IACP
International Association of Chiefs of Police

UN-JAMMING TRAFFIC:

Driving Toward Safer, Quicker Clearance of Traffic Incidents

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A Letter from the IACP President

Dear Colleagues,

Traffic safety is a major concern worldwide. Every day, thousands of drivers, pedestrians, cyclists and other road users lose their lives in roadway incidents. Among some of the most vulnerable are the police who respond to crashes, often putting themselves in harm's way to protect the lives of others.

In the United States alone, 20,000 first responders are injured each year when called out to traffic incidents. In 2019, 44 responders, including 18 law enforcement officers, died in the line of duty when struck by a vehicle at an incident scene. It is imperative that we, as police leaders, make the safety of our responders the highest priority. Training officers in traffic incident management increases the safety of responders by minimizing their exposure to passing traffic; reducing the probability of secondary crashes; and alleviating overall traffic congestion and delays.

The International Association of Chiefs of Police (IACP) is committed to supporting officer safety. This toolkit contains resources that will help officers achieve safe, quick clearance of these dangerous incidents. By educating our responders, building relationships for a coordinated and efficient response, we can save lives, reduce economic losses, and reduce time that traffic lanes are closed. Safe, quick clearance of traffic incidents ultimately improves the quality of life for everyone.

We encourage law enforcement to take time to review these materials and incorporate the resources provided into your daily work.

Sincerely,

Chief Steven R. Casstevens
President, IACP

Executive Summary

Every day, collisions and other traffic incidents wreak havoc on roadways around the world. In 2019, 44 responders—18 law enforcement officers, nine fire/EMS responders, 14 tow operators, and three mobile mechanics—died after being struck by a vehicle in the United States. On average, another 20,000 first responders are injured in the U.S. a year while responding to traffic incidents. At risk are not only the lives of the drivers and passengers involved, but also the welfare of surrounding motorists and bystanders, the safety of police and other responders, and even the health of the economy.

The International Association of Chiefs of Police (IACP) and the National Highway Traffic Safety Administration (NHTSA) created the *Un-jamming Traffic: Driving Toward Safer, Quicker Clearance of Traffic Incidents* white paper, as the foundational element of the Safe, Quick Clearance toolkit. This white paper highlights the issue and defines traffic incident management (TIM). Safe, quick clearance describes the impact of secondary crashes, and provides solutions that demonstrate the value of adopting practices that can reduce traffic congestion and the risk of secondary crashes. These practices can increase responder and public safety and improve the overall quality of life for their community.

This white paper highlights effective strategies that law enforcement agencies can utilize to improve their response to traffic incidents. Included are considerations for getting buy-in from elected officials and other leaders and developing and implementing laws and policies, to increase safety for responders and the public; encourages the promotion of TIM training and awareness to help train responders and inform motorists; establishes the importance of after-action reports; and outlines specific performance measurements to capture that provide critical input for law enforcement agencies.

While it's unrealistic to prevent all traffic incidents from occurring, law enforcement can reduce the impact. It is imperative that law enforcement makes the safety of responders and the community the highest priority. Training officers in traffic incident management and developing a coordinated response with partner agencies, increases the safety at the incident scene by minimizing exposure to passing traffic; reducing the probability of secondary crashes; and alleviating overall traffic congestion and delays to improve the quality of life for the community.

Introduction

Every day, collisions and other traffic incidents wreak havoc on roadways around the world. At risk are not only the lives of the drivers and passengers involved, but also the welfare of surrounding motorists and bystanders, the safety of police and other responders, and even the health of the economy.

Against this backdrop, the International Association of Chiefs of Police (IACP) and the National Highway Traffic Safety Administration (NHTSA) created this document as the foundational element of the Safe, Quick Clearance toolkit, the purpose of which is providing law enforcement executives with information that demonstrates the importance of adopting practices that facilitate the safe, quick clearance of traffic incidents in order to increase responder and public safety; reduce traffic congestion and the risk of secondary crashes; and improve the overall quality of life in communities. Included are talking points for law enforcement leadership, government officials, and roll call training; press releases for general and specific incident use; a white paper for use in educating the public and responders; and a comprehensive list of resources to assist agencies with implementing practices that ensure safe, quick clearance of traffic incidents.

Traffic Incident Management: A Solution That Saves

There are many reasons to promote safe, quick clearance of traffic incidents. Perhaps the most fundamental, however, is responder and public safety: When a traffic incident is cleared efficiently and safely, it lessens the time responders are on the side of the road, reducing their risk of being hit by passing vehicles.

Every second counts. For every minute a lane is blocked on a major highway, there is a four-mile traffic delay, according to the Tennessee Highway Patrol. During that same minute, an average of three injury crashes happen somewhere in the United States. Up to nine emergency responders may arrive at each incident, which means that up to 27 responders arrive at a new incident every minute, that up to 1,620 responders are working a traffic incident each hour, and that up to 38,880 responders are working at a traffic incident every day.[1]

When responding to a traffic incident or crash, responders who are vulnerable to passing traffic risk being injured or killed. In 2019 alone, 44 responders—18 law enforcement officers, nine fire/EMS responders, 14 tow operators, and three mobile mechanics—died after being struck by a vehicle in the United States.[2] On average, another 20,000 first responders are injured in the United States every year while responding to traffic incidents, according to the Arizona Department of Public Safety.[3]

But passing traffic isn't the only hazard facing responders. Technological innovations in motor vehicles can pose additional challenges for emergency personnel. Increasingly, another safety consideration is fire or explosion from electric and hybrid-electric vehicles that are equipped with high-voltage batteries. To ensure safe, quick clearance of traffic incidents, responders should approach incident scenes carefully to determine whether such vehicles are present, then alert others on scene to make certain they are aware of dangers associated with these vehicles. Responders should follow their agency's standard operating procedures for safety, such as wearing reflective, high visibility clothing, when approaching an electric vehicle. For further guidance, responders should consult NHTSA's *Interim Guide for Electric and Hybrid-Electric Vehicles Equipped with High-Voltage Batteries* for law enforcement, emergency medical services, and fire departments.

In addition to physical risks, responders also face financial risks. For instance, Washington State Patrol estimated that between 2015 and 2019 its agency had approximately 160 vehicles totaled, many when struck while on the scene of traffic incidents. In each instance, the agency had to spend approximately $53,000 to purchase a replacement vehicle. During the five-year period in question, that added up to nearly $8.5 million.

Given the aforementioned risks to responding individuals and agencies, it's clear that safe, quick clearance of traffic incidents directly improves responders' safety by minimizing their exposure to passing traffic, reducing the probability of secondary crashes, and alleviating overall traffic congestion.[4]

Mission: Traffic Incident Management

Safe, quick clearance of traffic incidents is a public safety imperative. To satisfy it, public safety stakeholders must seek shared objectives, actions, and understanding, the absence of which can cause further delays and safety hazards for responders and crash victims.[5]

The key to stakeholder synchronization is traffic incident management (TIM), a planned and coordinated multi-disciplinary process for detecting, responding to, and removing traffic incidents; for restoring traffic capacity as quickly as possible in their wake; and for ensuring safety for on-scene responders and the traveling public. By promoting and adopting promising TIM practices—including TIM training, as well as after-action reports that can help agencies measure TIM outcomes (*see p. 16 for more information*)—law enforcement officers who respond to crashes and roadway incidents can positively impact mobility and public safety for all.

1 International Association of Chiefs of Police (IACP), "Traffic Incident Management: Tennessee Highway Patrol Practice Makes Perfect," 29. https://www.theiacp.org/sites/default/files/pdf/Traffic%20Safety/TSI%202016_Combined.pdf.

2 ResponderSafety.com, "2019 Emergency Responder Struck-by-Vehicle Fatalities," https://d35c9cxlt8mg8m.cloudfront.net/Downloads/04e633ac-9666-48d6-9aee-0ba196f4850a/10/2019_12_31_Responder-Struck-By-Fatalities_Year-End-Totals.pdf?response-content-disposition=attachment.

3 "Public Resources," Arizona Traffic Incident Management. https://tim.az.gov/node/4700.

4 Lance E. Dougald et al., "Traffic Incident Management Quick Clearance Guidance and Implications."

5 Nathan Einstein and Joseph Luna, "SHRP2 Traffic Incident Management Training Program Final Evaluation Report" February 2018, 3.

"It is imperative that we, as law enforcement leaders, make the safety of our responders the highest priority. Training officers in traffic incident management increases the safety of responders by minimizing their exposure to passing traffic, reducing the probability of secondary crashes, and alleviating overall traffic congestion and delays."

—Chief Steven R. Casstevens, IACP President

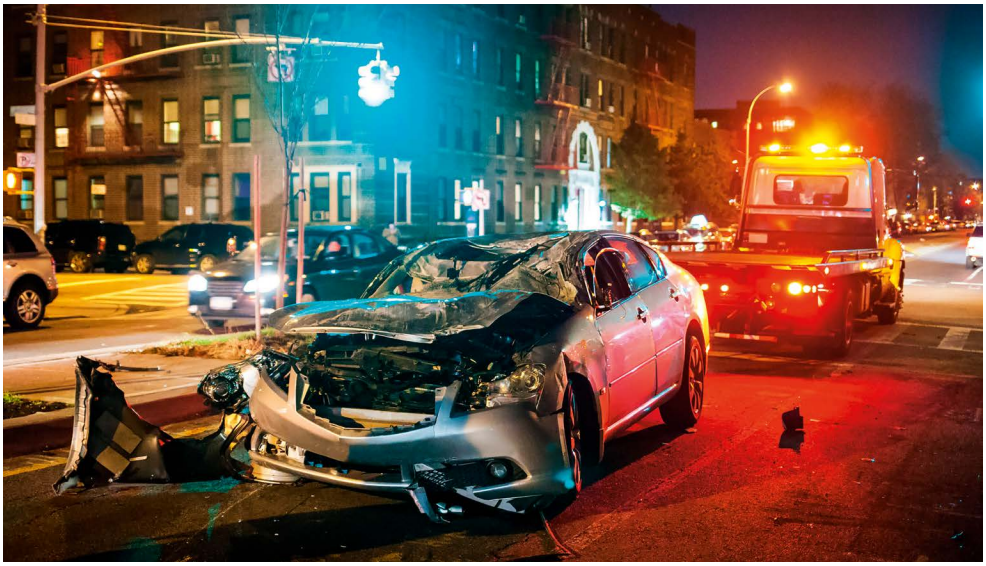
TIM's importance is evident in numerous real-life examples—including a 2017 incident in Houston, Texas, where a collision involving a tractor trailer filled with formic acid resulted in a hazmat spill that closed the westbound lanes of Katy Freeway at North Post Oak Road for nearly 10 hours. The manufacturer's clean-up contractors were called to "save" the product, which was valued at roughly $150,000. The ensuing delay caused major setbacks for responders, motorists, and the community at large. As a result, the incident caused additional user delay (i.e., delay in vehicle-hours and dollar cost) that was valued at over $2 million.[6]

Safe, quick clearance of traffic incidents is a practice that eliminates common barriers to incident removal, including:

- Improper/delayed response;
- Prolonged site investigations; and
- Indecision driven by unclear policies, standard operating procedures, and liability concerns.[7]

TIM programs exist across the United States (examples can be found on the IACP's Safe, Quick Clearance of Traffic Incidents webpage) and typically are partnerships between numerous stakeholder agencies, including police, fire, emergency medical services (EMS), tow and recovery, and departments of transportation—all of who commit to consistent, coordinated, and efficient responses in pursuit of safe, quick clearance.

For jurisdictions and agencies that lack one, establishing a strong, efficient TIM program can significantly enhance the execution of safe, quick clearance while also increasing officer, responder, and public safety, not to mention the quality of life in communities affected by traffic crashes and congestion.



6 Wilson, J.O. "Bear," "TIM: From School House to Institutionalization," Houston Fire Department. https://transportationops.org/ondemand-learning/talking-tim-webinar-series-may-2019.

7 Transportation Research Board of the National Academies, "Safe and Quick Clearance of Traffic Incidents: A Synthesis of Highway Practice," (Washington, DC, 2003), 7.

Why Traffic is Treacherous

In order to appreciate TIM's benefits, law enforcement leaders must first understand the true impact of traffic. Like traffic incidents, whose aforementioned impact on public and responder safety is significant, traffic congestion has serious implications, the most consequential of which are: high human and financial costs, risk of secondary crashes, and impact on citizens' quality of life.

Human and Financial Costs

Every year, road traffic crashes kill 1.35 million people worldwide—equivalent to the entire population of Maine—and injure more than 20 million.[8] In fact, road traffic injuries are estimated to be the eighth leading cause of death globally.

Crashes and congestion don't just claim lives, however; they also claim livelihoods. Traffic incidents account for approximately one-quarter of all congestion on U.S. roadways.[9] In 2019, for example, U.S. drivers each lost an average of 99 hours in traffic congestion, equating to more than two weeks of vacation and $1,377 in annual time costs per driver.[10] Internationally, British drivers lost an average of 115 hours, costing the United Kingdom as a nation roughly £5.2 billion,[11] while Germany lost an average of 46 hours per driver and €2.8 million as a nation.[12]

The toll of roadway traffic incidents reverberates through entire economies: Motor vehicle crashes are estimated to cost the U.S. economy nearly $242 billion per year. That includes $77.4 billion in lost workplace and household productivity, $76.1 billion in property damage, $23.4 billion in present and future medical costs, and $65.1 billion in various other costs.[13] Divided amongst the entire U.S. population, it's the equivalent to paying an annual "crash tax" of $784.[14]

In a comprehensive report by the Arizona Department of Transportation (ADOT), in just one U.S. state—Arizona—single-vehicle crashes in 2018 accounted for 14.74 percent of all crashes and 32.52 percent of all fatal crashes. In the same state and during the same year, motor vehicle crashes resulted in $19.349 billion in economic losses (Figure 1).[15]

Fatalities	$9,638,070,440
Suspected Serious Injuries	2,012,858,265
Suspected Minor Injuries	3,790,331,370
Possible Injuries	2,935,858,662
Property Damage Only	971,532,087
TOTAL	**$19,348,650,824**

Figure 1

Traffic congestion and incidents also can impact the environment: Harmful emissions and fuel consumption increase in slow-moving and stop-and-go traffic. In fact, air pollution from traffic congestion in 83 of the United States' largest urban areas contributes to more than 2,200 premature deaths annually, costing the health system roughly $18 billion, according to a 2011 study by the Harvard School of Public Health.[16]

Secondary Crashes

If a single crash can harm people, the economy, and the environment, it's not hard to imagine how much damage can be done when that lone incident causes one or more additional incidents in its wake. For that reason, another major concern is secondary crashes that occur after the initial incident due to sudden traffic congestion or other issues related to the primary

8 World Health Organization (WHO). "Global Status Report on Road Safety 2018," December 2018. https://www.who.int/violence_injury_prevention/road_safety_status/2018/en/.
9 National Traffic Incident Management Coalition (NTICM), "Safe, Quick Clearance: National Unified Goal (NUG) For Traffic Incident Management," http://ntimc.transportation.org/Documents/NUGUnifiedGoal-Nov07.pdf.
10 Inrix, "2019 Global Traffic Scorecard," http://inrix.com/scorecard/.
11 Inrix, "2019 Global Traffic Scorecard."
12 Inrix, "2019 Global Traffic Scorecard.
13 Advocates for Highway & Auto Safety, "17th Annual Roadmap of State Highway Safety Law," January 2020. https://saferoads.org/wp-content/uploads/2020/01/Advocates-for-Highway-and-Auto-Safety-2020-Roadmap-of-State-Highway-Safety-Laws.pdf.
14 Advocates for Highway & Auto Safety, "17th Annual Roadmap of State Highway Safety Law."
15 Arizona Department of Transportation (ADOT), "Arizona Motor Vehicle Crash Facts 2018," 2-4. https://azdot.gov/sites/default/files/news/2018-Crash-Facts.pdf.
16 Harvard T.H. Chan, School of Public Health, "Emissions from traffic congestion may shorten lives," news release, May 25, 2011, https://www.hsph.harvard.edu/news/hsph-in-the-news/air-pollution-traffic-levy-von-stackelberg.

collision. When a crash occurs, the likelihood of a secondary crash increases exponentially, which in turn increases the risk to motorists and responders, who may have trouble arriving at and departing from crash scenes—including those where motorists are injured and need to be evacuated for emergency medical care.[17] The Federal Highway Administration (FHWA) estimates that approximately 20 percent of all incidents are secondary crashes.[18]

In a Virginia study of secondary crash occurrences, researchers found that 9.2 percent of all vehicle crashes—approximately one out of every 10 crashes—were secondary to another incident and that 6.2 percent of these secondary crashes were actually tertiary to an initial incident.[19]

Often, the second incident is more severe than the primary one and can therefore cause greater traffic delays while also posing a greater danger to responders and the public. In Arizona alone, for example, there were 2,812 secondary crashes in 2018, 19 were fatal and 877 were injurious; collectively, those crashes killed 20 people and injured 1,446.[20]

Currently, there is little research on the causes and impacts of secondary crashes. Going forward, collecting data about secondary crashes is therefore critical. Doing so will generate knowledge that not only will help traffic incident responders improve performance, but also will provide decision makers with data that demonstrates the value of safe, quick clearance activities.

Quality of Life

Traffic incidents—which can encompass a host of different situations on roadways, including vehicle crashes, weather conditions, and special events—directly affect roadways and motorists. Indirectly, however, they affect a great deal more than that. In fact, they can have consequences for entire communities due to their impact on citizens' physical, emotional, material, and social well-being.

As the FHWA explained in its 2019 publication *Does Travel Time Reliability Matter?*, "Longer-than-expected travel times could mean arriving late for work or meetings, incurring additional childcare fees, missing medical appointments, failing to catch a flight or a bus, or missing a college entrance or employment interview, among other important events. If you are an employee whose schedule affects many others, if your pay gets docked for being late, then travel time reliability is critically important to you."[21]

Indeed, roadway traffic incidents cause significant economic losses to individuals and families. For those who are injured in motor vehicle crashes, for example, losses arise from the cost of medical treatment, from property damage, and from missed work due to the crash and/or the resulting loss of transportation when their vehicle is wrecked. Family members may experience similar losses when they have to take time off work or school to be caregivers. And when a motorist is killed, his or her family faces a tremendous emotional toll, made worse by the loss of its loved one's income, benefits, and other factors which can have additional compounding consequences. The cumulative effect not only is a loss of productivity and earnings, but also an increase in stress that can have medical and financial fallout of its own.

Even a simple traffic jam has costs—including financial costs like more expensive public transit fares and social costs such as less time with family and friends.[22] Congestion caused by prolonged clearance of incidents only compounds the problem.

17 Federal Highway Administration (FHWA), "Federal Highway Administration Focus States Initiative: Traffic Incident Management Performance Measures Final Report. Traffic Incident Management Performance Measurement Presentation," https://ops.fhwa.dot.gov/publications/fhwahop10010/presentation.htm.

18 Federal Highway Administration (FHWA), "Traffic Incident Management," http://ops.fhwa.dot.gov/aboutus/one_pagers/tim.htm.

19 Noah J. Goodall, "Probability of Secondary Crash Occurrence on Freeways with the Use of Private-Sector Speed Data." *Transportation Research Record* 2635, no. 1 (January 2017): 11–18. doi:10.3141/2635-02.

20 Arizona Department of Transportation (ADOT), "Arizona Motor Vehicle Crash Facts 2018."

21 Kalle Culotta, et al., "Does Travel Time Reliability Matter?" (FHWA-HOP-19-062), (Washington, D.C.: October 2019), 4. https://ops.fhwa.dot.gov/publications/fhwahop19062/fhwahop19062.pdf.

22 Culotta et al., "Does Travel Time Reliability Matter?"

"The sheer number of crashes in this country illustrates traffic safety is a critical issue that affects millions of people; however, it is frequently underprioritized in the context of other national priorities. Clearly, crashes that involve a fatality or a life-changing issue have an impact on individuals and their families. I would also argue that involvement in crashes resulting in minor injuries or mere property damage also complicate the lives of people on a daily basis. Law enforcement officers know this and deal with this every day. Unfortunately, the latter situations are frequently 'overlooked' in traffic safety discussions."[23]

—Chief Mike Brown, Alexandria (Virginia) Police Department

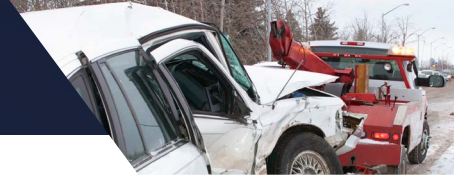
Businesses also are affected. The FHWA report continues, "For businesses that depend on reliable transportation to deliver goods and services, delayed shipments and disrupted supply chains can have severe economic implications."[24] In 2017, travelers and freight shippers making important trips had to add nearly 70 percent more travel time compared with light traffic conditions to account for the effects of traffic-related incidents, which resulted in 3.3 billion gallons of wasted fuel—equivalent to a continuous line of 18-wheel fuel trucks that stretches from Los Angeles to Boston.[25] All that extra time and fuel also affect consumers, who not only have to wait longer for goods and services, but also have to pay as much as 50 to 250 percent more for consumer goods to account for the impact of traffic on businesses' bottom lines.[26]

The commercial impact of traffic incidents was on display during a March 28, 2019, crash on Interstate 495 (Capital Beltway) in the Washington, D.C., metropolitan area. When a tanker truck filled with 8,500 gallons of gasoline overturned, all major highways in the area were gridlocked for 13 hours, forcing a number of truck drivers to park on the shoulder to avoid exceeding their mandated hours of service.

Incidents like the one on the Capital Beltway have a domino effect. In addition to affecting motorists, truck drivers, and businesses, for example, they affect transit providers, who depend on reliable traffic conditions to stay on schedule and meet transit users' expectations, and emergency responders, who need reliable roadways so they can respond quickly to incidents and carry injured motorists to local hospitals.

Clearly, unreliable travel time can have far-reaching impacts. The safe, quick clearance of traffic incidents can therefore improve quality of life, mobility, and safety for everyone. By providing responders with promising practices, building relationships to provide a coordinated and efficient response, and educating the public, law enforcement agencies can do their part to save lives, reduce injuries, help businesses, and improve the environment.

23 Testimony of Michael L. Brown, Chief, Alexandria (VA) Police Department, Transportation & Infrastructure Committee, (U.S. House of Representatives, April 9, 2019)
24 Culotta et al., "Does Time Travel Reliability Matter?"
25 Texas A&M Transportation Institute, "2019 Urban Mobility Report," (Texas Department of Transportation, August 2019), 5. https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-report-2019.pdf.
26 Culotta et al., "Does Travel Time Reliability Matter?"



Selling Safety: How to Get Legislative Buy-in

The high costs of traffic are proof that when it comes to safe, quick clearance of traffic incidents, everybody wins. That's the message that law enforcement can use as a compelling argument when building a TIM business case to share with legislators. IACP and NHTSA have therefore assembled the following tips to help law enforcement executives demonstrate the value of TIM and, in so doing, achieve critical legislative buy-in.

1. Survey existing laws and assess the need for new and/or stronger ones.

Request support from additional agencies and partners in order to assess the need for quick-clearance legislation.[27] Memoranda of understanding, mutual-aid agreements, and/or joint operating agreements may be used to foster and formalize partnerships with complementary agencies so that all parties understand individual responsibilities and shared goals.

Among the agencies that have established such partnerships are:

- **The Minnesota State Patrol (MSP),** which has partnered with the Minnesota Department of Transportation (MnDOT) to establish an Open Roads Policy agreement that allows both MSP and MnDOT personnel to expedite the removal of vehicles, cargo, and debris from state highways with the goal of urgently restoring a safe, orderly flow of traffic. To view the entire policy, visit dot.state.mn.us/environment/regulatedmaterials/pdf/mndotopenroadspolicy.pdf.
- **The Florida Highway Patrol (FHP),** which has similarly established an Open Road Policy agreement with the Florida Department of Transportation (FDOT). Its policy can be viewed at floridatim.com/documents/Training/Open%20Roads%20Policy.pdf.
- Tow and recovery agreements can also be implemented as incentive programs for quick clearance. For example, Georgia's Towing and Recovery Incentive Program (TRIP): TRIP pays qualified heavy-duty towing and recovery companies monetary bonuses for clearing large commercial vehicle incidents within 90 minutes.[28]

Additional examples of agencies' policies are available on the IACP's Safe, Quick Clearance of Traffic Incidents webpage.

> ***Open Roads policies formally state the agencies' goals in partnership to remove vehicles, cargo, and debris from roadways with the intention of restoring safe, orderly traffic flow after motor vehicle crashes and other roadway incidents.[29]***
>
> ***—Federal Highway Administration***

Open Roads Policies formally state the agencies' goal in partnership to remove vehicles, cargo, and debris from roadways with the intention of restoring safe, orderly traffic flow after motor vehicle crashes and other roadway incidents.[30] When creating their own Open Roads Policy, the I-95 Corridor Coalition[31] says the following considerations will help law enforcement agencies gain buy-in from legislators:

- **Type of Policy:** Statewide Open Roads Policies are common and can promote increased safety for responders and the public. Specific policies also can be developed for disciplines, regions, cities, or counties.
- **Purpose:** Include a statement that speaks to the importance and benefits of safe, quick clearance of incidents—including disabled vehicles; vehicle crashes; and debris or spills in the roadway, including hazmat incidents.
- **Clearance Times:** Adopt a goal of 30-, 60-, or 90-minute clearance times, depending on incident severity. The clock should start when the incident is verified and should stop once all travel lanes are open to traffic.

27 i95 Coalition, "Traffic Incident Management Teams Best Practice Report," March 2010. https://i95coalition.org/wp-content/uploads/2015/03/TIMTeamBestPracticesFINALREPORT.pdf?x70560, 200-201.
28 i95 Coalition, "Traffic Incident Management Teams Best Practice Report."
29 Federal Highway Administration (FHWA), "Traffic Control Concepts for Incident Clearance".
30 Federal Highway Administration (FHWA), "Traffic Control Concepts for Incident Clearance," February 1, 2017, https://ops.fhwa.dot.gov/publications/fhwahop08057/20.htm.
31 i95 Coalition, "Traffic Incident Management Teams Best Practice Report."

- **Roles and Responsibilities**: The policy should briefly outline duties associated with quick clearance for each of the document's signatories.
- **Signature Line for Leadership:** The document should be signed by agency leadership and be distributed to all stakeholders. Signatories should include Highway Patrol/State Police; the state Department of Transportation; and city or county transportation and public safety agencies, including fire and rescue.
- **Education:** Agency leaders should distribute the policy to all responders and those directly involved in TIM so that everyone is aware of the new policy.

2. Craft statutory content that's specific, succinct.

Be specific in the bill you are proposing. Oftentimes, including too much verbiage on various issues will prevent the bill from passing committee.[32] Bill language should be concise and focused on TIM exclusively.

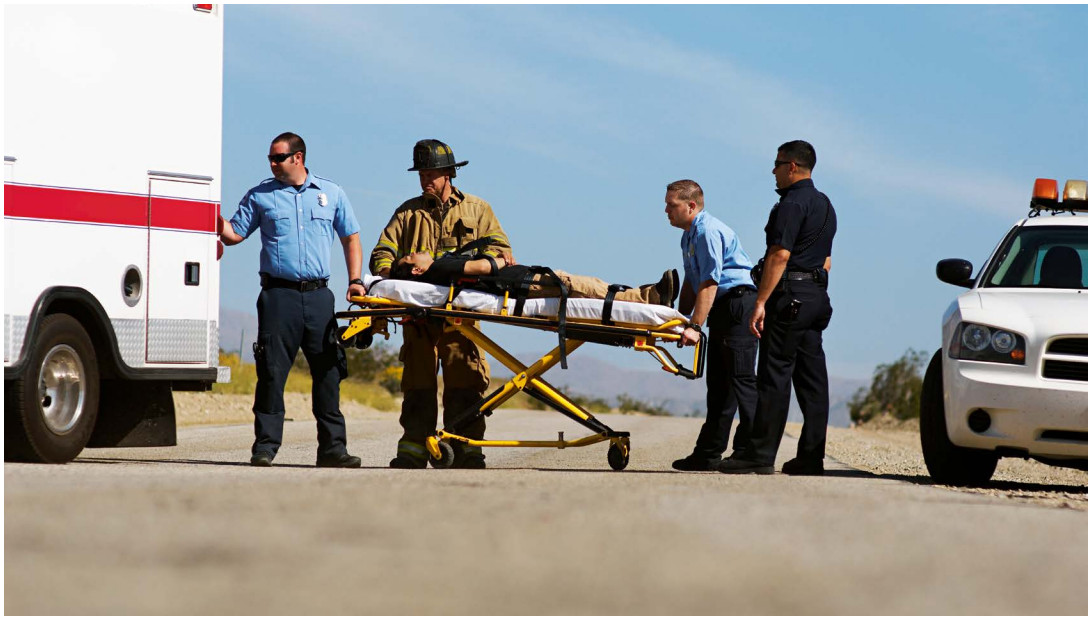
3. Inform and educate.

Upon gaining stakeholder support, agencies should arrange meetings with legislators—and even the governor—for the purpose of presenting the benefits of the proposed legislation. In particular, it is important to communicate how TIM legislation can protect responders, increase public safety, reduce secondary incidents, and ease congestion. Agency representatives should be prepared to counter any potential hesitation or resistance to the bill by showing how its benefits outweigh any perceived disadvantages. In most cases, safety trumps all other arguments.[33]

4. Choose a champion.

Having a champion to evangelize your bill will increase its chances of success. This person should have strong relationships with transportation agencies that have interests in the proposed legislation. Ideally, this person should co-author the bill and also help identity a legislator who can shepherd it through the legislative process.[34]

Building partnerships with complementary agencies is essential to TIM success. Developing and having agreements in place gives responding agencies clearly defined roles with which to accomplish their shared mission and goals—clearing incidents and restoring the regular flow of traffic.



32 i95 Coalition, "Traffic Incident Management Teams Best Practice Report."
33 i95 Coalition, "Traffic Incident Management Teams Best Practice Report."
34 i95 Coalition, "Traffic Incident Management Teams Best Practice Report."

Laws That Promote Safe, Quick Clearance

Laws that promote safe, quick clearance of traffic incidents are instrumental to realizing the benefits of TIM, including public safety, mobility of people and commerce, and responsible stewardship of public monies. Following are several types of laws that already have been enacted in support of safe, quick clearance, the enforcement of which by law enforcement can improve compliance.

Move Over Laws

"Move Over" laws require drivers approaching a scene where responders are present to either change lanes when possible and/or reduce vehicle speed. Such laws have been enacted in every state, most Canadian Provinces, and nations worldwide.

The AAA Foundation provides a website listing every state's Move Over laws: drivinglaws.aaa.com/tag/move-over-law.

Authority Removal Laws

Also known as "Hold Harmless" laws, "Authority Removal" laws clarify the authority and responsibility of pre-designated public agencies to clear damaged or disabled vehicles and spilled cargo from the roadway to allow the resumption of normal traffic flow and to prevent the occurrence of secondary incidents. This law provides indemnification for these agencies if removal duties are performed in good faith and without gross negligence.

Driver Removal Laws

Also known as "Steer It, Clear It" laws, "Move It" laws, or "Fender Bender" laws, "Driver Removal" laws require that drivers of vehicles in crashes where there is only minor property damage move the vehicles out of the travel lanes to a safe location where drivers can exchange information and/or wait for law enforcement assistance. By moving the vehicles from the roadway, traffic flow is restored and secondary crashes can be avoided, thereby reducing risk to responders, motorists, and all others on the scene.

By ensuring safe, quick clearance of traffic incidents, the aforementioned types of laws enhance motorist and responder safety and reduce congestion and delay. Although a number of states, provinces and nations currently have one or more of these laws in place, their existence, wording, and coverage vary, which challenges further implementation.[35]

For more information on promising practices in Safe, Quick Clearance Laws, visit https://ops.fhwa.dot.gov/publications/fhwahop09005/index.htm.

Manual on Uniform Traffic Control Devices

In addition to the aforementioned laws, law enforcement officials should be aware of the *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD), which is designed to develop "the standards used by road managers across the United States to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel."[36] The MUTCD can be used by law enforcement to monitor driver behavior and investigate traffic incidents.[37]

For more information on the MUTCD, visit mutcd.fhwa.dot.gov/index.htm.

35 International Association of Chiefs of Police (IACP), "Traffic Safety Resource Guide," 106. https://www.theiacp.org/sites/default/files/2019-10/237323_TrafficSafety_Report-final.pdf.

36 Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), last modified December 11, 2019, https://mutcd.fhwa.dot.gov/index.htm.

37 MUTCD.

Execution, Evaluation, and Education

Effective laws are the foundation on which safe, quick clearance of traffic incidents occurs. But laws aren't enough. In order to execute those laws in a way that delivers on their promise—protecting public and responder safety, and restoring the normal flow of traffic—law enforcement agencies should consider reviewing promising practices, tools with which to monitor and measure performance, and resources that can ensure constant and continuous improvement.

Promising Practices from the Field

Utilizing promising practices that have been created and successfully implemented by other law enforcement agencies can inform your agency's TIM strategy, helping you ensure successful outcomes in the form of safe, quick clearance.

One such practice, for example, comes from the Washington State Patrol (WSP), one of a growing number of agencies that have created an unmanned aerial vehicles (UAVs) program that uses radio-controlled aircrafts, commonly known as drones, and compatible software to map, document, and process collision and crime scenes more efficiently, thereby reducing road closure time and associated negative impacts to the motoring public and commerce. Detectives from WSP's Criminal Investigation Division and collision specialists from its Field Operations Bureau use the UAVs in cases where they can enhance the quality, efficiency, and thoroughness of collision and crime scene response investigations.

Between January and September 2018, WSP conducted 91 investigations and found a 77 percent reduction in road closure time—down to 49.5 hours from 212 hours. Washington State Patrol estimates that the use of UAVs saved their agency over $3.4 million in staff time and resources in just that nine-month period.

The UAV program yielded several valuable lessons for WSP:

- Keep policies simple and specific.
- Seek and obtain program support from policymakers, stakeholders, and the community.
- Gain public buy-in by sharing achievements and program restrictions with the media.

Additional examples of promising practices can be found on the IACP's Safe, Quick Clearance of Traffic Incidents webpage.

After-Action Reports

After-action reports are a crucial component to document a traffic incident. A detailed accounting of the incident and response— particularly when a responder or bystander is killed or injured on the scene of an incident— provide the opportunity to learn from an event and apply lessons learned in training as well as in future events.

The report of an incident from Winnebago, Wisconsin demonstrates how law enforcement agencies can mine incidents for strategic knowledge and insights: On Feb. 24, 2019, travel conditions were dangerous across the area due to strong winds causing snow to drift across roadways. Within eight minutes of the incident, the number of vehicles involved grew from two to 40 forcing 800 to 1,000 additional vehicles to remain stuck behind the crash – this was later determined to be the largest traffic collision in Wisconsin history. The after-action report included a comprehensive improvement plan for better response to future incidents.[38] To view the full report, visit cdn.ymaws.com/fvherc.org/resource/resmgr/docs/2019/after_action_reports/Winnebago_Co_I-41_Crash_AAR_.pdf.

"The implementation of joint after-action reviews, whether formal or over a cup of coffee, can provide insight on what went right, what went wrong, and how to improve for the next time. This type of multidisciplinary examination of events also provides a great opportunity to further understand each other's responsibilities and concerns."[39]

—Chief (Ret.) Daniel G. Sharp Oro Valley Police Department

38 Lenora Borchardt G., "Winnebago County I-41 Multi-Vehicle Crash: After-Action Report/Improvement Plan," May 4, 2019, https://cdn.ymaws.com/fvherc.org/resource/resmgr/docs/2019/after_action_reports/Winnebago_Co_I-41_Crash_AAR_.pdf

39 Joseph A. Farrow and Daniel G. Sharp, "Understanding and Applying Traffic Incident Management," *Police Chief* 82 (July 2015): 22-27.

After-action reports provide insight into what went right and what went wrong, thereby helping agencies determine what needs to be improved for the next response. Furthermore, completing after-action reports in collaboration with other stakeholders who were involved allows all parties to share and understand one another's responsibilities and concerns.

Additional examples of after-action reports can be found on the IACP's Safe, Quick Clearance of Traffic Incidents webpage.

TIM Performance Measures

After-action reports often are anecdotal, and therefore subjective in nature. For that reason, objective performance measures are a critical input for law enforcement agencies as they pursue safe, quick clearance of traffic incidents.

Evaluation metrics provide necessary feedback to TIM responders to allow them to benchmark and improve their performance. The most used TIM performance measures are:

- **Roadway clearance time:** The time between first recordable awareness of incident by a responsible agency and the first confirmation that all lanes are available for traffic flow.
- **Incident clearance time:** The time between first recordable awareness of incident by a responsible agency and the time at which the last responder has left the scene, though a lane may still be obstructed due to damaged guardrails or other infrastructure.
- **Number of secondary crashes:** Incidents for which a response or intervention is taken, where a collision occurs either within the incident scene or within the queue resulting from the original incident—which could include the opposite direction.[40]
- **Responder Struck by Incidents:** Any incident where a responder is hit by another vehicle or object within a TIM area or work zone resulting in injury, fatality, or property damage.
- **Personnel Resources:** Can include total payroll hours, number of personnel, equipment, etc., of those responding to a traffic incident.
- **Model Minimum Uniform Crash Criteria (MMUCC):** NHTSA and the Governors Highway Safety Association (GHSA) developed a voluntary data collection guideline that defines the minimum motor vehicle crash data that states should consider collecting for publication in their state crash data system. Quality data on motor vehicle crashes is used to identify issues, inform decision makers of needed highway safety legislation, and evaluate the impact of highway safety countermeasures. The MMUCC guidelines are available on NHTSA's website at nhtsa.gov/mmucc-1.

The Transportation Research Board (TRB) created an online TIM performance measurement tool that includes guidance on implementing TIM performance measures, a model database, schema, a data dictionary, case studies, and scripts for running queries and creating a database.[41] The tool can be accessed at nchrptimpm.timnetwork.org, where there also are numerous TIM performance measurement resources developed by FHWA for responder agencies. Downloadable resources, for example, include a guide to establishing and implementing a TIM performance management program, a checklist of TIM performance management data elements, a presentation deck to help sell stakeholders on the idea of TIM performance management, and more.

Performance data provides support when educating the public, legislators, and other decision makers on the importance of safe, quick clearance. It also reveals opportunities for improvement; helps with securing program funding; and supports improved communication, coordination, and collaboration with TIM partners.[42]

Training, Education, and Awareness

Even with a commitment to continuous improvement that's informed by a robust TIM performance measurement program, law enforcement can't achieve safe, quick clearance of traffic incidents alone. It must also collaborate with local transportation departments, fire and EMS, and tow operators, who can help by informing and educating both their own personnel and the public about TIM.

In fall 2019, for example, the Georgia Department of Transportation (GDOT) held a contest challenging residents to create their own slogans to be featured on traffic safety signs. GDOT received hundreds of

40 IACP, "Traffic Safety Resource Guide," 106.
41 Kelley Klaver Pecheux, "Traffic Incident Management Performance Measurement," *Police Chief* 83 (March 2016): 64–65.
42 Kelley Klaver Pecheux, "Traffic Incident Management Performance Measurement."

submissions and named winners in several categories, including general safety, distracted driving, impaired driving, seat belt, and work-zone safety. Slogans included, "Drive like your momma is watchin,'" "Pop quiz, what is the speed limit on this road?," and "Look left, look right, keep workers in sight."[43]

Because such initiatives can go a long way toward raising awareness about the importance of traffic safety generally and TIM specifically, numerous agencies have created resources to assist with training, awareness, and education efforts. Among them:

- **Federal Highway Administration:** The National TIM Responder Training program, also known as the Strategic Highway Research Program TIM Training, was developed to improve the coordination of all traffic incident responders from the moment the first emergency call is placed through conclusion of the incident and return of normal traffic flow. This training serves as the foundation of TIM response thanks to its curriculum, which is based on extensive and detailed research conducted with TIM responders across the U.S. and delivered using a train-the-trainer approach. The in-person training is sponsored by TIM partner agencies throughout the United States scheduling training can go through the TIM state point of contact.

  The web-based training is available online through the National Highway Institute, the education and training arm of the FHWA. To register for this training, an account will need to be created at https://www.nhi.fhwa.dot.gov/. Search for training course using number **FHWA-NHI-133126A**.

  The state point of contact list for National TIM Responder Training Program can be found at ops.fhwa.dot.gov/eto_tim_pse/training/state_poc_list.pdf to schedule this training for law enforcement agencies.

- **National Highway Traffic Safety Administration:** NHTSA has developed resources in both English and Spanish to encourage the use of "Move Over" laws and to emphasize their importance to responder and public safety. These resources include news releases, a media advisory, social media posts, etc. More information is available at trafficsafetymarketing.gov/get-materials/first-responder-safety/move-over.

- **ResponderSafety.com:** ResponderSafety.com is a website of the Emergency Responder Safety Institute, which is an advisory group of public safety leaders and transportation experts who are committed to reducing deaths and injuries among America's emergency responders. The site is a clearinghouse of information related to safe, quick clearance and contains resources to facilitate communication with the public, including public service announcements, infographics, media advisories, and public service announcement templates. Free online training, resources, videos, and more are available at respondersafety.com/Key-Initiatives/PIO-Public-Educator-Engagement.aspx. In collaboration with the FHWA, the Emergency Responder Safety Institute's Responder Safety Learning Network (RSLN) offers a National TIM Training Certificate for users who complete 10 RSLN self-paced programs. For more information, visit learning.respondersafety.com/Clusters/National-TIM-Training-Certificate.aspx.

- **Arizona Department of Transportation:** The Arizona Department of Transportation (ADOT) provides public education resources demonstrating the importance and benefits of safe, quick clearance and illustrating communities' role in ensuring their own safety and the safety of responders. Resources—including posters, public service announcements, infographics, etc.—are available at tim.az.gov/public-resources.

43 Alaa Elassar, "Georgia held a contest for better highway safety signs. The winners are hilarious." CNN, January 18, 2020, https://www.cnn.com/2020/01/18/us/georgia-safety-message-highway-signs-contest-trnd/index.html.

Conclusion

Of all the myriad hazards law enforcement encounters on duty, traffic incidents are among the most dangerous. Whether it is to perform a traffic stop, investigate a crash, or assist a motorist with a disabled vehicle, officers who step out on the side of the road routinely risk their lives to ensure that drivers and passengers are safe, and that traffic continues to flow to the benefit of individuals, families, communities, and businesses.

Of course, law enforcement officers aren't alone. Responders of all disciplines— fire, EMS, DOT workers, towers—frequently are exposed to busy highways and streets, where they're susceptible to being struck by drivers who are distracted, impaired, speeding, and committing countless other human errors that place both responders and the public at risk.

Because roadway traffic incidents impact people's lives, finances, and quality of life, their damage must be mitigated to the greatest extent possible by ensuring that they're cleared as safely and as quickly as possible. Law enforcement executives can do their part to guarantee safe, quick clearance of traffic incidents by providing promising practices to responders, building relationships with which to provide a coordinated and efficient response, and informing the public.

Law enforcement agencies should:

- **Foster collaboration with complementary agencies:** Traffic incidents are a community problem and managing them requires a community approach. Law enforcement agencies' ability to ensure safe, quick clearance of traffic incidents therefore hinges on their ability to build collaborative partnerships with a diverse coalition of stakeholders that includes fire, EMS, state departments of transportation, local transportation officials, tow operators, and the motoring public.
- **Adopt and/or adapt proven TIM strategies:** Across the United States, law enforcement agencies are conceiving and perfecting TIM programs and practices that are making positive impacts in their local communities. Law enforcement agencies should borrow and refine those programs and practices where it makes sense and develop their own where gaps exist.
- **Sponsor new TIM laws and enforce existing ones:** Laws give law enforcement ground on which to stand. In order to fuel their TIM efforts, law enforcement agencies should consider taking an active role in sponsoring and authoring new TIM laws and emphasizing enforcement of existing TIM laws where and when they exist.
- **Mandate after-action reports:** After-action reports are an opportunity to glean lessons learned from incidents, including those with both positive and negative outcomes. After-action reports should therefore be considered as a routine and requisite part of law enforcement agencies' TIM protocol.
- **Increase data collection and reporting:** You can't manage what you don't measure. It is important to create, track, monitor, and report TIM performance metrics that can help them set goals and quantify the progress they make toward meeting them.
- **Promote increased TIM education and awareness:** Internally among law enforcement officers and externally among the public, awareness can help accelerate safe, quick clearance of traffic incidents. Law enforcement agencies should consider accessing training resources available to help them train responders and inform motorists.

Law enforcement agencies will never be able to outright prevent traffic incidents from occurring. When they invest time, resources, and manpower into the aforementioned actions, however, they can reduce their impact. And in so doing, save time, money, and lives.

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