



# VERMONT

## Strategic Highway Safety Plan

2012 – 2016

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 the following public and private sector organizations for contributing toward the development of Vermont's Strategic Highway Safety Plan (SHSP). These safety partners have worked diligently to identify Vermont's most critical emphasis areas for improving highway safety and establish implementable action plans that will continue the positive trend of reducing fatal, major, and all other crashes in the State. Each of these organizations and their members work tirelessly on a daily basis to improve the safety of Vermont's highways. Through this effort these groups look to improve upon the existing collaboration and partnerships to take this effort to the next level.

- › AAA of Northern New England
- › AARP Driver Safety
- › Addison County Regional Planning Commission
- › Associated General Contractors of Vermont and Project Road Safe
- › Bennington County Regional Commission
- › Central Vermont Regional Planning Commission
- › Chamber of Commerce
- › Chittenden County Regional Planning Commission (CCRPC)
- › Cooperative Insurance Companies
- › Federal Highway Administration (FHWA)
- › Federal Motor Carrier Safety Administration (FMCSA)
- › F.R. Lafayette
- › Lamoille County Planning Commission
- › Municipal Employees
- › National Highway Traffic Safety Administration (NHTSA)
- › Northeastern Vermont Development Association
- › Northwest Regional Planning Commission
- › Rutland Regional Planning Commission
- › Southern Windsor County Regional Planning Commission
- › Springfield Police Department
- › Supervisory Union
- › Town of Barre
- › Two Rivers-Ottawaquechee Regional Commission
- › Vermont Association of Chief of Police (and member departments)
- › Vermont Agency of Transportation (VTrans)
- › Vermont Bicycle and Pedestrian Coalition
- › Vermont Department of Education
- › Vermont Department of Health
- › Vermont Department of Liquor Control
- › Vermont Department of Motor Vehicles (DMV)
- › Vermont Department of Public Safety, Governor's Highway Safety Program
- › Vermont Department of Tourism and Marketing
- › 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
- › Windham Regional Commission
- › Work Safe TCI
- › Youth Safety Council of Vermont
- › 3M

The SHSP identifies the emphasis areas that will serve as the focal points for improving Vermont's highway safety. However, the ability to put the plan into action requires help from all Vermont highway users. Municipalities, local organizations, private companies, and individual residents can all play a significant role in achieving the goals of improving safety in our local communities. **The VHSA invites everyone interested in the safety initiative to get involved!** More detailed material supporting the SHSP, such as data trends, action plans, performance measures, and funding sources can be found in the SHSP Supplement available on-line at [highwaysafety.vermont.gov](http://highwaysafety.vermont.gov). Please visit the website to learn more about Vermont's safety programs and to find contact information to join the safety partners.



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## Introduction

## Goals and Objectives

## Introduction

In 2012, leaders in the pursuit of safer Vermont highways and local roads launched an initiative to formalize a statewide integrated safety program. This initiative led to the formation of the Vermont Highway Safety Alliance (VHSA), whose members include a broad cross section of public and private organizations that represent all users of the State's highway system and encompass the 4 E's of highway safety - Education, Enforcement, Engineering, and Emergency Services. The VHSA is comprised of a Board of Directors and five Focus Groups, which include Enforcement, Data, Education, Infrastructure, and Outreach and Marketing. The VHSA partners are committed to working as a team to accomplish common goals that promote the safety of motorists, pedestrians, bicyclists, and all users traveling on Vermont highways.

**“Through coordination and collaboration, the VHSA will be more effective and efficient when providing strategies and solutions within private industry and government entities dedicated to improving the safety of our highways.”**

*VHSA Bylaws, June 28, 2012*

The VHSA members have worked collaboratively on the development of a consolidated Strategic Highway Safety Plan (SHSP). The intent of the consolidated plan is to merge the work efforts of individual organizations under one umbrella to best utilize and share resources in a targeted manner, accelerating the advancement of highway safety within the State. The SHSP also incorporates elements of the following individual plans prepared for the State of Vermont:

- › Highway Safety Program (HSP)
- › Highway Safety Improvement Program (HSIP)
- › 2006 Strategic Highway Safety Plan (SHSP)
- › Vermont State Police Strategic Plan
- › Department of Motor Vehicles (DMV) Strategic Plan
- › Motor Carrier Safety Assistance Program Commercial Vehicle Safety Plan
- › Traffic Records Strategic Plan

The formalization of the SHSP is envisioned to be the framework to assist in the development and advancement of other individual elements of Vermont's safety initiatives, building upon the plan's accomplishments in a comprehensive and strategic manner. The VHSA is pleased to present this plan and reaffirm its commitment to work tirelessly Toward Zero Deaths on Vermont highways.

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

## Goals and Objectives

Vermont has made significant progress in reducing all types of crashes on the State's highways since the implementation of the 2006 SHSP. As shown in the table below, crashes in the State of Vermont have been steadily decreasing over the 5 year analysis period of 2007-2011. Although this downward trend is impressive, major crashes\* have consistently accounted for approximately 3% of all crashes. While 3% may seem like a low number, this percentage translates to an average of 387 people per year losing their life or incurring life altering injuries on our highways.

Crash Types per Year

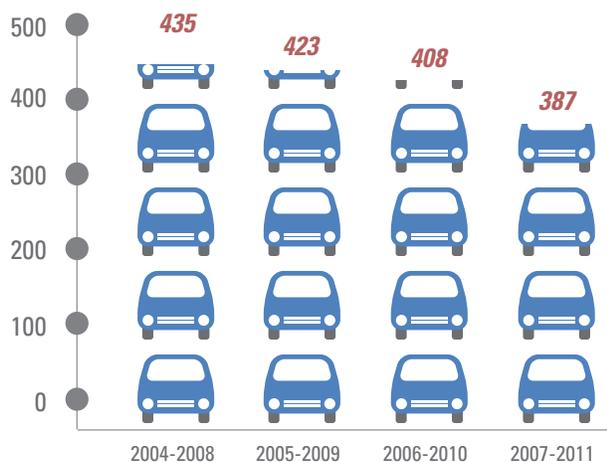
	Major Crashes						Total
	Fatal	Incapacitating Injury	Non-Incapacitating Injury	Possible Injury	No Injury	Other	
2007	62	323	1,576	854	10,792	819	14,426
2008	66	349	1,427	758	10,001	1,160	13,761
2009	68	309	1,333	679	9,331	931	12,651
2010	63	328	1,366	705	9,038	1,367	12,867
2011	48	320	1,377	657	7,340	2,882	12,624
<b>Total</b>	307	1,629	7,079	3,653	46,502	7,159	66,329
<b>% of Total</b>	0.5%	2.5%	10.7%	5.5%	70.0%	10.8%	

Major crashes have the most severe impact on the State as their effects are far reaching and include the loss of human life. The VHSA has targeted the reduction of major crashes in the State of Vermont as the primary goal of the SHSP. The plan is intended to follow the objectives of FHWA’s national effort to improve highway safety known as Toward Zero Deaths. Similar to the Toward Zero Deaths initiative, the SHSP is a data-driven effort focusing on identifying and creating opportunities for changing Vermont’s culture as it relates to highway safety. The success of the SHSP will rely on a team of champions working together on a myriad of factors surrounding highway safety.

\*A 5-year rolling average is defined as analyzing the annual average data for each 5-year time period throughout the overall analysis period. In this case, 2004-2011 is the analysis period, with four 5-year periods of 2004-2008, 2005-2009, 2006-2010, and 2007-2011.

A review of historical trends shows a 10.9% reduction in major crashes statewide when considering a 5-year rolling average\* since 2004. As shown below, the 2004 to 2008 time period shows an average of 435 major crashes compared to the 2007 to 2011 average of 387 major crashes. The VHSA strives to retain this level of success moving forward and has established a goal of reducing major crashes from 2012 to 2016 by an additional 10%.

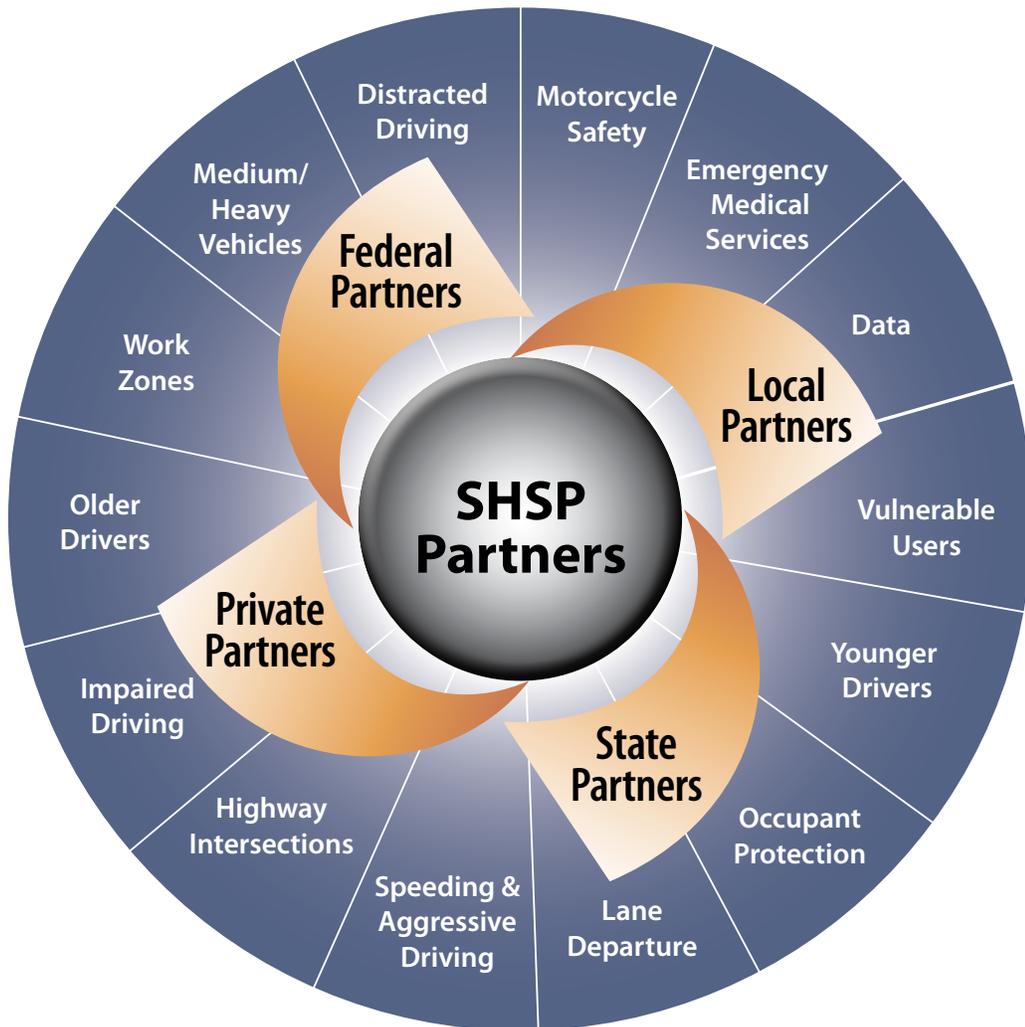
Overall Major Crash Trend ↓10.9%



## Introduction

The VHSA's goal of reducing crashes will be achieved through the 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 4 E's of highway safety as well as policy, public health, communications, and other efforts. The VHSA Board of Directors and 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.

## SHSP Partner Collaboration





## Vermont Strategic Highway Safety Plan

### Critical Emphasis Areas

Critical Emphasis Area 1:  
Improve Infrastructure

Critical Emphasis Area 2:  
Age Appropriate Solutions

Critical Emphasis Area 3:  
Curb Speeding and Aggressive Driving

Critical Emphasis Area 4:  
Increase Use of Occupant Protection

Critical Emphasis Area 5:  
Reduce Impaired Driving

Critical Emphasis Area 6:  
Curb Distracted Driving and Keep Drivers Alert

## Critical Emphasis Areas

The VHSA and Focus Groups have taken a data driven approach to identifying and prioritizing the Critical Emphasis Areas (CEAs) for the SHSP. To assist in the effort of selecting CEAs, a detailed crash evaluation was conducted for Vermont's 2007 through 2011 crash data. This analysis examined total, major, and fatal crash trends for the seven CEAs included in the 2006 SHSP, as well as other potential new CEAs indicated by the data. In addition, a review of the twenty-two CEAs outlined by the American Association of State Highway and Transportation Officials (AASHTO) was conducted.

As a result of this data evaluation, the VHSA Board and Focus Groups reviewed the existing data trends and prioritized the areas of greatest concern. This resulted in the selection of six of the most critical areas requiring a focused attention on our highways. The following CEAs were identified for inclusion in the SHSP:

1. Improve Infrastructure
  - 1a. Minimize Lane Departure
  - 1b. Improve the Design and Operations of Highway Intersections
2. Age Appropriate Solutions
  - 2a. Improve Young Driver Safety
  - 2b. Improve Older Driver Safety
3. Curb Speeding and Aggressive Driving
4. Increase Use of Occupant Protection (safety belts, child passenger restraints, and helmets)
5. Reduce Impaired Driving
6. Curb Distracted Driving and Keep Drivers Alert

The following sections provide an overview of each emphasis area, along with its specific goal and strategies for accomplishing the goal. **Additional details for each emphasis area can be found in the SHSP Supplement which is a companion document to the SHSP.** The Supplement includes material such as the action plans, funding sources, performance goals and measures, progress reporting requirements, and designated champions.



# CRITICAL EMPHASIS AREA 1 Improve Infrastructure

## Critical Emphasis Area 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 a sign, a guardrail, ledge or boulder, or any other fixed object including another vehicle. The 5-year rolling average historical trend for the years of 2004-2011 shows a steady reduction of 7% in lane departure major crashes. Lane departure crashes are responsible for 25% of crashes in Vermont and are greatly over-represented in major crashes, accounting for 61% of fatal crashes. By creating public awareness and providing infrastructure improvements these numbers can be reduced.



**Goal:**  
Reduce the number of major crashes related to lane departure by 10% between 2012-2016.



Lane Departure Major Crash Trend

↓ 7%

5-year rolling average from 2004-2011

### Strategies

1. Continue programs to implement low cost safety improvements on all public highways
2. Improve highway delineation
3. Support municipalities in mitigating high crash locations within their jurisdiction by providing data, countermeasure alternatives, and resources to implement improvements

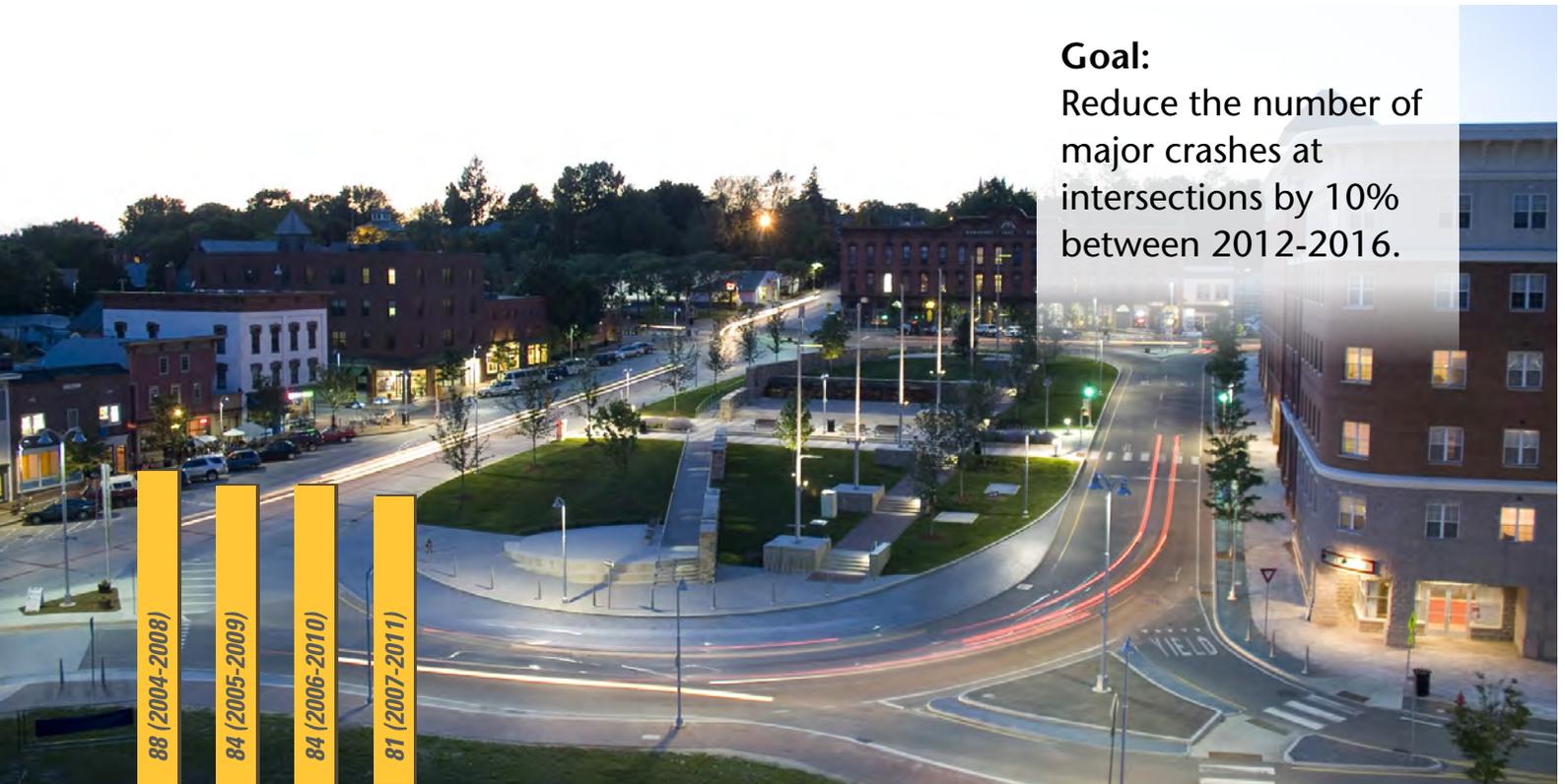
## Critical Emphasis Areas

### Critical Emphasis Area 1B – Improve the Design & Operation of Highway Intersections

A highway intersection is defined as a roadway characteristic of a four-way intersection, a T-intersection, a Y-intersection, a traffic circle, roundabout, or any intersection with three approaches or more. Historical trends show an 8% reduction in major intersection crashes since 2004. Intersection crashes represent 27% of the total crashes and 15% of the fatal crashes in Vermont. Opportunities exist to reduce intersection crashes by improving infrastructure and increasing public understanding and compliance at intersections

#### Goal:

Reduce the number of major crashes at intersections by 10% between 2012-2016.



Highway  
Intersection  
Major Crashes

↓ 8%

5-year rolling  
average from  
2004-2011

#### Strategies

1. Improve traffic signal operation
2. Improve driver compliance at highway intersections
3. Implement physical changes on the approaches to and at intersections
4. Support municipalities in mitigating high crash locations within their jurisdiction by providing data, countermeasure alternatives, and resources to implement improvements
5. Increase awareness and safety of bicyclists and pedestrians at intersections



## CRITICAL EMPHASIS AREA 2 Age Appropriate Solutions

### Critical Emphasis Area 2A – Improve Younger Driver Safety

Young drivers are defined as a driver under 21 years of age. According to the 2010 Vermont Census data, approximately 10% of Vermonters are between the ages of 15 and under 21 and could potentially have their driver's permit or license. This is over 62,500 relatively new and young drivers who may be driving on the Vermont roads on a daily basis. While only 10% of our drivers are within this age group, this age group represents almost 20% of all total fatal and incapacitating injury crashes statewide. Vermont has made significant strides in improving young driver safety since 2004 with a 23% reduction in young driver major crashes.



#### Goal:

Reduce the number of major crashes involving young drivers by 20% between 2012-2016.



Younger Driver (<21) Major Crash Trend

↓ 23%

5-year rolling average from 2004-2011

#### Strategies

1. Strengthen the VT graduated licensing law (GDL) for young drivers
2. Improve initial driver education and advanced skill training
3. Provide resources and training opportunities to parents of young drivers
4. Continue to research statistics, trends, and legislation for young drivers

## Critical Emphasis Areas

### Critical Emphasis Area 2B – Improve Older Driver Safety

An older driver is defined as a driver who is 65 years of age or older. According to the 2010 Vermont census figures, approximately 15% of Vermonters (almost 94,000) are of the age 65 or older. As the population ages, there will be an increase in the number of older drivers and potentially an increase in older driver crashes. It has been projected by the US Census Bureau that by the year 2030 the population of Vermont residents of or over the age of 65 years will be approximately 24%. Older driver crashes currently account for 27% of all fatal crashes in Vermont. Due to the projected significant increase in this age group in coming years, it is important to be proactive at addressing potential safety countermeasures for this population.



**Goal:**  
Reduce the number of major crashes involving older drivers by 5% between 2012-2016.



Older Driver ( $\geq 65$ )  
Major Crash Trend

↓ 1%

5-year rolling average from 2004-2011

#### Strategies

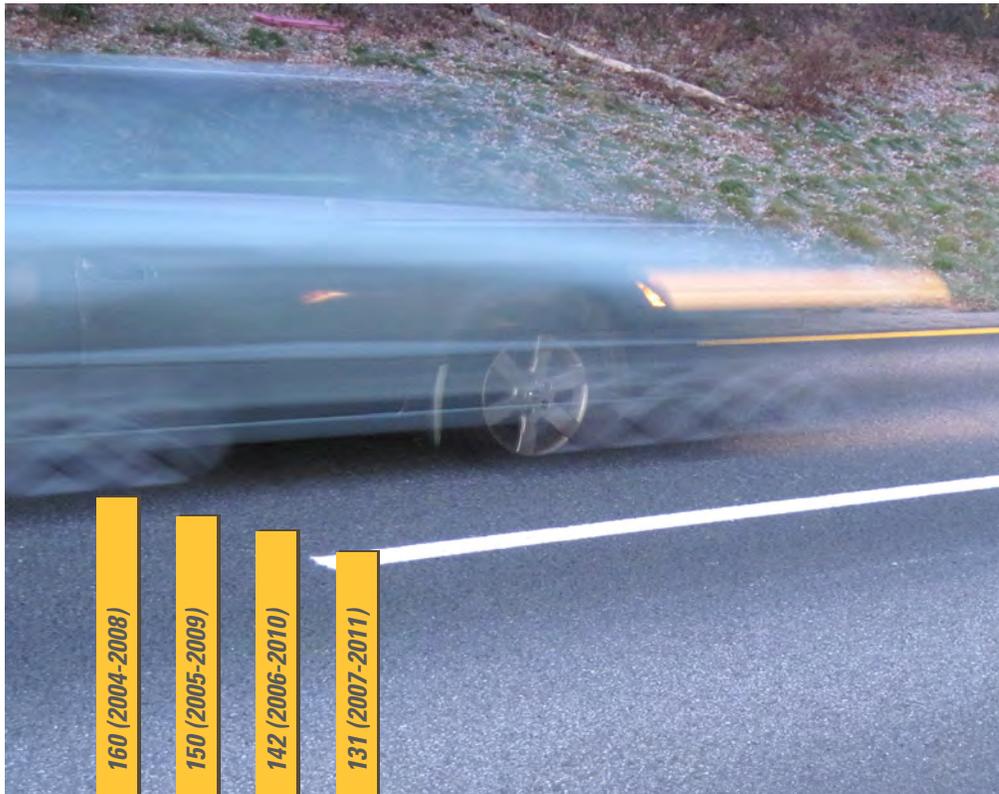
1. Increase education and outreach to older drivers
2. Continue to research statistics, trends, and legislation for older drivers
3. Continue improving infrastructure to meet the needs of all users



## CRITICAL EMPHASIS AREA 3

# Curb Speeding and Aggressive Driving

Speeding is defined as a vehicle that has either exceeded the authorized speed limit or is driving too fast for conditions, while aggressive driving is defined as operating a vehicle in an erratic, reckless, careless, negligent, or aggressive manner. Although the historical trend shows a steady reduction in these major crashes over the 5-year rolling average since 2004, the most recent 5-year period of 2007 to 2011 reveals that speeding and aggressive driving account for 35% of the fatal crashes in Vermont. Crashes due to speeding and aggressive driving result in a higher percentage of more severe injury crashes.



### Goal:

Reduce the number of major crashes involving speeding and/or aggressive driving by 20% between 2012-2016.

### Speeding and Aggressive Driving Major Crash Trend

↓ 18%

5-year rolling average from 2004-2011

### Strategies

1. Improve the education of drivers as it relates to speeding and aggressive driving
2. Improve public understanding of and adherence to speed limits
3. Advance the use of infrastructure techniques and technology to manage speeds



## CRITICAL EMPHASIS AREA 4 Increase Use of Occupant Protection

Major crashes involving the lack of occupant protection use have declined significantly with a 15% decrease for the 5-year rolling average since 2004. Despite this progress, this CEA remains a high priority as major crashes are more likely to occur as a result of improper occupant protection. This may include improper seatbelt use, child safety restraint use, and helmet use. Approximately 24% of the major crashes reported indicate no use of occupant protection. This percentage represents an average of more than 110 major crashes per year where injury could be minimized or avoided with the use of proper protection.

### Goal:

Reduce the number of major crashes involving unprotected occupants by 10% between 2012-2016.



### Occupant Protection Major Crash Trend

↓ 15%

5-year rolling average from 2004-2011

### Strategies

1. Raise awareness of the importance of safety belts
2. Increase enforcement of and strengthen safety belt laws in Vermont
3. Increase proper use and installation of child safety restraints
4. Implement programs for consistent education for stakeholders
5. Continue education and outreach for bicycle/motorcycle users



## CRITICAL EMPHASIS AREA 5 Reduce Impaired Driving

Impaired driving crashes are defined as any involved vehicle reported as under the influence of medication/drugs/alcohol. Historical trends show a 7% reduction for the 5-year rolling average since 2004. However, a more detailed analysis of the most recent 5-year analysis period from 2007 to 2011 revealed that impaired driving major crashes accounted for 17% of fatal crashes and 13% of incapacitating injury crashes in Vermont.



### Goal:

Reduce the number of major crashes related to impairment by 10% between 2012-2016.

### Impaired Driver Major Crash Trend



5-year rolling average from 2004-2011

### Strategies

1. Improve the public awareness and education of the dangers associated with impaired driving
2. Promote and implement programs for consistent education for individuals and organizations charged with addressing impairment issues
3. Increase and enforce penalties for impaired driving
4. Continue implementing programs for impairment analysis and rehabilitation



## CRITICAL EMPHASIS AREA 6 Curb Distracted Driving and Keep Drivers Alert

Distracted driving is any activity, whether visual, manual, or cognitive, that could divert a person's attention away from the primary task of driving. The Vermont uniform crash report breaks these down into the sub categories of inattention and distracted. While a 5% reduction in distracted driving major crashes has been tracked since 2004, these crashes consistently continue to account for 24% of major crashes on Vermont highways. As portable technology becomes increasingly popular, attention to this emphasis area needs to be heightened to better understand the correlation between technology use, distracted driving, and major crashes.



### Goal:

Reduce the number of major crashes related to distracted and inattentive drivers by 10% between 2012-2016.



Distracted and Inattention Major Crash Trend

↓ 5%

5-year rolling average from 2004-2011

### Strategies

1. Increase driver awareness of dangers associated with distracted driving
2. Enhance effectiveness/awareness of safety rest stops
3. Continue to research statistics, trends, and legislation related to distracted driving



## Vermont Strategic Highway Safety Plan

### Significant Emphasis Areas

Significant Emphasis Area 1:  
Increase Motorcycle Safety

Significant Emphasis Area 2:  
Increase Safety of Vulnerable Users

Significant Emphasis Area 3:  
Reduce Medium and Heavy Vehicle Crashes

Significant Emphasis Area 4:  
Improve Work Zone Safety

## Significant Emphasis Areas

In addition to the six critical emphasis areas, several other areas have been identified as significant emphasis areas. While these areas aren't viewed as any less important than the critical emphasis areas, they account for a smaller percentage of major crashes and therefore are being monitored and tracked closely to identify emerging trends. It is noteworthy to mention that many of the current statewide safety initiatives are directly related to these significant emphasis areas and have made progress in reducing the crash trends in these areas. The following are the Significant Emphases Areas that the VHSA Board and Focus Groups have identified:

Significant Emphasis Areas include:

1. Increase Motorcycle Safety
2. Increase Safety of Vulnerable Users
3. Reduce Medium and Heavy Vehicle Crashes
4. Improve Work Zone Safety

The following sections provide an overview of each significant emphasis area, along with its specific goal and a summary of existing and ongoing safety related initiatives.





## SIGNIFICANT EMPHASIS AREA 1

# Increase Motorcycle Safety

The number of motorcycle registrations in Vermont has increased steadily by 54% over the past decade. As the number of motorcycles on the highways increase, everyone’s awareness and education about motorcycle safety must be improved to continue a downward trend in crashes. Major crashes involving motorcycles currently represent approximately 14% of the total major crashes in Vermont as shown below. Of the total number of motorcycle crashes, approximately 3% result in a fatality and 20% result in an incapacitating injury.

### Major Crashes (Fatal and Incapacitating Injury)

	Motorcycle			Statewide	
	Crashes	% Major	% Total	Major	Total
<b>2007</b>	58	15.1%	0.4%	385	14,426
<b>2008</b>	52	12.5%	0.4%	415	13,761
<b>2009</b>	58	15.4%	0.5%	377	12,651
<b>2010</b>	42	10.7%	0.3%	391	12,867
<b>2011</b>	53	14.4%	0.4%	368	12,624
<b>Total</b>	263	13.6%	0.4%	1,936	66,329

*This table represents the number and percentage of major motorcycle crashes in the state and as a percentage of total crashes from the years 2007-2011.*

### Goal

The VHSA will continue their statewide efforts and initiatives related to motorcycle safety. They will also monitor major crashes in this emphasis area and be prepared to address any emerging trends.

Existing motorcycle safety initiatives currently include, but are not limited to, the following:

- › Vermont DMV Rider Education Program
- › Vermont Motorcycle Awareness Program



## SIGNIFICANT EMPHASIS AREA 2

# Increase Safety of Vulnerable Users

Vulnerable users are defined as a pedestrian; a person operating a wheelchair or other personal mobility device, whether motorized or not; a person operating a bicycle or other non-motorized means of transportation (such as, but not limited to, roller skates, roller blades, or roller skis); or a person riding, driving, or herding an animal. Major crashes involving vulnerable users account for a 10% of major crashes in Vermont, but less than 2% of the total crashes statewide. However, pedestrian and bicyclist crashes have increased over the past five year period as the number of vulnerable users on the highways has also increased. Vermont’s safety partners are committed to improving safety for all highway users, with a particular emphasis for those that are vulnerable. Many of the strategies and action plans developed for the CEAs will also contribute toward improving pedestrian and bicyclist safety on Vermont’s highways.

### Major Crashes (Fatal and Incapacitating Injury)

	Ped/Bike			Statewide	
	Crashes	% Major	% Total	Major	Total
2007	39	10.1%	0.3%	385	14,426
2008	29	7.0%	0.2%	415	13,761
2009	37	9.8%	0.3%	377	12,651
2010	39	10.0%	0.3%	391	12,867
2011	40	10.9%	0.3%	368	12,624
<b>Total</b>	<b>184</b>	<b>9.5%</b>	<b>0.3%</b>	<b>1,936</b>	<b>2.9%</b>

*This table represents the number and percentage of major pedestrian or bicyclist crashes in the state and as a percentage of total crashes from the years 2007-2011.*

### Goal

The VHSA will continue their statewide efforts and initiatives related to the safety of vulnerable users. They will continue to monitor major crashes in this emphasis area and be prepared to address any emerging trends. Existing vulnerable user safety initiatives currently include, but are not limited to, the following:

- › WalkSmart/BikeSmart Curriculum, Kohl’s Kids Bike Smart Program, Safe Routes to School Program, Safe Streets Project, and Bike Commuter Workshops
- › Safety programs from the Vermont Bike & Pedestrian Coalition including Drivers’ Education Jeopardy, A Tricky Mix: Bicyclists, Pedestrians, Motorists, and Police, and an annual Ride of Silence event.
- › Public outreach including the Bicycle Commuter’s Guide, Parent’s Guide to Safe Bicycling, Share the Road brochures, Bike Smart stickers, and other outreach.
- › General collaboration regarding vulnerable user safety with law enforcement, advocate groups, and driver’s education instructors.



## SIGNIFICANT EMPHASIS AREA 3

# Reduce Medium/Heavy Vehicle Crashes

Over the most recent five year analysis period, medium and heavy vehicle crashes account for approximately 5.5% of total crashes in the State. However, trends over the analysis period show an impressive decrease in medium and heavy vehicle crashes from 1,084 in 2007 to 566 in 2011. The VHSA recognizes that the primary use for medium and heavy vehicles is private industry. The drivers of these vehicles are in their respective workplaces and their safety at work needs to be emphasized as much as any other user on the highway. Crash data for this significant emphasis area will continue to be monitored to identify any changes in this trend.

	Medium & Heavy Vehicle Crashes		Total Crashes
	Crashes	% Total	
2007	1,084	7.5%	14,426
2008	814	5.9%	13,761
2009	580	4.6%	12,651
2010	619	4.8%	12,867
2011	566	4.5%	12,624
<b>Total</b>	<b>3,663</b>	<b>5.5%</b>	<b>66,329</b>

*This table represents the total number and percentage of medium and heavy vehicle crashes in the state from the years 2007-2011.*

### Goal

The VHSA will continue their statewide efforts and initiatives related to medium and heavy vehicle safety. They will continue to monitor major crashes in this emphasis area and be prepared to address any emerging trends.

Existing medium and heavy vehicle safety initiatives currently 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-increase the number of enroute, terminal, and destination inspections on motor coaches and busses.
- › Driver/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 such organizations as Project RoadSafe, DMV, law enforcement, employers and others.



## SIGNIFICANT EMPHASIS AREA 4

# Improve Work Zone Safety

Work zone crashes represent less than half a percent of the total crashes in Vermont with no fatalities reported in the five year analysis period. However, work zone safety is an important aspect of a safe highway system for all users because work zones introduce unexpected and many times challenging environments for the motorists. Work zone crashes will continue to be monitored to identify any potential increases.

	Work Zone Crashes		Total Crashes
	Crashes	% Total	
2007	52	0.4%	14,426
2008	53	0.4%	13,761
2009	60	0.5%	12,651
2010	67	0.5%	12,867
2011	61	0.5%	12,624
<b>Total</b>	<b>293</b>	<b>0.4%</b>	<b>66,329</b>

*This table represents the total number and percentage of work zone crashes in the state from the years 2007-2011.*

### Goal

The VHSA will continue their statewide efforts and initiatives related to work zone safety. They will continue to monitor major crashes in this emphasis area and be prepared to address any emerging trends.

Existing work zone safety initiatives currently 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



## Vermont Strategic Highway Safety Plan

### Special Emphasis Areas

Special Emphasis Area 1:  
Improve Vermont's Data in the Interest of Safety

Special Emphasis Area 2:  
Enhance Vermont's Emergency Medical  
Services Capabilities

## Special Emphasis Areas

Two Special Emphasis Areas have been identified as vital components of a complete plan. These areas have broad reaching influences over the success of the SHSP and include:

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

By the nature of these Special Emphasis Areas, their impacts 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 sections provide an overview of each emphasis area, along with its specific goal and strategies for accomplishing the goal. As with the critical emphasis areas, additional details for each special emphasis area can be found in the SHSP Supplement which is a companion document to the SHSP.



## SPECIAL EMPHASIS AREA 1

# Improve Vermont's Data in the Interest of Safety

Accurate and timely crash data is the backbone of the VHSA and SHSP. Using accurate data to identify deficiencies, create projects, justify safety investments, and track performance are paramount to the successful execution of the plan and future safety initiatives. While great strides have been made with regard to crash data, further work in this area is needed. The Traffic Records Coordinating Committee (TRCC) and the Data Focus Group have developed aggressive strategies that will improve data accessibility, completeness, quality, and timeliness of reporting.

### **Goal**

Improve statewide data in the interest of safety.

### **Strategies**

1. Improve data accessibility
2. Improve the quality and timeliness of police reported data
3. Improve the quality and availability of traffic violation data
4. Improve the quality of the overall crash database
5. Improve the completeness of highway data



## SPECIAL EMPHASIS AREA 2

# 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 to highway safety. Survival of a major crash or the successful treatment of a severe injury often depends on the location of the crash and its proximity to the nearest emergency care facility, noting that Fletcher Allen Health Care located in Burlington is the only Level 1 Trauma Center in Vermont. A Level I 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 evaluation of data. These areas will be assessed to determine improvements that can be made to ensure the success of medical services provided to those injured in highway crashes.

### **Goal**

Improve statewide emergency service capabilities in the interest of safety.

### **Strategies**

1. Improve the availability 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



Vermont Strategic Highway Safety Plan

## Attachment A: Vermont Highway Safety Alliance

Vermont's Safety Initiative

2006 Strategic Highway Safety Plan

Peer Exchange Workshop

Moving Forward

Components of the Consolidated Plan

Strategic Plans

Program Plans and Reports

Assessment of Progress and Recommended  
Action Reports

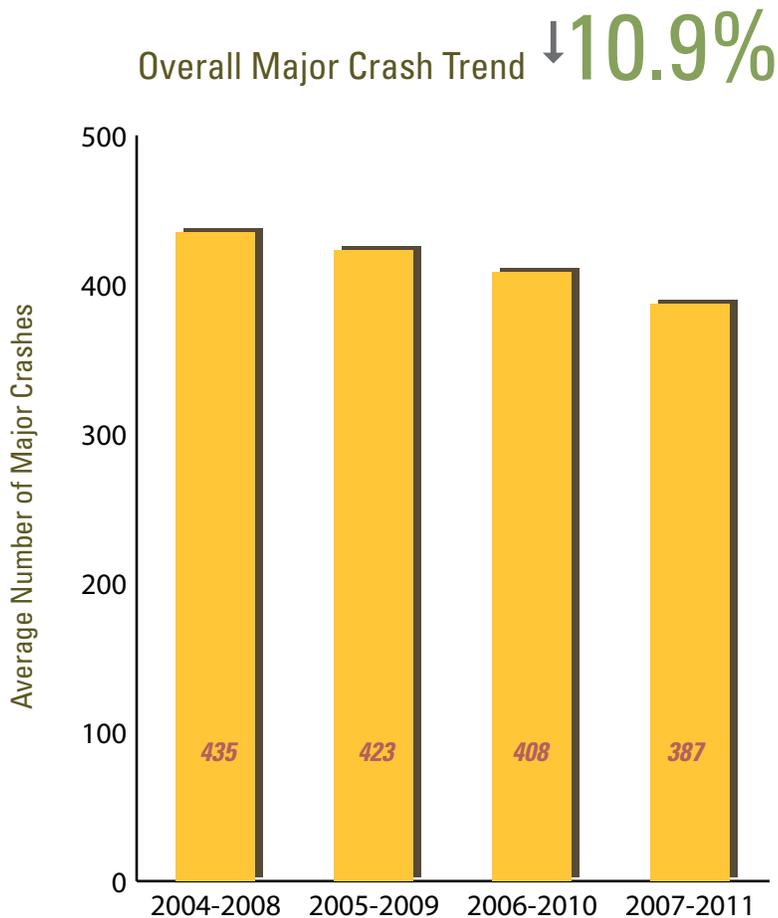
Other Resources

## Vermont's Safety Initiative

### 2006 Strategic Highway Safety Plan

In 2006, Vermont published its first Strategic Highway Safety Plan (SHSP). The mission of the plan is to minimize the occurrence and severity of highway crashes, related human suffering, and economic losses on Vermont's transportation network through the identification and implementation of achievable and effective education, enforcement, engineering, and emergency response initiatives (the 4 E's of highway safety). The plan identified seven critical emphasis areas (CEAs) with applicable action plans aimed at achieving specific goals in crash reduction for each area. Overall, the plan aimed at reducing major crashes to 350 or fewer by 2010, resulting in 40 fewer fatalities and 26 fewer incapacitating injuries per year compared to 2004 levels.

Although not yet reaching the reduction level targeted in the 2006 SHSP, the State has successfully achieved a substantial reduction in major crashes since the implementation of the plan. A 5-year rolling average since 2004 shows a 10.9% reduction in major crashes statewide, with the 2007 to 2011 time period showing an average of 387 major crashes compared to the 2004 to 2008 average of 435 major crashes. These statistics are represented in the graph below.



### Peer Exchange Workshop

As the State prepared to commence the process of updating the 2006 SHSP, members of the Vermont SHSP Core Group (Core Group) focused on the desire to improve upon the current plan and sought assistance from the Federal Highway Administration (FHWA) through their Peer Exchange Program. The Vermont Agency of Transportation (VTrans) sponsored a peer exchange held in January 2011, which was attended by FHWA and state officials from the Ohio, Pennsylvania, and Idaho Departments of Transportation. These state agencies were selected for the peer exchange based on their records of creating effective SHSP's, developing strategies for recording and tracking data, and using performance measures to track progress. Vermont's objectives in holding the peer exchange were to:

- › Learn about effective strategies to
  - Streamline the SHSP to reduce the number of emphasis areas and strategies.
  - Develop tools for recording and tracking data.
  - Use performance measures to measure progress.
- › Initiate the process for Vermont's SHSP update.
- › Create an ongoing dialogue about highway safety among Vermont's SHSP stakeholders.

The peer exchange strategically evaluated the strengths and weaknesses of Vermont's 2006 SHSP. Ohio, Pennsylvania, and Idaho Department of Transportation officials provided guidance and recommended practices based on their own successful experiences that specifically focused on improving Vermont's plan through its available resources. Recommendations heavily focused on collaboration, communication, and data improvements. Noteworthy practices learned from the event included:

- › **Safety partners benefit from working together and using resources that are in place.** One of the greatest benefits of Vermont's peer exchange was the realization that the Core Group members all bring resources to the table that contribute to the SHSP. Vermont can take its SHSP to the next level of implementation by utilizing existing statewide plans and sharing the data, resources, and expertise of all partners.
- › **Accurate crash data are essential for identifying critical emphasis areas and tracking progress.** All three peer agencies stressed the importance of ensuring that crash data are accurate and using data analysis effectively to identify projects, justify safety investments, and track performance.
- › **An SHSP coordinator position facilitates and improves the SHSP process.** In Vermont, the Core Group members are participating in the SHSP update as a collateral duty. Having a full-time employee dedicated to managing the SHSP would result in a more effective process.
- › **Fewer emphasis areas and strategies facilitate implementation and tracking progress.** Managing and tracking the SHSP's seven emphasis areas and corresponding strategies is a difficult task. Based on peer feedback, Vermont will

## Attachment A: Vermont Highway Safety Alliance

strive to prioritize and reduce the number of emphasis areas and strategies in the SHSP update, and improve coordination with partner agencies to better align expertise for each activity.

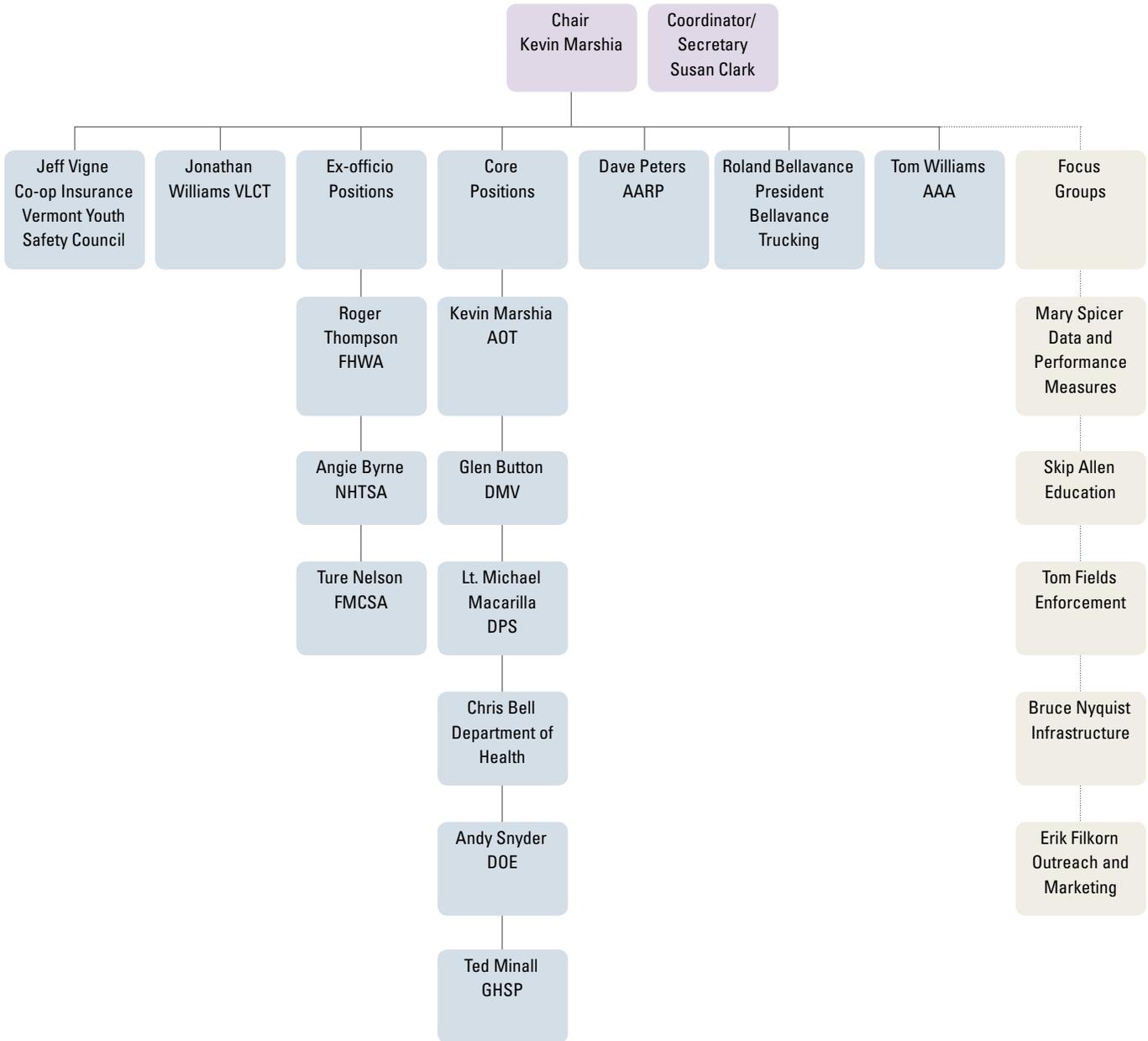
- › **Marketing safety is important to keep partners and leadership engaged in the process.** The peer states have done a good job of communicating their success stories. Maintaining a high profile for safety helps to sustain leadership engagement, which is important for funding programs and projects.

### Moving Forward

Through the peer exchange and Vermont's own past experience, the Core Group created a vision for an improved and integrated safety program for the State. The vision included restructuring the Core Group and the SHSP development process in a manner that would leverage the State's resources and ensure agency engagement and accountability. As a result, the State's public and private safety partners formed the Vermont Highway Safety Alliance (VHSA), an independent, non-profit organization. The objective of the VHSA is to significantly reduce the number of crashes on Vermont's highways through a collaborative and unified effort.

The organizational structure of the VHSA demonstrates the commitment to widespread involvement. The organization is guided by a Board of Directors. VHSA members include the following private sector partners: VT League of Cities and Towns, Truck and Bus Association, AAA, Coop Insurance, Youth Safety Council and AARP; six core state government agencies: Transportation, Health, Motor Vehicles, Governor's Highway Safety, Education and Public Safety; and three federal partners: FHWA, FMCSA, and NHTSA. In addition, the action arms of the Alliance include five Focus Groups: Outreach & Marketing, Infrastructure, Enforcement, Education and Data & Performance Measures. The VHSA Organizational Chart on the next page provides a detailed breakdown of the VHSA Board of Directors. Currently, nearly fifty safety partners from all corners of the state participate in the Focus Groups. In addition, the restructured safety program includes the designation of a dedicated full time position of Highway Safety Plan Coordinator at VTrans.

Vermont Highway Safety Alliance Organization



## Attachment A: Vermont Highway Safety Alliance

The VHSA has undertaken the task of updating and rewriting the 2006 SHSP. The intent of the updated plan is to merge the work efforts of individual State agencies under one umbrella in a manner that would meet the requirements of all state and federal agencies, creating a consolidated SHSP. Federal and state organizations and their associated safety plans and programs considered under the SHSP include:

- › United States Department of Transportation (USDOT) – Strategic Highway Safety Plan
- › Federal Motor Carrier Safety Administration (FMCSA) – Commercial Vehicle Safety Plan (CVSP)
- › National Highway Traffic Safety Administration (NHTSA) – Highway Safety Plan (HSP)
- › Traffic Records Coordinating Committee (TRCC) – Traffic Records Strategic Plan (TRSP)
- › Federal Highway Administration (FHWA) – Highway Safety Improvement Program (HSIP)
- › FHWA - Strategic Highway Safety Plan (SHSP)

A comprehensive checklist of plan requirements for each of the above plans is attached to this document with additional discussion and explanation as needed with regard to the SHSP meeting its needs.

The Alliance and Focus Groups have taken a data driven approach to identifying and prioritizing the CEAs for the plan. To assist in the effort of selecting CEAs, a detailed crash evaluation was conducted for Vermont's 2007 through 2011 crash data. This analysis examined total, major, and fatal crash trends for the seven CEAs included in the 2006 SHSP, as well as other potential new CEAs indicated by the data. The data analysis results are summarized in the Vermont Safety Initiative SHSP Data Analysis Packet dated October 25, 2012. In addition, a review of the twenty-two CEAs outlined by the American Association of State Highway and Transportation Officials (AASHTO) was conducted at a cursory level.

As a result of this data evaluation and feedback from members of the Alliance and Focus Groups, the following six CEAs were identified for inclusion in the updated plan:

1. Improve Infrastructure
  - Minimize Lane Departure
  - Improve the Design and Operations of Highway Intersections
2. Age Appropriate Solutions
  - Improve Young Driver Safety
  - Improve Older Driver Safety
3. Curb Speeding and Aggressive Driving

## Attachment A: Vermont Highway Safety Alliance

4. Increase Use of Occupant Protection  
(safety belts, child passenger restraints and helmets)
5. Reduce Impaired Driving
6. Curb Distracted Driving and Keep Drivers Alert

In addition, several other emphasis areas have been identified as significant, however not currently viewed as critical areas. These areas will continue to be monitored to track trends and identify changes. Significant Emphasis Areas include:

1. Increase Motorcycle Safety
2. Increase Safety of Vulnerable Users
3. Reduce Medium and Heavy Vehicle Crashes
4. Improve Work Zone Safety

Lastly, two Special Emphasis Areas were identified as important and necessary components to a complete plan. These areas have broad reaching influences over the success of the plan and include:

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

Historical trends and other pertinent information for each Critical, Significant, and Special Emphasis Area are presented in the Vermont SHSP, along with a new goal for achieving crash reductions under the 2012-2016 Plan. The core document is intended to provide an overview of the SHSP by outlining the strategies targeted at reaching the crash reduction goals for each emphasis area and the active partners responsible for performing the action plans. The companion to this core document contains the detailed information behind each emphasis area and its related strategies. The companion document, known as the SHSP Supplement, includes material such as the action plans, funding sources, performance goals and measures, progress reporting requirements, and designated champions.

## Components of the Consolidated Plan

The consolidated plan integrates 1.) Strategic plans currently prepared by various state agencies, 2.) Other highway safety related program plans and reports, and 3.) Existing recommended action plans. These existing plans already share common goals and objectives in the mission to significantly reduce the number of crashes on Vermont's highways. The SHSP will further strengthen and unify these goals and objectives through collaboration and shared resources of the VHSA. Each of the existing plans is briefly described in the following section.

## Strategic Plans

### Vermont Governor's Highway Safety Plan

The Vermont Governor's Highway Safety Plan (GHSP) is developed annually by the Governor's Highway Safety Program and Department of Public Safety. The plan's mission is to effectively administer highway safety grant funds to aid in the reduction of traffic fatalities, injuries, and economic losses based on crash data and trends. The plan outlines how funding is allocated to improve upon highway safety in the State of Vermont. Needs are based upon timely and accurate data to establish problem identification that sets priorities and measures performance for the best return on statewide programs. The GHSP strives to include input from all of the stakeholders and the Vermont SHSP. The GHSP encompasses partners including enforcement, education, evaluation, engineering, and emergency medical services. The seven critical emphasis areas (CEAs) identified in the 2012 GHSP are keeping vehicles on the roadway and minimizing the consequences of leaving the road, improving young driver safety, improving the design and operation of highway intersections, increasing seat belt use, reducing impaired driving, curbing speeding and aggressive driving, and keeping drivers alert.

### Vermont's Strategic Highway Safety Plan

The SHSP was developed in 2006 by numerous partners including the Vermont Agency of Transportation (VTrans), the Department of Public Safety, the Vermont Department of Motor Vehicles (DMV), local enforcement offices, regional planning commissions, various towns, and other public and private entities statewide. The mission of the Vermont SHSP is to minimize the occurrence and severity of crashes, related human suffering, and economic losses on the Vermont transportation network. This is to be accomplished by identifying and implementing achievable and effective education, enforcement, engineering, and emergency response initiatives. The specific goal of the 2006 plan is to reduce the number of major crashes to 350 or fewer annually by 2010. Critical emphasis areas identified in this plan are the same as in the GHSP. For each CEA recognized in the SHSP the plan includes the overall objective for increasing safety, several strategies and implementation details to meet that goal, and performance measures.

### Motor Carrier Safety Assistance Program Commercial Vehicle Safety Plan

The Vermont DMV develops an updated Commercial Vehicle Safety Plan for every fiscal year (FY), the latest of which was revised for FY 2013. The Vermont DMV is responsible for the safe operation of commercial motor vehicles transporting goods and people across Vermont's highways. This is accomplished through education, engineering and enforcement. The DMV's fatal crash reduction goal is consistent with the Federal Motor Carrier Safety Administration's (FMCSA) goal of reducing truck related fatalities to 0.117 per 100 million vehicle miles traveled (VMT) in calendar year 2011. The ultimate goal is to reduce all serious Carrier Motor Vehicle (CMV) crashes and fatalities within the state of Vermont. Each performance objective within this plan includes a specific program strategy, the program activity plan, the program activity measures, and criteria for monitoring and evaluation.

### **Department of Motor Vehicles Strategic Plan**

The Vermont DMV developed a strategic planning document based on the Governor's seven CEAs. This specific plan has been developed by the Vermont DMV to direct the Department's action for the next three years. The plan consists of five goals which incorporate multiple strategies and specific performance measures in order to discuss progress at monthly meetings.

### **Vermont State Police Strategic Plan 2012-2015**

The Vermont State Police Strategic Plan is developed every four years by the Vermont State Police and was most recently developed to include the years 2012-2015. The mission statement of this document is "To individually and collectively serve and protect by providing the highest quality of professional law enforcement services." The strategic plan consists of four overarching goals which incorporate multiple strategies to ensure reaching the goals consistently.

## **Program Plans and Reports**

### **Highway Safety Improvement Program Report**

The Highway Safety Improvement Program (HSIP) Reporting Requirements were last developed for the period of July 1, 2009 to June 30, 2010 by the Highway Safety & Design Program Development Division at VTrans. This document discusses an overview of the program structure, implementation for HSIP projects, and an assessment of the effectiveness of the improvements.

### **Highway Rail Grade Crossing Report**

The 2010 Highway-Rail Grade Crossing Safety Program Report is required by the FHWA as part of the HSIP. Vermont is required to develop this report annually to report on how Section 130 funds from the Hazard Elimination Funds and the Surface Transportation Program were allocated to improve highway rail grade crossings. The report is developed by the Rail Section of the Policy Planning and Intermodal Development Division.

### **State Transportation Improvement Program Report**

The State Transportation Improvement Program (STIP) report was last developed for the Federal Fiscal Years of 2013-2016 by VTrans. This program report is developed consistently with the processes within the Statewide Long Range Transportation Plan and the Chittenden County Metropolitan Planning Organization's Transportation Improvement Program and processes.

### Governor's Highway Safety Program Survey 2012

The Center for Research & Public Policy (CRPP) developed this report in September 2012 to present the results of a 2012 Governor's Highway Safety Program (GHSP) Survey on behalf of the Vermont Department of Public Safety. This survey was also conducted in 2010 and 2011. This report presents the methodology used for the survey and a summary of findings to assist the GHSP in realizing where to focus or strengthen public outreach and media messages related to highway safety.

## Assessment of Progress and Recommended Action Reports

There are several other reports that provide a technical assessment of the State's current activities, insight into a safety problem, and/or recommended actions to improve safety on Vermont's highways but do not constitute strategic plans. These include:

- › Vermont Governor's Highway Safety Program, 2010 Annual Report.
- › Vermont Crash Data Resource Book, 2009.
- › State of Vermont Traffic Records Assessment, 2012.
- › 2012 Report on Section 25 of Act 58 of 2011, Driver Education 2011 Summer Study Report, Report/Recommendations to the House and Senate Committees on Education and Transportation, 2012.
- › State of Vermont Technical Assessment of the Impaired Driving Program, 2012.
- › Vermont Safety Plan, Highway Safety Plan, and Traffic Records Assessment Analysis (not dated).

These reports provide useful insight into the State's critical highway safety emphasis areas and are a resource for this consolidated plan.

## Other Resources

There are several other reports that are resources to Vermont's strategic safety efforts.

- › High Crash Location Report – Sections and Intersections, 2006 – 2010.
- › Highway Safety Improvement Program Reporting Requirements – for Period July 1, 2009 to June 30, 2010.

NHTSA Traffic Records System Inventory, 2012. This report compiles information on the various components of Vermont's highway safety information system and contacts for each system component.



## Attachment B: Glossary

## Attachment B: Glossary

<b>AAA</b>	American Automobile Association
<b>AASHTO</b>	American Association of State and Highway Transportation Officials
<b>Alliance</b>	Vermont Highway Safety Alliance
<b>CCRPC</b>	Chittenden County Regional Planning Commission
<b>CEA</b>	Critical Emphasis Area
<b>CMV</b>	Carrier Motor Vehicle (CMV)
<b>Core Group</b>	Original SHSP Core Group Members
<b>CRPP</b>	Center for Research & Public Policy
<b>CVSP</b>	Commercial Vehicle Safety Plan
<b>DMV</b>	Department of Motor Vehicles
<b>EMS</b>	Emergency Medical Services
<b>FHWA</b>	Federal Highway Administration
<b>Focus Groups</b>	Data, Infrastructure, Education, Law Enforcement, and Marketing/Outreach
<b>Four E's (4 E's)</b>	Education, Enforcement, Engineering, and Emergency Services
<b>FMCSA</b>	Federal Motor Carrier Safety Administration
<b>FY</b>	Fiscal Year
<b>GDL</b>	Graduated Driver's License
<b>HSIP</b>	Highway Safety Improvement Program
<b>HSP</b>	Highway Safety Plan
<b>HSP</b>	Highway Safety Program
<b>Major Crash</b>	Fatal or Incapacitating Injury Crash
<b>NHTSA</b>	National Highway Traffic Safety Administration
<b>SHSP</b>	Strategic Highway Safety Plan
<b>STIP</b>	State Transportation Improvement Program
<b>TCI</b>	Traffic Control Industries
<b>TRCC</b>	Traffic Records Coordinating Committee
<b>TRSP</b>	Traffic Records Strategic Plan
<b>USDOT</b>	US Department of Transportation
<b>VHSA</b>	Vermont Highway Safety Alliance
<b>VMT</b>	Vehicle Miles Traveled
<b>VSP</b>	Vermont State Police
<b>VTrans</b>	Vermont Agency of Transportation





# VERMONT

Strategic Highway Safety Plan