



VERMONT

Strategic Highway Safety Plan 2017-2021



A Comprehensive Plan to Reduce the
Number of Crashes on Vermont's Highways

Thank You to All Highway Safety Partners

The Vermont Highway Safety Alliance (VHSA) would like to thank its public and private sector partners for their contributions and dedication to the development and implementation of the State's Strategic Highway Safety Plan (SHSP). Since its foundation in 2012, VHSA members have worked collaboratively for the good of public safety, focusing on the ultimate goal of Zero Deaths on Vermont highways. By targeting Vermont's most critical emphasis areas for improving highway safety and implementing effective strategies and action plans, the VHSA and its partners have made great strides in improving the safety of Vermont's highways. The 2012-2016 SHSP has been immensely successful, resulting in a 15% reduction in major crashes on the State's highways in the last five years. The efforts of these organizations and their members, listed below, toward achieving this success is greatly appreciated.

- › 3M
- › AAA of Northern New England
- › AARP Driver Safety
- › Addison County Regional Planning Commission
- › Associated General Contractors of Vermont and Project Road Safe
- › AT&T
- › Bennington County Regional Commission
- › Central Vermont Regional Planning Commission
- › Chittenden County Regional Planning Commission (CCRPC)
- › Co-Operative Insurance Companies
- › Education and Safety Unit at the Department of Motor Vehicles (DMV)
- › F.R. Lafayette
- › Federal Highway Administration (FHWA)
- › Federal Motor Carrier Safety Administration (FMCSA)
- › Governor's Highway Safety Program
- › Impaired Driving Rehabilitation Program (Formerly known as CRASH)
- › JoyRyde
- › Lamoille County Planning Commission
- › Local Motion
- › National Highway Traffic Safety Administration (NHTSA)
- › Northeastern Vermont Development Association
- › Northwest Regional Planning Commission
- › Private Driver Education Schools
- › Ride Safe Vermont: Motorcycle Training
- › Rutland Regional Planning Commission
- › Southern Windsor County Regional Planning Commission
- › Sp!ke Advertising
- › TextLess Live More
- › Town of Barre
- › Two Rivers-Ottawaquechee Regional Commission
- › TXT U L8R (UVM Medical Center and the Clinical Simulation Laboratory at the UVM College of Medicine)
- › University of Vermont Medical Center

- › University of Vermont, Transportation Research Center
- › Vermont Agency of Transportation (VTrans)
- › Vermont Association of Chiefs of Police (and member departments)
- › Vermont Automotive Distributors Association
- › Vermont Department of Health
- › Vermont Department of Liquor Control
- › Vermont Department of Tourism and Marketing
- › Vermont Driver and Traffic Safety Association
- › Vermont Forensic Laboratory
- › Vermont Insurance Agents Association
- › Vermont Judicial System
- › Vermont League of Cities and Towns
- › Vermont Local Roads
- › Vermont Sheriffs Association (and member departments)
- › Vermont State Police (VSP)
- › Vermont Truck and Bus Association (and member companies)
- › Volunteer Citizens
- › VTrans Highway Safety Data Unit
- › VTrans Highway Safety Infrastructure Unit
- › Windham Regional Commission
- › Work Safe TCI
- › Youth Safety Council of Vermont

Improving safety in our local communities is a shared goal, and everyone—municipalities, local organizations, private companies, and individual residents—can help the Alliance build on the remarkable progress made to date. Since 2012, the VHSA has increased its membership by 25%, rising from 43 to 54 members, and the Alliance invites everyone interested in the safety initiative to get involved. Please visit the website <http://vermonthighwaysafety.org/> to join the VHSA and take the Vermont Road User Pledge:

“ I promise to follow the rules of the road, respect the rights of all road users, and share what I know about road safety with others.”



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INTRODUCTION

The VHSA

Introduction

Progress on the 2012-2016 Plan

Goals and Objectives for the 2017-2021 Plan

Critical Emphasis Areas



The VHSA

Our Vision To minimize the occurrence and severity of highway crashes, and related injuries and fatalities.

Our Mission Working together, we use data to improve highway safety by integrating engineering; enforcement; education, marketing and outreach; and emergency medical services initiatives.

Our Promise To make and keep our highways safe.

Introduction

The Vermont Highway Safety Alliance (VHSA) was formed in 2012 in an effort to formalize an integrated statewide highway safety program focused on the best utilization and sharing of resources to accelerate the advancement of highway safety in the State. The VHSA is an independent nonprofit alliance comprised of a diverse group of public and private organizations, as well as volunteer citizens who represent all users of Vermont's highway system. The mission is to work together to collect, share, and use data in a unified effort to develop and implement strategies that improve highway safety.

Amongst its duties, the VHSA oversees the preparation of the State's Strategic Highway Safety Plan (SHSP), which is a major component and requirement of the Highway Safety Improvement Program (HSIP). The SHSP serves as the framework for reducing fatalities and major* crashes on the State's public highways. Through a data-driven process, the SHSP identifies the most Critical Emphasis Areas (CEAs) and safety needs for the State, and selects for implementation the strategies and countermeasures with the most potential to save lives and prevent injuries. This multi-year comprehensive plan takes a holistic and integrated approach in establishing statewide goals by embracing the use of the four E's of highway safety: Education, Enforcement, Engineering, and Emergency Services.

The SHSP incorporates elements from the other individual safety plans prepared for the State of Vermont, including:

- › Highway Safety Program (HSP)
- › Highway Safety Improvement Program (HSIP)
- › Motor Carrier Safety Assistance Program Commercial Vehicle Safety Plan
- › Vermont State Police Strategic Plan
- › Department of Motor Vehicle (DMV) Strategic Plan
- › Traffic Records Strategic Plan

The following report documents the progress made to date since the adoption of the 2012-2016 SHSP, evaluates the needs moving forward with the updated plan, and sets new (aggressive, yet attainable) goals for the next five years. The VHSA is proud to present this updated 2017-2021 SHSP and reaffirms its endless commitment to working Toward Zero Deaths on Vermont highways.

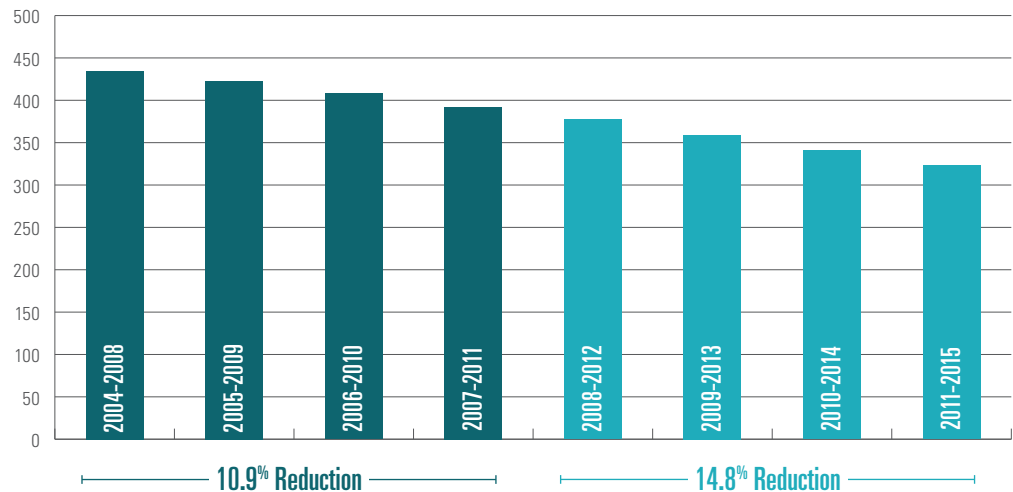
*Major crashes are defined by the Vermont Agency of Transportation (VTrans) as fatal or incapacitating injury crashes.

Progress on the 2012-2016 Plan

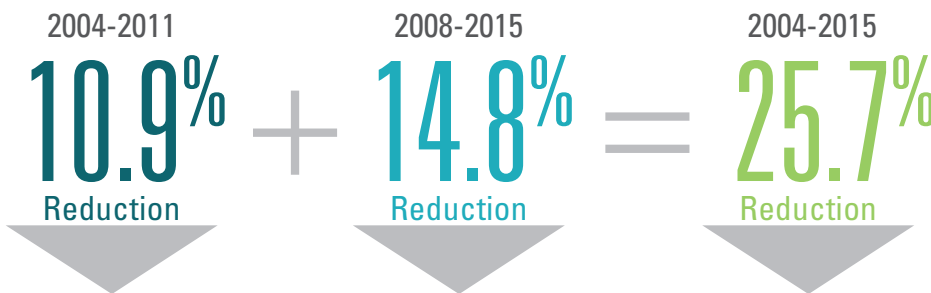
Developing an effective course of action for the 2017-2021 SHSP relies first on understanding what progress has been made in achieving the goals established in the 2012-2016 plan. Fortunately, when it comes to evaluating the success of the 2012-2016 plan, there is much improvement to report.

The recent five years of data shows that Vermont continues to make great headway in reducing major crashes on the State’s highways. While the 2011 through 2015 major crash data shows steady progress, it is the longer-term historical trends that tell the true story. At the time the 2012-2016 SHSP was developed, data from 2004 through 2011 indicated that major crashes statewide were trending downward at a rate of 10.9%. With this in mind, the VHSA set an aggressive goal of reducing major crashes an additional 10% by 2016. Ultimately, this objective was exceeded, with an overall major crash reduction of 15% over the last five years—a total decrease of 25.7% since 2004.

Overall Major Crashes Trend



5-Year Rolling Average



2012-2016 SHSP Goal

10%
Goal Met

Introduction

This success can be attributed to the selection and implementation of strategies and countermeasures specifically targeted for each of the six CEAs identified in the 2012-2016 SHSP, as well as integrated use of the four E's. The SHSP intentionally set aggressive goals for each CEA. Of the six CEA goals, five of them were met. The table below shows a breakdown of each CEA and their associated goals and results.

Major Crash Reduction Goals and Results

	Critical Emphasis Area	SHS Goal	Results	Goal Met?
CEA 1	1A-Minimize Lane Departure	10%	▼ 8%	No
	1B-Design and Operation of Intersection Safety	10%	▼ 11%	
CEA 2	2A-Younger Driver Safety (21 and Under)	20%	▼ 29%	Yes
	2B-Older Driver Safety (65 and Over)	5%	▼ 7%	
CEA 3	Curb Speeding and Aggressive Driving	20%	▼ 21%	Yes
CEA 4	Use of Occupant Protection	10%	▼ 10%	Yes
CEA 5	Impaired Driving	10%	▼ 23%	Yes
CEA 6	Distracted and Inattentive Driving	10%	▼ 35%	Yes

As seen in the table, great strides were made in reducing major crashes in some of the CEAs. For example, while impaired driving may not account for a significant portion of the total crashes in Vermont (only 3%), these crashes make up 18% of fatal crashes and 13% of crashes resulting in incapacitating injuries. As a result of the 2012-2016 SHSP, the major crashes attributable to impaired driving has been reduced by 23% since 2011. In addition, younger drivers under the age of 21 account for almost 1 in 7 of all fatal and incapacitating injury crashes statewide. Major crashes associated with younger drivers have decreased 29%, exceeding the 20% aggressive goal previously set for this CEA.

Also, major crashes associated with distracted and inattentive driving have decreased by 35%. This can be attributed in part to the statewide ban on texting while driving that went into effect during this time period. However, it is important to note that these crashes are likely underreported, as they heavily rely upon self-reporting from the driver.

Results like these illustrate that the actions taken by the VHSA to make and keep Vermont's highways safe are working. While the successes to date should be celebrated, it is important for the 2017-2021 SHSP to bring us even closer to achieving the goal of Zero Deaths.

Goals and Objectives for the 2017-2021 Plan

Major crashes have the most severe impact on those involved. Their effects are far-reaching and include the loss of human life. Despite the great progress made in reducing major crashes during the 2012-2016 SHSP, approximately 325 major crashes—with an average fatality rate of 60 deaths per year—still occurred annually in Vermont from 2011 through 2015. **For this reason, targeting the reduction of major crashes will continue to be the primary goal of the VHSA for the 2017-2021 SHSP. During this timeframe, the Alliance will seek to reduce major crashes in Vermont another 10%.** This goal has been carefully considered and takes into account the likelihood that the effectiveness of some of the successful crash-reduction strategies currently in use may lose their impact over time, particularly as Vermont's culture on highway safety changes.

Cascading down from this primary goal are a series of Critical Emphasis Areas (CEAs), Significant Emphasis Areas (SEAs), and Special Emphasis Areas, discussed in the following pages. Critical and significant emphasis areas differ in that SEAs account for a smaller percentage of major crashes statewide. Meanwhile, Special Emphasis Areas are those that are difficult to determine through analysis of existing data trends. Each plays an integral role in the SHSP.

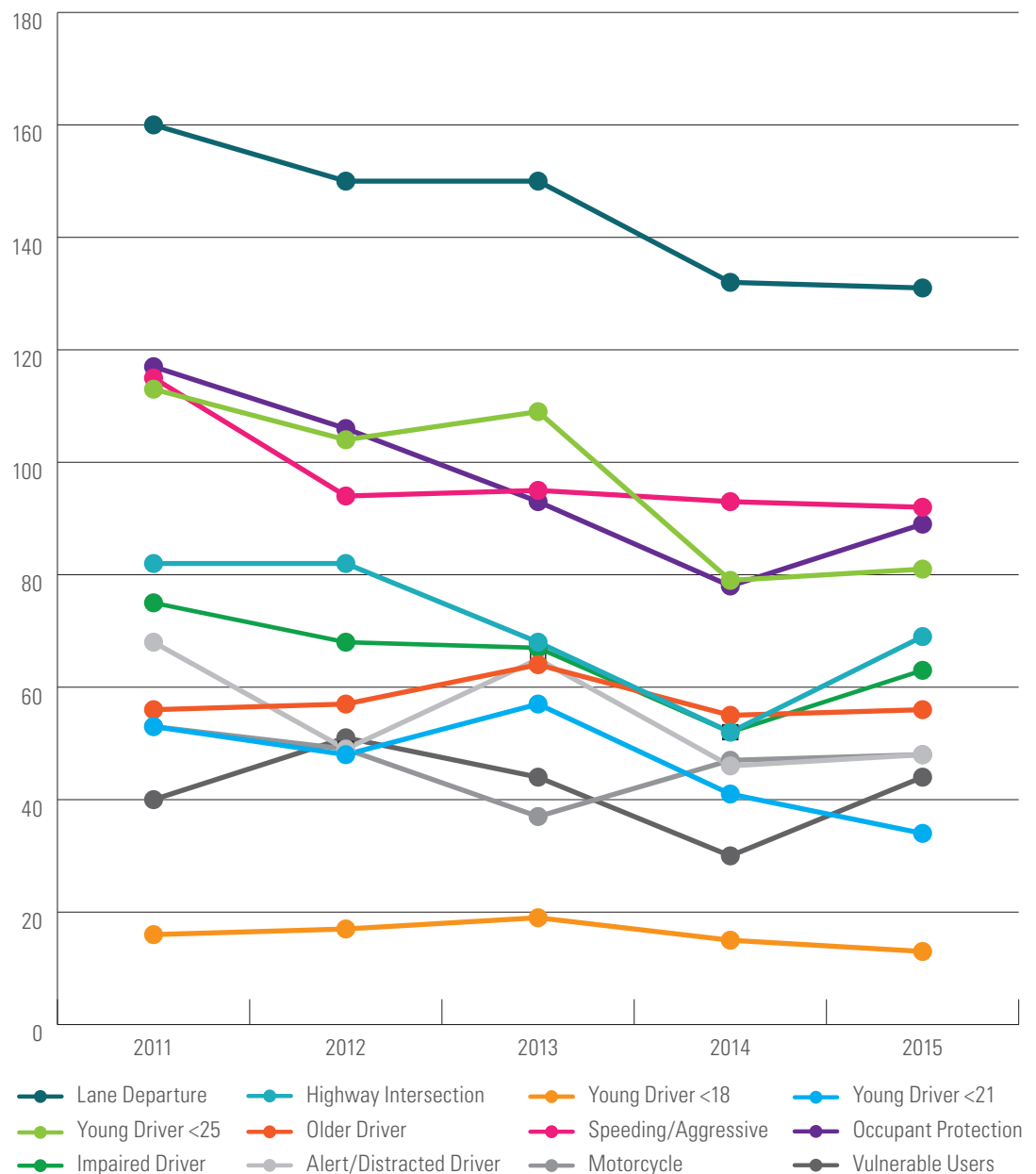
Achieving the objectives for the 2017-2021 SHSP will require collecting, using, and sharing data to inform strategies, prioritize efforts, and measure performance. The plan is intended to follow the objectives of the Federal Highway Administration's (FHWA) national effort to improve highway safety, known as Toward Zero Deaths (TZD). Like TZD, the SHSP is a data-driven effort focusing on identifying and creating opportunities for changing Vermont's culture as it relates to highway safety.

Perhaps most importantly, a successful 2017-2021 SHSP depends on continued dedication and hard work from the Alliance and its partners. The continued success of the SHSP will rely upon a team of champions working together to address the myriad of factors surrounding highway safety. The VHSA's goal of reducing crashes will be achieved through the continued unified collaboration of all the partners involved; private, local, state, and federal. The strategies and associated action plans selected for the SHSP will directly impact highway safety through the four E's of highway safety, as well as policy, public health, communications, and other efforts. The VHSA Board of Directors and the Focus Groups have worked diligently to develop an integrated approach to the SHSP that gathers and utilizes the experts needed to meet the goals of each emphasis area. Using the SHSP as the guiding document, the VHSA will continue to reach out and expand, engaging safety partners in all communities throughout Vermont.

Critical Emphasis Areas

Seven CEAs have been identified for the 2017-2021 Vermont SHSP. These CEAs have been identified and prioritized through a data-driven approach using crash data analysis. The chart below summarizes the output of analysis based on data from 2011 through 2015. The chart provides a graphical comparison of the 5-year major crash trends for each emphasis area reviewed in preparing this plan. The chart in itself ranks the emphasis areas based on the number of major crashes associated with each, facilitating the prioritization and selection of emphasis areas for the 2017-2021 SHSP.

5 Year Trend for Major Crashes (2011-2015)



Introduction

As seen in the chart, the analysis expands upon the emphasis areas presented in the 2012-2016 SHSP. The first new emphasis area is younger drivers under the age of 25. The most current evaluation of data shows a doubling of major crashes for drivers under 25 when compared to drivers under 21. This increase indicates the potential need to expand the younger driver age group and consider specific strategies to target drivers between the ages of 21 and 25. The second new emphasis area combines vulnerable users and motorcycles. Motorcycles were not included in the definition of vulnerable users in the 2012-2016 SHSP; however, they also experience a heightened level of exposure with regard to highway safety when compared to automobiles and trucks. The individual and combined crash trends of these two emphasis areas have been graphed to show how they influence the priority ranking in comparison to other emphasis areas.

Based on the data, the following changes were made for the 2017-2021 SHSP emphasis areas when compared to the 2012-2016 SHSP:

- › Combine Vulnerable Users and Motorcycles into one emphasis area and elevate them from the Significant Emphasis Area (SEA) to the CEA classification
- › Increase the age of the younger drivers from under 21 to under 25

The CEAs selected for the 2017-2021 SHSP are:

1. Improve Infrastructure
 - a. Minimize Lane Departure
 - b. Improve the Design and Operation of Highway Intersection
2. Reduce Speeding and Aggressive Driving
3. Increase Use of Occupant Protection
4. Vulnerable Users and Motorcyclists Safety
 - a. Increase Pedestrian Safety
 - b. Increase Bicyclist Safety
 - c. Increase Motorcyclist Safety
5. Age Appropriate Solutions
 - a. Improve Younger Driver Safety (Under 25)
 - b. Improver Older Driver Safety (65 and Over)
6. Reduce Impaired Driving
7. Curb Distracted and Inattentive Driving

The following section provides an overview of each emphasis area, along with its specific goal and strategies for accomplishing the goal.



Bristol, Vermont, HSIP Intersection
Project at VT Route 116 & North Street.
Photography by: J Michael Worthington, Jr.
www.worthingtonimages.com

CRITICAL EMPHASIS AREAS

CEA 1 Improve Infrastructure

- 1A – Minimize Lane Departure
- 1B – Improve the Design and Operation of Highway Intersections

CEA 2 Curb Speeding And Aggressive Driving

CEA 3 Increase Use Of Occupant Protection

CEA 4 Vulnerable Users & Motorcyclists Safety

- 4A – Increase Pedestrian Safety
- 4B – Increase Bicyclist Safety
- 4C – Increase Motorcyclist Safety

CEA 5 Age Appropriate Solutions

- 5A – Improve Younger Driver Safety (Under 25)
- 5B – Improve Older Driver Safety (65 and Over)

CEA 6 Reduce Impaired Driving

CEA 7 Curb Distracted Driving and Keep Drivers Alert

CRITICAL EMPHASIS AREA

IMPROVE INFRASTRUCTURE

CEA 1A – Minimize Lane Departure

Lane departure crashes are defined as crashes in which a vehicle ran off the road and/or overturned and/or collided with a tree, a pole or sign, a guardrail, ledge or boulder, or any other fixed object including another vehicle. Over the past five years, lane departure crashes accounted for 54% of fatal crashes and 43% of incapacitation injury crashes. It is important to note that speeding was reported as a contributing factor in 24% of the lane departure crashes. The 5-year rolling average from 2004 through 2015 shows a 15% reduction in lane departure major crashes. However, this is the one emphasis area that fell short of the 10% reduction goal set in the 2012-2016 SHSP, where only an 8% reduction was recognized.



Goal

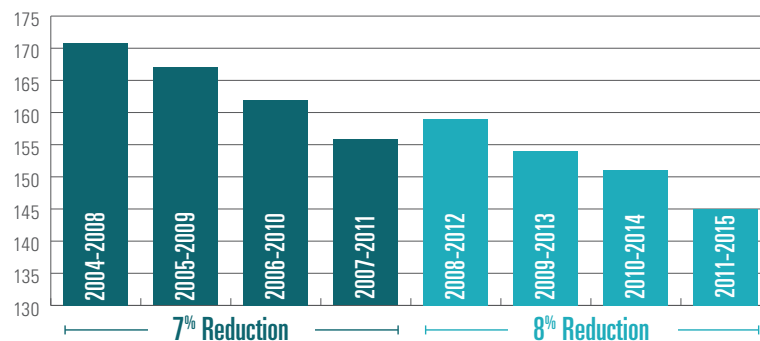
Reduce major crashes by **10%** between 2017-2021

Strategies

1. Continue programs to implement low-cost safety improvements on all public highways
2. Improve highway delineation and roadway characteristics
3. Improve highway characteristics to facilitate enforcement activities (such as speed enforcement)
4. Support municipalities in mitigating high crash locations by providing data, countermeasure alternatives, and other resources to implement improvements
5. Conduct and/or support research in the areas of engineering, enforcement, and education that seeks to reduce run-off-the-road crashes



Lane Departure Major Crashes Trend



CRITICAL EMPHASIS AREA

IMPROVE INFRASTRUCTURE

1

CEA 1B – Improve the Design and Operation of Highway Intersections

A highway intersection is defined as a roadway characteristic of a four-way intersection, T-intersection, Y-intersection, traffic circle, roundabout, or any intersection of three or more approaches. Since 2004 there has been a 19% reduction in major crashes at highway intersections, with 11% of that reduction occurring in the most recent 5-year study period. From 2011 through 2015, 46% of intersection fatalities occurred at locations with no traffic control, 38% at locations with stop-signs, and 11% at locations with traffic signals. Through infrastructure improvements, increased public awareness and traffic control compliance, major intersection crashes can be reduced further.



Goal

Reduce major crashes by **10%** between 2017-2021

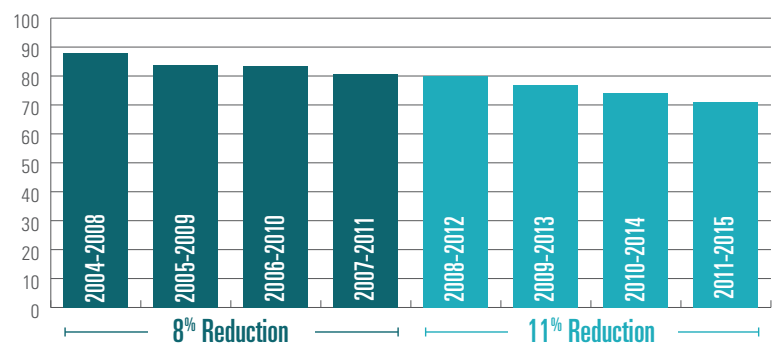
Strategies

1. Improve traffic signal operation
2. Improve driver understanding and compliance at intersections through the use of engineering, education, and enforcement programs and efforts
3. Implement physical changes on the approaches to and at intersections
4. Support municipalities in mitigating high-crash locations by providing data, countermeasure alternatives, and other resources to implement improvements
5. Increase awareness and safety of bicyclists and pedestrians at intersections through engineering, education, and enforcement programs and efforts
6. Conduct and/or support research efforts in the area of intersection safety for all roadway users

5 Year
Rolling Average
2004-2015

19%
Reduction

Highway Intersection Major Crashes Trend



CRITICAL EMPHASIS AREA

CURB SPEEDING AND AGGRESSIVE DRIVING

2

Speeding is defined as operating a vehicle at a speed that has exceeded the authorized speed limit or too fast for conditions. Aggressive driving is defined as operating a vehicle in an erratic, reckless, careless, negligent, or aggressive manner. Historical trends show a 39% reduction in major crashes related to speeding and aggressive driving between 2004 and 2015, with 21% of that reduction occurring in the last five years. Crashes attributable to speeding and aggressive driving make up 30% of all major crashes in Vermont and 37% of the fatal crashes. Crashes due to speeding and aggressive driving result in a higher percentage of more severe injury crashes. Collaborative opportunities exist across engineering, education, and enforcement to continue to reduce crashes resulting from speeding and aggressive driving.



Goal

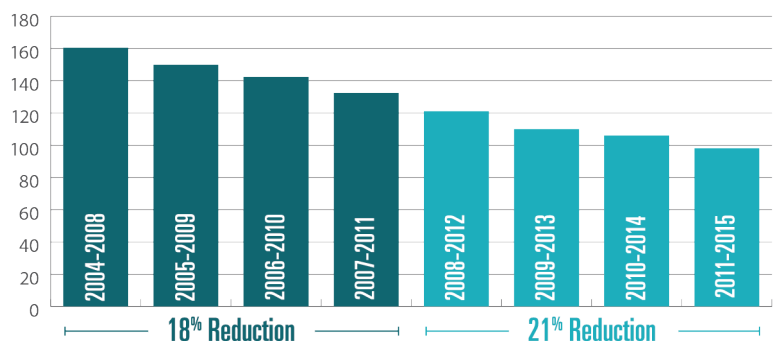
Reduce major crashes by **20%** between 2017-2021

Strategies

1. Improve the education of drivers as it relates to the impacts and consequences of speeding and aggressive driving
2. Improve public understanding of what aggressive driving is and how it relates to public safety
3. Increase public awareness of and adherence to speed limits and other roadway regulations regarding aggressive driving
4. Advance the use of infrastructure techniques and technology to manage and enforce speeds
5. Enhance existing high-visibility enforcement programs and techniques that relate to speeding and aggressive driving

5 Year
Rolling Average
2004-2015
39%
Reduction

Speeding/Aggressive Major Crashes Trend



CRITICAL EMPHASIS AREA

3

INCREASE USE OF OCCUPANT PROTECTION

Approximately 12% of the major crashes from 2011 through 2015 reported no restraint use. This may include seatbelt use, child safety restraint use, or helmet use. This percentage is down significantly from the 24% previously reported in the 2012-2016 SHSP for the period from 2004 through 2011. Despite this progress, this CEA remains a high priority as crashes are more likely to result in serious injury when improper or no occupant protection is used. Over the last five years nearly 100 major crashes involving the lack or improper use of safety restraints occurred annually.



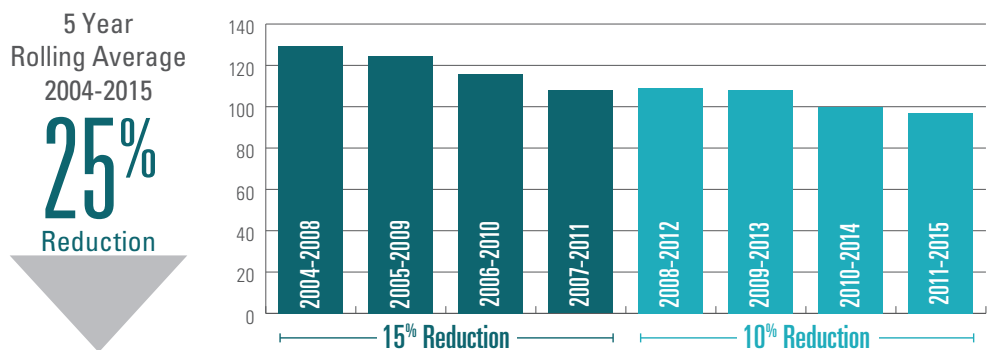
Goal

Reduce major crashes by **20%** between 2017-2021

Strategies

1. Raise awareness of the importance of using seat belts and occupant protection for all users
2. Increase enforcement and strengthen safety belt laws in Vermont
3. Increase proper use and installation of child safety restraints
4. Strengthen child safety restraint use laws
5. Implement programs for consistent education for a wide range of stakeholders including motorists, parents, and schools
6. Implement programs that target at-risk demographics (such as 21-35 year-old males)
7. Continue education and outreach for vulnerable users (pedestrians, bicyclists, and motorcyclists)
8. Implement programs for occupant protection use on busses

Occupant Protection Major Crashes Trend



VULNERABLE USERS & MOTORCYCLISTS SAFETY

CEA 4A – Increase Pedestrian Safety

On average, approximately 31 of the major crashes that occur each year involve pedestrians. This equates to approximately 10% of the total major crashes. However, even more notable is the statistic that nearly 20% of these pedestrian crashes result in a fatality. From 2011 through 2015, the average annual crash rate for pedestrian fatalities was reported to be six crashes per year. With strong public support for the implementation of ‘Complete Streets’ concepts and the associated increase in pedestrian volume that will result on Vermont’s highways, the VHSA is committed to developing strategies specifically targeted at protecting pedestrians and promoting a multi-modal system for all users.



Goal

Reduce major crashes by **10%** between 2017-2021

	2011	2012	2013	2014	2015	Total
Fatalities – Pedestrians	4	10	6	4	5	29
Major Crashes (Fatal + Incapacitating Injury) – Pedestrians	34	35	34	25	26	154

Strategies

1. Improve pedestrian and driver understanding of the rules of the road regarding pedestrians
2. Implement new pedestrian advocacy programs and improve awareness of existing programs
3. Continue to implement and promote ‘Complete Streets’ policies and traffic calming measures that consider pedestrians early in the design phase of changes to the built environment
4. Enhance collaboration efforts and partnerships between federal, state, local, and private agencies to promote inclusive communities with walkable infrastructure

VULNERABLE USERS & MOTORCYCLISTS SAFETY

CEA 4B – Increase Bicyclist Safety

Over the past 10 years, the number of bicyclists on the road has been steadily increasing. As with pedestrians and motorcyclists, these road users are especially vulnerable to major crashes. Crashes involving bicyclists currently account for approximately 3.5% of all major crashes and this number is likely to increase as the bicyclist population increases. Between 2011 and 2015, there were 497 total crashes involving a bicycle user and 56 of these crashes were major crashes. As discussed under CEA 4A, the trend to incorporate Complete Street concepts into highway projects around the State, heightens the need to identify strategies directed at keeping all vulnerable users safe.



Goal

Reduce major crashes by **10%** between 2017-2021

	2011	2012	2013	2014	2015	Total
Fatalities – Bicyclists	0	0	0	0	5	5
Major Crashes (Fatal + Incapacitating Injury) - Bicyclists	6	16	10	5	19	56

Strategies

1. Improve bicyclists and driver understanding and education of how to properly share the road
2. Continue to implement and promote ‘Complete Streets’ policies and traffic calming measures that consider bicyclists early in the design phase of changes to the built environment.
3. Educate municipalities about the guidelines and opportunities that exist to create safer communities for bicyclists
4. Implement and promote educational programs for bicyclists regarding proper equipment and safe riding in traffic including commuter programs and Safe Routes to School
5. Enhance education and increase enforcement of improper bicycling and aggressive or harassing behavior on the part of motorists

CRITICAL EMPHASIS AREA

VULNERABLE USERS & MOTORCYCLISTS SAFETY

4

CEA 4C – Increase Motorcyclist Safety

A motorcyclist is defined as a person who is operating a motorized scooter, motor driven cycles, or motorcycle. Between 2011 and 2015, there were 980 total crashes involving a motorcycle, of which 234 crashes (24%, or nearly 1 in 4) were classified as major crashes, with 41 crashes resulting in a fatality. Major crashes involving motorcycles account for nearly 15% of all major crashes in Vermont. This update of the SHSP includes motorcycle safety under the Vulnerable Users CEA as a means to heighten and promote the awareness of developing strategies specifically targeted for these users.



Goal

Reduce major crashes by **10%** between 2017-2021

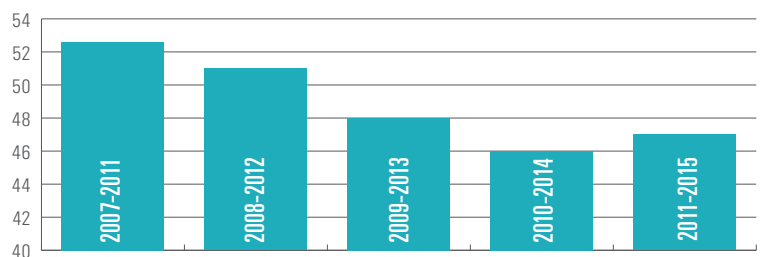
	2011	2012	2013	2014	2015	Total
Fatalities – Motorcyclists	8	11	6	7	9	41
Major Crashes (Fatal + Incapacitating Injury)-Motorcyclists	53	49	37	47	48	234

Strategies

1. Improve public understanding of motorcyclist rights and responsibilities on the road
2. Improve training programs for both novice and experienced motorcyclists and continue to encourage use of the Vermont Rider Education Program
3. Enhance enforcement relating to occupant protection, DUIs, and aggressive operation of a motorcycle
4. Improve public understanding of what constitutes an approved motorcycle helmet and provide additional training to law enforcement on this topic



Motorcycle Major Crashes Trend



CRITICAL EMPHASIS AREA

AGE APPROPRIATE SOLUTIONS

5

CEA 5A – Improve Younger Driver Safety (Under 25)

In previous editions of the SHSP, younger drivers were defined as motorists under the age of 21. Looking at historical trends, the number of major crashes involving drivers under the age of 21 has decreased by 52% since 2004. This reduction is impressive and shows strong progress in improving safety for younger drivers. However, further investigation revealed that when drivers under the age of 25 were considered, the number of crashes in which younger drivers were involved more than doubled. Between 2004 and 2015, drivers under 21 accounted for 14% of all major crashes in Vermont while drivers under the age of 25 accounted for 30%. Drivers under the age of 25 in Vermont account for more than 1 in 4 of all fatal and incapacitating injury crashes statewide. Based on these statistics, the Improve Younger Driver Safety CEA has been expanded to include drivers under the age of 25.



Goal

Reduce major crashes by **15%** between 2017-2021

Strategies

1. Strengthen the VT graduated licensing law (GDL) for young drivers
2. Expand and incentivize initial driver education and advanced skills training
3. Provide resources and training opportunities to parents of young drivers
4. Create outreach programs targeting the 21 to <25 age group through colleges, employers, and other resources
5. Continue to research statistics, trends, and legislation that can help improve understanding of the culture and mindset of young drivers
6. Mandate driver education for all novice drivers under age 25

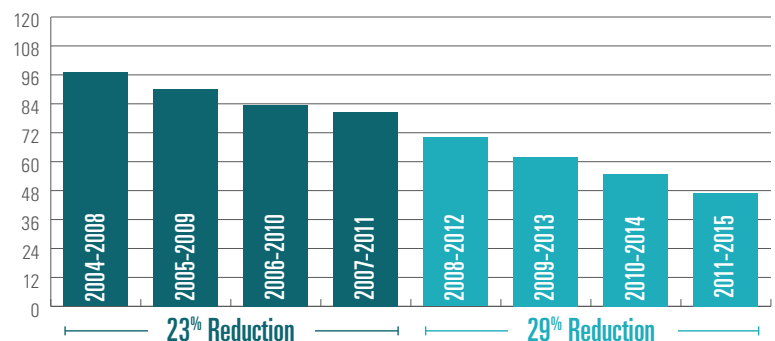
5 Year Rolling Average 2004-2015

52%

Reduction



Young Driver Major Crashes Trend



AGE APPROPRIATE SOLUTIONS

CEA 5B – Improve Older Driver Safety (65 and Over)

An older driver is defined as a driver who is 65 years of age or older. People age 65 and older make up 17.5% of Vermont’s population, which equates to nearly 110,000 people—a notable increase from the 15% (94,000 people) cited in the 2012-2016 SHSP. This increase in the older population continues to follow the trend projected by the US Census Bureau which projects an over age 65 population in Vermont of 24% by 2030. Historical trends show that the involvement of older drivers in major crashes has decreased 7% since 2011. During the last five year period from 2011 through 2015, major crashes involving older drivers accounted for 16% of the statewide incapacitating injury crashes and 24% of fatal crashes. With the projected population increase for this age group, it is important to remain proactive at addressing potential safety countermeasures for this demographic.



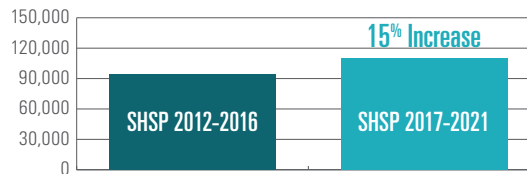
Goal

Reduce major crashes by **5%** between 2017-2021

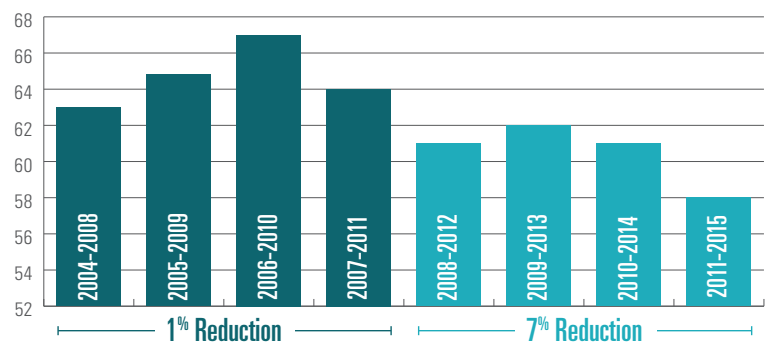
Strategies

1. Increase education and outreach to older drivers
2. Continue improving infrastructure to meet the needs of all roadway users
3. Develop and implement programs to increase public understanding and enforcement of driving with diminished skills
4. Continue to research statistics, trends, and legislation for older drivers

65 or older population growth in VT



Older Driver Major Crashes Trend



CRITICAL EMPHASIS AREA

6

REDUCE IMPAIRED DRIVING

Impaired driving is defined as operating a vehicle under the influence of medication, drugs, and/or alcohol. Looking at historical data, a 30% reduction in major crashes involving impaired driving has occurred since 2004, with a 23% reduction in the last five years alone. While there has been progress in reducing major crashes in this CEA, impaired driving was still reported in 20% of all major crashes in Vermont between 2011 and 2015. With the continued efforts of various entities, this number can be further reduced.



Goal

Reduce major crashes by **10%** between 2017-2021

Strategies

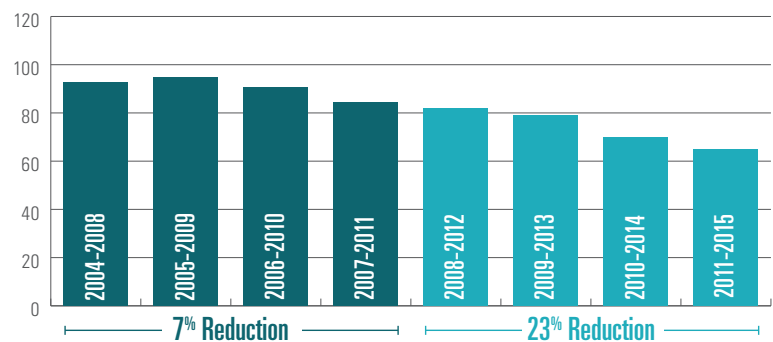
1. Improve public awareness of what impaired driving is and its associated dangers
2. Regularly update and promote programs for consistent education for individuals and organizations charged with addressing impairment issues
3. Increase and enforce penalties for impaired driving with a streamlined approach to enforcement
4. Continue updating and implementing programs for impairment analysis and rehabilitation
5. Increase training for law enforcement officers to assist them in detecting incidents of Driving While Impaired by Drugs
6. Support a more efficient means of collecting evidentiary samples in Driving While Impaired by Drugs cases
7. Support expansion of use of Ignition Interlock Devices by all DWI Alcohol offenders
8. Increase offender accountability and rehabilitation through DWI Courts and 24/7 Programs

5 Year
Rolling Average
2004-2015

30%
Reduction



Impaired Driving Major Crashes Trend



CURB DISTRACTED DRIVING AND KEEP DRIVERS ALERT

Distracted driving is defined as driving while performing any other activity, whether visual, manual, or cognitive, that could divert a person’s attention away from the primary task of driving. In the age of constant distraction and handheld technology, addressing distracted and inattentive driving has become a heightened priority in Vermont and across the country. Driving while drowsy is also a contributing factor toward the crashes that fall under this emphasis area. Since 2004, major crashes involving distracted or inattentive driving have decreased by 40%, with a 35% reduction occurring between 2011 and 2015. The accelerated progress in this CEA may be partially attributed to the adoption of the 2014 law that bans all drivers in Vermont from using a handheld device while operating a vehicle, with drivers under the age of 18 completely banned from using a cell phone.

Distracted and inattentive driving was noted as a contributing factor in 17% of the major crashes statewide between 2011 and 2015 with an average of 7 fatal crashes per year – accounting for 11% of all fatal crashes in the State annually.



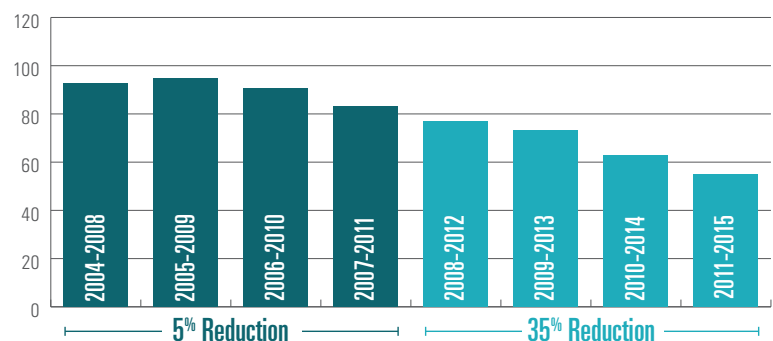
Goal

Reduce major crashes by **10%** between 2017-2021

Strategies

1. Improve public awareness on what defines distracted driving and its associated laws and dangers
2. Enhance effectiveness and awareness of countermeasures, such as safety rest stops and safe texting areas
3. Improve coordination between stakeholders in order to maximize enforcement of distracted driving penalties
4. Continue to improve and diversify data and research statistics, trends, and attitudes, and strengthen legislation related to distracted driving

Alert/Distracted Driver Major Crashes Trend





SIGNIFICANT EMPHASIS AREAS

Significant Emphasis Areas

Reduce Medium And Heavy Vehicle Crashes

Improve Work Zone Safety

Significant Emphasis Areas

In addition to the CEAs, 2 Significant Emphasis Areas (SEAs) have also been identified herein. These areas are not viewed as any less important than the CEAs, however they account for a smaller percentage of the major crashes statewide. The intent is to monitor crash data and identify any trends that may emerge from the SEAs. The following SEAs have been identified:

1. Reduce Medium and Heavy Vehicle Crashes
2. Improve Work Zone Safety

The following pages provide overviews of each of the SEAs, as well as an overview of goals and related ongoing safety initiatives.

SIGNIFICANT EMPHASIS AREA

1

REDUCE MEDIUM AND HEAVY VEHICLE CRASHES

The frequency of crashes involving medium and heavy vehicles has reduced significantly since 2007. Between the years of 2007 and 2015, the number of medium and heavy vehicle crashes has decreased approximately 33%. However, it should be noted that crashes reduced dramatically between 2007 and 2011, but appear to have since leveled off. In 2007, there were 1,084 crashes involving medium and heavy vehicles. In 2015, there were 499 crashes which makes up just under 4% of all crashes in Vermont. Between 2011 and 2015, heavy and medium vehicle crashes accounted for roughly 14% of fatal crashes statewide. It is recognized that much of the medium and heavy vehicles on the road are operated by private industries and the VHSA is committed to making these drivers' workplace as safe as possible. Crash data regarding this SEA will continue to be monitored to identify emerging trends.



Goal

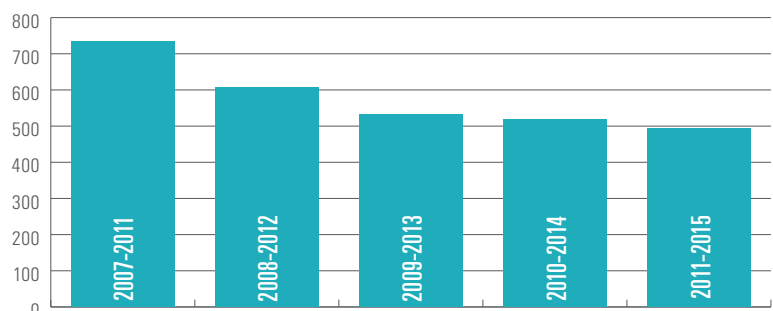
The VHSA will continue their statewide safety efforts and initiatives related to medium and heavy vehicle safety. The crash data regarding total and major crashes will be monitored such that any emerging trends will be immediately identified and addressed accordingly.

Existing initiatives pertaining to medium and heavy vehicle safety include, but are not limited to, the following:

- Commercial Motor Vehicle (CMV) crash reduction by conducting directed patrols based on crash analysis
- Passenger transportation safety via increasing the number of enroute, terminal, and destination inspections on motor coaches and busses
- Driver and vehicle inspections including a special focus on cross-border traffic
- On-site carrier reviews and audits focusing on new entrant companies and carriers with a pattern of on-road safety violations
- Public education and outreach by organizations such as Project RoadSafe, DMV, law enforcement, employers, and others

5 Year
Rolling Average
2007-2015
33%
Reduction

Medium/Heavy Vehicles Total Crashes Trend



SIGNIFICANT EMPHASIS
AREA

2

IMPROVE WORK ZONE SAFETY

In the most recent study period, from 2011 to 2015, work zone crashes accounted for less than half of a percent of all crashes in Vermont. This may not seem like reason for work zone safety to be a SEA but work zones are unique in that they are unpredictable and can be challenging to navigate, which poses a threat to all road users. There has been a slight decrease since 2007 in the number of a work zone crashes, dropping 2% in the past 9 years. Work zone safety will continue to be a point of emphasis for the VHSA in order to keep motorists, construction workers, and other road users safe.



Goal

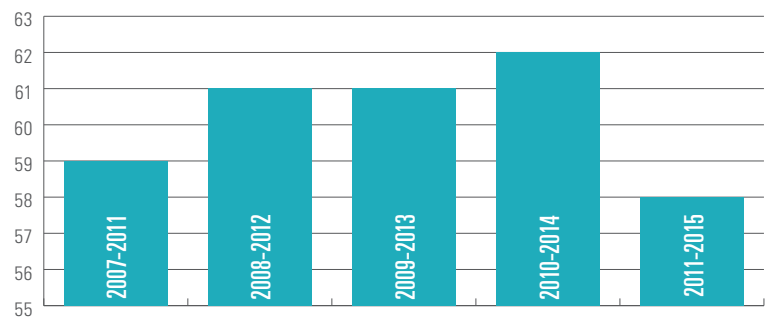
The VHSA will continue their statewide efforts and initiatives related to work zone safety. The crash data regarding total and major crashes will be monitored such that any emerging trends will be immediately identified and addressed accordingly.

Existing initiatives pertaining to work zone safety include, but are not limited to, the following:

- › Construction work zone field reviews
- › Work Zone Advisory Council
- › Implementation of federal work zone rules
- › Detailed design reviews of traffic control plans



Work Zone Total Crashes Trend





SPECIAL EMPHASIS AREAS

Special Emphasis Areas

Improve Vermont's Data In The Interest Of Safety

Enhance Vermont's Emergency Medical Services Capabilities

Special Emphasis Areas

The two special emphasis areas that were included the 2012-2016 edition of the SHSP have been chosen to remain in the current plan. These Special Emphasis Areas are vital components of a complete plan and have broad reaching influences over the success of the SHSP. These two Special Emphasis Areas are as follows:

1. Improve Vermont's Data in the Interest of Safety
2. Enhance Vermont's Emergency Medical Services (EMS) Capabilities

By nature, the impacts of these Special Emphasis Areas are difficult to determine through analysis of existing data trends, but are known to be critical to the success of highway safety in Vermont. The following section includes an explanation of the importance of the Special Emphasis Areas as they relate to highway safety, as well as a brief description of the goals and strategies for each.

IMPROVE VERMONT'S DATA IN THE INTEREST OF SAFETY

Crash data is the foundation of Vermont's highway safety programs and the VHSA. The use of data, that is accurate, timely, complete and accessible, to identify highway safety deficiencies, create projects, justify safety improvements, and track performance is crucial to the successful execution of the plan and future safety initiatives.

A significant step was taken toward improving crash data accessibility through the development and launch of the Vermont Public Crash Query Tool in 2014. This online tool provides public access to the State's crash database, allowing safety stakeholders and the public to view and download crash data to perform their own crash analyses or inform themselves about safety issues across the State or within their communities.

Vermont is dedicated to the continued effort of improving the quality of crash data and its integration with other safety data systems and of improving crash data analysis methods in order to make further advancement in annual crash reduction.



Goal

Improve statewide data in the interest of safety.

Strategies

1. Improve the quality and timeliness of police reported crash data
2. Improve the quality and availability of traffic violation data
3. Improve the quality of the overall crash database
4. Improve the diversity and completeness of highway data
5. Improve crash data analysis to support data-driven decision making
6. Integrate a trauma registry and link emergency response to patient outcomes

ENHANCE VERMONT'S EMERGENCY MEDICAL SERVICES CAPABILITIES

Vermont's emergency medical services currently provide excellent care to those in need. However, where every major crash requires some degree of EMS, special consideration to evaluate and track EMS capabilities is a critical component of highway safety. Survival of a major crash or the successful treatment of a severe injury depends on the location of the crash and its proximity to the nearest emergency care facility, noting that the University of Vermont Medical Center (formerly Fletcher Allen Health Care) located in Burlington is the only Level 1 Trauma Center in Vermont. A Level 1 Trauma Center is capable of providing complete care for every aspect of injury and designates trauma patients as its highest priority.

Important components of Vermont's EMS plan include the number of trauma care facilities in the State, reporting of detailed data for injured patients, funding to provide extensive training and education for employees, and ongoing data evaluation. These areas continually need to be assessed to determine what improvements can be made to ensure that the best emergency services can be provided to those in highway crashes.



Goal

Improve statewide emergency medical services in the interest of safety

Strategies

1. Improve the availability and distribution of emergency medical responders
2. Improve the timeliness of EMS response and transport
3. Assess and improve the Vermont trauma system
4. Assess and improve the quality of clinical care provided to those injured
5. Improve intra-agency coordination during emergency response
6. Create a culture of safety associated with emergency vehicle operation and emergency scene response.
7. Conduct Traffic Incident Management Training for first responders to ensure that incident scenes are set up in the safest and most efficient manner possible



ATTACHMENT A

Office of Highway Safety

Governor's Highway Safety Program (GHSP)

Highway Safety Improvement Program (HSIP)

Highway Safety Data Unit

Vermont Highway Safety Alliance (VHSA)

Highway safety impacts all of our lives each and every day. Whether we are commuting to work, taking kids to school and extra-curricular activities, driving to community events, or just going for a walk or bike ride, we all have one expectation and that is to leave home and return again unharmed. The sad fact is that each year roughly 340 people are killed or seriously injured on Vermont highways. In December 2014, VTrans formed the Office of Highway Safety (OHS) which is dedicated to reducing these tragedies on Vermont's roadways. The OHS is made up of four separate units: Vermont Highway Safety Alliance, Governor's Highway Safety Program, Highway Safety Improvement Program and Highway Safety Data Unit.

Office Of Highway Safety

Governor's Highway Safety Program (GHSP)

The GHSP focuses on the behavioral side of highway safety. It is estimated that 90% of all highway crashes are caused by driver error or poor behavior. GHSP works with public agencies, state and local enforcement departments, and educational non-profit groups to institute programs to address the behavioral issues that are rampant in society. The National Highway Transportation Safety Administration (NHTSA) provides funding which GHSP utilizes to mitigate problems identified in the yearly Highway Safety Plan (HSP). Yearly reports are provided to NHTSA outlining progress or remaining challenges in the area of crash reduction.

Highway Safety Improvement Program (HSIP)

The HSIP addresses problematic areas on the physical roadway infrastructure system across Vermont. Recent crash data is analyzed to determine the specific areas and locations that need to be addressed. In addition to specific locations, the HSIP identifies systemic problems by analyzing similar causal crash factors and crash characteristics. Utilizing this analysis, staff look for ways to implement statewide changes to the highway system to combat the systemic issues.

To meet the MAP21 and FAST ACT requirements, Vermont defines a high risk rural road (HRRR) as any roadway functionally classified as a rural major or minor collector or rural local road that has three or more fatal and injury crashes per mile over a five-year period.

Highway Safety Data Unit

The Highway Safety Data Unit is the repository of all crash data statewide. All state and local enforcement agencies and departments send electronic crash reports to this unit. These reports are checked for quality and then added to the state database. Enforcement agencies, engineers, and local communities rely on this data to make informed decisions on solving highway safety issues in the most effective way. This group provides the barometer by which we measure the safety health of our Vermont Highway System.

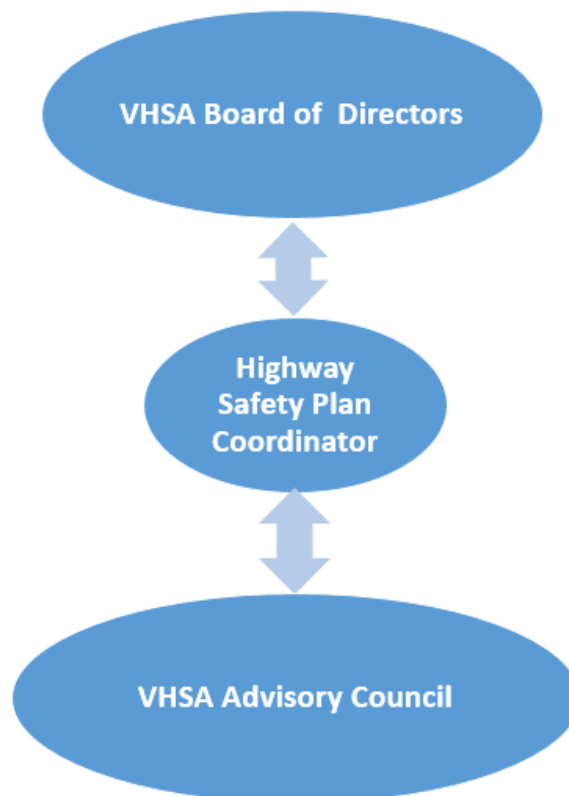
Vermont Highway Safety Alliance (VHSA)

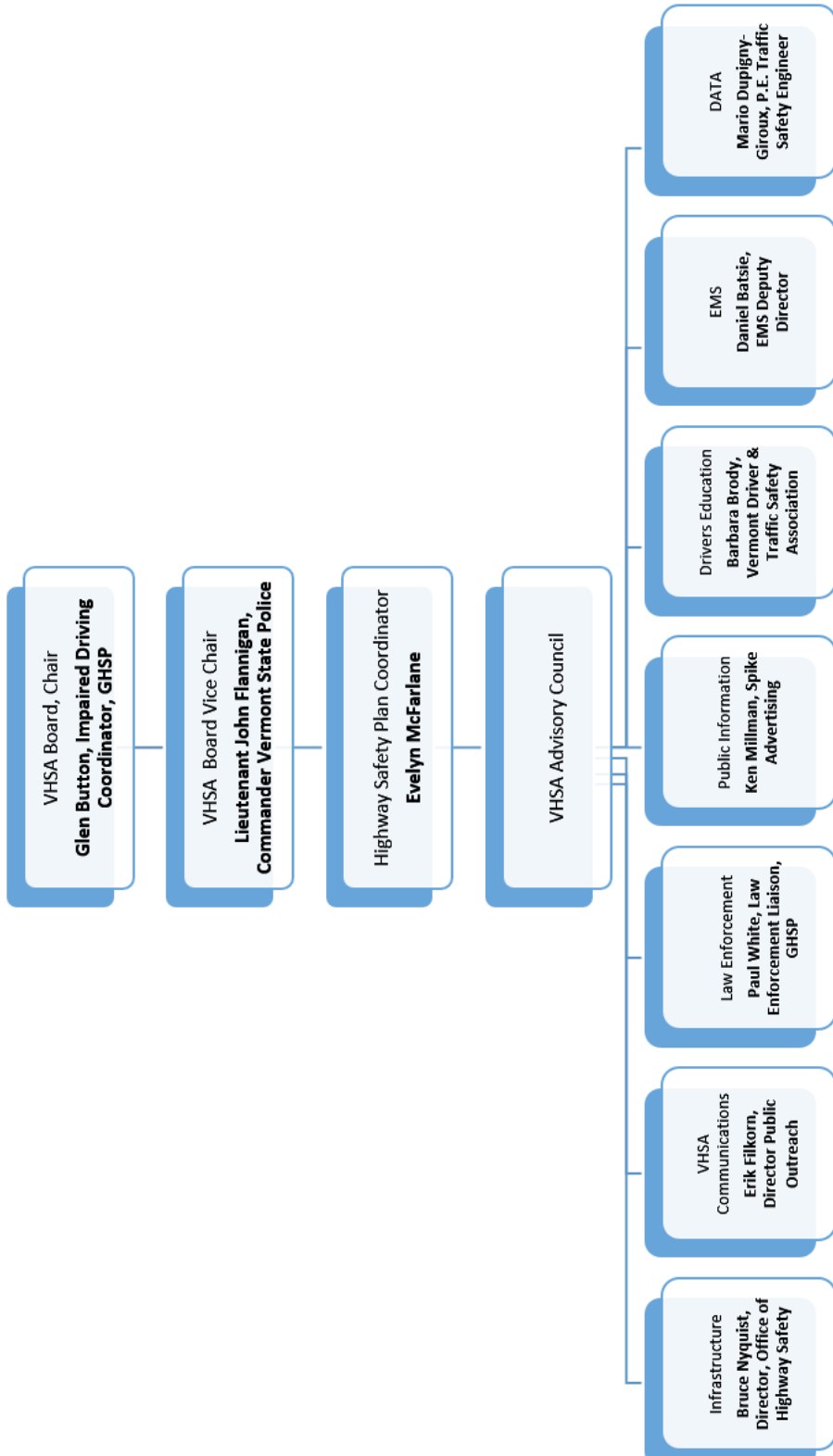
The VHSA is a non-profit organization whose sole focus is to reduce needless crashes on Vermont’s highways. Public agencies, and private individuals and companies make up the VHSA membership. The Strategic Highway Safety Plan (SHSP) is the guiding document which, via crash data, identifies the areas that need to be addressed. The VHSA consists of a Board of Directors, an Advisory Council, and Task Force (TF) groups. The VHSA Board of 15 members define the Strategic Highway Safety Plan (SHSP) for the State of Vermont and determine the Critical Emphasis Areas (CEAs). The Highway Safety Plan Coordinator works with the VHSA Advisory Council to determine the high level strategies to be employed in an effort to meet the crash reduction goals set for the individual CEAs. The Advisory Council consists of Subject Matter Experts (SMEs) in each of the critical areas with regard to highway safety. Standing members of the Council are the VHSA Board of Directors, Chair and Vice Chair, as well as the Highway Safety Plan Coordinator. The Advisory Council will implement specific action plans guided by the strategies in accordance with the course set by the Board of Directors and will deploy Task Force teams to complete specific small, medium, and large projects targeted to reduce crashes.

An effort will be made to make these groups multi-disciplinary in order to address the needs of all highway users.

Subject Matter Experts

The SMEs play a critical role on the Task Force teams to engage, advise, and lead on specific projects and are encouraged to send new program suggestions to the advisory board for consideration. Monthly scheduled meetings and ongoing communication with the SMEs are planned to help keep the VHSA active, vibrant, and effective.







ATTACHMENT B

Glossary

Glossary

AAA	American Automobile Association
AARP	American Association of Retired Persons
AC	Advisory Council
Alliance	Vermont Highway Safety Alliance
CCRPC	Chittenden County Regional Planning Commission
CEA	Critical Emphasis Area
DMV	Department of Motor Vehicles
DWI	Driving While Impaired
EMS	Emergency Medical Services
FHWA	Federal Highway Administration
Four E's (4 E's)	Education, Enforcement, Engineering, and Emergency Services
FMCSA	Federal Motor Carrier Safety Administration
FFY	Federal Fiscal Year
FY	Fiscal Year
GDL	Graduated Driver's License
GHSP	Governor's Highway Safety Program
HRRR	High Risk Rural Roads
HSIP	Highway Safety Improvement Program
HSP	Highway Safety Plan
Major Crash	Fatal or Incapacitating Injury Crash
NHTSA	National Highway Traffic Safety Administration
OHS	Office of Highway Safety
SEA	Significant Emphasis Area
SHSP	Strategic Highway Safety Plan
SME	Subject Matter Experts
Safety PM	Safety Performance Management
TPM	Transportation Performance Management
TZD	Toward Zero Deaths

Attachment B

VHSA	Vermont Highway Safety Alliance
VSP	Vermont State Police
VTrans	Vermont Agency of Transportation

VERMONT

Strategic Highway Safety Plan 2017-2021

