearance efforts to facilitate safe, quick clearance without jeopardizing the investigation

4.9 Medical Examiners

Medical examiners or coroners are specialized medical personnel whose primary role in TIM is to assess crash victims, ascertain critical information (e.g., cause of death, etc.), and authorize other responders to commence clearance activities. Medical examiners are called to incident scenes by 911 dispatchers, typically for incidents involving life-threatening injuries or fatalities. Medical examiners assist in crash investigations and often coordinate the removal/transport of victims from the scene.

4.10 Hazardous Materials Mitigation Agencies

HAZMAT refers to any substance that would be a danger to life or to the environment if released without precautions. Due to the wide range of materials, circumstances in which they might be dangerous, and the precautions required to mitigate risk, the *Georgia Traffic Incident Management Guidelines* will refer to HAZMAT as substances requiring specialized training and equipment beyond the level of typical responders to handle safely. HAZMAT mitigation agencies, therefore, will refer to specialized organizations (public or private) who are properly trained and equipped to resolve HAZMAT incidents.



HAZMAT mitigation agencies are typically called to incident scenes by 911 dispatchers but may also be notified by fire and rescue personnel, tow truck companies, or even the carrier who was originally transporting the material. HAZMAT mitigation agencies' primary role in TIM is to prevent HAZMAT-related injury, death, or environmental contamination and to contain, remove, or otherwise mitigate hazardous materials. HAZMAT mitigation agencies' responsibilities vary significantly depending on the incident, type and quantity of hazardous material, and many other factors. Common duties and functions include the following:

- Identification of hazardous materials and material-specific details including nature of risk, evacuation distances, precautions for safe handling, etc.
- Serving as Incident Commander or coordinating with incident command to establish plans to contain and mitigate HAZMAT
- Containing and transporting hazardous materials and ultimately ensuring their proper disposal or storage
- Arranging for additional equipment and manpower as needed
- Reporting HAZMAT incidents and otherwise coordinating with additional agencies including Georgia's EPD and GEMA

4.11 Public Works/Utilities

Public works/utilities refer to various public agencies and private companies responsible for maintaining critical civil infrastructure including water, waste management, power, gas, and communications. Public works/utilities personnel often support many of the same functions described previously for GDOT maintenance personnel, but on locally maintained roads. Many of the functions supported by these organizations impact state/local roads. Public works/utilities personnel frequently work in live traffic, closing lanes to inspect, maintain, or install equipment, repair damage, or access nearby infrastructure. These organizations are infrequent but essential TIM stakeholders whose primary role in TIM is to quickly resolve issues with civil infrastructure that negatively impacts normal, safe roadway operations.

Public works/utilities personnel are often called to incident scenes by communication center staff including 911 dispatchers or TMC operators. Public works/utilities organizations can quickly deploy heavy-duty equipment, specialized apparatus, and trained personnel to resolve civil infrastructure issues of all severities including downed power lines, gas leaks, water main breaks, damage to local roads, etc. Many issues related to damaged civil infrastructure can only be safely resolved by public works/utilities crews.

4.12 Livestock Responders

Animals and other wildlife come into contact with traffic every day, usually resulting in their death. State or local DOT maintenance personnel are responsible for removing animal carcasses from the



right-of-way. However, live animals – especially large, domestic livestock including cows, horses, and pigs – present additional challenges and risks to responders, which can occur when livestock trailers are involved in crashes or when livestock escape fields/enclosures adjacent to roadways.

Livestock responders are veterinarians and animal handlers who are specially trained and equipped to capture, secure, and transport livestock while minimizing the risk of injury to responders or the animals themselves.

Incidents involving livestock often have an extended duration, result in full road closures and heavy backup, and require a significant amount of resources and manpower. Effective response to a livestock incident requires careful planning and training well in advance of an incident. Local TIM Teams must identify and establish agreements with appropriate livestock responders in their area who can be contacted in case of a livestock emergency. This includes but is not limited to:

- Representative of the Georgia Department of Agriculture
- County extension agent
- Veterinarians specializing in livestock (cattle, horses, poultry, pigs, etc.)
- Livestock transporters
- Livestock holding facilities
- Dead stock disposal facilities

TIM area analysts can help TIM Teams establish LERPs and coordinate LERP training for local responders. See [Incidents Involving Livestock](#) for further details on LERP response.

4.13 Emergency Management Agency

GEMA is the agency for the State's emergencies, disasters, and significant events. GEMA approaches its responsibilities from an "All Hazards" perspective. Georgia is at risk from a multitude of hazards. Hurricanes, tornadoes, floods, and ice storms are all examples of natural hazards. Manmade hazards include industrial accidents, transportation accidents, criminal activities, transportation accidents, criminal activities, civil unrest, and, in today's environment, terrorism.

A basic tenet in emergency management is tiered response. Local authorities will do everything they can to resolve the emergency. When the local authority sees the need for help, they go to the county, then the county goes to the state, and then the state will go to the federal government.

Whenever resources from outside the impacted jurisdiction are engaged, they are in support of the local authority that retains responsibility for managing the response.

Based on this guiding principle, through the State Operations Center, GEMA can play a supporting role in responding to a major transportation incident. GEMA can coordinate with other state agencies for support. Examples of this may include requesting EPD assistance on a HAZMAT incident; Department of Agriculture assistance when animals, animal products, or food products are involved; and American Red Cross assistance in sheltering and feeding people associated with the event. GEMA's role is to assist in coordinating the State of Georgia's response to the event.

4.14 Public Information Offices and News Media

PIOs and news media are two separate but similar stakeholders. PIOs are support resources, maintained by state agencies and larger county agencies to manage public engagement. News media refers to private organizations that broadcast information to educate and entertain the public. State and local agencies typically maintain their own PIOs and larger agencies often maintain a network of PIOs (e.g., GDOT has a central PIO to support department-wide activities

and each GDOT District has its own PIO to manage locally relevant activities). News media organizational structures are far more diverse, ranging across national, state, and local audiences and various distribution platforms (e.g., radio, television, print, web, etc.).

Though different in many other regards, PIOs and news media share the same primary role in TIM: to manage distribution of incident information to the public.

PIOs and news media often engage responders during major (i.e., “news-worthy”) incidents, to gather important details about the incident (WHO-WHAT-WHEN-WHERE) to inform the public about what is going on, what is being done about it, and when conditions will improve. If engaged by the news media, responders should redirect questions and other requests to their organization’s PIO. In this way, PIOs can be very beneficial to responders by engaging news media and allowing responders to focus on incident clearance.

The greatest value that PIOs and news media add to TIM is getting critical information to motorists and other stakeholders, especially instructions about how to avoid impacts and remain safe. This might include detour information to navigate around a road closure, guidance to avoid travel in a specific area until conditions improve, or details on other transportation options in use for major planned events.

Putting clear, accurate information into as many hands as possible is the focus of PIOs and news media. PIOs help craft the message. News media spreads the word.

4.15 Other Traffic Incident Management Stakeholders

There are more TIM stakeholders than can be sufficiently addressed in the *Georgia Traffic Incident Management Guidelines*. Some other stakeholders play an infrequent or indirect role in TIM, while some have yet to be identified. Any individual or agency who interacts with live traffic or is engaged in TIM activities is considered a TIM stakeholder. All responders and established TIM stakeholders are encouraged to remain attentive for opportunities to engage new partners and to share the importance of safe, quick clearance with them.

5 Responder Safety

Though all TIM stakeholders face some level of risk every day, the risk of injury or death for field responders is especially high. Therefore, this chapter focuses on safety considerations for responders at the scene of traffic incidents.

For most organizations, working safely is a condition of employment. Failure to abide by established policies and exercise sound judgement is not just a safety risk, it may put your job at risk, too.

A responder's job environment contains many potential hazards—not just traffic and HAZMAT, but also weather, fire, injury from debris, and shock. All responders must be familiar with their organization's policies and practices for safety including

proper care and use of vehicles and equipment; appropriate behavior and conduct; safe methods for completing work tasks; preventative measures to avoid risk; and how to respond if accidents or near-misses occur. Additional safety requirements for all responders include:

- Only perform tasks that you are trained and equipped to do.
- Unless legal exemptions apply, always abide by state and local laws including those for speeding, wearing seat belts, etc.
- Never perform your duties while under the influence of illicit drugs, alcohol, or medication as judgement or motor function may be impaired.

All stakeholders who work near moving traffic or respond to traffic incidents must recognize that the road is NEVER a safe environment to work in. **All responders must hold SAFETY as their highest priority.** Responders must be constantly alert and act with an abundance of caution to protect themselves, other responders, and motorists. The US Fire Administration has identified the following as major limiting factors to responder safety:

*Ultimately, the goal is to
PREVENT injuries and deaths.*

- **Lack of training** – failure to equip responders to understand what safety risks to expect and how to prevent and mitigate them.
- **Lack of situational awareness** – failure to recognize potential dangers, often due to overconfidence.
- **Disregard for Personal Protective Equipment (PPE)** – failure to wear appropriate garments, reflective vests, and other PPE, often due to long-standing bad habits or even peer pressure.
- **Lack of proper TTC** – failure to provide sufficient TTC training and failure to utilize established TTC procedures and equipment, often due to over-reliance on response vehicles to block on-coming traffic.
- **Improper positioning of vehicles/apparatus** – failure to position vehicles, etc. in a manner that provides adequate protection, often by unnecessarily positioning in the roadway.
- **Inappropriate use of scene lighting** – failure to employ vehicles' emergency lights or other lighting equipment, most often in ways that inadvertently blind or distract drivers.

5.1 High-Visibility Apparel / Safety Vest

All responders must wear approved high-visibility apparel at all times when working outside of the vehicle. "Part 634 – Worker Visibility," published by FHWA under Title 23 of the Code of Federal Regulations, requires all workers on all public access roadways to wear high-visibility clothing. This requirement applies to all emergency responders.

Only garments certified and labeled as American National Standards Institute (ANSI)/ISEA 107 or 207 meet standard specifications for high-visibility personal protective safety apparel. The *Manual on Uniform Traffic Control Devices (MUTCD)* section 6D.03 further requires apparel to meet performance Class 2 or 3 to be used on or near roadways.

- ANSI Type R or P, Performance Class 2 – the minimum level of protection for workers exposed to roadways and TTC zones.
- ANSI Type R or P, Performance Class 3 – have an even higher level of visibility and greater body coverage. A garment/vest without sleeves is NOT considered class 3 protection.



The only exceptions for ANSI/ISEA and/or *MUTCD* compliance for apparel involves certain cases relating to firefighters. These exceptions only apply when fire personnel are actively engaged in firefighting or activities requiring other specialized apparel. Even in these exceptions, firefighter apparel should still be highly visible and include reflectorized elements as much as possible.

Safety apparel must be conspicuous during both daytime and nighttime. To ensure the effectiveness of high-visibility apparel, responders should:

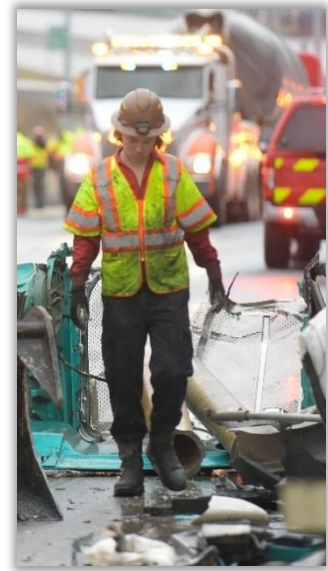
- Keep high-visibility apparel clean to maintain reflectivity and visibility.
- Replace high-visibility apparel when it is worn, heavily soiled, or faded.
- Wear high-visibility apparel on top of all other clothing, including jackets.

5.2 PPE and other Personal Safety Considerations

Responders are equipped with varying types of personal protective equipment (PPE), depending on their role in TIM. Uniforms and other clothing should be durable and properly suited for the responder's purpose and the conditions that will be encountered (e.g., weather, etc.). Clothing and personal items should not be loose or hanging to prevent being caught on objects or within equipment. The following describes PPE commonly used by responders:

- **High visibility, reflective garments** – to make responder visible to on-coming traffic and other responders.
- **Work gloves** – to minimize risk of hand injuries including abrasions, lacerations, burns, or blisters.

- **Purpose-driven footwear** – includes a range of boots and shoes worn based on the needs/primary function of the responder; may include steel/composite toes, waterproofing, slip-resistant treads, puncture resistant materials; etc.
- **Eye protection** – refers to specially-certified safety glasses worn to reduce risk of eye injury from dust, hazardous fluids, or other small particles.
- **Helmet/hard hat** – common for firefighters, maintenance personnel, etc.; worn to reduce risk of head injury from falling objects or when working in confined spaces.
- **First aid kit** – small assortment of simple medical supplies (bandages, alcohol wipes, ointments, etc.) intended for particularly minor injuries. All injuries should receive proper assessment and/or treatment from trained medical professionals in addition to any first aid rendered by responders whose core function is NOT emergency medical care.
- **Fire extinguisher (small)** – to prevent small fires (i.e., no larger than a small trash can) from spreading or growing.



5.3 Safety On-Scene

The following are general safety considerations for all responders when on the scene of a traffic incident or when working in/near the roadway:

- You are never completely safe while on-scene.
 - Always wear highly visible and reflective apparel.
 - Never put your back to traffic.
 - Remain alert to what is going on around you.
 - Always act as if you may be struck at any moment.
 - ALWAYS HAVE AN ESCAPE ROUTE.
- Your response vehicle may not be the safest place to be.
 - Consider your exposure to traffic.
 - Identify other areas that may be safer (e.g., established traffic control areas, locations further off the roadway, etc.).
 - Assess how you would reach a safer location and risks you might encounter getting there. Make a plan for how you can safely get to a new location.
- Communication can keep you safe.
 - Always keep your radio with you whenever outside of the vehicle.
 - Always notify dispatch when you arrive on-scene and when you leave.
 - Always keep dispatch and other responders apprised of your plans and actions – tell them what you are going to do, what you are doing, and what you have done.
 - Other responders can serve as spotters to assess traffic speed, queue location, motorists' reactions to TTC, etc. and alert you if conditions are becoming unsafe.

- Continuously take stock of your surroundings and act accordingly. This might include proximity to the following:
 - Railroad Tracks/Equipment – do not park or stand on tracks; do not approach moving rail equipment; stay clear from railcar connection points.
 - Elevated Surfaces (e.g., bridges, large vehicles, etc.) – always maintain a safe distance from the edge; only climb when necessary; use ladders and harnesses to support safe climbing activities; always maintain three points of contact (e.g., 1 hand + 2 feet) when climbing or mounting/dismounting vehicles.
 - Clearance Activities/Equipment Operations – stay clear of any activities you are not directly responsible for; ensure the area is clear of responders and bystanders before you move a vehicle, operate equipment, etc.

5.3.1 Responders Experiencing Shock or Emotional Trauma

For most TIM stakeholders, it is not a question of IF they will experience a critical or traumatic event, it is a question of WHEN.

Responders regularly experience critical or traumatic events throughout their careers including first-hand encounters with death, destruction, malice, and violence. The frequency of these experiences leads to the common misconception that responders are unaffected by traumatic events because, “they deal with it every day.” In reality, the frequency of traumatic

experiences – especially when unaddressed – has a compounding affect that can lead to longer-term, severely debilitating disorders. According to the Substance Abuse and Mental Health Services Administration, **over 30 percent of first responders develop mental health conditions**, such as post-traumatic stress injury.

The impact of traumatic experiences can also be immediate, afflicting responders at the scene of an incident, when safety is already at risk. When this occurs, responders can become distracted, dizzy or disoriented, panicked, or even incapacitated. The signs and symptoms of emotional shock can be very similar to those of physical shock, including but not limited to:

- Rapid heart rate
- Enlarged pupils
- Cool, clammy, or pale skin
- Headache
- Nausea
- Dizziness or fainting
- Weakness or fatigue
- Difficulty making decisions or communicating
- Temporary paralysis (i.e., “Freezing up”)
- Change in behavior such as anxiousness or agitation

All TIM stakeholders must recognize the immediate and long-term impact that traumatic events have on themselves and their peers. While on scene, we must watch for signs of emotional shock and intervene immediately to ensure everyone’s safety and well-being. Responders experiencing emotional shock should be calmly escorted to a safe, quiet location away from clearance activities

or bystanders. When ready, they should be transported away from the scene to calm down and/or receive additional care from a medical professional. In severe cases, immediate medical attention should be provided.

After a traumatic event, follow-up care should be provided. This can be as simple as an individual or team debrief where the event is discussed and participants are encouraged to share their concerns, feelings, or to describe how the event may have affected them (e.g., trouble sleeping, loss of appetite, conflicts with friends or family, etc.). If a responder has shown signs of emotional shock or implied a need for help, team members and leaders should take immediate action to arrange for specialist assistance such as a counselor, therapist, or physician.

All TIM stakeholders should make themselves familiar with their organization's protocols for stress management and emotional shock and should understand what resources or assistance are available to them. Leaders must train their people to understand the impacts of traumatic events, to recognize circumstances that trigger them, and how to properly support responders who are experiencing emotional shock.

5.4 Blood-borne Pathogens and Biohazards

A biological hazard, or biohazard, is a biological substance that poses a threat to the health of living organisms, primarily humans. Blood-borne pathogens are biohazards that are transmitted via blood. Blood-borne pathogens or other biohazards are most commonly transmitted when a contaminated bodily fluid such as saliva or blood enters the bloodstream of another person, usually through ingestion, entering through an exposed cut, or coming into contact with soft tissue (e.g., after handling a contaminated substance, the responders rub their eyes or nose).



Responders may frequently come into contact with biohazards or blood-borne pathogens in a variety of ways, including:

- Providing medical care to patients.
- Handling contaminated objects (especially soft/absorbent materials like clothes or car seats that easily retain fluids).
- Handling livestock or removing animal carcasses (animals can also transmit harmful biohazards to humans).

Responders should apply the following guidance to minimize risks from biohazards and blood-borne pathogens:

- Whenever possible, allow properly trained and equipped personnel to handle materials or situations where biohazards may be present.
- Wear medical grade gloves when handling any material that may be contaminated with bodily fluids. **Regular work gloves do NOT provide sufficient protection from biohazards.**
- Safety glasses or face shields (if available) are recommended, especially in circumstances where bodily fluids may drip or spray.

- Bandage any open cuts on your person and apply additional coverings if possible.
- Avoid secondary contamination by not touching your clothes, face or body, or other surfaces after you have handled a contaminated material.
- Dispose of contaminated materials (including used medical gloves) properly. This might include disposal in specially designed and labeled BIOHAZARD containers, or by turning the contaminated materials over to another responder who is trained and equipped to properly dispose of biohazards.
- Wash your hands thoroughly with soap and warm water after handling contaminated materials.

If you are directly exposed to a potentially contaminated substance, confer with a medical professional immediately. Other urgent actions following exposure include flushing eyes with water or saline if materials contacted your eyes or face, or thoroughly washing and disinfecting a cut if exposure occurred that way. In either case, immediate medical assessment is also required.

5.5 Weather and Environmental Safety

Weather conditions and environmental hazards also threaten responder safety at incident scenes. These issues typically vary by season and may be of increased risk in different regions. Responders should understand the weather/environmental safety risks for their area and take precautions to stay safe.

Many weather-related safety risks can be addressed by wearing the appropriate apparel. This includes rain jackets and water-proof gear in rainy weather; insulated clothing, hats, and gloves when it is cold or snowing; or lighter-weight, breathable materials in warmer weather. Sunscreen is also highly recommended during warmer months or whenever prolonged exposure to the sun may occur. At any time of year, it is essential for responders to remain hydrated while on duty. Drinking water regularly is the best means of hydration. Coffee, tea, soda, and even many sports drinks contain ingredients like caffeine and sugar that prevent the body from absorbing water.

Insects and wildlife can be a major threat to responder safety. Snake bites as well as bug bites or stings from spiders, mosquitos, ticks, and bees cause discomfort and can be life threatening. The following guidance can be effective when dealing with these environmental safety risks:

- Use bug spray/insect repellent during months when insects are most active.
- Wear long pants and avoid walking in tall grass to minimize exposure to ticks, snakes, and spiders.
- Stay clear of beehives or objects/vehicles infested with wasps. Avoid them entirely if you can; use bug spray designed for bees and wasps if you cannot.
 - Many improvised methods for driving away bees/wasps are ineffective (e.g., spraying with water) or create additional hazards (like using smoke).
 - If bees/wasps are in significant numbers, do not engage. Call for specialist support.
 - Responders who are allergic to bees are encouraged to inform their supervisor and peers and to carry emergency treatment like an EpiPen.
- Check yourself thoroughly for ticks after prolonged activity outdoors, especially if your exposure to grassy, wooded, or other natural areas was high.

- Do not attempt to capture or handle snakes, even if you think they are non-venomous. Snakes can be easily scared off or driven away with non-lethal prodding. If bitten by a snake, seek medical attention immediately. If possible, being able to identify the snake will help medical responders choose the correct anti-venom.
- Responders should interact with other wildlife, including domesticated pets, as little as possible.

5.6 Engaging Citizens Safely

Some situations involving citizens require immediate responder action where safety takes precedence over the citizen's emotional well-being or willful compliance. This may include scenarios where the citizen:

- Requires immediate medical attention.
- Poses an immediate threat to their own safety or the safety of others.
- Poses an active criminal threat or is intoxicated.
- Is deliberately obstructing time-sensitive clearance activities.

In circumstances like these, immediate responder intervention may be appropriate. This intervention should be facilitated by law enforcement personnel who are trained and authorized to act in this capacity. However, in most situations involving citizens, patience, and tact are the best strategies to ensure everyone's safety, to de-escalate the situation, and to achieve a productive outcome. This section provides guidance towards that end. Though this section is applicable to law enforcement, it is primarily intended for all other responders in recognition of law enforcement's obligation to maintain order and public safety. Law enforcement personnel are encouraged to draw meaningful insight from this section as appropriate and to follow their existing procedures and best judgement.

All motorists are different and respond to crisis or inconvenience differently. Many citizens that responders will interact with have just experienced a stressful, unexpected situation. A motorist may be difficult to deal with for a variety of reasons, including:

- Still processing the incident or in shock.
- Scared for their safety or the safety of others.
- Concerned about legal or financial consequences.
- Tired or hungry.
- Unable to speak English.

Disregarding these factors is likely to exacerbate the situation further and potentially lead to a dangerous or life-threatening encounter. **Empathy is the first step towards safe engagement with the public.** Responders should carefully assess the citizen's condition and circumstances and adjust their approach accordingly.

Irate citizens typically want to be listened to and taken seriously, treated with respect, and offered help. If the motorist is openly hostile or threatening, back off and seek assistance from law enforcement. Otherwise, responders are encouraged to do the following when communicating with an angry motorist:

- Remain patient, calm, and professional.
- Speak at a lower volume and slower pace than the motorist.
- Listen carefully with the goal of understanding their frustration.
- Do NOT interrupt.
- Empathize and acknowledge what is upsetting them.
- Do NOT discuss blame – whether by accepting it, redirecting it, or placing it on them.
- Offer help and suggest all options that are available.

If a situation with an angry citizen deteriorates, responders should:

- Work to extract themselves from the situation and put distance between themselves and the motorist.
- Notify dispatch immediately and request additional law enforcement on an urgent basis.
 - Use your radio's EMERGENCY ALERT button to quickly issue a distress signal.
 - If possible, hold down your radio's transmit button so dispatch can hear the conflict and coordinate additional law enforcement response.
- Do not re-engage the citizen until additional law enforcement officers have arrived.
- If needed, leave the scene immediately.

6 Incident Detection and Arrival On-Scene

Incident detection and arrival on-scene are the earliest activities that occur in the lifespan of an incident. As such, they have the greatest impact on how safely and quickly the incident can be resolved. Early detection enables a response to be underway as quickly as possible, ideally in time to render critical, life-saving care and to prevent traffic congestion from growing. Proper arrival and positioning on-scene provide better protection for motorists and responders while improving responders' ability to access the scene and depart when needed.

The detection phase is often impeded by incomplete or inaccurate information, usually as a result of responders failing to recognize critical information that other stakeholders need to respond properly. The arrival phase is typically impeded by opportunistic or poorly thought-out vehicle placement where responders fail to consider other response activities and/or fail to employ best practices that will keep them and others safe.

6.1 Dispatching Effectively

This section is intended for communication center staff including 911 dispatchers and TMC operators who are responsible for notifying and coordinating with field responders. In this section, we will refer to this audience collectively as dispatch or dispatchers unless otherwise noted.

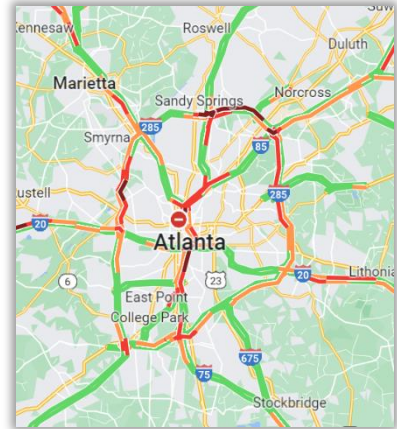
6.1.1 Collecting a Complete Report

Effective dispatch begins by collecting a complete incident report. This includes:

- **Receiving a complete location description.** This helps responders know where to go and how to get there. This includes:
 - Full address including business name, if applicable, AND/OR...
 - Route name including numeric designation (e.g., I-75) and/or common name (e.g., Peachtree Street).
 - Direction of travel (e.g., North, South, East, West), especially on highways.
 - Cross street, exit number, or mile post to identify the incident's location on the impacted route.
 - NOTE: GDOT's Atlanta TMC and many 911 dispatch centers use systems to determine a citizen caller's precise location via GPS coordinates from the caller's cell phone. While not perfect, these systems can significantly improve responder's ability to determine an accurate location. Communication centers that use these systems should share location details with one another to facilitate a faster response.
- **Receiving a complete description of the incident.** This helps responders understand what to expect when they arrive and what they will need to do when they get there. This includes:
 - Incident type (e.g., what happened – crash, debris, etc.).
 - Lane status or location in roadway (e.g., blocking left lane, on the right shoulder, etc.).

- What is involved (i.e., what responders will need to plan for), including:
 - Vehicles – number, type, size/cargo, and condition.
 - NOTE: TMC and 911 dispatchers should use the **TRAA (Towing and Recovery Association of America) Vehicle Identification Guide®** ([Appendix B](#)) to properly identify different types of vehicles. The difference between a tractor trailer and a box truck is substantial. Using this guide properly will ensure that responders bring the right equipment for the job, which will reduce the incident duration significantly.
 - Debris/obstructions – type and size/quantity.
 - Infrastructure damage/malfunction – asset affected and description of issue.
 - Injuries/fatalities
 - NOTE: 911 dispatchers require more detailed information regarding injuries/fatalities, including potentially sensitive patient information. TMC operators only need to know whether injuries/fatalities are involved to properly assess the incident's severity.
 - Other conditions or threats – e.g., presence of fire, HAZMAT, involvement of a responder or response vehicle, etc.
- **Receiving a complete description of who is (or is not) on-scene.** This helps assess the progress already underway and can help responders determine the appropriate level of urgency (e.g., if no one is on-scene yet, urgency is required). This includes:
 - Responders on-scene or en route.
 - Presence of bystanders or other stakeholders (e.g., news media, etc.).
- **Documenting how the incident was detected or reported.** This helps establish the reliability of the information, which helps responders determine if additional caution is needed as they approach the incident (e.g., a location reported second-hand may be inaccurate, so driving slower or expanding the search radius may be appropriate). This includes:
 - Who reported it (e.g., motorist, law enforcement, HERO/CHAMP, etc.).
 - How they observed it (e.g., they are on-scene, they drove by it, they were told about it, etc.).
- **Comparing reported details to other sources of information.** Depending on the resources available, this helps validate reports or correct erroneous information. This includes:
 - Reports from other motorists, responders, etc. to capture missing details, to corroborate/confirm reports, or to identify conflicting or uncertain information.
 - CCTV traffic cameras to confirm reported details and monitor incident.
 - Traffic maps to increase confidence in location or to clarify lane status.

- NOTE: These maps depict traffic speed in near-to real-time and use color codes to denote different speeds (e.g., GREEN = free flow, YELLOW = slow, RED/BLACK = stopped). If the incident was reported in the northbound direction but southbound traffic appears slowest, the incident is likely southbound. If no cross street or mile post was given, the presence of heavy congestion likely indicates where the incident is located. If the incident was reported with all lanes open but the map shows stopped traffic, lanes are likely still closed.
- NOTE: 911 dispatchers and other communication center operators are encouraged to make use of any technologies at their disposal to validate reports or collect additional information. CCTV traffic cameras are available via GDOT's [NaviGator website](#). Many traffic maps are available including free versions such as Google Maps (with traffic turned ON).



Failure to collect a complete and accurate report will result in a delayed response. If the reporting party does not provide this information, ask them for it. If they are unsure, ask probing questions to get closer to the information you need. If necessary, contact your unit on scene and ask for additional information or clarification.

It is important to emphasize that responders require a lot of information to respond quickly and effectively. The amount of information needed frequently generates frustration between communication centers who often feel like other centers are asking too many questions, taking up too much of their time, or even questioning/judging the response of another agency. In reality, communication centers are just asking the questions that they themselves will be asked when they dispatch someone to the scene.

Every question asked has a vital purpose and a direct connection to a specific aspect of the overall response. Every minute spent getting good information at the start of an incident will save precious minutes or hours later on. Communication centers – as well as the responders who are first to arrive on scene – must make time to get all the best information available.

6.1.2 Relaying Details Properly

Once a complete report is in-hand, dispatchers must relay it properly. Dispatchers should follow their organization's communication protocols and any interagency agreements in-place. In general, agencies are discouraged from contacting responders of other agencies directly to request assistance. Doing so most often leaves the rest of the organization out of the loop and prevents them from performing other critical tasks in a timely manner. Instead, agencies should coordinate through the other agency's dispatch/communication centers when requesting assistance. If DOT or TMC operators need assistance from law enforcement, EMS, fire and rescue, or towing and recovery,³ they should contact the appropriate 911 dispatch center for the area. Likewise, if 911 dispatchers need DOT assistance, including HERO/CHAMP, maintenance, etc. they should contact the appropriate TMC.

The process below provides a general outline for proper dispatch:

- **Identify the appropriate parties to notify**, based on the location, time of day, nature of request, etc.
 - If possible, notify the closest available unit to expedite their arrival on-scene.
 - If no units are currently available, advise the most appropriate unit and/or a supervisor – this provides them with the opportunity to determine how best to respond.
 - If there will be a delay in your agency's response (e.g., units are unavailable, unable to reach them, etc.) advise the requesting party of the delay and continue to work to arrange a response. Provide updates to the requesting party regularly until response is underway.
- When an appropriate unit/responder is identified, **relay the report/request immediately**. Dispatchers should:
 - Relay all details received as accurately as possible.
 - **Provide details that help responders approach the incident** efficiently including:
 - Best route to access incident, locations to turn around, etc.
 - Congestion or obstructions that may impede their progress (e.g., a disabled vehicle on the right shoulder).
 - Lanes/shoulders blocked so responder can determine what side of the road to be on (especially for multi-lane highways).
 - Other responders on-scene so they can determine where to park.
 - **Provide details that help responders anticipate what to expect when they arrive** and understand the severity of the incident including:



³ *Except when TRIP is being activated. Atlanta TMC operators must contact towing companies for TRIP activation. See [Towing and Recovery Incentive Program](#) for further details.

- Involvement of commercial vehicles, injuries, fatalities, etc. (these would indicate a major incident with an extended duration and large response).
- Presence of fire, HAZMAT, etc. (these would help responders prepare to take additional, immediate caution as they approach).
- **Provide details that help responders gauge the reliability of the reported information** including:
 - Who reported the incident and how they detected it (e.g., a motorist's report is often less reliable than another response agency's report, especially if they have a unit on scene).
 - Whether the incident is visible on a traffic camera or not.
 - Any information that was unclear or missing when the report was received.
 - Any conflicting information the dispatcher has identified when comparing the report to other sources of information (e.g., report said incident was northbound, but traffic map shows all congestion is southbound).
- When the responder/unit arrives, allow them a brief but sufficient period to establish a safe position on-scene and to assess the incident – 15 minutes is adequate in most cases. Then **contact the on-scene unit for a status update**. Dispatchers should:
 - Confirm critical details including location, vehicles involved, presence of injuries, fatalities, or other significant hazards.
 - Verify any details that were previously missing or unclear, so a complete picture of the incident is in-hand.
 - Ask if any additional support is needed.
- After receiving an updated report, dispatchers should **relay new information to other responders and provide a status update to parties who requested assistance**.

911 dispatchers should notify the TMC whenever lanes are closed on a state roadway, regardless of whether GDOT assistance has been requested. TMC and GDOT have additional capabilities such as activating DMS to protect responders and prevent secondary crashes; distributing traveler information to inform motorists; and dispatching HERO/CHAMP to deploy traffic control and help clear the crash sooner.

6.2 Safe Vehicle Placement

The next few sections are intended for field responders – especially those who are the first of their agency to arrive on scene in the early stages of an incident's lifespan. Responder arrival at an established incident scene will be covered in a later section.

6.2.1 Traffic Incident Management Area and Responder Positions On-Scene

A traffic incident management area (TIMA) is a type of TTC zone established in response to a traffic incident. Greater detail for TIMAs is in the chapter on [Emergency Temporary Traffic Control](#). For now, TIMA is used to discuss proper positioning of response vehicles on scene.

Pictured below is a diagram of a typical TIMA for an intermediate crash with injuries on a multi-lane highway, where HERO/CHAMP, law enforcement, fire, EMS, and a wrecker are responding.

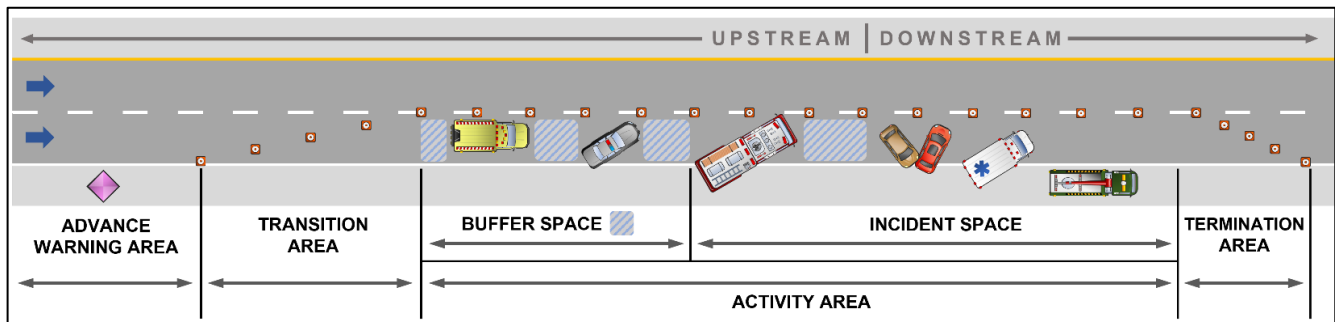


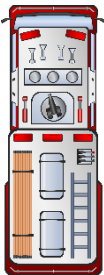
Figure 9. TIMA and TTC Components



HERO/CHAMP should be the furthest upstream responder, positioned in the furthest occupied lane where the transition area ends, and the buffer space begins. From this position, HERO/CHAMP's vehicle serves as the first barrier to oncoming traffic and their arrow panel/message board directs traffic to merge away from the activity area where other responders are positioned.

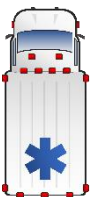


Law enforcement should position upstream from the incident between HERO/CHAMP and fire, with adequate buffer space on either side of their vehicle. Law enforcement may position in a lane to provide an additional physical barrier to oncoming traffic or may position on the shoulder to prevent motorists from using the shoulder to enter the incident space.



Fire should position closest to the incident, while still providing adequate buffer space between their vehicle and the incident. Fire should position in lanes if necessary to block oncoming traffic and create a safe workspace for response efforts to proceed.

This position provides fire crews with quick access to the incident and to essential equipment on their vehicle needed to combat fires, support extrication, etc. This position also allows the large fire apparatus to serve as a screen for the incident, blocking it from view of passing traffic.



EMS and the wrecker should be the furthest downstream responders, positioned with the maximum buffer space between them and the transition area. This position grants them the most protection from oncoming traffic, ease of access to the incident, and the ability to quickly depart the scene (especially important for EMS transporting patients to the hospital).



In this area, EMS and the wrecker may position in lanes or on the shoulder as needed to perform their duties. If occupying a lane, they should be protected by TTC and/or another response vehicle providing blocking further upstream. In the TIMA diagram, the wrecker is positioned on the shoulder until the EMS completes its activities. This space – often referred to as the **Staging Area** – is an ideal location for other response vehicles to position if they are not directly supporting clearance activities or traffic control.

6.2.2 Where to Park Upon Arrival

Where to park upon arrival changes for every incident. Responders should carefully assess the incident scene, traffic speed, and conditions that limit sight distance (e.g., hills or curves) to determine the safest, most appropriate place to park.

Overall, responders should park in a manner that:

- Reduces the chance of the response vehicle being struck by on-coming traffic.
- Makes the response vehicle as visible to on-coming traffic as possible.
- Shields responders and the operational work area from exposure to on-coming traffic.

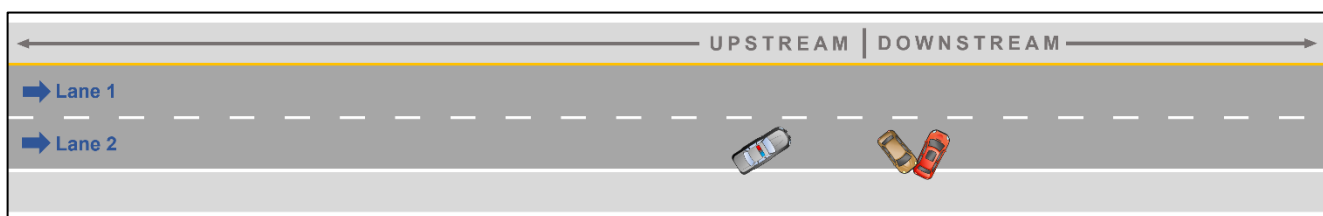
Other primary guidelines for parking response vehicles on-scene include:

- Close lanes only if absolutely necessary and only for as long as necessary. Try to close lanes that are already blocked by the incident or other response vehicles.
- Do not park on the opposite side of the road or in the opposite direction unless absolutely necessary. If you are not directly providing life-saving assistance, you should reposition to the primary incident location.
- Park a sufficient distance from the scene to provide an adequate buffer to oncoming traffic while allowing space for other responders to arrive but close enough to enable effective deployment of resources to handle the incident.
 - For lane-blocking incidents, see recommended first responder parking locations described in the previous section on TIMA and Responder Positions on Scene.
 - For non-blocking incidents, park close enough to read the license plate, but no closer than two to four car lengths.
 - For HAZMAT incidents, confer with incident command or consult the Emergency Response Guidebook (ERG) to determine the safest parking distance (see [Incidents Involving HAZMAT](#)).
- Avoid parking in the glide path on the outside of a curve, where inattentive motorists often drift when driving at unsafe speeds.
- As soon as you arrive on-scene, notify dispatch. You can continue your assessment (e.g., “Windshield Size-Up”) and other initial actions after you’ve made dispatch aware that you are on-scene.
- Once in position, set your vehicle’s parking/emergency brake.
- Confer with incident command to affirm your parking location and to plan for any necessary repositioning.

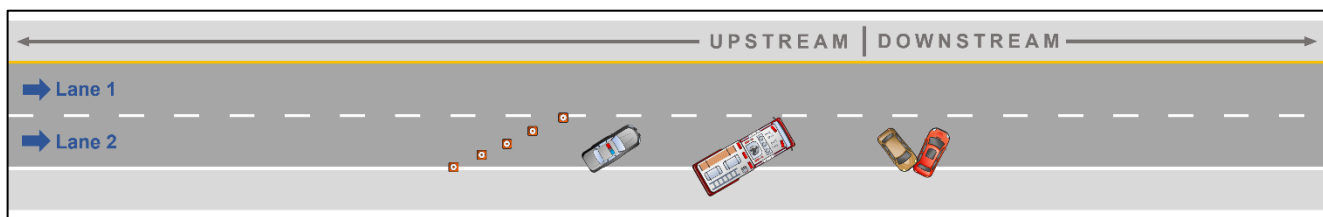
Reposition your vehicle as needed to allow space for additional vehicles or clearance activities and to improve traffic flow (i.e., by reopening lanes as quickly as possible).

6.2.3 Adjusting Initial Position On Scene

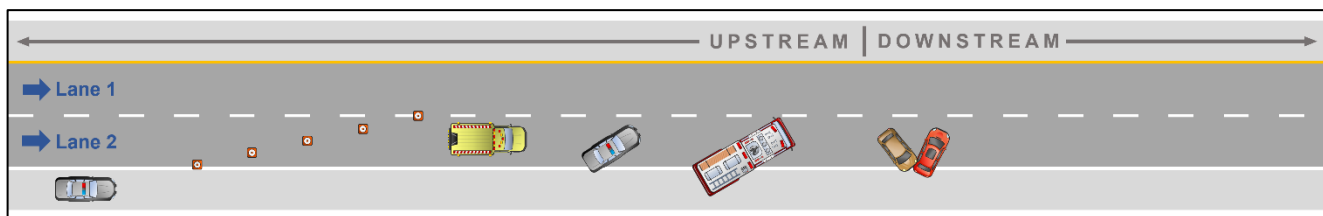
It is important to reiterate that all incidents are different AND that conditions change as time passes and new information comes to light. Establishing an effective TIMA will often require responders to adjust their initial position on scene to suit current conditions and to accommodate future developments that may be likely. The following example and supporting graphics illustrate this concept as responders arrive and reposition to establish an effective TIMA:



PHASE 1 – Law enforcement is the first to arrive on scene. At this point, many incident details are unknown. Law enforcement positions 2 to 4 car lengths from the incident and conducts a Windshield Size-Up. After further investigation, the officer determines that injuries are involved. The officer notifies their 911 dispatcher to request assistance from HERO/CHAMP, fire, EMS, and a wrecker.

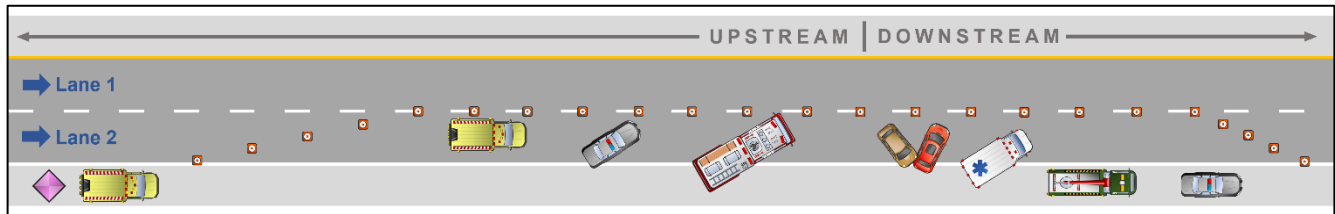


PHASE 2 – To create space for fire to position, law enforcement repositions further upstream. Fire arrives, positioning their vehicle approximately where law enforcement was parked previously. As fire crews inspect the incident and injured motorists, law enforcement deploys traffic cones in an initial taper until HERO/CHAMP arrive.



PHASE 3 – HERO/CHAMP arrive, positioning upstream from law enforcement to block oncoming traffic and provide a sufficient buffer between HERO/CHAMP and the incident. HERO/CHAMP extends the taper to create a transition appropriate for current traffic speeds. Due to the nature of the injuries involved, the Incident Commander asks HERO/CHAMP to coordinate advance warning and deploy additional TTC around the incident scene. An additional law enforcement unit

arrives and is directed by incident command to position on the shoulder upstream from the transition area to provide EMS with a clear path to access the scene.



PHASE 4 – EMS and the wrecker arrive and are escorted through the TIMA by the second law enforcement unit where they position immediately downstream from the incident in the staging area. A second HERO/CHAMP unit arrives and positions in the advance warning area, at a distance upstream from the transition area that is appropriate for the current speed of traffic. The first HERO/CHAMP unit deploys additional traffic cones downstream to guide traffic past the incident.

6.2.4 Blocking and Wheel Alignment

Responders can employ the following strategies for vehicle placement and wheel alignment to further enhance safety:

Blocking – when responders use their response vehicle to close lanes and provide a physical barrier to separate the incident scene from on-coming traffic. There are two types of blocking methods:

- Parallel Blocking – when response vehicle is positioned straight, in-line with the direction of traffic. Best for closing a single lane/shoulder.
- Angled Blocking – when response vehicle is positioned at 45-degree angle to traffic. Longer vehicles like fire engines can use angled blocking to completely close two lanes whereas shorter vehicles including law enforcement patrol vehicles will leave open space either in front or behind their vehicle. Shorter vehicles should only use angled blocking techniques if necessary or if other vehicles/TTC devices are available to fill in the gap.

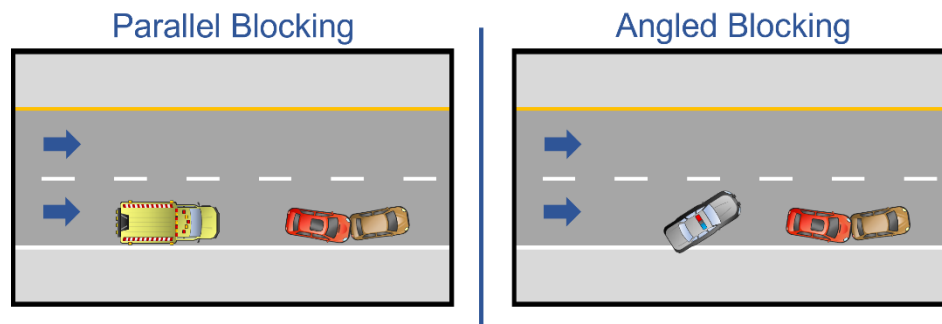


Figure 10. Parallel and Angled Blocking

Off-Set Position – when responders position their vehicle further to the right side of a lane/shoulder to put additional space between them and traffic and to better protect their

approach path to the scene (i.e., the path the responder will walk). NOTE: parking closer to the left side of a lane/shoulder is not recommended as it places the responder's driver-side door closer to traffic.

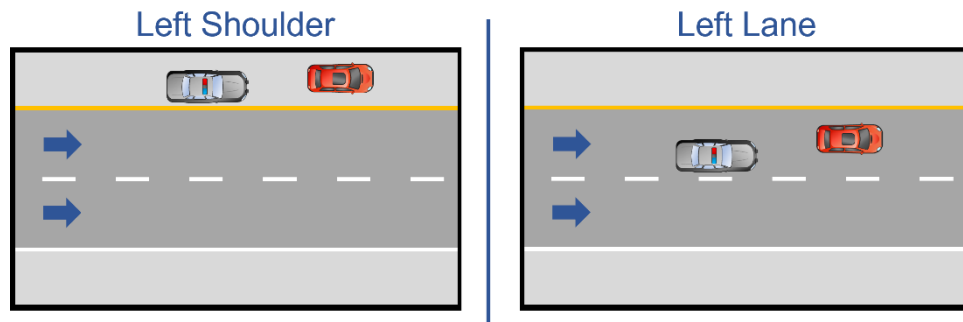


Figure 11. Off-Set Vehicle Positions

Critical Wheel Angle – when a response vehicle's front tires are turned to point AWAY from the incident scene and approach path to the scene. If the response vehicle is struck, it will be more likely to be deflected away from responders.

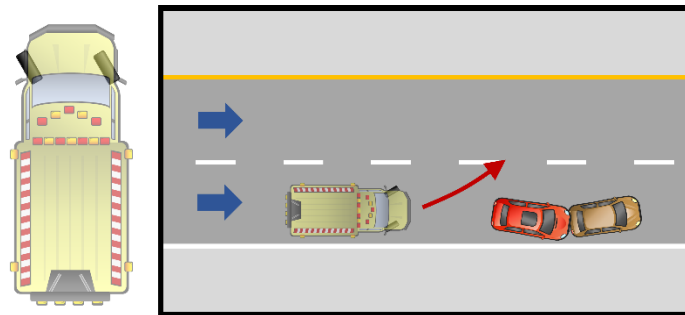


Figure 12. Critical Wheel Angle

6.2.5 Vehicle Emergency Lights

The appropriate use of emergency lights—high-intensity rotating, flashing, or strobe lights—is essential.

Emergency lighting is most effective when a traffic incident blocks travel lanes and traffic control devices are not yet deployed. Once responders deploy emergency TTC, the emergency lighting should be reduced.

Emergency lighting does not provide traffic control and is not considered a traffic control device.

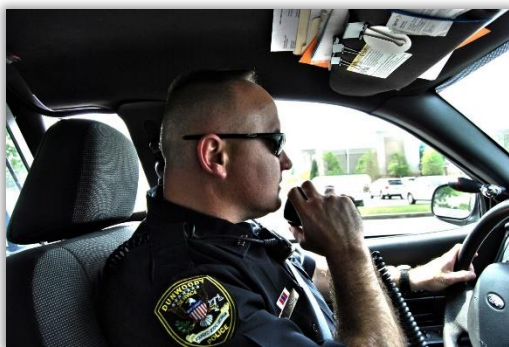
Excessive or misdirected lighting can create confusion for approaching motorists and increase the chances for secondary crashes. Motorists approaching an incident from the opposite direction on a divided facility are often distracted by emergency vehicle lighting. When they slow down to look at the traffic incident as they pass, they pose a hazard to themselves and other travelers. The lingering effect of this distraction contributes to increased congestion and resulting delay.

The following guidelines will help responders practice disciplined use of emergency lighting:

- Once channelization with cones and advance warning are established, minimize the use of multiple response vehicle emergency lights.
- Once the travel lanes are cleared, minimize the use of emergency lights on the shoulder.
- Monitor and adjust emergency lighting during the incident to improve visibility of traffic control devices and reduce onlooker delay.
- Use arrow panels instead of flashing lights to provide traffic control.

6.3 Windshield Size-Up

A “Windshield Size-up” is a quick assessment that first responders – typically law enforcement, HERO, or CHAMP – make after arriving on-scene but before they leave their vehicle to render



service. The windshield size-up is a critical activity that first responders should complete every time they arrive on-scene. It ensures that essential incident details that will support other stakeholders' response are identified. Most importantly, it helps responders identify potentially life-endangering threats while it is still safe to avoid them.

See [Collecting a Complete Report](#) for details to identify when performing a windshield size-up.

The windshield size-up sets the stage for early decisions that need to be made at traffic incidents. One of the first decisions that responders make is whether to Move It or to Work It.

- Move It –moving vehicles involved in the incident to a safer location before being worked.
- Work It –situations where the vehicles involved cannot be moved before being worked.

For crashes and other intermediate or major incidents, moving the vehicle is preferred if possible since it clears the roadway and improves responder safety by reducing their exposure to traffic.

6.4 Approaching the Scene

After parking in the appropriate location, responders must approach the scene. The path between a responder's vehicle and the incident scene is referred to as the “approach path.”

When exiting the vehicle, responders should:

- Assure that all the following are in order:
 - Emergency lights are on and appropriate for responder's position and function.
 - An escape route along the approach path is planned.
 - Parking/emergency brake is on.
 - Dispatch has been notified and portable radio is in-hand.
 - High-visibility apparel is on.
- Check all side-view mirrors to assess on-coming traffic.
- When the safest opportunity to exit arises, open the door and exit the vehicle.

- Close the driver-side door.
- Face and assess traffic.
- Move quickly to the rear of the vehicle and begin approach to the incident scene.

When approaching the incident scene, responders should:

- Approach the incident with extreme caution. Continuously monitor traffic at all times.
- Avoid walking in open travel lanes. Instead, the following are preferred:
 - Walking in the shoulder
 - Walking behind guardrail or other barriers
 - Walking within established TTC areas
- Approach the incident on the side furthest from traffic.
 - For vehicles on the right shoulder, it is often best to approach on the passenger side and communicate with the motorist through the passenger-side window.
- Inspect vehicle(s) and any passengers inside or nearby.
- Especially when responding to disabled or abandoned vehicles, place hand on vehicle's trunk or side panel to leave your fingerprints behind.
- After initial assessment and/or contact with motorists, relocate to the safest location possible and determine next steps to secure the scene (e.g., requesting assistance, deploying TTC, etc.).

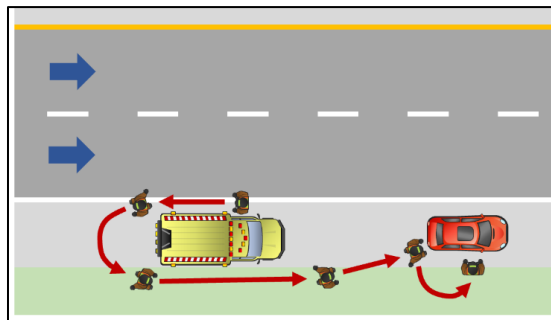


Figure 13. Responder Approach Path

6.5 Arriving when Response is Already Underway

When an incident is underway, multiple responders are already positioned on-scene, TTC has been deployed and response measures are being implemented including patient care, crash investigations, and efforts to remove vehicles and reopen lanes. Furthermore, routes that lead to the scene are likely to be heavily congested or even closed. Despite these challenges, additional equipment or manpower may be necessary and these responders must navigate to the scene.

The primary goal is to get additional responders on-scene as quickly as possible and with minimal disruption to response activities underway.

When secondary arrival of additional responders is required:

- Additional responders should notify incident command well before their arrival on-scene.
- Incident command should coordinate their arrival by:

- Establishing a plan for additional responders to access the scene (e.g., by temporarily adjusting TTC, by utilizing “contraflow” techniques to allow responder to travel in the opposite direction of traffic, etc.).
- Establishing a place for additional responders and their vehicles to park, directing other vehicles to relocate if needed.

Regular communication between incident command and additional responders before, during, and after their arrival is essential.

6.5.1 *Contraflow to Access Scene*

Heavy congestion frequently delays arrival of responders to the scene of an incident. When an incident closes all or most lanes, traffic upstream from an incident can come to a full stop. This can completely prevent responders who are traveling in the normal direction of traffic from reaching the scene. Contraflow is a strategy that TIM stakeholders can implement to help other responders reach an incident scene by traveling in the opposite direction of traffic after all vehicular movement in the normal direction of travel has been stopped. The diagram below illustrates an example of this strategy in use and depicts key locations where vehicular movement must be stopped.

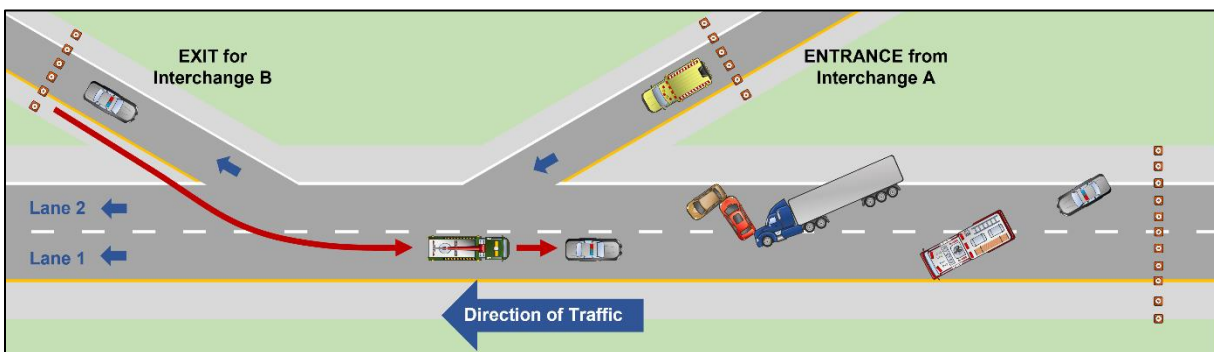


Figure 14. *Contraflow to access incident scene*

All incidents are different, and responders must carefully assess conditions to determine the appropriate strategies to use and the best way to execute them. The items below represent the primary considerations and guidelines for implementing the contraflow strategy to help other responders access an incident scene:

- Only use contraflow if responder arrival would be significantly delayed or completely prevented by traveling in the normal direction of travel.
 - NOTE: Responders must account for the time needed to set up and execute contraflow when making this decision.
- Contraflow requires thorough planning and coordination and should only be implemented at the direction of incident command.

- All stakeholders who will use or facilitate contraflow must be notified in advance and a shared communication channel (e.g., mutual aid radio channel) should be established to keep all participants in the loop in real-time.
 - DOT/TMC must be notified before contraflow takes place, ideally during initial planning.
- Responders who will access the scene using contraflow should approach from the nearest downstream interchange via that interchange's entrance or exit ramp.
- Closures should be installed and continuously monitored at any point where vehicles traveling in the normal direction of traffic might access the area where contraflow travel is occurring. This includes but is not limited to:
 - Blocking all travel lanes and shoulders of the impacted route upstream from the incident.
 - Blocking any downstream entrance/exit ramps between the incident scene and the ramp that will be used by contraflow vehicles. NOTE: entrance/exit ramps should be blocked at the top of ramp, ideally at the surface street intersection to entirely prevent traffic from accessing the ramp.
 - Blocking the downstream ramp that will be used by contraflow vehicles. NOTE: ideally, two or more response vehicles are positioned here. One to continuously monitor the ramp closure and permit access to contraflow vehicles when they arrive. The other(s) to escort contraflow vehicles to the scene.
- Before contraflow begins:
 - All responders who will use or facilitate contraflow must be in-place and ready.
 - All closures must be in-place.
 - A responder must travel through the entire contraflow area to confirm that vehicular movement in the normal direction of travel has been stopped.
- Upon confirmation that the contraflow area is clear, contraflow vehicles may travel to the incident scene.
 - Contraflow vehicles should travel cautiously, below the posted speed limit.
 - Contraflow drivers should look out for vehicles moving towards them.
- If an unauthorized vehicle is encountered, contraflow drivers should pull to a shoulder immediately, stop their vehicles, ensure their vehicle's emergency lights are active, and notify incident command.
 - Incident command should instruct all responders to confirm that their closures are intact and should direct a responder to travel the contraflow area and reconfirm that the area is clear.
 - Until instructed to proceed, all contraflow vehicles should remain stopped.
- Once contraflow activities are complete, all stakeholders should be notified. Lane or ramp closures should be removed, if appropriate, to allow traffic to resume normal movement.
 - NOTE: if additional contraflow activities will be needed soon, it may be appropriate for closures and responders to remain in-place.

7 Emergency Temporary Traffic Control

7.1 Introduction to Traffic Control

Traffic control refers to all signs, signals, markings, and other devices used to regulate, warn, or guide traffic on public roadways. This includes permanent and temporary traffic control defined below:

- **Permanent Traffic Control** – fixed and long-term devices and structures to support the on-going, day-to-day movement of traffic, including:
 - Traffic signals
 - Lane markings
 - Static signage (stop signs, speed limit signs, etc.)
 - Guardrail or guidewire
- **Temporary Traffic Control (TTC)** – portable and short-term devices to facilitate traffic flow around temporary closures (e.g., road work), obstructions (e.g., traffic incidents), or abnormal travel conditions (e.g., congestion from planned events). TTC devices include:
 - Traffic cones or barrels
 - Fixed DMS or portable dynamic message signs (PDMS)
 - Movable barriers
 - Portable static signs

Permanent traffic control is what is continuously in-place along all roadways under normal conditions (i.e., what you see after the road is fully constructed and in normal operations). TTC is what road workers deploy while road construction or extended maintenance projects are underway. TTC measures are carefully planned in advance, intended to be in-place for extended periods of time, and typically employ extensive, specially designed devices and other apparatus.

TIM responders deploy what is referred to as emergency TTC. Whereas regular TTC is extensive, planned in advance, and required to meet strict provisions, emergency TTC is unplanned and (by necessity) employs lighter and fewer TTC devices and is regulated by less-strict provisions.

The *Georgia Traffic Incident Management Guidelines* will focus on emergency TTC. “**TTC**” will be used to generally refer to initial traffic control measures used by responders like law enforcement, fire and rescue, HERO, and CHAMP. “**Full TTC**” will be used to refer to more extensive TTC measures employed by DOT maintenance personnel for major traffic incidents with extended durations.

7.1.1 Purpose of Traffic Control

The purpose of traffic control is three-fold:

- Regulate, warn, and guide drivers.
- Protect the safety of responders, road workers, drivers, and citizens adjacent to the roadway.
- Reduce/prevent traffic impacts by improving traffic flow around obstructions.

7.1.2 MUTCD Compliance

All TTC devices and activities must conform to the standards established in Chapter 6, Section I of the *MUTCD*. Other sections within *MUTCD* Chapter 6 provide further detailed guidance that TIM stakeholders should apply when conducting TTC activities based on incident conditions and other considerations.

Emergency responders do not have to meet all *MUTCD* requirements for TTC during the initial phase of an incident. However, responders should arrange for and deploy additional TTC measures according to the incident's expected duration, following the timeframes described below:

- **0 – 15 minutes:** TTC may be limited to vehicle-blocking, only; DOT, HERO, or CHAMP assistance should be requested at this point if duration may exceed 15 minutes.
- **15 – 30 minutes:** TTC should include additional vehicle-blocking and use of basic TTC devices on-hand, including traffic cones or flares.
- **30 minutes – 2 hours:** TTC should include more complete measures offered by DOT, HERO, or CHAMP; request for DOT maintenance to establish Full TTC should be made at this point if duration may exceed 2 hours.
- **24+ hours:** if incident duration may exceed 24 hours, fully compliant traffic control must be in-place.

7.1.3 Caveats for TTC Diagrams and Guidance

The next several sections of the *Georgia Traffic Incident Management Guidelines* will provide guidance and detailed diagrams depicting TTC measures deployed in various configurations. The purpose of this content is to explain critical concepts and considerations regarding TTC and to support reader's retention of these concepts by illustrating them in practice. However, it is equally important to acknowledge the limitations of the diagrams and guidance contained in the next several sections to enable readers to focus on the key takeaways regarding TTC that this document intends to convey.

To that end, readers should be aware of the following caveats and considerations regarding the TTC diagrams and guidance presented in this document:

- **All incidents are different.** Responders should rely on their training and experience to determine the most appropriate course of action according to current conditions and resources available.
- **There are countless possible scenarios that are not covered.** This document focuses on TTC scenarios occurring on controlled access, multi-lane highways under normal conditions for three reasons: (1) The highway setting is common for all TIM stakeholders, (2) Highways represent most of the elements that must be considered when deploying TTC (speed, sight distance, etc.), and (3) Controlled access highways are more straightforward than arterials which helps readers better understand the fundamentals of TTC.
- **TTC guidance represents an "ideal target."** TTC practices in this document comply with guidance from the *MUTCD*. However – at a first glance – readers may feel this guidance

conflicts with their agency's procedures or establishes unreasonable expectations for equipment they can carry, time they can commit to traffic control, etc. Instead, we encourage readers to view the guidance here as a recommended, ideal target and to get as close to the standards described in this document by using the resources they have and by coordinating with other stakeholders to bring in additional resources. We also encourage stakeholders to recognize the safety benefits of TTC and to invest the time needed to conduct it properly.

- **TTC diagrams are not to scale.** To provide detailed TTC diagrams that would fit on a single page while representing all critical TTC components, the scale of the diagrams had to be compressed. This is especially true with the distance between lane skips and the overall length of TTC. The following concessions are also due to compressed space and smaller detail: (1) most diagrams do not depict the total number of response vehicles that would be present and (2) the number of traffic cones depicted may sometimes be greater or less than what might actually be deployed.

7.1.4 Traffic Incident Management Area and Key TTC Components

TIMAs provide traffic control and advance warning, which are both necessary to maintain a safe working area at an incident scene. In the early stages of an incident, responders should use all equipment on hand to set up traffic control, while realizing that the TIMA will be expanded and/or enhanced as additional responders arrive and more resources become available. As the incident progresses, the scene may escalate (i.e., go from a one-lane closure to a multiple lane closure) or de-escalate (i.e., go from a multiple lane closure to a one-lane or shoulder closure).

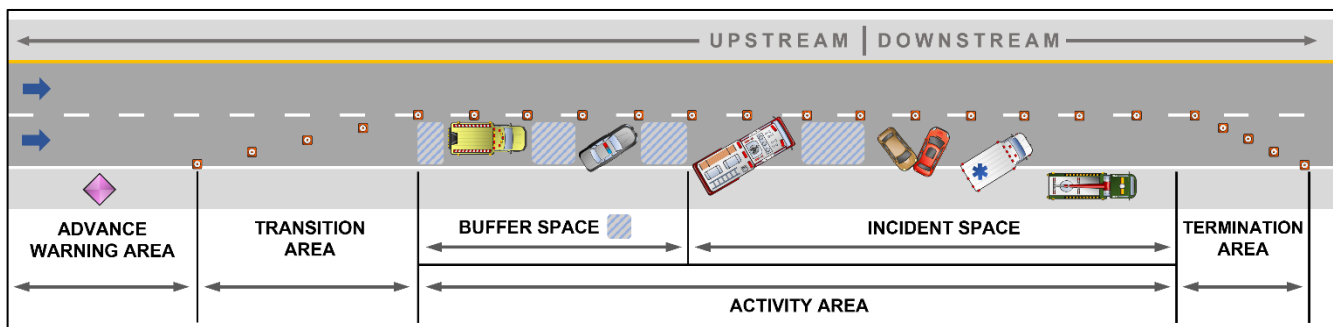


Figure 15. TIMA and TTC components

Key traffic control components found in a TIMA include the following:

- **Advance Warning** – static signs, DMS/PDMS, and other TTC devices used to warn motorists of approaching incidents/traffic control, placed an adequate distance upstream from the incident such that drivers can safely react. Law enforcement and HERO/CHAMP vehicles with emergency lights active may also serve as advance warning.
- **Tapers** – traffic cones or channelizing devices placed at an angle to on-coming traffic to gradually shift traffic from closed lanes to available lanes; tapers should be used in the transition area of a TIMA but may also be used at the termination area to help traffic merge into previously closed travel lanes after they pass the incident.

- **Buffers** – traffic cones or response vehicles used to establish and separate the activity area from on-coming traffic. Vehicles and TTC devices should be placed adequately away from responders, etc. to provide stray vehicles with sufficient stopping distance should they enter the TIMA.

7.2 Temporary Traffic Control Matrix

The following matrix is provided as an informative overview of TIM stakeholder's typical resources and capabilities associated with TTC.

Table 5. TTC Matrix

Stakeholder	TTC Resources	TTC Capabilities
Law Enforcement	<ul style="list-style-type: none"> • Traffic cones: ~5 • Flares 	LIMITED - vehicle blocking and minimal TTC devices Can direct traffic at intersections
Fire and Rescue	<ul style="list-style-type: none"> • Traffic cones: 5-10 • Flares • Advance warning signs (static) 	LIMITED - vehicle blocking and some additional TTC devices Can direct traffic at intersections
HERO and CHAMP	<ul style="list-style-type: none"> • Traffic cones: 25+ • Truck-mounted arrow panel or message board • Flares • Advance warning signs (static) • PDMS (if requested) 	ENHANCED - specially trained and fully equipped to support short-term, single/multi-lane closures
TMC Operations (including toll/ML operations)	<ul style="list-style-type: none"> • DMS • CCTV and traffic maps • Connected traffic signals (some) 	ENHANCED - (where available) DMS activation, traffic and queue monitoring (via CCTV traffic camera and traffic maps, signal timing adjustments)
Roadway Maintenance	<ul style="list-style-type: none"> • Traffic barrels/cones: unlimited • Temporary barriers • Truck-mounted arrow panels or message board • PDMS (if requested) • Advance warning signs (static) • Trail-blazing signs (static) 	ENHANCED - specially trained and fully equipped to fully upgrade TTC for longer-term closures; able to authorize official detours

7.3 Common TTC Equipment

The following sections describe TTC devices typically employed by responders and DOT staff. Guidelines related to proper deployment and spacing of TTC devices will be discussed in later sections.

7.3.1 Traffic Cones

Traffic cones are the most common channelizing device and are an essential tool for TTC. Cones must be predominantly orange and made of a material that will cause minimal damage to vehicles if struck. Cones should be weighted enough that they will not be blown over or displaced by wind or moving traffic. Responders should ensure they are using cones compliant with *MUTCD*, chapter 6, and appropriate for the time of day and current speed of traffic, such as:

- Daytime and Low-speed Road (≤ 40 mph) – cones shall be no less than 18 inches in height.
- Nighttime and/or Freeway/High-speed Road (≥ 45 mph) – cones shall be a minimum of 28 inches in height and must include reflectorized bands of sufficient width to maximize visibility.

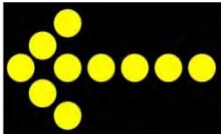

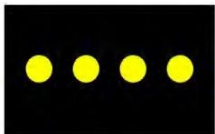
According to the NFPA, code 1901, all fire and rescue vehicles should carry a minimum of five traffic cones.

7.3.2 Arrow Panels

Arrow panels are most commonly mounted to response trucks operated by DOT maintenance, HERO, and CHAMP and are used to warn motorists of a closure and/or to direct them towards open travel lanes.

Responders operating vehicles equipped with arrow panels must ensure that their vehicle is positioned properly so that the panel's display is sufficiently visible to on-coming traffic. Typically, this requires response vehicles to be pointed parallel with traffic. As a rule-of-thumb: if responders cannot see traffic coming straight towards them in their rear-view mirror, they should reorient their vehicle. Response vehicles may need to orient at an angle to traffic if positioned in a curve.

Arrow panel displays should be used as described below:

		
<p>Arrow display LEFT or RIGHT – select the arrow display that points towards the open travel lane that motorists should merge into.</p>	<p>Caution display FOUR CORNER – use when positioned on the shoulder.</p>	<p>Caution display LINE – use when blocking a travel lane or pacing traffic.</p>

7.3.3 Truck-Mounted Message Boards

Some DOT, HERO, or CHAMP trucks may be equipped with truck-mounted message boards. Similar to arrow panels, these message boards are used to warn motorists of a closure and/or to direct them towards open travel lanes. These message boards can also display other, brief messages such as, “REDUCE SPEED,” or “PREPARE TO STOP.” Messages are typically pre-programmed into the device to allow operators to quickly select the appropriate message. However, if responders opt to use a custom-message, they must ensure the message complies with *MUTCD* provisions and DOT policies for DMS.



When positioning truck-mounted message boards, operators should apply the same considerations as for truck-mounted arrow panels.

7.3.4 Advance Warning Signs

Advance warning signs are specifically designed for incident response and use the bright pink coloration defined by the *MUTCD* to clearly delineate that these signs are used for traffic incidents in a way that draws extra recognition from motorists. These static signs are portable (often collapsible) and are deployed by responders upstream from the incident to warn motorists of an approaching incident. Per the *MUTCD*, these signs should be a special fluorescent pink color with black lettering, such as “INCIDENT AHEAD” and “BE PREPARED TO STOP” and their dimensions should be either 38”x38” or 48”x48.”



Figure 16. Advance Warning Signs

All advance warning signs should be placed to provide enough warning to motorists to slow before reaching the traffic queue. Advance warning signs placed in urban areas may need to be placed at shorter distances to avoid sign clutter. Setting up a TIMA near a corner, hill, or other reduced visibility situation may require the location of the advance warning devices to be adjusted.

Responders should coordinate with units who are either already on or arriving at the scene to place the advance warning signs or other devices following these guidelines:

- Double back and place the advance warning signs once the immediate scene is secure if additional units are not available to assist.

- Place the signs well in advance of the queue; relocate them as needed.
- Maintain continual communication with dispatch while on an incident scene so that traffic warning devices, such as DMS, can be updated with accurate information for approaching motorists.
- Obtain additional signs, if needed, from other response units and place them on both sides of the roadway well in advance of the scene.

7.3.5 Dynamic Message Signs



DMS are permanently installed boards located alongside and above highways throughout Georgia but are most concentrated in Metro Atlanta. Like advanced warning signs, DMS warn motorists of approaching incidents and provide directions to reduce speed, prepare to stop, merge into an available lane, etc. Unlike advanced warning signs, DMS messages can be changed as needed to provide different messages suited to the current conditions or TTC needs. Additionally, DMS on other roads can warn motorists of

incidents on impacted routes, allowing them to avoid the impacted route entirely. When detours are established, DMS along the detour route can provide directions to motorists to help them navigate the detour and return to their original route. Due to their wide geographic deployment, DMS can be used to warn motorists of travel impacts many miles away from the actual incident, providing drivers with sufficient time and route options to avoid impacts entirely.

DMS can be activated by TMC operators 24-hours a day, 365-days a year and only take minutes to activate or change messages. DMS messages may be pre-programmed or customized by TMC operators. However, DMS messages must adhere to *MUTCD* and DOT policies.

7.3.6 Portable Dynamic Message Signs

PDMS are trailer-mounted DMS, usually deployed by DOT maintenance, HERO, or CHAMP. PDMS are most often activated by field personnel on-scene though some PDMS may be remotely activated by TMC operators. PDMS are considered additional TTC equipment so DOT, HERO/CHAMP, may only bring them to significantly extended incidents or if requested by other responders.

PDMS are typically deployed on the shoulder, upstream from an incident as advance warning or along detours as trail-blazing signs (directing motorists along the route). Like fixed DMS or truck-mounted message boards, PDMS messages can be changed as needed. Though messages are most often pre-programmed, PDMS are capable of displaying customized messages as well. PDMS messages are strictly governed by similar *MUTCD* and DOT policies as DMS and truck-mounted message board.

PDMS require careful positioning and alignment to be effective. PDMS should be deployed such that they are:

- Placed on level, firm ground
- Not within 6 feet of a travel lane
- At least 500 feet from other signs
- At least 1,000 feet from ramps and should not be placed in gore areas
- Visible from at least one-half mile away (day or night)
- Displaying a message legible from all lanes from at least 1,000 feet away

7.3.7 Flares

Flares are used to increase the visibility of TTC measures and to better delineate special work areas or other locations. There are three basic types of flares:

- Incendiary flares – use chemical combustion and flame to provide light.
- Chemical light sticks – use chemically-induced fluorescence to provide light.
- Light-emitting diode (LED) / electronic flares – use battery-powered LEDs to provide light.



Flares are most often used alongside and in conjunction with other TTC devices such as traffic cones. Responders should retrieve and/or dispose of all flares before departing the scene.

Incendiary flares require additional precautions:

- Do not place flares in grass or near flammable surfaces/fluids.
- Do not use flares when in proximity to flammable or explosive materials.
- Avoid inhaling smoke from flares.
- Do not handle flares any longer than needed to ignite and place them.
- Do not attempt to extinguish flares by kicking them, striking them, or smothering them (e.g., with sand or enclosing in a container).
 - Most flares are water-resistant and/or do not require oxygen to burn.
 - The safest means to extinguish a flare is to let it burn out naturally.
- Do not leave burning flares behind. Before departing:
 - Always wait until flare has completely burned out.
 - Always check for smoke or continued signs of ignition before disposing.
- Never dispose of flares in flammable containers.

7.3.8 Scene Lighting

Vehicle headlights that are not needed for illumination or to notify other road users of an incident response vehicle in an unexpected location should be turned off.

Proper illumination, or lighting, of the incident scene is vital. However, exercise care to ensure that scene lights are not blinding to traffic. When available, use vehicles with special lighting capabilities. Vehicle-mounted lighting setups that can be controlled remotely will allow responders to direct lights downward and minimize the amount of light that reaches motorists.

7.4 Sight Limitations and Stopping Distance

TTC is only safe and effective when adjusted to suit the current/expected speed of traffic and to account for any limitations impacting motorists' ability to see and safely react to TTC measures.

Moving vehicles need space to come to a complete stop after applying the brakes. The amount of space required is referred to as the vehicle's stopping distance. Stopping distance is affected by the following factors:

- Vehicle speed – faster-moving vehicles require a longer stopping distance.
- Vehicle size/weight – larger/heavier vehicles require a longer stopping distance.
- Road surface condition – vehicles require a longer stopping distance when roads are slick (e.g., wet, icy, etc.).

Accounting for the factors above, the *MUTCD* provides the following table of stopping distances according to the speed a vehicle is traveling. These stopping distances consider typical passenger vehicle sizes and normal travel conditions (e.g., flat, dry pavement). This also accounts for the time required for a motorist to (1) see an obstruction ahead, (2) recognize the need to stop, and (3) bring the vehicle to a complete stop. NOTE: the Speed (mph) column does not reference the road's speed limit. Instead, it reflects the actual speed of traffic as it approaches the TIMA.

Table 6. *MUTCD Chapter 6, Section C: Stopping Sight Distance as a Function of Speed*

Speed (mph)	Distance (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570

Speed (mph)	Distance (ft)
65	645
70	730
75	820

For example, if a vehicle is traveling at 35 mph, it will take approximately 250 feet to come to a complete stop after the motorist sees something ahead and recognizes the need to stop.

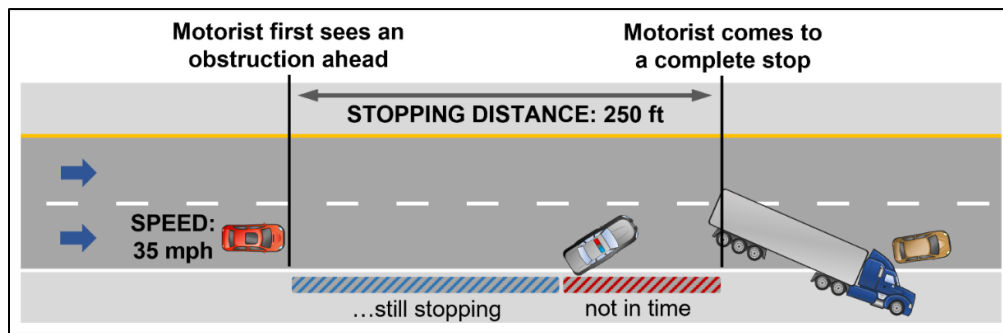


Figure 17. Stopping Sight Distance

Responders must consider traffic speed, stopping distance, road surface conditions, and other factors when deploying TTC. In general, if conditions are present that will increase a vehicle's stopping distance, responders should extend their TTC measures, typically by:

- Providing additional advanced warning further upstream.
- Making tapers longer (to increase the distance a vehicle travels while merging).
- Making buffer space longer.

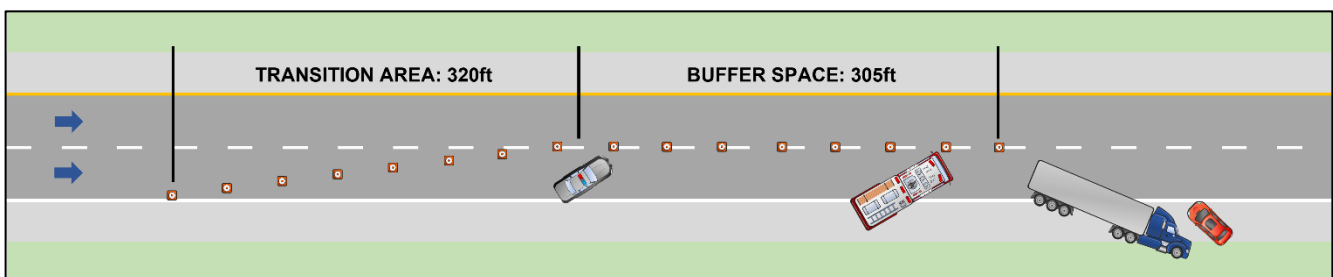


Figure 18. Low Speed TTC - 40 mph

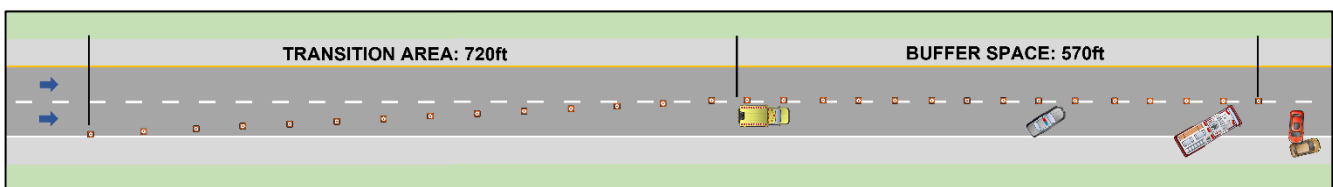
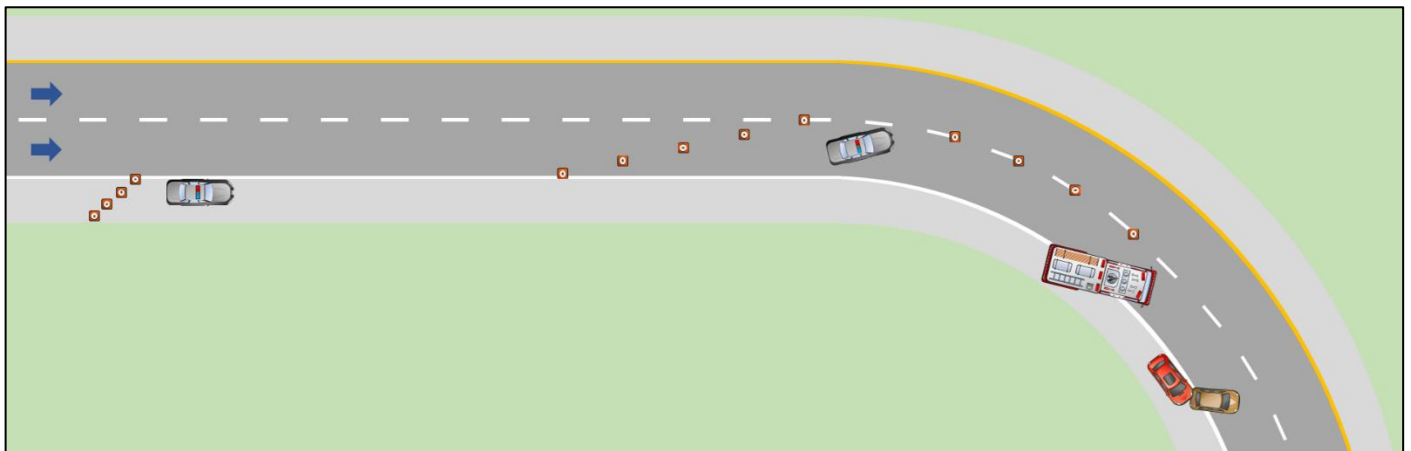


Figure 19. High Speed TTC - 60 mph

A yellow and red fire truck is shown from the rear. The truck features a white top with the number '4520545' in black. The rear panel is yellow with red diagonal stripes. A large red fire hose reel is visible in the center. The license plate is 'GV7096N' with 'MAINE' written below it. The truck is parked on a paved surface with trees and a blue sky in the background.

The diagram below shows an example of a crash in a curve where the transition point is established prior to the curve and advance warning – protected by a shoulder taper – is deployed even further upstream from the transition point.



As a final note: TTC deployments should also consider where the queue ends. This is upstream from the incident, where traffic speeds suddenly reduce in a short area. This could mean going from highway speeds (60+ mph) to a complete stop in seconds. Most secondary crashes occur at this location. Therefore, adequate advanced warning should be deployed upstream from incidents AND sufficiently in advance of where the queue ends.

7.4.1 Distances for Temporary Traffic Control

The following table provides a simplified overview of MUTCD-recommended distances for major TTC components of a TIMA:

Table 7. MUTCD Chapter 6, Section C: Recommended Distances for TTC Components

Speed (mph)	Advanced Warning Signs		Merging Taper (ft)	Buffer Space (ft)	Shoulder Taper (ft)
	2 nd Sign: B (ft)	1 st Sign: A (ft)			
30	100	100	180	200	60
40	350	350	320	305	105
50	500	500	600	425	200
60	1,500	1,000	720	570	240
70	1,500	1,000	840	730	280

Advance Warning. This can refer to the pink advance warning signs discussed previously or to DMS/PDMS or responder vehicles on the shoulder with emergency lights and/or arrow panels active. Advance warning measures should be positioned sufficiently upstream from an incident such that motorists are aware of an approaching obstruction and can proactively take action to avoid it – by slowing down, merging, or taking an alternate route/detour.

The distance for the first advance warning measure (i.e., “Sign A”) is measured from the furthest upstream end of the transition point/taper. The distance for the second advance warning measure (i.e., “Sign B”) is measured from the position of Sign A. Additional measures/signs, if used, should be spaced the same distance apart as Sign B is from Sign A.

Other “ad-hoc” advance warning measures (e.g., signs/responder vehicle positioned before a hill or curve, etc.) may be implemented as needed and positioned where responders believe they will be most effective.

Shoulder Tapers. These tapers may be beneficial on a high-speed roadway where shoulders are part of the activity area and are closed, or when improved shoulders might be mistaken as a driving lane. Shoulder tapers are recommended for responders who are using their vehicles to provide advance warning, especially when the speed of passing traffic is high. Shoulder tapers may also be added to existing traffic control, typically the end of a merging taper, to prevent motorists from using the shoulder to bypass established traffic control.

Merging Tapers. These tapers are used at transition points to shift traffic out of one lane and into another, requiring traffic from both lanes to merge into a single travel lane. Tapers extend in length as vehicle speeds increase because faster-moving vehicles require a greater distance to safely maneuver and merge. Distances for merging tapers are determined according to the speed

of traffic and the width of the travel lane. NOTE: the maximum distance between TTC devices in a taper should not exceed 1.0 times the speed limit in mph (e.g., 60 mph speed limit = cones should not be further than 60 feet apart).

Buffer Space. This space lies between the end of the transition area and the incident scene. Its purpose is to provide adequate stopping distance for oncoming traffic before entering the scene where responders and crash victims are located. Buffer distances are directly related to the values provided in the table of stopping distances.

Downstream Tapers. These tapers are placed at the end of the termination area to provide a visual cue to motorists that access is available back into the original lane that was closed. The length of a downstream taper is a minimum of 50 feet and should be no longer than 100 feet. Cones in a downstream taper should be no more than 20 feet apart.

7.4.2 Estimating Distances for Temporary Traffic Control

Responders can estimate distance on-scene using the following methods. [Figure 21](#) also illustrates these principles:

- **Skip lines:** 40 feet from end of one skip to end of the next skip (skip lines are 10 feet in length and space between skips is 30 feet)
- **Utility poles:** distance between utility poles is typically 75 to 100 feet, depending on size of utility pole.

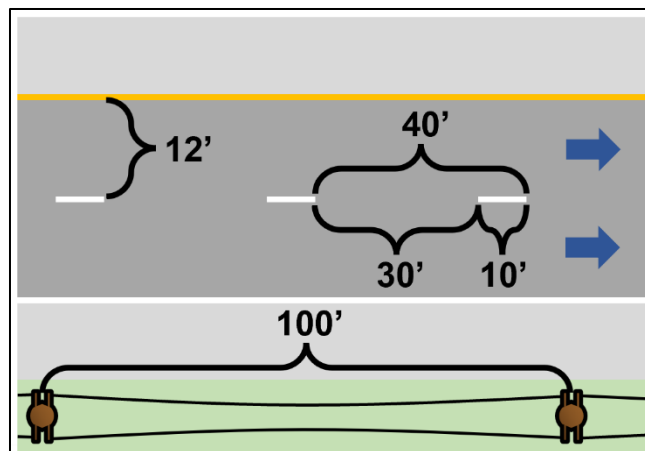


Figure 21. Estimating Distance for TTC

7.5 Primary TTC Guidelines

Primary guidelines for proper TTC deployment include:

- Only close lanes if absolutely necessary and only for as long as needed. Work to reopen lanes as soon as safely possible.
- Motorists should never be surprised by your TTC measures.
 - Make yourself, your vehicle, and your TTC as visible as possible
 - Motorists should see your TTC well before they are required to act

- If lanes may be closed for 15+ minutes, additional TTC measures beyond responder vehicles are needed (e.g., traffic cones, etc.).
- If lanes may be closed for 2+ hours, call DOT to arrange for maintenance personnel to provide more substantial traffic control measures.
- Reassess traffic every 15 minutes and adjust TTC as conditions change.
- Do not become complacent when TTC is in-place. You are never safe while working in the roadway. Remain vigilant. Always have an escape route.

7.6 Deploying TTC

The following are general guidelines for placing traffic cones at a lane blocking incident:

- Set out traffic cones in a taper to guide approaching traffic into available lanes to safely pass the incident.
- Do not turn away from traffic while placing or removing cones. Walk on the shoulder as much as possible.
- Reinforce and straighten traffic cone lines and tapers after their initial placement to increase effectiveness and maximize visibility of the cones.
- Space cones evenly apart. Use pavement markings as a distance reference to help with cone placement. Roadway skip line striping is typically in 40-foot segments (10-foot painted stripe and 30-foot gap).
- Place cones around response vehicles, and place at least one cone downstream past the incident to allow a parking spot for the ambulance or EMS vehicle.
- Increase the number of cones and the distance between cones as the speed of approaching traffic increases. This gives motorists more time to react, slow down, and merge. Full *MUTCD* TTC is the goal for intermediate and major incidents, so actions at the scene should be taken to approach this level of traffic control as additional resources arrive.
- Use additional cones from other responding units as available.

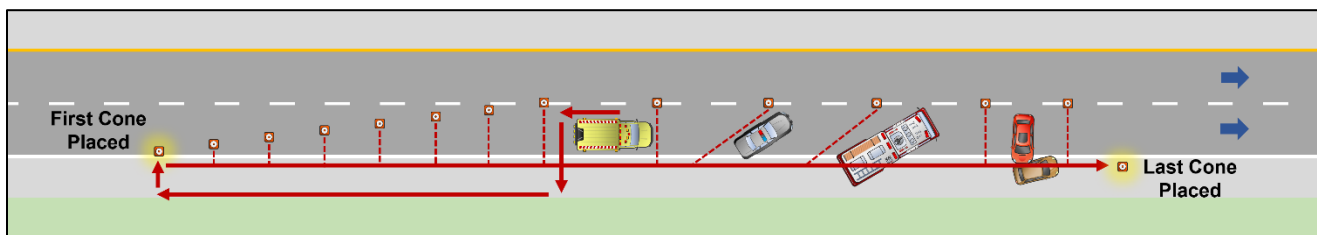


Figure 22. Deploying initial TTC

7.7 Removing TTC / Dismantling the Incident Scene

7.7.1 Complete Removal

At each incident, responders need to develop a de-commit plan. Incident command must monitor and control the dismantling of the scene and plan to remove personnel, apparatus, injured persons, bystanders, and vehicles safely from the scene. All debris must be cleared from the roadway so that it does not present an additional hazard.

Dismantle the scene backward from the termination area to the advance warning area.

The following are considerations to keep in mind while removing personnel and apparatus from the scene:

- Ambulance leaving scene with or without traffic control
- Dismantling safe incident space
- Blocking apparatus leaving the scene
- Picking up traffic cones safely

Personnel must realize that conditions change as the incident terminates, and the following will likely occur:

- Safe area may no longer be intact.
- Frustrated drivers may increase speed to make up for lost time.
- Frustrated drivers may enter gaps in safe incident space.
- Vehicles (e.g., ambulances) leaving the scene may be too busy watching traffic to see personnel on scene.

When an incident scene has been cleared, the appropriate agency (generally the maintaining authority) should be notified that the roadway is open. Additionally, if dispatch, the TMC, or other agencies were notified of the incident, they also need to be notified that the incident is clear.

At the conclusion of an incident, responders should facilitate the safe removal of all components—including remaining responders, responder vehicles, and TTC devices—of the incident scene, using these guidelines:

- Remove all debris from the travel lanes and shoulder.
- Notify all responders on scene before TTC removal begins.
- Remove traffic control devices in the upstream direction. Start at the termination area and work back to the advance warning area.
- Notify dispatch when the lanes are reopened.
- Be alert for impatient motorists. With the incident victims and vehicles removed, delayed drivers will not be as cautious and may not see you.

7.7.2 Setting Up for Additional Clearance Activities

After urgent/critical response activities have completed (e.g., patient care/transport, crash investigations, or hazard mitigation), responders should determine if remaining clearance activities must be completed now or can be completed at a later time, when such activities would have less impact on traffic.

For incidents involving complex removal or clean-up, responders should work to reopen all travel lanes and secure the scene such that final clearance operations can resume at a later time outside of peak travel periods. This plan must be made with consensus of incident command. Part of this plan should include a designated time when clearance will resume and which stakeholders will return. This plan should be communicated to all required stakeholders who, in the intervening

time, should establish plans to support later clearance activities. This may include arranging for additional equipment, establishing alter routes or official detours, etc.



If all lanes can be reopened, minimal traffic control measures beyond what might be deployed for a shoulder closure will be required. If a lane may continue to be blocked, appropriate traffic control measures should remain in-place and/or be augmented with additional traffic control devices to accommodate the longer-term nature of the closure. In either case, law enforcement should mark the scene with caution tape. Law enforcement, HERO, and/or CHAMP should periodically drive-by the scene as a precaution. Likewise, TMC operators should continue to monitor the scene if CCTV traffic cameras are available.

7.8 Full Closures and Detours

Major incidents with all travel lanes blocked for an extended period will likely require an official detour around the incident scene. Official detours may only be established by DOT personnel and signage in-advance of and/or along the route must be in place.

Additional support is often needed to ensure detours are safe and effective including use of law enforcement officers and other trained personnel to direct traffic at intersections and adjustment of traffic signal timing (where available) to improve traffic flow along the detour. Without such support, the route is considered an emergency alternate route, which is typically established early in an incident's lifespan when responders divert traffic to a nearby, upstream exit.

Whenever possible, responders should leave the closest exit upstream from an incident open and divert traffic to an exit further upstream. This will allow vehicles stuck behind a full closure to leave the roadway via the exit that was left open. See [Trapped Queues](#) in this document for additional information.

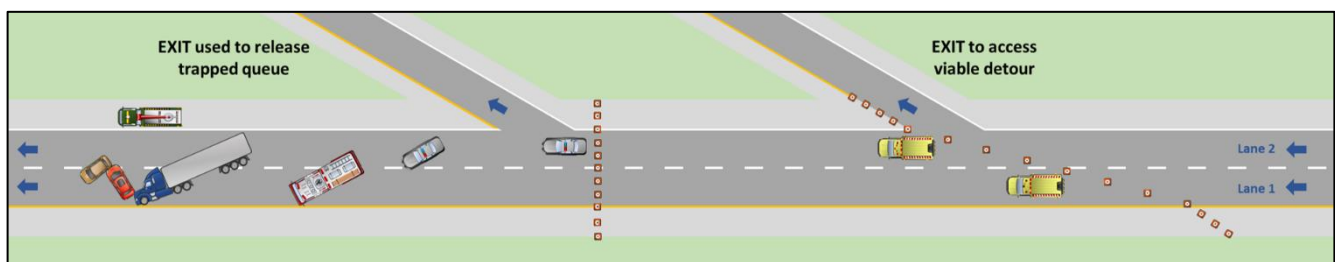


Figure 23. Example of TTC if All Lanes Closed

Responders should only divert traffic to viable routes whenever possible. At its most fundamental level, a viable route is one that:

- Departs from the impacted roadway BEFORE the incident
- Returns traffic to the impacted roadway AFTER the incident
- Other characteristics and considerations for viable routes include the following:
 - Use the shortest, most direct route with the fewest turns
 - Use roads of equal or greater capacity than the impacted route – for example:
 - Interstate to Interstate is best
 - Interstate to large US/State highway is okay
 - Interstate to small arterial should be considered prohibited without DOT approval
- Do not divert traffic onto tolled/ML corridors unless approved by GDOT/SRTA
- Do not divert traffic onto routes that are not designed to carry vehicles of all sizes – this may include:
 - Weight limitations
 - Height/width limitations
 - Tight turns that tractor trailers cannot execute (any turn angle less than 90 degrees should be carefully reconsidered)
- Avoid using routes that are:
 - Affected by incidents, work zones, or regularly high congestion
 - Main thoroughfares that travel directly through cities or towns
 - Intersected by traffic circle (i.e., roundabouts) or railroad tracks

Detours and alternate routes should be continuously monitored by TMC operators and incidents, or severe congestion should be reported to incident command via the on-scene DOT point of contact. Law enforcement, HERO, or CHAMP should consider patrolling these routes if available.

7.8.1 Trapped Queues

A trapped queue is a large group of stationary motorists who are unable to progress due to an incident/road closure ahead of them and no means to leave the roadway, usually because there are no exits between them and the closure.

Trapped queues can be released either by reopening travel lanes ahead or by turning motorists around and directing them in the opposite direction of normal travel (either along the shoulder or on the other side of the road) to an open exit. Redirecting traffic in the opposite direction of travel should only be done if the queue will remain trapped for an extended period and only after closures are in-place to ensure vehicular movement in the normal direction of travel has been stopped. The decision to implement this strategy should be made as early as possible once responders determine that the road will be closed for an extended duration. This strategy



requires significant planning, communication, and coordination from incident command (See [Contraflow to Access Scene](#)).

Especially for major incidents where closures may be extended, responders must determine which strategy will be used to release trapped queues as soon as possible. This decision must be made early due to the time and effort to turn motorists around and coordinate their travel safely in the opposite direction. If a queue may be trapped for more than an hour, responders should initiate plans to turn motorists around.

7.9 Pacing Traffic

Pacing traffic is a traffic control technique used to control the speed of traffic by positioning response vehicles in front of motorists and gradually slowing down, speeding up, or coming to a complete stop. This technique should only be used by law enforcement, HERO, or CHAMP. Pacing traffic is commonly used in the following circumstances:

- When looking for and removing debris from the roadway.
- To allow responders to depart an incident scene and re-enter traffic safely.
- Helping traffic get back up to speed safely after all lanes have reopened.

Primary guidelines for pacing traffic include:

- Pacing should begin no less than one-half mile from the incident/intended “destination.”
- Vehicle’s emergency lights and/or arrow panel should be active when pacing begins.
 - Arrow panels should use the Caution-LINE display
- Traveling speed while pacing should be below the speed limit.
- All speed changes while pacing (e.g., stopping, starting forward, etc.) should be gradual.
- Any stops made while pacing traffic should be brief (i.e., no longer than 15 minutes), unless additional TTC measures are in-place/being deployed where you stop.
- When stopping to remove debris, responders should control enough lanes to provide access to the shoulder.
- Responders must carefully monitor all sides of their vehicle while pacing.
- Responders may not weave to control multiple lanes. Either straddle the lane or call for additional response vehicles.
- Responders must notify dispatch when traffic pacing begins and when it ends.
- When coordinating a traffic pace with other responders (internal or external to your organization), responders should clearly explain the need to pace traffic, describe where it is needed, and establish a location where participating units should meet.
- When multiple units participate in a traffic pace, constant radio communication should be established between each unit. Participants must regularly communicate, especially to control speed changes and advise when to stop.

7.10 Helicopter Landing Zones

In cases where incident victims need urgent or time-sensitive medical treatment, air ambulances or medical helicopters may be necessary. In preparation for their arrival, responders must designate a landing zone (LZ).

Ideally, a short-distance transport to a suitable site off the highway should be considered for the safety of responders and for quicker roadway clearance. However, every incident is different. The on-scene medical controller or incident commander must promptly decide where to set up the LZ to expedite the victim's transport to an appropriate trauma center.



The following are guidelines for setting up an LZ:

- The size of an LZ should be no less than **100' x 100' during the night**, and no less than **50' x 50' during the day**. The LZ should be clear of debris and loose soil and free of overhead obstructions, wires, or trees. Other responders and personnel should be at least another 100' from the landing zone. NOTE: Lanes on adjacent roads and/or in the opposite direction of travel should be closed if needed to establish an LZ with the appropriate dimensions. However, these lanes should not be closed by default. Responders are encouraged to carefully consider the proper dimensions of the LZ and other conditions to avoid unnecessary lane closures.
- Ideally, the LZ is marked with appropriate strobe lights, light sticks, and even emergency vehicles. An ideal landing zone is a vacant, cleared, well-defined area. **Traffic cones should not be used because rotor wash can potentially suck them into the main rotor. Do not use crime scene tape or rope to mark the LZ.**

Responders should remember the following safety guidelines at an LZ:

- When communicating and directing the helicopter to the LZ, use the clock method based on the nose of the aircraft.
- Follow the direction of the flight crew for all movement around the aircraft. Only maneuver around the aircraft when escorted to and from the aircraft by a member of the flight crew.
- Approach the aircraft from the front or sides (from 9 o'clock to 3 o'clock), never from the rear, and always within full view of the pilot. Keep low when approaching the aircraft.
- Stay clear of the tail rotor.
- Do not run or smoke.
- Use eye and ear protection if available.

7.11 Positive Traffic Control

Positive traffic control, also known as flagging, is a traffic control technique that relies on hand signals and communication with motorists to reduce rubbernecking and help keep traffic flowing.

Flagging, as described in this section, shall not be used on multi-lane freeways or on any roadway where traffic is moving above 45 mph. For more details on positive traffic control, see section on [MUTCD Compliance](#).

Stop/slow paddles are the preferred hand-signaling device because they provide more positive guidance than red flags. Flaggers shall be outfitted with high-visibility safety apparel.

When resources permit, a traffic spotter should monitor traffic and activate an emergency signal if a motorist's actions do not conform to established traffic control measures. A portable air horn or similar device is an ideal emergency signal. A portable radio is not recommended for this purpose since all responders on the scene are unlikely to be monitoring the same radio frequency.

Qualified flaggers should provide manual traffic control but, if necessary, any response personnel can provide it. The following are guidelines for effective positive traffic control:

- Do not use bystanders, good Samaritans, or other untrained personnel for traffic control duties.
- Give commands or directions to traffic in a clear, courteous, but firm tone.
- Accompany verbal commands to "stop," "slow down," and "proceed" with appropriate hand movements or the use of a Stop/slow paddle or flag. Whistles can also be an effective tool.
- Stand at a safe location adjacent to the wrecked vehicles when providing positive traffic control in the activity area.
- Stand at a safe location near the beginning of the taper when providing positive traffic control in the transition taper area.
- Make eye contact with the drivers of approaching vehicles to encourage them to pay attention to their driving and not the incident. This will increase the flow of traffic past the incident scene, reducing delay.
- Avoid providing individualized directions to motorists as this can create more congestion by slowing traffic. The flagger's job is to keep traffic moving safely past the incident scene.

8 Incident Actions

This chapter of the *Georgia Traffic Incident Management Guidelines* provides guidance related to various incident types and common incident response measures employed by TIM responders at the scene of a traffic incident. As with all sections of the *Georgia Traffic Incident Management Guidelines*, the following are intended to serve as recommendations for best practices related to safe, quick clearance. Responders should adhere to their agency's policies and use sound judgement when determining the best way to respond.

8.1 Working with Other Responders

Incident management is a set of actions and procedures taken by multiple organizations acting cooperatively in a coordinated manner to respond to and resolve traffic incidents. Each organization has different resources and capabilities. Each organization has different policies and priorities. However, all TIM partners share the same primary goal of safe, quick clearance as established in Georgia's Open Roads Policy.

No organization has the resources or the capability to properly manage every incident on their own. Therefore, all organizations must rely on one another to manage their piece of the incident management "puzzle."

In all interactions, all responders should positively represent their organization by showing their willingness to work with others and by demonstrating the practical knowledge and relevant experience they possess. The purpose of positive interaction between individuals from various responder organizations is to:

- Overcome barriers that may prevent organizations from working together.
- Understand each organization's goals so shared goals can take precedence.
- Demonstrate capabilities of each organization so the workload is shared, not duplicated.
- Build cohesion between responders so their efforts are more effective.
- Establish positive relationships between agencies as a whole.



Clear, consistent communication is critical. Responders should:

- Adhere to the principles of ICS and defer to the decisions made by incident command. Follow the chain of command for other response agencies and your own.
- Use simple, easily understood language to communicate. Avoid code-based language or jargon specific to your organization.

- Meet with responders from each organization on-scene. Ask what their objectives are and share those of your organization.
- Keep communication brief. Focus on giving/receiving necessary information without detracting from your tasks or theirs.

Polite, cooperative communication is also critical. Responders should:

- Address all other responders professionally and by their proper title/rank.
- Respect that other organizations have different policies, priorities, and perspectives.
- Seek to establish mutually respectful relationships and, whenever possible, repair negative perceptions of your organization based on bad experiences in the past.
- Speak up about unsafe, incorrect, or ineffective actions. Follow ICS and chain of command except where safety is immediately at risk.
- Avoid telling people what to do and, instead, offer insight and alternative options.
- Avoid saying you CAN'T do something and, instead, attempt to do what is safe and within your capabilities (seek guidance from your supervisor, if needed).

Individuals from other organizations may question what you are doing and why:

- Calmly explain your actions and what you hope to accomplish.
- Ask for their input to form a mutually accepted plan.
- Do not compromise safety because of a disagreement.
- Do not argue. Work through your supervisor and/or incident command if conflict persists or escalates.

8.2 Incident Response Matrix

The following matrix is provided as an informative overview of the typical response measures and stakeholders involved in the various incident types that responders commonly encounter. All incidents are different and may vary in terms of impact and required response measures.

Below are the definitions for the abbreviations used in the Incident Response Matrix:

- **Y** – “Yes”; indicates that the Response Measure or Stakeholder is associated with an Incident Type.
- Under Response Measures – Temporary Traffic Control:
 - **Veh.** – “Vehicle Blocking”; indicates that response vehicles positioned to block traffic are involved.
 - **Cone** – “Traffic Cone”; indicates initial temporary traffic control using traffic cones, flares, and other TTC devices is involved.
 - **Full-TC** – “Full Temporary Traffic Control”; indicates that Full TTC as deployed by DOT maintenance personnel is involved.
 - **Detour** – “Detour” or “Alternate Route”; indicates that an emergency alternate route or an official, DOT-authorized detour is involved.

Table 8. Incident Response Matrix

Incident Types	Impacts			Response Measures						Stakeholders					
	Lane(s)	Duration	Congestion	Motorist Assist.	Debris Removal	Vehicle Removal	Temporary Traffic Control	Investigation	Special Equip.	Law Enforcement	Fire and EMS	Towing Company	HERO / CHAMP	DOT Maint.	Special Responder
Disabled Vehicle	0-1	<15 min	Low	Y						Y			Y		
Abandoned Vehicle	0-1	<15 min	Low			Y				Y		Y	Y		
Road Debris	1-2	<15 min	Low-Med		Y					Y			Y	Y	
Flooding - moderate	1-2	2+ hrs	Med-High				Veh. Cone		Y	Y			Y	Y	
Flooding - extensive	All	8+ hrs	High		Y		Full-TC Detour		Y				Y	Y	Y
Road Damage - minor / potholes	1-2	2+ hrs	Med-High				Veh. Cone		Y	Y			Y	Y	
Road Damage - moderate / major	1 - All	2+ hrs	High				Full-TC Detour		Y	Y			Y	Y	Y
Crash - Property Damage Only	0-1	<30 min	Low-Med		Y	Y	Veh.			Y		Y	Y		
Crash - Injury	1-2	1-2 hrs	Med-High		Y	Y	Veh. Cone			Y	Y	Y	Y		
Crash - Vehicle Fire	1- All	<2 hrs	Med-High		Y	Y	Veh. Cone			Y	Y	Y	Y		
Vehicle Fire - electric vehicle	1- All	~2 hrs	Med-High		Y	Y	Veh. Cone		Y	Y	Y	Y	Y		
Crash - Fatality	1- All	~2 hrs	High		Y	Y	Veh. Cone	Y		Y	Y	Y	Y	Y	Y

Incident Types	Impacts			Response Measures						Stakeholders					
	Lane(s)	Duration	Congestion	Motorist Assist.	Debris Removal	Vehicle Removal	Temporary Traffic Control	Investigation	Special Equip.	Law Enforcement	Fire and EMS	Towing Company	HERO / CHAMP	DOT Maint.	Special Responder
Crash - Tractor Trailer	1- All	2+ hrs	High		Y	Y	Full-TC Detour	Y	Y	Y	Y	Y	Y	Y	Y
Crash - Responder Involved	1- All	2+ hrs	High		Y	Y	Full-TC Detour	Y	Y	Y	Y	Y	Y	Y	Y
Crash - Livestock Emergency	All	2+ hrs	High		Y	Y	Full-TC Detour		Y	Y	Y	Y	Y	Y	Y
Crash - HAZMAT	All +	2+ hrs	High		Y	Y	Full-TC Detour	Y	Y	Y	Y	Y	Y	Y	Y

8.3 Disabled and Abandoned Vehicles

8.3.1 Disabled Vehicles

Disabled vehicles are incidents where a motorist's vehicle has broken down, forcing the driver to the shoulder or travel lane. The distinction between a disabled vehicle and an abandoned vehicle is that, for a disabled vehicle, the owner/operator of the vehicle is present at the scene as well as any passengers they had. Vehicles become stranded on the road for a number of reasons, including:

- Out of fuel
- Flat tire
- Dead battery
- Mechanical issue



Motorists may park on the roadway for reasons unrelated to malfunctions, including stopping to:

- Rest/sleep
- Use their phone
- Eat
- Check or secure cargo
- Seek safety away from traffic due to a medical emergency

People and vehicles should NOT stop on or near the roadway. Their safety is in jeopardy every minute they remain there. Among responders, law enforcement, HERO, and CHAMP are specifically responsible for rendering aid and assistance as quickly as possible to disabled vehicle incidents. Towing and recovery, when requested, should also assist.

Unless travel lanes are impacted, disabled vehicle incidents can be considered lower priority than crashes or other lane-blocking incidents. Therefore, responders may bypass or depart a disabled vehicle incident to support a higher-priority incident. If unable to respond immediately, responders should report the disabled vehicle to dispatch and request another unit to respond. When able, TMC operators should monitor disabled vehicles until they leave the roadway. If not engaged on a higher-priority incident, available responders should respond immediately to provide assistance.

Responders should do whatever they are trained and equipped to do to help disabled vehicles leave the road. If unable to provide the necessary service, another organization who may be better equipped should be contacted (e.g., calling HERO/CHAMP if fuel is needed). If the issue is beyond responders' abilities, an appropriate towing and recovery company should be contacted. Responders may provide a motorist with options of different tow companies but may not recommend a specific company. Otherwise, responders should follow their existing protocols as appropriate to coordinate with towing and recovery (e.g., use of a rotation wrecker, etc.).

8.3.2 Providing Assistance for Disabled Vehicles

For some disabled vehicle incidents, responders may need to provide basic assistance services to get the motorist safely back on the road. Law enforcement, HERO, and CHAMP have different capabilities regarding motorist assistance as illustrated in the table below:

Table 9. Motorist Assistance Services

Service	Law Enforcement	HERO / CHAMP
Fuel	N/A	Gas or diesel (enough to reach closest gas station)
Tire	Limited - can help with standard kit for passenger vehicles	Inflate or change any tire (except large commercial vehicles); motorist must have a spare
Dead Battery	YES (if jumper cables on-hand)	YES
Overheating	N/A	Provides water for radiator/coolant reserve tank; does not carry coolant
Mechanical Repairs	N/A	Limited - carries numerous hand tools but individual operator's mechanical knowledge varies
Secure Cargo	YES	YES
Lost / Directions	YES	YES
Use Phone	YES	YES
Transport Driver/Passengers	YES (does not carry child seats)	YES (does not carry child seats)

When providing motorist assistance, responders should follow all guidelines discussed for [Safe Vehicle Placement](#) and apply the guidelines described below:

- Contact dispatch prior to leaving your vehicle and provide the following information:
 - Exact location, including direction and a mile post or cross street.
 - Color of the vehicle.
 - Make of the vehicle.
 - License plate (tag) number.
 - Description of vehicle problem (e.g., disabled or abandoned).
- Approach on the non-traffic side. Walk past the passenger door and turn to face traffic. Clearly identify yourself and ask, “Are you okay?” and, “How may I help you?” Do not open the door; ask the driver to lower the window.
- Briefly engage with the driver to gain an initial assessment of the problem. If they do not require motorist assistance (e.g., they have stopped for some other reason), instruct them to leave the roadway immediately and remain on-scene until they do. Use your vehicle’s emergency lights and/or other driving techniques as appropriate to help them safely re-enter traffic.
- Move vehicles blocking a travel lane or in a hazardous location, such as on a narrow shoulder or at the end of a gore area, before providing assistance or repairs.
- Relocate the vehicle under its own power if possible or by pushing it to a safe location when possible. Follow the guidelines in section for [Relocating Vehicles](#).
- Contact dispatch and request back-up assistance if the safe relocation of a vehicle is not possible. Use traffic cones and, if an arrow panel is not available, emergency lighting.
- Get as much information as you can from the driver when attempting to determine what is wrong mechanically with a stalled vehicle. Ask questions that include the following:
 - Has this ever happened before?
 - How did the vehicle act prior to stalling?
 - Do you know of any specific problems with the vehicle?
- Avoid any disassembly or removal of parts. Instead, confine assistance to readily apparent problems that can get the motorist underway. Attempt to limit your assistance to no more than 15 minutes.
- Direct the driver to have permanent repairs made promptly. Do not refer motorists to specific tow companies or repair shops. Give them options.
- Offer the motorist the opportunity to make a local cell phone call if attempted repairs are unsuccessful. If the motorist requests a tow truck or motor club, notify dispatch in accordance with agency practices.



8.3.3 Abandoned Vehicles



Abandoned vehicle incidents involve vehicles or trailers left by motorists on the roadway (most often on the shoulder). In many cases, abandoned vehicles pose a threat to safety for as long as they remain on the road – even when they are on the shoulder. Responders should seek the removal of abandoned vehicles as quickly as possible in accordance with Georgia's Open Roads Policy and Authority Tow law (32-6-2).

Law enforcement agencies with jurisdiction need to detect, check, and order the removal and impoundment of abandoned vehicles. Any vehicle found in a location that is hazardous to traffic should be processed as an immediate tow.

All other abandoned vehicles should be removed as soon as possible after 48 hours per the Authority Tow law (32-6-2).

Any non-law enforcement agencies that do not have impoundment authority can assist in handling abandoned vehicles, using these guidelines:

- Check for the following scenarios without entering the vehicle:
 - Injured, sick, or incapacitated individuals.
 - Anything suspicious in nature, such as a punched ignition, damaged door lock, or a broken window with glass debris still in the vehicle.
- Notify dispatch of anything unusual.
- Advise dispatch if the vehicle is in a hazardous location. Dispatch can contact law enforcement for immediate or expedited removal of the vehicle.
- Tag or mark the rear window to notify other units and law enforcement that the vehicle has been checked. Tag the vehicle only if it is not an immediate hazard.
- Follow procedures for logging or notifying dispatch when tagging a vehicle.
- Notify dispatch of previously tagged vehicles that have not been moved after the time limit has expired.

8.4 Relocating Vehicles

8.4.1 Relocating Vehicles from Hazardous Locations

If a vehicle is located in a hazardous location or is blocking a travel lane, make every effort to relocate the vehicle prior to rendering assistance.

- Determine if the vehicle should be relocated to a safer location before assisting in:
 - Curves: Motorists tend to hug the inside of a curve or drift off the road on the outside. Make sure there is sufficient sight distance for traffic to see you.
 - Narrow left shoulders.

- Locations where barrier walls or guardrails limit shoulder width and restrict an escape path.
- Take special care when performing activities such as a tire change on the traffic side of the vehicle. Consider relocating the vehicle unless it is more than six feet off the travel lane.

8.4.2 Safe and Damage-free Push Bumper Use



Using a response vehicle with a push bumper to relocate a disabled vehicle can be done safely and without damage by following some basic guidelines. Consider the location, weather, and traffic conditions. Contact dispatch to request assistance if you are concerned about highway traffic speeds, your safety, or the competence of the motorist. Do not relocate a vehicle if you suspect the driver is substance impaired.

A push bumper is designed to push a vehicle only for limited distances to reduce a safety hazard. Be prepared to explain to the motorist that you cannot push them down the highway, to an exit, or into a service station. Motorists may even ask you to push them to their home. Be polite but stay in control and remember that your role is to reduce the potential of a secondary incident. Usually, a suitable relocation site is nearby—just make sure you and the motorist agree on the location to which you will push the vehicle.

- Do not push a vehicle that has bumper misalignment, previous damage, or an obstruction such as a trailer hitch, tire carrier, or ladder. If possible, photograph the vehicle's bumper before and after pushing it.
- Do not push a vehicle if you cannot see ahead of it.
- Before you start to push:
 - Tell the driver what you want them to do.
 - Confirm that the driver understands you.
 - Advise exactly where you want the driver to go.
 - Remind the driver that steering, and braking will be hard but will work.
 - Advise the driver not to hit the brakes hard or abruptly.
 - Make sure the driver can hear your instructions. The driver side window should be open.
- For the vehicle that will be relocated, complete the following:
 - Ignition key is in the on position.
 - Transmission is in neutral.
 - Parking brake is off.
- Approach the disabled vehicle to be pushed slowly. Make gentle contact.
- Check traffic.
- Advise the driver that you will start pushing.
- Push slowly, maintaining a shallow angle.
- Back off before the driver brakes.
- Advise the driver when to stop.
- Instruct the driver to set the parking brake and secure the vehicle.

8.4.3 Relocating Vehicle Prior to Wrecker Arrival

In many cases, the towing company may not arrive on-scene immediately. You can assist by relocating the vehicle(s) from the travel lanes for towing later.

Be aggressive in relocating wrecked vehicles from travel lanes to the extent permitted by your agency guidelines. Confer with the Incident Commander and begin to move wrecked vehicles once injured persons are extricated and investigation is complete, using these guidelines:

- Relocate wrecked vehicles well off the travel lanes to the right side (in most cases). Place the vehicle in a position that gives the wrecker easy access.
- Consider relocating the vehicle to an exit ramp or a safe area out of sight of traffic.
- Drive the wrecked car off the road if it can be started.
- Relocate crash vehicles with your push bumper. Get assistance with traffic and push the wreckage from the road unless it is not safe to do so.
- Consider using a tow strap as an alternate method to relocate wrecked cars from travel lanes. This method works well if there is front end damage where locked wheels may prevent pushing.
- Look for and document any prior damage before relocating the vehicle.

8.5 Removing Debris NOT Related to a Crash

Random or unexpected debris of any kind on a highway is a major concern and presents a real threat to motorists. Accidents frequently occur when drivers either stop suddenly or make abrupt lane changes to avoid striking debris. Debris is often kicked up by trucks, wind, or even mowers, and it can become a deadly projectile.



Removing debris from the travel lanes is a dangerous activity and requires appropriate caution. While there is no single safe way to remove debris from travel lanes, consider traffic volume, prevailing speed, sight distance, and time of day when determining how to remove the debris.

Debris on the shoulder has the potential to become a safety concern if a driver pulls off the roadway. Such debris can damage the driver's vehicle, or it could be thrown back into moving traffic. When removing debris from the roadway, a responder should:

- Notify dispatch of any debris. Provide the exact location, which lane(s) are affected, a general description, and whether you can remove the debris unassisted or if backup will be required.
- Pull well off the roadway and correctly position your vehicle.
- Use appropriate emergency lighting.
- Keep personal safety a top priority—safety vest and gloves are a must.

- Park upstream from the debris. This will keep debris that is struck by passing vehicles from being propelled into you or your vehicle.
- Point at the debris to help drivers avoid striking it if you are waiting on the shoulder for traffic to clear.
- Contact dispatch and request assistance if it is not possible to remove the debris safely. Coordination with law enforcement or HERO/CHAMP may be needed to pace traffic to approach the debris in some cases.
- Attempt to remove debris completely from the roadway system. If it cannot be removed, place it well off the travel lanes and shoulder to be picked up at a later time. Debris should be moved a minimum of 10 feet from a travel lane to keep shoulders clear and to prevent it from being blown or knocked back into traffic. Consider using a cone to mark the location.
- Notify dispatch. If debris requires later pickup, request dispatch to notify the DOT or TMC.
- Turn in any valuable items you find to your supervisor. Disposition of the items will be handled through established agency procedures.
- Use your public address system to notify the driver of a truck with the load spilling on the travel lanes. If the driver does not stop, contact dispatch, and give the location, type of material being spilled, direction of travel, license number, and, if possible, the company name and any other pertinent information. Remember only law enforcement has the authority to make the truck pull over. Do not become involved in a pursuit.
- Stop and consider clean-up procedures if a spilled load is a hazard to traffic. Request assistance through dispatch if the location is unsafe or the amount of debris too great.

8.6 Traffic Crashes

Each agency responding to a traffic crash has its own roles and responsibilities. Depending on the severity of the crash, more resources may be deployed to the scene. The guidelines below are generalized and can be considered for use by any responder.

You may be the first to arrive at a vehicle crash. Your ability to quickly analyze the situation and take appropriate action to stabilize the scene and clear the incident is an important part of your job.



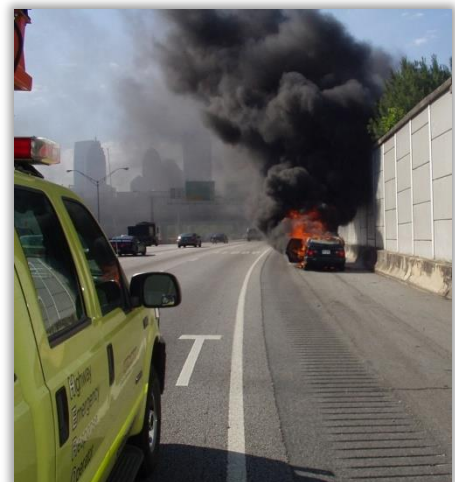
- If fire, rescue, and EMS have not yet arrived, park your vehicle in the blocked lane. If no lanes are blocked, park on the shoulder. After EMS arrives consider using a large vehicle to provide a wider safety buffer for the emergency personnel.
- Notify dispatch of:
 - Your exact location.
 - The lanes that are blocked.
 - The number of vehicles and general vehicle description.
 - The license tag number(s) of at least one of the involved vehicles.
- Approach each driver and determine if they can drive the vehicle to the shoulder.

- Call dispatch to request law enforcement and EMS if you see any apparent injuries, or if a driver or passenger indicates that they are injured. Provide dispatch with as much information as possible on the number and types of injuries.
- If the incident appears to be minor, ask each driver, "Do you want me to call EMS to transport you for treatment?" If no ambulance is needed, advise the driver that you will safely help move the vehicle off the road.
- Note: If this is an injury crash, law enforcement will need to complete an investigation. To aid the investigation, do not move any wrecked cars or debris until permitted.
- If the motorist is cooperative but does not feel comfortable driving the car, offer to drive it off the road.
- Relocate the wrecked car with your vehicle if it is not drivable.
- The ideal location to relocate the vehicles to is off the roadway completely. If possible, utilize an accident investigation site or a location near the exit ramp on a cross street or a frontage road.
- If the crash cannot be relocated, start setting up emergency TTC and facilitate the flow of traffic past the crash scene.
- Do not leave a lane-blocking incident unprotected.
- To reduce the duration of the incident and limit rubbernecking, leave the crash scene and park off the roadway system to write your final report. Turn off emergency lighting and look for a safe area to park such as a fast-food parking lot to complete the report.
- Clean up all debris and mitigate fluid spills before opening a lane. However, do not move any debris until the investigating traffic officer gives approval.

8.6.1 Vehicle Fires

Smoke from vehicle fires can cause visibility issues that affect responders and passing motorists. It may be prudent to close traffic lanes adjacent to the fire; however, it is generally a good idea to maintain some traffic flow at the scene to facilitate the arrival of fire apparatus. In some cases on arterial roadways, smoke may require closing both directions of traffic for a short period of time. Upon arrival at a vehicle fire:

- Notify dispatch and provide location and a vehicle description. If it is a commercial truck, look for and report any indication of hazardous materials, and look for placards and HAZMAT ID numbers.
- Assist the vehicle occupants and escort them to a safe area away from the fire.
- Secure the scene. Provide traffic control and, if possible, keep traffic flowing to expedite the arrival and parking of fire crews.
- Attempt to extinguish only small fires if safe to do so.



- Do not approach a completely involved vehicle; there is risk of a tire, bumper support, or the fuel tank exploding.
- Set up cones and other available TTC.

8.6.2 Truck Crashes



Major truck crashes can have serious impacts on highway traffic. You can assist in many ways to manage the scene and remove the wreckage and spilled loads from the roadway quickly and safely.

Your initial role is to set up emergency TTC, just as in other incidents. Your devices are short term and will need to be upgraded to comply with the *MUTCD* as more resources become available.

During a truck crash, all responders should strive to safely reduce the size of the scene and the number of lanes closed. This goal can be accomplished by the following:

- Taking quick action to contain or absorb any spilled vehicle fluids.
- Relocating spilled, non-hazardous cargo to open an additional lane. In some cases, an additional lane can be opened by moving spilled cargo by hand.
- Assisting other responders to expedite reopening travel lanes. This assistance may include working with heavy-duty tow operators.
- Modifying and upgrading TTC devices to match the changing scene conditions.
- Staying alert to traffic and maintaining a sense of urgency at the scene.
- Communicating frequently with dispatch to provide status reports from the scene.
- Communicating with other responders and participating in incident command.

8.7 Vehicle Fluid Spill Mitigation

Incidents occur in which vehicle fluids such as engine oil, radiator fluid, hydraulic fluid, brake fluid, and diesel fuel spill into the roadway. The most frequent fluid at a commercial vehicle crash is diesel fuel. Prompt actions by an initial responder to contain or reduce the size of the spill will greatly reduce the impact and duration of the incident. It is important to identify that the spilled fluid is not from a cargo tank.

This section will focus on vehicle fluids spilled from commercial vehicles. Spilled fluids from passenger vehicles are exempt from regulation with respect to removal and reimbursement but should also be routinely cleaned up by responders and/or vehicle owners in accordance with these guidelines.



Notifications. Georgia has adopted the US Environmental Protection Agency (EPA) reportable quantity of 25 gallons for spilled petroleum products. Responders on-scene should notify dispatch immediately if they believe the spill to have exceeded this volume. Responders should advise dispatch of the type of fluid spilled, estimated volume spilled, and presence of any nearby water

sources including creeks or drains. Responders are encouraged to request assistance immediately if dealing with large spills such as saddle tank ruptures.

Clearance and Clean-up. Spill clean-up by responders or other parties should be limited to spills of a magnitude within their capabilities. However, no responder is restricted from taking prompt action to contain and limit the size of the spill, to limit damage to the pavement surface, and to prevent any flammable material from catching fire.

The preferred clean-up method is to soak up as much material as possible using absorbent pads or granular substances such as vermiculite, saw dust, floor sweep, or peat moss. Sand may be used as an absorbent but is better suited to increase traction. Absorbed fluids should be swept or moved out of travel lanes to the shoulder. If a thin film remains in the travel lanes after clean-up, responders may apply a light dusting of Portland cement.

Especially when a high volume of absorbent has been used, the absorbent may be containerized in pails, barrels, heavy-duty trash bags, or plastic sheeting. Care should be taken to not overload the containers. If bags are used, responders should limit each bag to 15 pounds and consider double-bagging. Containers should be tagged and clearly marked to indicate the type of absorbent used and the material that was spilled. Containers may be left for clean-up contractors to remove or may be placed in the damaged the vehicle(s) for removal by the towing company. If absorbed materials/containers will be retrieved at a later time, responders should mark the location with traffic cones or other readily identifiable means.

Vehicle fluid spills that have soaked into soil will require clean-up but may be completed at a later date, ideally outside of peak travel times. Care must be taken by the environmental contractor to locate any underground utilities prior to excavation of contaminated soil.

NOTE: DOT and other responders may apply absorbents and sweep off travel lanes regardless of the quantity. It is not necessary to wait for a licensed environmental clean-up contractor before opening the road.

The responsible party is accountable for vehicle fluid spillage, including the final removal and proper disposal of absorbents and, if needed, the subsequent site remediation. If the responsible party does not or cannot handle this responsibility in a timely manner, the governing authority (e.g., State of Georgia, County, City, etc.) can initiate disposal and the responsible party will be billed. **Clean-up actions taken by early responders AND spillage that occurs during the relocation of a damaged vehicle do not affect or limit this responsibility.** The responsible party is the entity who has dominion or ownership of the spilled product prior to the spill, regardless of whether they were responsible for the crash.

Containment. Defensive efforts may be employed according to the volume of the spill, availability of equipment, and other considerations. If possible, responders should attempt to stop the leak at the source by resealing container lids/caps or by plugging small holes in the container. For larger spills, responder may build a dike or berm around the fluids to contain and prevent further spread. Sand, soil, or additional applications of absorbent material can be used to construct dikes or berms. Responders may also use buckets, pails, "kiddy pools" or other suitable vessels on-hand to

capture vehicle fluids. Hand transfer pumps, if available, are often used to move fluids into containers.

Disposal. Disposal options for non-hazardous vehicle fluids and spent absorbent include but are not limited to:

- Thermal treatment at a permitted soil burner facility.
- The use of an approved oil hauler for liquids.
- Incineration at a local landfill incinerator.
- Delivery to a local household hazardous waste facility (some limitations may apply).

8.8 Incidents Involving HAZMAT

Commercial vehicle incidents are among the most challenging and dangerous tasks responders must manage. An incident involving hazardous material cargo is even more perilous.

While you should mitigate spills of vehicle fluids such as diesel fuel, you must address actual hazardous material cargo spills differently and with extreme caution.

Familiarize yourself with the color and appearance of the material identification placards in the *USDOT Emergency Response Guidebook*.

At the scene of a truck crash where there is a spill or leak of an unidentified cargo, especially a placarded load, use the following guidance:

- Notify dispatch immediately.
- Approach the incident cautiously; do not rush in.
- Approach the incident from upwind.
- Stay clear of all spills, vapors, fumes, smoke, and any cargo that is the source of these potential hazards.
- Identify the cargo ID number indicated on the placards from a safe distance and update dispatch with the information.
- Check the driver and assist only if it is safe to approach.

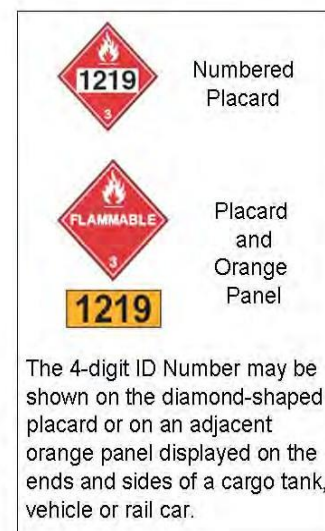


Figure 24. Examples of HAZMAT Placards and Identification Numbers

8.9 Electric and Hybrid Vehicles

Electric vehicles and Hybrid vehicles are becoming more prevalent on roads throughout the United States. There are many types of Electric and Hybrid vehicles, including:

- Hybrid Electric Vehicles (HEV) and Plug-in HEVs (PHEV)
- Hydrogen Fuel Cells
- Battery Electric Vehicles (BEV; aka “All-electric vehicles”)
- Multi Fuel Vehicles

- Hydraulic Hybrids

This section of the *Georgia Traffic Incident Management Guidelines* will focus on battery electric vehicles (BEV) and hybrid electric vehicles (HEV/PHEV) which use a combination of battery-powered and gas-powered drive systems. Furthermore, while some larger electric/hybrid commercial vehicles are beginning to enter the market, the *Guidelines* will focus on electric/hybrid passenger vehicles, mini-vans, and sports utility vehicles.

Electric/hybrid vehicles contain high voltage components and batteries throughout the vehicles' structure. Most aspects of incident management for incidents involving electric/hybrid vehicles are the same as for conventional vehicles. However, there are a few aspects of incidents involving electric/hybrid vehicles that are unique and require alternative practices and/or additional considerations. It is important to note that the unique aspects related to electric/hybrid vehicles – as well as the best practices to address them – are still being explored by the global responder community. The information provided in this section is based on current studies and guidance provided by the National Fire Protection Association (NFPA) and the International Association of Fire Chiefs (IAFC).

The following are the unique aspects of incidents involving electric/hybrid vehicles that are most impactful to first responders:

- Risk of electrocution from high voltage components and batteries.
- Potential harm from touching corrosive substances from the battery's interior or inhaling toxic fumes if the batteries combust.
- Limited options for providing motorist assistance, due to unfamiliar vehicle components and specialist tools/training required to service them.
- Potential for vehicle fires that present increased difficulty, especially relating to full extinguishment.
- Difficulty in fully turning electric/hybrid vehicles OFF, potentially resulting in the vehicles moving forward/backward unexpectedly.
- Challenges related to towing and storing electric/hybrid vehicles, mostly due to concerns that vehicles may re-ignite well after the incident concludes.
- Additional complications when extricating crash victims, mostly due to placement of high voltage components and batteries.

Emergency Response Guides. For many models of electric/hybrid vehicles, Emergency Response Guides can be found online or at the [National Fire Protection Association's website](#). These guides provide essential information to safely interact with electric/hybrid vehicles while providing motorist assistance or responding to an emergency situation. Among other helpful information, these guides show how to safely disconnect batteries to turn electric/hybrid vehicles OFF, and safe locations to cut into or raise electric/hybrid vehicles without breaching high-voltage components.

The following are general best practices and considerations when responding to incidents involving electric/hybrid vehicles, whether providing motorist assistance or responding to a crash or vehicle fire:

- Stop, look, and listen. The engines of electric/hybrid vehicles are very difficult to hear and may be running even without you noticing. Some models have sleep/hibernate modes making it even more difficult to tell if they are running. If an electric/hybrid vehicle is still running, it could suddenly move forward or in reverse. Therefore:
 - NEVER approach from the front or rear—only from the side.
 - ALWAYS seek to turn an electric/hybrid vehicle OFF before taking further action.
- Throughout an incident – especially if an electric/hybrid vehicle has sustained structure damage – look for signs that the vehicle may be catching on fire. Signs include sparks, smoke, an acrid smell (like ozone or burning plastic), or bubbling sounds.
- Place the vehicle in park, set the emergency brake (if able), and chock the wheels to prevent the vehicle from moving unexpectedly. NOTE: chocks may not fully prevent sudden movement if the vehicle is still running.
- NEVER damage or attempt to breach a battery or high voltage component.
- DO NOT cut any cable that is not clearly labeled or that you cannot identify.
- ALWAYS treat cables and batteries as if they are fully charged and potentially dangerous. When handling potentially electrified materials, always wear appropriate safety equipment rated for such use. However, responders are encouraged to avoid cutting or working on any potentially high voltage materials even when wearing safety equipment rated for high voltage use (e.g., electrician's gloves). The range of what is considered "high voltage" is very large and it is often difficult to determine if your safety equipment is adequate for all circumstances. Only experienced electricians or licensed technicians should work on high voltage components.

8.9.1 Identifying Electric and Hybrid Vehicles

Identifying electric and hybrid vehicles can be challenging as there are few standardized logos, markings, or other features to easily distinguish them from conventional, internal combustion vehicles. When possible, responders should ask the vehicle's owner or consult the owner's manual. Other strategies for identifying electric/hybrid vehicles include:

- Get to know models/manufacturers exclusively associated with electric/hybrid vehicles (e.g., Tesla).
- Look for logos/badges on vehicle that indicate the vehicle is electric/hybrid.
- If possible, check the vehicle's dash display for a battery charge indicator or the absence of a fuel gauge.
- If possible, check the in-cab controls for buttons that switch to/from hybrid, gas, or electric modes.
- The absence of exhaust pipes is also an indicator of an electric vehicle.
- On the outside of the vehicle, look for the small door that accesses the charging port. On electric vehicles, these are often near the front of the vehicle whereas conventional gas vehicles usually place them towards the rear. If possible, open the access door to see if it is, indeed, a charging port.

Once you have identified an electric/hybrid vehicle, notify all other responders who may interact with it – especially towing and recovery personnel.

8.9.2 Motorist Assistance for Electric and Hybrid Vehicles

The following describe practices and considerations for providing motorist assistance services for electric or hybrid vehicles:

Changing Tires. Before using a lift/jack to raise an electric/hybrid vehicle, consult the Emergency Response Guide for the vehicle to identify safe locations to position the lift/jack. High voltage components and batteries are commonly housed throughout the underside of electric/hybrid vehicles. An improperly positioned lift/jack could breach one of these components causing damage or injury. Once the lift/jack is properly placed, the conventional process for changing tires should be applied for electric/hybrid vehicles. The image below is an example taken from the Emergency Response Guidebook for a Tesla model electric vehicle.

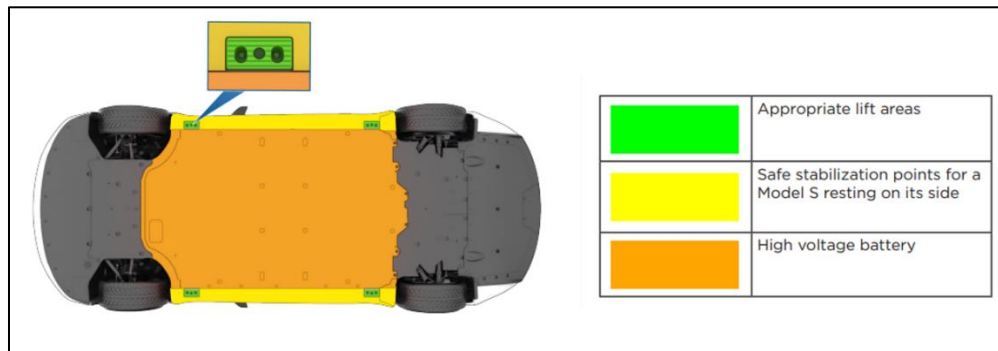


Figure 25. Example of Tesla Lift Areas

Jump Starts. Electric vehicles have two sets of batteries: (1) a large bank of high voltage batteries that are the main power source driving the vehicle, and (2) a small, 12-volt battery that starts the vehicle and powers electrical systems like the vehicle's radio. Like conventional cars, the small 12-volt battery on an electric vehicle can lose power if it is not frequently recharged while driving.

To determine if the 12-volt battery is dead, ask the motorist to try starting the vehicle. If none of the vehicle's electrical components come on, the problem may be with the 12-volt battery and a jump start may resolve the issue. Consult the vehicle's owner's manual to locate the 12-volt battery and confirm the process to jump start the vehicle. The conventional process and equipment (e.g., jumper cables) for jumpstarting a vehicle can also be used for most electric vehicles.

If the vehicle starts or electric components come on after attempting to start the vehicle, a jump start is not needed. You should then check the vehicle's main battery charge indicator. If this indicator shows low/no charge, the vehicle simply needs to be recharged – a service that most responders are not equipped to help with.

Not Charged or Other Malfunction. Most responders like law enforcement or HERO/CHAMP are not equipped to assist if an electric vehicle is not sufficiently charged, will not turn on, or is experiencing some other malfunction. Responders are encouraged to avoid attempting to provide further mechanical assistance on their own. Some roadside assistance providers, such as AAA or the vehicle's manufacturer/dealer, offer mobile charging services. Responders should inform the

motorist of this option and should help the motorist contact one. If roadside assistance is not available/applicable, responders should help the motorist arrange for a tow truck. Advise the motorist to **inform the towing company that the vehicle is an electric/hybrid vehicle.**

8.9.3 Crashes and Vehicle Fires Involving Electric Vehicles

Because current guidance from the NFPA and IAFC was written specifically for electric vehicles, this section will focus on crashes and vehicle fires involving electric vehicles. However, this guidance may also be applicable to hybrid vehicles. Furthermore, this section focuses on the unique aspects of incident management related to electric vehicles. Unless discussed here, conventional techniques should be applied.



It is important to note that **electric vehicles CANNOT be fully “de-energized”** (i.e., quickly drained of their electric charge) at an incident scene. Fully draining the charge of an electric vehicle’s high voltage batteries can only be done by (A) driving the vehicle until the charge dissipates, or (B) being de-energized by a licensed electric vehicle technician/manufacturer. Even if disconnected, high voltage components – especially batteries – will retain their charge throughout the incident.

Disabling Electric Vehicles. Electric vehicles should be turned completely OFF to prevent them from moving unexpectedly. In addition, electric vehicles should be immobilized as described previously by setting the brakes and chocking the wheels. To disable an electric vehicle, responders should complete the following as appropriate:

- Turn the vehicle OFF via normal means, if able. This includes pushing the OFF button on the vehicle’s dash or using the remote OFF feature on the vehicle’s key fob or smart phone app (if available). The key fob should be kept at least 25 feet from the vehicle to avoid accidentally restarting the car.
- If unable to use normal means, consult the Emergency Response Guide for the vehicle to determine next steps to turn the vehicle OFF.
- If needed, disconnect the 12-volt battery that runs the vehicle’s main, high voltage battery. Many electric vehicle models mark and specifically label the 12-volt cable for responders.

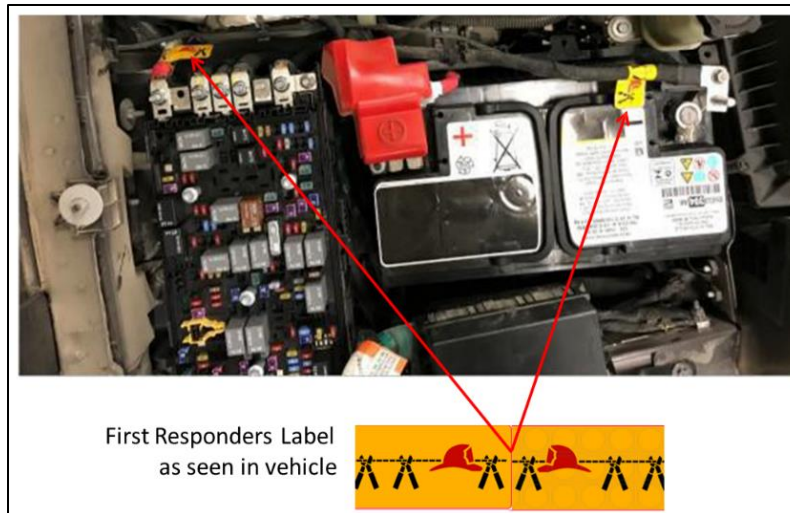


Figure 26. Example of Responder Label in Electric Vehicle

Extrication. High voltage components and batteries are placed throughout an electric vehicles' body in locations that responders frequently interact with while extricating crash victims. The location and routing of high voltage components may prevent some conventional extrication techniques such as trunk tunneling or gaining access through the underside or floor pan of the vehicle. Breaching a high voltage component or battery could result in electrocution causing severe injury or death. If damaged, high voltage batteries can release toxic and highly corrosive substances. Though rare, damaged high voltage batteries can result in vehicle fires that may be extremely difficult to extinguish.

In most cases, crash victims should be able to exit an electric vehicle via normal means. If restraint systems/seat belts are malfunctioning or will not release, responders may need to disconnect the vehicle's 12-volt battery, which powers the restraint systems. Seat belt straps may be cut without concern for electrical shock. If responders must cut into the vehicle to extricate crash victims, they should consult the vehicle's Emergency Response Guidebook to determine the appropriate cut locations.

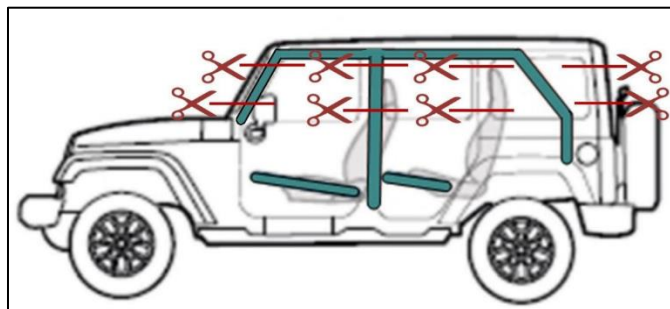


Figure 27. Example Extrication Cut Points for Jeep

Vehicle Fires. Electric vehicle fires are rare but, when they do happen, they can be extremely difficult to put out. If the fire is confined to the cabin or trunk of an electric vehicle, conventional

firefighting tactics are recommended to extinguish the fire quickly. However, if the fire includes the engine compartment or involves the high voltage batteries (underside of vehicle), alternative practices and additional considerations must be taken, including:

- Responders within proximity to toxic fumes and smoke from combusting batteries should wear self-contained breathing apparatus (SCBA). Responders not equipped with SCBA should stay back and upwind from fumes and smoke.
- Responders should expect the fire to be hotter, to last longer, and to require significantly more water to extinguish than normal fires. An electric vehicle's high voltage batteries combust due to a process known as "thermal runaway". When this occurs, the battery heats to an extreme level, to the point that its internal components melt and combust. Because the melting components generate their own oxygen source, combusting high voltage batteries do not require an external oxygen source to burn. Per the NFPA, **"The use of water or other standard agents does not present an electrical hazard to firefighting personnel."** Per the IAFC, **"The best method for managing or controlling a battery fire is with water."** Though the batteries do not require oxygen to burn, it is believed that water works to extinguish electric vehicle fires by cooling the batteries down to the point that thermal runaway is no longer possible. Firefighters should arrange for additional sources of water, calling for backup water tankers if necessary.
- Do NOT pry, pierce, cut or otherwise attempt to forcibly gain access to an electric vehicle's engine compartment. High voltage components are prevalent here and the risk of electrocution is high. Instead, firefighters should aim streams of water through existing openings in the vehicle's wheel well, grill, etc.
- If appropriate and allowable by local policy, Incident Command may determine to allow the vehicle to burn itself out while defensive tactics are used to prevent the fire from spreading.
- After an electric vehicle fire is fully extinguished, responders should carefully inspect the vehicle for signs of re-ignition including sparks, smoke, or continued bubbling sounds. If available, responders are encouraged to use a Thermal Imaging Sensor to assess the heat level of the high voltage batteries. Temperatures involved in thermal runaway and battery combustion are very high – approximately 700-800 degrees Fahrenheit – so temperatures well below that and falling indicate a low potential for re-ignition.

Towing and Storage. When requesting assistance from towing and recovery personnel, always inform them if an electric vehicle is involved. Towing and recovery personnel should consider the following when towing and storing electric vehicles:

- Flatbed or Rollback tow apparatus should be used when towing electric vehicles from the scene. This is because electric vehicles do not have a "true neutral gear." An electric vehicle's wheels are turned by electric motors. The magnets that drive these motors cannot be fully disengaged so, when the vehicle's wheels are turned manually, electricity is generated that can shock responders or "re-energize" the vehicle's high voltage components.
- Electric vehicles should be stored a minimum of 50ft from other vehicles/structures and should not be stored inside a building. Though it is unlikely that the high voltage batteries

will combust or re-ignite, towing and recovery personnel should still take appropriate precautions.

- Towing and recovery personnel are encouraged to coordinate with the electric vehicle's manufacturer or a licensed technician to identify other appropriate actions/precautions. This might include arranging for a technician to properly "de-energize" the high voltage batteries completely.

8.10 Damage to Roadway

Georgia's roadway network and associated infrastructure are managed and operated by state and local transportation agencies and DOTs. State agencies include GDOT and SRTA who are responsible for state-maintained roadways, including all interstate routes and ML corridors. Local agencies include county or municipal DOTs who are responsible for locally maintained roads in their areas that typically include arterial routes and some residential roadways.



Crashes, adverse weather, and simple wear-and-tear can result in damage to roads and infrastructure. This damage can reduce the safety and operational efficiency of our roads and must be addressed as quickly as possible. Maintenance personnel, including signal technicians and ITS staff, are responsible for resolving these issues. Examples of common types of roadway damage and other malfunctions include:

- Asphalt damage (e.g., potholes, large cracks, or gouges made by crashes).
- Guardrail, guidewire, or barrier damage.
- Damage or destruction to static signs (e.g., downed stop signs, exit signs, etc.).
- Malfunctioning or downed traffic signals (e.g., in flash mode or off completely).
- Malfunctioning or damaged ITS devices including DMS or CCTV traffic cameras (DMS malfunctions visible from road include message too dim, letters/words missing, or rude, malicious, or obviously unintentional messaging).
- Malfunctioning or damaged tolling equipment and facilities, including toll gantries, express lane gates, etc.
- Roadway lighting out or down.
- Missing grates/drain covers and/or obstructed drainage systems (often apparent due to slow moving water in travel lanes).
- Vandalization or theft (often apparent due to graffiti, exposed wiring/conduits, open doors/cabinets at DOT roadside facilities/equipment, etc.).



- Sinkholes or road washout (i.e., depressions or collapse caused by instability beneath pavement).
- Damage to bridges, overpasses, or other elevated road surfaces (sometimes involving vehicle collisions with bridge columns or vehicle fires directly beneath bridges/overpasses).

Though all roadway/infrastructure damage should be addressed as quickly as possible, some circumstances are considered higher priority than others and require an immediate, emergency response. In these cases, other responders like law enforcement may need to intervene until DOT field staff can get to the scene. This intervention most often includes temporarily closing lanes while DOT is en route.

Examples of roadway/infrastructure damage that requires an immediate, emergency response includes:

- Downed stop signs – issues with other static signs can be addressed as maintenance staff are available. Downed stop signs, however, are an immediate threat to safety because there are often no other redundant warning mechanisms in-place where stop signs are located.
- Damage resulting in a lane/road closure – when a travel lane or roadway is blocked, typically when infrastructure falls or is knocked into the road.
- Damage significantly limiting safe travel – often relates to destruction of guardrails or barriers immediately separating the road from steep inclines, the sides of bridges/overpasses, or the opposite direction of travel (e.g., median barriers).
- Damage requiring inspection before further use – when damage occurs that potentially impacts the structural integrity of the road (e.g., bridge column struck during a crash, etc.) and where a DOT engineer must inspect the road before it can be authorized for further use.

In all cases of roadway/infrastructure damage, responders should investigate and verify the damage to confirm the report and collect essential details required to initiate DOT response (see Collecting a Complete Report). Once these essential details are in-hand, responders should notify the appropriate state or local DOT for the area. If unsure which transportation agency is responsible, responders may contact GDOT's Atlanta TMC 24-hours a day, 365-days a year.

When infrastructure is damaged due to a crash, DOT staff may contact the responding law enforcement agency to retrieve the report/record number associated with the crash. This will enable DOT to seek compensation from the responsible parties to recoup financial losses associated with repairs.

8.11 Cargo and Oversized Loads

8.11.1 Securing Cargo

Improperly secured cargo can have a range of impacts, depending on the size of the cargo in-question. Mattresses and ladders constantly fall from trucks or roof racks and can damage vehicles that hit them or cause crashes as motorists attempt to avoid them. Large cargo carried by commercial vehicles can be particularly destructive and, due to their size and weight, may require significant time and effort to remove.



Ultimately, the goal is to prevent cargo spills or debris by proactively helping secure cargo. Specifically for law enforcement officers, this may mean pulling over vehicles with improperly secured cargo. Examples include cargo that is visibly:

- Loose and at risk of falling from the vehicle.
- Too large or heavy for the vehicle/trailer in-use, especially where cargo protrudes into other travel lanes.
- Unsecured, especially where tie-downs and other restraints can be seen to have fallen off.

When stopped vehicles with improperly secured cargo are encountered, responders such as law enforcement, HERO, or CHAMP should:

- Offer to help the motorist secure their cargo properly
 - Use caution when assisting with cargo that may cause injury if dropped.
 - Wear appropriate PPE, especially work gloves, when handling sharp or rough cargo.
 - Use motorists' tie-downs and other restraints if available and appropriate for use.
 - HERO/CHAMP have additional tie-down equipment (e.g., rope) that may be requested.
- If the cargo cannot be secured properly, consider alternatives including:
 - Request assistance from HERO, CHAMP, or DOT maintenance.
 - Offer to transport motorist to/from a nearby gas station where they can purchase additional tie-downs.
- If the cargo still cannot be secured properly:
 - Advise the motorist that their vehicle is unsafe to operate until the cargo is properly secured.
 - Instruct the motorist to arrange for additional assistance and/or a tow truck.
 - Advise the motorist that any vehicles or cargo left on the shoulder may be removed quickly so they must arrange for a solution as soon as possible (ideally within the next 24 hours).

8.11.2 Oversized Loads / Super Loads

Oversized loads or super loads refer to transport operations involving very large commercial vehicles carrying exceptionally large and/or heavy cargo on public roadways. Some characteristics that are common for oversized/super loads include:

- Vehicles/loads too wide for a single travel lane, requiring that they partially impact an adjacent lane.
- Vehicles/loads too tall, requiring use of specially chosen routes whose bridges, overpasses, etc. are high enough to accommodate the oversized/super load.
- Vehicles/loads too heavy, requiring use of specially chosen routes whose weight limits are sufficient to accommodate the oversized/super load.
- “Spotter”/support vehicles often traveling in front of and behind oversized/super loads to identify upcoming hazards, help the transport vehicle operate in traffic (e.g., merge, etc.), and to monitor the load to ensure it remains secure.



Crashes involving oversized/super loads are often major and may require extensive clean-up operations if cargo is spilled. These crashes should be worked in accordance with agencies' existing protocols and in accordance with Georgia's Open Roads Policy and Authority Tow law. If removal of the transport vehicle or cargo is necessary, heavy-duty towing apparatus and other heavy equipment will be required. Responders should notify an appropriate heavy-duty tow company and DOT maintenance personnel for the area as soon as possible. If in a TRIP area, TRIP should be activated. See [Towing and Recovery Incentive Program](#) for additional information.

In most circumstances, oversized/super loads have a limited impact on traffic. This is primarily due to the amount of planning, oversight, and support that are required for these operations. Organizations seeking to conduct oversized/super loads must register in advance with state governments including GDOT and law enforcement. When aware of upcoming oversized/super loads, responder agencies and TIM stakeholders should notify other TIM partners in their area, providing them with the time/date of the move and the planned route that has been established. Heightened awareness – including monitoring by TMC operators, additional patrols along the established route, etc. – are effective methods to ensure oversized/super loads have a minimal impact and are responded to immediately if issues occur.

8.12 Adverse Weather

Adverse weather can have a range of impacts on safety and incident response:

- Heavy Rain
 - Limits visibility, increasing risk of crashes.
 - Reduces traction, increasing risk of crashes (hydroplaning, single-vehicle spinouts, etc.).
 - Generates flooding or slow-moving water that can close roads and strand vehicles.
- Snow/Ice
 - Limits visibility, increasing risk of crashes.
 - Reduces traction, increasing risk of crashes (especially “black ice” which may reoccur for days after initial winter event as icy patches melt and refreeze overnight).
 - Ice on trees, limbs, or power lines may cause obstructions in the road and power outages, which also result in traffic signal outages.
- High Winds
 - May bring down trees, limbs, and power lines.
 - Strong gusts may overturn “high-profile vehicles” (e.g., commercial vehicles with large, broad sides).



Actively monitoring the weather should be an essential part of all responders' daily routines. Leadership should continuously look for major weather events that will significantly impact their operations, potentially requiring a shift into “Emergency Operations,” which often involves the following:

- Increasing coordination with other stakeholders to align response efforts.
- Adjusting staff work schedules to ensure additional manpower for events.
- Mobilizing special equipment or resources such as plows, sand trucks, weather gear, etc.

All responders should be familiar with their organization's policies related to adverse weather and with the resources and practices that facilitate adverse weather response, including:

- Weather-appropriate apparel and gear.
- Safe driving practices (especially in slick conditions).
- Considerations for TTC such as extending TIMAs and increasing visibility and advanced warning.
- Establish conditions or thresholds deemed “unsafe for outdoor operations” (i.e., when field responders must cease/downgrade response and seek shelter).
- General expectation for increased rate of incidents, higher-severity incidents, and potentially longer workdays.

8.13 Incidents Involving Livestock

Incidents involving livestock often have an extended duration, result in full road closures, and require a significant amount of resources and manpower. Effective response to a livestock emergency requires action well in advance of the incident, including:

- Identifying and establishing agreements with local livestock responders, transporters, and storage/disposal facilities who can be contacted in case of an emergency.
- Development of a Livestock Emergency Response Plan (LERP) for your area.
- Training first responders to execute the LERP and perform such actions as handling or even euthanizing livestock. Ideally, this training is provided on a reoccurring basis and conducted in a joint training format with stakeholders from various agencies (especially law enforcement) and livestock responders being trained together.




This section provides an informative overview of incidents involving livestock and possible response measures. This guidance should not be used as a substitute for a well-established LERP and proper training.

Incidents involving livestock can result from a number of circumstances. Animals from nearby farms could escape their enclosures and enter the roadway. A stock trailer might breakdown and inadvertently release livestock while repairs are underway. For the purposes of this section, we will explore the most common scenario: A crash involving an overturned livestock trailer where some animals remain in the trailer, while others have escaped into the roadway. The following items should be considered when responding to an incident involving livestock:

- **NEVER trust any animal.** They are not capable of understanding that you only want to help. Especially during a traffic incident, livestock are scared, may be injured, and will behave erratically or with aggression. Livestock can run, buck, charge, or kick at any moment (NOTE: cows can kick behind them AND to the side). Any animal can cause serious harm or death to a responder at any time.
- **Do NOT rush in.** Incidents involving livestock are unfamiliar to most responders and are rapidly evolving situations. Carefully evaluate the incident and determine what vehicles are involved and the number, type, and condition of the animals. Assess traffic and the surrounding terrain and/or nearby structures. If the cause of the livestock incident is a crash, do not overlook other impacts or hazards that might also require immediate attention (e.g., human injuries, HAZMAT, etc.).
- **Take precautions against biohazards.** Livestock may carry diseases that can be dangerous to humans or to other animals if contaminants spread from the scene. Livestock incidents bring responders into direct contact with a host of bodily fluids and other substances such as blood and feces. In addition to the biohazard precautions discussed for [Blood-borne](#)

[Pathogens and Biohazards](#), responders should take care to thoroughly disinfect their clothing, shoes, and equipment before leaving the scene.

- **Notify livestock responders immediately and plan for their arrival.** Appropriate livestock responders should be contacted as soon as the incident is determined to involve livestock. This includes the **Georgia Department of Agriculture**, county Emergency Management Agency, and the local livestock responders listed in your LERP. If the driver transporting the livestock is able, ask them to assist with livestock response activities. Livestock responders will have an extended response time and will likely bring additional, heavy vehicles to the scene. Incident Command should establish a plan to help livestock responders reach the scene and get properly positioned among other response vehicles.
- 
- A photograph showing several emergency responders in high-visibility vests and uniforms working with horses. One responder is mounted on a horse, while others are on the ground. A white livestock trailer is visible on the left. The scene is outdoors on a dirt or gravel surface with trees in the background.
- **Establish containment measures before moving/capturing livestock.** Loose animals must be captured. Animals trapped in a livestock trailer must be extricated. However, there must be a place to contain these animals once responders have them. Containment measures must be large enough to hold all animals and prevent further escape (NOTE: horses can jump over 5ft). Containment measures must be sturdy enough to withstand the weight and force of the animals involved (NOTE: large cows weigh in excess of 800lbs).
 - **Be discreet.** When animals are involved, public perception can turn against first responders quickly. As soon as possible, responders should work to screen the incident and livestock handling efforts from view. Dead animals should be completely covered. Responding agencies should notify their Public Information Offices (PIOs) quickly and PIOs should coordinate with one another to ensure a consistent message is available as soon as possible.
 - **Be prepared to euthanize livestock.** Whenever possible, euthanasia should be conducted by a veterinarian or at their direction. However, responders may need to euthanize livestock themselves. In nearly all cases, law enforcement officers will be responsible for euthanizing livestock. Euthanasia is appropriate if (1) the animal presents an immediate danger to humans (e.g., prolonged aggressive behavior) or (2) the animal is severely injured (e.g., fractures, large wounds, unable to stand). Euthanasia must be conducted away from public view and in a manner that is as humane as possible. Formal LERP training provides detailed instruction on proper techniques for euthanizing livestock.
 - **Plan how livestock will be transported.** Ultimately, livestock must be removed from the roadway and transported to an appropriate destination. Ideally, livestock will be transported by parties identified in your local LERP but may be transported via a stock trailer or pickup truck, so long as such vehicles are appropriate for the size and weight of the animals. Response vehicles or semi-trailers should not be used. If possible, transport vehicles should be parked on solid ground/grass when they are loaded because livestock can slip on hard surfaces such as concrete or pavement. Also, livestock do not like to cross lines on the ground and may stop or buck if they encounter pavement markings.

- **Plan where livestock will be transported.** Live animals need food, water, and follow-up care as soon as possible after an incident. Uninjured livestock should be taken to an appropriate stockyard and injured livestock should be taken to a nearby veterinary hospital. Dead animals must be taken to a disposal facility equipped to process livestock. In all cases, these facilities must be notified in advance and consent to receiving livestock or carcasses.
- **Follow-up with your team, post-incident.** Incidents involving livestock can be emotionally taxing on responders. Agency leaders should debrief with their teams to gauge their emotional response and determine if further care or counseling is needed. Incidents involving livestock are also excellent opportunities for an After Incident Review (AIR). AIRs can help assess what went well and where additional planning or training is needed.

8.14 Police Activity

Police activity refers to non-traffic-related incidents that are primarily related to law enforcement efforts to respond to/investigate criminal activity (e.g., crimes occurring near or off the road but end up in the roadway) or to maintain order and public safety. Examples of police activity include:

- Searching for and/or apprehending suspects on/near roadway.
- Suicide threats/attempts where roads, bridges, etc. are closed.
- Protests or civil actions where roads, bridges, etc. are closed.
- Driver enforcement stops (e.g., pulling motorists over for speeding, etc.).
- Safety check points (e.g., to check for drunk driving, etc.).

Except for driver enforcement stops, law enforcement agencies must notify the DOT immediately whenever police activity impacts roadways. If possible, advance notification is ideal (e.g., for planned safety check points or for known protests, etc.). Whenever possible, police activity similar to driver enforcement stops or safety check points should be conducted outside of peak travel periods and with reasonable efforts taken to minimize the impact to traffic.



Responding agencies, who are not law enforcement, should only engage police activity in-so-far as their assistance is requested by law enforcement or when response aligned with their primary function is necessary (e.g., DOT providing traffic control, EMS providing emergency medical care).

8.15 Planned Special Events

Planned special events refers to non-emergency public events that are planned in advanced. This includes the following:

- Concerts
- Sporting events
- Fairs and community activities
- Television/movie productions

The impact of special events on traffic ranges depending on the size of the event (in terms of attendance), the timing of the event (especially if it will occur during peak travel periods), and the location of the event (especially where the venue is adjacent to primary thoroughfares or regularly congested roads).

Special events impact traffic in the following ways:

- By increasing volume – special events draw additional people and vehicles to an area, usually above what is normally expected for that area or time of day.
- By reducing capacity – special events often close lanes or roads or restrict normally accessible routes to facilitate ingress/egress of event staff, attendees, etc.

Due to their planned nature, TIM stakeholders have the opportunity to identify special events with sufficient time to develop a response plan. Developing response plans should be one of the regular activities conducted by TIM Teams for an area. Response plans should be developed in coordination with the event venue.

9 TIM Team Participants

TIM Teams are multi-disciplinary groups, typically comprised of responders from various agencies, who meet frequently to share information, plan for upcoming events, and generally work towards mutually beneficial goals related to TIM. TIM Team participants are individuals from any agency who lead TIM Teams, regularly participate in TIM Team activities, or are seeking to establish a TIM Team in their area.

9.1 Participating in TIM Teams

Any TIM stakeholder may participate in a TIM Team. To do so, TIM stakeholders should:

- Identify an active TIM Team for your area – this may include:
 - Your county or municipality's TIM Team.
 - TIM Team for your region.
- Determine when your TIM Team meets.
 - Quarterly or monthly are the most common frequencies.
 - If needed, discuss attendance with your supervisor.
- Reach out to the individual(s) who leads or facilitates your TIM Team's meetings.
 - Introduce yourself and any goals you have for participating.
 - Request being added to meeting invitations or email distribution lists.
 - Ask if there is anything you can do to prepare for the meeting (especially your first meeting).
- Set aside time to attend meetings.
 - This often includes travel time in addition to meeting time.
 - Discuss attendance, logistics, etc. with your supervisor in advance.
- Participate in TIM Team meetings and engage your peer network.

TIM Team participation is considered voluntary. Organizations participate because they recognize the value of stronger interagency partnerships and collaboration. To meaningfully contribute to a TIM Team, participants should:

- Understand and support the primary goal of Georgia's TIM Program: Safe, Quick Clearance.
- Be a positive, professional ambassador for your organization.
- Be patient, receptive, and open to the perspectives, priorities, and practices of other organizations.
- Make time to attend meetings and, when needed, reserve time outside of meetings to complete tasks that support TIM Team activities.
- Be present and actively engaged in TIM Team meetings: listen, ask questions, share ideas, and volunteer to help.
- Do what you say you will do.
- Take information that you acquire from TIM Team meetings back to your organization to keep them up-to-date and to build their knowledge.

9.2 Coordinating across Georgia's TIM Program

Georgia's TIM Program is comprised of multiple local and regional TIM Teams and statewide TIM support groups including the TIME Task Force and STIMS contract. Local/regional TIM Teams can benefit by coordinating with other TIM Teams or statewide TIM services to gain additional insight, guidance, or support for local initiatives.



All TIM Team participants are encouraged to establish and expand a wide network of peers across Georgia's TIM community. Reaching out to this network of peers on an informal basis is a great way to get timely advice or answer questions. When discussions become more formal (e.g., planning for upcoming events, drafting policy, establishing agreements, etc.), TIM Team participants should work with their supervisors to ensure activities are in-line with established laws/policies/goals and do not duplicate or conflict with other efforts.

TIM area analysts are also excellent resources for TIM Team participants to coordinate with on an informal or formal basis. TIM area analysts have access to a wide-range of TIM knowledge and insight on current/up-coming activities for Georgia's TIM Program, overall. TIM area analysts can also put local TIM Team participants in touch with other TIM stakeholders who can provide additional support for the participant's request.

9.3 Establishing TIM Teams

Georgia's TIM network continues to grow, which means establishing new TIM Teams to better support local areas. Most areas currently have a TIM Team that represents them. However, as needs change, local areas expand, or other influencing factors arise, there may be a need to establish new teams or to fundamentally alter existing teams. Examples include:

- Creating a new TIM Team where none previously existed.
- Creating a new, smaller TIM Team to provide better representation of an area previously covered by a larger TIM Team.
- Combining nearby TIM Teams to better represent a larger area.
- Establishing a Work Group/Task Force within a TIM Team to focus on a specific need or service.

TIM Teams are not informal, unstructured groups. When TIM Teams are established, it must be done intentionally, with a clear purpose, and with official support from the leadership of all affected stakeholders and Georgia's TIM Program. Motions to establish new TIM Teams should begin as formal discussions within the existing TIM Teams that cover the area in question. If

sufficient support is found, more formal proposals should be submitted up through stakeholder leadership and Georgia's TIM Program via TIM area analysts. These proposals may include written justifications, affidavits of stakeholder support, resource/funding estimates, and plans for how the new TIM Team would conduct business.

Ultimately, any newly established TIM Team must:

- Commit to adhere to and support safe, quick clearance as directed by Georgia's Open Roads Policy.
- Integrate with the organizational structure of Georgia's TIM Program to ensure continuity with all other local, regional, or statewide TIM groups.

9.4 TIM Team Activities

TIM Team activities vary depending on the team and area they support. In general, TIM Team activities foster relationships, improve situational awareness, enhance knowledge and skills, and improve stakeholders' ability to coordinate effectively. TIM Team activities are most often conducted during the team's regular meetings but may be held outside of these times (e.g., ad-hoc meetings, training sessions, etc.). Common activities include:

- **Networking** – allowing stakeholders to become acquainted, to “put names to faces,” and to establish contacts they may reach out to in the future for support.
 - Set aside unstructured time before and after regular meetings for participants to network.
 - Periodically start meetings by having all members introduce themselves. Always introduce new stakeholders to the entire team (do not leave them to introduce themselves).
 - Plan events, like potlucks, whose primary goal is networking.
 - Look for opportunities to invite other TIM stakeholders who may not typically attend TIM Team meeting to further expand all stakeholders' network and understanding.
- **Updates** – sharing information that is relevant to all TIM stakeholders including details about events, activities, and other items that are in-progress or coming up.
 - Road work projects; major sporting events or concerts; changes in a TIM stakeholder's policies, operating hours; etc. are all good topics to ensure all participants are on the same page and know what to expect.
 - Solicit and/or provide all stakeholders with an opportunity to provide updates at each meeting. Avoid letting meetings become focused on one stakeholder or one topic.
 - Document updates and send to all TIM Team participants after each meeting to ensure everyone – especially those who were not present – have the latest information.
- **Planning** – evaluating upcoming events or lessons-learned from recent incidents to establish response plans, coordination protocols, and other guidelines to support future activities.

- Involve all stakeholders who will be impacted by the event/incident or expected to support future response activities.
- If needed, establish small/informal work groups to further develop response plans, etc.
- Document response plans. Support each stakeholder's efforts to integrate protocols, guidelines, etc. into their existing policies and training.
- **AIRs** – see [Conducting After Incident Reviews](#) for further details.
- **TIM Training** – see [TIM Training](#) for further details.
- **Tours and Site Visits** – opportunities for TIM Team participants to see and learn about other TIM stakeholders' facilities, equipment, and team members.
 - This includes tours of stakeholders' headquarters, communication centers, etc.; drive-throughs of express lanes, WZs, or other corridors; and demonstrations of responder vehicles, equipment, or other technologies.
 - Tours and site visits are educational, but also help build deeper relationships between responders.
 - Drive-throughs of corridors can also be useful when developing response plans as they provide a unique opportunity to assess impacts and potential response strategies in the real-world.

9.5 Conducting After Incident Reviews

AIRs are multi-agency exercises where each stakeholder shares their experiences and observations relating to a recent traffic incident to identify actions that worked well and areas for improvement. AIRs are NOT investigations, nor are they opportunities to assign blame. All participants, especially those facilitating AIRs, should remain open and receptive to feedback and critique, and focus on identifying best practices to employ in the future.

AIRs are typically conducted for major incidents but may be conducted for less complex/severe incidents if needed. Ideally, an AIR should be conducted within one month of when the incident occurred. AIRs held after one month are often of limited value because much of the context that helps identify and inform best practices will be forgotten despite documentation of other critical details.



AIRs are best held in-person, attended by representatives from each stakeholder involved in the incident. Ideally, AIR attendees include responders who were directly involved in the incident (not just their supervisors or leadership). AIRs should be facilitated by a participant with well-established experience in TIM who is a competent public speaker and facilitator. Whenever possible, the AIR facilitator should be an objective third party (not involved in the incident at-hand).

It is recommended that AIRs are facilitated in a round-robin format, where input is actively solicited from each stakeholder. Effective AIRs typically begin by summarizing details of the incident (time, date, location, and duration), then proceeding to describe the general order of events chronologically, from detection to responder departure. Finally, AIRs invite discussion of areas of success, opportunities for improvement, and possible next steps.

TIM Team participants are encouraged to document AIRs using the official AIR Debrief Form ([Appendix A](#)). However, participants should be cautious in the language and level of detail used to document AIRs. The documentation should not be perceived to establish cause or assign blame. AIR Debrief Forms should be submitted to the TIME Task Force to be included in the TIME Debrief Database where it can be used to establish common best practices for Georgia's entire TIM community.

9.6 TIM Training

TIM Teams often provide educational presentations and hands-on exercises to increase participants' knowledge and skills relating to TIM. TIM Team training should be relevant to and applicable by most/all participants from different organizations. Topics and exercises that focus on multi-agency coordination are ideal and most effective when various agencies learn together, rather than alongside staff from their own organization, exclusively.

Training provided at TIM Team events may use official materials/curricula from Georgia's TIM Program or other state/federal sources. It may also use materials developed in-house by the TIM Team's own participants, specifically for their use. In-house training is best for addressing topics that are truly unique to the TIM Team in question (e.g., executing a response plan for crashes in a nearby work zone, etc.). TIM Teams are encouraged to make use of official materials/curricula, mostly because effective training for nearly all TIM activities exists and local TIM Teams do not spend the time and effort to recreate it. Whether official or in-house materials are used, all TIM training must align with state/federal standards, established best practices, and the goal of safe, quick clearance as directed by Georgia's Open Roads Policy.



TIM Team leaders should attempt to provide training regularly. Frequent training not only reinforces proper action, but it also allows participants more opportunities to interact and build relationships. TIM Team participants should work with their TIM area analysts to identify and arrange for TIM training opportunities.

9.7 Succession Planning (Building New TIM Leaders)

Continuity in leadership is one of the most significant challenges limiting the success of all organizations. This may include when a leader's tenure is short, when there is an extended gap between leaders, or when the next leader's vision, goals, etc. are significantly different from or in-conflict with their predecessor's. Georgia's TIM Program relies on hundreds of leaders across every discipline and in every part of the state to collectively maintain, support, and enforce the primary goal of safe, quick clearance. Without this collective commitment, injuries and deaths – including amongst responders – will rise.

Succession planning is the key to ensure continuity in leadership. In succession planning, current leaders (aka, "mentors") actively identify and groom high-performing employees (aka "successors") who demonstrate the behavioral and technical competency necessary to be effective leaders in the future. Succession planning relies on a "two-pronged" approach involving investment on the part of mentors and action on the part of successors.

Mentors should:

- View succession planning as one of their essential responsibilities.
- Actively look for and carefully evaluate successors.
 - Look for "potential," not "perfection" – a viable successor should be capable of learning and growth, not necessarily ready to lead today.
 - Look for demonstrated value, not hypothetical value – a viable successor's performance should be tangible and observable, not just "what could be" under the right circumstances.
 - Check the "institutional boxes" first – consider your organization's requirements for leaders, e.g., educational experience, work history, criminal background, etc., before investing completely in a successor.
 - Cultivate multiple successors – a small pool of candidates increases the odds that your investment will lead to an organized, strategic transfer of leadership. One is not enough. Five is probably too many. Not everyone can be a successor.
- Actively invest in their successors' development.
 - Work with them to identify a development plan that identifies additional knowledge/experience they need to gain.
 - Spend time with them to teach and demonstrate what they should know.
 - Give them real responsibilities that have real stakes, so they gain actual experience.
 - Give them the latitude to make decisions and determine their own approach.
 - Let them make mistakes and hold them accountable.
- Advocate for their successors.
 - Communicate your succession plan and successors to leadership, stakeholders, etc.
 - Put your successor in situations where they will be visible to your leadership, stakeholders, etc. and able to form relationships with them.
- Demonstrate the values and goals that make their organization successful.
 - Ensuring continuity in our primary goals (e.g., safe, quick clearance) is one of the primary reasons for succession planning.

- State and re-state what these values and goals are.
- Consistently demonstrate these values and goals in your own actions.
- Insist that your successors demonstrate and advocate for these values and goals as a condition of their professional development.

Successors should:

- View succession planning as a privilege, an opportunity that is theirs alone to lose.
- Actively invest in their own growth and potential career progression.
 - Perform your core job to the best of your abilities.
 - Maintain positive, professional working relationships with all peers, supervisors, stakeholders, etc.
 - Continuously seek out opportunities to learn, including additional, formal education.
 - Volunteer and take on new tasks that are beyond your core job duties.
 - Do what you say you will do.
- Be clear about their goals and motivations.
 - Communicate your professional goals with your leadership.
 - Work with your mentor to establish a development plan to gain the required knowledge and experience.
 - Be honest with yourself and your mentor about your motivations. Whatever your motivations are (e.g., more money, more authority, etc.), know them and work to set realistic expectations and to integrate them into your growth plan as productively as possible.
- Be patient.
 - Set realistic timeframes for certain developmental or career progression milestones and periodically reassess and readjust them.
 - Respond well to setbacks – even when job opportunities go to others. More opportunities will come and your reaction to setbacks tells your leadership whether you are ready or not.
- Demonstrate values and goals that make their organization successful.
 - Adopt the primary goals (e.g., safe, quick clearance) of your organization.
 - Demonstrate them in your actions
 - Advocate for them among peers, stakeholders, etc.
 - Actively participate in the professional development of more junior colleagues, demonstrating your organization's values and goals along the way.

10 TIM Policymakers

TIM policymakers are individuals who are responsible for establishing or influencing TIM-related policies for their respective organizations. This also includes stakeholders who may develop or procure TIM-related resources for their groups or who lead TIM-related training activities. TIM policymakers often hold positions of leadership; this chapter is written for anyone with the means and ability to shape how their organization operates.

All policy changes must engage the highest level of an organization's leadership and receive explicit approval in writing.

10.1 Authority and Approval

Effective TIM policymakers possess an intimate understanding of the following concepts:

- **Everyone has a boss** – this means that, no matter what your title or organizational level is, there is someone that you answer to; from whom you must receive approval.
- **No one operates in a vacuum** – this means that all actions and decisions impact others around you and your choices have intended and unintended consequences.

TIM policymakers must be familiar with their organization's processes, approval hierarchies, and stakeholders. Before exploring a policy change, **TIM policymakers must ensure they have the authority to influence the policy in-question.** Before implementing a policy change, **TIM policymakers must receive written approval from their leadership and the leadership of any directly impacted stakeholder.** As a rule of thumb, if your change requires another stakeholder to either take additional action or to expect less support from your organization, that stakeholder must be part of your policy's approval process.



10.2 Policy Life-Cycle

Policies are often considered, "living documents." This means that policies are intended to change, to be periodically reassessed, and to be revised to suit current needs.

Most policies do not originate from proactive, strategic planning. Instead, they most often arise out of a sudden need or an unforeseen event. TIM policymakers should be constantly on the lookout for these situations and should capitalize on them by documenting the lessons learned and the resulting best practices. Even seemingly unique events may be worth establishing formal policy for and integrating into on-going training.

When a potential policy concept is identified, TIM policymakers should:

- **Engage your organization's leadership.**
 - Confirm that you have the authority to influence this policy.
 - **Gain approval to explore it further and/or engage other parties.**
- Share the basic concept with others. Start with a small group of internal peers and some close TIM Team partners.
 - Get feedback.
 - Allow input from others to shape or change the concept.
- Flesh out the concept with additional details and logistical considerations – ask yourself:
 - What would it do?
 - Who would do it?
 - Who would it benefit and how?
- Critically investigate key details and requirements – ask yourself:
 - Does this change align with our existing policies and our primary goal of safe, quick clearance?
 - Do we have the budget, resources, or authority to support this change?
 - What can be done with what we have, and would that provide sufficient benefit?
- Develop a realistic solution and share your well-thought-out concept with a wider group within your organization and with your TIM Team.
 - Allow them to shape or change the concept.
 - Identify partners who will support and advocate for your concept.
- Test your concept, if possible. Build a prototype, perform a pilot evaluation, or practice in a near-to-real-world scenario.
 - Failure here is great. Fix or change what does not work.
 - Ask for user feedback.
- Bring a formal proposal to leadership from your organization and Georgia's TIM Program.
 - Demonstrate the level of multi-agency support you have.
 - Provide an implementation plan (e.g., training, set-up, etc.).
 - **Gain written approval for your new policy from your organization's leadership and leaders of any directly impacted stakeholder.**
- If approved, support implementation of your new policy.

When developing a new policy, TIM policymakers should consider the following:

- What are the intended outcomes?
 - What do I want to happen?
 - Who do I anticipate will benefit?
- What are the UN-intended consequences?
 - Will this policy adversely affect how we operate?
 - Will this policy adversely affect how our stakeholders operate?
- Is my policy change viable and/or appropriate?
 - Does it rely on resources we do not have or circumstances we cannot control?
 - Does it reflect our organization's and our stakeholder's values in the proper light?
 - How likely is this policy to actually achieve its intended outcomes?

- Is this best practice?
 - What established principle am I basing this on?
 - Beyond seemingly logical conclusions or anecdotal input, what proof or tangible evidence do I have to support my policy?
- Is there consensus?
 - Does my organization support this policy?
 - Do my TIM partners support this policy?

10.3 Self-Assessment

TIM policymakers should regularly re-evaluate their programs to determine if their current activities align with their near and long-term goals. This enables them to manage policies and strategic activities to better achieve intended outcomes. Self-assessments also look at the progress that has been made towards intended goals, evaluates the strategies and priorities that have been applied, and acknowledges any barriers or setbacks that have been encountered. The importance of self-assessments is based on the following three tenets:

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

Regular self-assessments allow TIM policymakers to keep their programs on-track via minor adjustments versus the large, costly overhauls that often result when a program has not been re-evaluated in a few years. Self-assessments can be performed at a variety of levels, including:

- **Program-wide** – holistic review of entire program, which requires completion of all self-assessments described below and synthesis of individual action plans into one, unified Strategic Plan for the program.
- **Service level** – evaluating the customer/stakeholder-facing services the program provides and determining if current services align with program/organization goals and stakeholder needs; determining if services need to be changed, dropped, or new services added.
- **Support level** – evaluating policies, training, agreements, etc. that enable your program's services or equip your people to perform them; determining if these support items meet needs or if new/updated items are required.
- **Stakeholder level** – evaluating the needs, capabilities, etc. of customers, stakeholders, etc.; determining if the program is providing what is needed and receiving the stakeholder support it requires.
- **Resource level** – evaluating the program's budget, vehicles/equipment/tools, employees, etc.; considering how work is distributed across resources and the workflows used to complete tasks; determining if the program is adequately resourced and/or task-organized to achieve program goals.

TIM policymakers can perform self-assessments on their own but are encouraged to solicit feedback from their organization's front-line workers and stakeholders. This will ensure feedback is well-rounded and objective. The output of any self-assessment should be an action plan or program-wide strategic plan. Ideally, these plans should summarize your self-assessment process, findings, and limiting factors, and provide a detailed road map of corrective actions. At a minimum, TIM policymakers should establish a plan to re-align their program, services, etc. with their organization's goals and stakeholder's needs. **Any and all changes to policy, services, stakeholder engagement, or other programmatic elements must be explicitly approved by an organization's highest level of leadership.**

10.3.1 FHWA Traffic Incident Management Self-Assessment

Georgia's TIM Program uses the TIM-CMSA tool to complete regular self-assessments. This tool provides a series of probing questions to help TIM stakeholders self-evaluate all dimensions of the TIM Program. These questions cover the three main TIM program areas identified in the NUG:

- **Strategic** – questions on formal policies and understandings among agencies and TIM partners, including performance measures and program evaluation. Includes:
 - Formal TIM programs
 - TIM training and AIRs
 - TIM performance measures
- **Tactical** – questions covering on-scene response and clearance practices, traffic control, and responder and motorist safety. Includes:
 - TIM laws
 - Policies and procedures
- **Support** – questions on interagency communications, data sharing, ITS for TIM, and traveler information. Includes:
 - Data collection and sharing
 - Integration between systems and services

TIM-CMSA questions are detailed and touch on specific services, resources, priorities, etc., which are referred to as "Capabilities." For each capability question, TIM stakeholders provide a score (Level 1 to Level 4) to describe or indicate how much progress the stakeholder feels their organization has made in that capability. Below are the capability levels:

- **Level 1: Ad-hoc** – low level of capability
- **Level 2: Managed** – medium level of capability
- **Level 3: Integrated** – high level of capability
- **Level 4: Optimized** – highest level of capability

Completing the TIM-CMSA results in a score (out of 100) for the organization to compare its progress against its own progress in prior years or against the progress of other TIM programs, nationally. The TIM-CMSA also provides a framework to re-prioritize strategies and develop action plans to increase capability levels.

10.4 Establishing Memorandums of Understanding and Formal Agreements

Response planning between responder organizations is a common and encouraged activity to prepare for and mitigate upcoming planned events (e.g., road work, concerts, etc.) or unplanned incidents involving unique challenges (e.g., incidents involving hazmat, livestock, etc.). Typically, plans and collaboration agreements at this level can be made informally, without executive-level approval and with minimal documentation, payment, etc.

However, it is often beneficial for TIM stakeholders to establish memoranda of understanding (MOUs) and other agreements to formally validate and authorize the partnership, to define the services and resources that will be provided and by whom, and to otherwise document the terms and protocols of the agreement.

TIM policymakers are often responsible for developing MOUs and formal agreements. This includes gaining buy-in from stakeholders who will participate in the agreement, drafting the verbiage that defines and documents the agreement, and establishing plans for how the agreement will function once in-use. Developing an MOU or formal agreement is best done in collaboration with the stakeholders that will participate in the agreement directly (e.g., by providing the defined services) or indirectly (e.g., vendors who sell required resources, instructors to train responder staff, etc.).

Executive leadership for each stakeholder organization involved should authorize and grant official approval of a proposed MOU/formal agreement before it is implemented. Initial approval should be granted before any time or effort is spent building the details of the plan. TIM policymakers must adhere to the limits of their authority and to their organization's policies for establishing MOUs and formal agreements. It is often appropriate for TIM policymakers to include their organization's administrative bodies throughout the development and implementation of an MOU/formal agreement. This may include human resources, ethics and compliance, legal, procurement/asset management, and information technology. As with any plan that will impact operations, TIM policymakers should seek input from front-line personnel who have first-hand experience with the subject of the MOU/formal agreement and/or will support it directly.

MOUs and formal agreements are often referred to interchangeably but have a few key differences. MOUs typically do not involve financial exchanges between stakeholders or legally enforceable promises. Stakeholders may spend money to support the services defined in the MOU and stakeholders may hold themselves and others socially accountable to their commitments, but participation in the MOU is ultimately voluntary. Examples of MOUs include Georgia's Open Road's Policy or local TIM teams agreeing to conduct training with one another. MOUs are best for applications where stakeholder participation and investment is important but not required.

Formal agreements, however, most often involve explicit, legally enforceable terms relating to payment, service level, start and end dates, etc. These agreements are always documented and often require multiple levels of official authorization. Examples of formal agreements include the Towing and Recovery Incentive Program (TRIP), rotation wrecker lists, or a local agency's contract with a uniform supplier. Formal agreements are best used for applications where a specific service or service level is needed, payment is exchanged, and participation is obligatory.

10.5 Performance Measurement

Performance measurement is essential for any organization to monitor its efforts and course-correct where needed. TIM policymakers nationwide are recognizing the benefit of using objective, data-driven decision-making to manage their programs rather than relying on seemingly logical input or anecdotal feedback. Examples of sound, data-driven decision-making include:

- Consistently high injury and fatality rates (especially among responders) should compel TIM policymakers to incorporate and enforce standards for safe, quick clearance within their organization.
- Consistently slow response times in a particular area may be cause for a TIM policymaker to re-evaluate their patrol areas or where units are assigned.
- Consistently excessive incident durations involving large commercial vehicles may prompt TIM policymakers to invest in services that target heavy-duty vehicle clearance (e.g., TRIP).

Most TIM performance measures are drawn from the [Traffic Incident Timeline](#):

- **Time to Verify Incident** – minutes between incident occurrence (T_0) and incident verified (T_2). Slower times may indicate:
 - Insufficient detection resources (e.g., CCTV traffic cameras, etc.).
 - Limited availability of field staff to verify.
- **Time to Initiate Response** – minutes between incident verification (T_2) and response identified and dispatch (T_3). Slower times may indicate:
 - Inability to reach responders.
 - Insufficient coordination protocols.
- **Time for Responders to Arrive On-scene** (i.e., Response Time) – minutes between incident verification (T_2) and when responders arrive on-scene (T_4); NOTE: this may be measured for each responder and/or for all responders, collectively. Slower times may indicate:
 - Limited availability of field staff.
 - Patrol/coverage area too large or under-resourced.
 - Insufficient coordination protocols.
- **Roadway Clearance Time** – minutes between incident verification (T_2) and when all lanes reopen (T_5). Slower times may indicate:
 - Issues occurring in verification and response.
 - Ineffective coordination on-scene.
 - Insufficient performance of clearance activities.
- **Incident Clearance Time** – minutes between incident verification (T_2) and when all responders depart scene. Slower times may indicate:
 - Similar challenges as roadway clearance time.
 - Limited use of strategies to minimize exposure (e.g., completing reports off-scene).
- **Time for Traffic to Return to Normal Flow** – minutes between incident occurrence (T_0) and when traffic returns to normal flow (T_7). Slower times may indicate challenges in all previous phases of incident response.

TIM policymakers are encouraged to use these measures to gauge and manage their organization's performance. Minor operational improvements can be implemented that have significant positive

impacts (e.g., additional re-training, optimizing employee schedules or work areas, etc.). If these measures are used, TIM policymakers should apply the same calculation methods as described above (e.g., Response time = minutes between incident verification [T_2] and arrival on-scene [T_4]). This will ensure that all agencies are measuring performance in the same way and can reasonably compare strategies, learn from another stakeholder's best practices, or work together on a common solution.

11 Glossary of Terms

Activity Area	Section of the highway where incident response activities take place. The activity area is comprised of the upstream buffer space and the incident space.
Advance Warning Area	Section of highway where motorists are informed about the upcoming incident area.
Block	Positioning of an emergency vehicle to create a physical barrier between upstream traffic and the incident space.
Buffer Space	A lateral and/or longitudinal area that separates personnel and vehicles in the protected incident space from nearby moving traffic.
Crash Reconstruction	The process of recreating an accident, including the attempt to identify, based on the best available evidence, the events that led up to the occurrence of the accident as well as the attempted re-enactment of the accident.
Downstream	Roadway or traffic flow beyond the incident space, when considered from the perspective of a passing motorist.
Emergency Medical Technician	A person trained and certified to initiate the administration of emergency care for victims of trauma or acute illness before or during transportation of the victims to a health care facility via ambulance or aircraft.
Emergency Temporary Traffic Control	TTC devices, equipment, and personnel implemented in response to an unplanned traffic incident. Not to be confused with the full TTC imposed in response to highway maintenance, highway work zones, or major events with longer durations.
Flagger	Personnel assigned to control stop and go traffic or direct traffic in conformance with the <i>MUTCD</i> .
High-occupancy Vehicle (HOV) Lane	An expressway lane restricted to vehicles with at least two occupants; intended to move more people rather than more cars.
Incident Command	Responsible for overall management of the incident and consists of the Incident Commander, either single or Unified Command, and any assigned supporting staff.
Incident Command Post	The field location where the primary tactical-level, on-scene incident command functions are performed.
ICS	A standardized, on-scene, all-hazard incident management concept that is based upon a flexible, scalable response organization providing a common framework within which people can work together effectively.
Incident Commander (IC)	The on-scene ranking officer, representing the agency with incident jurisdiction that performs the command function.
Incident Space	Physical area of the roadway within which the emergency responders perform their EMS, fire, law enforcement, and recovery tasks at a vehicle-related incident.
Initial Responder	The first responding person or unit to arrive at an incident scene.
Investigator	Law enforcement officer that examines crime scenes to gather and process physical evidence that may link suspects to the crime scenes.
Landing Zone	A designated location where a helicopter may safely take off and land.

Lane Plus One	The practice of fire and rescue and other responders to close an additional travel lane as a buffer space to the work zone.
Manual on Uniform Traffic Control Devices (MUTCD)	The national standard for traffic control devices. <i>MUTCD</i> Chapter 6I covers the use of traffic control devices at an incident scene.
Memorandum of Understanding (MOU)	An agreement between two or more parties outlined in a formal document that often specifies the circumstances in which the parties will work together and the support that each party is expected to provide.
National Incident Management System	A system mandated by Homeland Security Presidential Directive 5 that provides a consistent nationwide approach for governments, the private sector, and nongovernmental organizations to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity.
National Traffic Incident Management Coalition	The NTIMC is a forum of national organizations representing EMS, fire, law enforcement, public safety communications, towing and recovery, and transportation communities working together to promote multi-disciplinary, multi-jurisdictional TIM programs and activities.
National Unified Goal	Established by the NTIMC, the NUG is responder safety; safe, quick clearance; and prompt, reliable, interoperable communications.
Open Roads Policy	The interagency agreement that serves to inform incident responders of the urgent need to rapidly remove disabled or wrecked vehicles, spilled cargo, and debris obstructing the normal flow of traffic.
Public Address System	An electronic amplification system used to reinforce a sound source.
Responders	All personnel who have a responsibility in managing an incident and mitigating its impacts.
Response Plan (RP)	This phrase has two acceptable uses: 1) A plan detailing appropriate response measures that should be executed to mitigate impacts from an unplanned incident or planned event. This usage is common throughout the TIM community. 2) A system-generated plan, recommended by an advanced traffic management system (ATMS), that specifies how DMS should be used in response to a traffic incident. This usage is typically only found among transportation agencies, specifically TMC staff.
Staging Area	Location established where available resources can be temporarily housed or parked while awaiting operational assignment.
Tapers	Used to move traffic out of or into the normal path using a series of channelizing devices.
Termination Area	Area used to return motorists to their normal path. The termination area extends from the downstream end of the incident space to the last TTC device.
Traffic Control Device	All signs, signals, markings, and other devices used to regulate, warn, or guide traffic.
Traffic Incident	A non-recurring event that causes a reduction of roadway capacity or an abnormal increase in demand.

Traffic Incident Management	The systematic, planned, and coordinated use of human, institutional, mechanical, and technical resources to reduce the duration and impact of incidents, and improve the safety of motorists, crash victims, and incident responders.
Traffic Incident Management Area	Area of a highway where TTCs are imposed by authorized officials in response to an incident. A TIMA is a type of TTC zone and extends from the first warning device to the last TTC device or to a point where vehicles return to the original lane alignment and are clear of the incident. The components of a TIMA include an advance warning area, a transition area, an activity area, and a termination area.
Transition Area	The section of the highway where motorists are redirected out of their normal path. The transition area is the area in which approaching motorists should change their speed and position to comply with the emergency traffic control measures established at an incident scene.
Trapped Queue	A large group of stationary motorists who are unable to progress due to an incident/road closure ahead of them and no means to leave the roadway, usually because there are no exits between them and the closure.
Unified Command	An ICS application in which responding agencies and/or jurisdictions with responsibility for the incident work together to establish a common set of objectives and strategies.
Upstream	Roadway or traffic flow prior to the incident space, when considered from the perspective of a passing motorist.



Appendix A. After Incident Review Debrief Form





Traffic Incident Management Debrief Form

Electronic Form can be found on:

www.timetaskforce.com

Submit completed form to the TIME Task Force at:

info@timetaskforce.com

Incident Information	
Incident Type:	
Date:	
Time:	
Location:	
County:	
Municipality:	
Weather:	
Responding Agencies Involved	
Police	
Fire	
HERO	
DOT Maintenance	
Towing/Recovering	
Other	
Incident Statement <i>(Provide a brief overview of the lesson learned)</i>	
Discussion of Activities <i>(Provide a factual description of the events and circumstances)</i>	

Traffic Incident Management Debrief Form

Electronic Form can be found on:

www.time-taskforce.com

Incident Information						
Analysis <i>(Provide an analysis of the activities, describing both good practices and opportunities for improvement)</i>						
Recommended Actions <i>(Make specific recommendations for actions to be taken by agency type or specific agency.)</i>						
Applicable Agencies <i>(List the agencies or organizations to which the lesson learned will apply.)</i>						
Additional Key Phrase(s) <i>(Include key words or phrases that will assist in recovering this incident using search engines.)</i>						
Can this lesson be included in the TIME Debrief Database? <i>Yes or No</i>						

Contact Information	
Title	
Name	
Agency	
Address	
Phone	
Email	
Discipline (Fire, Police, Haz-Mat, DOT, Towing,	



Appendix B. Towing and Recovery Association of America Vehicle Identification



TRAA VEHICLE IDENTIFICATION GUIDE[®]

CLASS 1 • LIGHT-DUTY • (6,000 lbs. or less GVW - 4 tires)*



CLASS 2 • LIGHT-DUTY • (6,001 - 10,000 lbs. GVW - 4 tires)*



Classes 1 and 2 include passenger vehicles, light trucks, minivans, full size pickups, sport utility vehicles and full size vans.

CLASS 3 • MEDIUM-DUTY • (10,001 - 14,000 lbs. GVW - 6 tires or more)*



CLASS 4 • MEDIUM-DUTY • (14,001 - 16,000 lbs. GVW - 6 tires or more)*



CLASS 5 • MEDIUM-DUTY • (16,001 - 19,500 lbs. GVW - 6 tires or more)*



CLASS 6 • MEDIUM-DUTY • (19,501 - 26,000 lbs. GVW - 6 tires or more)*



Classes 3 through 6 include a wide range of mid-size vehicles, delivery trucks, utility vehicles, motorhomes, parcel trucks, ambulances, small dump trucks, landscape trucks, flatbed and stake trucks, refrigerated and box trucks, small and medium school and transit busses.

CLASS 7 • HEAVY-DUTY • (26,001 - 33,000 lbs. GVW - 6 tires or more)*



CLASS 8 • HEAVY-DUTY • (33,001 lbs. and over GVW - 10 tires or more)*



Classes 7 and 8 include a wide range of heavy vehicles, large delivery trucks, motor coaches, refuse trucks, cement mixers, all tractor trailer combinations including double trailers.

Information Needed To Correctly Dispatch Towing and Recovery Units:

- Year, Make and Model of Vehicle to be Towed or Recovered
- DOT Classification (Class 1 – 8 based on GVW)
- Location of Vehicle
- Type of Tow (impound, accident, recovery motorist assist, etc.)
- Additional Vehicle Information
 - 2 wheel drive, 4 wheel drive, all wheel drive
 - damage to vehicle, tire condition
 - vehicle loaded or empty
 - cargo contents
 - does the vehicle have a trailer
 - are the keys with the vehicle

Note: Any vehicle may carry hazardous materials. Advise if placarded.

*** Note:** The Gross Vehicle Weight Rating (GVWR) of the vehicle to be towed or recovered can be found on the identification label on the vehicle's driver's side doorframe. The number of pounds listed on the label can then be compared with the DOT Classification Vehicle Type Chart for the correct DOT class.

Law enforcement communications with towing and recovery operators describing an incident and the vehicles involved can insure quick and efficient clearing of these scenes and less disruption to traffic flow. In an effort to standardize communications, the towing industry is adopting the federal vehicle class standards as outlined herein.

VIN CODES








The year of the vehicle is critical information for towing operators in order for them to reference correct towing procedures. The diagrams on the front are examples of classifications. The following information about vehicle identification numbers affixed to the chassis will help determine the vehicle's year. As noted, the vehicle's year, identified by a letter or number in the VIN sequence, is the eighth character from the right.

1P8ZA1279SZ215470

EXAMPLE 1995 VIN NUMBER: _____

1980.....A	1987.....H	1994.....R	2001.....1	2008.....8
1981.....B	1988.....J	1995.....S	2002.....2	2009.....9
1982.....C	1989.....K	1996.....T	2003.....3	2010.....A
1983.....D	1990.....L	1997.....V	2004.....4	2011.....B
1984.....E	1991.....M	1998.....W	2005.....5	2012.....C
1985.....F	1992.....N	1999.....X	2006.....6	
1986.....G	1993.....P	2000.....Y	2007.....7	

TOW TRUCK/CAR CARRIER CLASSIFICATION

<p>LIGHT-DUTY</p> <p>TOW TRUCK</p>  <p>CAR CARRIER</p> 	<p>HEAVY-DUTY</p>  
<p>MEDIUM-DUTY</p> <p>TOW TRUCK</p>  <p>CAR CARRIER</p> 	<p>LOW BOY TRAILER</p> 

Illustrations: © T1 Publications and Vehicle Identification Guide: ©TRAA

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Appendix C. Lane Numbering Convention



Lane Numbering Convention

This convention allows responders to refer to different parts of the roadway quickly and consistently in a way that is clear and easily understood.

Travel lanes are numbered from left to right (as seen from the motorist's perspective) with the left-most lane being "Lane 1." For example, a 3-lane highway would be numbered as shown below:

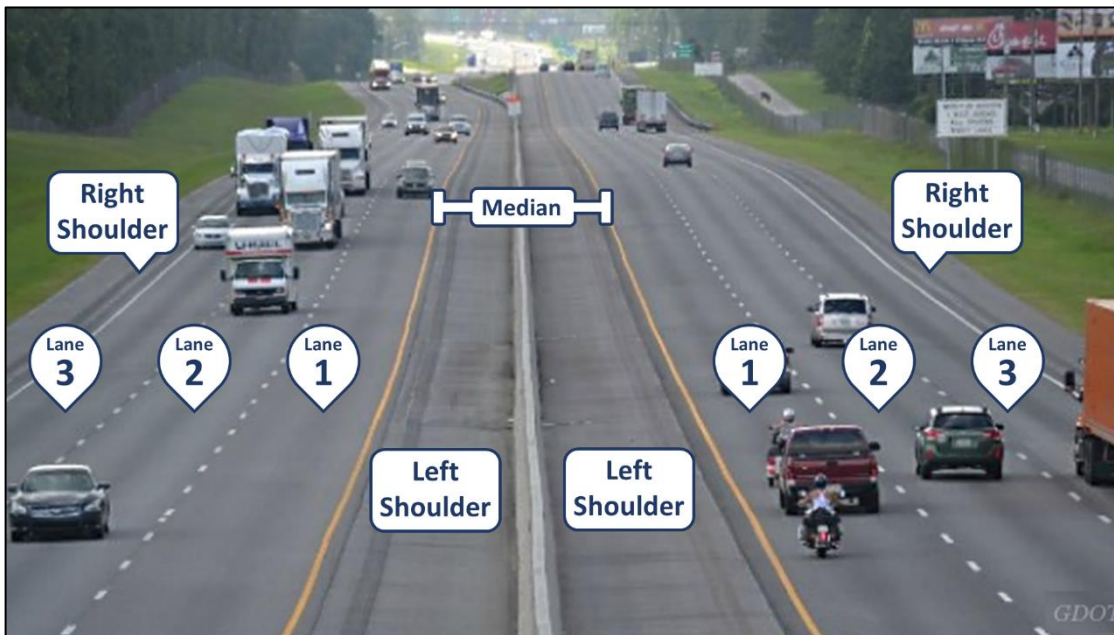


Figure 28. Lane Numbering

When special/alternative use lanes are directly adjacent to the general-purpose lanes, such as a high-occupancy vehicle (HOV) lane, those lanes are referred to separately from the general-purpose lanes. In the example below, the HOV lane would be referred to as the "HOV lane" and the standard lane numbering convention would continue for the general-purpose lanes, starting with "Lane 1" directly adjacent to the HOV lane:

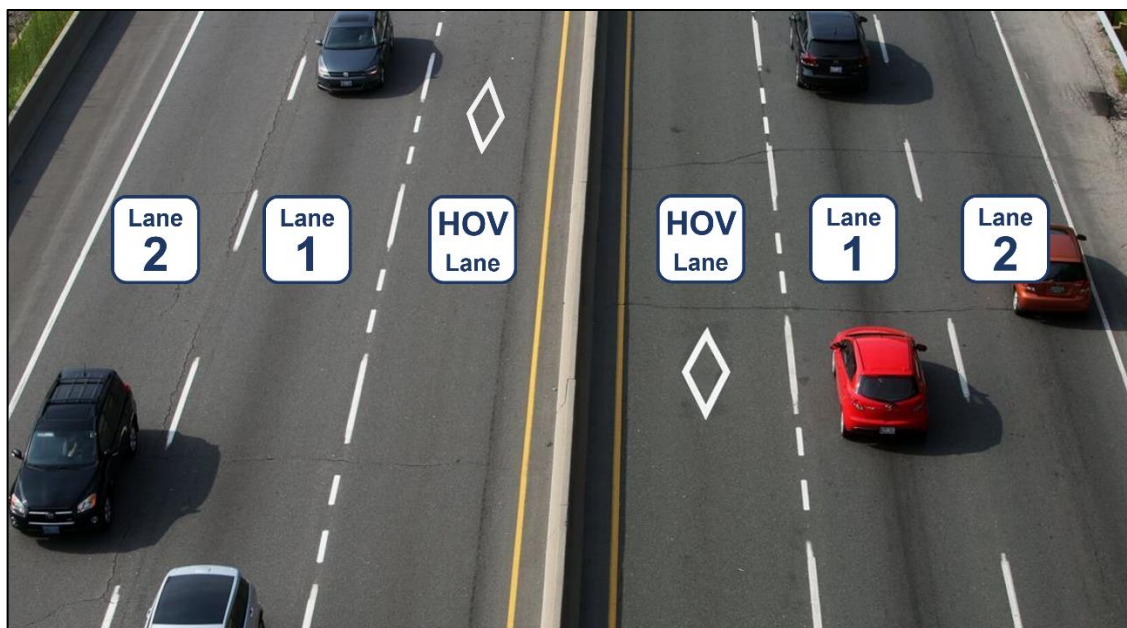


Figure 29. Lane Numbering with HOV



Appendix D. Upstream/Downstream Terminology



Upstream/Downstream

Upstream and downstream are two important terms for responders to describe the location of vehicles, response activities, etc. in relation to the flow of traffic. The normal flow of traffic is “downstream” so, if we use the incident scene as a point of reference, anything that is past the incident in the direction that traffic is flowing is considered DOWNSTREAM from the incident and anything that is before the incident is considered UPSTREAM. In the example below, the law enforcement unit is positioned UPSTREAM from the incident and the wrecker vehicle is positioned DOWNSTREAM from the incident.

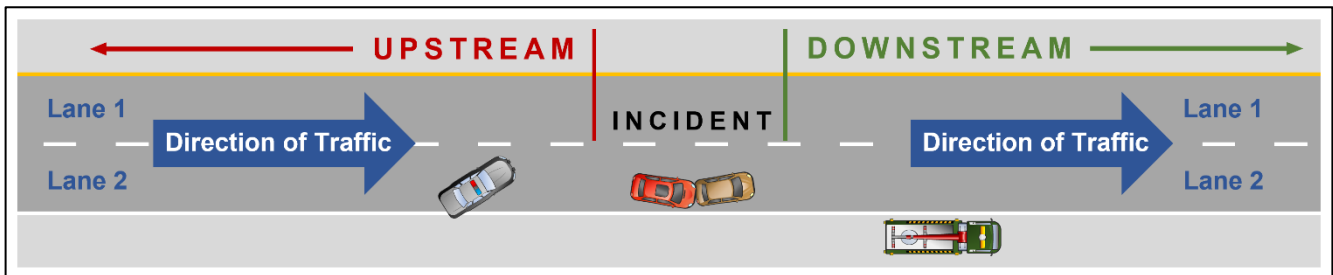


Figure 30. Upstream and Downstream