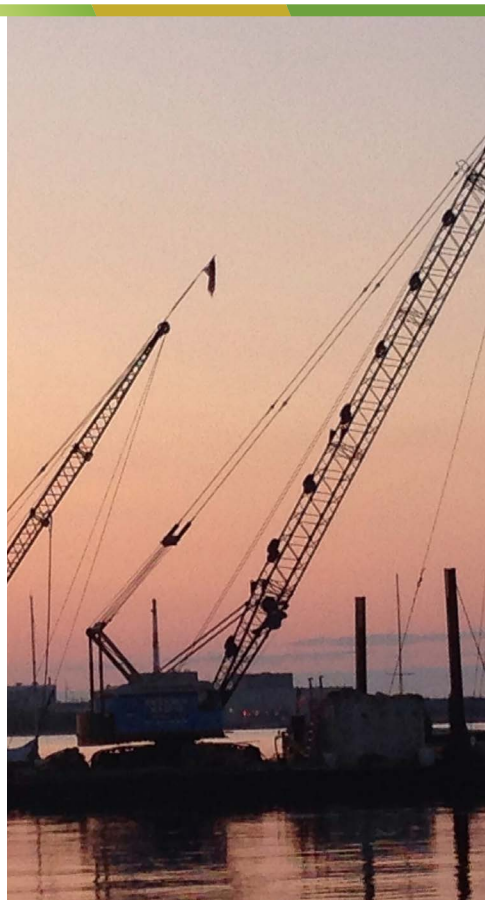
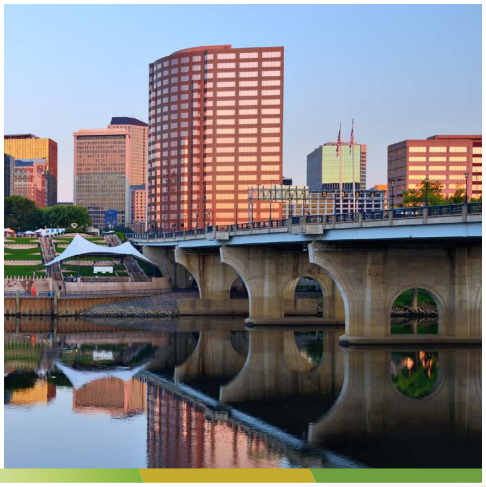
CONNECTICUT



Strategic Highway Safety Plan



2017-2021

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OFFICE OF THE GOVERNOR
STATE OF CONNECTICUT

May 18, 2017

Dear Citizens of Connecticut and Fellow Safety Colleagues:

Those of us who call Connecticut home and the millions of people who visit our State know Connecticut is special, offering residents and visitors a unique place to live, work, and play. For the millions of people who travel on Connecticut roads each year, transportation safety is one of our top priorities. More than 2,000 people have been seriously injured annually on our roadways, and each year approximately 275 have died in traffic crashes. The emotional, physical and financial damage is felt immediately by those directly involved, and crashes eventually affect the rest of the community through higher insurance rates, repairs, and economic loss.

Most importantly, the vast majority of these crashes are preventable.

Hundreds of safety partners across Connecticut—representing expertise in engineering, enforcement, emergency medical service response, public health, and education—work toward reducing traffic crashes every day. We are committed to collaborating on the most significant safety challenges and developing solutions to reduce these tragedies. Connecticut's Strategic Highway Safety Plan (SHSP) introduces strategies that will continue this reduction, helping all roadway users arrive safely at their destinations. The Plan will move Connecticut closer to our vision of one day eliminating roadway deaths altogether.

I want to thank the stakeholders who work tirelessly on traffic safety improvement programs and projects, with particular thanks to the Connecticut Department of Transportation, SHSP Executive Committee, SHSP Steering Committee, and the SHSP Emphasis Area Teams. Through the work of these groups, the 2017-2021 SHSP will provide meaningful and actionable safety strategies, which will guide safety programs and projects over the next 5 years and beyond.

Together we can make a positive difference in the lives of our citizens by improving roadway safety.

Thank you,

Dannel P. Malloy
Governor

210 Capitol Avenue, Hartford, Connecticut 06106
www.governor.ct.gov

declaration

State of Connecticut

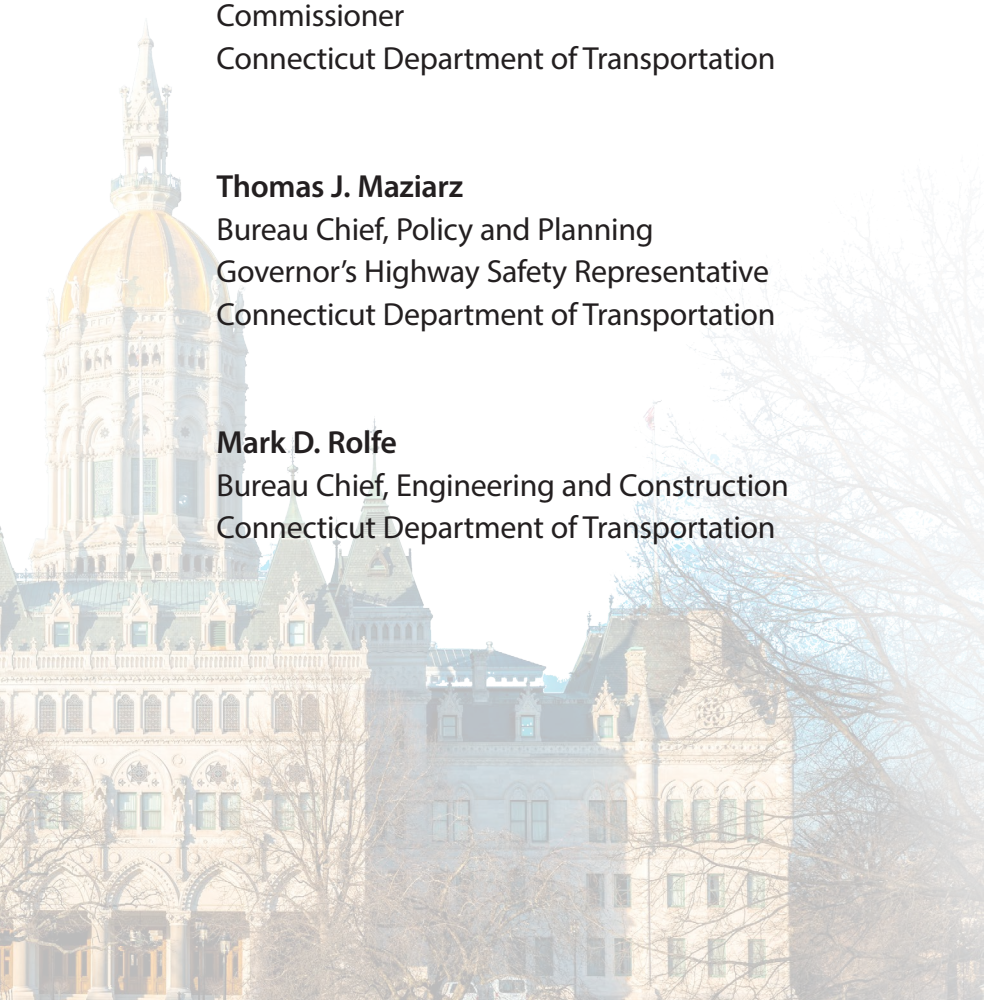
On behalf of Dannel P. Malloy, Governor of the State of Connecticut, the Connecticut Department of Transportation presents Connecticut's Strategic Highway Safety Plan (SHSP). The goal of this document is to contribute to the reduction of fatalities and serious injuries on Connecticut's roadways. The Plan focuses on effective strategies to achieve long-term crash reduction goals and performance measures to track their effectiveness. It was shaped by Connecticut's SHSP Executive Committee, Steering Committee, Emphasis Area Teams, partners throughout local, State and Federal governments, and other roadway safety stakeholders. It is a far-reaching document incorporating numerous roadway safety emphasis areas, each of which is championed by subject matter experts.

In recognition of the Connecticut SHSP's vision, mission, and goal, we acknowledge and support this Plan.

James P. Redeker
Commissioner
Connecticut Department of Transportation

Thomas J. Maziarz
Bureau Chief, Policy and Planning
Governor's Highway Safety Representative
Connecticut Department of Transportation

Mark D. Rolfe
Bureau Chief, Engineering and Construction
Connecticut Department of Transportation

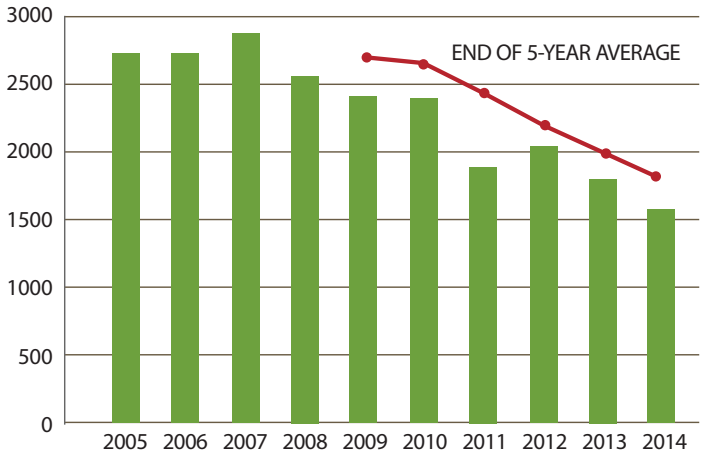


1 executive summary

In Connecticut, roadway crashes accounted for an average of 275 fatalities and 2,000 serious injuries annually between 2005 and 2014. In 2015, the State experienced 306 roadway fatalities. Lives have been lost and traumas experienced due to these preventable incidents. The suffering extends beyond those directly involved in the crashes to their families, friends, coworkers, and neighbors.

Connecticut has worked diligently to address this issue through strong leadership and public agency support of highway safety initiatives and partnerships with not-for-profits, private businesses, and Connecticut citizens. The Strategic Highway Safety Plan (SHSP) Executive Committee and Steering Committee—made up of these partners—have worked to reduce needless loss of life, and each life saved moves us in the direction of our long-term vision. The safety culture of these partners and Connecticut's road users is vital to prevent future roadway fatalities and serious injuries.

CT ROADWAY FATALITIES & SERIOUS INJURIES



VISION: All users of Connecticut's transportation system will arrive safely at their destinations.

MISSION: Provide a safe transportation system by using partnerships to coordinate education, enforcement, engineering, and emergency response initiatives.

GOAL: Reduce the number of fatalities and serious injuries on all public roads in Connecticut 15 percent by 2021.[1]

2021

15%

FATALITIES & SERIOUS INJURIES

1 This reduction will be measured between the 5-year moving average for 2010-2014 and the 5-year moving average for 2017-2021

The Connecticut SHSP is organized into chapters as follows:

Overview

Overview describes the history and background of the Connecticut SHSP, the Plan's key components, and the update process.

Improving Roadway Safety in Connecticut

This chapter introduces the current state of safety, challenges to reducing roadway crashes, and a plan of action to overcome these challenges.

Emphasis Areas

Emphasis Areas details the most pressing safety issues and strategies to reduce crashes.

Implementation and Evaluation

Implementation and Evaluation describes Connecticut's plan to implement the strategies in the SHSP and evaluate the results.

Appendices

Includes safety-related data used for analysis, a glossary of terms, and the roles and responsibilities of SHSP stakeholders.

To support Connecticut's data-driven approach for identifying areas of emphasis, researchers conducted a comprehensive crash data analysis, an assessment of emerging trends, and a review of existing highway safety efforts. Connecticut will achieve its SHSP goal by focusing on the following **SIX EMPHASIS AREAS**:

1. **CRITICAL ROADWAY LOCATIONS**
   Includes intersections and areas prone to roadway departure crashes.
2. **DRIVER BEHAVIOR**
   Includes unrestrained occupants, substance-involved driving, aggressive driving, and distraction.
3. **YOUNG DRIVERS**
   Ages 15 to 25.
4. **NON-MOTORIZED ROAD USERS**
   Includes bicyclists and pedestrians.
5. **MOTORCYCLIST SAFETY**
   Includes rider behavior and infrastructure countermeasures.
6. **TRAFFIC INCIDENT MANAGEMENT**
   Includes emergency response.

In order to receive feedback from Connecticut's safety partners and engage them in plan development, SHSP leadership held a statewide SHSP peer exchange, invited stakeholders to participate in SHSP Steering Committee activities and Emphasis Area Teams, and developed an SHSP website to disseminate additional information.

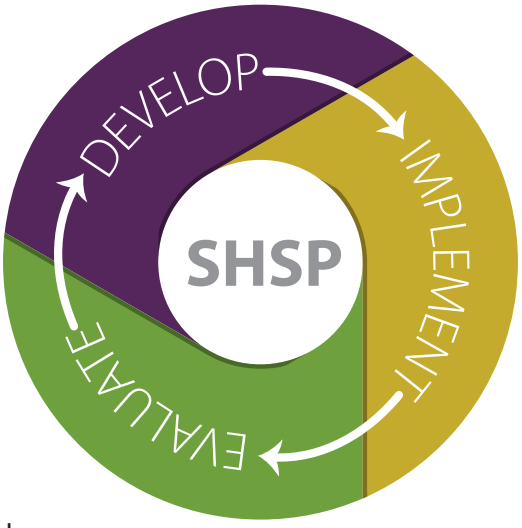
This SHSP will drive safety efforts in Connecticut for the period of 2017-2021. SHSP leadership will conduct process and performance evaluations of program management elements and progression of SHSP strategies toward meeting the Plan's goal of a 15 percent reduction in roadway fatalities and serious injuries. At the end of this period the State will update the SHSP using the current guidance from FHWA at that time.

Through implementation of safety programs and projects, followed by evaluation of those efforts, Connecticut safety professionals will progress toward the long-term vision of all roadway users arriving safely at their destination. Interested stakeholders can stay involved, informed, and provide input during SHSP activities—including review of implementation progress through Emphasis Area Action Plans—by visiting the Connecticut SHSP website at http://www.t2center.uconn.edu/shsp.php.

2 overview

The Connecticut SHSP is the over-arching organizational document for roadway safety planning. It is administered by the Connecticut Department of Transportation (CTDOT) through the SHSP Steering Committee, under the oversight of the SHSP Executive Committee. The Connecticut SHSP adheres to Federal regulations as described below.

2.1 History, Purpose, and Background



The Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP) and National Highway Traffic Safety Administration (NHTSA) are core Federal-aid programs aimed at reducing crash fatalities and serious injuries on all public roads. The HSIP is based on a data-driven, strategic approach with performance management components for accountability. The most recent Federal surface transportation legislation—Fixing America's Surface Transportation (FAST) Act—requires that HSIP funds be spent in a manner consistent with the State's SHSP to improve safety. Connecticut must develop, implement, and update its SHSP as a requirement for obligating HSIP funds. The State must also develop and implement strategies and related activities and projects to address identified safety problem areas, and evaluate the SHSP on a regular basis.

The SHSP is intended to help a State identify key safety needs and guide investments to reduce roadway fatalities and serious injuries on all public roads. Development and implementation are collaborative processes that include representatives from other State agencies; local, Federal and Tribal agencies; and public and private safety partner organizations. Benefits of the SHSP include establishing common priorities, strengthening partnerships, and sharing resources and knowledge to improve roadway safety.

Federal regulation establishes the minimum requirements for SHSP evaluation and a 5-year update cycle. Significant policy changes, reorganization of major agencies responsible for implementation, or increased attention to highway safety efforts may be reasons for more frequent updates.

2.1.1. Key Components

Connecticut has adopted several key components to successfully develop and implement the SHSP.

Leadership

Leadership support has come from the CTDOT, Department of Public Health, Department of Emergency Services and Public Protection, Department of Motor Vehicles (DMV), University of Connecticut (UCONN), CT Police Chief's Association, Department of Education and other related agencies. This leadership helps communicate the SHSP vision, mission, and goal, and it supports institutionalizing any changes in safety decision-making related to the SHSP.

A Champion

The most successful SHSPs have at least one person who is responsible for gathering key players and ensuring forward progress. The State Safety Engineer at CTDOT serves as the State's lead for this effort.

Organization Structure

Establishing a formal organizational structure for the SHSP helps facilitate effective management of the effort. Connecticut's SHSP structure includes an Executive Committee, Steering Committee, and Emphasis Area Teams that work closely together.

Executive Committee

The Executive Committee includes representation from the Connecticut Departments of Transportation, Motor Vehicles, Public Health, Education, and Emergency Services and Public Protection. These high-level stakeholders provide guidance throughout the process to ensure that: 1) the SHSP considers their agency's mission and programs and 2) their agencies have an advocate to facilitate involvement not only in the SHSP plan development but also in implementation and evaluation. Participation includes representatives from the Highway Safety Office, the highway safety representative of the Connecticut Governor.

Steering Committee

The Steering Committee includes the following organizations: CTDOT (including the Connecticut Highway Safety Office which is the Governor's highway safety representative), Connecticut Department of Motor Vehicles, Capitol Regional Council of Governments, Western Connecticut Council of Governments, Northeastern Connecticut Council of Governments, Connecticut Police Chiefs Association, AARP, AAA Allied, FHWA, NHTSA, Federal Motor Carrier Safety Administration (FMCSA), UCONN, Department of Emergency Services and Public Protection, Mashantucket Pequot Tribal Nation, and the Mohegan Tribe. These stakeholders are key to the SHSP development process and will continue to serve throughout implementation and evaluation. The Steering Committee helps ensure the SHSP is relevant to each organization's efforts and can champion the SHSP at the programmatic level.

Emphasis Area (EA) Teams

Groups focused on a particular aspect of highway safety were identified or formed once the emphasis areas were selected. Leaders for the EA's were selected from the SHSP stakeholders with membership representing the variety of agencies involved in each group's efforts.

The SHSP has built on existing relationships within and across State agencies and with other safety partners, including existing interagency working groups and committees. Safety partners also include educators, insurance companies, transportation advocacy groups, hospitals, other groups, and interested parties from the general public.	**Safety Partners**
Establishing a basic foundation for collaboration and communication can help SHSP stakeholders across agencies and organizations overcome barriers such as competing priorities and differing business cultures.	**Collaboration and Communication**

2.1.2. Connecticut SHSP Update Process

Although many of the fundamental tenets of the SHSP process have remained the same over time, each version of Federal surface transportation legislation builds on lessons learned to ensure the SHSP remains a relevant document for guiding effective safety program management at the State level. President Obama signed the FAST Act in December 2015, and in March 2016, FHWA released SHSP Guidance, updating information available to States regarding SHSPs in light of the FAST Act.[2] This guidance states that SHSPs shall demonstrate the following features:

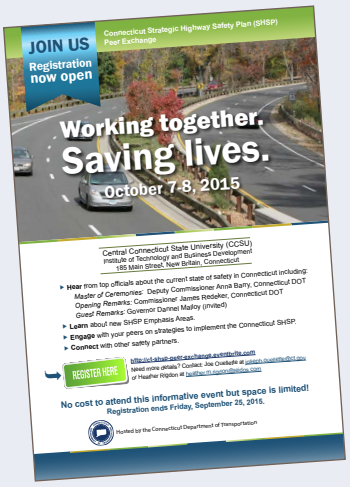
Consultation. Connecticut has developed the SHSP in consultation with the following stakeholders:

- A highway safety representative of the Governor of the State
- Regional transportation and metropolitan planning organizations
- Representatives of major modes of transportation
- State and local traffic enforcement officials
- A highway-rail grade crossing safety representative of the Governor of the State
- Representatives conducting motor carrier safety programs
- Motor-vehicle administration agencies
- Municipal officials
- State representatives of non-motorized users
- Other major Federal, State, Tribal, local, and private enterprise safety stakeholders

In an effort to gather input from a wider range of potential partners, and to engage them in the plan development and implementation phases, the CTDOT held a statewide SHSP peer exchange in October 2015. Invitees and participants included representatives from the organizations listed on the next page. In addition, SHSP leadership invited stakeholders to continue involvement through the following efforts:

- Participating on one or more SHSP Emphasis Area Teams.
- Attending SHSP Steering Committee Meetings.
- Developing a SHSP website hosted by UCONN.

2 Federal Highway Administration, "Strategic Highway Safety Plan (SHSP) Guidance," Washington, D.C., March 2016. Accessed at http://safety.fhwa.dot.gov/legislationandpolicy/fast/shsp_guidance.cfm.



Organizations Participating in the 2015 Connecticut SHSP Peer Exchange.

Federal Agencies

- FHWA
- FMCSA
- NHTSA

Planning Organizations

- Capitol Region Council of Governments (COG)
- Southeastern Connecticut COG
- Northeastern CT COG
- Naugatuck Valley COG
- Western CT COG

Local Government Agencies

- Cheshire Fire Rescue
- Cheshire Police Department (PD)
- City of Stamford
- Clinton PD
- Enfield PD
- Fairfield PD
- Greater Hartford Transit District
- Hartford PD
- Naugatuck PD
- Norwich PD
- Somers PD
- Stafford PD
- Stamford PD
- Town of Canton
- Town of Durham
- Town of East Hartford
- Town of Groton
- Town of Manchester
- Town of New Milford
- Town of Stafford
- Town of Watertown
- Town of West Hartford
- West Haven Fire Department
- Westport PD

Connecticut State Agencies

- Dept. of Education
- Dept. of Emergency Services and Public Protection
- Dept. of Motor Vehicles
- Dept. of Public Health
- Dept. of Transportation
- Division of Criminal Justice
- Judicial Branch
- Legislative Commission on Aging
- University of Connecticut
- Connecticut Local Technical Assistance Program (LTAP)

Other Stakeholders

- AAA Northeast
- AAA Allied
- AARP Connecticut
- Bike Walk Connecticut
- Connecticut Children's Medical Center
- Connecticut Cycling Advancement Program
- Connecticut Main Street Center
- Connecticut Motorcycle Riders Association
- Farmington Valley Trails Council
- Leidos, Inc.
- MADD Connecticut
- Private Consulting Companies
- Towing and Recovery Professionals of Connecticut
- Yale-New Haven Hospital

Others invited to the SHSP Peer Exchange included the Mohegan Tribe and Mashantucket Pequot Tribal Nation. The LTAP center also shared the invitation with multiple stakeholder mailing lists (e.g., local agencies, legislators, etc.).

Strategic Direction and Coordination. It is important that the SHSP be coordinated with other high-level transportation planning efforts in Connecticut. The SHSP process involved significant participation of:

- Members of the Connecticut Highway Safety Office (responsible for the *Highway Safety Plan (HSP) and Annual Report*);
- Planning officials from CTDOT (responsible for the *Statewide Transportation Improvement Program* (STIP));
- Connecticut DMV personnel (responsible for the *Commercial Vehicle Safety Plan* (CVSP)); and
- Local and regional transportation planners (responsible for the *Transportation Improvement Programs* (TIPs)).

Involving these stakeholders ensures that the SHSP aligns with each group's associated plans and improves coordination between SHSP implementation and other transportation programs moving forward. Involvement from agencies representing engineering, enforcement, education, and emergency service professionals at the State and local levels also ensures alignment of the SHSP with roadway safety efforts across the board.

Data-Driven Problem Identification. This SHSP has been developed through a data-driven process that evaluates fatal and serious injury crash locations, high risk factor locations, and all public roads. Analysts reviewed State and national data to develop a high-level understanding of potential problem areas and recent trends. The State selected EA's based partially on crash types with the greatest potential to reduce crash fatalities and serious injuries. Within each EA, experts conducted further analysis to help EA teams better understand the characteristics of their problem area and identify appropriate solutions.

Effective Strategies and Countermeasures. EA teams worked with experts to identify safety challenges on all public roads, regardless of ownership. EA teams then identified potential strategies to significantly reduce roadway fatalities and serious injuries in the SHSP EA's. Each EA team will work to implement spot-location, systemic, and low-cost strategies across the engineering, enforcement, education, and emergency management system domains using benefit/cost analysis—among other methods—to identify effective implementation.

A Process for Implementing Strategies. The SHSP describes the process and resources to be used for implementing strategies identified for each EA. In all cases, implementation includes consideration of hot spot locations and systemic safety analysis.

A Performance Based Approach. Connecticut has set annual safety performance measure targets to carry out the HSIP. The SHSP goal is not the same as the FHWA's HSIP targets or NHTSA's HSP targets. The SHSP process provides an opportunity to establish longer-term goals with which to align annual targets.

Beginning in 2018, Federal regulation mandates that States set five performance targets each year:

1. **Number of Fatalities**
2. **Rate of Fatalities per 100 Million Vehicle Miles Traveled (VMT)**
3. **Number of Serious Injuries**
4. **Rate of Serious Injuries per 100 Million VMT**
5. **Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries (combined total)**

SHSP leadership consulted with representatives from other agencies at the State, local, and regional levels to set the SHSP goals and objectives. This encouraged the goals and objectives to be adopted and incorporated into stakeholders' programs as well as those managed by CTDOT. In addition to being data-driven and measurable, the goals and objectives are action-oriented, time-based, and reasonable.

Future SHSP Updates. This version of the SHSP covers the 5-year period from 2017 through 2021. The SHSP Steering Committee will solicit support to produce the next version of the SHSP (2022-2027) in 2020, with work commencing no later than 2021 to complete the update. At that time, CTDOT will seek approval for the 2021 SHSP update process by submitting the updated SHSP and a detailed description of the process used to update the SHSP to the FHWA Division Administrator.

3 improving roadway safety in connecticut

3.1 Connecticut's Roadway Safety Challenges

NHTSA reported a 9.2 percent decrease in U.S. roadway fatalities during the 10-year period, 2006 to 2015.[3] Connecticut experienced a 1.6 percent reduction in fatalities during this same period.

ROADWAY FATALITIES

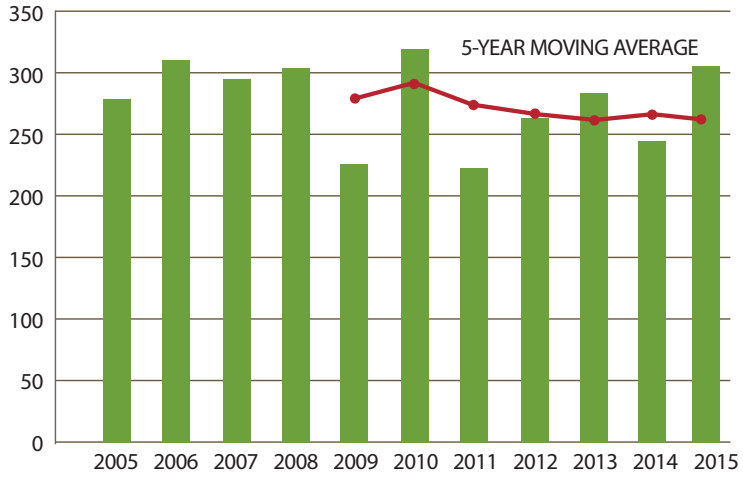
2006-2015

U.S. 9.2%

CT. 1.6%

Researchers analyzed 5-year moving averages to gain an understanding of long-term safety performance. As shown below, the 5-year moving averages illustrate a general trend, smoothing out some potential volatility from one year to the next. As such, 5-year moving averages will be used to set goals and report progress, as required in the FHWA *Final Rule on Safety Performance Measures*.[4] In Connecticut, the 5-year moving average of traffic fatalities dropped from 282 (2005-2009) to 265 (2011-2015), a reduction of 5 percent over a 7-year time period. As a comparison, national fatalities dropped approximately 16 percent over this same time period.[5]

CT ROADWAY FATALITIES



3 Fatality Analysis Reporting System Encyclopedia. Accessed at http://www-fars.nhtsa.dot.gov/Main/index.aspx.

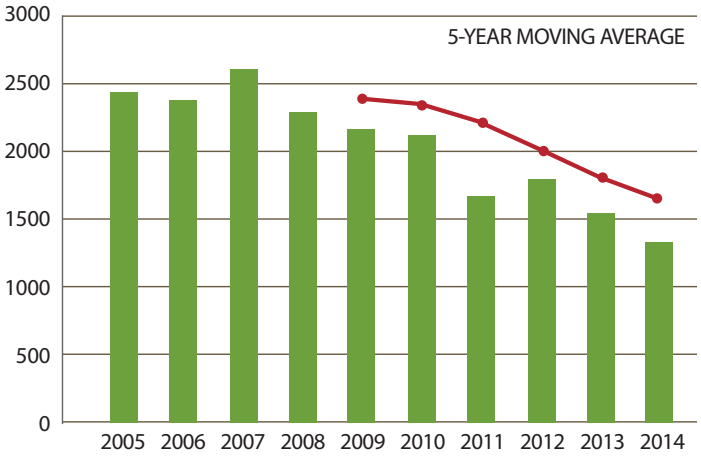
4 National Performance Management Measures: Highway Safety Improvement Program, ***Federal Register***, 2016. Accessed at https://www.federalregister.gov/documents/2016/03/15/2016-05202/national-performance-management-measures-highway-safety-improvement-program.

5 Fatality Analysis Reporting System Encyclopedia. Accessed at http://www-fars.nhtsa.dot.gov/Main/index.aspx.

Fatalities have traditionally been at the core of safety data analyses. However, improved data quality for other crash severities and a greater national focus on serious injuries has led to increased concern regarding all serious crashes. As shown to the right:

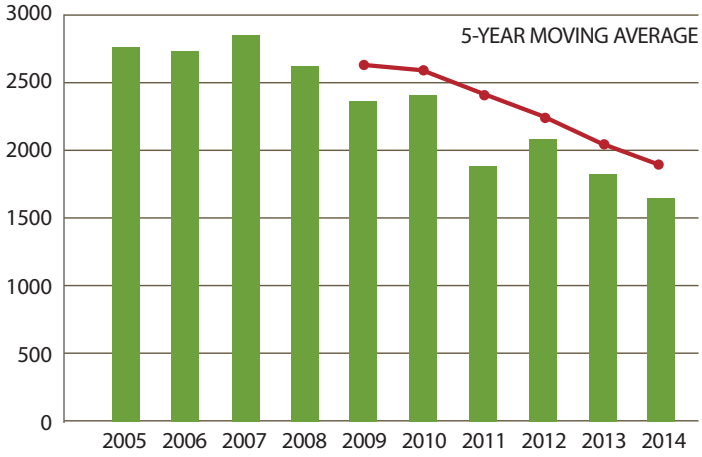
Serious injuries in Connecticut have declined at a much steeper rate than fatalities over the past 10 years, from a peak of 2,465 in 2005 to only 1,356 in 2014—a 45 percent reduction.

CT ROADWAY SERIOUS INJURIES



When Connecticut's fatal and serious injury crashes are combined, as shown in the CT Roadway Fatalities & Serious Injuries graph, it is the serious injuries that drive the graph's steep downward trend.

CT ROADWAY FATALITIES & SERIOUS INJURIES



SHSP leaders used Connecticut crash data to establish a basic overview of crashes, fatalities, and serious injuries over the past decade. This overview was used to identify potential emphasis areas (EA's) based on 1) commonly reoccurring contributors to crashes, and 2) crash types the State anticipates could increase in the future. Crash attributes considered in the analysis include the following:

Crash Attributes Analyzed for the Connecticut SHSP

- Occupant restraint use
- Impairment
- Aggressive driving
- Speeding
- Young drivers
- Older drivers
- Non-motorists
- Motorcycles
- Work zones
- School buses
- Collisions with trains
- Commercial vehicle involvement
- Intersections
- Roadway departures
- Nighttime crashes
- Curves
- Head-on crashes
- Fixed object crashes

A data-driven approach is essential to effective highway safety planning efforts. However, challenges exist in every jurisdiction. In preparing the Connecticut SHSP, challenges included:

- The availability and reliability of different data attributes were not consistent. While fatal crash information was generally of high quality, the quality, timeliness, and accuracy of the non-fatal crash data varied by jurisdiction.
- The availability of exposure data varied by user type. While vehicle miles traveled was a common exposure metric for overall crashes, certain subsets of crashes—like those involving non-motorized users—could not be normalized as readily due to lack of data.
- The amount of information an officer can collect while completing a crash report may be limited by other priorities, such as clearing the scene, or subsequent calls that require response.

The traffic records systems and staff responsible for the collection, management, and accessibility of data are critical elements of data-driven decision-making. Allocating resources to improve existing systems and exploring innovative options, such as data linkage, will increase the ability of highway safety professionals to make effective decisions. For example, in 2015 Connecticut developed a statewide electronic crash reporting system based on the national Model Minimum Uniform Crash Criteria (MMUCC) that provides a significant reduction in crash data processing times. Connecticut's Traffic Records Coordination Committee (TRCC) is continuing to improve State data systems through projects and performance measures outlined in its 2016-2017 Traffic Records Strategic Plan.[6]

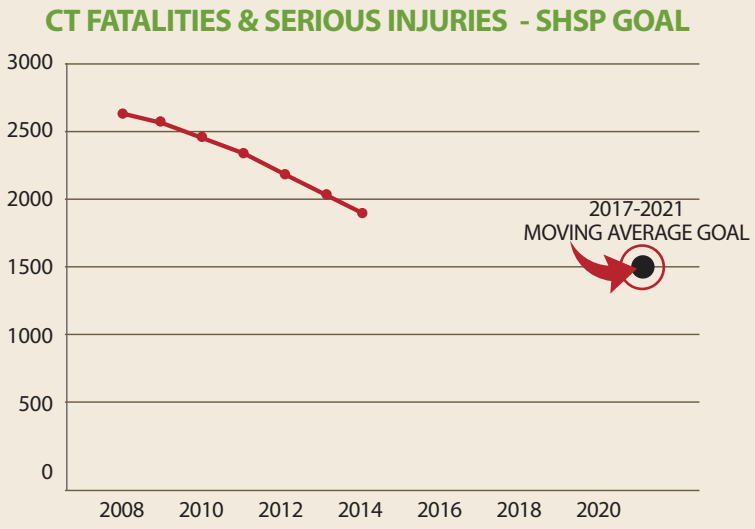
3.2 Looking Ahead

To ultimately eliminate roadway fatalities and serious injuries in Connecticut, safety leaders have established the following vision, mission, and goal.

VISION: All users of Connecticut's transportation system will arrive safely at their destinations.

MISSION: Provide a safe transportation system by using partnerships to coordinate education, enforcement, engineering, and emergency response initiatives.

GOAL: Reduce the number of fatalities and serious injuries on all public roads in Connecticut 15 percent by 2021.[7]



6 Additional information about the TRCC, including the most recent strategic plan, is available at http://www.ct.gov/dot/cwp/view.asp?a=2094&q=435916.

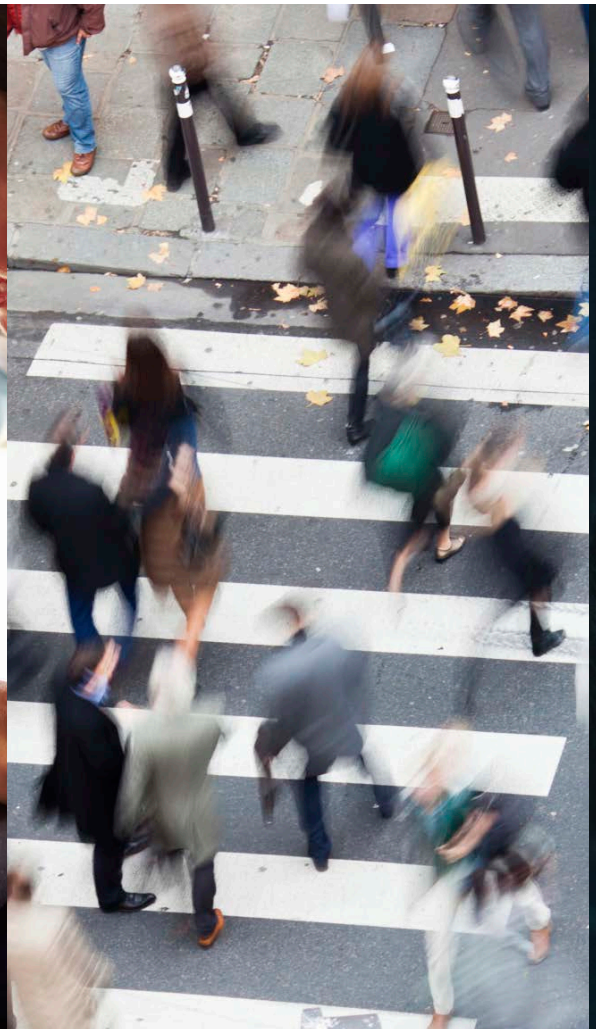
7 This reduction will be measured between the 5-year moving average for 2010-2014 and the 5-year moving average for 2017-2021.

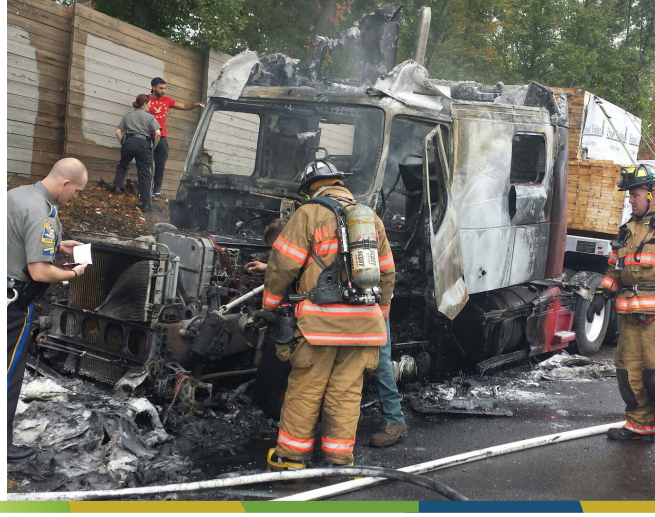
3.3 Safety Culture

Lasting change in transportation safety in Connecticut will require increased emphasis on safety culture by both road users and by agencies responsible for the operation of roadways. A focus on safety culture starts with the origin of risk behaviors (e.g., driving while intoxicated, non-use of safety belts, distracted driving) rather than the crash that may occur or injury that may result from those behaviors.

For highway agencies and other stakeholders involved with the SHSP, it is important to identify the need to emphasize safety as a value on all roadway projects. Each should consider safety as a primary purpose and need.

For the public, a shift is necessary to help users perceive driving, biking, and walking on public roadways as a privilege that includes responsibilities. To change the culture of road users, it is important to consider both internal and external strategies. Internal strategies focus on changing desires that change behavior, such as convincing drivers to wear a safety belt. External strategies focus on public policies—such as requiring seat belt use by all vehicle occupants—and aggressive enforcement of those policies.



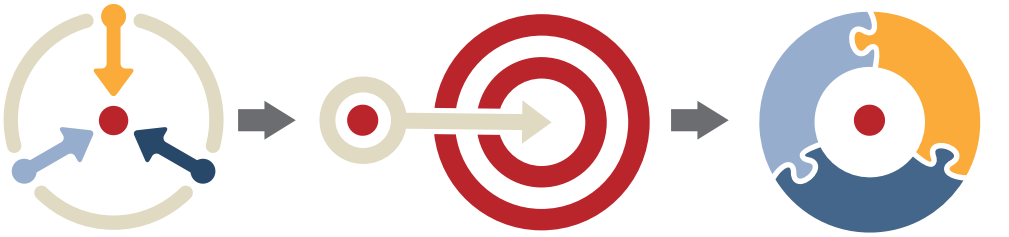


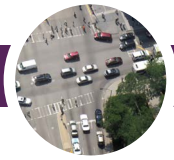
4 emphasis areas

The State selected the following EA's based on crash types with the greatest potential for reductions in fatalities and serious injuries as well as emerging crash types that indicate risk factors for future incidents:

SHSP leadership prioritized developing safety strategies that address these EA's. The SHSP Steering Committee will assess strategy implementation through targeted performance objectives developed for each EA. CTDOT will provide each EA with additional data analysis and strategic implementation support.

The following section describes each of the six EA's, crash history data, performance objectives, and strategies for improvement. Additionally, each EA Team will develop, implement, and monitor EA-specific plans. These include activities and action steps to support each improvement strategy. All strategies are designed to help Connecticut reach EA-specific fatal and serious injury crash reduction objectives.



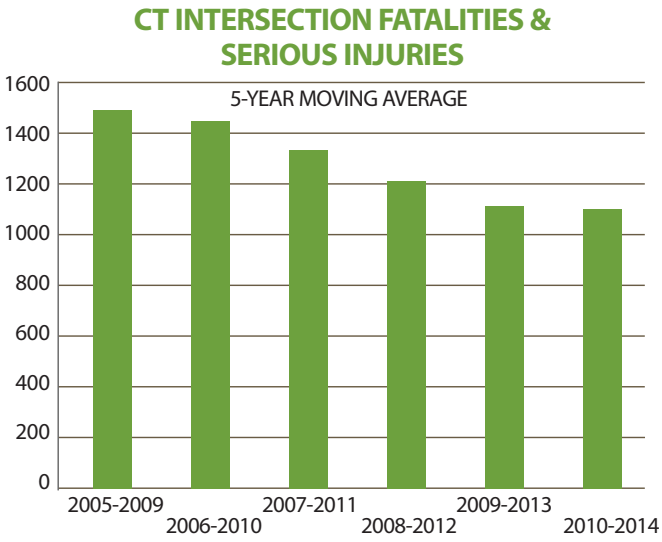


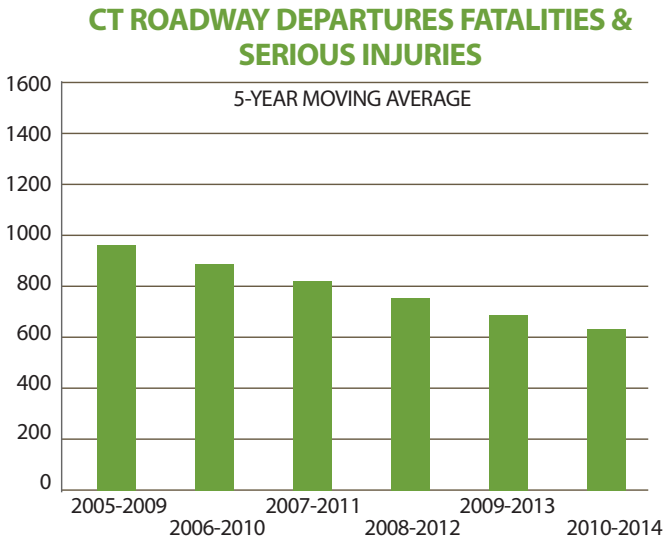
4.1 Critical Roadway Locations

Critical Roadway Locations encompass intersection and roadway departure crashes. These two infrastructure elements contribute to a significant number of Connecticut's fatal and serious injury crashes. In fact, more than 85 percent of traffic fatalities and serious injuries in Connecticut from 2005 to 2014 involved either an intersection or a roadway departure.

Intersections. As points of inherent conflict, intersections represent some of the most complex traffic environments that road users negotiate. In Connecticut, more than half (55 percent) of roadway fatalities and serious injuries occur at intersections. Besides direct safety risks, sub-optimally planned and operated intersections can cause congestion during peak hours which, in turn, can cause secondary crashes upstream.

Roadway Departure. If a driver does not keep his/her vehicle within the travel lane, the chances of a severe crash increase dramatically. This is evident in Connecticut where roadway departures are a factor in 33 percent of fatalities and serious injuries. The most common types of roadway departure crashes are horizontal curve and fixed object (tree and utility pole) crashes.





SHSP Performance Objectives for Critical Roadway Locations

Connecticut has experienced thousands of roadway departure and intersection fatalities and serious injuries since 2005, as illustrated in the graphs above.

The Critical Roadway Locations EA Team has identified the following performance objectives.

Intersection fatality and serious injury objective:

- Decrease fatalities and serious injuries 20 percent over the 5-year period of the SHSP (ending in 2021). This will result in preventing 209 combined fatalities and serious injuries per year.

Roadway Departure fatality and serious injury objective:

- Decrease fatalities and serious injuries 20 percent over the 5-year period of the SHSP (ending in 2021). This will result in preventing 126 combined fatalities and serious injuries per year.

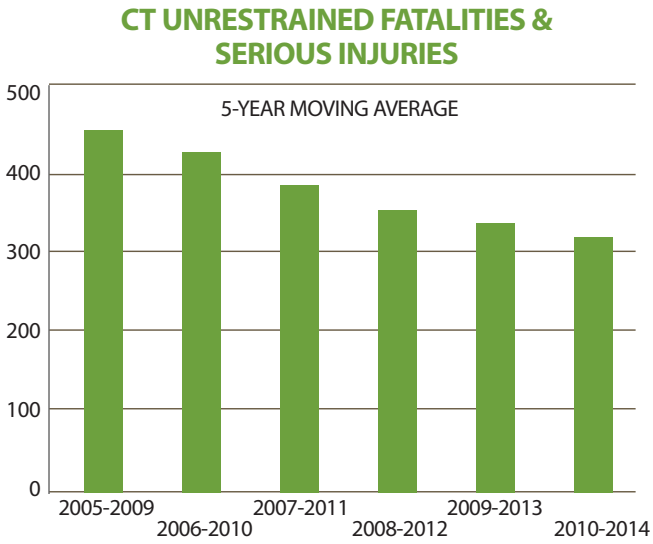
SHSP Strategies for Critical Roadway Locations

1. Identify and implement spot location-based safety countermeasures on Connecticut's State, local, and Tribal roads using the Suggested List of Surveillance Study Sites (SLOSSS) process.
2. Identify and implement low-cost, systemic safety countermeasures, and implement location-specific and proven safety countermeasures on Connecticut's State, local, and Tribal roads.
3. Incorporate safety elements and countermeasures into all roadway and intersection project designs and maintenance improvements.
4. Support and strengthen engineering solutions that can affect driver behaviors that contribute to roadway departure and intersection crashes (e.g., speeding, traffic signal violations).
5. Provide education, training, and outreach to safety stakeholders and the public about roadway departure and intersection safety through the Safety Circuit Rider and other similar programs.
6. Improve driver awareness and compliance with traffic control devices.

4.2 Driver Behavior

The National Motor Vehicle Crash Causation Survey (NMVCCS) was conducted by NHTSA from 2005 to 2007. The critical reason for a crash—or the last event in the crash causal chain—was assigned to driver behavior in 94 percent (±2.2 percent) of the crashes.[8] Many risky driving habits or behaviors increase the chance of a driver being injured or killed in a traffic crash. Four primary driver behaviors were identified by safety stakeholders in Connecticut as areas of concern: lack of seat belt use, driving while impaired by alcohol or drugs, driving aggressively or speeding, and driving without complete attention to the driving task.

The subsections under this EA are under the purview of the Connecticut Highway Safety Office. It is under this office's authority and effort that behavioral issues are addressed to make the roads safer in Connecticut. The majority of content under Section 4.2 of this SHSP is derived from the Connecticut Highway Safety Plan, which is submitted annually from the Connecticut Highway Safety Office to NHTSA.



4.2.1 Unrestrained Occupants

Unrestrained occupants have a significant impact on crash severity. The primary objectives of the occupant protection program are to increase the observed statewide rates of seat belt and child restraint use and to decrease unrestrained occupant injuries and fatalities. The results of statewide seat belt observations for the last 10 years are detailed below. Seat belt use was 83 percent in 2006, the lowest level of use in the past 10 years. In 2016, Connecticut's seat belt usage rate increased to an all-time high of 89.4 percent.

Scientific Seat Belt Observations, Connecticut and Nationwide, 2006-2016

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Connecticut	83%	86%	88%	86%	88%	88%	87%	87%	85%	85%	89%
U.S.	81%	82%	83%	84%	85%	84%	86%	87%	87%	89%	90%

Sources: Connecticut Department of Transportation Statewide Scientific Observations and Traffic Safety Facts Research Note DOT HS 812 243, *Seat Belt Use in 2016 – Overall Results*

8 Singh, S. (2015, February). Critical reasons for crashes investigated in the National Motor Vehicle Crash Causation Survey. (Traffic Safety Facts Crash•Stats. Report No. DOT HS 812 115). Washington, DC: National Highway Traffic Safety Administration.

SHSP Performance Objectives for Unrestrained Occupants

- To reduce the number of unrestrained occupants in fatal crashes from the 5-year (2010-2014) moving average of 64 in 2014 by 10 percent to a 5-year (2014-2018) moving average of 58 in 2018.[9]
- To increase the statewide observed seat belt use rate from 85.4 percent in 2015 to 88 percent or above in 2018.

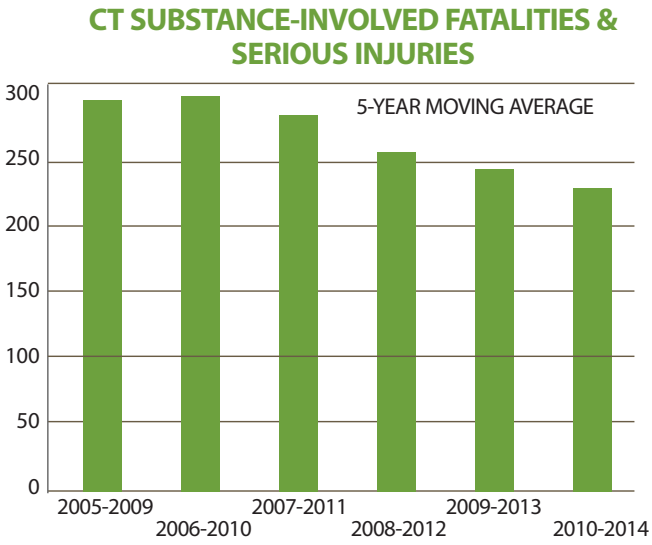
The Unrestrained Occupants Performance Objectives will be reinforced by the following strategies that are based upon *NHTSA's Countermeasures That Work*:

SHSP Strategies for Unrestrained Occupants

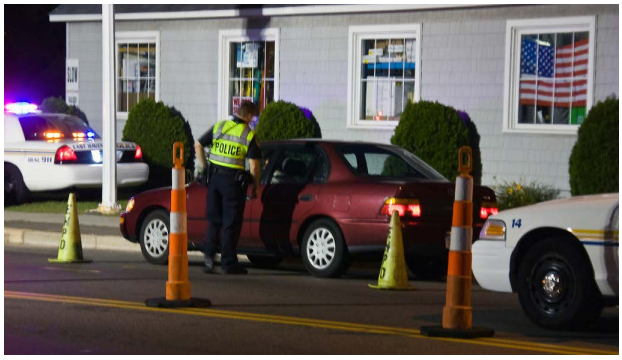
1. Participate in the National High Visibility Enforcement of safety belt and child safety seat enforcement mobilization: "Click It or Ticket" (CIOT) as well as sustained seat belt enforcement using statewide safety belt enforcement checkpoints and roving/saturation patrols during both day and night-time hours.
2. Coordinate a comprehensive media campaign to include paid and earned media targeting high-risk groups (e.g., young males and pick-up truck operators). Safety belt messages and images will include "Buckle Up CT" and "Click It or Ticket."
3. Communicate the importance and correct use of child restraint systems through educational programs, outreach events, and public information campaigns.
4. Conduct seat belt observation surveys before and after enforcement waves to measure the enforcement effects and to determine the statewide safety belt use rate.
5. Support the Highway Safety Office's Seatbelt Initiatives Working Group Committee to help increase Connecticut's belt use rate.

4.2.2 Substance-Involved Driving

The graph on the right shows the number of fatalities and serious injuries resulting from substance-involved (alcohol or other drugs) crashes in Connecticut.

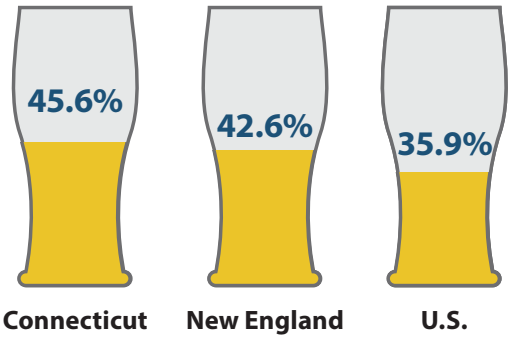


9 Future performance objectives for this topic are available in the annual Highway Safety Plans (HSP) available through NHTSA.



The illustration below shows that the percentage of fatalities that were alcohol related (i.e., blood alcohol content (BAC) of 0.01 or higher) in Connecticut during 2014 (46 percent) was higher than the national average of 36 percent and above the 43 percent average in other States in the New England region.

Percentage of Alcohol-Related Fatalities
(BAC of 0.01 or higher) 2014



Source: FARS Imputed Alcohol Data Annual Report File 2014.

The Highway Safety Office leads the statewide Connecticut Impaired Driving Task Force, which encourages partnership and innovation in reducing death and injury due to substance-involved driving. The Task Force is made up of key criminal justice system and transportation professionals, impaired driving advocates, law enforcement, researchers, public health, and media experts. Using data and established best practices, the Task Force advances collaborative efforts to reduce the toll of substance-involved driving.

SHSP Performance Objectives for Substance-Involved Driving

- To decrease alcohol-impaired driving fatalities (BAC of 0.08 or higher) from the 5-year (2010-2014) moving average of 107 in 2014 by 5 percent to a 5-year (2014-2018) moving average of 102 in 2018.
- To decrease alcohol-related driving serious injuries from the 5-year (2010-2014) moving average of 130 in 2014 by 5 percent to a 5-year (2014-2018) moving average of 124 in 2018.
- To increase the number of Drug Recognition Expert (DRE) practitioners in Connecticut from 31 in 2016 to 45 in 2018.

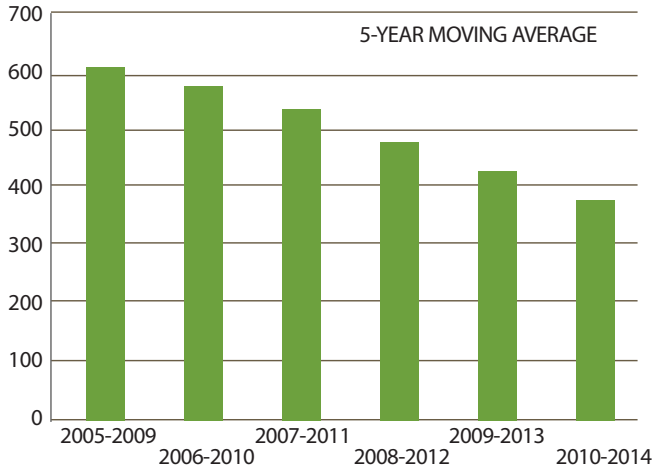
SHSP Strategies for Substance-Involved Driving

1. Increase the number of law enforcement agencies receiving impaired driving enforcement grants beyond the 76 that participated in 2016.
2. Increase the number of cooperating law enforcement agencies participating in high-visibility regional driving under the influence (DUI) enforcement.
3. Increase the number of certified Standardized Field Sobriety Test (SFST) Practitioners and Instructors by providing ongoing statewide coordination of SFST training to law enforcement.
4. Increase law enforcement recognition and conviction of various types of impaired driving beyond alcohol impairment by providing Advanced Roadside Impaired Driving Enforcement (ARIDE) and Drug Recognition Expert (DRE) training.
5. Support all national high-visibility impaired driving holiday mobilizations by providing funding for overtime enforcement and media buys.
6. Increase successful prosecution and conviction of DUI offenders, which will lower the percent of adjudications resulting in verdicts other than "guilty."

4.2.3 Aggressive Driving

The graph below illustrates the number of fatalities and serious injuries resulting from aggressive driving crashes (defined as driving too fast for conditions, exceeding the speed limit, or following too close).

CT AGGRESSIVE DRIVING FATALITIES & SERIOUS INJURIES



SHSP Performance Objective for Aggressive Driving

- To reduce the number of speed-related fatalities from the 5-year (2010-2014) moving average of 82 in 2014 to a 5-year (2014-2018) moving average of 76 in 2018.

SHSP Strategies for Aggressive Driving

1. Support High Visibility Enforcement (HVE) events that address speed and aggressive driving.
2. Purchase speed measuring devices for law enforcement agencies to use during speed enforcement.
3. Use Law Enforcement Liaisons (LEL) to link the Highway Safety Office, law enforcement agencies and other safety partners. LELs assist in organizing enforcement efforts and helping police agencies with other traffic safety activities.
4. Support statewide police traffic enforcement training such as Speed Management, Safe Communities, Work Zone Safety and Data Driven Approaches to Crime and Traffic Safety (DDACTS).

4.2.4 Distracted Driving

Distracted driving, including the use of hand-held mobile electronic devices, is a nationally recognized factor leading to crashes, injuries and fatalities. Prior to 2015, identifying the role distracted driving has played in fatality and injury crashes in Connecticut has been a challenge due to the way crash data is collected and limitations of the crash reporting form known as the PR-1. Instead of relying solely on data gathered by the PR-1, the Highway Safety Office uses an index of a combination of factors to best identify where the largest volumes of crashes, non-interstate roadway use, and population centers intersect in order to prioritize areas for countermeasure application.

SHSP Performance Objective for Distracted Driving

The lack of useful crash data in the area of distracted driving has made it difficult to select a goal measuring the impacts on distraction-related crashes. The Performance Objective is to decrease fatalities and injuries as a result of crashes caused by driver distraction, especially those caused by hand held mobile phone use. To that end, the quantifiable performance objective is focused on HVE activities.

- To maintain or increase the number of police agencies participating in HVE distracted driving enforcement from 50 in 2016 to 60 in 2018.[10]

SHSP Strategies for Distracted Driving

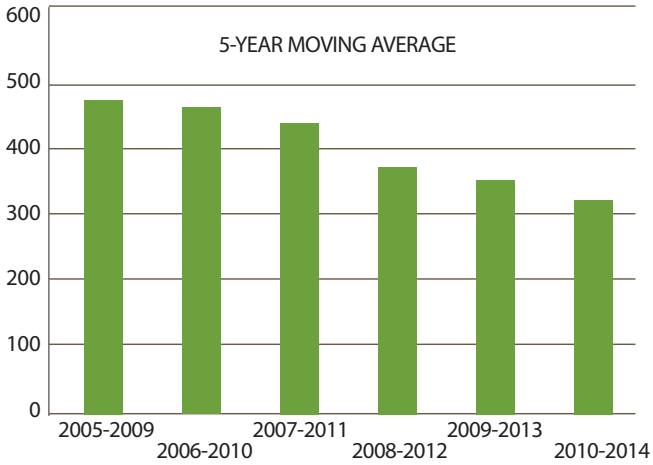
1. Increase enforcement, especially HVE of Connecticut's hand-held mobile phone ban for drivers. The number of citations written during grant funded overtime for hand-held mobile phone use will be used as a tracking measure for this strategy.
2. Educate the driving public regarding the dangers of distracted driving through media campaigns, public awareness campaigns, grassroots outreach and public information campaigns, and educational programs.

10 The chosen goal is meant to monitor ongoing enforcement mobilizations in order to use the HVE model to impact distracted driving.

4.3 Young Drivers

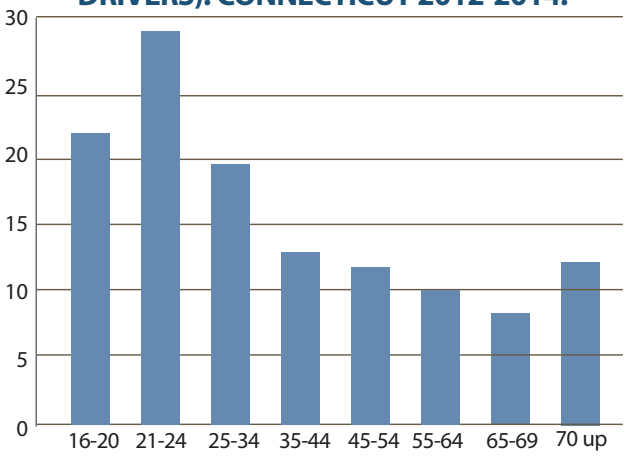
Young drivers (age 15 to 25) are involved in a significant number of Connecticut's fatalities and serious injuries, as illustrated in the CT Young Driver-Involved graph. Note that this includes anyone seriously injured or killed in a crash that includes at least one young driver.

CT YOUNG DRIVER-INVOLVED (15-25 YEAR-OLD) FATALITIES & SERIOUS INJURIES



The Rate of Fatal Crash Involvement graph contains 2012, 2013, and 2014 fatal crash rates per 100,000 licensed drivers by driver age group for Connecticut operators. The data indicate that younger drivers (under 25) have a much higher rate of involvement in fatal crashes than drivers 25 and older.

RATE OF FATAL CRASH INVOLVEMENT BY AGE GROUP (PER 100,000 LICENSED DRIVERS). CONNECTICUT 2012-2014.



A strong culture of partnership and collaboration dedicated to the safety of young drivers exists in Connecticut. The Connecticut DMV Commissioner's Advisory Committee for Teen Safe Driving is a visible and influential force in shaping teen driving policies and programs. With significant support and involvement from leaders in transportation safety, the corporate community, education, advocates, public health, enforcement, and parents, the group meets monthly to strategize and promote efforts to enhance the safety of Connecticut's youngest drivers.

SHSP Performance Objective for Young Drivers

- To decrease the number of drivers aged 20 or younger involved in fatal crashes from the 5-year (2010-2014) moving average of 23 in 2014 to a 5-year (2014-2018) moving average of 21 in 2018.

SHSP Strategies for Young Drivers

NOVICE DRIVERS (AGES 16 AND 17)

1. Improve laws and regulations that are driven by enhanced stakeholder collaboration to enhance teen safety.
2. Develop statewide communications strategies to increase the involvement of parents and the general public in encouraging safer teen drivers.

OTHER YOUNG DRIVERS (AGES 18-25)

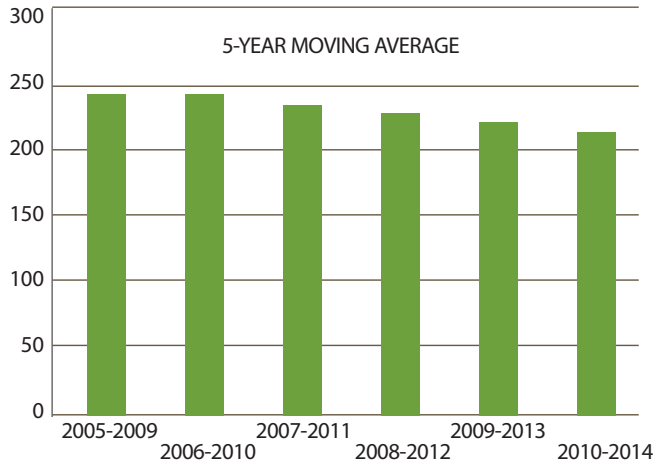
1. Develop strategies to address risky driving behavior exhibited by young drivers through enhanced media, education, and enforcement of applicable laws.
2. Improve laws and regulations for young drivers who are not subject to Connecticut's Graduated Driver License (GDL) restrictions.

4.4 Non-Motorized Road Users

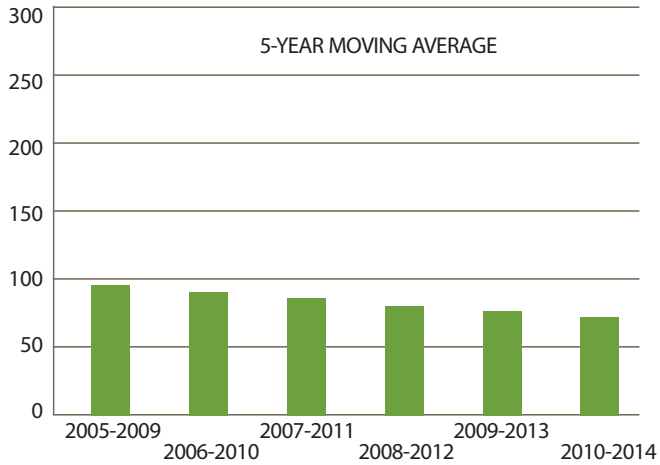
For the purposes of this document, the term "non-motorized road users" refers to pedestrians and bicyclists. This group faces a significant risk of fatal and serious injury when struck by motor vehicles. While vehicle occupants have benefited from steady enhancements in vehicle crashworthiness and crash avoidance technologies, pedestrians and bicyclists remain extremely susceptible to injury in a collision.

Over the past 10 years, more than 3,000 people in Connecticut were seriously injured or killed in pedestrian- and bicycle-involved crashes. From 2005-2014, 10 percent of statewide traffic fatalities and serious injuries combined involved a pedestrian, and 3.4 percent included a bicyclist. By comparison, only 1.2 percent of all severities of crashes involved a pedestrian and 0.7 percent involved a bicyclist, indicating that these crash types—when they occur—are more likely to be severe or fatal than many other types.

CT PEDESTRIAN FATALITIES & SERIOUS INJURIES



CT BICYCLIST FATALITIES & SERIOUS INJURIES



Reducing the frequency and severity of crashes involving non-motorized road users is a core tenet of Connecticut's highway safety program. The following elements of the SHSP lay out the objectives and strategies for improving the safety of non-motorists in Connecticut.

SHSP Performance Objectives for Non-motorized Road Users

The Non-Motorized Road Users EA Team has established the following performance objectives:

PEDESTRIANS

- Decrease pedestrian fatalities and serious injuries 15 percent over the 5-year period of the SHSP (ending in 2021). This will result in preventing 32 combined pedestrian fatalities and serious injuries per year.

BICYCLISTS

- Decrease bicyclist fatalities and serious injuries 15 percent over the 5-year period of the SHSP (ending in 2021). This will result in preventing 10 combined bicyclist fatalities and serious injuries per year.

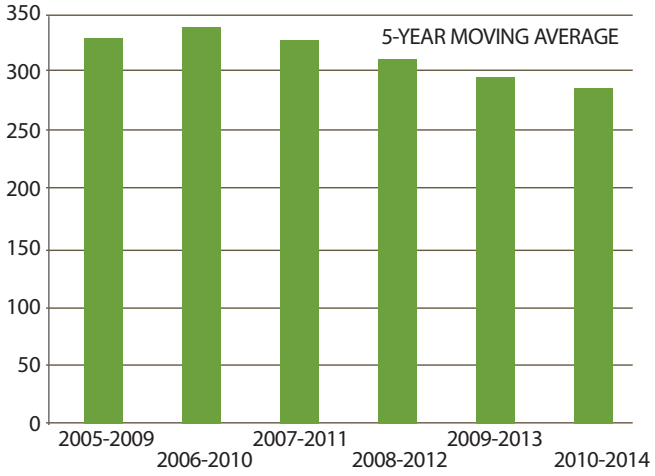
SHSP Strategies for Non-Motorized Road Users

1. Determine causes of non-motorized crashes through improved data collection and enhanced data analysis.
2. Identify and study areas with high incidences of non-motorized serious injuries and/or fatalities. Include recommended countermeasures on a location-specific basis.
3. Create methods and plans to improve environments along all public roadways for safe walking and bicycling through implementation of engineering treatments, land-use planning and system wide countermeasures.
4. Consider road diets, single-lane roundabouts, refuge islands, bike facilities, countdown and accessible pedestrian signals, sidewalks and traffic calming designs on State, local, and Tribal roadways.
5. Promote the use of traffic enforcement to increase compliance with traffic safety laws by all road users.
6. Ensure law enforcement is properly trained in the enforcement of safe use of roadways by non-motorized users.
7. Aim to reduce distraction by all road users.
8. Allocate a designated percent of safety-related funding for pedestrian and bicycle crash locations.
9. Increase attention to non-motorized safety issues at the State, local and private levels.
10. Renew the Safe Routes to Schools program.
11. Increase involvement at the State, local and private level to ensure that all users understand non-motorized safety laws and practices.
12. Improve public awareness of non-motorized users and methods to promote the safety of non-motorized users.
13. Improve the emergency response to pedestrians and bicyclists involved in crashes, including the ability of the general public to assist victims until EMT personnel arrive.

4.5 Motorcyclist Safety

Motorcycles represent a small percentage of motor vehicles owned in Connecticut (approximately 6 percent) and are responsible for an even smaller portion of vehicle miles traveled.[11] In spite of this, motorcycle operators and passengers represent over one-fifth (22.2 percent) of the State's total traffic fatalities.[12] Nationally, motorcycle fatality and injury crashes have not declined at the rate of other vehicle type crashes. In the period from 2010 to 2014, traffic fatalities in the United States declined 23 percent while motorcycle fatalities increased 6 percent (although motorcycle serious injuries have declined in the same time period). The number of combined fatalities and serious injuries resulting from motorcycle-involved crashes are illustrated here.

CT MOTORCYCLE-INVOLVED FATALITIES & SERIOUS INJURIES



11 Statista, "Private and commercial motorcycle registrations in the U.S. in 2014, by state." Available at: http://www.statista.com/statistics/196498/number-of-private-and-public-motorcycles-in-the-us-by-state/

12 Connecticut Department of Transportation, ***State of Connecticut Highway Safety Plan***, (Newington, CT: June 2016), p.129.

Motorcycle safety is an important consideration to CTDOT and its safety partners. Together they have developed a well-defined plan to decrease fatal motorcycle crashes. The crash statistics in the table below indicate the three critical areas of motorcycle operation upon which the greatest attention is focused:

Motorcycle Fatalities in Connecticut

PERFORMANCE MEASURES	2010	2011	2012	2013	2014
Motorcycle Fatalities	52	37	48	57	55
Unhelmeted Motorcycle Fatalities	36	25	30	22	32
Motorcycle Operators Killed with BAC>0.01%	19	9	13	11	16

Source: Connecticut Department of Transportation

SHSP Performance Objectives for Motorcyclist Safety

- Decrease the number of motorcyclist fatalities from the 5-year moving average of 50 in 2014 to an average of 47 in 2018.
- Decrease the number of unhelmeted fatalities from the 5-year moving average of 29 in 2014 to an average of 27 in 2018.
- Decrease the percentage of fatally injured motorcycle operators with BACs greater than or equal to 0.01 by 5 percent from the 5-year moving average of 40 percent in 2013, to an average of 38 percent in 2017.

SHSP Strategies for Motorcyclist Safety

Fatalities associated with motorcycles have trended up in recent years, increasing the attention now focused on the problem. While inherent risks are associated with operating a vehicle of this type, a number of countermeasures can be deployed to mitigate those risks.

The Motorcyclist Safety EA Team will support implementation of the following strategies:

1. Continue to expand motorcycle rider education programs, specifically the Connecticut Rider Education Program (CONREP), by updating curriculum to focus on rider responsibility and risk awareness.
2. Conduct a targeted media campaign promoting helmet use by all riders, not just the young riders covered under the existing law.
3. Conduct a targeted media campaign informing riders of the dangers of riding impaired. This campaign, *None for the Road*, will employ a web video, bus boards, and brochures. It will also be promoted through rider education courses, at dealerships, and in local rider organizations.
4. Maintain a website, www.ride4ever.org, aimed at changing unsafe riding behaviors.

4.6 Traffic Incident Management

In 2015, CTDOT responded to more than 3,500 traffic incidents on limited access highways alone. While emergency responders work to save lives in these crashes, they themselves are placed in harm's way, and disruption to the normal flow of traffic increases risks to uninvolved road users. Traffic Incident Management (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. TIM remains an important issue in Connecticut highway safety. A 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. These activities build relationships and readiness for other major incidents and emergencies. A TIM program also impacts motorist safety by improving incident detection and reducing incident response time. As incidents are managed and cleared more efficiently, emergency responders and other motorists benefit from the reduced likelihood of secondary incidents. 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.

SHSP Performance Objectives for Traffic Incident Management

- To promote the safety of all transportation users by reducing secondary crashes and associated fatalities and serious injuries caused by traffic incidents.
- To increase participation of first responder personnel in incident management training by 50 percent by 2021.

SHSP Strategies for Traffic Incident Management

1. Establish a statewide TIM program with a lead agency to administer clearly defined responsibilities that meet the requirements of the National Incident Management System (NIMS).
2. Implement a statewide NIMS-based Unified Response Manual (URM).
3. Reduce incident duration, which is achieved through (a) reducing the time to detect incidents, (b) initiating an expedient and appropriate response, and (c) clearing the incident as quickly as possible.
4. Improve Traveler Information to the media and public.
5. Continue to conduct public awareness programs to support effective on-scene traffic incident management by road users.
6. Promote best practices for traffic incident management and provide accessibility to intelligent transportation systems (ITS) tools.
7. Support regular multi-disciplinary TIM training and exercises.
8. Conduct After-Action Reviews to improve response and scene management.
9. Identify staffing needs and training resources for CTDOT staff and emergency responders.
10. Evaluate expansion of ITS infrastructure to additional regional corridors based on prioritized need.
11. Include Weather Responsive Traffic Management (WRTM) strategies, such as Road Weather Information Systems (RWIS).
12. Support the development and tracking of TIM performance metrics following national standards and definitions.

4.7 Other Topics

4.7.1 Special Vehicle Types

In addition to the EA's discussed above, some special vehicle types have specific needs for coordination among stakeholders.

Commercial Motor Vehicles. Commercial motor vehicle (CMV) crashes account for less than 5 percent of fatalities and serious injuries in Connecticut, but the effects of commercial vehicle crashes on congestion, potential secondary crashes, and economic loss are significant. The SHSP Steering Committee will continue to collaborate with the Federal Motor Carrier Safety Administration (FMCSA) and State agencies to support ongoing efforts to improve commercial vehicle safety.

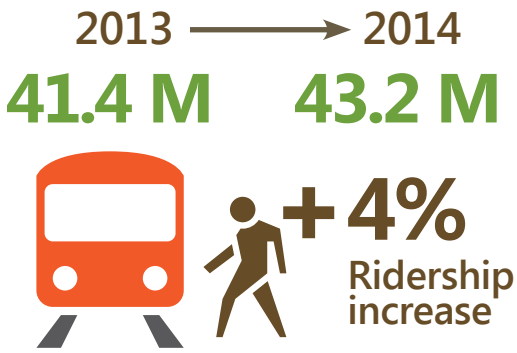
The Connecticut Department of Motor Vehicles (DMV), the Connecticut Department of Emergency Services and Public Protection (DESPP) and CTDOT work together to reduce the number and severity of crashes, fatalities, and injuries involving commercial motor vehicles and hazardous materials incidents through consistent, uniform, and effective commercial motor vehicle safety programs. All of these parties are engaged with the SHSP, including having members on both the SHSP Executive Committee and Steering Committee.

These safety partners work on a number of projects that are focused on the common goal of reducing CMV crashes. As the State's lead agency, the DMV submits the State's annual Commercial Vehicle Safety Plan (CVSP) to FMCSA and is awarded funds to perform activities concentrated on reducing the number of crashes. DMV and DESPP perform enforcement activities on the State's roadways as part of the CVSP. Those activities address both the motor carriers and operators of CMVs through CMV traffic enforcement details, CMV roadside inspections, and size/weight enforcement at the State's weigh and inspection stations. CTDOT has received funding from FMCSA to assist with the State's electronic crash report, the CMV supplement of the crash report, and to provide training to Police Departments on how to properly complete the supplement.

As with any good working relationship, this CMV safety partnership continues to provide positive results. One of those results is that Connecticut's fatality rate has been consistently nearly half of the national average. The 2014 CMV fatality rate for Connecticut is 0.071 compared to the National rate of 0.138.

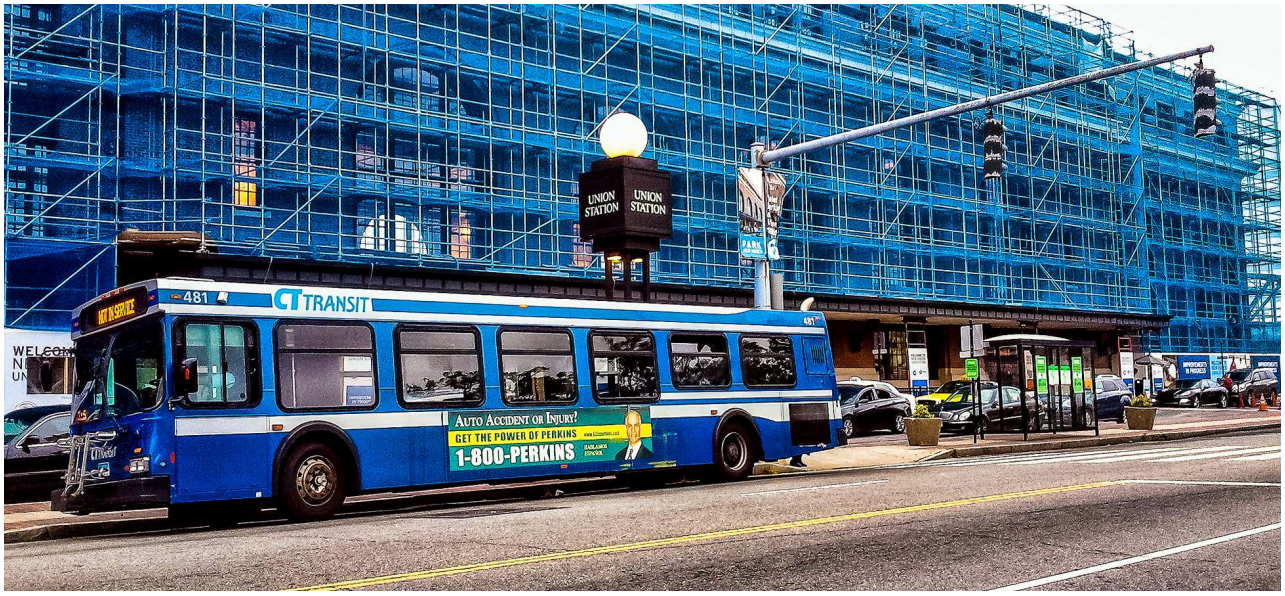
School Buses. Although school bus crashes are rare compared to crash rates among other vehicle types, their occurrence generates intense public concern and attention given the potential for children to be harmed. Far more prevalent than casualties on buses are pedestrians (often school children) hit by school buses. Strategies for reducing these kinds of incidents include educating roadway users and children about school bus laws and regulations and enforcement of stop sign/signal/arm violations.

Transit Buses and Bus Stops. In recent years bus ridership has increased, partially due to the opening of CTfastrak (Connecticut's first bus rapid-transit system) and efforts by CTrides and CTtransit to encourage travel demand management and travel choices.[14] Ridership data indicates that passenger trips increased from 41.4 million in 2013 to 43.2 million in 2014, yielding a 4 percent increase in ridership.[15]



14 More information available at www.cttransit.com and www.ctfastrak.com.

15 Susan Haigh (AP), "Connecticut's Transportation Upgrades Focus on Bus, Transit Services,"*New Haven Register*, April 26, 2015, accessed May 3, 2016, http://www.nhregister.com/article/NH/20150426/NEWS/150429615.



The bus transit system presents safety planning and mitigation needs for both the bus passengers and the pedestrians as they walk to/from the transit stops. As the transit system grows over time and ridership increases, Connecticut should work toward mitigating conflicts between transit buses, vehicles, and pedestrians to improve safety for transit users' first/last mile connections. Strategies include improved visibility of pedestrians, enhanced bus shelters, evaluating the use of signal priority for bus mobility, and enforcement of laws and regulations.

4.7.2 Special Environments

In addition to the EA's discussed above, some special environments have specific needs meriting coordination among stakeholders.

Rail/Highway Grade Crossings. Of the 23,000 combined serious injuries and fatalities (2005-2014) analyzed to develop the SHSP, less than 1 percent occurred as a result of rail-highway grade crossing crashes. One of the reasons for this excellent safety record is the current work of the CTDOT.

Work Zones. Crashes in work zones accounted for less than 1 percent of fatalities and serious injuries in Connecticut during the study period, in part due to the excellent efforts of the Work Zone Safety Team and CTDOT's use of best practices in work zone safety. The SHSP Steering Committee has partnered with the Work Zone Safety Team to identify additional opportunities for collaboration.

5 shsp implementation and evaluation

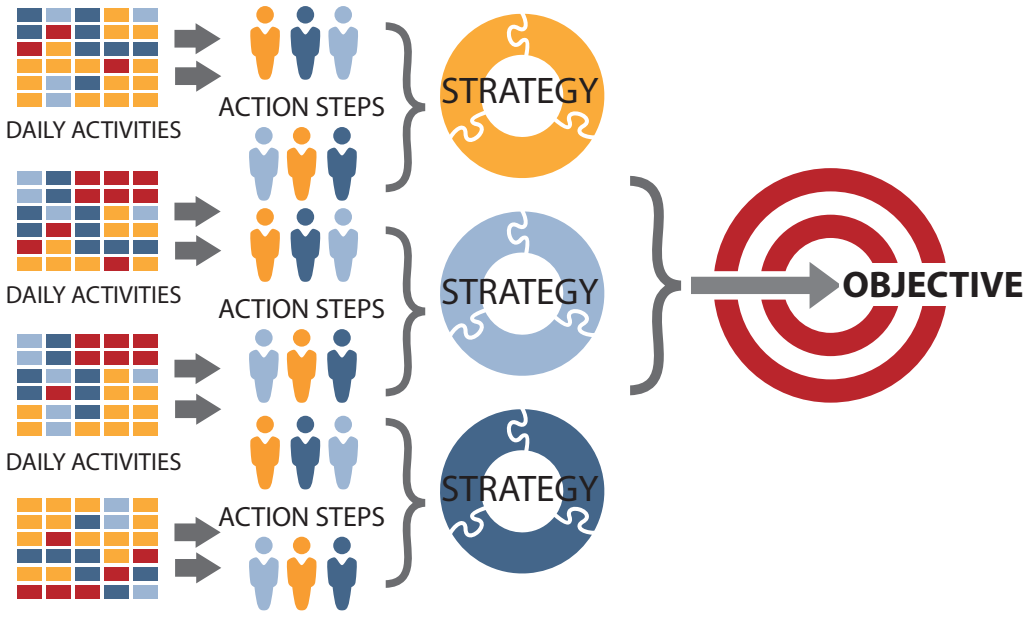
5.1 Implementation

Implementation of the 2017-2021 SHSP will require cooperation and collaboration among the "4E's" of safety and all stakeholders, including engineers, public outreach experts, legislators, law enforcement, and emergency medical service providers.

EA strategies will be the organizing structure for implementation. Each EA Team will develop, implement, and monitor EA-specific action plans that include activities to support each strategy. These strategies will help Connecticut reach each EA-specific fatal and serious injury reduction goal.

EA Teams will meet regularly for the duration of this SHSP, and each EA Team meeting will include reporting of action steps completed to date and assigning new actions to be completed between meetings.

The graphic below illustrates the process of daily activities, action steps, and strategy implementation to meet the EA objectives.



Emphasis Area Activities, Action Steps, and Strategies

5.2 Evaluation

The SHSP evaluation process will meet all requirements of the March 2016 FHWA Guidance on Strategic Highway Safety Plans and the FAST Act. In accordance with this Guidance, Connecticut will update its SHSP every 5 years at a minimum. Connecticut's SHSP Steering Committee will regularly evaluate current safety data to confirm the validity of the selected emphasis areas and strategies. The committee will analyze and assess results achieved by implementation of the SHSP strategies and action steps. This evaluation will also identify potentially ineffective strategies or implementation efforts that may need adjustment.

In addition to meeting the requirements of the FHWA SHSP Guidance, Connecticut's SHSP evaluation process will provide meaningful feedback on key SHSP elements to help move the statewide safety program forward. The most important evaluation measure will be actual progress toward the goal of reducing fatalities and serious injuries 15 percent by 2021.

Key elements of the SHSP to be monitored by the Steering Committee will include:

Progress Toward Achieving Performance Objectives for Each Emphasis Area

- Are projected outcomes being achieved?
- In addition to crash metrics, what additional performance measures could be included (e.g., infrastructure, road user behavior, etc.)?

Implementation of Proposed Strategies for each Emphasis Area

- Are strategies being supported with concrete action steps?
- Are proposed action steps being implemented as planned?
- What are the challenges and barriers to implementation, and how can they be overcome?

5.2.1 Process Evaluation

Connecticut will conduct a Process Evaluation to assess a variety of SHSP program management elements, including:

- The organizational structure.
- Coordination between SHSP leadership and stakeholders.
- The use of data in determining EA's, objectives, strategies and actions.
- The alignment of the SHSP with stakeholder agency priorities.

KEY STEPS in the Process Evaluation will include the following:

Process Evaluation

1. Review of the SHSP organizational structure to identify and document its format and functions.
2. Examination of the positions of persons serving on the SHSP Steering Committee and EA teams to determine their contribution to the SHSP process and access to leadership and resources.
3. Review of the schedule of SHSP committee meetings to determine if they meet as frequently as planned or needed.
4. Review of the role and function of SHSP committees and compare these with the expectations set at the beginning of the SHSP process.

As part of the Process Evaluation, Connecticut will also review the multidisciplinary/multimodal collaboration processes, with a focus on the following questions:

- Does the SHSP structure foster effective collaboration and a process to support collaborative efforts?
- Are the vision, mission, and SHSP goal clearly communicated to all partners and stakeholders?

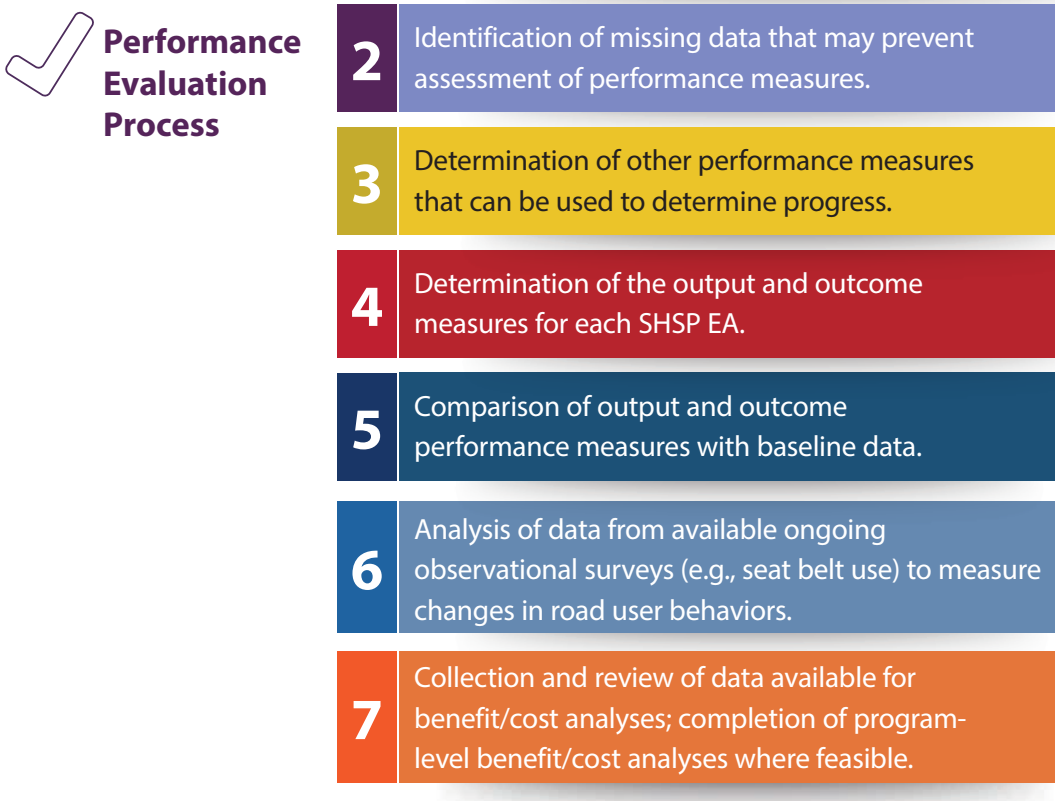
5.2.2 SHSP Performance Evaluation

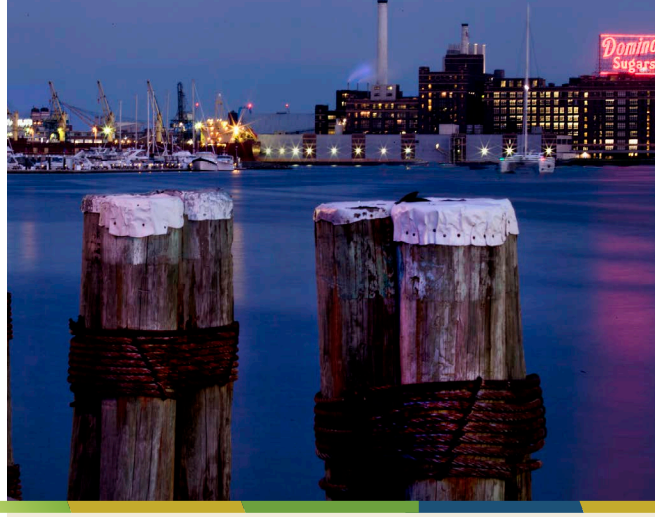
The Steering Committee will conduct a Performance Evaluation to measure how the SHSP has progressed toward its goal and objectives. The Performance Evaluation will compare the actual degree of SHSP implementation and the degree to which the implemented strategies are associated with measurable changes in safety outcomes.

The Steering Committee will confirm the validity of the EA's and strategies and address SHSP performance issues that can be improved upon during implementation of the SHSP. If the SHSP goal or an EA objective is not met, the results may suggest a strategy is ineffective or not fully or correctly implemented.

The Steering Committee will review EA Team strategy implementation and performance objectives annually. Based on available data and reports from the EA Teams, the Steering Committee will assign actions to encourage implementation success. Results from each evaluation will be used to modify strategies and their implementation through action steps.

KEY STEPS in the Performance Evaluation process will include the following:





appendices

APPENDIX A. Connecticut SHSP Planning, Implementation, and Evaluation Structure and Process

Authority and Budget

The Strategic Highway Safety Plan (SHSP) is a Federal requirement codified under 23 U.S.C. § 148 with implementing rules under 23 CFR Part 924. The SHSP is a statewide, data-driven, comprehensive, multidisciplinary safety plan integrating the 4E's of safety – education, enforcement, engineering and emergency medical services.

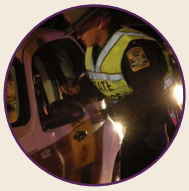
The SHSP establishes statewide performance measures, goals, objectives, and emphasis areas and describes a program of strategies that use design, technology, behavioral, and policy approaches to significantly reduce fatalities and serious injuries on all public roads. It is the comprehensive plan with which other transportation safety plans must coordinate.

The Connecticut SHSP is coordinated by the Connecticut Department of Transportation (CTDOT) but is stakeholder-driven. CTDOT's Division of Traffic Engineering, Safety Section, is responsible for program management to assure: (1) the SHSP is operated in compliance with State and Federal rules and regulations, and (2) stakeholder involvement in the ongoing development, implementation, and evaluation of the plan.

Funding for the Connecticut SHSP is provided via Federal Highway Administration (FHWA) funds through the Highway Safety Improvement Program (HSIP).

The SHSP is a statewide, data-driven, comprehensive, multidisciplinary safety plan integrating the 4E's of safety:

EDUCATION



ENFORCEMENT

ENGINEERING

EMERGENCY SERVICES

Leadership and Accountability

The success of the Connecticut Strategic Highway Safety Plan (SHSP) relies on: (1) An active and committed SHSP Executive Committee and SHSP Steering Committee, and (2) stakeholder involvement with active representation and accountability from 4E (education, enforcement, engineering, and emergency medical services) partners. The Connecticut SHSP is administered through the following structure.

CT SHSP Organization

SHSP Executive Committee. The Connecticut SHSP Executive Committee provides high-level leadership and guidance for the SHSP through the SHSP Steering Committee. There are five members of the Executive Committee:

- Commissioner, Connecticut Department of Transportation
- Commissioner, Connecticut Department of Motor Vehicles
- Commissioner, Connecticut Department of Public Health
- Commissioner, Connecticut Department of Education
- Commissioner, Connecticut Department of Emergency Services and Public Protection

The role of the Executive Committee is to:

- Provide general direction and oversight of the SHSP
- Meet periodically to review progress toward SHSP goals and objectives; determine priorities; recommend course corrections; and address challenges
- Appoint staff member(s) to the SHSP Steering Committees
- Provide information, guidance and support to the Steering Committee on transportation safety-related issues as needed
- Consider the SHSP when developing or updating individual agency plans and budgets

SHSP Steering Committee. The Connecticut SHSP Steering Committee provides strategic management, direction, and oversight to develop, revise, and implement the SHSP consistent with State goals and processes and Federal rules and regulations. The Steering Committee also provides oversight and assures stakeholder accountability with all SHSP functions.

The Connecticut SHSP Steering Committee is comprised of the following organizations with safety leadership roles in the State.

- Federal Highway Administration (FHWA), Connecticut Division Office
- Federal Motor Carrier Safety Administration (FMCSA), Connecticut Division Office
- National Highway Traffic Safety Administration (NHTSA), Region 2 Office
- Connecticut Department of Motor Vehicles - Chief of Staff, Commercial Vehicle Safety
- Connecticut Department of Emergency Services and Public Protection, Division of State Police
- Connecticut Department of Transportation – Highway Safety Office, Policy & Planning, Highway Operations, Traffic Engineering
- AAA Allied Group
- AARP Connecticut
- Connecticut Police Chief's Association
- Capitol Region Council of Governments
- Western Connecticut Council of Governments
- Northeastern Connecticut Council of Governments
- University of Connecticut - CT Technology Transfer Center, CT Transportation Safety Research Center
- The Mohegan Tribe
- Mashantucket Pequot Tribal Nation

The Steering Committee has assigned responsibility for each of the emphasis areas selected for the Connecticut SHSP. Steering Committee members are responsible to:

- Lead the effort to improve coordination among partner plans to promote reaching SHSP vision, mission and goals.
- Act in a leadership capacity as "Champions" for the SHSP emphasis areas by promoting awareness of SHSP safety strategies and building a larger base of partners to take responsibility for implementing the plan.
- Keep the Executive Committee informed on current safety projects, safety-related initiatives, legislative proposals, and research.
- Advocate for partner agency involvement to assist with implementation of the SHSP through the commitment of resources.
- Meet as needed to: review progress toward achieving SHSP goals; review subcommittee progress on strategy implementation and data for planning and evaluation purposes; and provide performance monitoring and work with partners to help improve performance.
- Disseminate research and share the status of agency-specific safety initiatives to avoid duplication of effort and to leverage safety funds and activities toward shared objectives.
- Assure coordination of planning and budgeting processes between transportation safety plans.
- Assist in elevating safety to equal standing with other key planning factors.
- Provide guidance on transportation safety-related issues to stakeholder groups as needed.
- Work with media/public information experts to promote safety data, programs, media/public relations campaigns, and results.
- Develop and share a SHSP Annual Report with stakeholders and review the report with the Executive Committee.
- Complete a comprehensive review and update to the SHSP every five years jointly with SHSP stakeholders.

The Steering Committee will meet a minimum of three times each year.

Stakeholder Involvement and Accountability

SHSP Emphasis Area Team Leads. Each Emphasis Area Team is directed by a Team Lead identified by the SHSP Steering Committee. The Team Lead identifies stakeholders to serve on the Emphasis Area Team, leaders for each strategy, and other partners to assist with strategy implementation. The Team Lead is responsible to track activities, address challenges, identify opportunities, and provide technical assistance and resources to the team as needed. The Team Lead may be assisted by a consultant who provides technical assistance and resources as necessary to assist the Team Lead and to assure Federal grant program requirements are met through SHSP activity. Team Leads provide progress reports at the Steering Committee meetings.

SHSP Emphasis Area Teams. The Emphasis Area Teams work to actively implement identified strategies within the SHSP. Emphasis Area Teams are chosen by the Team Lead and comprised of select members of the broader SHSP stakeholder group which includes representation from the 4E's of traffic safety – education, enforcement, engineering and emergency medical services.

Emphasis Area Teams work to develop action plans for each strategy. Action plans will convert general strategies into action steps taken by team members to fully implement the strategy. When action plans are complete, the Emphasis Area Teams assign responsibility for each action to a team member or another identified stakeholder. Assignments should assure consistency with the team member/stakeholder agency's mission, resources, and capacity; avoid duplication of effort; and leverage combined resources and expertise.

Complete and effective implementation of the SHSP will be contingent upon effective coordination and collaboration between Emphasis Area Teams and other stakeholders. It will be important for the teams to facilitate teamwork, work toward completing action items, and measure progress.

Emphasis Area Teams are encouraged to meet quarterly, however each Emphasis Area Team may schedule meetings based on their needs.

SHSP Technical Assistance and Resources

The following resources exist to facilitate SHSP implementation.

> **Consultant Services.** Consultant services may be available as needed to schedule, plan, and facilitate meetings of the Steering Committee and Emphasis Area Teams.
>
> **Websites.** The Connecticut SHSP website (https://www.t2center.uconn.edu/shsp.php) is the hub for stakeholders to receive traffic safety information. Also, numerous resources are available at the FHWA Office of Safety's SHSP website (https://safety.fhwa.dot.gov/hsip/shsp/) to assist States in their SHSP development, implementation and evaluation.

Evaluation and Reporting

The SHSP Steering Committee will be responsible for annual reporting of SHSP progress. The process of evaluation and reporting will include:

- Collection and review of data to assess progress toward meeting identified performance goals and objectives
- Reported updates from each Emphasis Area Team Leader
- Review of status of strategy implementation
- Review of relevance of strategies to immediate or emerging safety issues
- Identification of additional strategies or revisions to existing strategies, if necessary
- Identification of barriers to successful strategy implementation for possible resolution
- The SHSP Annual Report each year for review with the Executive Committee

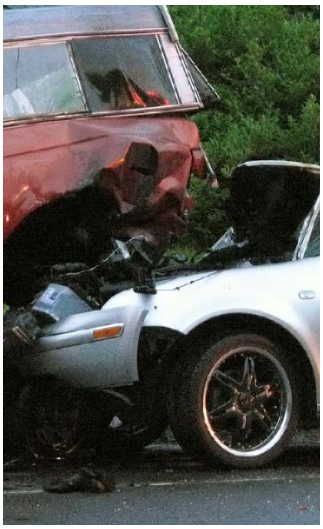
Timeline of SHSP Activity

The SHSP will receive a comprehensive review and update every 5 years. Annual implementation activity occurs as follows.

APPENDIX B. Final Technical Report, Connecticut SHSP Emphasis Areas

The following report was submitted to CTDOT on May 21, 2015, to support CT SHSP Emphasis Areas selection. It is provided in this appendix as a resource document and has not been edited from the submitted report.

Introduction



One key to developing a successful Strategic Highway Safety Plan (SHSP) is establishing Emphasis Areas (EA's) that optimize the return on investment of limited safety resources. SHSP EA's have either been identified as major contributors to fatalities and serious injuries or play a role in improving transportation safety in Connecticut.

Due to resource limitations at State transportation agencies and safety partner agencies/organizations, it is important that limited funds and human capital be spent on the topic areas and strategies that are most likely to meet the objectives of the SHSP—saving lives and reducing serious injuries.

To support Connecticut's data-driven approach for identifying EA's to direct the focus of the SHSP, Leidos conducted a comprehensive crash data analysis, an assessment of emerging trends, and a review of existing highway safety efforts.

History of Connecticut SHSP Emphasis Areas

There have been three lists of SHSP EA's in Connecticut, beginning with the initial 2006 SHSP, and followed by 2010 and 2013 revisions. The table below summarizes those EA's.

Connecticut SHSP Emphasis Areas from Previous Plans

Emphasis Areas	2006	2010	2013
Traffic Records & Information Systems	✓	✓	✓
Roadway Departure	✓	✓	✓
Non-Motorized Road Users	✓	✓	✓
Work Zones	✓	✓	✓
Driver Behavior (Alcohol, Speeding, Unrestrained Occupant Protection)	✓	✓	✓
Motorcyclist Safety	✓	✓	
Commercial Vehicles	✓	✓	✓
Traffic Incident Management	✓	✓	✓

As indicated in the table, the EA's from the 2006 SHSP were not changed during the 2010 update. The most recent SHSP update in 2013 shows that Motorcycle Safety was removed as an EA, while others EA's remained constant.

For the 2015 SHSP, Connecticut's safety leadership has an opportunity to modify EA's to best fit with the SHSP's objectives to save lives and reduce serious injuries. Options include focusing the State's safety efforts on a smaller group of EA's, maintaining the current list of EA's, or expanding the list to include additional EA's.

Criteria for EA Recommendations

The following criteria are the basis for recommending and approving:

1. **Crash Data.** To identify critical factors associated with fatal and serious injury crashes in Connecticut, it is necessary to understand the data. CDOT conducted an extensive analysis of 8 years of State and local road crashes (2005 to 2012, based on the available data at the time of initial analysis). The most common contributing factors in fatal and serious injury crashes provide a good place to start when determining EA's.

2. **Emerging Needs.** Although the number of certain types of fatal and serious injury crashes may not be large enough to justify a topic as an EA based on crash history, an increasing trend for that crash type may support inclusion as an EA. In these cases, Connecticut has an opportunity to proactively reduce the risk of future fatal and serious injury crashes before they occur in large numbers by addressing these crash types in the 2015 SHSP.

3. **Other Factors.** In some cases data, or lack thereof, may not tell the entire story, so the consideration of other criteria is also important in developing the full set of EA's. For example, incident management is a significant safety issue, though the number of reported secondary crashes is not easy to identify from current data sources. Judgment leads the State to consider this topic, even without objective data support.

SHSP EMPHASIS AREAS RECOMMENDED IN 2015

The SHSP Steering Committee evaluated Emphasis Areas based on the following inputs:

- Crash data analysis.
- January 2015 draft recommended emphasis areas.
- February 2015 Steering Committee presentation and discussion of the draft recommendations.
- Subsequent internal discussions among Connecticut safety stakeholders.
- March 2015 revised recommended emphasis areas.
- May 2015 Steering Committee meeting to choose the final recommended emphasis areas.

The SHSP Steering Committee used the information gained from the above inputs to select the following six emphasis areas.

CRITICAL ROADWAY LOCATIONS

INFRASTRUCTURE. The two issue areas described below, Intersections and Roadway Departure, are factors in a significant number of Connecticut's severe crashes. Combining these two areas provides efficiencies since many individuals working on the engineering solutions have responsibility for both.

> ***Intersections***. In Connecticut, more than half (55 percent) of roadway fatalities and serious injuries occur at intersections. Addressing intersection crashes is expected to have a significant effect on safety overall.
>
> ***Roadway Departure***. Roadway Departure crashes account for more than 33 percent of fatalities and serious injuries in Connecticut. The most common sub-areas within Roadway Departure are horizontal curve crashes and striking a fixed object (e.g., trees and utility poles). From a trend standpoint, head-on crashes and horizontal curve crashes are two of only three crash types that did not experience a 10 percent or greater reduction from 2007 to 2012.[16] A current EA Subcommittee focused on roadway departure was reactivated in July 2014 to develop strategies related to addressing this crash type.

NON-MOTORIZED ROAD USERS

NON-MOTORIZED ROAD USERS. The number of non-motorized road users (e.g., bicyclists and pedestrians) is generally increasing across the country and is expected to increase in the future. These road users are extremely vulnerable due to the large numbers of motor vehicles that travel in close proximity to pedestrians and cyclists.

16 This comparison uses three-year moving averages: 2007-2009 vs. 2010-2012. Curve crashes were reduced by 9.9 percent. Head-on crashes were reduced by 8.7 percent. Collisions with guardrails were reduced by 9.3 percent.

DRIVER BEHAVIOR

ROAD USER BEHAVIOR. The Steering Committee has determined that the following issue areas should be combined since many of the likely solutions have a common denominator (e.g., potential enforcement solutions).

Unbelted Occupants. More than 57 percent of fatalities occurred in crashes with an unbelted occupant. Connecticut has a primary safety belt law and a relatively high fine, making its 86.6 percent safety belt use rate lower than might be predicted.

Substance-Involved Driving. More than 42 percent of all Connecticut traffic fatalities in the past 8 years involved a driver under the influence of a substance.

Aggressive Driving. In Connecticut, 22 percent of fatalities and serious injuries occurred as a result of a crash that involved an aggressive driver, and nearly 40 percent of all crashes included an aggressive driver. Aggressive driving is defined in the database as driving too fast for conditions or following too closely.

Distracted Driving. Due to data limitations in reporting and acquiring required data elements, capturing objective distracted driving information (e.g., cell phone use, texting, navigation equipment use, passenger distractions) is difficult. Ongoing research projects are underway related to distracted driving, including a National Highway Traffic Safety Administration (NHTSA) study in Connecticut. Additionally, Connecticut received a NHTSA grant to conduct additional research. The issue is likely to grow as in-vehicle entertainment devices and availability for their use (e.g., in-vehicle Wi-Fi) increase each year.

YOUNG DRIVERS

YOUNG DRIVERS. More than 38 percent of all crashes in Connecticut involve a young driver (age 15-25), and more than 17 percent of serious injuries and fatalities occur in crashes involving a young driver. Young drivers may be more likely to engage in aggressive driving behaviors, suffer from poor judgment, take more risks, and to be distracted by other passengers or in-vehicle devices.

MOTORCYCLIST SAFETY

MOTORCYCLISTS. Approximately 13 percent of fatalities and serious injuries involve motorcyclists. Registered motorcyclists are a small fraction of overall licensed drivers (approximately 3 percent), vehicle ownership, and vehicle miles traveled, so the number of fatal and serious injury crashes is disproportionately high.[17] Additionally, motorcycle fatality and injury crashes have not declined at the rate of other crash types. Motorcycle safety is focused on two approaches. First, safety practitioners address motorcyclists' behavioral issues (e.g., helmet use, training, aggressive driving, substance-involved driving) and the vulnerability of their bodies in a crash. The second approach is to educate other motorists that motorcyclists are on the road and may be more difficult to be seen in some situations.

17 Data for motorcyclist and all licensed drivers can be found here: http://www.statista.com/statistics/191002/number-of-registered-motorcycles-in-the-us-by-state/ and http://www.statemaster.com/graph/trn_lic_dri_tot_num-transportation-licensed-drivers-total-number

TRAFFIC INCIDENT MANAGEMENT

TRAFFIC INCIDENT MANAGEMENT. Statewide data are unavailable at this time for the number of secondary crashes that occur in Connecticut, although some Operations Centers in the State collect this information (e.g., Bridgeport and Newington record the number of secondary highway incidents). Traffic crashes affect all four Es of safety (Emergency Medical Services, Enforcement, Education, and Engineering), and cooperation among agencies before a crash occurs, at an incident scene, and in debriefs is vital to minimizing the negative ramifications of highway crashes. Proactive measures practiced in Connecticut include incident management training and quick clearance policies.

Cooperation with Established Committees and Safety-focused Teams

Connecticut currently has a number of established teams addressing traffic safety issues that are not specifically identified as 2015 Emphasis Areas. The SHSP Steering Committee intends to establish connections with these groups/teams/committees and provide support for their efforts through cooperation and coordination:

- **Traffic Records & Information Systems.** While Traffic Records & Information Systems does not meet the criteria to be recommended as an EA, this report recommends the topic be addressed specifically in the SHSP as an overarching improvement opportunity. It should also be included in EA's where data improvements are needed, such as Distracted Driving. The Connecticut Traffic Records Coordinating Committee (TRCC) has been active for many years, and a number of SHSP Steering Committee and eventual EA Team members in other areas are TRCC members.
- **Rail-Highway Grade Crossings.** Of the 19,000 combined serious injuries and fatalities analyzed for this research effort, there were nine serious injuries or fatalities (less than 1 percent of the total) that occurred as a result of rail-highway grade crossing crashes. One of the reasons for this excellent safety record is the current work of the Connecticut DOT Office of Rail and Operation Lifesaver in the State.

- **Work Zones.** Crashes in work zones accounted for less than 1 percent of fatalities and serious injuries in Connecticut during the study period, in part due to the excellent work of the Work Zone Safety Team. The SHSP Steering Committee should partner with the Work Zone Safety Team to identify additional opportunities for collaboration.
- **Commercial Vehicles.** Commercial vehicle crashes account for less than 5 percent of fatalities and serious injuries in Connecticut, but the effects of commercial vehicle crashes on congestion, potential secondary crashes, and economic loss are significant. The SHSP Steering Committee should cooperate with the Federal Motor Carrier Safety Administration (FMCSA) and State agencies to support ongoing efforts to improve commercial vehicle safety.

Conclusion and Next Steps

The SHSP Steering Committee has selected a set of Emphasis Areas that will help Connecticut focus their limited safety resources on those target areas most likely to contribute to fatal and serious injury crashes in the future. The areas selected were based on crash history and knowledge of emerging needs.

Once the EA's are approved by the Executive Committee, the Steering Committee will move forward with each EA as follows:

1. **Establish an EA Team** for each area with an EA Chairperson and membership.
2. **Develop Individual EA Strategic Plans** that include:
   - Performance goals,
   - Strategies to meet the performance goals, and
   - Action steps to move the strategies forward.
3. **Hold Quarterly EA Team Meetings** to discuss progress toward performance goals and activities for the next quarter.
4. **Provide a consultant EA Team Liaison**. The liaison will support strategy development, facilitation of meetings, logistics, technical support, and data analysis to help the EA Team achieve their performance goals.

APPENDIX C. Acronyms, Abbreviations

AAA	American Automobile Association
ARIDE	Advanced Roadside Impaired Driving Enforcement
BAC	Blood Alcohol Content
CIOT	Click It or Ticket
CMV	Commercial Motor Vehicle
COG	Council of Governments
CTDOT	Connecticut Department of Transportation
CVSP	Commercial Vehicle Safety Plan
DDACTS	Data Driven Approaches to Crime and Traffic Safety
DESPP	Department of Emergency Services and Public Protection
DMV	Department of Motor Vehicles
DOT	Department of Transportation
DRE	Drug Recognition Expert
DUI	Driving Under the Influence
EA	Emphasis Area
FAST	Fixing America's Surface Transportation
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
GDL	Graduated Driver License
HRRR	High Risk Rural Roads
HSIP	Highway Safety Improvement Program
HSP	Highway Safety Plan
HVE	High Visibility Enforcement
ITS	Intelligent Transportation Systems
LEL	Law Enforcement Liaison
LTAP	Local Technical Assistance Program
MAP	Moving Ahead for Progress in the 21st Century
MMUCC	Model Minimum Uniform Crash Criteria
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NMVCCS	National Motor Vehicle Crash Causation Survey
PD	Police Department
RWIS	Road Weather Information System
SFST	Standardized Field Sobriety Test
SHSP	Strategic Highway Safety Plan
SLOSSS	Suggested List of Surveillance Study Sites
STIP	Statewide Transportation Improvement Program
TIM	Traffic Incident Management
TIP	Transportation Improvement Program
TRCC	Traffic Records Coordinating Committee
UCONN	University of Connecticut
URM	Unified Response Manual
VMT	Vehicle Miles Traveled
WRTM	Weather Response Traffic Management

Connecticut's definition of High Risk Rural Road (HRRR) is as follows:

Any roadway functionally classified as a rural major or minor collector or a rural local road with a significant safety risk. The State of Connecticut defines significant safety risk as those roadways where the actual number of fatal and serious injury crashes exceeds five at an intersection or roadway segment in a 3-year period.

APPENDIX D. High Risk Rural Roads

On July 6, 2012, the President signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 redefined and created a Special Rule for High Risk Rural Roads (HRRR). Prior to MAP-21, the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy For Users (SAFETEA-LU) provided a $90 million annual set-aside from the Highway Safety Improvement Program (HSIP) for HRRR. MAP-21 legislation did not set aside funds for a HRRR program. However, the Special Rule requires States with an increase in fatality rates on rural roads to obligate a specified amount of HSIP funds on HRRRs. The MAP-21 definition of HRRRs is important for States to consider. If the Special Rule applies, States will be required to obligate funds on those specific roadways.

The definition of a HRRR in MAP-21 provides flexibility to States in determining their HRRRs. The definition of a HRRR is still limited to the same functional classifications as under SAFETEA-LU, rural major and minor collectors and rural local roads. However, only the roads within those functional classifications "with significant safety risks" will become the roadways designated as HRRR. The legislation requires that States define the significant safety risks of these roads in their updated SHSPs.

APPENDIX E. Glossary

Aggressive Driving-related Crash: A crash in which a driver exceeded speed limit; drove too fast for conditions; or followed too closely.

Bicyclist Crash: Crash where at least one of the people involved in the crash is a bicyclist.

Distracted Driving-related Crash: At least one driver in the crash was reported to be distracted, defined by having values of either "failure to give full time and attention" or "cell phone in use" in any of the four available contributing circumstance fields.

Fatal Crash: All Crashes where at least one person involved was fatally-injured.

Intersection Crash: Crashes that occurred at an intersection or are intersection-related.

Motorcycle Crash: Crashes where at least one of the vehicles involved is a motorcycle.

Occupant Protection (Unrestrained): An unrestrained occupant crash is defined as a crash in which a passenger vehicle occupant is less than 7 years of age and is recorded as not using a "child/youth restraint," 8 years of age or older and recorded as not using a "lap and shoulder belt" or "air bag and belt," or where restraint use was recorded as being "none," or "air bag only."

Older Driver-related Crash: All persons in a crash where at least one driver in the crash was reported to be age 65 or older.

Pedestrian Crash: Crash where at least one of the people involved in the crash is a pedestrian.

Roadway Departure Crash: Crash where at least one driver's action was driving off of the roadway.

Serious Injury: Defined as injury severity 04, based on the KABCO scale, as determined by law enforcement.

Speed-Related Crash: All persons in a crash where at least one driver in the crash was reported to be speeding, defined by having values of either 'exceeded speed limit' or 'too fast for conditions' in the first or second contributing circumstance fields.

Substance-involved Crash: At least one driver in the crash is determined to have a substance involved by the investigating officer as indicated through the driver condition, blood alcohol content, substance use detected and contributing factor fields on the Connecticut crash report. Note that this definition includes alcohol or other drugs.

Work Zone Crash: Crashes reported by the officer as "Yes" for Construction/Maintenance Zone.

Definitions are consistent with the Connecticut Crash Data Repository, Connecticut Transportation Safety Research Center, January 2017, available at http://www.ctcrash.uconn.edu/docs/Repository%20Users%20Guide.pdf

APPENDIX F. Acknowledgements

The State of Connecticut wishes to acknowledge stakeholders involved in the development and implementation of the 2017-2021 SHSP:

SHSP Executive Committee

- Connecticut Department of Transportation
- Connecticut Department of Motor Vehicles
- Connecticut Department of Public Health
- Connecticut Department of Education
- Connecticut Department of Emergency Services and Public Protection

SHSP Steering Committee

- Federal Highway Administration
- National Highway Traffic Safety Administration
- Federal Motor Carrier Safety Administration
- Connecticut Department of Transportation
- Connecticut Highway Safety Office
- Connecticut Department of Motor Vehicles
- Connecticut Department of Emergency Services and Public Protection
- Capitol Region Council of Governments
- Western Connecticut Council of Governments
- Northeastern Connecticut Council of Governments
- Connecticut Police Chiefs Association
- AARP
- AAA Allied
- University of Connecticut
- Mashantucket Pequot Tribal Nation
- Mohegan Tribe

APPENDIX G. Crash Data Analysis Tables, 2005-2014

The following data analysis tables were used by CT SHSP leadership to identify Emphasis Areas, develop overall SHSP goals, and develop Emphasis Area safety goals.

Roadway Fatalities and Serious Injuries by Contributing Circumstance, Connecticut, 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	10 Year Total	Percent of Total
Unrestrained Occupants	463	469	473	405	392	401	297	313	348	269	3,830	16.6%
Impaired Crashes	263	280	321	305	280	284	224	222	263	208	2,650	11.5%
Aggressive Driving Involved	692	621	665	544	571	463	361	412	347	285	4,961	21.5%
Too fast for conditions (not exceed posted speed)	347	332	364	256	294	236	170	184	146	140	2,469	10.7%
Following Too Closely	345	289	301	288	277	227	191	228	201	145	2,492	10.8%
Young Drivers - 15-20 Involved	213	249	243	174	146	156	111	117	87	83	1,579	6.8%
Young Drivers - 21-25 Involved	279	268	303	260	267	268	206	209	185	169	2,414	10.5%
Older Drivers - 65-75 Involved	76	95	97	91	109	101	65	97	68	69	868	3.8%
Older Drivers - 76 or Older Involved	102	100	96	83	86	84	72	69	53	58	803	3.5%
Pedestrian	235	242	279	244	236	237	205	220	212	207	2,317	10.0%
Pedacycle	85	91	91	102	82	66	80	70	59	59	785	3.4%
Motorcycle	300	324	365	386	282	341	283	296	263	262	3,102	13.4%
Work Zone Involved	14	22	32	28	13	10	14	11	12	17	173	0.7%
School Bus Related	14	23	25	24	16	17	6	17	11	10	163	0.7%
Train	3	0	1	2	1	0	0	2	0	0	9	0.0%
Commercial Vehicle	12	25	27	0	0	0	0	0	0	0	64	0.3%
Crash occurred at an intersection	1,528	1,507	1,657	1,487	1,280	1,300	1,009	1,066	966	883	12,683	54.9%
Roadway Departure Crashes	936	957	1,009	888	758	814	609	639	554	534	7,698	33.3%
Vehicle Negotiating Curve	233	346	309	251	281	316	220	222	212	147	2,537	11.0%
Head-on	158	142	187	151	165	175	122	162	124	147	1,533	6.6%
Collision with Guardrail (Metal Beam and Wire)	131	146	159	151	133	138	133	131	110	104	1,336	5.8%
Collision with Tree	295	303	299	295	262	256	198	191	202	155	2,456	10.6%
Collision with Utility Pole	216	233	247	210	172	169	123	153	114	112	1,749	7.6%
Fixed Object	1,010	1,020	1,062	925	799	854	629	699	617	549	8,164	35.4%

Note: A single crash may include more than one attribute, so the "Percent of Total" column does not sum to 100 percent.

crash data analysis tables

Number of Crashes by Contributing Circumstance, Connecticut, 2005-2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	10 Year Total	Percent of Total
Unrestrained Occupants	3,584	3,161	4,184	3,755	3,498	3,462	2,739	2,952	2,967	2,887	33,189	**3.5%**
Impaired Crashes	1,843	1,787	2,436	2,377	2,820	2,678	2,022	2,685	3,676	2,606	24,930	**2.7%**
Aggressive Driving Involved	35,441	31,379	41,849	39,341	40,510	38,381	32,472	36,700	36,855	37,193	370,121	**39.4%**
Too fast for conditions (not exceed posted speed)	9,484	6,890	10,808	9,811	10,704	7,953	5,920	6,537	6,642	7,312	82,061	**8.7%**
Following Too Closely	25,957	24,489	31,041	29,530	29,806	30,428	26,552	30,163	30,213	29,881	288,060	**30.6%**
Young Drivers - 15-20 Involved	14,782	13,923	20,993	18,417	16,906	15,833	11,292	13,775	12,903	12,431	151,255	**16.1%**
Young Drivers - 21-25 Involved	17,733	16,109	23,832	21,965	22,248	22,070	17,842	21,178	20,938	20,715	204,630	**21.8%**
Older Drivers - 65-75 Involved	6,500	6,123	9,334	8,832	9,228	9,711	7,943	10,062	10432	10,857	89,022	**9.5%**
Older Drivers - 76 or Older Involved	4,718	4,571	6,535	6,404	5,660	5,811	4,465	5,557	5,513	5,465	54,699	**5.8%**
Pedestrian	1,096	1,066	1,277	1,168	1,160	1,274	1,096	1,144	1,087	1,127	11,495	**1.2%**
Pedacycle	686	644	821	730	660	734	622	677	605	644	6,823	**0.7%**
Motorcycle	1,266	1,226	1,621	1,592	1,377	1,512	1,213	1,400	1,324	1,268	13,799	**1.5%**
Work Zone Involved	979	755	1,102	1,083	851	758	892	968	864	900	9,152	**1.0%**
School Bus Related	584	553	1,139	1,043	1,054	1,093	922	963	965	1,025	9,341	**1.0%**
Train	3	1	2	3	3	3	5	1	2	1	24	**0.0%**
Commercial Vehicle	5	19	21	0	0	0	0	0	0	0	45	**0.0%**
Crash occurred at an intersection	34,843	33,296	47,625	44,214	46,577	47,408	36,706	44,919	43,841	43,391	422,820	**45.0%**
Roadway Departure Crashes	18,776	15,346	25,777	23,661	22,597	20,747	15,199	18,586	18,658	18,894	198,241	**21.1%**
Vehicle Negotiating Curve	3,886	3,559	5,235	4,830	5,670	5,521	3,818	5,009	4,937	4,476	46,941	**5.0%**
Head-on	515	324	649	622	651	670	590	777	758	778	6,334	**0.7%**
Collision with Guardrail (Metal Beam and Wire)	6,475	5,165	6,142	5,991	6,318	5,559	4,681	5,195	5,143	4,859	55,528	**5.9%**
Collision with Tree	2,820	2,361	3,947	3,608	3,483	3,491	1,907	2,825	2,894	2,628	29,964	**3.2%**
Collision with Utility Pole	2,308	2,140	3,789	3,446	3,289	3,124	1,669	2,921	2,908	3,103	28,697	**3.1%**
Fixed Object	21,131	17,513	27,692	25,276	25,337	23,045	16,496	21,194	21,001	20,768	219,453	**23.3%**

Note: A single crash may include more than one attribute, so the "Percent of Total" column does not sum to 100 percent.

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