



December 2020

# EMERGENCY RESPONDER SAFETY

## States and DOT Are Implementing Actions to Reduce Roadside Crashes

Accessible Version

# GAO Highlights

Highlights of [GAO-21-166](#), a report to congressional requesters.

## Why GAO Did This Study

Police, fire, medical, towing, and other responders risk being killed or injured by passing vehicles when responding to a roadside emergency. To protect these vulnerable workers and improve highway safety, all states and the District of Columbia have enacted Move Over laws.

GAO was asked to review issues related to Move Over laws and emergency responder roadside safety. This report: (1) examines data NHTSA collects on crashes involving violations of Move Over laws, (2) describes selected states' actions and challenges related to Move Over laws, and (3) describes DOT efforts to improve emergency responder roadside safety. GAO analyzed NHTSA's 2018 crash data, which were the latest data available; reviewed federal and state laws and regulations, and DOT initiatives to improve emergency responder roadside safety; reviewed state reports to DOT; and interviewed NHTSA and FHWA officials, traffic safety and law enforcement officials in seven selected states, and stakeholders from traffic safety organizations and occupational groups, such as the Emergency Responder Safety Institute and the International Association of Chiefs of Police. GAO selected states based on a variety of factors, including traffic fatality rates per vehicle mile traveled and recommendations from stakeholders.

DOT provided technical comments, which we incorporated as appropriate.

View [GAO-21-166](#). View a GAO video regarding state Move Over laws and emergency responder roadside safety at [www.gao.gov/products/GAO-21-166](http://www.gao.gov/products/GAO-21-166). For more information, contact Elizabeth Repko at (202) 512-2834 or [RepkoE@gao.gov](mailto:RepkoE@gao.gov).

December 2020

## EMERGENCY RESPONDER SAFETY

### States and DOT Are Implementing Actions to Reduce Roadside Crashes

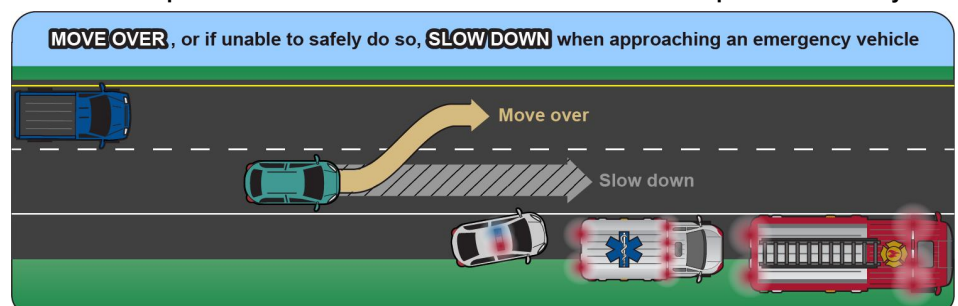
#### What GAO Found

Move Over laws vary by state but generally require motorists to move over a lane or slow down, or both, when approaching emergency response vehicles with flashing lights stopped on the roadside. U.S. Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) data provide limited information on whether crashes involved violations of these state laws, but the agency is taking steps to collect additional data. For instance, NHTSA's 2018 data show 112 fatalities from crashes involving emergency vehicles, representing 0.3 percent of all traffic fatalities that year, but these data cannot be used to definitively identify which crashes involved a violation of Move Over laws. NHTSA is proposing updates to the data that it encourages states to include on crash report forms to better identify crashes involving violations of Move Over laws, and plans to convene an expert panel and initiate a pilot project to study further data improvements.

Selected state officials reported that they have taken actions to improve public education and enforcement of Move Over laws but still face challenges in both areas. Such actions include education through various forms of media and regional coordination among states to conduct targeted enforcement of Move Over laws within their respective borders during the same time period. State officials cited raising public awareness as the most prevalent challenge, as motorists may not know the law exists or its specific requirements. Variation in the requirements of some Move Over laws—such as for which emergency vehicles motorists are required to move over—may contribute to challenges in educating the public about these laws, according to state officials.

DOT has taken actions and is planning others to help improve emergency responder roadside safety. NHTSA helps states promote public awareness of Move Over laws by developing and disseminating marketing materials states can use to develop their own traffic safety campaigns. NHTSA also administers funding that states can use for public awareness activities or enforcement initiatives related to emergency responder safety. FHWA has coordinated with a network of stakeholders across the country to train emergency responders on traffic incident management best practices. Finally, in response to congressional direction, NHTSA officials are planning several research efforts intended to enhance emergency responder safety, including studies on motorist behaviors that contribute to roadside incidents and technologies that protect law enforcement officials, first responders, roadside crews and other responders.

#### General Requirements of Move Over Laws for Motorists on a Multiple Lane Roadway



Source: GAO analysis of state Move Over laws. | GAO-21-166

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# Contents

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GAO Highlights		2
	Why GAO Did This Study	2
	What GAO Found	2
Letter		1
	Background	4
	NHTSA’s Data Provide Limited Information on Whether Crashes Involve Violations of Move Over Laws, but The Agency Is Taking Steps to Improve Collection Efforts	8
	Selected States Reported Education and Enforcement Actions and Related Challenges Regarding Move Over Laws	15
	DOT Is Implementing Actions That May Help Improve Emergency Responder Roadside Safety	19
	Agency Comments	25
	Appendix I: Objectives, Scope, and Methodology	27
	Appendix II: Databases Related to Emergency Responders Fatalities and Injuries	34
	Appendix III: Overview of Selected States’ Move Over Laws	37
	Appendix IV: GAO Contact and Staff Acknowledgments	42
	GAO Contact	42
	Staff Acknowledgments	42
Table		
	Data table for Figure 2: Information Collected from the Department of Transportation’s Emergency Response Data Elements	10
	Table 1: Overview of Emergency Responder Fatality and Injury Related Databases	34
Figures		
	Figure 1: Illustration of General Requirements of Move Over or Slow Down Laws for Motorists Traveling on a Single Lane or Multiple Lane Roadway	5
	Figure 2: Information Collected from the Department of Transportation’s Emergency Response Data Elements	10
	Figure 3: Examples of State Move Over Law Public Awareness Efforts	16

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**Abbreviations**

CRSS	Crash Report Sampling System
DOT	Department of Transportation
EMS	emergency medical services
FARS	Fatality Analysis Reporting System
FAST Act	Fixing America’s Surface Transportation Act
FHWA	Federal Highway Administration
HSIP	Highway Safety Improvement Program
MMUCC	Model Minimum Uniform Crash Criteria
Move Over law	“Move Over or Slow Down” law
NCSA	National Center for Statistics and Analysis
NHTSA	National Highway Traffic Safety Administration
TIM	Traffic Incident Management

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December 17, 2020

The Honorable Deb Fischer  
Chair  
The Honorable Tammy Duckworth  
Ranking Member  
Subcommittee on Transportation and Safety  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable Richard J. Durbin  
United States Senate

The Honorable Cheri Bustos  
House of Representatives

Emergency responders risk being struck by passing vehicles as they respond to roadside incidents. For example, in the first three months of 2019 in Illinois, motorists hit 15 State Police troopers or vehicles while the officers were stopped along the side of the road with flashing lights. To protect these vulnerable workers and improve highway safety, all states and the District of Columbia have enacted “Move Over or Slow Down” (Move Over) laws, which typically require motorists to move over one lane or slow their vehicle down, or both, when approaching police, fire, emergency medical services (EMS), and other emergency response vehicles displaying flashing lights while stopped on the roadside. According to the U.S. Department of Transportation’s (DOT) National Highway Traffic Safety Administration (NHTSA), the first Move Over law originated in South Carolina in 1996 after a paramedic was struck while responding to a crash, and by 2012, all states had established Move Over laws. Some states have expanded the coverage of their Move Over laws to include a range of non-emergency response vehicles, such as tow trucks, utility service vehicles, or any vehicle with flashing lights on.

Reducing transportation-related fatalities and serious injuries has consistently been DOT’s top priority. Within DOT, both NHTSA and the Federal Highway Administration (FHWA) are charged in part with reducing fatalities and serious injuries on the nation’s highways. NHTSA is responsible for reducing deaths, injuries and economic losses resulting from motor vehicle crashes, and administers grants to state and local governments to conduct local highway safety programs. FHWA

coordinates highway transportation programs in cooperation with states and other partners to enhance traffic safety.

We were asked to review issues related to Move Over laws and emergency responder roadside safety. This report: (1) examines data NHTSA collects on crashes involving violations of Move Over laws, (2) describes selected states' actions and challenges related to Move Over laws, and (3) describes DOT actions to improve emergency responder roadside safety.

To address these objectives, we interviewed officials from NHTSA and FHWA to identify crash data collection efforts related to Move Over laws, communication with state departments of transportation (state DOTs), and each agency's prior and planned actions related to Move Over laws and emergency responder roadside safety. We also conducted semi-structured interviews with state officials in seven selected states to gather information about state experiences with crash data related to Move Over law violations, implementation of the law, and any additional actions DOT could take to improve emergency responder safety.<sup>1</sup> We selected these states based on a variety of factors, including a range of traffic fatality rates per vehicle mile traveled, traffic fatalities and fatal crashes in 2018, and recommendations from stakeholders. The information collected from these interviews cannot be generalized to all states and localities. However, the interviews provide examples of the types of experiences state DOTs, police, and other relevant stakeholder agencies have with crash data related to Move Over laws and implementation actions and challenges. Additionally, we interviewed relevant stakeholders from five traffic safety organizations and seven occupational groups.<sup>2</sup> We selected these groups based on multiple criteria, including groups representing protected occupations under Move Over laws and recommendations from stakeholders.

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<sup>1</sup> We interviewed officials from the following seven states: Arizona, Florida, Illinois, Maryland, Ohio, Pennsylvania, and Texas. Specifically, we interviewed officials in seven state departments of transportation (state DOTs), seven state and one local police department, three state departments of public safety or highway safety, one state Emergency Medical Services office, and one coordinated highways response action team.

<sup>2</sup> These occupational groups included one group representing a broad range of emergency responders, two representing law enforcement, and one group each representing fire, emergency medical services (EMS), the waste and recycling industry, and the towing industry.

To identify NHTSA's data on crashes that may involve violations of Move Over laws, we analyzed 2018 NHTSA crash, fatality, and injury data—the most recent data at the time of our analysis—to determine the extent to which NHTSA's data provides information on crashes related to violations of Move Over laws. We reviewed NHTSA documentation and guidance to identify data elements that might identify crashes involving violations of a Move Over law, or more broadly, emergency responder vehicles or personnel.<sup>3</sup> To assess the reliability of these data, we reviewed relevant documentation and spoke with agency officials about the data's quality control procedures. We determined that these data were sufficiently reliable for the purposes of providing an overview of fatalities and injuries from crashes involving emergency responders. However, we identified potential limitations of these data to identify crashes involving Move Over law violations, as discussed in this report.

To describe selected states' actions and challenges related to Move Over laws, we used the information collected during semi-structured interviews with state officials to perform a content analysis and identify actions taken to improve implementation and enforcement of Move Over laws, and any challenges described. We also conducted a literature search to identify articles and publications that have examined state actions and challenges related to Move Over law implementation and enforcement and were methodologically sound.

To describe DOT's actions to improve emergency responder roadside safety, we reviewed relevant federal laws and regulations, and DOT reports and initiatives. We conducted a content analysis of state highway safety plans from 2018 through 2020 submitted by 50 states and the District of Columbia, and corresponding state annual reports from 2019 to identify federal funding used by states for emergency responder roadside safety initiatives.<sup>4</sup> See appendix I for a detailed description of our objectives, scope, and methodology, including a list of interviewees.

We conducted this performance audit from September 2019 to December 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to

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<sup>3</sup> Specifically, we reviewed the Fatality Analysis Reporting System (FARS) and the Crash Report Sampling System (CRSS) coding and validation and analytical user's manuals.

<sup>4</sup> We focused on fiscal years 2018 through 2020 to align with DOT's most recent strategic planning years, given that we are assessing current and planned efforts to address emergency responder safety initiatives.

obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

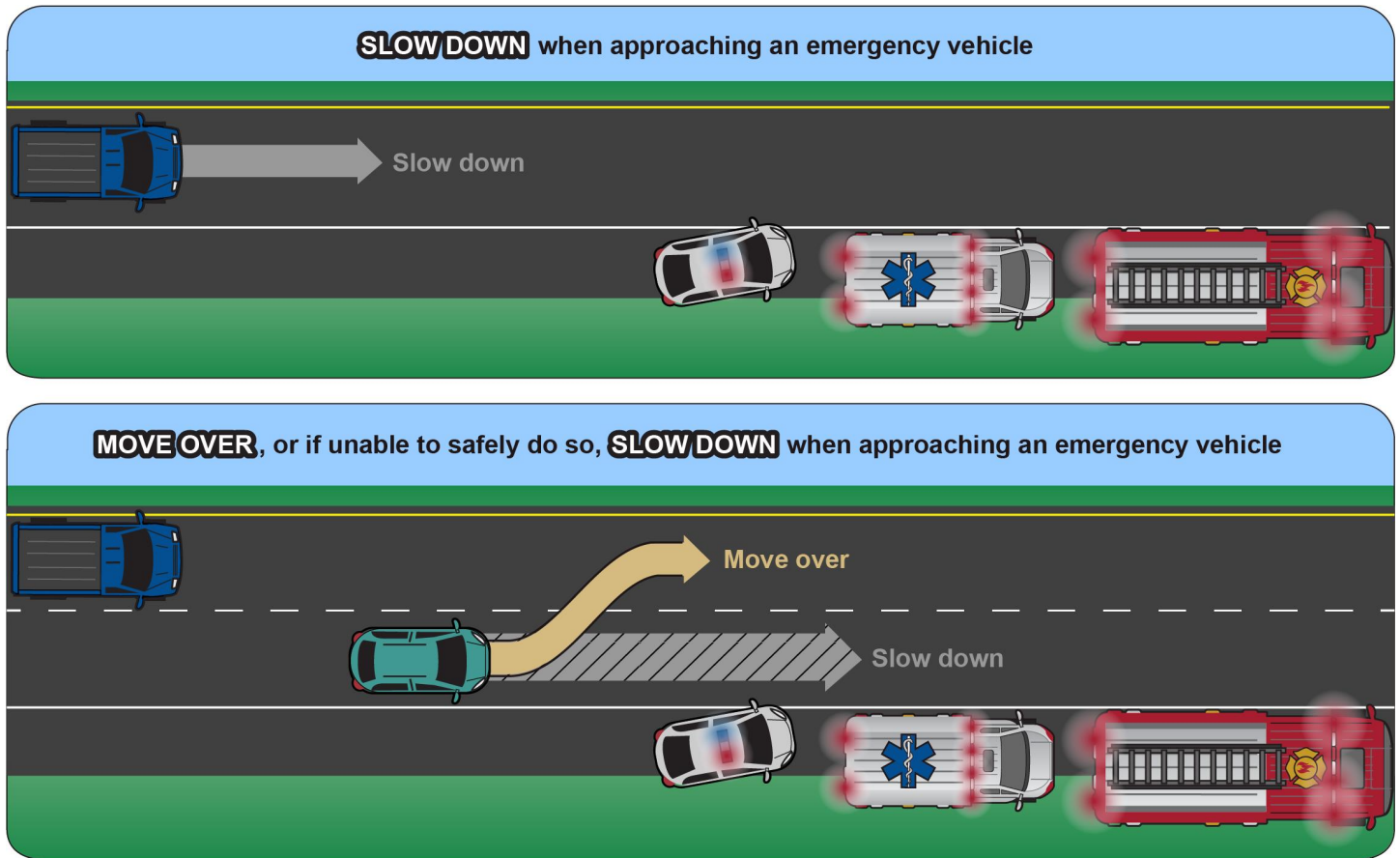
Move Over laws vary by state but generally require motorists, when approaching emergency responder vehicles stopped on the roadside and displaying flashing lights, to either move over to a lane that is not adjacent to the emergency responder vehicle, or if unsafe to do so, slow down to an appropriate speed for existing weather, road, and vehicular or pedestrian traffic conditions. For the purposes of this report, we define a crash involving a Move Over law violation as one in which an emergency responder or their accompanying emergency vehicle that is stopped on the roadside and displaying flashing lights is struck by a passing vehicle.<sup>5</sup> Although 50 states and the District of Columbia have enacted Move Over laws, the specific emergency responder vehicles covered and the actions required of motorists under each state's law can vary. For example, states generally include law enforcement, firefighter, and EMS vehicles under their Move Over laws, but some states also cover tow, waste and recycling, state DOTs, or highway maintenance vehicles under certain conditions. Additionally, states generally require motorists to slow down if moving over to an adjacent lane is not possible. Some states require motorists to slow down by a specified amount, such as 20 miles per hour less than the posted speed limit when the speed limit is 25 miles per hour or more, whereas other states require motorists to slow down to a "safe or reasonable" speed under the circumstances.

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<sup>5</sup> This definition is based on a definition developed by the American Association of State Highway and Transportation Officials, supported in partnership with the National Traffic Incident Management Coalition for a struck-by incident. Emergency responder vehicles include law enforcement, fire, EMS, and other relevant vehicles, such as towing.



**Figure 1: Illustration of General Requirements of Move Over or Slow Down Laws for Motorists Traveling on a Single Lane or Multiple Lane Roadway**



Source: GAO analysis of state Move Over laws. | GAO-21-166

As part of NHTSA’s mission to reduce deaths, injuries and economic losses resulting from motor vehicle crashes, NHTSA provides grant funding to state and local governments to mitigate the behavioral related causes of vehicular crashes. For fiscal years 2016 through 2020, the Fixing America’s Surface Transportation Act (FAST Act) authorized approximately \$2.7 billion in funding for NHTSA’s two major highway safety grant programs,<sup>6</sup> both of which aim to reduce traffic crashes and

<sup>6</sup> Pub. L. No. 114-94, § 4001(a)(1), (3), 129 Stat. 1312, 1497-1498 (2015). NHTSA provides the program funding to state highway safety offices, which use it to administer the programs within their state. 23 U.S.C. §§ 402(b)(1), 405(a); 23 C.F.R. §§ 1300.4(a)-(b), 1300.15(a).

resulting deaths, injuries, and property damage.<sup>7</sup> To receive these grants, states must submit an annual Highway Safety Plan in which they, among other things, set targets, identify projects they will implement in the upcoming fiscal year, and describe how they will use program funding.<sup>8</sup> States are also required to submit an Annual Report to NHTSA that includes an assessment of the state's progress in achieving safety performance targets in the previous fiscal year.

FHWA provides funding to state DOTs to build and maintain the nation's roadway and bridge infrastructure through multiple grant programs, including the Highway Safety Improvement Program (HSIP).<sup>9</sup> The purpose of HSIP is to significantly reduce fatalities and serious injuries on all public roads. To achieve this purpose, HSIP funds can be used for projects such as installing shoulder rumble strips and roadside signs, transportation safety planning, and improving safety data.<sup>10</sup> States submit annual reports that describe how their HSIP funds are consistent with the Strategic Highway Safety Plan and address a hazardous road location or a feature or a highway safety program.<sup>11</sup>

NHTSA maintains crash data collection systems to gather information on crashes, fatalities, and serious injuries on the nation's highways:

- The Fatality Analysis Reporting System (FARS) contains a census of all fatal traffic crashes in the United States. When a fatal crash occurs, a state or local police officer typically completes a crash report form unique to each state. FARS analysts—state employees who are trained by NHTSA's data validation and training contractor to code state crash data for input into FARS—in each state receive and analyze the data in the crash report forms in order to compile a record of the fatal crash. FARS analysts rely on the information within the crash report form in order to enter accurate data.

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<sup>7</sup> Section 402 funding is provided to improve motorist behavior and law enforcement services to help prevent crashes. 23 U.S.C. § 402(a). Section 405 funding is provided to address selected national priorities, such as reducing distracted driving and implementing impaired driving countermeasures. 23 U.S.C. § 405(a).

<sup>8</sup> 23 U.S.C. § 402(k)(1), (4); 23 C.F.R. §§ 1300.10-1300.11.

<sup>9</sup> FAST Act, § 1101(a). HSIP is one of the five highest funded formula grant programs included in the overarching Federal-Aid Highway Program.

<sup>10</sup> 23 U.S.C. § 148(a)(4)(B), (b)(2).

<sup>11</sup> 23 U.S.C. § 148(a)(4).

- The Crash Report Sampling System (CRSS) provides a sample of police-reported motor vehicle crashes, and is used to develop national estimates of the number of injuries associated with motor vehicle crashes, among other things. CRSS obtains its data from a nationally representative probability sample selected from the estimated 5 to 6 million police-reported crashes that occur annually. These crashes include those that result in a fatality or injury and those involving property damage, and are chosen from 60 selected areas across the United States that reflect the geography, population, miles driven, and crashes in the United States.

Along with other agencies and associations, NHTSA also cooperatively developed the Model Minimum Uniform Crash Criteria (MMUCC) to encourage greater uniformity of crash data collected by states. The MMUCC, originated in 1998 and currently in the fifth edition, is a data collection guideline that identifies a minimum set of motor vehicle crash data elements and related definitions that states should consider but are not required to collect. The criteria are updated about every 4 to 5 years. Prior to publication of each edition, an expert panel—comprised of stakeholders representing NHTSA, FHWA, the Federal Motor Carrier Safety Administration, the National Transportation Safety Board, the Governors Highway Safety Association, and subject matter experts from state DOTs, safety organizations, and industry partners—convenes to review all proposed changes suggested by traffic safety stakeholders to determine what elements will be included. The panel also considers each proposed change’s rationale, extent, reporting requirements, consequences, and whether it is essential for traffic safety. The expert panel weighs the importance of the data to researchers and decision makers versus the added time required for law enforcement officers to collect the data. New data elements must be approved by at least 70 percent of panel members to be adopted. According to NHTSA officials, the sixth edition of the MMUCC is expected to be issued no earlier than 2022.

Congress has provided funding for NHTSA’s highway safety programs and research activities, some of which could promote emergency responder safety. The Explanatory Statement accompanying the Further Consolidated Appropriations Act, 2020, specified that not less than \$5 million of the amount provided to NHTSA for highway safety research and development is for grants and pilot programs to evaluate driver behavior with technologies that protect law enforcement, first responders, roadside

crews, and others while on the job.<sup>12</sup> It also directed DOT to study and report to the House and Senate Committees on Appropriations by December 20, 2020 on deaths and motor vehicle crashes involving those on-duty personnel to better understand the extent of the problem and potential solutions.<sup>13</sup>

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## NHTSA's Data Provide Limited Information on Whether Crashes Involve Violations of Move Over Laws, but The Agency Is Taking Steps to Improve Collection Efforts

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### NHTSA Data

In our review of 2018 FARS and CRSS data, we found that NHTSA collects data that broadly identify crashes involving emergency responders but cannot be used to definitively identify crashes that involved a violation of Move Over laws. Three data elements in FARS and CRSS, as shown in figure 2, below, could indicate if an emergency responder or emergency response vehicle was involved in a crash.

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<sup>12</sup> PUB. L. NO. 116-94, 133 STAT. 2534 (2019); STAFF OF H. COMM. ON APPROPRIATIONS, 116TH CONG., EXPLANATORY STATEMENT ON FURTHER CONSOLIDATED APPROPRIATIONS ACT, 2020, at 1182 (COMM. PRINT 2020) (INCORPORATING SEN. REP. NO. 116-109, AT 65 (2019)).

<sup>13</sup> *Id.*

- (1) “Emergency Motor Vehicle Use” identifies whether the crash involved an official federal, state, or local government vehicle engaged in emergency use, and whether emergency warning equipment, such as light signals, was in use during the crash.<sup>14</sup>
- (2) “Special Use” identifies the type of emergency vehicle involved in the crash, such as a police vehicle, ambulance, fire truck, or other emergency services or incident response vehicle.<sup>15</sup>
- (3) “Related Factors” captures the presence of emergency responders involved in the crash. This includes emergency services personnel and law enforcement officers who could be working at the crash site.<sup>16</sup>




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<sup>14</sup> According to NHTSA officials, 10 states have adopted this data element into their crash report forms. Officials said that other states identify emergency vehicles under a broader “vehicle type” data variable.

<sup>15</sup> The other emergency services category includes vehicles that are designed and equipped to respond to fire, hazmat and medical incidents and do not transport passengers, such as patients or suspects. Incident response vehicles include Government vehicles that assist law enforcement, fire, and rescue personnel with roadside incident management.

<sup>16</sup> The related factors variable is part of the “Person File” in FARS and CRSS, which provides information about the individuals involved in the crash.

**Figure 2: Information Collected from the Department of Transportation’s Emergency Response Data Elements**

Data Element	Selected Information Collected from Emergency Response Data Elements
Emergency Motor Vehicle Use	 <p>Non-emergency use      Emergency operation, warning equipment (light signals) not in use      Emergency operation, emergency warning equipment in use</p>
Special Use	 <p>Police vehicle      Ambulance      Fire truck      Incident response vehicle</p>
Related Factors (Person File)	 <p>Emergency services personnel      Police or law enforcement officer</p>

Sources: GAO analysis of the National Highway Traffic Safety Administration’s Fatality Analysis Reporting System data and manuals. | GAO-21-166

**Data table for Figure 2: Information Collected from the Department of Transportation’s Emergency Response Data Elements**

Data Element	Examples of Applicable Roadside Emergency Response Factors
Emergency Motor Vehicle Use	Non-emergency use Emergency operation, warning equipment (light signals) not in use Emergency operation, emergency warning equipment in use
Special Use	Police Ambulance Fire truck Incident response vehicle
Related Factors (Person File)	Emergency services personnel Police or law enforcement officer

These data indicate that there are relatively few fatalities and injuries from crashes involving emergency vehicles in general. Our analysis of 2018 FARS and CRSS data shows that overall, there were 112 fatalities from crashes involving emergency vehicles, representing 0.3 percent of all

traffic fatalities that year.<sup>17</sup> The total number of traffic injuries involving an emergency vehicle in use was estimated to be about 8,000, or 0.3 percent of all estimated traffic injuries that year.<sup>18</sup> Further, our review of the separate “related factors” data variable to identify emergency responders involved in crashes found that out of 14 individuals who were either emergency services personnel or law enforcement officers involved in a fatal crash in 2018, 11 were killed and 3 had non-fatal injuries.

These data elements alone do not indicate whether crashes involve violations of Move Over laws. Information collected in the FARS and CRSS databases may be able to identify crashes that have key elements similar to those that may involve Move Over law violations and resulting fatalities and injuries. However, this analysis would require linking four different data sets describing the vehicle, persons involved, and the crash, and developing a series of filters for these key elements, such as the presence of an emergency vehicle. Further, some of the variables for these key elements have missing data. For example, generally in crashes involving violations of the Move Over law, the emergency responder vehicle would be stopped on the side of the road with a speed of zero, but over 50 percent of the vehicle travel speed data in FARS is unknown or not reported.

While NHTSA data are limited, some states, occupational groups, and other federal agencies collect additional data related to Move Over law citations and crashes.

- Several states we interviewed capture citation data for Move Over law violations. For example, from 2014 through 2018, Ohio’s State Highway Patrol issued 18,127 citations for violations of the state’s

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<sup>17</sup> These fatalities were identified using the Emergency Motor Vehicle Use data element. All incidents involving one or more vehicles in emergency use at the time of the crash were included in the analysis.

<sup>18</sup> According to NHTSA’s CRSS data, the 95-percent confidence interval for the 2018 estimate of the annual total traffic injuries by emergency vehicle use is (5,000, 10,000). The 95-percent confidence interval for the 2018 estimate of the number of all traffic injuries is (2,341,000, 2,817,000). These numbers are rounded to the nearest 1,000.

Move Over law.<sup>19</sup> In the same time period, Maryland law enforcement agencies issued 28,907 citations for Move Over law violations.<sup>20</sup> In addition, as states have the flexibility to determine what crash data to collect, all seven selected states we interviewed collected citation data on their crash report forms, which can identify crashes involving Move Over law violations. States said they do not submit this information to federal databases, as they have not received federal guidance on how to document these crashes in FARS. Further, there are limitations to using citation data to identify crashes involving Move Over law violations. One state official said that citation data may undercount these crashes because the officer documenting the crash would need to see a motorist fail to move over or slow down, when often times, police may respond to a crash after it has already occurred. Additionally, an official in another state said that citation and narrative fields on the crash report form are not required, so officers may not consistently complete these sections.

- Some occupational groups and other federal agencies collect data on emergency responder crashes, but these data also cannot be used to comprehensively identify crashes involving a Move Over law violation. Some databases collect information on whether emergency responders from specific groups were struck in a crash. For example, the U.S. Fire Administration’s firefighter fatality database indicates whether fatalities were a result of a “struck-by” incident. Generally, however, these data are often broader than crashes from Move Over law violations, could be specific to individual occupational groups, and are not standardized in methodology or content of information collected. One of these databases—the FBI’s Law Enforcement Officers Killed and Assaulted database—cautions against comparisons with data from other organizations, as each organization has its own purpose and may use different methods to collect and report information or focus on different aspects of these topics. See Appendix III for a description of these databases. Representatives from most occupational groups we interviewed stated that the lack of

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<sup>19</sup> Ohio law generally requires all motorists to move over to a nonadjacent lane or, if unsafe or impossible, slow down when approaching a stopped police vehicle, other emergency vehicle (such as a fire truck), road service vehicle (such as a tow truck or snow plow), waste collection vehicle, highway maintenance vehicle, or public utility commission vehicle when these vehicles have their warning lights activated. OHIO REV. CODE § 4511.213.

<sup>20</sup> Maryland law generally requires all motorists to move over to a nonadjacent lane or, if impracticable or illegal, slow down when approaching a stationary emergency, maintenance, service, tow, or waste and recycling vehicle with activated warning lights on a highway. MD. TRANSP. CODE § 21-405(e).



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crash data related to Move Over law violations is a challenge to understanding the full scope of the problem.

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## NHTSA Data Improvement Efforts

NHTSA officials said that they have taken steps to improve and augment crash data involving emergency responders, and described planned efforts to further improve data collection.

- For the 2019 FARS data collection effort, NHTSA officials said they expanded the “related factors” data element in the file that provides information on each person involved in the crash to include additional occupations covered under many state Move Over laws, such as the towing industry. NHTSA officials also said that they augment data with information from occupational groups. NHTSA officials stated that they have cited such data to inform public awareness marketing materials and to help guide research efforts about emergency responder safety. NHTSA has used data from the National Law Enforcement Officers Memorial Fund, the U.S. Fire Administration’s National Fire Incident Reporting System, and the Emergency Responder Safety Institute’s struck-by incidents database for information on roadside fatalities involving law enforcement, fire, and EMS. For example, NHTSA analyzed the number of occupant fatalities in law enforcement vehicles by supplementing FARS data with data from the FBI’s Law Enforcement Officers Killed & Assaulted database. Finally, NHTSA officials said that they collaborate with stakeholders from various occupational fields through the National Traffic Incident Management Coalition to gather information about emergency responder and roadside worker safety in these occupational fields.
- NHTSA officials told us that in September 2020, the MMUCC working group discussed and voted on a revision to a data element that would better identify crashes involving Move Over law violations, and forwarded it to the MMUCC subject matter expert panel for consideration. Officials said that this revision would recommend that states collect additional information identifying if a motorist failed to move over or slow down when passing a stopped emergency vehicle with activated flashing lights; the revision would be added to a currently existing data element in MMUCC related to driver actions at the time of the crash. The MMUCC working group also plans to form a subcommittee to develop additional proposals to better address Move Over laws in crash data collection. NHTSA plans to have a final set of

proposed changes approved by the end of 2020, and convene a subject matter expert panel in 2021 to deliberate on how to best collect such data. The next MMUCC update is expected no earlier than 2022.

- NHTSA officials said that, in response to congressional direction, the agency will conduct a study of the causes of crashes involving Move Over law violations.<sup>21</sup> This project will use an expert panel approach to study the causes of first responder and other road worker fatalities and injuries as a result of being struck by passing vehicles, and, to the extent possible, near-miss incidents. As of September 2020, NHTSA officials said that the agency has awarded an intra-agency agreement between NHTSA and FHWA to conduct this work. Anecdotally, state and occupational group stakeholders said that they have observed that Move Over law violations are generally caused by poor behavioral driving factors, such as distracted, drunk, or drug-impaired driving.
- NHTSA and its National Center for Statistics and Analysis (NCSA) plan to conduct a Move Over Crash Investigations project using in-depth studies of both fatal and non-fatal crashes involving Move Over law violations and will develop a report, including noteworthy practices on Move Over crash data collection and analysis. The data collected in this study will be used in the expert panel study. As of September 2020, NHTSA officials said that NCSA has awarded a contract for a pilot study for this work, and has selected nine states to participate in the pilot study.<sup>22</sup> NHTSA plans to report to Congress on a schedule and plans for conducting the project by December 2020.

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<sup>21</sup> STAFF OF H. COMM. ON APPROPRIATIONS, 116th Cong., EXPLANATORY STATEMENT ON FURTHER CONSOLIDATED APPROPRIATIONS ACT, 2020, at 1182 (Comm. Print 2020); SEN. REP. NO. 116-109, at 65 (2019).

<sup>22</sup> The nine states for the pilot study are: California, Texas, Florida, Illinois, New York, Virginia, Ohio, North Carolina, and Arizona.

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## Selected States Reported Education and Enforcement Actions and Related Challenges Regarding Move Over Laws


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### Education


Officials from all seven selected states told us about ongoing actions—including conducting media campaigns and collaborating with other states and agencies—to raise public awareness of Move Over laws. These officials described a combination of media types used by state agencies to educate the general public about their respective Move Over laws, including but not limited to dynamic message boards, public service announcements, marketing materials such as pamphlets and posters, and social media. (See fig. 3 for examples of states' public awareness efforts.)

Figure 3: Examples of State Move Over Law Public Awareness Efforts

**Press Release**



**ILLINOIS STATE POLICE**  
BRENDAN F. KELLY • DIRECTOR



FOR IMMEDIATE RELEASE  
December 23, 2019

Contact: ISP Public Information Office  
ISP.PIO.Personnel@Illinois.gov

**ILLINOIS STATE POLICE CONTINUE TO REMIND MOTORISTS TO OBEY SCOTT'S LAW**

*HIGHER FINES FOR SCOTT'S LAW VIOLATIONS BEGIN JAN. 1, 2020*




**Social Media**

**IF YOU SEE THIS STEER CLEAR**  
PLEASE, KEEP OUR EMERGENCY PERSONNEL SAFE.



#SteerClear

**Poster**



SLOW DOWN  
MOVE OVER

For ALL Roadside Workers

MoveOver.Ohio.Gov

**Ohio's NEW Move Over Law requires motorists to move over or slow down for ALL roadside workers.**

**Why Move Over?**  
Because across the nation, in roadside accidents...








1 tow truck driver is killed every six days.

23 highway workers and 1 law enforcement officer is killed every month.

6 firefighters are killed every year.

**Move Over for Safety. Every Worker, Every Time.**

**Partners in Safety:**


**Television/Online Videos**




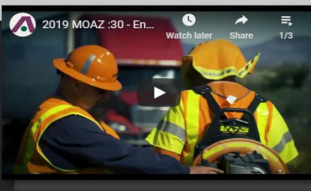
Graphic Reminder of Importance of MD Move Over Law  
52,818 views • Sep 7, 2012

MarylandStatePolice  
1.97K subscribers

**Website**







**Move Over or slow down for...**

- Stranded Motorists
- Road and Highway Workers
- Roadside-Assistance Providers
- Emergency Responders
- Law Enforcement Officers

**Every Vehicle, Every Time.**

Sources: GAO analysis of various state Department of Transportation press releases, YouTube videos, social media posts, posters, and websites. | GAO-21-166

All seven selected states host at least one webpage that contains information on their state’s Move Over law requirements. Additionally, Illinois and Florida created data dashboards to raise awareness of car crashes related to Move Over law violations. Ohio DOT officials told us about the agency’s “Move Over Monday” social media campaign, and Texas DOT officials shared details on their “Be Safe, Drive Smart” public awareness campaign that covers the state’s Move Over law alongside other safe driving messages, including pedestrian safety and aggressive driving. Florida’s Department of Highway Safety and Motor Vehicles designates each January as “Move Over Month” to promote its law to educate drivers throughout the state. Additionally, Florida has conducted evaluation reports of their Move Over media campaigns from 2016 through 2019. The reports provide an overview of the overall media impressions and outreach events conducted across the state and incorporates the state’s citation and crash data involving failure to adhere to the law.

Officials we interviewed at state entities also discussed collaborating with other organizations—including other state agencies and non-government organizations—to promote and address issues related to Move Over laws, such as emergency responder safety and traffic incident management. For example, Arizona state law enforcement officials told us about their department’s coalition with other agencies, including fire, EMS, towing, and the state’s DOT, to advance their state’s Move Over law through media campaigns and events.

Notwithstanding these efforts to educate the public on Move Over laws and its requirements, officials we interviewed from four states and five non-governmental organizations cited raising public awareness as a challenge, as motorists may not understand the specific requirements of the law. For example, in 2011, a study conducted by the Florida Highway Patrol and the University of Florida examined motorist compliance with Florida’s Move Over laws using staged stops with a civilian vehicle and a marked police vehicle in a non-generalizable sample of four Florida counties. They found that overall compliance with the “move over” component of the law across a variety of conditions was about 76 percent, but compliance with the requirement to slow down to 20 miles

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per hour below the posted speed limit when unable to move over was 5.8 percent.<sup>23</sup>

In addition, officials from three states and three non-governmental organizations told us the lack of uniformity across states' Move Over laws could contribute to motorists' lack of awareness of each state law's specific requirements. Of the seven selected states, two states' Move Over laws specify a reduced speed to which the motorist must slow down, while the other states require motorists to slow down to a "reasonable" or "safe" speed. Moreover, two of the selected states use unique branding terms for their Move Over laws in public marketing materials.<sup>24</sup> (See Appendix III for more information on Move Over law provisions for the seven selected states.)

Officials in three states told us that a national-level public awareness campaign on Move Over laws could assist in their actions to protect roadside emergency responders. DOT officials said that they have not made such a national-level public awareness campaign a priority due to limited resources. However, as described later in this report, DOT has assisted states with their public education campaigns.

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## Enforcement

Enforcement actions taken in all seven selected states include enforcement campaigns and collaboration with other state and local law enforcement agencies. Officials from three state law enforcement agencies told us they have coordinated enforcement campaigns to identify Move Over violations. For example, Illinois State Police conducted "Operation Lambert," a statewide enforcement operation that resulted in 281 state citations and 77 arrests for violating the state's Move Over law in January 2020. Maryland and Pennsylvania have used NHTSA grants to fund overtime hours for police officers as part of their traffic safety enforcement actions. Additionally, officials representing a

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<sup>23</sup> G. Carrick and S. Washburn, "The Move Over Law: Effect of Emergency Vehicle Lighting on Driver Compliance on Florida Freeways," *Transportation Research Record: Journal of the Transportation Research Board*, no. 2281 (2012) pp.1-7.

<sup>24</sup> Illinois refers to its Move Over law as "Scott's Law," named after Chicago Fire Lieutenant Scott Gillen who was struck and killed Dec. 23, 2000 while responding to a traffic crash. Pennsylvania refers to its Move Over law as "Steer Clear."

Pennsylvania law enforcement agency told us that they use crash and traffic violation data to plan targeted enforcement activities.

State law enforcement agencies may also collaborate with other entities to improve enforcement of Move Over laws. For example, representatives of an Arizona law enforcement agency discussed their collaboration with the state's DOT to conduct an enforcement detail in honor of an employee who was struck by a collision. Ohio and Pennsylvania participate in the Six-State Trooper Project, a regional law enforcement partnership with Kentucky, Michigan, Indiana and West Virginia in July to increase Move Over law enforcement along interstate highways. In addition, Illinois law enforcement officials told us that they recently worked with state legislators to increase the penalties for violating the state's Move Over law, such as increasing the minimum fine for a first violation that does not result in property damage, death, or injury from \$100 to \$250.

However, according to state and non-governmental representatives we interviewed, enforcing Move Over laws can present a variety of challenges involving the availability and prioritization of resources to conduct enforcement activities. Officials from four states and two non-governmental associations described the difficulties for law enforcement officers conducting enforcement details to respond to traffic incidents and enforcing Move Over violations concurrently. For example, officers patrolling for Move Over violations at a traffic stop or other roadside emergency would need to deploy additional officers to support first responders, which could pull these officers from other law enforcement duties. Officials from the Pennsylvania State Police said that conducting traffic stops for the Move Over law when traffic volume is high creates challenges, as officers need to determine if the violator had enough room to safely move over prior to conducting a traffic stop. Further, officials from three states and one non-governmental association told us that Move Over enforcement activities compete for resources with other traffic safety issues.

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## DOT Is Implementing Actions That May Help Improve Emergency Responder Roadside Safety

DOT, primarily through NHTSA and FHWA, has implemented and is planning to take additional actions to help improve the safety of roadside

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emergency responders, including actions in the areas of public awareness, training, funding, coordination, and research.

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## Public Awareness

To assist states' actions to improve public awareness of Move Over laws, NHTSA provides marketing materials that states and local communities can use to develop their own traffic safety campaigns.<sup>25</sup> According to NHTSA officials, these materials encourage adherence to Move Over laws and emphasize their importance to emergency responder and public safety. These resources include news releases, a media advisory, social media posts, dynamic message board wording, infographics, and banner ads, among others. NHTSA also posted public awareness videos on social media. These videos discuss the importance of traffic enforcement, thank law enforcement for the work that they do, and remind and educate citizens about Move Over laws. NHTSA encourages state, local, and national traffic safety advocates to download and use these traffic safety materials throughout the year and during safety campaigns. While state officials noted that a national campaign by NHTSA to promote these laws would be helpful, NHTSA officials stated that the agency currently does not have the resources to do so. Instead, these officials said that the resources currently provided can help states raise public awareness through paid and social media.

NHTSA officials provided examples of how states and organizations have used the agency's Move Over law marketing materials. For example, the Illinois State Police has set up a website to map by year where trooper squad car crashes have occurred, and has used graphics NHTSA developed on this page. Illinois State Police heavily promote this site within the state to raise awareness of Move Over laws and emergency responder roadside safety. NHTSA also provided examples of private entities using NHTSA materials. For example, a Michigan law firm hosts a website on Move Over incidents that includes information from NHTSA's twitter feed on this issue.

NHTSA can track the number of visitors to and downloads from the marketing materials website. For example, in 2019, there were 1,580 page views for the Move Over campaign content and 907 downloads, and

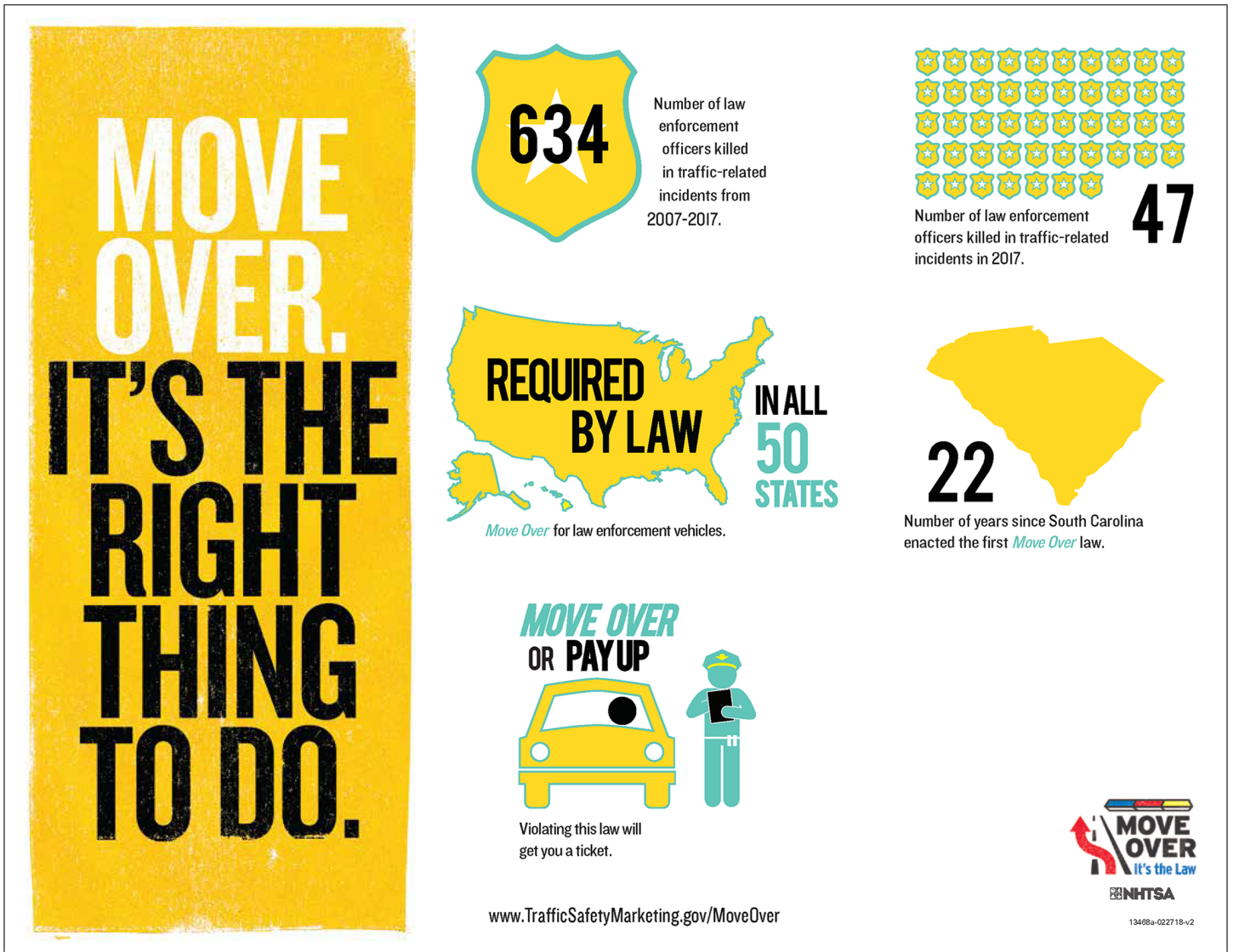
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<sup>25</sup> NHTSA offers materials for numerous traffic safety campaigns, addressing issues such as drunk driving, car seats, vehicle safety, distracted driving, and motorcycles. These materials are developed for state and local communities, and are located on <https://www.trafficsafetymarketing.gov>.



the infographic NHTSA developed was the most frequently downloaded marketing material from that website. (See figure 5.) According to NHTSA officials, they update materials every year as new statistics are available.

Figure 4: Example of NHTSA Infographic on Move Over Laws



Source: NHTSA. | GAO-21-166

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## Training

FHWA officials told us that, since 2012, they have coordinated with governmental agencies and other organizations across the country to train emergency responders on traffic incident management (TIM) best practices.<sup>26</sup> According to FHWA officials, the National TIM Responder Training program was developed to improve the coordination of all traffic incident responders from the moment an emergency call is first placed through the conclusion of the incident and return of normal traffic flow. For example, first responders learn how the placement of response vehicles can either aid or impede safety and can affect how quickly traffic flow can be restored. Responders also learn about human behavior in highway safety to help prevent additional injuries or delays that may result from secondary crashes occurring near the initial crash site, among other topics. According to FHWA officials, the training is based on research conducted with emergency responders across the country. As of August 2020, about 485,000 emergency responders have completed the in-person or online National TIM Responder Training program, and FHWA officials told us that their goal is to have 1.2 million first responders trained. However, FHWA noted that state and local emergency responder agencies may lack resources and funding to send their employees to training. For example, if they send an emergency responder to training, they would have to take that person off duty, which could lead to staff shortages. Normally, TIM training is conducted in person, but FHWA has encouraged stakeholders to take relevant TIM training online, given resource constraints and social distancing measures resulting from COVID-19.

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## Funding

NHTSA officials said that while there is no specific funding designated for states to use for activities related to Move Over laws and other emergency responder roadside safety initiatives, states could use highway safety grant funds provided under the FAST Act for certain public awareness and traffic safety enforcement activities. For example, NHTSA officials said that grant funds could be used for activities such as public awareness campaigns or specialized traffic units that could enforce Move

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<sup>26</sup> According to FHWA, the TIM process is a systematic, planned, and coordinated use of human, institutional, mechanical and technical resources to reduce the duration and effects of incidents and improve the safety of motorists, crash victims, and emergency responders.

Over laws. Officials in one state noted that they tested automated enforcement cameras on vehicles to assist with enforcing the Move Over law, but noted that states are prohibited from using this federal funding to purchase such technologies. NHTSA officials also noted that states use NHTSA funding for programs to help address behavioral factors that adversely impact traffic safety—such as drunk driving and distracted driving—and these safety programs can help improve the safety of roadside emergency responders. In addition, FHWA officials said that states could use funding from HSIP for projects such as installing roadside signs or other infrastructure improvements to support implementation of Move Over laws if it is consistent with the state's Strategic Highway Safety Plan, and that there may be other eligible FHWA funding, such as that for TIM programs, to help improve emergency responder roadside safety.

Officials in three of our selected states told us that they used NHTSA grant funding for public awareness initiatives related to Move Over laws. However, the extent to which grant funding is used across all states is unclear. For example, in our review of the FY 2019 annual reports submitted to NHTSA, we found that most states did not report expending DOT funding specifically for activities related to Move Over laws or emergency responder roadside safety initiatives. In particular, we found that only two states' annual reports indicated that they used DOT funding for such safety initiatives and countermeasures. While emergency responder roadside safety initiatives or countermeasures were not listed in the highway safety plans for most states, NHTSA officials told us that states have used funds from safety programs that they did include in the plans, such as for speeding and drunk driving, which could contribute to violations of the Move Over law. According to FHWA, for strategic planning years 2016 to 2024, eight states mentioned Move Over laws or emergency responder safety in their respective strategic highway safety plans, in various areas, including traffic incident management, enhancing first responder capabilities, vulnerable roadway users, EMS, and trauma response, and crashes related to speeding.

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## Coordination

NHTSA and FHWA officials said they have coordinated with a range of stakeholders to address emergency responder roadside safety issues. Specifically, NHTSA works with FHWA on issues related to traffic incidents, training, and congestion mitigation. NHTSA also works with the National Institute for Occupational Safety and Health on first responder

safety issues, as well as with national organizations such as the International Association of Chiefs of Police, the National Sheriff's Association, the National Organization of Black Law Enforcement Executives, and the National Association of State Emergency Officials, among others.

FHWA officials said that they coordinate with a network of stakeholders regarding traffic incident management and emergency responder safety. For example, FHWA officials said that the National Executive Leadership Group meets four times yearly and has conducted three Senior Executive Transportation and Public Safety Summits since 2012 to discuss traffic incident management and emergency responder safety issues. For the 2019 summit, 120 national leaders among transportation, law enforcement, towing and recovery, fire, EMS, public works, and other disciplines related to traffic incident management convened to discuss the state of the practice and recent developments within the emergency responder community, including roadside safety issues. FHWA also conducts monthly webinars, issues quarterly newsletters, and has participated in state hosted TIM conferences four to six times a year, among other coordination efforts.

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## Planned Research Activities

NHTSA officials stated that they are planning several research efforts intended to enhance emergency responder roadside safety, in response to congressional direction to use \$5 million of its highway safety research and development funding for these purposes.<sup>27</sup> In particular, NHTSA is directed to provide grants, pilot programs, and innovative solutions for field testing of technologies and movable barriers that protect law enforcement, first responders, roadside crews, and others on the job.<sup>28</sup> NHTSA officials said that, as part of this effort, they plan to conduct a prospective study of strategies to improve compliance with Move Over laws, including technological strategies.<sup>29</sup> NHTSA officials stated that, for another project, they will purchase work zone and incident response technology and equipment for shared use among interested states, and

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<sup>27</sup> STAFF OF H. COMM. ON APPROPRIATIONS, 116TH CONG., EXPLANATORY STATEMENT ON FURTHER CONSOLIDATED APPROPRIATIONS ACT, 2020, at 1182 (Comm. Print 2020) (incorporating SEN. REP. NO. 116-109, at 65 (2019)).

<sup>28</sup> *Id.*

<sup>29</sup> DOT was directed to provide the House and Senate Appropriations Committees a report upon completion of this and other related studies. *Id.*

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states will be required to evaluate the effectiveness of the equipment. As of September 2020, NHTSA has awarded contracts for both of these projects.

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## Agency Comments

We provided a draft of this report to DOT for comment. DOT provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of the Department of Transportation, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

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If you or your staff have any questions about this report, please contact me at (202) 512-2834 or [repkoe@gao.gov](mailto:repkoe@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

A handwritten signature in black ink, appearing to read "Elizabeth Repko", followed by a long horizontal line extending to the right.

Elizabeth Repko  
Acting Director, Physical Infrastructure Issues

## Appendix I: Objectives, Scope, and Methodology

Our work for this report focused on crashes involving Move Over law violations, state experiences with implementing these laws, and the U.S. Department of Transportation's (DOT) actions related to emergency responder roadside safety. In particular, this report: (1) examines data DOT's National Highway Traffic Safety Administration (NHTSA) collects on crashes involving violations of Move Over laws, (2) describes selected state actions and challenges related to Move Over laws, and (3) describes DOT actions to improve emergency responder roadside safety.

To address these objectives, we interviewed NHTSA and Federal Highway Administration (FHWA) officials to identify their crash data collection actions related to Move Over laws and their communication with state DOTs, and to determine each agency's actions related to Move Over law and emergency responder roadside safety. We also conducted semi-structured interviews with officials in seven selected states, and reviewed those states' Move Over laws. We selected the following states for these interviews: Arizona, Florida, Illinois, Maryland, Ohio, Pennsylvania, and Texas. States were selected using criteria such as: highest and lowest traffic fatality rates per vehicle mile traveled; traffic fatalities and fatal crashes in 2018; and recommendations from agencies and non-governmental organizations. The agencies we contacted as part of this work are listed at the end of this section. These relevant state stakeholders include: officials in seven state departments of transportation, seven state and one local police department, three state departments of public safety or highway safety, one state Emergency Medical Services (EMS) office, and one coordinated highways response action team.

We used these interviews to gather information on Move Over law violation crash data collection and analysis, state actions or safety initiatives employed to implement and enforce the law, and any related challenges, and additional actions DOT could take to improve emergency responder safety, if any. The information collected from these interviews are not meant to be comprehensive in scope, nor will the information collected from these interviews be generalizable to all states and localities. However, they do provide examples of the types of experiences state DOTs, police, and other relevant stakeholder agencies have with

Move Over law related crash data and implementation actions and challenges.

Additionally, for all objectives, we interviewed relevant stakeholders from traffic safety and occupational groups. We interviewed five traffic safety organizations, and seven occupational groups, with one group representing emergency responders more broadly, two groups representing law enforcement, and one group each representing fire, EMS, the waste and recycling industry, and the towing industry. We selected these groups based on a variety of factors, including representation of occupational groups covered under state Move Over laws, members of the Road to Zero Coalition, and recommendations from other traffic safety stakeholders.<sup>1</sup> Through these interviews, we obtained information from these stakeholders to identify other methods for collecting and analyzing safety data involving emergency responders. We also used these interviews to obtain traffic safety and occupational industry views on emergency responder roadside safety concerns, Move Over laws, and state and DOT actions to implement and publicize, respectively, these laws. We interviewed highway safety officials from the Austin Police Department in Texas to gather examples of local perspectives on Move Over laws, selected from a recommendation from a state Department of Transportation.

To identify the data NHTSA collects on crashes that may involve Move Over law violations, fatalities, and injuries, we analyzed 2018 NHTSA crash, fatality, and injury data, which was the most recent year for which these data were available at the time of our analysis. We also reviewed NHTSA documentation and crash data guidance, specifically the Fatality Analysis Reporting System (FARS) and the Crash Report Sampling System (CRSS) coding and validation and analytical user's manuals and interviewed NHTSA and FHWA officials to identify data elements that involve an emergency response vehicle or personnel. NHTSA fatality data came from FARS, a census of all fatal traffic crashes in the United States that provides uniformly coded, national data on police-reported fatalities. NHTSA injury data came from CRSS, a sample of police-reported motor vehicle crashes. We analyzed these data to determine whether these data elements identified crashes involving Move Over law violations.

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<sup>1</sup> The Road to Zero Coalition is a wide-ranging group of stakeholders organized by the National Safety Council with the goal to achieve zero roadway deaths. The Road to Zero Coalition, launched in 2016 in reaction to sharp increases in roadway deaths, has professional associations, businesses and industry associations, safety groups, government agencies, and nonprofit organizations as members.



Although we determined that there was not a crash data element specific to Move Over law violations, we identified other data elements in FARS and CRSS that involve emergency vehicles and emergency responders that could indicate that a crash involving a violation of the Move Over law may have occurred, amongst other crash circumstances. We also identified potential limitations to identifying such crashes, as discussed in the report. To assess the reliability of the FARS data, we reviewed relevant documentation and spoke with agency officials about the data's quality control procedures. We determined that the data were sufficiently reliable for providing information on the number of fatalities and injuries from crashes involving emergency responders.

We interviewed NHTSA officials to identify actions taken and future plans at the agency, and in collaboration with states and occupational groups to improve Move Over law related and emergency responder data collection. From information provided by NHTSA, FHWA, and occupational group stakeholders, we identified additional data sources for emergency responder fatalities and injuries (see app. 2). For each of these data sources, we reviewed and identified the methodology in which these data are collected, and the scope, or the extent of information collected in each database.

To describe selected state actions taken to implement and enforce Move Over laws, and any challenges selected states face, we conducted a search for articles and publications to identify relevant information on state challenges and actions related to Move Over law implementation. Specifically, we searched relevant databases, including the Transportation Research Board Publication Index, ProQuest, Scopus, Dialog, EBSCO, and the National Technical Reports Library using key terms such as "Move Over laws" and "implementation", "enforcement", "impact", or "challenges". We searched for articles published between 2009 and 2019. Through the search, we identified 25 studies and journal articles that provided background information on Move Over laws. We further limited our review to evaluative studies that measured potential effects of Move Over laws, including motorist knowledge of Move Over laws and behavior in relation to Move Over law enforcement, and identified three studies that met these criteria. We screened two of these studies and found that they were both methodologically sound. As Move Over laws vary per state, these studies were state specific. We used one of the studies as an additional example of how states were implementing the Move Over laws to supplement other information gathered on state actions and challenges. We also performed a content analysis of the findings from the semi-structured interviews with state officials to identify

actions taken to increase public awareness of and enforce Move Over laws, and any challenges that remain. One GAO analyst conducted this analysis, identifying similarities in states' actions to implement Move Over laws, coding the information and entering it into a document, and a different GAO analyst checked the information for accuracy. Any initial disagreements in the coding were discussed and reconciled by the analysts. The analysts then tallied up the responses to determine the extent to which there were commonalities in actions and in challenges amongst our selected states.

To determine the actions DOT has taken to improve emergency responder safety on the roadside, we reviewed applicable federal laws and regulations, and DOT reports and initiatives. Specifically, we reviewed the Fixing America's Surface Transportation Act, and proposed legislation.<sup>2</sup> We reviewed agency documents, such as the DOT *Strategic Plan for FY2018-2022*, the NHTSA *FY2016-2020 Strategic Plan*, and the FHWA *Strategic Plan for FY2019-2022*, DOT's *Annual Performance Plan*, the *Traffic Incident Management Performance Management Report*, and the *Traffic Incident Management Gap Analysis Primer*. We interviewed NHTSA and FHWA officials to discuss initiatives to improve emergency responder safety. We focused on emergency responder safety initiatives DOT has implemented in recent years, and any planned initiatives until FY 2022. We also interviewed state officials, and industry associations and traffic safety organizations to identify DOT's response to emergency responder safety.

To identify federal funding used by states for emergency responder roadside safety initiatives, we reviewed and conducted a content analysis of state highway safety plans from 2018 through 2020 submitted by all 50 states and the District of Columbia, and the corresponding state annual reports from 2019 if the state had identified performance measures and planned funding for Move Over law or emergency responder initiatives. We also used this content analysis to ascertain the extent to which states have performance targets, programs, countermeasures strategies, and allocation of federal funds to planned highway safety activities related to Move Over law and emergency responder safety. We conducted this analysis by reviewing state highway safety plans and annual reports and conducting key word search of terms related to Move Over laws, emergency responder safety, and traffic incident management. The

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<sup>2</sup> Pub L. No. 114-94, 129 Stat. 1312 (2015); Protecting Roadside First Responders Act, S. 2700, 116th Cong. (Oct. 24, 2019).

section with the key word was reviewed and categorized to determine whether the state identified a problem, performance target, countermeasure strategy, or allocated funds for planned activities related to Move Over law implementation and enforcement, or emergency responder safety overall. Two analysts independently reviewed the plans and reports, and any disagreements in the determinations both made were resolved through discussion. We focused on fiscal years 2018 through 2020 to align with DOT's strategic planning years, given that we are assessing current and planned actions to address emergency responder safety initiatives

We conducted this performance audit from September 2019 to December 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Organizations Contacted

We interviewed representatives from the following entities:

### *Federal Government Entities:*

- U.S. Department of Transportation
  - National Highway Traffic Safety Administration (NHTSA)
  - Federal Highway Administration (FHWA)

### *State Government Entities*

- Maryland
  - Maryland State Highway Administration
  - Maryland State Police
  - Maryland Highway Safety Office, Maryland Department of Transportation
  - Maryland Coordinated Highway Action Response Team, Maryland Department of Transportation
- Ohio

- Ohio Department of Transportation
- Ohio State Highway Patrol
- Ohio Department of Public Safety
- Ohio Emergency Medical Services
- Arizona
  - Arizona Department of Transportation
  - Arizona State Troopers
- Pennsylvania
  - Pennsylvania Department of Transportation
  - Pennsylvania State Police
- Texas
  - Texas Department of Transportation
  - Texas Highway Patrol
  - Texas Department of Public Safety
- Florida
  - Florida Department of Transportation
  - Florida Highway Patrol
- Illinois
  - Illinois Department of Transportation
  - Illinois State Police

*Local Entities*

- Austin Police Department

*Traffic Safety Organizations*

- Governors Highway Safety Association
- American Association of State Highway Transportation Officials
- American Association of Motor Vehicle Administrators
- American Automobile Association

- National Safety Council

*Occupational Groups*

- Emergency Responders:
  - Emergency Responder Safety Institute
- Law Enforcement
  - International Associations of Chiefs of Police
  - National Law Enforcement Officers Memorial Fund
- Fire
  - International Association of Fire Chiefs
- EMS
  - National Association of State EMS officials
- Towing Industry
  - Towing and Recovery Association of America, Inc.
- Waste and Recycling Industry
  - National Waste and Recycling Association

## Appendix II: Databases Related to Emergency Responders Fatalities and Injuries

Table 1 provides a description of each of the eight databases we identified that contain information on emergency responder fatalities and injuries.

**Table 1: Overview of Emergency Responder Fatality and Injury Related Databases**

	Database	Description	Methodology and Scope
<i>Law Enforcement</i>	The Federal Bureau of Investigation's (FBI) Law Enforcement Officers Killed and Assaulted (LEOKA) Program	The FBI LEOKA collects information on officer deaths and injuries, including those resulting from investigative or law enforcement activities, such as traffic stops.	Data on law enforcement officer line-of-duty deaths and assaults are collected from 65 participating agencies across the country through the FBI's Uniform Crime Reporting Program. These data provide information to law enforcement agencies on why an incident occurred, the circumstances encountered, demographic information about the officers, and geographic regions, among other information.
	National Law Enforcement Officers Memorial Fund (NLEOMF)	The NLEOMF collects data specific to officer fatalities, specifically, line of duty deaths.	According to NLEOMF representatives, the NLEOMF collects data on law enforcement fatalities during the vetting process for the National Law Enforcement Officers Memorial monument. Representatives said data are submitted to the NLEOMF on a voluntary basis, and NLEOMF verifies that the fatality is a credentialed member of a law enforcement agency. NLEOMF representatives noted that in cases involving a roadside crash, applicants are able to record additional details such as the light configuration on the officer's vehicle at the time of the crash, list any additional advanced warning systems used, and weather conditions. Representatives said NHTSA has provided the NLEOMF a grant since 2014 to conduct this work.
<i>Fire</i>	The U.S. Fire Administration: Firefighter Fatalities	The U.S. Fire Administration tracks and collects information on the causes of on-duty firefighter fatalities that occur in the United States.	The US Fire Administration collects data on "struck-bys", which are incidents where an emergency responder was struck by another vehicle within a traffic incident management area or work zone resulting in an injury, fatality, or property damage, among other data. This database provides information surrounding the fallen firefighter's classification, date of incident, cause of death, nature of death, activity, on or off duty status, whether the situation was an emergency, and where the fatality had occurred, through property type. Representatives from the International Association of Fire Chiefs said reporting for the database is voluntary, and the database represents approximately 60 percent of all fire fighter fatalities.

**Appendix II: Databases Related to Emergency Responders Fatalities and Injuries**

	<b>Database</b>	<b>Description</b>	<b>Methodology and Scope</b>
<i>Emergency Medical Services</i>	The National Emergency Medical Services Information System (NEMSIS)	NEMSIS is a national database that is used to store emergency medical services (EMS) data from states and territories.	NEMSIS includes patient care information resulting from EMS activations for emergency care and transport in response to a 9-1-1 call for assistance. NEMSIS does collect information about whether an EMS unit was involved a vehicle crash.  Participating EMS agencies within states/territories voluntarily submit data to NEMSIS, and the sample may not be representative of all EMS agencies and states. NEMSIS is a product of NHTSA's Office of EMS in collaboration with the University of Utah.
<i>Various Emergency Responder Occupations</i>	The Bureau of Labor Statistics' (BLS) Census of Fatal Occupational Injuries (CFOI)	The Bureau of Labor Statistics (BLS) CFOI collects a complete count of work-related fatal injuries and descriptive data on their circumstances.	The CFOI uses diverse state, federal, and independent data sources to identify, verify, and describe fatal work injuries. State partners enter the information once a fatal occupational injury has been identified. As more information is gathered, the data are revised until the case has been fully coded. To be included in the CFOI, a workplace fatality must have resulted from a traumatic injury; the incident that led to the death must have occurred in the U.S., and it must be related to work.  BLS also has a specific data table dedicated to "fatal occupational injuries resulting from transportation incidents and homicides," with most recent data from 2018, and a table on occupational injuries by occupation and event or exposure; this table includes transportation incidents as a category.
	Center for Disease Control and Prevention (CDC)'s National Institute for Occupational Safety and Health (NIOSH): Fatality Assessment and Control Evaluation (FACE) Program	Through the Fatality Assessment and Control Evaluation (FACE) Program, NIOSH conducts investigations of fatal occupational injuries and provides the full text of hundreds of fatality investigation reports to the public.	Participating states voluntarily notify NIOSH of traumatic occupational fatalities resulting from targeted causes of death.  1. FACE provides in depth information about the circumstances surrounding occupational fatalities; 2. Law Enforcement Officer Motor Vehicle Safety;  State FACE: State FACE reports provide information on occupational fatalities, including those in highway work zones and for law enforcement. Currently, seven States have cooperative agreements with NIOSH for these investigations.  NIOSH also conducts independent investigations on work-related firefighter deaths through the Fire Fighter Fatality Investigation and Prevention Investigations Program.
	Occupational Safety and Health Administration (OSHA): Fatality Inspection data	OSHA's Fatality Inspection Data provides information on work-related fatalities that occurred under Federal OSHA and State Plan jurisdiction for cases that have been closed or citations issued on or after January 1, 2017.	OSHA investigates all work-related fatalities in all covered workplaces. Employers must report worker fatalities to OSHA within 8 hours. The agency has up to 6 months to complete an investigation and determine whether citations will be issued. The resulting OSHA investigation summaries provide a complete description of the incident, generally including events leading to the incident and causal factors. These summaries can be searched by keyword, text in the summary description, event date, and industry.

**Appendix II: Databases Related to Emergency Responders Fatalities and Injuries**

<b>Database</b>	<b>Description</b>	<b>Methodology and Scope</b>
The Emergency Responder Safety Institute's (ERSI) Struck By Incidents database	ERSI's Struck By Incidents database collects information on struck-by fatalities of emergency responders.	<p>According to ERSI representatives, ERSI's struck-by incidents database collects information on struck by incidents involving emergency responders. Information used to further populate the database comes from internet sources, news reports, and second-hand accounts provided by individuals or groups within their network of emergency responders, amongst other sources.</p> <p>ERSI collects struck-by-incident information for crashes involving fire, fire/rescue, fire police, EMS, law enforcement, towing and recovery, mobile mechanics, departments of transportation, special traffic units, and safety service patrols.</p> <p>ERSI receives funding and support from the U.S. Fire Administration, the Department of Homeland Security, the Department of Justice's Office of Justice Programs, the Federal Highway Administration and its Emergency Transportation Operations office.</p>

Source: GAO analysis of occupational group databases and interviews with stakeholder representatives. | GAO-21-166



## Appendix III: Overview of Selected States' Move Over Laws

This appendix provides an overview of our selected states' Move Over/ Slow Down laws (Move Over laws). Each overview contains the following information:

- **Statutory Citation:** the state code section in which the Move Over law is located.
- **Vehicles Covered:** the categories and characteristics of vehicles to which the Move Over law applies, such that when a motorist approaches one of these vehicles, the motorist must comply with the Move Over law's requirements.
- **Actions Required of the Motorist:** what the motorist must do to comply with the Move Over law.
- **Penalties for Violation:** the type of offense and potential penalties for a first violation of the Move Over law that was committed by a driver with a clean driving record and did not cause death, bodily injury, or property damage.

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**Appendix III: Overview of Selected States'  
Move Over Laws**

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(Fly Page for Assessments)

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## Appendix IV: GAO Contact and Staff Acknowledgments

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### GAO Contact

Elizabeth Repko, Acting Director, (202) 512-3000 or [repkoe@gao.gov](mailto:repkoe@gao.gov).

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### Staff Acknowledgments

In addition to the contact named above, Sara Vermillion (Assistant Director); Antoine Clark (Analyst-In-Charge); Sarah Samir Amer; Carl Barden; Jessica Du; Randi Hall; Mary-Catherine P. Overcash; Malika Rice; Amy Rosewarne; and Mike Silver made significant contributions to this report.

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