Connecticut Enhanced Accident Response Plan

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Acronyms and Abbreviations

Acronyms and abbreviations used in this report are described below:

ACRONYM	DEFINITION
ATMS	Advanced Traffic Management System
BOC	Bridgeport Operations Center
CAD	Computer-Aided Dispatch
CAST	Connecticut Accident Summary Tables
CFA	Connecticut Fire Academy
CFPC	Commission on Fire Prevention and Control
C.G.S.	Connecticut General Statutes
CHAMP	Connecticut Highway Assistance Motorist Patrol
COG	Council of Government
CRESCENT	Connecticut Roadway Event System for Congestion Evasion and Notification of Traffic
CRCOG	Capitol Region Council of Governments
CSP	Connecticut State Police
CTDOT	Connecticut Department of Transportation
CTNG	Connecticut National Guard
DEEP	Department of Energy and Environmental Protection
DEMHS	Division of Emergency Management and Homeland Security
DESPP	Department of Emergency Services and Public Protection
DHS	Department of Homeland Security
EARP	Enhanced Accident Response Plan
ENCON	Environmental Conservation Police
EPA	Environmental Protection Agency
ERU	Emergency Response Unit
ESF	Emergency Support Function
ETO	Emergency Transportation Operations
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FOSC	Federal On-Scene Coordinator
FY	Fiscal Year

HAR	Highway Advisory Radio
ICS	Incident Command System
MDT	Mobile Data Terminal
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, or National Contingency Plan
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NOC	Newington Operations Center
PDO	Property Damage Only
POST	Police Officer Standards and Training Council
RCSA	Regulations of Connecticut State Agencies
RESF	Regional Emergency Support Functions
SIMTF	Statewide Incident Management Taskforce
SHRP2	Second Strategic Highway Research Program
SHSP	State Highway Safety Plan
SLOSSS	Suggested List of Surveillance Study Sites
SOSC	State On-Scene Coordinator
SRF	State Response Framework
SWRPA	South West Regional Planning Agency (now WestCOG)
TASR	Traffic Accident Surveillance Report
TIM	Traffic Incident Management
TRPC	Towing and Recovery Professionals of Connecticut
TSB	Transportation Strategy Board
TSU	Traffic Services Unit
URM	Unified Response Manual
USCG	United States Coast Guard
USDOT	United States Department of Transportation
VMS	Variable Message Sign
VOC	Volatile Organic Compounds

1 Introduction

1.1 Purpose of this Report

The purpose of this report is to present to the joint standing committees of the General Assembly, the current status and future plans of Connecticut Enhanced Accident Response Plan (EARP); as mandated by Section 166 of 2015 CT Bill No.1502. A copy of this legislation is included in Appendix A.

The aforementioned legislation requires that the Commissioner of the Department of Transportation (DOT), in cooperation with the Commissioners of the Department of Emergency Services and Public Protection (DESPP) and the Department of Energy and Environmental Protection (DEEP), report on the development and implementation of an Enhanced Accident Response Plan (EARP).

This report includes information on existing crash response and Traffic Incident Management (TIM) programs and policies, ongoing TIM initiatives, interagency co-ordination, outreach efforts with other agencies, available federal programs and funding, and future goals.

TIM Benefits:

- **Improving safety for emergency responders, crash victims, and the general public**
- **Reducing secondary crashes**
- **Reducing incident duration and associated congestion**

1.2 What is TIM?

The Federal Highway Administration (FHWA) defines Traffic Incident Management as "a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible[1]". TIM can target quick restoration of traffic flow by means of improving the procedures of incident detection, verification, response, clearance and traffic management. At the federal level, the TIM program is part of a larger all-hazards program called Emergency Transportation Operations (ETO), and can be viewed as a specific application of the National Incident Management System (NIMS).

Effective TIM application has a variety of benefits including:

- Improving the safety of emergency responders, crash victims, and the general public;
- Reducing secondary crashes; and
- Reducing incident duration, and associated congestion.

Reduced congestion can also help save motorists and businesses millions of dollars in lost time and productivity, and reduce the amount of associated air pollutants.

A successful TIM program also directly improves emergency responders' safety by providing multi-disciplinary safety training and evaluation; by promoting a safer working environment when responding to incidents in the field; and by allowing emergency responders the opportunity to practice their response skills every day, building relationships and readiness for other major incidents and emergencies.

[1] FHWA SHRP2 Traffic Incident Management (TIM) Responder Training Curriculum

1.3 Why is TIM Important?

On a national level, more than 25% of roadway congestion is caused by traffic incidents. Every minute a freeway lane is blocked due to an incident results in four to five minutes of additional travel time delay. Consequently, every year, traffic incidents cause 4.2 billion hours of delay in the United States[2].

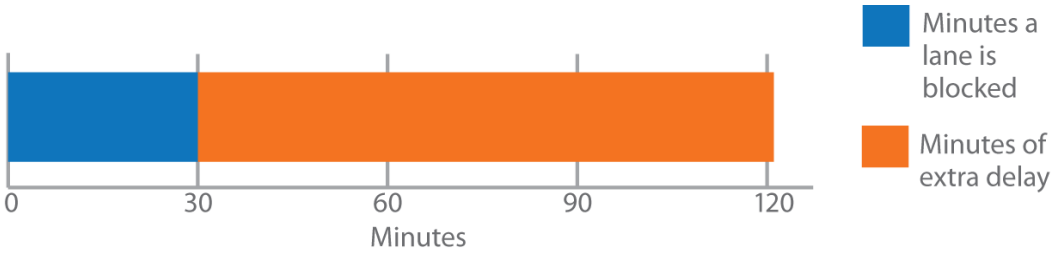

Figure 1: Travel Time Delay (Source: USDOT Traffic Incident Management Outreach Toolkit)

The U.S. Department of Transportation (USDOT) Strategic Plan Fiscal Year (FY) 2010 – FY2015 also reports that Americans burn more than 2.8 billion gallons of gasoline every year while stuck in incident-related traffic.

Moreover, the likelihood of a secondary crash increases by 2.8% for every minute the primary incident continues to be a hazard[3].

On a state level, according to Texas Transportation Institute estimates, the value of lost time and wasted fuel in Connecticut is approximately $2.3 billion per year[4], with traffic incidents accounting for a considerable proportion of this amount.

In 2015, a total of 111,430 crashes occurred in Connecticut, out of which 248 led to fatalities, 25,841 led to injuries and 85,341 caused property damage[5].

Out of the total 111,430 crashes in 2015 in Connecticut, 1355 cases (1.22%) were reported to be secondary crashes (occurred as a result of a primary non-recurrent incident) and 1014 (0.91%) were identified as work zone related[5]. A comprehensive TIM program can help improve motorists' and responders' safety by reducing the duration and consequently the probability of secondary crashes.

In terms of air quality and the attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particulate matter (under provisions in the Clean Air Act (CAA), Title 42, United States Code), the state of Connecticut is, as of January 2014, designated as[6]:

- Nonattainment for ozone, which includes ozone precursors, volatile organic compounds (VOC) and nitrogen oxides (NOx);
- In maintenance for CO and PM10; and
- Attainment/Maintenance for PM 2.5 (fine particulate matter).

[2] National Traffic Incident Management Responder Training Factsheet, FHWA: https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2/tim.cfm
[3] "ITS Impacts on Safety and Traffic Management: An Investigation of Secondary Crash Causes," Karlaftis, Latoski, Richards, Sinha, ITS Journal, 1999, Vol. 5, pp.39-52.
[4] Urban Mobility Scorecard, Texas A&M Transportation Institute, August 2015.
[5] Data Extracted from Connecticut Crash Data Repository: http://www.ctcrash.uconn.edu/QueryTool2.action
[6] FHWA Congestion Mitigation Air Quality (CMAQ) Improvement Program, Article No. 4, V.2.0, January 2014

The excess congestion resultant from traffic incidents further contributes to higher emission of pollutants in the state.

These statistics confirm that Connecticut experiences a large number of crashes each year, imposing considerable human and financial costs on the state, while also leading to increased traffic congestion and emission of pollutants.

Given these issues and the general adverse consequences of traffic incidents on traffic networks, TIM remains an important area of concern for Connecticut.

1.4 TIM Timeline

Recognizing the need for Traffic Incident Management in Connecticut:

On June 28th, 1983 the Northbound section of the Mianus Bridge on I-95 in Greenwich, CT collapsed resulting in the deaths of three motorists and injuries to three more. While these tragic deaths and injuries were the most serious and significant results of the collapse itself, a lasting impact is still felt today in the everyday occurrences of highway incidents. The collapse of the Mianus Bridge and the management of the significant impact to the transportation system it caused, exposed the lack of Traffic Incident Management planning that existed in the State at that time.

While many State agencies maintained evacuation and event plans for managing traffic under specific conditions, these plans were based upon “advanced warning” to some degree. The Mianus Bridge collapse changed all that. The Connecticut Department of Transportation (CTDOT), working with the Connecticut State Police (CSP) and local government agencies (police, fire and public works, as well as others), collectively, and often with a “seat of your pants” understanding, developed a Traffic Incident Management plan.

Due to the fact that the southbound bridge section of I-95 over the Mianus River was constructed in the same manner as the collapsed section, all southbound lanes were closed pending a thorough inspection. To address the immediate impact that the total closure of I-95, the “Gateway to New England”, would have on transportation, state agencies were required to reroute traffic to local roads, communicate rerouting information to other states along the I-95 corridor, implement bridge support enhancements and temporary “Bailey Bridge” to alleviate congestion, redirect commercial vehicles, and develop additional diversionary routes to address incidents along these new routes.

The “cooperative” spirit necessitated by this tragic event created the basis for agency leaders to formally work together to update emergency response plans and identify key resources. During the ensuing years, CTDOT leadership began to review and identity ways to manage traffic incidents. Comprehensive bridge inspections were conducted, crash reports were analyzed, and engineering and roadway designs were implemented to reduce traffic incidents. Identifying a need to dedicate resources to Highway Incident Management, CTDOT organized a Highway Operations Group to work with CSP and local agencies.

Early TIM Efforts:

On November 5, 1992, the first statewide Incident Management policy was established and approved by four commissioners of state agencies to be a highway response program that would minimize the impact of traffic related incidents on Connecticut highways. A copy of the original statewide incident management policy is included in Appendix B. This statewide policy has been revised and re-issued several times since, most recently in 2006. A copy of the most recent statewide incident management policy is included in Appendix C.

In the early 1990s, the Southwestern Connecticut Regional Planning Agency (SWRPA) started a regional TIM group. The Capitol Region Council of Governments (CRCOG) started their own group a few years later.

On August 5, 1994, CTDOT's Traffic Management Center (TMC) in Newington became operational. No longer would individual agencies need to contact individual CTDOT Units and Garages. With a single call all requests for CTDOT assistance were routed from the Newington Operations Center (NOC), thereby reducing response time.

To enhance the ability to detect and react to highway incidents, CTDOT designed and constructed a "real time" camera system, utilizing fiber optic cable along the critical I-95 Corridor stretching from the New York/ CT border east to Branford. CTDOT, building on a partnership with CSP, co-located a new highway operations center within a newly renovated CSP Troop G Barracks in Bridgeport. The Bridgeport Operations Center (BOC) as it is called began operations in 1995.

In 1995, CTDOT and CSP also began a Highway Incident Management Program at Troop G that provides additional troopers during peak travel hours to address highway incidents by reducing response and clearance times. The adoption of the Connecticut Quick Clearance Policy was a part of this 1995 effort.

In 1996, CTDOT developed and implemented a highly successful and well-respected service patrol known as the Connecticut Highway Assistance Motorist Patrol (CHAMP). CHAMP service patrol vehicles operate along major highways in Connecticut, providing motorist assistances such as identifying disabled or abandoned vehicles, providing fuel, clearing highway debris, removing dead animals, reporting damaged guardrails, and assisting in detection of highway incidents.

Figure 2: CHAMP Vehicle

With CTDOT assistance, CSP also began to fit "push bumpers" to their patrol vehicles to remove disabled vehicles from the travel portion of the roadway. CTDOT has also supported the CSP Accident Reconstruction Units in acquiring equipment to aid in collecting scene documentation and evidence gathering at traffic incident sites

In 1997, CTDOT sponsored meetings of emergency responders throughout the region to introduce the concept of TIM. This resulted in the creation of several regional incident management steering committees. Some of these steering committees eventually assumed the role of Regional Emergency Support Function (RESF-1) committees.

In 2003, the Transportation Strategy Board (TSB) established a Statewide Incident Management Task Force (SIMTF). This multi-agency task force evaluated TIM efforts in the state and recommended a wide variety of policies, programs, and projects to improve traffic incident management. Several of the SIMTF proposals were implemented, including the development of a draft Unified Response Manual, establishment of a Statewide TIM organization, and the development of a Saddle Tank Recovery Pilot Program.

In 2010, the TSB and the SIMTF were unfunded and dissolved. There is currently no statewide forum for coordination of TIM efforts. Several regional TIM efforts have continued, notably the Region 3 TIM Coalition in the Greater Hartford Region. There was a former SWRPA TIM Coalition (now part of WestCOG), which in recent years has been inactive.

Recent TIM Efforts:

In recent years, CTDOT has continued to enhance and expand its ability to monitor and manage traffic operations throughout the state. By expanding operations in Newington and Bridgeport, CTDOT monitors traffic cameras and provides information on critical interstates and roadways throughout the State. Traveler information is provided directly to the general public using Variable Message Signs (VMS) and CTDOT websites, and indirectly via third-parties, such as local media, and private sector information providers such as Google, Waze, Inrix, TomTom, etc.

By State Regulation, CSP maintains and provides towing and recovery companies to highway incidents. CSP, working with CTDOT and Towing and Recovery agencies, have been identifying policies and methods to promote “quick clearance” of crashes. Advances in equipment and techniques are frequently evaluated.

CTDOT also continues to prioritize the training of First Responder personnel; providing access to the FHWA TIM initiative program to all state and local agencies. This program provides a unique opportunity to learn and work in a multi-discipline setting. DOT is actively working towards the adoption of this key training by fire and law enforcement.

Additional information on current and planned TIM efforts are described in more detail in subsequent sections of this document.

2 Existing Programs and Policies

This chapter describes in greater detail some of the existing programs and policies relevant to the state's traffic incident management efforts.

2.1 Quick Clearance Policies

Connecticut Quick Clearance Policy

This agreement made in 1995 by and between CTDOT and CSP establishes a policy for State Police Troopers and CTDOT personnel to remove vehicles from roadways and restore a safe and orderly flow of traffic following a motor vehicle crash or incident on a state highway. The purpose of this agreement is to enable the safe movement of traffic, minimize the congestion cost of highway incidents and prevent the occurrence of secondary incidents or crashes. A copy of this agreement is included in Appendix D.

According to this agreement, when an incident occurs on a Connecticut limited access state highway and the travel portion is totally or partially blocked, CSP, in cooperation with the on-scene CTDOT representative, shall reopen the roadway as soon as practicable on a priority basis.

Members of the CSP are also required to conduct their investigation in as expedient a manner as possible, considering the severity of the collision and the quality of their investigation. According to the agreement, in order to minimize traffic delays, certain "non-critical portions of an investigation can be conducted at a later time when traffic congestion is nonexistent (i.e., non – peak periods).

The I-95 Corridor Coalition Quick Clearance Toolkit

The I-95 Corridor Coalition, of which CTDOT is a member, has developed a wealth of Quick Clearance reference materials including a Quick Clearance Toolkit, and a variety of Quick Clearance videos, documents, and workshops to help in initiating or improving quick clearance programs and activities in jurisdiction.

Quick clearance, as discussed in the "Quick Clearance and Move-It Best Practices" report by the I-95 corridor coalition[7], is directed primarily at the responders, developed as actions that transportation and public safety agencies can take to mitigate the negative impacts of, and time consumed in, the incident timeline from the initial response until clearance is concluded.

Some examples mentioned in the aforementioned report include:

- Use of publicly-sponsored service patrols to aid in incident management
- Setting incident clearance goals that stimulate agencies to be more conscious of the need for quick clearance
- Using traffic management centers to better coordinate incident management activities, and
- Using technology to make incident management more efficient.

[7] Quick Clearance and 'Move-It' Best Practices Final Report, I-95 Corridor Coalition, September 2003

State of Connecticut Incident Quick Clearance Performance Goals

To ensure quick clearance of incidents, CTDOT has established a number of TIM performance targets including 'average highway incident duration time' to be observed while responding to highway incidents. Average highway incident duration times are specifically targeted to be less than 45 minutes for cars, less than 3 hours for jack-knifed tractor trailers and less than 5 hours for overturned tractor trailers[8].

2.2 "Move Over" and "Move It" Laws

According to the "Move Over" laws in place in the state of Connecticut[9], any operator of a motor vehicle on a highway when approaching one or more stationary emergency vehicles located on the shoulder, lane or breakdown lane of such highway shall:

1) Immediately reduce speed to a reasonable level below the posted speed limit, and;
2) If traveling in the lane adjacent to the shoulder, lane or breakdown lane containing such emergency vehicle, move such motor vehicle over one lane, unless such movement would be unreasonable or unsafe.

"Move Over" Laws:

- **Provide additional protection to on-scene responders and motorists**
- **Aid in congestion recovery**
- **Reduce secondary crashes**
- **Allow for quicker scene clearance**

Move over laws support incident scene traffic control by:

- Providing additional protection for incident responders and motorists at the incident scene,
- Allowing safe traffic movement around or past the incident scene to aid in overall congestion recovery,
- Reducing the probability of secondary crashes, and;
- Allowing the incident scene to be cleared more quickly.[10]

The "Move It" laws in place in Connecticut[11], further require that motorists involved in Property Damage Only (PDO) crashes on limited-access highways immediately move their vehicle to a non-travel area adjacent to the crash site, if possible, without risk of further damage to property or injury to any person.

A copy of the Connecticut "Move Over" and "Move It" laws are included in Appendix E.

2.3 CSP Incident Notification Policies

CSP and CTDOT coordinate TIM efforts on a daily basis. Operators in the CTDOT Newington Highway Operations Center (NOC) and the CTDOT Bridgeport Highway Operations Center (BOC) have access to information entered in the CSP computer aided dispatch system. Additionally,

[8] Traffic Incident Management Quick Clearance Guidance and Implications, Virginia Transportation Research Council, February 2016
[9] Connecticut Statutes. Chapter 248, Sec. 14-283b.
[10] Traffic Control Concepts for Incident Clearance, FHWA, January 2009
[11] Connecticut Statutes. Chapter 248, Section 14-224.

CSP by policy provides notification to CTDOT of incidents occurring on State roadways. Notification primarily occurs in two ways:

State Police (Troop G)

Communication between Troop G dispatchers and BOC staff is direct and immediate, since both are located in the same room. Troop G dispatchers directly provide information to BOC operators about new and current police events and incidents. Police dispatchers may also request BOC operators to provide CCTV images of events and may directly request additional on-site CTDOT maintenance support as necessary. Event updates and clarifications can be conducted verbally in an informal local environment.

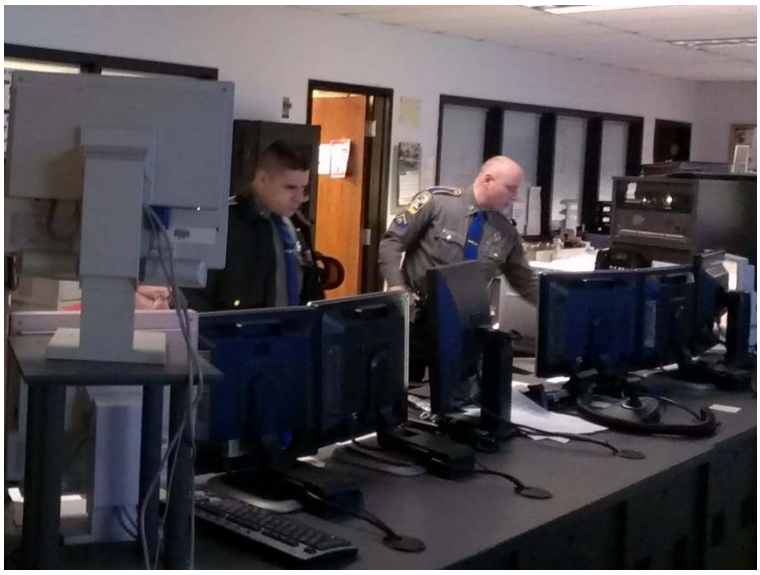

Figure 3: Troop G Dispatchers

State Police (Other Troops)

For all other State Police Troops, communication between the troops and NOC/BOC operators is conducted through the landline telephone. Each Troop has a direct line into the NOC/BOC which is used by CSP Troop dispatchers to alert NOC/BOC operators of a new event, to update status of existing events, or to request support of CTDOT maintenance vehicles.

State Police Computer Aided Dispatch (CAD) System

CSP provides a redacted CAD link to CTDOT HOC operations. This allows the HOC to receive updated information directly ads it is inputted by troopers in the field and or dispatchers at the troop. This information provides a level of detail, e.g. notification times for responding agencies, extent of incident, arrival and clearance times, etc.

2.4 DEEP Emergency Response Unit

The DEEP Emergency Response Unit (ERU) provides dedicated and highly trained personnel to respond to highway incidents that involve hazardous materials. These incidents can involve petroleum fuels, and or petroleum or chemical cargos which can be hazardous to the public and responding agencies.

DEEP is sensitive to road closures and traffic issues caused by these incidents. Timely notification and accurate information to ERU leaders begins the process of getting ERU responder personnel to the incident as quickly as possible.

DEEP maintains a list of certified contractors that are properly trained, and equipped to respond and perform necessary remedial activities. The DEEP ERU has the ability to secure any and all contractor resources deemed necessary to mitigate the effects of fuel or other hazardous materials that might be released.

DEEP is committed to insuring the safety of all first responders and transportation users towards this goal continues to work with first responders in reviewing incidents and response measures.

2.5 CTDOT Highway Operations Centers

Highway Operations is part of the Bureau of Highway Operations and directly manages the two Operations Centers established by CTDOT, namely the Bridgeport Operations Center (BOC) and the Newington Operations Center (NOC).

The aforementioned operations centers help fulfill Highway Operation's direct responsibilities which include ensuring the safe and efficient movement of traffic over the State highway network, through roadway maintenance, snow and ice control, incident management and the operation of Connecticut Highway Assistance Motorist Patrol (CHAMP). Both the BOC and NOC largely perform the same functions, but within their respective geographic jurisdictions and are vital components of CTDOT's ITS Implementation Plan.

Both Operations Centers operate and manage the State's Advanced Traffic Management System (ATMS), the CRESCENT[12] system. CRESCENT is the primary traffic management tool used by the operators which generates response plans for both planned and unplanned events that can be approved, modified, or rejected by operators, as well as tracked and updated during an incident or event.

Figure 4: Newington Operations Center

For the road network within their jurisdiction, BOC and NOC play a critical role in TIM through monitoring the highway network for congestion and incidents, dispatching and providing support to incident response teams during incidents or emergencies, providing communications and coordination between stakeholders (police, fire, maintenance, etc.) for events affecting the

[12] Connecticut Roadway Event System for Congestion Evasion and Notification of Traffic

highway network, supporting winter maintenance and disseminating highway travel information to the public via a variety of methods including VMS, HAR, the CTDOT website, E-alerts, etc.

The operations centers also coordinate with DESPP, TRANSCOM[13], and adjacent states to manage traffic flow and disseminate traveler information during major incidents and emergency situations.

2.6 CTDOT CHAMP Program

The CHAMP program is a roadway service patrol operated by CTDOT along the major highways throughout Connecticut. CHAMP vehicles are owned and maintained by CTDOT and operated by CTDOT employees.

In 2015, CHAMP drivers assisted more than 16,000 motorists on Connecticut highways.

CHAMP began along the I-95 Corridor in 1996 and the Hartford area in September of 1999. The service is provided each weekday between 5:30 A.M. through 7:00 P.M. and selected holidays and Sundays. CHAMP provides motorist assistance such as identifying disabled and abandoned vehicles on the side of the road, providing fuel, reporting damaged guardrails, and assisting in the detection of roadway incidents. In addition, the service patrols react to crashes and notify BOC and NOC of the need for State Police, medical, fire and/or other emergency response.

In 2015, CHAMP drivers assisted more than 16,000 motorists in Connecticut. CHAMP provided highway assistance to a total of 9,401 motorists along the I-95 corridor from the New York state line to the Branford/Guilford town line. In the greater Hartford area, the CHAMP program provided assistance to 6,978 motorists.

There is currently an effort to continue support of the CHAMP program through sponsorship opportunities due to lack of continued state program funding. CHAMP is an integral component to regional TIM planning. In particular, CRCOG, incorporates several strategies within their strategic plan and regional ITS architecture that include use of service patrols, CHAMP, as part of the overall traffic incident management planning for the Hartford metro area (CRCOG and RiverCOG).

2.7 CTDOT Strategic Highway Safety Plan

The Connecticut Strategic Highway Safety Plan (SHSP) provides a comprehensive framework that coordinates statewide safety initiatives and defines specific goals and objectives to reduce highway fatalities and serious injuries on all public roads.

The most recent version of the SHSP, written in 2013, includes a chapter that specifically focuses on a statewide TIM program and its associated objective, strategies and performance goals. The next SHSP version, to be published in 2017, will also include a TIM program emphasis area.

The statewide TIM program aims to continually improve traffic incident response and recovery time by all responding agencies, and support this goal with policies, programs, projects, and funding.

The SHSP elaborates on a variety of strategies that CTDOT aims to pursue for improved TIM.

[13] TRANSCOM is a coalition of 16 transportation and public safety agencies in the New York – New Jersey – Connecticut metropolitan region. It was created in 1986 to provide a cooperative, coordinated approach to regional transportation management.

2.8 Crash Data Collection Programs

As part of the state statutory requirements, the Accident Records and Statistics Section of the CTDOT office of Inventory and Forecasting constantly stores motor vehicle traffic crash data on "reportable" motor vehicle crashes - defined as crashes in which any person is killed or injured or in which damage to the property of any one individual in excess of one thousand dollars is sustained- and generates the following major crash reports and summaries[14]:

- Traffic Accident Surveillance Report (TASR): This report, which is produced for the latest 3-year period available, shows crash totals, traffic counts, crash rates and various roadway features for the entire state highway system.
- Suggested List of Surveillance Study Sites (SLOSSS): This is a list of TASR locations that experienced abnormally high crash rates for the corresponding 3-year period. Each TASR location with 15 or more crashes and whose actual crash rate is greater than its critical crash rate is included on SLOSSS. SLOSSS displays similar information to TASR, with the addition of a sequence number that is used to rank the locations by the ratio of the actual crash rate to the critical crash rate. The objective in developing SLOSSS is to define those locations which have the greatest promise of crash reduction and thus to give a broad measure of overall needs of highway safety improvements.
- Q-Factors: This is a report that displays injury and fatal crash cost factors by roadway group and intersection types for state roads. Q-Factors, which is produced for a 3-year period, displays fatal crashes, injury crashes, property damage only crashes, fatalities, injuries, crash totals, and cost factors derived from injury and fatality costs reported annually by the National Safety Council.
- Before and After Studies of crash frequencies on safety improvement projects: In conjunction with the Annual Safety Report prepared by the CTDOT Division of Traffic Engineering, Before and After Studies of crash frequencies are periodically performed on safety improvement projects to evaluate their cost effectiveness. The Annual Safety Report is annually submitted to the Federal Highway Administration (FHWA).
- Accident Experience: This is a history of crashes for a specific location and time period, which describes the dynamics of each crash in detail. These are prepared daily for various sources.
- Connecticut Accident Summary Tables (CAST): These tables distribute crash, vehicle and person totals by major fields that are contained in the CTDOT database file. They can be produced for any type of crash as well as for all crashes on file.
- Connecticut Traffic Accident Facts: This report, which is published biennially, presents data concerning motor vehicle traffic crashes that occurred on Connecticut's publicly maintained roadways for a particular year. The report uses text, tables, graphs, comments and pictures to present the data. The Connecticut Traffic Accident Facts report is distributed to various organizations upon its publication.

2.9 NHTSA Fatality Analysis Reporting System (FARS)

The Accident Records and Statistics Section is also responsible for the Fatality Analysis Reporting System (FARS) program, which is a federal program that requires the collection of data on fatal motor vehicle traffic crashes. The National Highway Traffic Safety Administration (NHTSA) funds

[14] CTDOT Pamphlet on "Accident Records", http://www.ct.gov/dot/cwp/view.asp?a=1383&q=259794

a cooperative agreement with CTDOT for the purpose of data acquisition for FARS. FARS data is entered into a designated computer and transmitted to NHTSA nightly.

2.10 Unified Response Manual (URM) for Highway Incidents in Connecticut

In 2008, the Connecticut Transportation Strategy Board endorsed the draft of the Uniform Response Manual (URM) as presented by the Statewide Traffic Incident Management Task Force (SIMTF). The URM was developed as a field reference to enhance interagency coordination of first responders at traffic incident scenes on limited-access highways in the State of Connecticut.

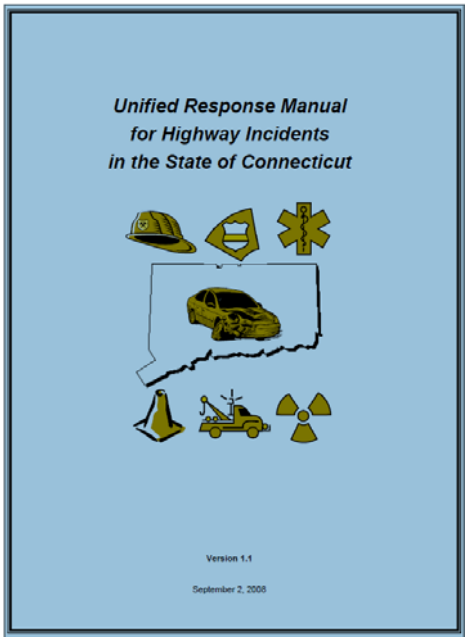

Figure 5: Unified Response Manual

Consistent with the National Incident Management System (NIMS), the URM focuses on unified response to highway incidents and serves as a reminder of available resources and interagency collaboration considerations. It provides general operational considerations, specific agency-related actions, general post-incident considerations, and resource information. The URM suggests guidelines that do not replace, but rather enhance existing policies and procedures.

The URM is intended to reduce confusion, reduce potential conflicts, and facilitate communication among agencies responding to incidents. To date the URM has not been formally adopted and accepted statewide by first responder agencies. The URM can be accessed online at the CRCOG website: http://crcog.org/wp-content/uploads/2016/09/URM_v1-2.pdf

An effort to engage the Division of Emergency Management and Homeland Security (DEMHS) Statewide Advisory Council to provide support to the Statewide ESF-1: Transportation and Transportation Security working group to accomplish this task is being spearheaded by CRCOG representative for ESF-1 in the Hartford region. The intent is to work with the working group to update the URM and have it adopted as a component to the State Response Framework (SRF) prepared by DESPP Division of Emergency Management and Homeland Security (DEMHS) which describes how the State of Connecticut and its partners will work together to support local governments and their residents in responding to disasters and emergencies. The URM in conjunction with TIM need to be a part of the collaborative program of prevention, planning, preparedness, response, recovery within the SRF.

2.11 Diversion Planning and Computerized Traffic Signal Systems

CTDOT, working with local regional planning agencies and emergency responder entities, has developed highway diversion plans for much of the limited access highway systems. Electronic versions of the plans are available on the Internet at www.CRCOG.org.

The need to utilize secondary routes for detouring traffic also began a reengineering of traffic signals and the effort to coordinate the signals to facilitate traffic flow. CTDOT completed a Computerized Traffic Signal System Needs Assessment in 2016 and has begun a process to upgrade outdated traffic signal systems and to expand computerized traffic signal systems across Connecticut.

3 Ongoing TIM Initiatives

This section presents an overview of the ongoing steps being taken to implement the TIM-related programs and policies throughout the state of Connecticut.

3.1 Participation in SHRP2 National Traffic Incident Management Responder Training Program

Nationally, as of December 2016 – 228,000[15] responders have completed the second Strategic Highway Research Program's (SHRP2) National TIM Responder Training in all 50 states, Puerto Rico, and the District of Columbia.

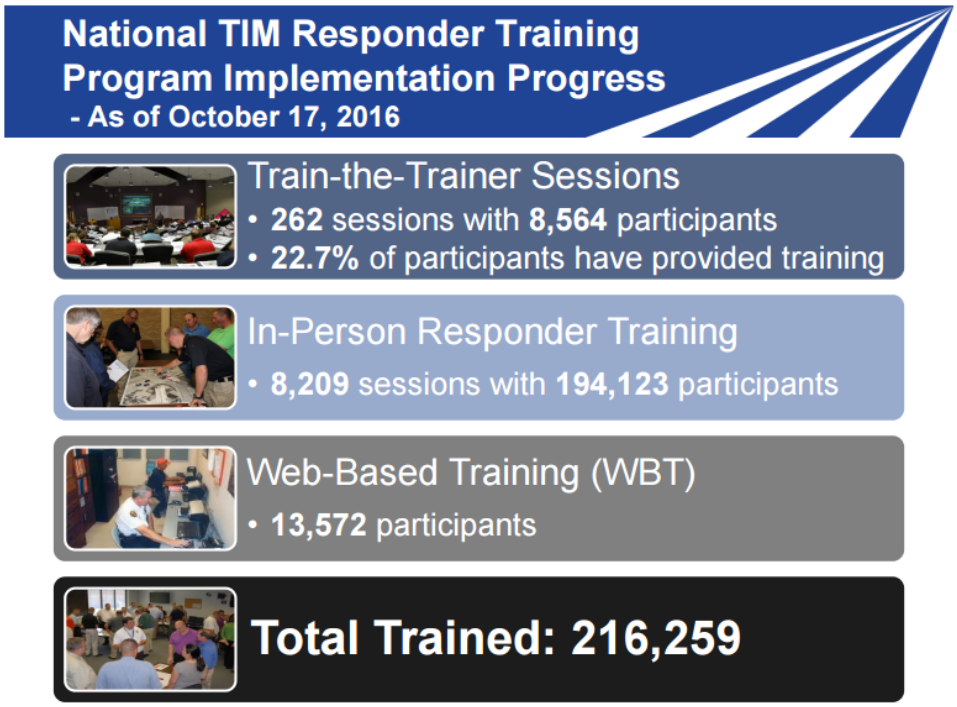

Figure 6: National TIM Responder Training Statistics (Source: FHWA TIM Training Status Map Presentation)

SHRP2's National TIM Responder Training brings police, firefighters, towing, medical personnel, and other incident responders together to engage in interactive, hands-on incident resolution exercises. Learning to coordinate response activities and optimize operations in the classroom is vital to responding effectively in the field and to building a unified national practice on incident management. The SHRP2's National TIM Responder Training is endorsed by the International Association of Chiefs of Police, the International Association of Fire Chiefs, and the National Volunteer Fire Council.

In April of 2014, the National Traffic Incident Management (TIM) Train the Trainer Course for responder training was conducted at the Connecticut Police Academy in Meriden Connecticut. Sponsored by CTDOT and FHWA, FHWA Trainers conducted a day and one-half training course

[15] Federal Highway Administration Website: https://www.fhwa.dot.gov/goshrp2/

for 54 first responders. The class attendees consisted of a blend of law enforcement, fire, transportation, towing & recovery, government and educational facility personnel. This course was developed to provide TIM training in a multi-disciplined setting so first responders could benefit from understanding TIM and specific responsibilities tasked to each discipline. To date, Connecticut has trained a total of 715 first responders.

Training sessions continue to be conducted thanks to the sponsorship of CTDOT. Scheduling issues and budgetary constraints have limited these sessions.

CSP Training Academy now requires the recruit class (New Troopers) to complete the on-line TIM program before graduating. The last class of 58 troopers to graduate conducted the on-line training.

CSP provides an “abridged” version of TIM to newly promoted sergeants. CSP is evaluating conducting a “scene management” training course for new sergeant that will encompass TIM as well as other requirements.

The Connecticut Police Officer Standards and Trainings Council (POST) is responsible for establishing the training standards and requirements for Connecticut’s Police Officers. POST has supported CT TIM efforts and has sponsored TIM related training.

The Connecticut Police Academy continues to provide support and classroom space for TIM related training, as has CTDOT.

CSP, recognizing the difficulties of providing TIM training in a classroom setting, are evaluating the technology and methodology of providing the on-line TIM course to all Connecticut Law Enforcement personnel in the field utilizing their Mobile Data Terminals (MDT). Working with the Department of Justice, CSP is looking to provide a secure network for TIM and additional programs.

3.2 Continued CHAMP Support

As described above, the CHAMP program is a roadway service patrol operated by CTDOT along the major highways throughout Connecticut. CHAMP vehicles are owned and maintained by CTDOT and operated by CTDOT employees.

CHAMP service is provided each weekday between 5:30 A.M. through 7:00 P.M. and selected holidays and Sundays. CHAMP drivers provide motorist assistance such as identifying disabled and abandoned vehicles on the side of the road, providing fuel, reporting damaged guardrails, and assisting in the detection of roadway incidents. In addition, the service patrols react to crashes and notify BOC and NOC of the need for State Police, medical, fire and/or other emergency response.

Figure 7: CHAMP Vehicle

CHAMP currently covers the following geographic areas:

Bridgeport CHAMP Patrols

- I-95 from New York State Line to the Rhode Island State Line
- I-91 from I-95 interchange in New Haven to Exit 8 (Route 80/Middletown Ave.)
- I-395 from I-95 in Waterford to Exit 81
- Route 7 in Norwalk from I-95 to Route 123
- Route 8 in Bridgeport from I-95 to Exit 8
- Route 34 in New Haven from I-95 to York Street
- Route 15 from New York State Line to Exit 55

Newington CHAMP Patrols

- I-91 from Exit 44 in East Windsor to Exit 17 in Meriden
- Route 20 from I-91 Exit 40 to County Road
- I-84 from Exit 63 in Manchester to the New York State Line.
- Route 2 from I-84 in Hartford to Exit 8 in Glastonbury
- I-291 from I-91 interchange in Windsor to I-84 interchange in Manchester.

As noted previously, in 2015, CHAMP drivers assisted more than 16,000 motorists in Connecticut. FHWA's review of benefit/cost studies and qualitative evaluations of service patrol programs determined that service patrols, such as CHAMP, are one of the most effective elements of a TIM program[16].

Some of the fundamental benefits and core services of service patrols include:

- Reduced incident duration (because of decreased detection, response, and clearance times)
- Quicker debris removal
- Assistance to stranded motorists and crash victims
- Traffic control and management
- Ability of service patrol operators to provide real-time updates on traffic conditions that enable more accurate traveler information about freeway conditions.

Secondary benefits also can be gained from the direct services that patrols provide:

- Improved traffic flow as a result of reduced incident duration and better traffic control
- Reduced travel time, fuel costs, and vehicle emissions
- Improved travel time reliability
- Improved motorist and TIM responder safety

[16] Federal Highway Administration Service Patrol Handbook. November 2008. http://www.ops.fhwa.dot.gov/publications/fhwahop08031/ffsp_handbook.pdf

- Enabled fire and rescue staff and equipment to be used for their original purposes rather than blocking lanes for traffic control
- Reduced number of lanes closed for an incident
- Reduced secondary crashes
- Provided relief to law enforcement personnel to focus on other law enforcement duties or remain on their patrol
- Reduced TIM responder personnel and resources unnecessarily dispatched to incidents that service patrols can handle (e.g., stalled vehicle).

3.3 ESF-1 Committees

Emergency Support Function (ESF-1 (Transportation)) committees provide support to the Department of Homeland Security (DHS) by assisting Federal, State, tribal, and local governmental entities, voluntary organizations, nongovernmental organizations, and the private sector in the management of transportation systems and infrastructure during domestic threats or in response to incidents. ESF-1 also participates in prevention, preparedness, response, recovery, and mitigation activities.

Connecticut's ESF-1 committee comprises the following primary and support agencies[17]:

- Primary Agency: CTDOT
- Support Agencies: Department of Correction, DEEP ENCON (Environmental Conservation Police), DESPP/CSP/DEMHS/Commission on Fire Prevention and Control (CFPC), Department of Public Health, Connecticut Military Department/National Guard (CTNG), Department of Motor Vehicles and US Coast Guard

ESF-1 coordinates activities and transportation infrastructure restoration and recovery, evacuation support, transportation safety, movement restrictions, and damage/ impact assessment. There are no current ESF-1 Committee activities.

In the Capitol Region, the Region 3 TIM Coalition has also assumed the role as the Regional ESF-1 Committee.

3.4 CSP GPS-Based Total Station Equipment

The level of detail required to investigate highway crashes and determine causation, is based upon several factors; fatalities, severity of injuries, complexities and circumstances. Detailed diagrams identifying key elements and evidence, along with supporting documentation such as photographs and or videotaping are vital to the investigation. CTDOT, recognizing the need for this level of scene documentation, identified and supported the CSP Accident Reconstruction (C.A.R.S.) Units by providing "Total Station" equipment.

[17] State Response Framework, Version 4.1, DESPP, September 2014

Early “Total Station” equipment was basic “line of sight” electronic survey equipment in use by CTDOT. The equipment provided a platform to expedite the scene documentation towards the goal of reopening roadways as soon as possible. In January of 2016, CTDOT procured two sets of the next generation of GPS-based “Total Station” equipment for CSP. This next generation equipment eliminates the need for “line of sight” to relocate the collection recorders in order to complete crash scene diagramming. CSP personnel can work around overturned vehicles and other obstructions to complete scene documentation.

The new “Total Station” equipment has greatly improved accident scene clearance times and shortened the amount of time required to close a highway by nearly an hour while forensic mapping is completed. The equipment allows C.A.R.S. troopers to multi-task at the scene and make optimal use of limited staff resources.

CTDOT and CSP are also in the preliminary stages of assessing the use of drones for highway crash scene documentation as an additional tool for further reducing crash scene clearance time.

Figure 8: CSP GPS-Based Total Station

The DESPP Traffic Services Unit (TSU) continues to evaluate and identify new methodologies and equipment that will provide timely and efficient incident scene documentation. Staffing, training and equipment at the C.A.R.S. Unit has been upgraded. All C.A.R.S. troopers are trained to work safely and expeditiously to reduce roadway closures. Utilizing their training and the “Total Station” equipment, they are able to collect and provide the level of detail required in documenting these investigations while enhancing their ability to clear these incidents much quicker.

3.5 Enhancements to CSP Computer Aided Dispatch (CAD)

CSP, at the request of CTDOT, is in the process of revising its CAD time logs to incorporate a “scene clearance” time log. This additional timestamp will note when the last CSP first responder leaves the incident scene. This additional information will provide an opportunity for CTDOT and CSP to examine scene clearance times and practices, and aid in the development of future performance measures.

4 Interagency Coordination

The following interagency initiatives are intended to ensure a prompt, coordinated, and efficient response to crashes and other highway incidents.

4.1 State Police Dispatch Coordination

As noted elsewhere in this document, CTDOT operators at the Bridgeport and Newington Operations Centers have access to the information entered into the CSP Computer-Aided Dispatch (CAD) system. CSP dispatchers also notify the BOC/NOC of incidents on state roadways via dedicated telephone lines. CSP is in the process of revising its CAD time logs to provide additional scene clearance information for improved analysis of incident clearance times.

4.2 Co-Location of Bridgeport Operations Center

CTDOT's Bridgeport Operations Center is co-located within the CSP Troop G building. This co-location allow for direct interagency coordination between CTDOT and CSP for incidents occurring in the southern part of the state.

4.3 DEEP ERU Emergency Dispatch Center

DEEP Emergency Response Unit (ERU) maintains a 24 hour Emergency Dispatch Center (860-424-3338 24-hr) which receives emergency spill reports from all emergency response agencies and with the regulated community, thereby allowing the department to contact the appropriate internal staff needed. Essential to DEEP ERU's commitment to providing timely and dedicated personnel is good communication. Accurate information allows the ERU to direct responses, critical to mitigating the crash scene as quickly as possible.

4.4 TRANSCOM

TRANSCOM is a coalition of 16 transportation and public safety agencies in the New York – New Jersey – Connecticut metropolitan region. The 16 transportation and public safety agencies include New Jersey Turnpike Authority, New Jersey Department of Transportation, New York City Department of Transportation, New Jersey State Police, New York State Police, Port Authority of New York and New Jersey, Connecticut Department of Transportation, New York City Police Department, New York State Thruway Authority, Metropolitan Transportation Authority, New York State Department Transportation, MTA New York City Transit, New York State Bridge Authority, New Jersey Transit Corporation, Port Authority Trans-Hudson Corporation, and MTA Bridges and Tunnels.

TRANSCOM supports its member agencies through interagency communication and the enhanced utilization of their existing traffic and transportation management systems. CTDOT regularly exchanges incident information with TRANSCOM, particularly incident information which may impact travel conditions across state boundaries.

4.5 National Oil and Hazardous Substances Pollution Contingency Plan

The National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the National Contingency Plan or NCP, is the federal government's blueprint for responding to both oil spills and hazardous substance releases. In the event of an incident on Connecticut highways that involves a significant oil spill or the release of hazardous substances, the NCP is designed to promote coordination among the hierarchy of responders and contingency plans. The United States Coast Guard (USCG) and the Federal Environmental Protection Agency (EPA) share the Federal On-Scene Coordinator (FOSC) authority. The DEEP agency representative acts as the State On-Scene Coordinator (SOSC) for these incidents.

The USCG and EPA have identified jurisdictional boundaries for which agency assumes FOSC responsibility. In Connecticut, this FOSC boundary has been identified as:

- USCG assumed FOSC responsibility for the southern or waterside of I-95.
- EPA (Federal) assumes FOSC responsibility for the northern or inland of I-95.

An exception to this FOSC responsibility is noted for larger rivers where there is a nexus to navigable waterways. This is not based solely on “where” the incident is, but is often determined by “what” is involved.

Figure 9: Hazmat Responders (Source: I-95 Corridor Coalition Quick Clearance Toolkit)

4.6 After Action Reviews

State agencies also periodically participate in After Action Reviews. These reviews can be requested by any of the agencies participating in a specific incident response. At the After Action Reviews, representatives from the various agencies walk through the chronological events of the incident, working together to identify opportunities to improve on incident response strategies and policies. After Action Reviews are then documented for each agency, along with recommendations for future incident responses.

4.7 Table Top Exercises

Use of table top exercises to enhance TIM goals and objectives has been a proven training method that allows multi-disciplined personnel to exchange ideas and examine methods for responding to incidents in a controlled environment. These may be planned training events for local or statewide jurisdictions; these exercises may also coincide and serve as the format for After Action Reviews.

4.8 Other Interagency Coordination

CSP Traffic Services after meeting with most agencies involved in highway incidents and crashes attempt to communicate and make immediate and proper notification to enhance any and all responses as needed at a scene.

CSP department policies and procedures ensure quick and efficient clearance of all scenes are a priority.

5 Outreach efforts

This section documents outreach efforts to other individuals and groups critical to the state's plans for responding to crashes or traffic incidents.

5.1 Towing and Recovery Outreach

The Towing and Recovery Professionals of Connecticut (TRPC) consists of Connecticut's towing and recovery companies, registered with the Connecticut Department of Motor Vehicles to remove disabled vehicles and the loads. The TRPC remains an active partner in TIM activities. Representatives from TRPC member agencies have participated in conducting training for their members in all aspects of recovering and removing disabled vehicles and their loads. TRPC members have participated in SHRP2 TIM training. TRPC members have also continued to meet with CTDOT and CSP staff regarding updates to towing and recovery statutes and regulations.

CSP dispatches towing and recovery companies to highway incidents within their jurisdiction. CSP Wrecker Rotation Regulations specify equipment standards, response protocols, training and other requirements for towing and recovery companies to participate in the CSP Wrecker Rotation System. All regular duty and heavy duty wreckers on the State Police rotation list are inspected annually for compliance with these regulations. This ensures that those companies that are dispatched to highway incidents continue to provide properly trained personnel and equipment to these incidents. CSP continues to work with towing and recovery to identify methods to improve dispatch and clearance of highway incidents.

5.2 Office of Chief Medical Examiner Outreach

CTDOT has plans to conduct TIM outreach with the Office of Chief Medical Examiner to review current processes and determine if improvements in TIM clearance time can be achieved. There may exist opportunities to improve response time of medical examiners to fatal incident scenes on state roadways. Delays in medical examiners' arrival on scene continues to be an issue for highway incidents, one that will require additional coordination.

5.3 Fire Academy Outreach

CTDOT has conducted TIM outreach to the Connecticut Fire Academy. The Connecticut Fire Academy (CFA) is part of the Commission on Fire Prevention and Control. The Commission on Fire Prevention and Control is one of six divisions within the Department of Emergency Services and Public Protection. Its missions is:

> "To prevent or mitigate the effects of fire and disasters, either natural or manmade, on the citizens of the State of Connecticut. This objective shall be accomplished through the development and delivery of state-of-the-art educational programs designed to meet nationally recognized standards, certification of individuals to such standards and maintenance of up-to-date resources for use by fire service personnel, public educators and other first responders."[18]

The CFA is continues to support and plays a vital role in TIM training. It has hosted a SHRP2 TIM Training session for first responders. TIM training is recognized as essential training for fire personnel, because the fire chief or fire officer-in-charge has been identified by State statute as

[18] DESPP, Commission on Fire Protection and Control, Agency Mission Statement.

the Incident Scene Commander for multi-discipline responses. CTDOT continues to conduct TIM outreach to the Connecticut Fire Academy.

5.4 DEMHS

Executive Order No. 34 issued by Governor Dannel P. Malloy, June 12th, 2013 orders and directs the Commissioner of DESPP and the Deputy Commissioner of DEMHS to:

> ***"take such action as they deem advisable to establish and support training programs, policies, procedures and protocols to implement and maintain the NIMS and integrated ICS components within all appropriate emergency operations and all other plans for the State of Connecticut, so as to ensure effective and efficient levels of incident management."***

This executive order implemented NIMS in Connecticut and requires all commissioner and department heads to work with DESPP/DEMHS to ensure that all agency emergency activities and other plans follow the NIMS components, and that emergency response personnel are trained in NIMS and the Incident Command System (ICS), including active participation in planning and training exercises.

5.5 United States Coast Guard

The United States Coast Guard (USCG) is the lead Federal Agency for maritime response. As Connecticut is bordered by Long Island Sound, the USCG responds to incidents occurring on Connecticut highways that may environmentally impact Connecticut waterways. Their responsibilities include:

Maritime Environmental Response

"The Coast Guard is the lead Federal agency for directing the removal and mitigation of oil and hazardous substances from spills and releases in the waters and shorelines of the coastal zone. The Coast Guard accomplishes marine environmental response and preparedness with strategically distributed marine environmental response program elements at the national, regional, and local level. This includes strategic program management and policy support at Coast Guard Headquarters and National Contingency Plan Special Teams, which include the Coast Guard National Strike Force and District Response Advisory Teams, Federal On-Scene Coordinators (FOSCs), FOSC Representatives, and Pollution Responders at Sectors, Marine Safety Units, and Marine Safety Detachments.[19]"

Crisis and Contingency Planning

"The Incident Management and Preparedness Program establish processes and procedures to ensure effective employment of all Coast Guard resources in coordination with partner responders during significant incidents. Through active outreach to Coast Guard program managers, the Incident Management and Preparedness Program assesses, maintains and improves the knowledge, skills and abilities necessary to ensure consistency within the Service, agency interoperability and support to the National Preparedness and Planning Systems as established by Presidential Policy Directive 8. Program efforts ensure response readiness for all threats and all hazards and include exercises and real world events that cut across all Coast Guard programs.[20]"

[19] USCG Website, Missions, http://www.overview.uscg.mil/Missions/maritime_response/
[20] ibid

6 Federal Programs

This section describes federal programs designed to improve crash or traffic incident response, including the availability of federal funding for implementation of such programs.

6.1 SHRP2 National Traffic Incident Management Training Program

FHWA continues to sponsor the second Strategic Highway Research Program. SHRP2 has undertaken more than 100 research projects designed to address critical state and local challenges, such as aging infrastructure, congestion, and safety. The research results are available in a series of effective solutions that will improve the way transportation professionals plan, operate, maintain, and ensure safety on America's roadways.

Authorized in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), SHRP2 builds on the success of the first SHRP, which produced, among other innovations, Superpave – a process for creating more durable roads – and new technology for addressing snow and ice. The Moving Ahead for Progress in the 21st Century Act (MAP-21) has authorized additional funding to support implementation activities.

SHRP2's National Traffic Incident Management Responder Training brings police, firefighters, towing, medical personnel, and other incident responders together to engage in interactive, hands-on incident resolution exercises. Learning to coordinate response activities and optimize operations in the classroom is vital to responding effectively in the field and to building a unified national practice on incident management. SHRP2's National Traffic Incident Management Responder Training is endorsed by the International Association of Chiefs of Police, the International Association of Fire Chiefs, and the National Volunteer Fire Council.

6.2 Local Road Accident Reduction Program

The Local Road Accident Reduction Program is intended to address safety problems off the Federal-aid highway system. Upon availability of funds, projects are solicited from municipalities through the regional planning organizations, ranked according to each region's individual process and submitted to USDOT. USDOT selects a limited number of projects based on a construction cost estimated, cost-benefit analysis, a review of the crash history, and available funds.

6.3 National TIM Performance Measures

FHWA encourages the use of the three national TIM performance measures, namely:

- Roadway clearance time. This is defined as the time between first recordable awareness of an incident (detection/notification/verification) by a responsible agency and first confirmation that all lanes are available for traffic flow.
- Incident clearance time. This is defined as the time between the first recordable awareness and the time at which the last responder has left the scene.
- Secondary crashes. The number of secondary crashes beginning with the time of detection of the primary incident where a collision occurs either
    - within the incident scene or
    - within the queue, including the opposite direction, resulting from the original incident.

By encouraging the use of these TIM performance measures, FHWA hopes to encourage states to adopt TIM policies and procedures that will improve incident response times and better

quantify the benefits of TIM. In particular, it is recognized that TIM can not only reduce delays and congestion, but can also prevent secondary crashes, and thus reduce overall total crashes.

7 Enhanced Accident Response Plan Goals

7.1 Overall TIM Goals

As part of the recent update to the State Highway Safety Plan, CTDOT, working with various TIM entities throughout the state, has identified the following overall TIM goal:

> *"To promote the safety of all transportation users by reducing the consequences caused by highway incidents through better inter-agency scene management and communication."*

The following objectives have been identified to achieve the TIM goal:

1. Establish a statewide TIM program with clearly assigned administrative responsibilities.
2. Reduction of the time required to notify a responder and their response time through timely, accurate, and continuing communications between first responders during all phases of the incident.
3. Improve real-time Traveler Information dissemination to the Public as it relates to roadway accidents, work zone activities and delays.
4. Reduce highway accident clearance and recovery time.
5. Reduce the number of secondary accidents on the highway.
6. Support regular multi-disciplinary training and exercises.
7. Conduct accident After-Action Reviews to improve response and scene management.
8. Support the development and tracking of TIM performance metrics following national standards and definitions.
9. Identify staffing needs and training resources for CTDOT staff and other emergency responders to highway accidents.
10. Investigate and support the implementation of new technologies, such as the use of GPS Total Station Equipment to document accident scenes.
11. Continue to conduct public awareness programs to support effective on-scene incident management.

In support of these objectives, CTDOT has also recommended several strategies be implemented, with the support and participation of other state agencies and TIM stakeholders over the next 5 years. It is recognized that additional funding may be necessary to implement some of these strategies. Strategies were grouped into the following categories: Program Governance, Staffing and Training, Procedure and Performance Improvement, and Public Awareness.

7.2 Immediate TIM Goals

In terms of immediate TIM goals for 2017, the following goals have been identified:

- Identify a lead Agency to establish a statewide TIM program. Given that by executive order, DESPP/DEMHS has been directed to take the lead in NIMS/ICS training throughout the state, DESPP/DEMHS may also be logical candidates to lead the statewide TIM program.
- Support Regional TIM Coalitions, Regional ESF-1 Committees, and other regional TIM coordination efforts.
- Continue to provide an ongoing training program for the SHRP2 National TIM Responder Training.
- Conduct after-incident review procedures and hold after action reviews of significant incidents.

8 Conclusion

Ensuring the safety of motorists, crash victims, and emergency responders during traffic incidents is of critical importance to the State of Connecticut. TIM consists of a planned and coordinated multi-disciplinary approach to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible.

An effective statewide TIM program directly impacts emergency responders' safety by providing multi-disciplinary safety training and evaluation; by promoting a safer working environment when responding to incidents in the field; and by allowing emergency responders the opportunity to "practice" their response skills every day, building relationships and readiness for other major incidents and emergencies.

A TIM program also impacts motorists' safety by improving incident detection and reducing incident response time. As incidents are managed and cleared more efficiently, emergency responders and other motorists also benefit from the reduced likelihood of secondary incidents. As a further benefit, a TIM program can contribute to reduced congestion caused by incidents, thus saving motorists and businesses millions of dollars in lost time and productivity, and reducing associated air pollutants.

The goal with the TIM program is to continue to make improvements in transportation and emergency services response and clearance events which includes not only crashes but also, hazmat spills, construction and maintenance activities (work zone), major fires, rail or transit major incidents, disasters or any other event that may affect traffic flow. It's important that stakeholders and responders are fully engaged in the process and work towards building an integrated corridor management system through the encouragement of strong operational partnerships to meet the needs of a well-managed TIM program.

Ongoing support at all levels of state government for TIM initiatives and programs is vital to providing a safe and efficient transportation network for Connecticut motorists and first responders. TIM improvements provide direct benefits to the Connecticut economy, the environment, and the mobility of Connecticut travelers.

REFERENCES

1. CGS, Sec. 7-313e. Authority of fire officer during emergency.
2. CGS, Sec. 13a-114. Traffic control during department operations.
3. CGS, Sec. 14-315. Duties of Commissioner of Emergency Services and Public Protection re street and highway safety and accident prevention.
4. CGS, Sec. 14-212f. Training in highway work zone safety. Development of program curriculum by Highway Work Zone Safety Advisory Council.
5. CGS, Sec. 14-283b. Motor vehicle operator required to move over when approaching stationary emergency vehicle.
6. CGS, Sec. 22a-449. Duties and Powers of Commissioner (DEEP)
7. CGS, Sec. 22a-450. Report of Discharge, Spill, Loss, Seepage or Filtration.
8. CGS, Sec. 22a-451. Liability for Pollution, Contamination or Emergency.
9. CGS, Sec. 22a-454. Permit for collection, storage or treatment, containment, removal or disposal of certain substances, materials or wastes: Suspension or revocation. Prohibition of disposal of certain hazardous wastes in a land disposal facility. Status changes.
10. Executive Order NO. 34, Governor Dannel P. Malloy
11. CSP Training Bulletin #2013, *"Notification to Connecticut Department of Transportation Upon Road or Lane Closure"*
12. State of Connecticut, *Highway Incident Management Policy*, April 2007

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APPENDIX A –
Section 166 of 2015 CT Bill No. 1502

State of Connecticut General Assembly
Bill No. 1502
June Special Session, 2015

Sec. 166. (NEW) (Effective from passage) On or before January 1, 2017, the Commissioner of Transportation, in cooperation with the Commissioners of Emergency Services and Public Protection and Energy and Environmental Protection, shall report, in accordance with the provisions of section 11-4a of the general statutes, to the joint standing committees of the General Assembly having cognizance of matters relating to transportation, public safety and environment, on the development and implementation of an enhanced accident response plan. Such report shall include, but need not be limited to, a description of (1) existing programs and policies regarding the state's accident response plan, (2) ongoing steps being taken to implement such programs and policies throughout the state, (3) interagency initiatives to ensure a prompt, coordinated and efficient response to accidents or other traffic incidents, (4) outreach efforts to include in such programs and policies other individuals and groups critical to the state's plan for responding to accidents or traffic incidents, (5) any federal programs designed to improve accident or traffic incident response, including the availability of federal funding for implementation of such programs, and (6) the goals set for the coming year in improving the accident response plan.

APPENDIX B – 1992 Statewide Incident Management Policy

The State of Connecticut

Incident Management Policy

Establishing Tomorrow's Highway Program for Safety, Efficiency, Economic Growth, and the Environment

Incident Management

Congestion on Connecticut's highways, especially in Greater Hartford and in southwestern Connecticut up to the Quinnipiac River Bridge in New Haven, has become an everyday event—motor vehicle demand on our roadways far exceeds capacities.

According to a study by the Federal Highway Administration, incident-induced congestion along 123 miles of expressway within the Hartford region caused 8.9 million vehicle-hours of delay and 6.7 million gallons of excess fuel consumption in 1984.

Incident-caused congestion impacts:

Safety

Breakdowns, accidents, and debris on Connecticut's busy highways create life-threatening hazards;

Efficiency

Congestion yields effectively less capacity and reduced roadway efficiency;

Economic Growth

Decreased road capacity due to congestion adds real costs to all existing businesses and discourages future growth;

Environment

Congestion degrades the environment by increasing fuel consumption and air pollution emissions.

The objective of Connecticut's Incident Management Policy is the enhancement of existing programs and the formation of a statewide program which includes private sector participation and a coordinated effort of all public agencies to ensure that the effects of congestion caused by incidents are managed and the impacts mitigated.

Incident Management Policy

In recognition of these issues and objectives, the Connecticut Department of Transportation (CDOT), the Connecticut Department of Motor Vehicles (CDMV), the Connecticut Department of Public Safety (CDPS), and the Connecticut Department of Environmental Protection (CDEP) agree that the implementation of an Incident Management program is a top priority. Incident Management consists of a centrally organized effort focused on detecting, responding to, and clearing incidents to recover traffic flow. The

Connecticut policy ensures that highway users receive the maximum possible benefit of an active incident management program that minimizes the impact of traffic-related incidents.

The line agencies of CDOT, CDMV, CDPS and CDEP are given shared responsibility and authority for implementing this policy, cooperatively and expeditiously, through a series of programmed activities. The agencies involved in the Connecticut Program will accept and promote the concept of a team approach. An approach which acknowledges all of the efforts that have been conducted to date and will include input from individuals and organizations across the state.

Policy Implementation and Time Frame

Implementation of this policy will require interactive work between a wide variety of organizations and agency representatives to implement the components of effective incident management and to develop a long-range plan of action.

Program Assessment and Accountability

The performance of the Incident Management Program will be evaluated periodically. A quantitative assessment will be undertaken to produce a report card on program performance. Weaknesses will be noted and corrective strategies formulated.

A Program for the Future

It is the intent of the policy to build a program that is continually improving through evaluation of past performance and incorporation of emerging Intelligent Vehicle Highway System (IVHS) technology. The long-term objective of the policy is to achieve the combined goals of safety, efficiency, economic growth, and clean air, and therefore promote the advancement of IVHS technologies to achieve improvements in incident management.

Date NOV. 5, 1992

Emil H. Frankel, Commissioner
Connecticut Department of Transportation

Date NOV. 5, 1992

Nicholas A. Cioffi, Commissioner
Connecticut Department of Public Safety

Date Nov. 5 1992

Louis S. Goldberg, Commissioner
Connecticut Department of Motor Vehicles

Date NOV 5 1992

Timothy R. E. Keeney, Commissioner
Connecticut Department of Environmental Protection

APPENDIX C – 2006 Statewide Incident Management Policy

STATE OF CONNECTICUT
HIGHWAY INCIDENT MANAGEMENT POLICY

History- Incident Management

On November 5, 1992, the first statewide Incident Management policy was established and approved by four (4) commissioners of state agencies to build a highway response program that would minimize the impact of traffic related incidents on Connecticut's highways. It is necessary to re-issue a revised Highway Incident Management policy to promote policy awareness not only by state agencies but to all first responders; the stakeholders who have the ability to mitigate and minimize unnecessary delays from occurring on Connecticut's highways.

Incident-caused congestion impacts:

Safety. Breakdowns, secondary accidents occurring upstream in proximity to the incident location, and debris on Connecticut's busy highways create life-threatening hazards;

Efficiency. Congestion yields effectively less capacity and reduced roadway efficiency;

Economic Growth. Decreased road capacity due to congestion adds real costs to all existing businesses and discourages future growth;

Environment. Congestion degrades the environment by increasing fuel consumption and air pollution emissions.

Incident Management Policy

In recognition of these issues and objectives, the Connecticut Department of Transportation (CDOT), the Connecticut Department of Motor Vehicles (CDMV), the Connecticut Department of Public Safety (CDPS), the Connecticut Department of Environmental Protection (CDEP) and the Connecticut Department of Consumer Protection (CDCP) agree that the implementation of a Highway Incident Management program is a top priority. Incident Management consists of a centrally organized effort focused on detecting, responding to, and clearing incidents to recover traffic flow. The Connecticut policy ensures that highway users receive the maximum possible benefit of an active highway incident management program that minimizes the impact of traffic-related incidents.

The state level incident response stakeholders of CDOT, CDMV, CDPS and CDEP are given shared responsibility and authority for implementing this policy, cooperatively and expeditiously, through a series of programmed activities. Additionally, other state agencies, such as the CDCP will, on occasion, be involved in the response to a highway incident and have on-scene functions and responsibilities. The state agencies along with the enhanced group of local agencies and organizations involved will accept and promote the concept of a team approach and will work collaboratively to achieve the overall objectives of this policy.

Several resources exist to enhance the ability to restore traffic flow in the most expeditious manner. These include the Unified Response Manual for Highway Incidents, Highway Diversion Plans, Electronic Scene Mapping and Diagramming equipment, patrol vehicle push bumpers, certified heavy-duty "recovery" wreckers, and the DOT Freeway Service Patrol (CHAMP). Incident Commanders and those agency personnel with functional on-scene management responsibilities should consider the use of these resources, to mitigate the effects of a highway incident and to promote the restoration of traffic flow in the most efficient manner possible.

Program Assessment and Accountability

The performance of the Incident Management Program will be evaluated periodically. A quantitative assessment will be undertaken to produce a report card on program performance. Weaknesses will be noted and corrective strategies formulated through the development of performance measurements. This will permit an assessment of individual events with a view towards the successful implementation of incident management strategies and plans.

A Program for the Future

It is the intent of the policy to build an integrated program that is continually improving on a daily basis through evaluation of past performance and incorporation of emerging Intelligent Transportation System (ITS) technology. The long-term objective of the policy is to achieve the combined goals of safety, efficiency, economic growth, and clean air, and therefore promote the advancement of ITS technologies to achieve improvements in highway incident management.

R. J. Carpenter

Ralph J. Carpenter, Commissioner
Connecticut Department of Transportation

Date: 01 Dec 2006

Leonard C. Boyle, Commissioner
Connecticut Department of Public Safety

Date: 11/4/06

William Ramirez, Commissioner
Connecticut Department of Motor Vehicles

Date: 12/20/06

Date: 4/4/07

Gina McCarthy, Commissioner
Connecticut Department of Environmental Protection

Date: 3/30/7

Jerry Farrell, Jr., Commissioner Connecticut
Department of Consumer Protection

Date: 3-5-07

Chief Richard McDonough, President
Connecticut Fire Chiefs' Association

Date: 2-13-07

Chief Edward Richards, President
Connecticut Career Fire Chiefs' Association

Date: 4/2/07

Chief Harry W. Rilling, President
Connecticut Police Chiefs Association

Date: 2-27-06

James Messer, President
Towing and Recovery Professionals of Connecticut, Inc.

APPENDIX D –
Quick Clearance Policy

QUICK CLEARANCE

This agreement made this 2nd day of November, 1995 by and between the Department of Transportation (DOT) and the Department of Public Safety (DPS) establishes a policy for State Police and DOT personnel to remove vehicles from roadways and restore a safe and orderly flow of traffic following a motor vehicle accident or incident on a state highway.

Nothing in this policy is meant to inhibit or interfere with the authority of fire officials under Section 7-313e of the Connecticut General Statutes. Therefore, whenever any fire department responds to and takes action at the scene of an emergency, the implementation of this policy shall be coordinated with the fire chief or fire officer-in-charge.

Both agencies agree that public safety has the highest priority and it must be addressed at all times.

PURPOSE: To enable the safe movement of traffic.

To minimize the congestion cost of highway incidents.

To prevent the occurrence of secondary accidents.

GENERAL: When an incident occurs on a Connecticut limited access state highway and the travel portion is totally or partially blocked, the Connecticut State Police, in cooperation with the on-scene Department of Transportation representative, shall reopen the roadway as soon as possible on a priority basis.

Members of the State Police will conduct their required investigation in as expedient a manner as possible, considering the severity of the collision and the quality of their investigation. Lengthy investigations will require investigators to work diligently in an attempt to minimize traffic delays. This may mean that certain "non-critical" portions of an investigation can be conducted at a later time when traffic congestion is non-existent (i.e., non-peak periods).

In circumstances in which it is determined that cargo or a vehicle is blocking the highway or portion thereof so as to constitute a traffic hazard or obstruction to the free movement of traffic, the Department of Transportation and/or the State Police on-scene representatives may direct the removal/relocation of the cargo or vehicle from the travel portion of the highway. Such representatives shall document the reasons for ordering the removal of the cargo and/or vehicle.

In order to avoid traffic congestion or obstructions to the free movement of traffic which may create a safety hazard, delays in the reopening of a highway caused by a company dispatching additional trucks and/or equipment will not be allowed.

If commercial help does not arrive in a reasonable time or is unable to correct the situation, the Department of Transportation will assign the necessary equipment and personnel to reopen the road or lane as soon as possible.

Every effort will be made to remove all material to a safe location in the shortest time possible, using whatever equipment is necessay.

In witness whereof, each party hereto has caused this document to be executed in its name and on its behalf by its duly authorized officer or agent as of this day and year first above written.

J. William Burns
Commissioner
Department of Transportation

Date: November 2, 1995

Kenneth H. Kirschner
Commissioner
Department of Public Safety

Date: Oct 16, 1995

APPENDIX E – Connecticut “Move Over” and “Move It” Laws

House Bill No. 5894

Public Act No. 09-121

AN ACT ESTABLISHING A "MOVE OVER" LAW IN CONNECTICUT.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective October 1, 2009*) (a) For the purpose of this section "emergency vehicle" means any vehicle with activated flashing lights (1) operated by a member of an emergency medical service organization responding to an emergency call, (2) operated by a fire department or by any officer of a fire department responding to a fire or other emergency, (3) operated by a police officer, (4) that is a maintenance vehicle, as defined in section 14-1 of the general statutes, or (5) that is a wrecker, as defined in section 14-1 of the general statutes, "police officer" means a sworn member of the Division of State Police within the Department of Public Safety or an organized local police department and "highway" means a state or public highway with three or more travel lanes that proceed in the same direction.

(b) Any operator of a motor vehicle on a highway when approaching one or more stationary emergency vehicles located on the shoulder, lane or breakdown lane of such highway shall (1) immediately reduce speed to a reasonable level below the posted speed limit, and (2) if traveling in the lane adjacent to the shoulder, lane or breakdown lane containing such emergency vehicle, move such motor vehicle over one lane, unless such movement would be unreasonable or unsafe.

(c) A violation of any provision of this section shall be an infraction, except that if a violation of the provisions of subsection (a) results in the injury of the operator of an emergency vehicle, the operator of the motor vehicle that caused such injury shall be fined in an amount not to exceed two thousand five hundred dollars, and if such violation results in the death of the operator of an emergency vehicle, the operator of the motor vehicle that caused such death shall be fined in an amount not to exceed ten thousand dollars.

Approved June 9, 2009

Connecticut “Move It” Law

Sec. 14-224. Evasion of responsibility in operation of motor vehicles. Racing. Required removal of motor vehicle from traveled portion of highway. Impoundment or fine.

(a) Each operator of a motor vehicle who is knowingly involved in an accident which results in the death of any other person shall at once stop and render such assistance as may be needed and shall give such operator’s name, address and operator’s license number and registration number to any officer or witness to the death of any person, and if such operator of the motor vehicle causing the death of any person is unable to give such operator’s name, address and operator’s license number and registration number to any witness or officer, for any reason or cause, such operator shall immediately report such death of any person to a police officer, a constable, a state police officer or an inspector of motor vehicles or at the nearest police precinct or station, and shall state in such report the location and circumstances of the accident causing the death of any person and such operator’s name, address, operator’s license number and registration number.

(b) (1) Each operator of a motor vehicle who is knowingly involved in an accident which causes serious physical injury, as defined in section 53a-3, to any other person shall at once stop and render such assistance as may be needed and shall give such operator’s name, address and operator’s license number and registration number to the person injured or to any officer or witness to the serious physical injury to person. If such operator of the motor vehicle causing the serious physical injury of any person is unable to give such operator’s name, address and operator’s license number and registration number to the person injured or to any witness or officer, for any reason or cause, such operator shall immediately report such serious physical injury of any person to a police officer, a constable, a state police officer or an inspector of motor vehicles or at the nearest police precinct or station, and shall state in such report the location and circumstances of the accident causing the serious physical injury of any person and such operator’s name, address, operator’s license number and registration number.

(2) Each operator of a motor vehicle who is knowingly involved in an accident that causes physical injury, as defined in section 53a-3, to any other person shall at once stop and render such assistance as may be needed and shall give such operator’s name, address and operator’s license number and registration number to the person injured or to any officer or witness to the physical injury. If such operator of the motor vehicle causing the physical injury is unable to give such operator’s name, address and operator’s license number and registration number to the person injured or to any witness or officer, for any reason or cause, such operator shall immediately report such physical injury of any person to a police officer, a constable, a state police officer or an inspector of motor vehicles or at the nearest police precinct or station, and shall state in such report the location and circumstances of the accident causing the physical injury of any person and such operator’s name, address, operator’s license number and registration number.

(3) Each operator of a motor vehicle who is knowingly involved in an accident that causes injury or damage to property shall at once stop and render such assistance as may be needed and shall give such operator’s name, address and operator’s license number and registration number to the owner of the injured or damaged property, or to any officer or witness to the injury or damage to property, and if such operator of the motor vehicle causing the injury or damage to any property is unable to give such operator’s name, address and operator’s license number and registration number to the owner of the property injured or damaged, or to any witness or officer, for any reason or cause, such operator shall immediately report such injury or damage to property to a police officer, a constable, a state police officer or an inspector of motor vehicles or at the nearest police precinct or station, and shall state in such report the location and circumstances of the accident causing the injury or damage to property and such operator’s name, address, operator’s license number and registration number.

(c) (1) No person shall operate a motor vehicle upon any public highway for a wager or for any race or for the purpose of making a speed record.

(2) No person shall (A) possess a motor vehicle under circumstances manifesting an intent that it be used in a race or event prohibited under subdivision (1) of this subsection, (B) act as a starter, timekeeper, judge or spectator at a race or event prohibited under subdivision (1) of this subsection, or (C) wager on the outcome of a race or event prohibited under subdivision (1) of this subsection.

(d) Each person operating a motor vehicle who is knowingly involved in an accident on a limited access highway which causes damage to property only shall immediately move or cause his motor vehicle to be moved from the traveled portion of the highway to an untraveled area which is adjacent to the accident site if it is possible to move the motor vehicle without risk of further damage to property or injury to any person.

(e) No person who acts in accordance with the provisions of subsection (d) of this section may be considered to have violated subdivision (3) of subsection (b) of this section.

(f) Any person who violates the provisions of subsection (a) or subdivision (1) of subsection (b) of this section shall be fined not more than ten thousand dollars or be imprisoned not less than one year nor more than ten years or be both fined and imprisoned.

(g) Any person who violates the provisions of subdivision (2) or (3) of subsection (b) of this section or subsection (c) of this section shall be fined not less than seventy-five dollars nor more than six hundred dollars or be imprisoned not more than one year or be both fined and imprisoned, and for any subsequent offense shall be fined not less than one hundred dollars nor more than one thousand dollars or imprisoned not more than one year or be both fined and imprisoned.

(h) In addition to any penalty imposed pursuant to subsection (g) of this section: (1) If any person is convicted of a violation of subdivision (1) of subsection (c) of this section and the motor vehicle being operated by such person at the time of the violation is registered to such person, the court may order such motor vehicle to be impounded for not more than thirty days and such person shall be responsible for any fees or costs resulting from such impoundment; or (2) if any person is convicted of a violation of subdivision (1) of subsection (c) of this section and the motor vehicle being operated by such person at the time of the violation is not registered to such person, the court may fine such person not more than two thousand dollars, and for any subsequent offense may fine such person not more than three thousand dollars.

(1949 Rev., S. 2410; September, 1957, P.A. 11, S. 8; P.A. 81-268, S. 2; P.A. 82-472, S. 45, 183; P.A. 83-135; 83-534, S. 10; P.A. 94-188, S. 9; P.A. 97-291, S. 3, 5; P.A. 06-173, S. 2; P.A. 09-120, S. 1; P.A. 14-130, S. 25.)