



# **Analysis of Fatal Crash Data**

Vermont: 2005-2009

A Summary of Motor Vehicle Fatal Crash and Fatality Data from the Fatality Analysis Reporting System (FARS)



## **VERMONT**

### **ABOUT THIS REPORT**

This document presents information describing the motor vehicle fatal crashes and fatalities that occurred in the State of Vermont in the years 2005-2009. It also provides selected fatal crash and fatality data for all of NHTSA's Region 3 and for the U.S. The purpose of this report is to supplement traffic safety performance measures available on the NHTSA Web site with additional information to provide a more in-depth profile of a State's traffic fatality characteristics and trends between 2005 and 2009.

This report presents primarily FARS data that are reflective of the standard core measures agreed upon by NHTSA and GHSA. The data are presented in two basic formats: basic data plus trend analyses covering a five-year period, and detailed data findings in seven emphasis program areas. It is intended that, with this information, States will be better able to understand their fatality problems in terms of crash types, contributing factors, demographic groups, times, and locations associated with fatalities and fatal crashes over these five years.

The material is organized into the following major sections:

- Basic Data
- Fatalities
- Alcohol-Impaired Driving Fatalities and Alcohol-Impairment-Related Fatal Crashes and Fatalities
- Speeding-Related Fatal Crashes and Fatalities
- Motorcycle Fatal Crashes and Fatalities
- Occupant Restraint
- Pedestrian and Bicyclist Fatal Crashes and Fatalities
- Young and Older Drivers Fatal Crashes and Fatalities

The majority of the tables and figures in the report are based on data from NHTSA's Fatality Analysis Reporting System (FARS). Data for 2005-2009 were obtained from the *final* and *auxiliary* FARS files for those years.

Data on vehicle miles of travel were obtained from FHWA's Highway Statistic as available at this link for years 2005 to 2008: <a href="http://www.fhwa.dot.gov/policy/ohpi/qftravel.cfm">http://www.fhwa.dot.gov/policy/ohpi/qftravel.cfm</a>. For 2009, we used preliminary month-to-month data and manually got sums across month. Because of this, 2009 has no road type information.

Population data reflect the U.S. Census Bureau's Estimates found at <a href="http://www.census.gov">http://www.census.gov</a>, that were available in December 2010. These data sources are subject to revision over time, resulting in small differences when comparing statistics generated at different times. The main link to the Census data sources used is: <a href="http://www.census.gov/popest/estbygeo.html">http://www.census.gov/popest/estbygeo.html</a>.

Other population data sources were accessed for National data<sup>1</sup>; for data by County<sup>2</sup>; for data by State, county, age, race, and Hispanic origin<sup>3</sup>, and for data for Puerto Rico<sup>4</sup>. It was necessary to obtain geographic locator codes for converting county codes in FARS to county names<sup>5</sup>. Finally, helmet laws were imported from the table at: <a href="http://www.iihs.org/laws/helmetusecurrent.aspx.">http://www.iihs.org/laws/helmetusecurrent.aspx.</a>. And, occupant restraint use summary data were extracted from the table in the following pdf: <a href="http://www-nrd.nhtsa.dot.gov/Pubs/811324.pdf">http://www-nrd.nhtsa.dot.gov/Pubs/811324.pdf</a>

Small differences may arise in various tables and figures due to rounding. For example, monthly alcohol-impairment-related fatalities, based on NHTSA's multiple imputation method, may not sum exactly to the annual total due to rounding.

The CD accompanying the printed version of this report contains an electronic copy. Most of the pages are Microsoft Word documents while some are Excel documents. Most of the figures were produced using Excel and then transferred to Word pages. The Excel spreadsheets used to produce the figures are also contained on the CD.

<sup>1</sup> (NST EST2009\_ALLDATA.csv): <a href="http://www.census.gov/popest/national/national.html">http://www.census.gov/popest/national/national.html</a>

<sup>&</sup>lt;sup>2</sup> (CO-EST2009-ALLDATA.csv): http://www.census.gov/popest/counties/counties.html

<sup>&</sup>lt;sup>3</sup> (SC-EST2009-alldata6-ALL.csv): http://www.census.gov/popest/states/asrh/stasrh.html

<sup>&</sup>lt;sup>4</sup> (PRM-EST2009-POPCHG2000-2009.csv): http://www.census.gov/popest/municipios/municipios.html

<sup>&</sup>lt;sup>5</sup> Source: (FRPP\_GLC\_UnitedStates.xls for U.S. and FRPP\_GLC\_OutlyingAreaTerritories.xls for Puerto Rico): http://www.gsa.gov/portal/category/21420

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# **KEY FACTS**

## **VERMONT 2005-2009**

#### SUMMARY OF KEY FACTS

#### **Fatalities**

- Over the period 2005-2009, fatalities declined by 1% in Vermont, compared to 16.5% across the Region and 18% Nationwide (Table 29).
- Windham (11.5%) and Franklin (9.9%) Counties accounted for 21.4% of all fatalities recorded in State during this period (Table 30).

# Alcohol-Impaired Driving Fatalities and Alcohol-Impaired-Related Fatal Crashes and Fatalities

- The percentage of total fatalities that involved alcohol-impaired driving in Vermont has generally been below the percentage for both the Region and the Nation as whole (Figure 23) for the years 2006-2009, after a high of 38% in 2005.
- The three counties with the most alcohol-impaired driving fatalities in this period were Franklin (19), Caledonia (11), and Windham (11). The counties with the highest percentage of alcohol-impaired driving fatalities (excluding counties with less than 5) were Franklin County (51.4%), Caledonia County (40.7%), and Orleans County (34.8%) (Table 34).
- According to NHTSA's alcohol imputation data, 65% of all fatalities in Vermont during the years 2005 through 2009 involved no positive BAC recording at all. 3% of all fatalities involved a maximum BAC reading of 0.07%, and 32% of all fatalities involved a BAC reading of 0.08% or above. The maximum BAC could refer to any participant in the crash, not just the driver (Table 37).
- Over this period, 21.2% of drivers involved in fatal crashes in Vermont had a BAC of at least 0.08%. This percentage was lower than that in Region 1, 21.9%, but higher than the U.S. as a whole, 20.1% (Table 38).

#### **Speeding-Related Fatal Crashes and Fatalities**

- Speeding-related fatalities in Vermont decreased by 22.8% over this period, compared to declines of 19.4% and 18.7% in Region 1 and the U.S. as a whole, respectively (Tables 8, 9, and 10).
- Three counties, Franklin (15.4%), Windham (13.2%), and Washington (12.5%), accounted for nearly half the speeding-related fatalities in Vermont for the years 2005 through 2009. (Table 39).
- During this period, the percentage of fatalities in Vermont that were speeding-related was generally above the percentage for Region 1 and the U.S. as a whole, except for 2009 (Figure 24).

• Over the five year period, 23.8% of drivers in Vermont who were involved in a fatal crash had a previous (recorded within the last three years) speeding conviction. This was higher than the percentage for Region 1(18.5%) or the U.S. as a whole (18.9%) (Table 44).

#### **Motorcycle Fatal Crashes and Fatalities**

- State law requires the use of a motorcycle helmet for all motorcycle riders. Slightly over 80% of fatally-injured motorcyclists in the State were wearing a helmet, a higher percentage than in Region 1 (51.3%) or the U.S. as a whole (56.1%) over the five-year period (Table 48).
- Motorcyclist fatalities declined by 15.8% in Vermont over this period, compared to declines of 2.4% for Region 1 and 10.3% Nationwide (Tables 14, 15, and 16).
- Except for 2005, motorcyclists made up a smaller percentage of total fatalities in Vermont than in Region 1 and the U.S. as a whole over this period. In 2005, the percentage for Vermont peaked at 19% and, in 2009, it peaked at 17% for Region 1 (Figure 25).
- 58.7% of fatally injured motorcyclists in Vermont were between the ages of 25 and 54, and 84.8% were males over the five-year period (Table 47).
- For the years 2005 through 2009, 30.2% of the fatally injured motorcycle operators in Vermont who were tested for BAC had a BAC of 0.01% or above, compared to 36.0% in Region 1 and 37.3% Nationwide (Table 49).
- Speed was a reported factor in 45.5% of the State's motorcyclist fatalities, compared to 37.8% across the Region and 39.6% Nationwide over the five-year period (Table 49).
- In State, 80.9% of motorcycle operators had a 'driver factor' reported in a fatal crash over the five-year period. The three most commonly reported driver factors for a motorcycle operator were failure to keep in proper lane (40.4%), driving too fast (38.3%), and operating vehicle in an erratic manner (21.3%) (Table 50).

#### **Occupant Restraint**

- Unbelted passenger vehicle occupant fatalities increased by 1.8% in State during this period, compared to declines of 19.2% in the Region and 22.3% Nationwide (Tables 11, 12, and 13).
- Observed seat belt use in Vermont ranged from a low of 82% in 2006 to a high of 87% in 2008, and was consistently higher than the observed seat belt use Nationwide (Figure 26) for the years 2005 through 2009.
- In 2009, the restraint use of fatally injured passenger vehicle occupants in State was 40.7%, compared to 34.7% for the Region and 43.4% Nationwide. (Table 51).

#### **Pedestrian and Bicyclist Fatal Crashes and Fatalities**

• The thirteen cities with the most pedestrian fatalities accounted for 100% of all pedestrian fatalities in Vermont during the five-year period. There was one fatality each in the thirteen cities (Table 55).

- For the years 2005 through 2009, 23.1% of fatally injured pedestrians in Vermont were 25 to 54 years of age, compared to 36.1% for the Region and 48.3% Nationwide (Table 56).
- During this period, Males represented 61.5% of the State's pedestrian fatalities, compared to 63.9% for the Region and 69.7% Nationwide (Table 56).
- Alcohol was most prevalent among pedestrians in the 25-34 and 55-64 age groups. Between the years 2005 and 2009, 100% of these victims with a known BAC had a BAC  $\geq$  0.08% (Table 57).
- For the years 2005 through 2009, there were no bicyclist fatalities in State (Table 58).

#### **Young and Older Age Groups**

- Fatal crashes involving young drivers (16-20 years old) in State decreased by 24.5%, compared to 31.3% across Region 1, and 25.8% across the U.S. (Table 59).
- The counties of Chittenden (13.2%), Franklin (13.2%) and Rutland (13.2%) accounted for nearly half of young driver-involved fatalities during this period (Table 64).
- Young driver fatalities accounted for between 4.5% and 13.8% of all fatalities in Vermont, 6.9% to 9.6% across the Region, and 6.8% to 8.1% across the U.S. during the years 2005 through 2009 (Figure 27).
- For the years 2005 through 2009, 92.3% of young drivers reported a 'driver factor' in a fatal crash. The three most common driver factors were failure to keep in lane (55.4%), driving too fast (44.6%), and operator inattentiveness and operating vehicle in erratic, reckless manner (15.4% each) (Table 61).
- In Vermont, 29.2% of young drivers involved in a fatal crash had a previous speeding conviction, while 21.5% had a previous crash recorded (Table 62).
- In Vermont, young drivers accounted for 58.8% of all fatalities in young driver-involved fatal crashes, while the passengers of young drivers made up 25% of total fatalities, and other road users were 16.2% during the five-year period (Table 63).
- Fatal crashes involving drivers age 65-74 decreased by 13.5% over this period in Vermont, while fatalities of drivers ages 65-74 increased by 5.3%. The Region experienced a 3.3% increase in fatal crashes involving drivers ages 64-75, and a 12.8% increase in fatalities of such drivers. Across the U.S. a whole, fatal crashes involving drivers age 65-74 decreased by 6.1%, and fatalities of drivers ages 65-74 decreased 8.9% (Table 65).
- In State, fatal crashes involving drivers ages 75 and older increased by 3.2% in State, while fatalities increased by 10.3%. Region 1 experienced a 22.7% decline in fatal crashes involving drivers in the 75 and older age group, and a 25.5% decline in fatalities of these drivers. Nationwide, fatal crashes of these types declined by 11.5% and fatalities declined by 12.2% during this period (Table 66).

Detailed information regarding months, days, and times of greatest frequency of fatalities and fatal crashes for each category of fatal crashes can be found in the Emphasis Area sections.

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# **Basic Data and Trend Analyses**

#### **ABOUT THIS SECTION**

This Section contains basic information about the motor vehicle fatalities that occurred in State from 2005 through 2009. It is organized according to the following nine topics:

- Total Fatalities
- Alcohol-Impaired Driving (AID) Fatalities
- Speeding-related Fatalities
- Unbelted Passenger Vehicle Occupant Fatalities
- Motorcycle Rider Fatalities
- Pedestrian Fatalities
- Bicyclist Fatalities
- Fatalities Involving Young Drivers
- Fatalities Involving Older Drivers

Each of these subsections includes a five-year data table for the State, showing the number of annual fatalities, along with fatality rates: deaths per 100 million miles of travel (VMT) and deaths per 100,000 population. The table also shows the percentage of total fatalities in the State accounted for by each category and the State's percentage of all such fatalities in the Region. Two additional tables contain similar data and trends for the Region and the Nation, respectively.

Graphs showing State's trends are also provided in each section. For the first four categories, these graphs show five years of data for: 1) *number* of fatalities; 2) the *VMT-based fatality rate*; and 3) the *population-based fatality rate*. Each graph includes a linear trend line and a 3-year moving average line. Linear trends are projected out three years to show the expected outcomes if the existing trend were to continue beyond the last year for which data are available. For the final five categories, graphs are provided only for: 1) *number of deaths;* and 2) the *population death rate*. VMT data are either not available or not relevant for these categories.

Much of the data included in this report can also be found on the NHTSA Web site and are easily accessible for future updating. This can be done by logging on to the site at <a href="www.nhtsa.gov">www.nhtsa.gov</a> (or) by entering "NHTSA" on your browser and clicking on [Home: National Highway Traffic Safety Administration]. Once on the home page, click on the [DATA] tab; then on the [Customer Automated Tracking System (CATS)] section; and on the [State Traffic Safety Information (STSI)] tab. Finally, click on [Vermont] on the U.S. map that appears. Additional trend information can also be obtained by clicking on [FARS Data Tables] once you are into the [Customer Automated Tracking System]; then on [Trends]; then entering "Vermont" in the [State] data entry field. There are many other areas within which to obtain data and it is suggested that the user explore that system to become familiar with this valuable resource.

<sup>&</sup>lt;sup>6</sup> The VMT fatality rate is included only for the first four categories: Total, Alcohol Impaired; Speeding-related; and Unbelted occupant fatalities. VMT data are either unavailable or not relevant to the remaining five categories.

#### **Total Fatalities**

Table 1 shows basic data on Vermont fatalities from 2005 through 2009. It reveals that annual motor vehicle fatalities in the Vermont decreased from an average of 74.8 from 2005 through 2008 to 74 in 2009. This represents a decline of 1% in 2009 (from the average of the prior four years). During this period, the number of *vehicle miles traveled* (VMT) declined by about 9.8%, while *population* increased almost .3%. As a result of the combination of these changes, the *VMT-based fatality rate* (i.e., expressed as the number of deaths per 100 million miles traveled) *increased* by almost 10% and the *population-based fatality rate* (expressed as the number of deaths per 100,000 population) *declined* by 1.3%.

**Table 1. Vermont Basic Data** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Total Fatalities	73	87	66	73	74	-1.00%
VMT*	7,713	7,832	7,694	7,312	6,890	-9.79%
VMT Rate**	0.95	1.11	0.86	1.00	1.07	9.74%
Population	618,814	619,985	620,460	621,049	621,760	0.27%
Pop. Rate***	11.80	14.03	10.64	11.75	11.90	-1.27%
Pct of Region Fatalities	6.01%	7.11%	5.61%	6.65%	7.53%	18.61%
Pct of Region VMT	5.87%	5.95%	5.83%	5.65%	5.52%	-5.27%
Pct of Region Population	4.35%	4.35%	4.34%	4.32%	4.31%	-0.72%

<sup>\*</sup> Vehicle Miles of Travel (millions)

The data in Table 1 show that, in 2009, Vermont accounted for more than 4% of the *population* in Region 1 (a decrease of less than 1% from the average of the previous four years); 5.5% of the Region's VMT (a decrease of over 5%); and over 7.5% of the Region's fatalities (an increase of 18.6% over the five-year period). A comparison of Vermont data with the Regional data (Table 2) and National data (Table 3) indicates that Vermont's *average* VMT-based fatality rate over these five years (1.00 per 100 million VMT) was slightly higher than the average for Region 1 (0.88), but was lower than the average for the Nation (1.34).

Similarly, Vermont's average population-based fatality rate over the five-year period (12.0 per 100,000 residents) was higher than the Regional rate (8.0), but lower than the National rate (13.2).

<sup>\*\*</sup> Rate per 100 million vehicle miles

<sup>\*\*\*</sup> Rate per 100,000 population

Table 2. Region 1 Basic Data

	2005	2006	2007	2008	2009	2005-2009 % Change
Total Fatalities	1,214	1,223	1,177	1,097	983	-16.54%
VMT*	131,500	131,669	131,948	129,340	124,854	-4.77%
VMT Rate**	0.92	0.93	0.89	0.85	0.79	-12.35%
Population	14,227,296	14,258,599	14,298,028	14,362,641	14,429,720	1.00%
Pop. Rate***	8.53	8.58	8.23	7.64	6.81	-17.36%

<sup>\*</sup> Vehicle Miles of Travel (millions)

Table 2 (above) shows that total annual motor vehicle fatalities in Region 1 decreased by 16.5% in 2009, compared with the 2005-2008 average; while VMT-based and population-based fatality rates dropped by 12.4% and 17.4%, respectively. Looking Nationwide, Table 3 (below) shows that fatalities across the U.S. declined even more than in Region 1. Total deaths declined by 18%, while *VMT*-based and *population*-based fatality rates dropped by 12.5% and 19.8%, respectively.

**Table 3. Nationwide Basic Data** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Total Fatalities	43,510	42,708	41,259	37,423	33,808	-17.99%
VMT*	2,990	3,014	3,032	2,974	2,814	-6.27%
VMT Rate**	1.46	1.42	1.36	1.26	1.20	-12.51%
Population (thousands)	295,753	298,593	301,580	304,375	307,007	2.31%
Pop. Rate***	14.71	14.30	13.68	12.30	11.01	-19.84%

<sup>\*</sup> Vehicle Miles of Travel (billions)

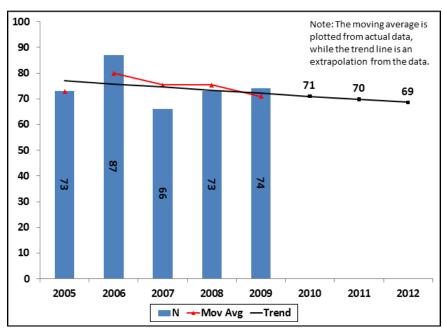
Figure 1 shows total deaths for each year, a three-year moving average, and the linear trend in total fatalities for Vermont. If the linear trend were to continue, total fatalities would decline to **71** in 2010, **70** in 2011, and **69** in 2012. Some caution is advisable, however, since some of the decline since 2007 may be associated with the economy in 2008 and 2009.

<sup>\*\*</sup> Rate per 100 million vehicle miles

<sup>\*\*\*</sup> Rate per 100,000 population

<sup>\*\*</sup> Rate per 100 million vehicle miles

<sup>\*\*\*</sup> Rate per 100,000 population



**Figure 1. Vermont Total Fatalities** 

Figure 2 shows the increasing trend in the *VMT-based* fatality rate for Vermont. If this trend were to continue, there would be **1.04** deaths per 100 million VMT in 2010, **1.05** in 2011, and **1.07** in 2012. The three-year moving average shows a modest decline throughout the five-year period. Again, some caution is advised in terms of these projections as trends *may* change in 2010.

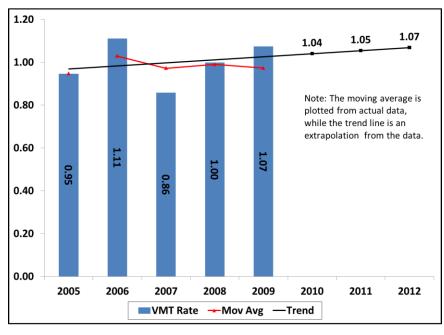


Figure 2. Vermont Total Fatalities, VMT Rate

Figure 3 shows the trend in the *population-based* fatality rate for Vermont. If this trend were to continue, there would be **11.40** deaths per 100,000 population in 2010, **11.20** in 2011, and **10.99** in 2012. The three-year moving average shows a modest decline throughout the five-year period. Again, some caution is advised in terms of these projections as trends *may* change in 2010.

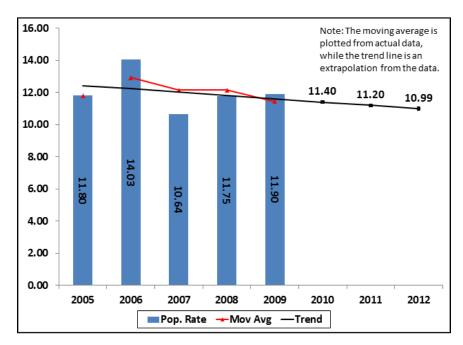


Figure 3. Vermont Total Fatalities, Population Rate

### **Alcohol-Impaired Driving Fatalities**

There has recently been a shift from referring to *alcohol-related* crashes to *impaired driver* crashes (often not prefaced with the word *alcohol*). Under the prior practice, an *alcohol-related* crash referred to any crash in which an *active participant* (driver or non-occupant, such as a pedestrian) had a BAC of 0.01 or greater. An *impaired driver crash* refers to any crash in which at least *one of the drivers* (including a motorcycle operator) involved in the crash had a BAC of 0.08 or greater. Alcohol use by a non-occupant, such as a pedestrian, is omitted in this designation. In contrast, when we focus on crashes involving *any participant* (including a pedestrian) with a  $BAC \ge 0.08$ , we designate such crashes as *impairment-related*. An *impairment-related fatality* is one that results from an *impairment-related* crash.

Table 4 shows that, between 2005 and 2009, Vermont's alcohol-impaired driving fatalities averaged about 22 per year, generally declining since 2005 (although there was a sharp decline from 2007 to 2008, followed by a similar increase in 2009). By 2009, such deaths had declined to 23, but this represents an almost 4.6% increase (from an average of 22 in the prior four years) because of the sharp decrease in 2008. Similarly, the 2009 alcohol-impaired *VMT rate* (0.33 deaths per 100 million VMT) represented a 15.9% increase from the previous four-year average

(0.29). The *population-based* fatality rate increased by 4.3%, from a four-year average of 3.55 (2005-2008) to 3.70 (2009).

Historically, the impaired *percent* of *total deaths* has been a key index of this problem. This proportion increased slightly in 2009 (5.6%) while the *number* and *rate* of alcohol-impaired fatalities also increased. Table 4 also indicates that Vermont's *proportion of the Region's impaired deaths* increased by 20.6% in 2009, compared with the average for the previous four years.

**Table 4. Vermont Alcohol-Impaired Driving Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	28	26	22	12	23	4.55%
VMT Rate*	0.36	0.33	0.29	0.16	0.33	15.89%
Pop. Rate**	4.52	4.19	3.55	1.93	3.70	4.26%
Pct of Total	38.36%	29.89%	33.33%	16.44%	31.08%	5.61%
Pct of Region	6.80%	6.34%	5.37%	3.56%	6.76%	20.61%

<sup>\*</sup> Rate per 100 million miles of travel

Table 5 provides impaired fatality and rate data for the entire Region, and Table 6 provides such data for the Nation. Over the entire five-year period, the average *VMT rate* in Vermont (0.30 deaths) fell midway between the rate for Region 1 (0.29 deaths per 100 million VMT) and across the U.S. (0.42 deaths), while Vermont's *population-based* rate (3.58 deaths per 100,000 residents) was higher than the Regional rate but lower than Nationwide one (2.67 and 4.16, respectively).

Table 5. Region 1 Alcohol-Impaired Driving Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	412	410	410	337	340	-13.32%
VMT Rate*	0.31	0.31	0.31	0.26	0.27	-8.97%
Pop. Rate**	2.90	2.88	2.87	2.35	2.36	-14.18%
Pct of Total	33.94%	33.52%	34.83%	30.72%	34.59%	3.85%

<sup>\*</sup> Rate per 100 million miles of travel

With regard to change, Table 5 shows that impaired driving fatalities decreased by 13.3% in Region 1 in 2009 compared with the average for the previous four years, while VMT-based and population-based fatality rates dropped by almost 9% and 14.2%, respectively. Nationwide,

Table 6 indicates that alcohol-impaired deaths declined by 16.3%, while VMT-based and population-based fatality rates dropped by 10.8% and 18.2%, respectively. The Region 1 and National declines were in contrast to the increases for Vermont (Table 4).

<sup>\*\*</sup> Rate per 100,000 population

<sup>\*\*</sup> Rate per 100,000 population

In 2009, the *impaired driving percentage of total fatalities* across both the Region (3.9%) and the U.S. (2.0%). Here again, these changes in 2009 are relative to the average from 2005 through 2008.

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	13,582	13,491	13,041	11,711	10,839	-16.34%
VMT Rate*	0.45	0.45	0.43	0.39	0.39	-10.75%
Pop. Rate**	4.59	4.52	4.32	3.85	3.53	-18.23%
Pct of Total	31.22%	31.59%	31.61%	31.29%	32.06%	2.01%

<sup>\*</sup> Rate per 100 million miles of travel

Figure 4 shows the trend in Vermont's *impaired driving fatalities*. If this trend were to continue, there would be **15** such fatalities in 2010, **13** in 2011, and **10** in 2012. However, with an improving economy after 2009, fatalities and impaired driving fatalities *may* increase in 2010 or 2011. At this point, however, the three-year moving average also shows a decline.

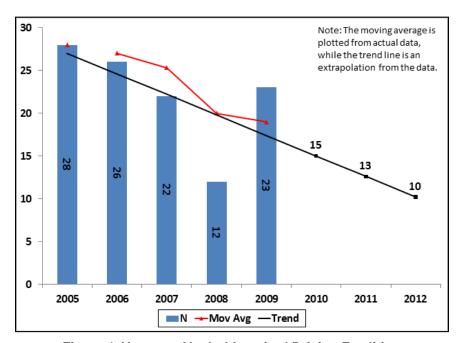


Figure 4. Vermont Alcohol-Impaired Driving Fatalities

The trends in impaired driving death *rates* also show declines. The linear trend line shown in Figure 5 projects Vermont's *VMT-based fatality rate* to 0.23 deaths (per 100 million VMT) in 2010, 0.21 in 2011, and 0.18 in 2012.

<sup>\*\*</sup> Rate per 100,000 population

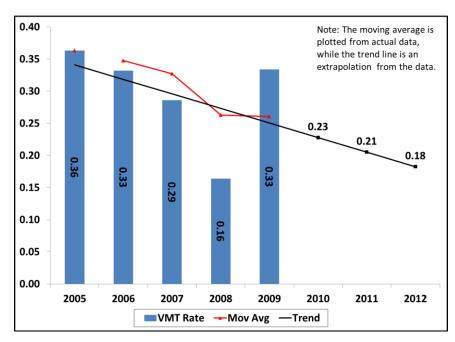


Figure 5. Vermont Alcohol-Impaired Driving Fatalities, VMT Rate

The *population-based rate* shown in Figure 6 also shows a downward trend, projecting to **2.41** deaths (per 100,000 residents) in 2010, **2.01** in 2011, and **1.62** in 2012. Again, these trends (particularly for the population-based rate) may not continue as there *could* be an increase in fatalities associated with changes in the economy.

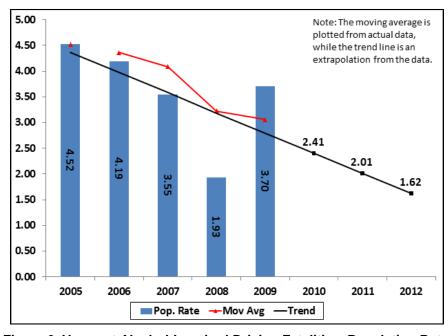


Figure 6. Vermont Alcohol-Impaired Driving Fatalities, Population Rate

*BAC reporting rates* for Vermont, the U.S., and the "Best States(s)" are presented in Table 7. Vermont had an average 29% *rate of BAC reporting for surviving drivers* over the five-year period. On the other hand, the State had a *relatively high rate of reporting for fatally-injured drivers*, averaging about 95% over the five-year period.

Across the Nation, BACs were reported for an average of 26% of surviving drivers and 71% of fatally-injured drivers. By comparison, the best States(s) provided BACs for 81% of surviving drivers and 98% of fatally-injured drivers. Clearly, there is a large range of testing and reporting.

Among *all drivers involved* in fatal crashes (i.e., fatally injured and surviving), the average percentage with reported BACs was 66% in Vermont, 47% across the Nation, and 86% among the best States(s).

Finally, over five years, there was a slight decrease in Vermont's percentage of *killed* drivers for which there was a reported BAC. Such data were available for 93% of killed drivers in 2009, compared with an average of 95% across the prior four years. There was also a slight decrease in Vermont's percentage of *surviving* drivers for which there was a reported BAC. Such data were available for 24% of surviving drivers in 2009, compared with an average of 30% across the prior four years.

**Table 7. BAC Reporting Rates for Drivers and Motorcycle Operators** 

		2005	2006	2007	2008	2009
Surviving Drivers and Operators						
Total	VT	47	37	37	55	41
	U.S.	31,729	30,498	29,449	26,162	23,432
Total with BAC Reported	VT	17	12	11	13	10
	U.S.	7,415	7,482	7,631	7,656	6,372
% with BAC Reported	VT	36%	32%	30%	24%	24%
	U.S.	23%	25%	26%	29%	27%
	Best State*	77%	81%	82%	81%	86%
Killed Drivers and Operators						
Total	VT	55	68	48	47	56
	U.S.	27,491	27,348	26,570	24,254	21,798
Total with BAC Reported	VT	53	67	46	42	52
	U.S.	18,773	18,911	19,434	18,415	15,505
% with BAC Reported	VT	96%	99%	96%	89%	93%
	U.S.	68%	69%	73%	76%	71%
	Best State*	98%	99%	100%	99%	97%
All Drivers and Operators						
Total	VT	102	105	85	102	97
	U.S.	59,220	57,846	56,019	50,416	45,230
Total with BAC Reported	VT	70	79	57	55	62
	U.S.	26,188	26,393	27,065	26,071	21,877
% with BAC Reported	VT	69%	75%	67%	54%	64%
	U.S.	44%	46%	48%	52%	48%
	Best State*	84%	85%	84%	85%	90%

<sup>\*</sup> Best State: highest percents could be in different States

## **Speeding-Related Fatalities**

A speeding-related fatality is defined as one that occurred in a crash where a driver was charged with a speeding-related offense or where an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor.<sup>7</sup>

Table 8 shows that there were 33 speeding-related fatalities in Vermont in 2005 and 2006; decreasing sharply to 23 in 2007; then increasing slightly to 25 in 2008 before dropping to 23 in 2009, almost 23% lower in 2009 than the average for the prior four years. The VMT-based fatality rate and population-based rate exhibited a similar patterns. Overall, the 2009 VMT-based fatality rate level was lower (-14.4%) than the average of the prior four years. The population-based rate was 23% lower than the average of the prior four years. In 2005, over 45% of all

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<sup>&</sup>lt;sup>7</sup> In this section, we use speeding-related and speed-related interchangeably.

fatalities in the Vermont were speeding-related. This proportion decreased to slightly under 30% in 2009.

Both speeding-related fatality rates were higher in Vermont than in Region 1; Vermont's speeding-related population-based fatality rate was higher than the Nationwide rate, but its speeding-related VMT-based rate was lower.

**Table 8. Vermont Speeding-Related Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	33	33	23	25	22	-22.81%
VMT Rate*	0.43	0.42	0.30	0.34	0.32	-14.43%
Pop. Rate**	5.33	5.32	3.71	4.03	3.54	-23.02%
Pct of Total	45.21%	37.93%	34.85%	34.25%	29.73%	-22.02%
Pct of Region	7.24%	7.64%	5.58%	7.51%	6.69%	-4.21%

<sup>\*</sup> Rate per 100 million miles of travel

Table 9 indicates that in 2009 *speeding-related fatalities* decreased by 19.4% across Region 1 compared with average of the previous four years, accounting for 33% of all Regional fatalities in 2009.

Across the U.S., such *fatalities* declined by about 19% in 2009, compared with the prior 4-year average. Both the *VMT and population-based rates* declined Nationally, with the population-based rate declining by 21% and the VMT rate by 13%.

The *speeding-related percentage of total deaths* Nationwide remained relatively unchanged at about 31.6% throughout the five-year period.

Table 9. Region 1 Speeding-Related Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	456	432	412	333	329	-19.41%
VMT Rate*	0.35	0.33	0.31	0.26	0.26	-15.37%
Pop. Rate**	3.21	3.03	2.88	2.32	2.28	-20.21%
Pct of Total	37.56%	35.32%	35.00%	30.36%	33.47%	-3.45%

<sup>\*</sup> Rate per 100 million miles of travel

**Table 10. Nationwide Speeding-Related Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	13,583	13,609	13,140	11,767	10,591	-18.69%
VMT Rate*	0.45	0.45	0.43	0.40	0.38	-13.25%
Pop. Rate**	4.59	4.56	4.36	3.87	3.45	-20.52%
Pct of Total	31.22%	31.87%	31.85%	31.44%	31.33%	-0.85%

<sup>\*</sup> Rate per 100 million miles of travel

<sup>\*\*</sup> Rate per 100,000 population

<sup>\*\*</sup> Rate per 100,000 population

<sup>\*\*</sup> Rate per 100,000 population

Figure 7 shows the trend in Vermont's speeding-related fatalities. If the trend were to continue, the number of these fatalities would be **18** in 2010, **15** in 2011, and **12** in 2012. This linear trend should be viewed with some caution. It is possible that an upturn will accompany an improvement in the economy.

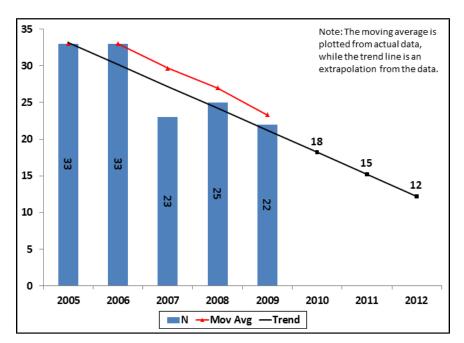


Figure 7. Vermont Speeding-Related Fatalities

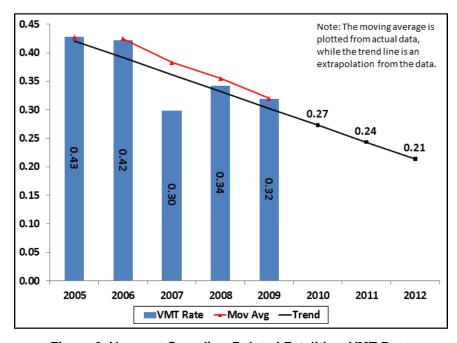


Figure 8. Vermont Speeding-Related Fatalities, VMT Rate

Based on the linear trend line shown in Figure 8, above, the VMT-based rate of speeding-related deaths has been declining as well and, if this trend were to continue, the number of speeding-related deaths per 100 million VMT would be **0.27** in 2010, **0.24** in 2011 and **0.21** in 2012.

Figure 9 shows that the population-based rate has also been declining. Here the linear trend projects **2.92** deaths (per 100,000 population) in 2010, **2.43** in 2011, and **1.94** in 2012. Again, this trend should be viewed with some caution. Year 2010 will likely be an important year for determining the future trends.

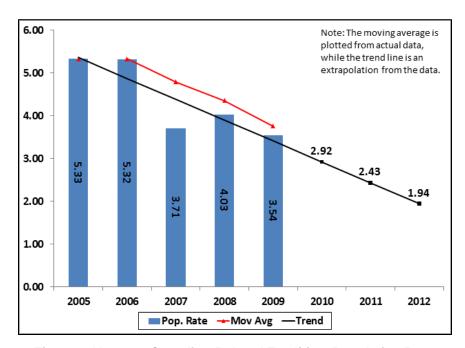


Figure 9. Vermont Speeding-Related Fatalities, Population Rate

### **Unbelted Passenger Vehicle Occupant Fatalities**

Table 11 shows the numbers and rates of *unbelted passenger vehicle occupants* (i.e. occupants of passenger cars, light trucks, and vans) killed in Vermont, from 2005 through 2009. There were 1.8% more *unbelted fatalities* in 2009 (28) than the average of the prior four years (27.5 per year).

In 2009, the *VMT-based and population-based fatality rates* increased by 12.9% and 1.5%, respectively, compared with the averages of the previous four-year period. Vermont's fatality rates were generally higher than the Regional rates for all five years. The VMT-based rates for Vermont were lower than the National rates, but the population-based fatalities were higher than the National rates for three of the five years.

During this period, *observed safety belt use* rose from 84.7% in 2005 to 85.3% in 2009 and the 2009 rate was 0.1% lower than the average of the prior four years (85.4%).

Unbelted fatalities represented 35.6% of all deaths in 2005. By 2009 this percentage had increased to about 37.8%, an increase of 2.8% compared with the prior four-year average.

Table 11. Vermont Unbelted Passenger Vehicle Occupant Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	26	35	22	27	28	1.82%
VMT Rate*	0.34	0.45	0.29	0.37	0.41	12.87%
Pop. Rate**	4.20	5.65	3.55	4.35	4.50	1.54%
Pct of Total	35.62%	40.23%	33.33%	36.99%	37.84%	2.85%
Pct of Region	5.69%	8.03%	5.38%	7.28%	8.28%	25.99%
Observed Belt Use	84.7%	82.4%	87.1%	87.3%	85.3%	-0.09%

<sup>\*</sup> Rate per 100 million miles of travel

Table 12 shows similar data for *Region 1*. These data indicate that, between 2005 and 2009, unrestrained occupant *fatalities* decreased by 19.2% across the Region, accounting for about 37.6% of all Regional deaths in 2005 and 34.4% in 2009. The 2009 level represented a decline of slightly more than 3% in this proportion, compared with the average of the prior four years.

Table 12. Region 1 Unbelted Passenger Vehicle Occupant Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	457	436	409	371	338	-19.19%
VMT Rate*	0.35	0.33	0.31	0.29	0.27	-15.14%
Pop. Rate**	3.21	3.06	2.86	2.58	2.34	-19.99%
Pct of Total	37.64%	35.65%	34.75%	33.82%	34.38%	-3.18%

<sup>\*</sup> Rate per 100 million miles of travel

Table 13 shows that the number of unbelted occupant deaths declined *Nationally*, from 16,247 in 2005 to 11,512 in 2009. The 2009 level was 22% lower than in the average of the four prior years. Unbelted fatalities accounted for 37% of all deaths in 2005 and 34% in 2009. The 2009 proportion was 5% lower than the proportion for the prior four years.

**Table 13. Nationwide Unbelted Passenger Vehicle Occupant Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	16,247	15,635	14,446	12,925	11,512	-22.29%
VMT Rate*	0.54	0.52	0.48	0.43	0.41	-17.09%
Pop. Rate**	5.49	5.24	4.79	4.25	3.75	-24.04%
Pct of Total	37.34%	36.61%	35.01%	34.54%	34.05%	-5.24%

<sup>\*</sup> Rate per 100 million miles of travel

<sup>\*\*</sup> Rate per 100,000 population

<sup>\*\*</sup> Rate per 100,000 population

<sup>\*\*</sup> Rate per 100,000 population

The five-year trends in the *numbers* and *rates* of *unbelted occupant* fatalities in Vermont are shown in Figures 10-12. With regard to fatalities, the linear trend projects **26.4** such deaths in 2010, **26** in 2011, and **25.6** in 2012. Note that the trend line data points are shown to 1 decimal place to help illustrate the decline, even those these numbers are not integers. The three-year moving average shows a downward trend at this time, as well. It is likely that at least some of the declines in 2008 and 2009 were associated with factors other than seat belt use. If these factors change, unbelted fatalities and the linear trends will change.

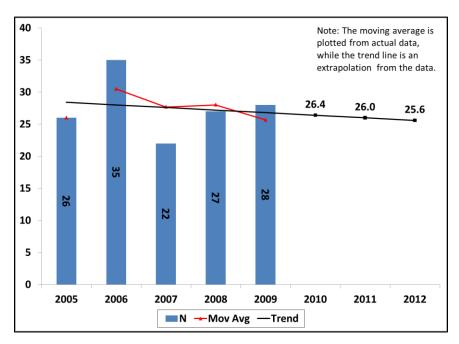


Figure 10. Vermont Unbelted Passenger Vehicle Occupant Fatalities

Figure 11 shows the *VMT-based* fatality rate for unbelted fatalities in Vermont. If the linear trend were to continue, the unbelted death rate would be **0.387** (deaths per 100 million VMT) in 2010, **0.393** in 2011, and **0.400** in 2012. Note that the trend line data points are shown to 3 decimal places to help illustrate the increase.

Figure 12 shows the *population-based* fatality rate for unbelted fatalities. If this linear trend were to continue, the unbelted death rate in Vermont would be **4.24** (deaths per 100,000 residents) in 2010 **4.17** in 2011, and **4.10** in 2012.

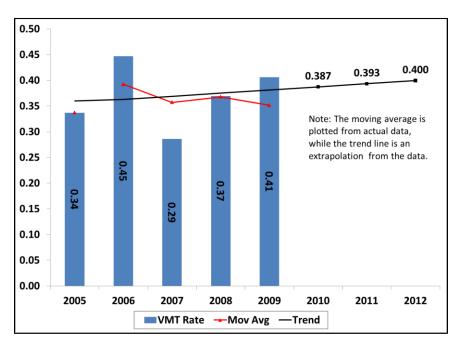


Figure 11. Vermont Unbelted Passenger Vehicle Occupant Fatalities, VMT Rate

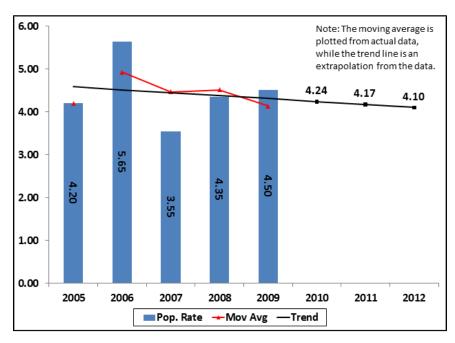


Figure 12. Vermont Unbelted Passenger Vehicle Occupant Fatalities, Population Rate

### **Motorcycle Rider Fatalities**

Motorcycle riders include both operators and passengers of a motorcycle. The term "motorcyclist" also includes both the operator and the passenger.

Table 14 shows that, from 2005 through 2009, the *number of motorcyclist fatalities* in Vermont generally declined by 15.8% compared with the prior four-year average (from 9.5 fatalities per year to 8 in 2009).

Similarly, the *population-based fatality rate* generally declined by 16% compared with the prior four years (1.53 to 1.29, respectively). The average rate in Vermont (2005-2009) was 1.48 per 100,000 residents, higher than across the Region (1.22) but lower than across the Nation (1.62).

As a percentage of total deaths in Vermont, motorcyclists accounted for about 19% in 2005, and decreased to 10.8% in 2009 (although this number was an increase from 9.6% recorded in 2008), a decline of 14.9%. Over all five years, Vermont accounted for 5.3% of all motorcyclist fatalities in the Region.

*Unhelmeted* motorcyclists accounted for 1 of Vermont's motorcyclist fatalities in 2005 and 2 in 2009. The 2009 level represented a 14.3% increase over the prior four-year average. As a percentage of all motorcyclist deaths in the Vermont, unhelmeted motorcyclists accounted for 7.1% in 2005 and 25% in 2009. The 2009 percentage was about 35.7% higher than the average over the prior four years.

**Table 14. Vermont Motorcycle Rider Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	14	10	7	7	8	-15.79%
Pop. Rate*	2.26	1.61	1.13	1.13	1.29	-16.02%
Pct of Total	19.18%	11.49%	10.61%	9.59%	10.81%	-14.94%
Pct of Region	7.53%	5.65%	4.09%	4.19%	4.68%	-13.70%
Unhelmeted Fatalities	1	4	2	0	2	14.29%
Pct Unhelmeted Fatalities	7.1%	40.0%	28.6%	0.0%	25.0%	35.71%

<sup>\*</sup> Rate per 100.000 population

Table 15 provides similar data for Region 1. Here, as in Vermont, there is a decrease in motorcyclist deaths through 2008 (from 186 in 2005, to 167 in 2008). In 2009, however, there was an increase across the Region, mirroring the increase in Vermont. The Regional number of motorcyclist deaths in 2009 (171) represented a 2.4% decline over the average of the prior four years (compared with -15.8% in Vermont). The population-based fatality rate in Region 1 declined by just under 3.4% (compared with -16% in Vermont).

Table 15. Region 1 Motorcycle Rider Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	186	177	171	167	171	-2.43%
Pop. Rate*	1.31	1.24	1.20	1.16	1.19	-3.39%
Pct of Total	15.32%	14.47%	14.53%	15.22%	17.40%	16.91%
Unhelmeted Fatalities	80	87	72	77	79	0.00%
Pct Unhelmeted Fatalities	43.0%	49.2%	42.1%	46.1%	46.2%	2.49%

<sup>\*</sup> Rate per 100,000 population

Nationwide, Table 16 shows that the *number of motorcyclist fatalities* and the *population-based fatality rate* declined by 10% and 12%, respectively, similar to the declines in Vermont (-15.8% and -16%, respectively). The *motorcyclist percent of total deaths* increased by about 9% in 2009, compared with the prior four-year average. Finally, while the *number of unhelmeted deaths* declined by 6% Nationally, the *unhelmeted percent of total motorcyclist deaths* increased by 5%, indicating that unhelmeted fatalities did not decline as much as helmeted fatalities.

**Table 16. Nationwide Motorcycle Rider Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	4,576	4,837	5,174	5,312	4,462	-10.31%
Pop. Rate*	1.55	1.62	1.72	1.75	1.45	-12.33%
Pct of Total	10.52%	11.33%	12.54%	14.19%	13.20%	9.37%
Unhelmeted Fatalities	1,898	1,973	2,103	2,160	1,911	-6.02%
Pct Unhelmeted Fatalities	41.48%	40.79%	40.65%	40.66%	42.83%	4.78%

<sup>\*</sup> Rate per 100,000 population

The next two figures show annual and projected motorcycle *fatalities* and *population-based fatality rates* for Vermont. Overall, the linear trend line shows a sharp downward direction, with a projection of 5 deaths in 2010, 3 in 2011, and 2 in 2012 (Figure 13). The three-year moving average (solid line) also shows a sharp downward direction, although it leveled out slightly between 2008 and 2009. An improving economy may result in increases in motorcyclist deaths, possibly as soon as 2010.

Figure 14 shows a sharply descending linear trend in the population-related fatality rate among motorcyclists in Vermont. If this trend were to continue, there would be approximately **0.75** such deaths per 100,000 residents in 2010, **0.51** deaths in 2011, and **0.26** in 2012.

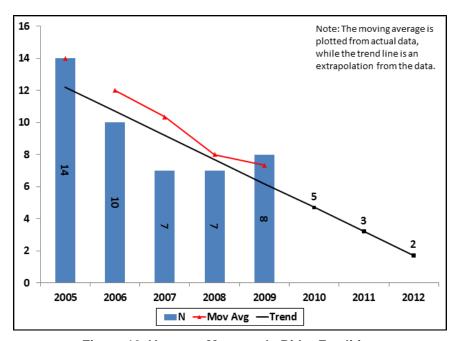


Figure 13. Vermont Motorcycle Rider Fatalities

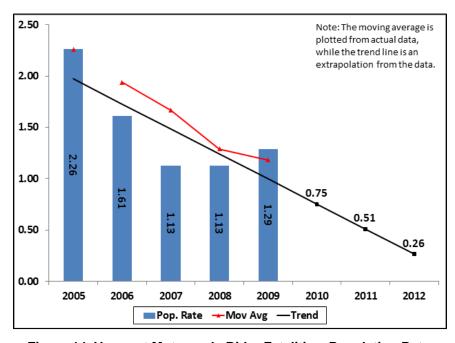


Figure 14. Vermont Motorcycle Rider Fatalities, Population Rate

#### **Pedestrian Fatalities**

Table 17 shows the *number* and *rate* of pedestrian deaths in Vermont. It shows an inconsistent pattern from 2005 through 2009. Overall, the 2009 total (5) was 67% higher than the 2005 level (3) and 150% higher than the four-year average from 2005 through 2008 (2). These data should be viewed with caution given the very low numbers of pedestrian fatalities in Vermont.

Through the years 2005 to 2008 shown in Table 17, pedestrians accounted for an average of 2.7% of all traffic-related deaths in Vermont, increasing to 6.8% of fatalities in 2009, a 153% increase.

Vermont accounted for 1.9% of all pedestrian fatalities across the Region over this period. This percentage increased slightly, from a low of 0% in 2006 to a high of 4.4% in 2009.

The Vermont's *population-based fatality rate* increased by over 149% in 2009 (0.80 deaths per 100,000 population), compared with the prior four years (0.32). On average, over all five years covered in Table 17, Vermont's population death rate for pedestrians (0.42) was substantially lower than that across the Region (0.95) and the Nation (1.52).

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	3	0	4	1	5	150.00%
Pop. Rate*	0.48	0.00	0.64	0.16	0.80	149.32%
Pct of Total	4.11%	0.00%	6.06%	1.37%	6.76%	152.53%

2.90%

0.65%

4.39%

209.21%

0.00%

2.13%

**Table 17. Vermont Pedestrian Fatalities** 

**Pct of Region** 

Table 18 shows that pedestrian fatalities in the Region declined by over 19% in 2009 (114 deaths), compared with the average of the prior four years (141). The Regional fatality rate (per 100,000 residents) declined by about 20% in 2009 (0.79), compared with the four years prior (0.99). Finally, over this period, pedestrians accounted for about 12% of all deaths across Region 1, 12% across the U.S., and 4% in Vermont.

Table 18. Region 1 Pedestrian Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	141	130	138	155	114	-19.15%
Pop. Rate*	0.99	0.91	0.97	1.08	0.79	-19.95%
Pct of Total	11.61%	10.63%	11.72%	14.13%	11.60%	-3.13%

<sup>\*</sup> Rate per 100,000 population

<sup>\*</sup> Rate per 100,000 population

Table 19 shows that pedestrians accounted for an average of 4,578 deaths per year Nationwide, about 12% of all fatalities (2005-2009). In spite of a 13% decline in the number of pedestrian deaths in 2009, there was a slight (6%) increase in the percentage of all deaths accounted for by pedestrians.

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	4,892	4,795	4,699	4,414	4,092	-12.94%
Pop. Rate*	1.65	1.61	1.56	1.45	1.33	-14.90%
Pct of Total	11 24%	11 23%	11 39%	11 79%	12.10%	6 16%

Table 19. Nationwide Pedestrian Fatalities

The trends in the *numbers* and *rates* of pedestrian fatalities in Vermont are shown in Figures 15 and 16, respectively. If the linear trend for the *number* of pedestrian deaths were to continue (Figure 15), there would be **4.1** such deaths in 2010, **4.6** in 2011, and **5.1** in 2012. Note that the trend line data points are shown to 1 decimal place to help illustrate the increase, even those these numbers are not integers. The three-year moving average is also trending upward at this time. The trend line should be viewed with some caution, given the very small number of pedestrian fatalities in Vermont during this period.

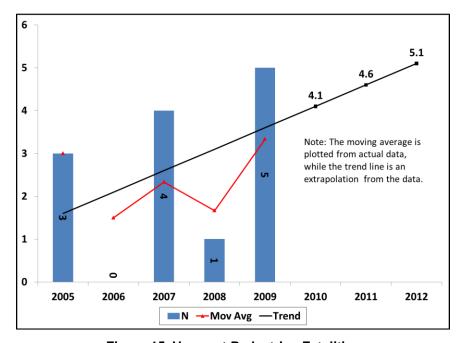


Figure 15. Vermont Pedestrian Fatalities

Figure 16 shows a slight upward trend for the *population-based fatality rate* as well. The population rate projects to **0.66** per 100,000 residents in 2010, **0.74** in 2011, and **0.82** in 2012. In addition, the three-year moving average is trending upward at this time. The trend line should be viewed with some caution, given the very small number of pedestrian fatalities in Vermont during this period.

<sup>\*</sup> Rate per 100,000 population

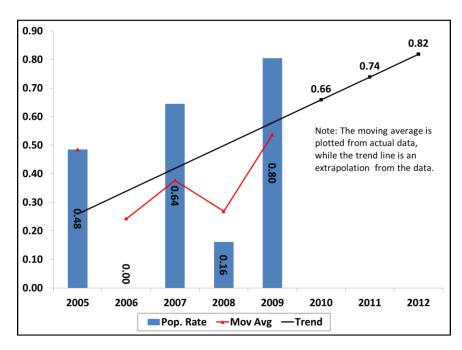


Figure 16. Vermont Pedestrian Fatalities, Population Rate

### **Bicyclist Fatalities**

Table 20 indicates the number of bicyclist fatalities in Vermont for the period 2005-2009. Tables 21 and 22 provide data for Region 1 and the U.S., respectively. Over the past five years, bicyclist fatalities accounted for 0% of all fatalities in Vermont; approximately 1.5% across the Region; and 1.8% across the U.S.

With regard to change, the number of bicyclist fatalities in Vermont has remained 0 across the five-year period. Across the Region, bicycle deaths declined by about 58% in 2009 (8 deaths), compared with the prior four-year average (19 deaths).

Vermont's *population-based fatality rate* over the five-year period (0 deaths per 100,000 population) was below the Regional rate (0.12) and considerably below the U.S. rate (0.24).

With regard to change in population-based fatality rate, 2009 represented a 58.8% decline over the average of the prior four years for Region 1, compared with a decline of 17.3% Nationwide.

**Table 20. Vermont Bicyclist Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	0	0	0	0	0	0.00%
Pop. Rate*	0.00	0.00	0.00	0.00	0.00	0.00%
Pct of Total	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pct of Region	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

<sup>\*</sup> Rate per 100,000 population

**Table 21. Region 1 Bicyclist Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	15	18	21	23	8	-58.44%
Pop. Rate*	0.11	0.13	0.15	0.16	0.06	-58.85%
Pct of Total	1.24%	1.47%	1.78%	2.10%	0.81%	-50.21%

<sup>\*</sup> Rate per 100,000 population

**Table 22. Nationwide Bicyclist Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	786	772	701	718	630	-15.35%
Pop. Rate*	0.27	0.26	0.23	0.24	0.21	-17.26%
Pct of Total	1.81%	1.81%	1.70%	1.92%	1.86%	3.22%

<sup>\*</sup> Rate per 100,000 population

Since there were no recorded bicyclist fatalities in Vermont, projections for future counts and rates of fatalities could not be produced.

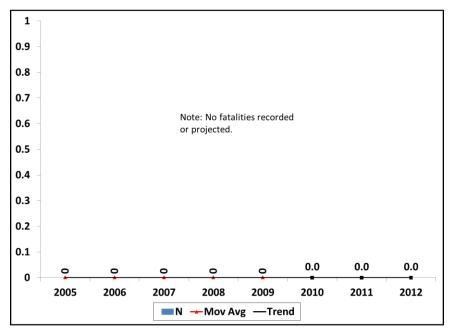


Figure 17. Vermont Bicyclist Fatalities

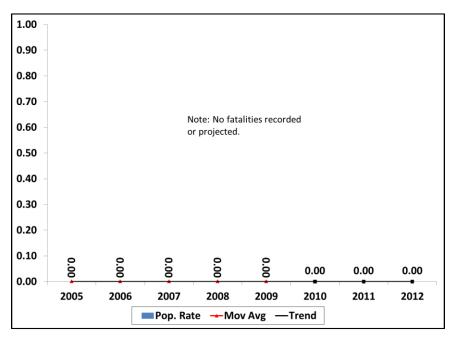


Figure 18. Vermont Bicyclist Fatalities, Population Rate

### **Fatalities Involving Young Drivers**

Tables 23-25 indicate the number of fatalities (all ages) resulting from Vermont crashes involving a driver between 16 and 20 years of age. In 2005, there were 16 such fatalities, declining to 11 in 2009, a 31.2% decline. Compared with the prior four-year average, however, the 2009 level represented a smaller 22.8% decline.

The population-based fatality rate decreased from 2.59 deaths per 100,000 residents in 2005 to 1.77 in 2009, a 31.7% decline. Compared with the prior four-year average, the 2009 level represented a smaller 23% decline. Over the entire five-year period, the average population-based death rate in Vermont was 2.19 deaths per 100,000 residents, somewhat higher than across the Region (1.43), but lower than across the U.S. (2.35).

Young driver-involved fatalities in Vermont represented 6.6% of all such deaths across the Region in 2005, increasing to 8% in 2008, then declining to 7.5% in 2009. Compared with the prior four years, the 2009 level represented about a 16% increase.

Overall, these data indicate that young driver-involved fatalities declined substantially in Vermont. There was an increase from 2007 to 2008, but deaths declined more after 2008 than they increased before 2008.

Finally, the young driver-involved *proportion of total deaths* declined by 22%, reflecting the fact that these deaths declined more than did total deaths (-1%). (Table 1)

**Table 23. Vermont Young Driver-Involved Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	16	14	13	14	11	-22.81%
Pop. Rate*	2.59	2.26	2.10	2.25	1.77	-23.02%
Pct of Total	21.92%	16.09%	19.70%	19.18%	14.86%	-22.02%
Pct of Region	6.56%	5.96%	5.80%	8.00%	7.53%	16.05%

<sup>\*</sup> Rate per 100,000 population

Table 24. Region 1 Young Driver-Involved Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	244	235	224	175	146	-33.49%
Pop. Rate*	1.72	1.65	1.57	1.22	1.01	-34.14%
Pct of Total	20.10%	19.22%	19.03%	15.95%	14.85%	-20.31%

<sup>\*</sup> Rate per 100,000 population

Young driver-involved deaths decreased Region-wide, from 244 in 2005 to 146 in 2009 (-40.2%). Compared with the prior four-year average (220), the 2009 level represented a 33.5% decline. Over the same five-year period, the Regional, population-based, fatality rate decreased by over 41% compared with 2005; 34.1% compared with the prior four-year average. The most significant decline was in 2009 (Table 24).

Young driver-related fatalities accounted for 20.1% of all Region 1 motor vehicle deaths in 2005 and 14.8% in 2009 (-26.1% compared with 2005; -20.3% compared with the average percentage from 2005 through 2008). Again, the largest declines, compared to 2005, were in 2008 and 2009 (Table 24).

Nationwide, young driver-involved *fatalities* decreased by 31.5% from 2005 to 2009. Using the prior four years as a comparison, Table 25 shows that the decline was 26.2%. There was a decline in every year after 2005, but the largest declines were in 2008 and 2009.

The *population-based fatality rate* decreased by 33.8% Nationally, from 2005 to 2009. Table 25 shows a smaller (28%) decline in 2009 when compared with the average of the previous four years. The largest declines were in 2008 and 2009.

**Table 25. Nationwide Young Driver-Involved Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	8,053	8,009	7,552	6,311	5,518	-26.24%
Pop. Rate*	2.72	2.68	2.50	2.07	1.80	-27.91%
Pct of Total	18.51%	18.75%	18.30%	16.86%	16.32%	-10.06%

<sup>\*</sup> Rate per 100,000 population

Young driver-involved deaths, on average, accounted for about 18% of all deaths across the U.S. from 2005 through 2009, declining from 18.5% in 2005 to 16.3% in 2009. The percentages and declines were less than those across Region 1 (i.e., from 20.1% in 2005 to 14.8% in 2009).

Figure 19 shows the downward trend in Vermont's young driver-involved fatalities. If this trend continues, the number of such fatalities would be **11** in 2010, **10** in 2011, and **9** in 2012. Again, this downward trend may diminish or even reverse, in the near future.

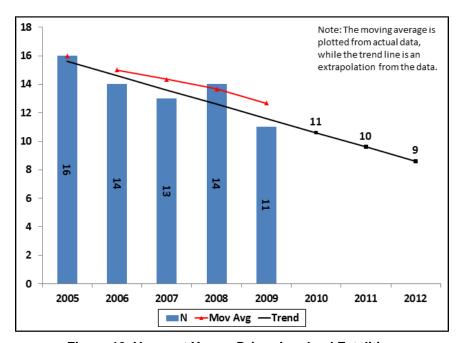


Figure 19. Vermont Young Driver-Involved Fatalities

Figure 20 (below) shows a similar trend in the population-based fatality rate. The rate projects to **1.70** per 100,000 residents in 2010, **1.54** in 2011, and **1.37** in 2012.

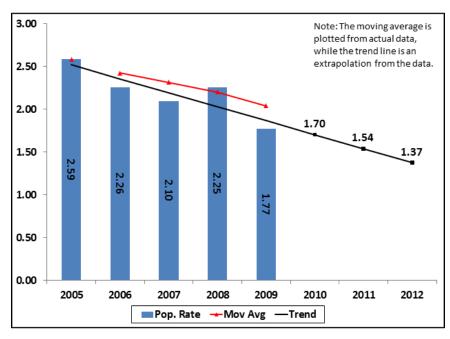


Figure 20. Vermont Young Driver-Involved Fatalities, Population Rate

### **Fatalities Involving Older Drivers (Ages 65 and Above)**

Tables 26, 27, and 28 show the numbers and rates of fatalities in crashes involving drivers ages 65 and above in Vermont, across Region 1, and across the Nation, respectively.

Table 26 shows that there were 11 *older driver-involved deaths* in Vermont in 2005, increasing to 18 in 2009. After a sharp increase in 2006, older driver-involved deaths declined steadily until 2009. The change, as measured from 2005 to 2009 (63.6%) was substantially greater than that when comparing 2009 with the average of the prior four years (1.4%).

Vermont's *population-based fatality rate* exhibited a similar pattern, increasing from 1.78 (deaths per 100,000 population) in 2005 to 2.90 deaths in 2009 (62.9%). The increase in 2009 compared with the prior four-year average (2.86) was 1.1%.

On average over the five-year period, Vermont's older driver-involved population death rate (2.9 deaths per 100,000 population) has been higher than across the Region (1.4), but higher than across the Nation (2.0).

As with *fatalities* and the *fatality rate*, Table 26 shows that the *older driver proportion of all fatalities* in the Vermont increased from 2005 through 2007 (from 15.1% to 30.3%), then decreased through 2009 (to 24.3%). Reflecting this rise and drop, the 2009 percentage was 61.4% greater than in 2005, representing a 2.4% change from the average of the prior four years. Vermont's older driver-involved deaths accounted for an average 9.2% of such deaths across the Region over all five years, increasing from about 5.3% in 2005 to just over 10% in 2009.

Table 26. Vermont Older Driver-Involved Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	11	22	20	18	18	1.41%
Pop. Rate*	1.78	3.55	3.22	2.90	2.90	1.13%
Pct of Total	15.07%	25.29%	30.30%	24.66%	24.32%	2.44%
Pct of Region	5.34%	10.68%	9.90%	9.84%	10.23%	14.80%

<sup>\*</sup> Rate per 100,000 population

Across the Region, Table 27 shows that the *number* of older driver-involved deaths generally decreased from 206 in 2005 to 176 in 2009. The 2009 level represented a 14.6% decline from 2005, greater than the 11.7% decline found when comparing 2009 with the prior four-year average. The Regional *population-based fatality rate* decreased from 1.45 in 2005, declining steadily to 1.22 in 2009. The 2009 level represented a decrease of 15.9% over the five-year period, with an average of 1.4 over the same period.

Overall, older driver-involved deaths *accounted for about* 17.1% *of total deaths* across the Region, increasing from 17% in 2005 to 17.9% in 2009 (with the lowest percentage in 2008).

Table 27. Region 1 Older Driver-Involved Fatalities

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	206	206	202	183	176	-11.67%
Pop. Rate*	1.45	1.44	1.41	1.27	1.22	-12.54%
Pct of Total	16.97%	16.84%	17.16%	16.68%	17.90%	5.83%

<sup>\*</sup> Rate per 100,000 population

Nationwide, Table 28 shows that the *number of* older driver-involved deaths declined steadily from 2005 through 2009, with no increase from 2008 to 2009. The 2009 level (5,593) was 15.9% lower than in 2005 (6,647) and 10.4% lower than the average of the prior four years (6,244).

**Table 28. Nationwide Older Driver-Involved Fatalities** 

	2005	2006	2007	2008	2009	2005-2009 % Change
Fatalities	6,647	6,334	6,169	5,825	5,593	-10.42%
Pop. Rate*	2.25	2.12	2.05	1.91	1.82	-12.44%
Pct of Total	15.28%	14.83%	14.95%	15.57%	16.54%	9.23%

<sup>\*</sup> Rate per 100,000 population

The U.S. *population-based fatality rate* also decreased every year, from 2.25 in 2005 to 1.82 in 2009, representing a decline of over 19% from 2005; and 12.4% from the average of 2005-2008.

Over five years, older driver-involved deaths accounted for about 15.4% of all deaths across the Nation; first decreasing from 2005 to 2006; then increasing each year thereafter.

Figure 21 shows a steady upward trend in Vermont's older driver-involved fatalities. If this trend were to continue, the number of such fatalities would be **21** in 2010, **22** in 2011, and **23** in 2012.

The three-year moving average shows a matching steady increase until 2009. Caution is again advised because 2008 and 2009 represent years in which the economy was in decline.

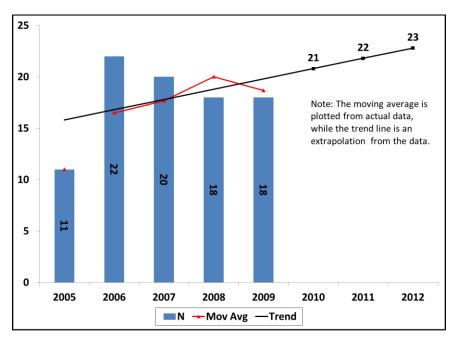


Figure 21. Vermont Older Driver-Involved Fatalities

Figure 22 (below) shows a steady upward trend in Vermont's older driver-involved population-based fatality rate. If this trend were to continue, there would be **3.34** fatalities per 100,000 population in 2010, **3.50** in 2011, and **3.66** in 2012.

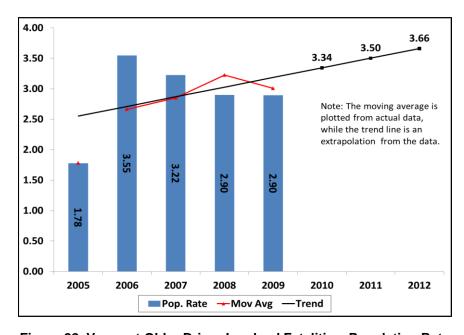


Figure 22. Vermont Older Driver-Involved Fatalities, Population Rate

### **EMPHASIS AREA DATA PROFILES**

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# I. FATALITIES

### FATALITIES – KEY FINDINGS

### <u>In the period 2005-2009:</u>

- Overall fatalities decreased by 1% in the state, compared to 16.5% in the Region and 18% Nationwide. Vermont saw the largest decreases in motorcyclist (15.8%) and passenger (32.4%) fatalities. The State did see a 150% increase in pedestrian fatalities, but there were never more than 5 such fatalities (Table 29).
- Five counties (Windham, Franklin, Chittenden, Rutland and Washington) accounted for 47.8% of all fatalities in Vermont. For the years 2005 through 2009, Windham County accounted for 11.5%, Franklin for 9.9%, and Chittenden, Rutland and Washington for 8.8% each (Table 30).
- The three counties that averaged the highest population-based fatality rates between 2005 and 2009 were Lamille (19.8 fatalities per 100,000 population), Windham (19.7 per 100,000 population), and Caledonia (17.8 per 100,000 population) (Table 31).
- Persons age 16-20 constituted a plurality (14.5%) of fatalities in Vermont for the years between 2005 and 2009, while for Region 1 and the U.S. as a whole 25-34 year olds constituted a plurality of fatalities with 14.7% and 16.7% of fatalities, respectively. Persons age 16-20 also had the highest population-based fatality rate, with 109.8 fatalities per 100,000 population in Vermont. Males constituted 69.2% of fatalities in Vermont, compared to 70.2% in Region 1 and 70.4% in the U.S. as a whole (Table 32).
- To the extent that the race of crash victims was known, ninety-five percent of Vermont's fatalities were racially White over the five-year period, compared to 96.3% of the population in the 2009 census. Blacks represented 0.5% of fatalities over this period and almost 1% of Vermont's 2009 population (Table 33).

The findings summarized above are supported by the tables and charts that follow in this section.

Table 29. Fatalities by Person Type

	2005	2006	2007	2008	2009	Total 2005-2009	Percent Change 2005-2009
Total Fatalities							
Vermont	73	87	66	73	74	373	-1.00%
Region	1,214	1,223	1,177	1,097	983	5,694	-16.54%
U.S.	43,510	42,708	41,259	37,423	33,808	198,708	-17.99%
Driver Fatalities*							
Vermont	55	68	48	47	56	274	2.75%
Region	807	850	787	726	663	3,833	-16.34%
U.S.	27,491	27,348	26,570	24,254	21,798	127,461	-17.48%
Passenger Fatalities*							
Vermont	15	18	13	25	12	83	-32.39%
Region	243	219	222	185	196	1,065	-9.78%
U.S.	10,069	9,507	9,036	7,775	7,074	43,461	-22.24%
Motorcyclist Fatalities							
Vermont	14	10	7	7	8	46	-15.79%
Region	186	177	171	167	171	872	-2.43%
U.S.	4,576	4,837	5,174	5,312	4,462	24,361	-10.31%
Pedestrian Fatalities							
Vermont	3	0	4	1	5	13	150.00%
Region	141	130	138	155	114	678	-19.15%
U.S.	4,892	4,795	4,699	4,414	4,092	22,892	-12.94%
Bicyclist Fatalities		_	_				
Vermont	0	0	0	0	0	0	0.00%
Region	15	18	21	23	8	85	-58.44%
U.S.	786	772	701	718	630	3,607	-15.35%

<sup>\*</sup> Driver and passenger fatalities include all vehicle types, thus motorcyclists are duplicated in this table

Table 30. Fatalities by County

						Total 2	2005-2009
County	2005	2006	2007	2008	2009	N	%
Addison	2	9	4	9	6	30	8.0%
Bennington	8	5	2	6	7	28	7.5%
Caledonia	6	7	7	5	2	27	7.2%
Chittenden	7	9	6	6	5	33	8.8%
Essex	0	0	2	3	0	5	1.3%
Franklin	4	12	10	3	8	37	9.9%

Grand Isle	1	0	0	1	0	2	0.5%
Lamoille	4	9	2	5	5	25	6.7%
Orange	4	5	5	4	5	23	6.2%
Orleans	5	3	5	4	6	23	6.2%
Rutland	10	1	5	6	11	33	8.8%
Washington	3	10	7	5	8	33	8.8%
Windham	10	10	7	9	7	43	11.5%
Windsor	9	7	4	7	4	31	8.3%
Total	73	87	66	73	74	373	100.0%

Counties with the highest number of fatalities are highlighted.

Table 31. Fatality Rates by County

County	2005	2006	2007	2008	2009
Addison	5.48	24.60	10.89	24.49	16.32
Bennington	21.93	13.68	5.49	16.46	19.22
Caledonia	19.80	22.92	23.01	16.53	6.61
Chittenden	4.67	5.99	3.98	3.96	3.28
Essex	0.00	0.00	30.94	46.45	0.00
Franklin	8.42	25.13	20.87	6.25	16.60
Grand Isle	13.20	0.00	0.00	13.03	0.00
Lamoille	16.35	36.15	7.92	19.46	19.26
Orange	13.82	17.17	17.24	13.82	17.30
Orleans	18.37	11.03	18.29	14.67	21.98
Rutland	15.75	1.58	7.90	9.49	17.46
Washington	5.09	16.97	11.92	8.52	13.63
Windham	22.90	22.86	16.02	20.66	16.10
Windsor	15.71	12.27	7.02	12.33	7.07
Total	11.80	14.03	10.64	11.75	11.90

Highlighted counties are the top counties from previous table

Table 32. Fatalities by Age Group and Gender: Totals 2005-2009

		F	atalities l	oy Age				Fatalit	ies by Ag	e and Gender	
		Vermont		Region	U.S.		Veri	nont		Region %	U.S. %
	(N=373)	%	Pop. Rate*	(N=5,694)	(N=198,708)	Females Males		Males	Males		
Age Group			Per 100k			N	%	N	%		
<5	1	0.3%	3.08	0.4%	1.3%	0	0.0%	1	100.0%	54.2%	53.8%
5-9	3	0.8%	9.00	0.7%	1.2%	2	66.7%	1	33.3%	72.5%	55.3%
10-15	9	2.4%	20.57	1.9%	2.4%	3	33.3%	6	66.7%	56.1%	58.7%
16-20	54	14.5%	109.80	14.0%	12.7%	14	25.9%	40	74.1%	69.8%	68.5%
21-24	36	9.7%	98.90	11.6%	10.6%	8	22.2%	28	77.8%	76.1%	77.3%
25-34	53	14.2%	76.72	14.7%	16.7%	14	26.4%	39	73.6%	77.6%	76.2%
35-44	43	11.5%	54.09	13.1%	14.8%	10	23.3%	33	76.7%	72.4%	73.1%
45-54	47	12.6%	46.07	14.6%	15.0%	13	27.7%	34	72.3%	76.7%	72.8%
55-64	47	12.6%	54.58	11.1%	10.2%	19	40.4%	28	59.6%	68.9%	70.2%
65-74	34	9.1%	70.44	6.6%	6.5%	10	29.4%	24	70.6%	62.3%	63.6%
75+	45	12.1%	108.06	11.2%	8.3%	21	46.7%	24	53.3%	52.8%	57.0%
Unknown	1	0.3%	n/a	0.1%	0.2%	1	100.0%	0	0.0%	75.0%	72.3%
Total	373	100.0%	59.99	100.0%	100.0%	115	30.8%	258	69.2%	70.2%	70.4%

Highlighting is to help reader identify cells with higher numbers/percentages/population rates

As seen in Table 32, above, the age groups in Vermont with the greatest number of fatalities per 100,000 population are those ages 16-24 and those ages 75 and older. Along with the 16-20 year-olds, age groups 25-34, 45-54, and 55-64 made up the greatest number of total fatalities, although their population-based fatality rates were lower. In Region 1, the greatest percentages of fatalities were in the 25-34, 45-54, and 16-20 age groups, in order of decreasing fatalities. Nationwide, the greatest number of fatalities was in the age group 25-34, followed by 45-54, and then 35-44.

Table 33. Fatalities by Race and Hispanic Origin

			Vermont	Total 2005-2009				
Race/Hispanic	2005	2006	2007	2008	2009	VT	Region	U.S.
•						%	%	%
White	73	87	65	62	69	95.4%	79.6%	58.0%
Black	0	0	0	1	1	0.5%	4.7%	10.5%
Other	0	0	0	5	1	1.6%	3.4%	6.1%
Hispanic	0	0	1	2	0	0.8%	4.5%	10.9%
Total Race Known	73	87	66	70	71	98.4%	92.2%	85.6%

<sup>\*</sup>Percentages based on total fatalities.

<sup>\*</sup>Population rate based on 2009 census data

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# II. ALCOHOL-IMPAIRED DRIVING FATALITIES AND ALCOHOLIMPAIRMENT-RELATED FATAL CRASHES AND FATALITIES

# ALCOHOL-IMPAIRED DRIVING FATALITIES AND ALCOHOL-IMPAIRMENT-RELATED FATAL CRASHES AND FATALITIES – KEY FINDINGS

### In the period 2005-2009:

- The percentage of Vermont's fatalities that were related to alcohol-impaired driving has been less than the percentage for Region 1 after 2005. Vermont's percentages have been below the percentages for the U.S. as a whole for three of the five years (including 2008 and 2009). In 2009, alcohol-impaired driving fatalities accounted for 31% of all fatalities in Vermont, up from a low of 16% in 2008 (Figure 23).
- The three counties with the most alcohol-impaired driving fatalities were Franklin (19), Windham (11), and Caledonia (11). The counties (excluding Grand Isle, with only 2 fatalities) with the highest percentage of alcohol-impaired driving fatalities were Franklin County (51.4%), Caledonia (40.7%), and Essex (40%) (Table 34).
- Between 2005 and 2009, the alcohol-impaired driving population-based fatality rate by county increased by 6.7%. The counties with the highest alcohol-impaired population-based fatality rates in 2009 were Franklin County (10.4 fatalities per 100,000 population), Windham (9.2), and Lamoille (7.7) (Table 35).
- In Vermont, 58.2% percent of alcohol-impairment-related crashes occurred between 6 p.m. and 3 a.m.; 62.7% occurred on Friday, Saturday, and Sunday. The same pattern holds true for Region 1 and the U.S. as a whole. 73.2% of alcohol-impairment-related crashes in Region 1 occurred between 6 p.m. and 3 a.m. and 64.4% occurred on Friday, Saturday, and Sunday. For the U.S. as a whole, 68.4% of alcohol-impairment related crashes occurred between 6 p.m. and 3 a.m. and 63.1% occurred on Friday, Saturday, and Sunday (Table 36).
- For the years 2005 through 2009, 32% of Vermont's fatalities were associated with a blood alcohol concentration of at least 0.08%. This was below the percentage in Region 1 (36%) and the U.S. as a whole (35%) (Table 37).
- NHTSA's alcohol imputation data estimate BACs where no test results are available. These data show that, for the years 2005 through 2009, 21.2% of *drivers* involved in fatal crashes in Vermont had a BAC of at least 0.08. This percentage was lower than that in Region 1, 21.9%, but higher than that of the U.S. as a whole, 20.1% (Table 38).

The findings summarized above are supported by the tables and charts that follow in this section.

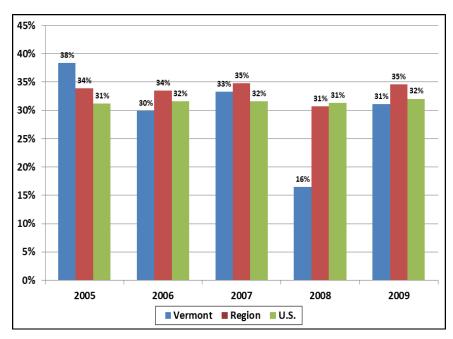


Figure 23. Alcohol-Impaired Driving Fatalities as Percent of Total Fatalities

As shown in Figure 23, above, the percentage of fatalities in Vermont that were alcohol-impaired has generally been below that of Region 1 and the U.S. as a whole. In 2009, 31% of all fatalities in Vermont were alcohol-impaired driving fatalities.

Table 34, below, shows the alcohol-impaired driving fatalities by county for Vermont. Of the three counties with the most alcohol-impaired driving fatalities (Franklin, Windham, and Caledonia) only Caledonia experienced a decrease in the number of alcohol-impaired driving fatalities for the 2005 to 2009 period. Caledonia experienced a decline of 60%, while Franklin and Windham experienced increases of 43%, and 129%, respectively (although the numbers of fatalities are small).

Table 34. Alcohol-Impaired Driving Fatalities by County

	Ald	ohol-Im F	paired D		A-I)	Total A-I Fatalities	Total Fatalities	% A-I
County	2005	2006	2007	2008	2009			
Addison	1	1	1	0	0	3	30	10.0%
Bennington	2	2	2	0	2	8	28	28.6%
Caledonia	4	3	2	1	1	11	27	40.7%
Chittenden	2	1	3	0	0	6	33	18.2%
Essex	0	0	1	1	0	2	5	40.0%
Franklin	2	9	3	0	5	19	37	51.4%

<sup>&</sup>lt;sup>8</sup> For this report, *alcohol-impairment-related* fatalities include those resulting from when a driver, passenger, motorcycle operator, pedestrian, or bicyclist was impaired (BAC  $\geq$  0.08), while *alcohol-impaired driving* fatalities refer only to those resulting from impaired (BAC  $\geq$  0.08) drivers/motorcycle operators.

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Grand Isle	1	0	0	0	0	1	2	50.0%
Lamoille	1	1	1	2	2	7	25	28.0%
Orange	1	1	0	2	1	5	23	21.7%
Orleans	4	2	0	0	2	8	23	34.8%
Rutland	5	0	2	1	2	10	33	30.3%
Washington	1	3	3	0	2	9	33	27.3%
Windham	1	2	3	1	4	11	43	25.6%
Windsor	3	0	1	3	2	9	31	29.0%
Totals	28	25	22	11	23	109	373	29.2%

<sup>\*</sup>Based on NHTSA's alcohol imputation data. Rounding may cause the sum of sub-categories to differ slightly from total values. Counties with the highest number of alcohol-impaired driving fatalities are highlighted.

Table 35. Alcohol-Impaired Driving Fatalities by County: Rate per 100,000 Population

County	2005	2006	2007	2008	2009
Addison	2.74	2.73	2.72	0.00	0.00
Bennington	5.48	5.47	5.49	0.00	5.49
Caledonia	13.20	9.82	6.57	3.31	3.31
Chittenden	1.33	0.67	1.99	0.00	0.00
Essex	0.00	0.00	15.47	15.48	0.00
Franklin	4.21	18.85	6.26	0.00	10.38
Grand Isle	13.20	0.00	0.00	0.00	0.00
Lamoille	4.09	4.02	3.96	7.78	7.70
Orange	3.46	3.43	0.00	6.91	3.46
Orleans	14.70	7.35	0.00	0.00	7.33
Rutland	7.87	0.00	3.16	1.58	3.17
Washington	1.70	5.09	5.11	0.00	3.41
Windham	2.29	4.57	6.87	2.30	9.20
Windsor	5.24	0.00	1.76	5.29	3.54
Total	4.52	4.03	3.55	1.77	3.70

Highlighted counties are top counties from previous table.

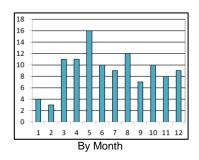
It should be noted that the counties' population-based fatality rates can vary drastically from year to year and thus should be considered with caution.

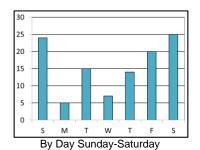
As can be seen in Table 36 (below) the three months with the greatest number of alcohol-impairment-related fatal crashes were May (16 crashes, 14.5% of total), August (12, 10.9%), and March and April (11, 10%). The three months with the highest number of crashes in Region 1 were July (10.2%), October (9.6%), and September (9.4%). Nationwide, the three months with the most fatal crashes were August (9.3%), July (9.1%), and October (8.9%).

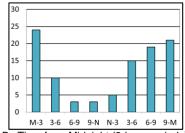
Table 36. Alcohol-Impairment-Related\* Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2005-2009

	V	ermont	Region	U.S.
	(1	N=110)	(N=1,852)	(N=63,070)
	N	%	%	%
MONTH				
January	4	3.6%	6.4%	7.2%
February	3	2.7%	6.4%	7.1%
March	11	10.0%	7.9%	8.0%
April	11	10.0%	8.5%	8.3%
May	16	14.5%	8.5%	8.6%
June	10	9.1%	9.2%	8.6%
July	9	8.2%	10.2%	9.1%
August	12	10.9%	9.1%	9.3%
September	7	6.4%	9.4%	8.8%
October	10	9.1%	9.6%	8.9%
November	8	7.3%	7.6%	8.3%
December	9	8.2%	7.1%	7.8%
DAY OF WEEK	0.4	04.00/	00.00/	00.007
Sunday	24	21.8%	22.9%	22.6%
Monday	5	4.5%	7.6%	9.1%
Tuesday	15	13.6%	7.9%	8.2%
Wednesday	7	6.4%	9.1%	9.1%
Thursday	14	12.7%	10.9%	10.4%
Friday	20	18.2%	16.4%	15.3%
Saturday	25	22.7%	25.1%	25.2%
Unknown	0	0.0%	0.0%	0.0%
TIME OF DAY				
Midnight-3am	24	21.8%	33.0%	28.2%
3am-6am	10	9.1%	11.3%	13.6%
6am-9am	3	2.7%	2.7%	3.3%
9am-Noon	3	2.7%	1.3%	1.9%
Noon-3pm	5	4.5%	3.0%	3.4%
3pm-6pm	15	13.6%	7.7%	8.1%
6pm-9pm	19	17.3%	16.8%	17.1%
9pm-Midnight	21	19.1%	23.4%	23.1%
Unknown	10	9.1%	0.7%	1.3%

<sup>\*</sup>Data based on drivers, passengers, motorcycle operators, pedestrians and bicyclists with BAC ≥0.08% involved in fatal crashes







By Time from Midnight (3-hour periods)

Alcohol-impairment-related fatal crashes were much more common on the weekends or Friday than at other times of the week, for Vermont, Region 1, and the U.S. as a whole. In Vermont, 22.7% of alcohol-impairment-related fatal crashes occurred on a Saturday, 21.8% occurred on a Sunday, and 18.2% occurred on a Friday. In Region 1, 25.1% of such crashes occurred on a Saturday, 22.9% on a Sunday, and 16.4% on a Friday. Nationwide, 25.2% of such crashes occurred on a Saturday, 22.6% on a Sunday, and 15.3% on a Friday.

Alcohol-impairment-related fatal crashes were much more common after 6 p.m. and before 3 a.m. for Vermont, Region 1, and the U.S. as a whole. In Vermont, 21.8% of alcohol-impairment-related fatal crashes occurred between midnight and 3 a.m., 19.1% occurred between 9 p.m. and midnight, and 17.3% occurred between 6 p.m. and 9 p.m. In Region 1, 33% of such crashes occurred between midnight and 3 a.m., 23.4% occurred between 9 p.m. and midnight, and 16.8% occurred between 6 p.m. and 9 p.m. Nationwide, 28.2% of such crashes occurred between midnight and 3 a.m., 23.1% occurred between 9 p.m. and midnight, and 17.1% occurred between 6 p.m. and 9 p.m.

As shown in Table 37, Vermont had a smaller percentage of fatalities (32%) where the highest BAC in the crash was 0.08% or above, as compared to Region 1 (36%) or the U.S. as a whole (35%).

Table 37. Fatalities by the Highest BAC in the Crash\*

BAC	2005	2006	2007	2008	2009	VT	Region	U.S.
BAO	(N=73)	(N=87)	(N=66)	(N=73)	(N=74)	(N=373)	(N=5,694)	(N=198,708)
0.00%	59%	67%	58%	79%	61%	65%	57%	59%
0.01 - 0.07%	1%	2%	5%	4%	5%	3%	6%	6%
0.08+%	40%	31%	38%	16%	34%	32%	36%	35%

\*Data based on drivers, passengers, motorcycle operators, pedestrians, and bicyclists

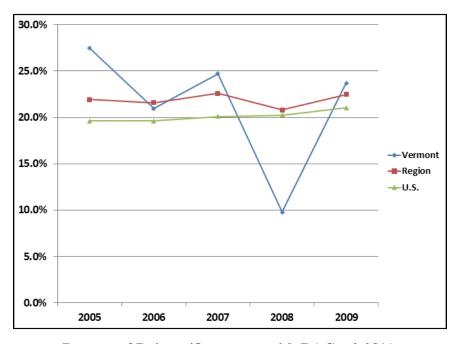
Based on NHTSA's alcohol imputation data. Rounding may cause the sum of sub-categories to differ slightly from total values

Table 38. BACs of Drivers/Operators Involved in Fatal Crashes

	2005	2006	2007	2008	2009	Total 2005-09
VT	(N=102)	(N=105)	(N=85)	(N=102)	(N=97)	(N=491)
BAC						
0.00%	70.6%	77.1%	70.6%	88.2%	73.2%	76.2%
0.01-0.07%	2.0%	1.9%	4.7%	2.0%	3.1%	2.6%
0.08%+	27.5%	21.0%	24.7%	9.8%	23.7%	21.2%
Region	(N=1,669)	(N=1,649)	(N=1,549)	(N=1,427)	(N=1,313)	(N=7,607)
BAC						
0.00%	76.1%	76.1%	73.2%	75.9%	74.9%	75.3%
0.01-0.07%	2.5%	3.0%	4.0%	3.6%	2.8%	3.2%
0.08%+	21.9%	21.6%	22.6%	20.8%	22.5%	21.9%
U.S.	(N=59,220)	(N=57,846)	(N=56,019)	(N=50,416)	(N=45,230)	(N=268,731)
BAC						
0.00%	78.0%	77.9%	76.8%	76.8%	76.2%	77.2%
0.01-0.07%	2.7%	2.9%	3.2%	3.1%	2.9%	3.0%
0.08%+	19.6%	19.6%	20.1%	20.2%	21.0%	20.1%

<sup>\*</sup>Based on NHTSA's alcohol imputation data. Rounding may cause the sum of sub-categories to differ slightly from total values

As Table 38 (above) shows, Vermont had a slightly lower percentage of drivers involved in fatal crashes who had a BAC of 0.08% (21.2%) for the years 2005 through 2009 than Region 1 (21.9%) but a higher percentage than the U.S. as a whole (20.1%). The year-by-year numbers are also displayed in the supplement to Table 38, below:



Percent of Drivers/Operators with BAC ≥ 0.08%

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## III. SPEEDING-RELATED CRASHES

### SPEEDING-RELATED CRASHES – KEY FINDINGS

### In the period 2005-2009:

- The percentage of speeding-related fatalities in Vermont has steadily declined over the five-year period so that by 2009 it was lower than that in Region 1 and the U.S. as a whole (30%, 33%, and 31%, respectively) (Figure 24).
- Four counties accounted for 51.4% of speeding-related fatalities in Vermont. Franklin County had the highest number of speeding-related fatalities in the state (21 fatalities, 15.4%), followed by Windham (18, 13.2%), Washington (17, 12.5%), and Bennington (14, 10.3%) (Table 39).
- Vermont's speeding-related population-based fatality decreased by 23% between 2005 and 2009, from 5.33 per 100,000 population in 2005, to 3.54 in 2009. The counties with the highest speeding-related population-based fatality rates during these years were Franklin (8.78), Windham (8.25), and Bennington (7.68) (Table 40).
- A plurality, 41.2%, of speeding-related fatalities in Vermont occurred on roads with a speed limit of 50 mph. Statewide, 81.6% of speed-related fatalities occurred on roads with a speed limit of 50 mph or less, compared to 79.2% in Region 1 and 49.9% Nationwide (Table 41).
- A plurality, 32.4%, of Vermont's speeding-related fatalities occurred on local roads. For Region 1, a plurality, 30.3%, occurred on local roads, while Nationwide, a plurality, 34.5%, occurred on arterial roads (Table 42).
- In Vermont, over 53.4% of speeding-related fatal crashes occurred on Friday, Saturday, and Sunday. For Region 1, 56.7% of speeding-related fatal crashes occurred on these days, and Nationwide, 54.4% of speeding-related fatal crashes occurred on these days. In Vermont, the highest number of fatal crashes occurred in August and May (15, 12.5%), April and July (12, 10.0%). 39.2% of speeding-related fatal crashes occurred between 6 p.m. and 3 a.m. in Vermont, compared to 57.2% in Region 1 and 49.3% Nationwide (Table 43).
- Twenty-three percent of drivers involved in fatal crashes in Vermont had previous speeding convictions. This percentage was higher than the percentage for the Region 1 (18.5%) and the U.S. as a whole (18.9%) (Table 44).
- In Vermont, persons between the ages of 25 and 34 constituted a plurality (21.4%) of drivers involved in a fatal crash with a previous speeding conviction. This also holds true for Region 1 (24.4%) and the U.S. as a whole (25.9%). Males were 83.8% of the drivers involved in fatal crashes with previous speeding convictions for Vermont, and were 80.1% and 79.8% for Region 1 and the U.S. as a whole, respectively (Table 45).

The findings summarized above are supported by the tables and charts that follow in this section.

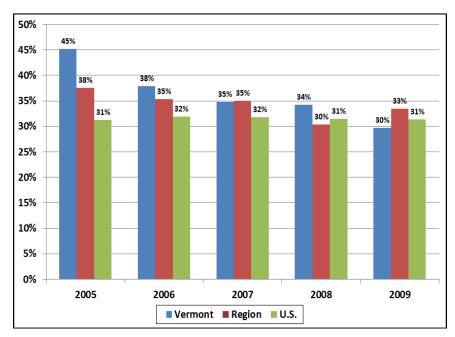


Figure 24. Speeding-Related Fatalities As Percent of Total Fatalities

As shown in Figure 24 (above) speeding-related fatalities in Vermont experienced a steady decline across the five-year period, from 45% of total fatalities in 2005 to 30% in 2009. Vermont's percentage of fatalities that were speeding-related has generally been above the percentage for Region 1 and the U.S. (with the exception of 2009).

Table 39. Speeding-Related Fatalities by County

	5	Speed-R	elated F	atalitie	S	Total	2005-2009
County	2005	2006	2007	2008	2009	N	%
Addison	0	5	0	4	0	9	6.6%
Bennington	7	2	0	2	3	14	10.3%
Caledonia	2	2	2	4	1	11	8.1%
Chittenden	2	4	3	2	0	11	8.1%
Essex	0	0	1	0	0	1	0.7%
Franklin	3	7	8	0	3	21	15.4%
Grand Isle	1	0	0	0	0	1	0.7%
Lamoille	0	1	2	1	3	7	5.1%
Orange	1	1	0	1	0	3	2.2%
Orleans	4	1	0	3	2	10	7.4%
Rutland	2	0	2	0	2	6	4.4%
Washington	3	5	4	2	3	17	12.5%
Windham	7	4	1	3	3	18	13.2%
Windsor	1	1	0	3	2	7	5.1%
Total	33	33	23	25	22	136	100.0%

Counties with the highest number of speeding-related fatalities are highlighted.

Table 40. Speeding-Related Fatalities by County: Rate per 100,000 Population

County	2005	2006	2007	2008	2009
Addison	0.00	13.66	0.00	10.88	0.00
Bennington	19.19	5.47	0.00	5.49	8.24
Caledonia	6.60	6.55	6.57	13.22	3.31
Chittenden	1.33	2.66	1.99	1.32	0.00
Essex	0.00	0.00	15.47	0.00	0.00
Franklin	6.32	14.66	16.70	0.00	6.23
Grand Isle	13.20	0.00	0.00	0.00	0.00
Lamoille	0.00	4.02	7.92	3.89	11.56
Orange	3.46	3.43	0.00	3.46	0.00
Orleans	14.70	3.68	0.00	11.00	7.33
Rutland	3.15	0.00	3.16	0.00	3.17
Washington	5.09	8.49	6.81	3.41	5.11
Windham	16.03	9.14	2.29	6.89	6.90
Windsor	1.75	1.75	0.00	5.29	3.54
Total	5.33	5.32	3.71	4.03	3.54

Highlighted counties are top counties from previous table.

It should be noted that the counties' population-based fatality rates can vary drastically from year to year and thus should be considered with caution.

Table 41. Speeding-Related Fatalities by Posted Speed Limit

			Vermont				Total 2005-2	009
	2005	2006	2007	2008	2009	VT	Region	U.S.
	(N=33)	(N=33)	(N=23)	(N=25)	(N=22)	(N=136)	(N=1,962)	(N=62,690)
Posted Speed								
30 or less	3	2	4	0	3	8.8%	31.5%	11.7%
35	5	5	2	7	5	17.6%	16.9%	12.3%
40	3	3	7	1	2	11.8%	11.4%	7.1%
45	3	0	0	0	0	2.2%	10.6%	14.6%
50	13	16	6	12	9	41.2%	8.8%	4.2%
55	0	0	2	0	2	2.9%	7.8%	27.8%
60	0	0	0	0	0	0.0%	0.2%	3.7%
65+	3	7	2	5	1	13.2%	10.3%	16.2%
No Limit	3	0	0	0	0	2.2%	1.1%	0.3%
Unknown	0	0	0	0	0	0.0%	1.5%	2.1%
Total	33	33	23	25	22	100.0%	100.0%	100.0%

<sup>\*</sup>Highlighting is to help the reader identify cells with higher numbers/percentages.

As shown in Table 41 (above) the majority (81.6%) of speeding-related fatalities in Vermont occurred on roads with speed limits of 50 miles per hour or less. The same pattern held true for

Region 1, where 79.2% of speeding-related fatalities occurred on roads with speed limits of 50 miles per hour or less. Nationwide, however, the posted speed limits associated with the majority of fatalities (59%) were 55 mph (27.8%), 65+ mph (16.2%), and 45 mph (14.6%).

Table 42. Speeding-Related Fatalities by Road Type

	Vermont					Total 2005-2009			
	2005	2006	2007	2008	2009	VT	Region	U.S.	
	(N=33)	(N=33)	(N=23)	(N=25)	(N=22)	(N=136)	(N=1,962)	(N=62,690)	
Road Type									
Interstate/Expressway	3	7	2	8	1	15.4%	23.0%	16.9%	
Arterial	17	10	5	4	5	30.1%	28.5%	34.5%	
Collector	4	10	4	5	6	21.3%	17.4%	24.0%	
Local	9	6	12	8	9	32.4%	30.3%	23.3%	
Unknown	0	0	0	0	1	0.7%	0.8%	1.2%	
Total	33	33	23	25	22	100.0%	100.0%	100.0%	

Highlighting is to help the reader identify cells with higher numbers/percentages.

In Vermont, the road type on which the plurality of speeding-related fatalities occurred was Local, with 32.4% of all speeding-related fatalities occurring on these roads. The same held true Region 1 (30.3% of all speeding-related fatalities), but, Nationwide, the plurality (34.5%) of fatalities occurred on Arterial roads.

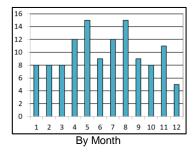
As seen in Table 43 (below) the three months with the greatest number of speeding-related fatal crashes in Vermont were May and August (15 each), and April and July (12 each). For Region 1, the greatest number of speeding-related fatal crashes occurred in the months of July (10.4%), August (10%), and June and October (each with 9.6%). Nationwide, July (9.1%) saw the most speeding-related fatal crashes, followed by August (9.0%), and then May (8.8%).

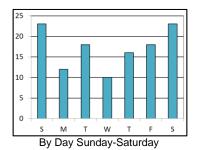
Looking at Vermont's speeding-related fatal crashes by day, the greatest number occurred on Sunday and Saturday (23 each), followed by Friday and Tuesday (18 each). In Region 1, the greatest number occurred on Saturday (20.9%), followed by Sunday (19.8%), and then Friday (16.0%). This was true for the U.S. as a whole as well, with 20.5% occurring on Saturday, 18.6% on Sunday, and 15.3% on Friday.

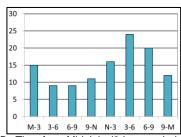
In Vermont, the 3-hour windows with the most speeding-related fatal crashes were 3 p.m. to 6 p.m. (24), 6 p.m. to 9 p.m. (20), and noon to 3 p.m. (16). This did not hold true for Region 1 and the Nation. In Region 1, 22.3% of such crashes occurred between midnight and 3 a.m., 19.3% occurred between 9 p.m. and midnight, and 15.6% occurred between 6 p.m. and 9 p.m. Nationwide, 18% occurred between midnight and 3 a.m., 16.2% occurred between 9 p.m. and midnight, and 15.1% occurred between 6 p.m. and 9 p.m.

Table 43. Speeding-Related Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2005-2009

	Verm	nont	Region	U.S.	
	(N=1	20)	(N=1,756)	(N=55,871)	
	N	%	%	%	
MONTH					
January	8	6.7%	7.1%	7.8%	
February	8	6.7%	6.0%	7.3%	
March	8	6.7%	6.9%	7.8%	
April	12	10.0%	8.5%	8.4%	
May	15	12.5%	8.8%	8.8%	
June	9	7.5%	9.6%	8.7%	
July	12	10.0%	10.4%	9.1%	
August	15	12.5%	10.0%	9.0%	
September	9	7.5%	8.5%	8.2%	
October	8	6.7%	9.6%	8.7%	
November	11	9.2%	7.9%	8.1%	
December	5	4.2%	6.7%	8.1%	
DAY OF WEEK					
Sunday	23	19.2%	19.8%	18.6%	
Monday	12	10.0%	10.5%	11.5%	
Tuesday	18	15.0%	10.3%	10.8%	
Wednesday	10	8.3%	9.9%	11.3%	
Thursday	16	13.3%	12.6%	11.8%	
Friday	18	15.0%	16.0%	15.3%	
Saturday	23	19.2%	20.9%	20.5%	
Unknown	0	0.0%	0.0%	0.0%	
TIME OF DAY					
Midnight-3am	15	12.5%	22.3%	18.0%	
3am-6am	9	7.5%	8.5%	9.5%	
6am-9am	9	7.5%	6.2%	8.4%	
9am-Noon	11	9.2%	6.1%	7.4%	
Noon-3pm	16	13.3%	8.9%	10.5%	
3pm-6pm	24	20.0%	12.8%	14.2%	
6pm-9pm	20	16.7%	15.6%	15.1%	
9pm-Midnight	12	10.0%	19.3%	16.2%	
Unknown	4	3.3%	0.4%	0.7%	







By Time from Midnight (3-hour periods)

The following tables show that, in Vermont, there was a larger age range of drivers involved in fatal crashes with previous speeding convictions than Region 1 and the Nation. However, over a fifth of such drivers were in the 25-34 age group for all three jurisdictions (Vermont, Region, Nation). For Region 1 and the Nation, drivers ages 65 and above made up the smallest percentage of drivers involved in a fatal crash with a previous speeding conviction, while those ages 55-64 (5.1%) in Vermont were the smallest age group. Males were much more prevalent among drivers in fatal crashes with previous speeding convictions; 83.8% of all such drivers in Vermont were male, which was slightly higher than the percentage in the Region (80.1%) and the U.S. as a whole (79.8%).

Table 44. Drivers Involved in Fatal Crashes with Previous Speeding Convictions

	Drivers with previous speeding convictions								
	2005	2006	2007	2008	2008 2009		Total 2005-2009		
	%	%	%	%	%	N	%		
Vermont	22.5%	25.7%	25.9%	20.6%	24.7%	117	23.8%		
Region	18.7%	19.5%	17.6%	18.1%	18.6%	1,408	18.5%		
U.S.	19.1%	18.9%	19.0%	19.0%	18.4%	50,769	18.9%		

<sup>\*</sup>Recorded speeding convictions that occurred within three years prior to the crash

Table 45. Drivers Involved in Fatal Crashes with Previous Speeding Convictions by Age Group and Gender: Totals 2005-2009

	Vermont		Region	U.S.	Vermont				Region	U.S.
	(N=117)	%	(N=1,408)	(N=50,769)	Females		Males		% Males	% Males
Age Group					N	%	N	%		
16-20	19	16.2%	15.2%	13.0%	2	10.5%	17	89.5%	78.5%	78.1%
21-24	17	14.5%	22.1%	18.2%	1	5.9%	16	94.1%	82.6%	80.2%
25-34	25	21.4%	24.4%	25.9%	8	32.0%	17	68.0%	81.4%	79.2%
35-44	15	12.8%	17.5%	18.7%	3	20.0%	12	80.0%	76.8%	79.4%
45-54	22	18.8%	12.7%	13.4%	2	9.1%	20	90.9%	76.5%	81.2%
55-64	6	5.1%	5.0%	7.0%	2	33.3%	4	66.7%	82.9%	82.3%
65+	13	11.1%	3.1%	3.8%	1	7.7%	12	92.3%	88.6%	81.9%
Unknown	0	0.0%	0.0%	0.1%	0	0.0%	0	0.0%	0.0%	42.3%
Total	117	100.0%	100.0%	100.0%	19	16.2%	98	83.8%	80.1%	79.8%

<sup>\*</sup>Highlighting is to help the reader identify cells with higher numbers/percentages.

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# IV. MOTORCYCLE CRASHES

### MOTORCYCLE CRASHES - KEY FINDINGS

### In the period 2005-2009:

- The percentages of fatalities that were motorcyclists in Vermont declined substantially from 2005 to 2006, to less than both Region 1 and the Nation, and remained stable for the following four years. In 2009, 11% of fatalities in Vermont were motorcyclists, compared to 17% in Region 1, and 13% in the U.S. as a whole (Figure 25).
- In Vermont, 56.6% of motorcycle fatal crashes occurred on Friday, Saturday, and Sunday. For Region 1 and the Nation, these percentages were 55.9% and 57.5%, respectively (Table 46).
- Over 73% of motorcyclist fatalities in Vermont were between the ages of 25 and 64, and 84.8% were males (Table 47).
- Vermont requires the use of a helmet by all motorcycle riders. Between 2005 and 2009, 19.6% of motorcyclist fatalities did not have a helmet. This percentage is lower than both the Region (45.3%) and the U.S. as a whole (41.2%) (Table 48).
- Almost 30.2% of fatally-injured motorcycle operators in Vermont who were tested for BAC had a BAC of at least 0.01% during this period, a percentage that is lower than both Region 1 (36%) and Nationwide (37.3%) (Table 49).
- In fatal crashes involving motorcycles, 80.9% of motorcyclists had at least one driver factor reported, versus 55.2% of the operators of other vehicles. The three most common driver factors for motorcycle operators were failure to keep in proper lane (40.4%), driving too fast (38.3%), and operating vehicle in an erratic or reckless manner (21.3%) (Table 50).

The findings summarized above are supported by the tables and charts that follow in this section.

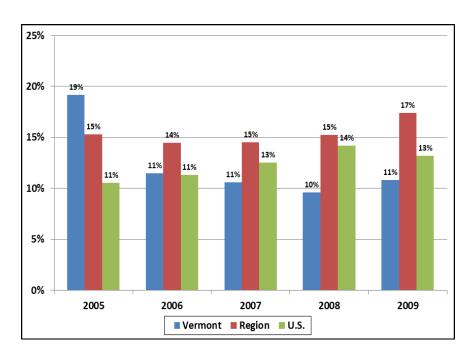


Figure 25. Motorcyclist Fatalities as Percent of Total Fatalities

As Figure 25, above, shows, the percentages of fatalities that were motorcyclists in Vermont declined substantially from 2005 to 2006 (19% to 11%), to less than both Region 1 (17%) and the Nation (13%) by 2009, and remained stable for the following four years.

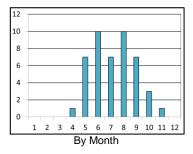
As Table 46 (below) shows, the months with the most motorcycle fatal crashes in Vermont were June and August (10 crashes, 21.7% of the total for each) and May and September (7 crashes, 15.2% of the total for each). For Region 1, the top three months for such crashes were July (18.4%), June (17.1%), and August (16.9%). For the Nation, the top three months for such crashes were July (13.2%), August (12.8%), then June (12%).

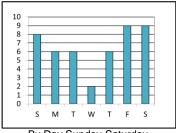
On a day by day basis, the most motorcycle fatal crashes in Vermont occurred on Friday and Saturday (9, 19.6% of total each), followed by Sunday (8, 17.4% of total). The same pattern was observed in Region 1, where 21.2% of motorcycle fatal crashes occurred on a Sunday, 20.1% on a Saturday, and 14.6% on a Friday. Nationwide, 22.4% of motorcycle fatal crashes occurred on a Saturday, 20.4% on Sunday, and 14.7% on a Friday.

In Vermont, the three-hour windows in which the most motorcycle fatal crashes occurred were noon to 3 p.m. and 3 p.m. to 6 p.m. (14 crashes each, each 30.4% of the total), and 6 p.m. to 9 p.m. (7, 15.2%). In Region 1, the top three-hour windows were 6 p.m. to 9 p.m. (25.2%), 3 p.m. to 6 p.m. (22.4%), and noon to 3 p.m. (17.3%). Nationwide, the top three-hour windows were 3 p.m. to 6 p.m. (21.8%), 6 p.m. to 9 p.m. (20.9%), and noon to 3 p.m. (15.7%).

Table 46. Motorcycle Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2005-2009

	Vermont		Region	U.S.	
	(N=46)		(N=844)	(N=23,657)	
	N	%	%	%	
MONTH					
January	0	0.0%	0.4%	3.0%	
February	0	0.0%	0.4%	3.4%	
March	0	0.0%	3.2%	6.0%	
April	1	2.2%	8.5%	9.2%	
May	7	15.2%	12.1%	11.6%	
June	10	21.7%	17.1%	12.0%	
July	7	15.2%	18.4%	13.2%	
August	10	21.7%	16.9%	12.8%	
September	7	15.2%	13.2%	11.5%	
October	3	6.5%	6.6%	8.4%	
November	1	2.2%	2.8%	5.7%	
December	0	0.0%	0.5%	3.1%	
DAY OF WEEK					
Sunday	8	17.4%	21.2%	20.4%	
Monday	6	13.0%	10.4%	10.3%	
Tuesday	6	13.0%	11.7%	10.0%	
Wednesday	2	4.3%	9.0%	10.7%	
Thursday	6	13.0%	12.9%	11.6%	
Friday	9	19.6%	14.6%	14.7%	
Saturday	9	19.6%	20.1%	22.4%	
Unknown	0	0.0%	0.0%	0.0%	
TIME OF DAY					
Midnight-3am	0	0.0%	9.2%	9.6%	
3am-6am	2	4.3%	1.9%	3.5%	
6am-9am	2	4.3%	5.0%	5.3%	
9am-Noon	1	2.2%	5.9%	8.2%	
Noon-3pm	14	30.4%	17.3%	15.7%	
3pm-6pm	14	30.4%	22.4%	21.8%	
6pm-9pm	7	15.2%	25.2%	20.9%	
9pm-Midnight	3	6.5%	12.4%	14.2%	
Unknown	3	6.5%	0.6%	0.7%	





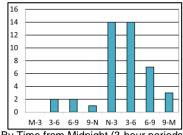


Table 47. Motorcyclist Fatalities by Age Group and Gender: Totals 2005-2009

Fatalities by Age					Fatalities by Age and Gender					
	Verr	nont	Region	U.S.		Ver	rmont		Region	U.S. %
	(N=46)	%	(N=872)	(N=24,361)	Fe	males	ı	Males	% Males	Males
Age Group					N	%	N	%		
< 16	1	2.2%	0.6%	0.8%	0	0.0%	1	100.0%	100.0%	86.5%
16-20	5	10.9%	7.1%	6.8%	0	0.0%	5	100.0%	83.9%	89.9%
21-24	3	6.5%	11.8%	11.4%	0	0.0%	3	100.0%	95.1%	94.7%
25-34	8	17.4%	19.6%	20.9%	0	0.0%	8	100.0%	95.3%	93.4%
35-44	6	13.0%	22.4%	21.5%	2	33.3%	4	66.7%	83.6%	88.2%
45-54	13	28.3%	23.6%	21.9%	2	15.4%	11	84.6%	90.3%	88.2%
55-64	7	15.2%	11.8%	12.5%	3	42.9%	4	57.1%	89.3%	91.9%
65-74	2	4.3%	2.4%	3.4%	0	0.0%	2	100.0%	90.5%	93.5%
75+	1	2.2%	0.7%	0.8%	0	0.0%	1	100.0%	100.0%	95.9%
Unknown	0	0.0%	0.0%	0.1%	0	0.0%	0	0.0%	0.0%	53.8%
Total	46	100.0%	100.0%	100.0%	7	15.2%	39	84.8%	89.9%	90.8%

<sup>\*</sup>Highlighting is to help the reader identify cells with higher numbers/percentages.

As shown in Table 47 (above) the 45-54 age group made up a plurality (28.3%) of motorcyclist fatalities in Vermont, followed by the 25-34 age group (17.4%) and the 55-64 age group (15.2%). In Region 1, the 45-54 age group also accounted for the plurality of motorcyclist fatalities (23.6%), followed by the 35-44 age group (22.4%) and the 25-34 age group (19.6%). The same held true for the U.S. as a whole.

Males made up a much larger percentage of Vermont's motorcyclist fatalities than females (84.8% versus 15.2%). This was also true for the Region (89.9% male) and the U.S. as a whole (90.8% male).

As shown in Table 48 (below), 80.4% of motorcyclist fatalities in Vermont used a helmet, a number substantially higher than the Region (51.3%) and the U.S. as a whole (56.1%). The age groups with the greatest percentage helmet usage were under age 35, with 100.00% of fatalities using a helmet. The group with the lowest percentage of helmet usage was 55-64, with only 57.1% of fatalities in that age group using a helmet (ignoring those under age 16, where only 1 fatality was recorded, or those over age 65, where only 3 fatalities were recorded).

Table 48. Motorcyclist Fatalities by Age Group and Helmet Use: Totals 2005-2009

Age Group	Motorcyclist Fatalities	Helme	et Used	Helme Us	
	ratalities	N	%	N	%
<16	1	1	100.0%	0	0.0%
16-20	5	5	100.0%	0	0.0%
21-24	3	3	100.0%	0	0.0%
25-34	8	8	100.0%	0	0.0%
35-44	6	5	83.3%	1	16.7%
45-54	13	9	69.2%	4	30.8%
55-64	7	4	57.1%	3	42.9%
65+	3	2	66.7%	1	33.3%
Unknown	0	0	0.0%	0	0.0%
VT*	46	37	80.4%	9	19.6%
Region	872	447	51.3%	395	45.3%
U.S.	24,361	13,672	56.1%	10,045	41.2%

<sup>\*</sup>Helmet use calculated as a percentage of total fatalities.

Table 49 shows that 66.7% of Vermont motorcycle operator fatalities between the ages of 21-24 who were tested for BAC had a positive BAC, the highest percentage of any age group. Overall, 30.2% of motorcycle operator fatalities in Vermont who were tested for BAC had a positive BAC, a percentage slightly lower than found in Region 1 (36%) or the U.S. as a whole (37.3%) during the same time period. Speed was cited as a factor in 87.5% of motorcycle operator fatalities for the 25-34 age group, the highest percentage of any group (excluding the under 16 age group that had only 1 fatality).

Table 49. Motorcyclist Operator Fatalities, Alcohol Involvement and Speed: Totals 2005-2009

Age Group	MC Operator	В	AC ≥ 0.01%	*	Speed as a Factor		
	Fatalities	# Tested	#≥ 0.01%	%	#	%	
<16	1	1	0	0.0%	1	100.0%	
16-20	5	5	0	0.0%	4	80.0%	
21-24	3	3	2	66.7%	1	33.3%	
25-34	8	8	2	25.0%	7	87.5%	
35-44	6	6	1	16.7%	2	33.3%	
45-54	13	13	6	46.2%	4	30.8%	
55-64	5	4	2	50.0%	1	20.0%	
65+	3	3	0	0.0%	0	0.0%	
Unknown	0	0	0	0.0%	0	0.0%	
VT	44	43	13	30.2%	20	45.5%	
Region	809	650	234	36.0%	306	37.8%	
U.S.	22,757	17,533	6,541	37.3%	9,006	39.6%	

<sup>\*</sup> Based on actual state BAC data

<sup>\*</sup> State law requires use by all riders.

Overall, 45.5% of Vermont motorcycle operator fatalities involved a crash in which speed was a factor, a percentage somewhat higher than that of the Region (37.8%) or the Nation (39.6%).

Table 50 shows the operator factors of fatal crashes involving motorcycles. During the period 2005-2009, 80.9% of motorcycle operators and 55.2% of other operators had at least one factor reported in such crashes, with the most common for motorcyclists being *failure to keep in proper lane* (40.4%), *driving too fast* (38.3%), and *operating vehicle in erratic manner* (21.3%). For other operators, the most common factors were *failure to yield and failure to keep in proper lane* (13.8% each), and *driving too fast* and *inattentiveness* (10.3% each).

**Table 50. Fatal Crashes Involving Motorcycles: Operator Factors** 

	2	005	2	006	2	007	2	800	2	009	Total 2	005-2009
	MC	Other Op	МС	Other Op	МС	Other Op	МС	Other Op	МС	Other Op	MC	Other Op
	(N=14)	(N=7)	(N=10)	(N=7)	(N=7)	(N=5)	(N=7)	(N=5)	(N=9)	(N=5)	(N=47)	(N=29)
Factors	%*	%*	%*	%*	%*	%*	%*	%*	%*	%*	%*	%*
None reported	0.0%	57.1%	30.0%	42.9%	0.0%	60.0%	28.6%	20.0%	44.4%	40.0%	19.1%	44.8%
One or more factors reported	100.0%	42.9%	70.0%	57.1%	100.0%	40.0%	71.4%	80.0%	55.6%	60.0%	80.9%	55.2%
Top Factors												
Driving too fast in excess of speed limit	57.1%	0.0%	30.0%	0.0%	42.9%	20.0%	42.9%	20.0%	11.1%	20.0%	38.3%	10.3%
Failure tolane	78.6%	0.0%	30.0%	14.3%	57.1%	20.0%	14.3%	0.0%	0.0%	40.0%	40.4%	13.8%
Inattentive	7.1%	0.0%	0.0%	28.6%	0.0%	0.0%	0.0%	0.0%	11.1%	20.0%	4.3%	10.3%
Operating vehicle in erraticmanner	28.6%	0.0%	30.0%	0.0%	0.0%	0.0%	28.6%	20.0%	11.1%	0.0%	21.3%	3.4%
Operator inexperience	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%	20.0%	0.0%	0.0%	6.4%	3.4%
Failure to yield	0.0%	0.0%	0.0%	28.6%	0.0%	20.0%	0.0%	20.0%	0.0%	0.0%	0.0%	13.8%

<sup>\*</sup>Driver may have multiple factors reported. Highlighting is to help reader distinguish MC operator percentages from Other operator percentages; bolding is to help reader identify commonly reported factors.

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# V. RESTRAINT USE

### OCCUPANT RESTRAINT – KEY FINDINGS

### <u>In the period 2005-2009:</u>

- Observed seat belt use in Vermont has consistently been above the National rate. For 2009, this figure was 85%, compared to 84% for the Nation as a whole. In Vermont, seat belt usage has generally been increasing, reaching a high of 87% in 2007 and 2008 (Figure 26).
- In Vermont, 40.7% of fatally-injured passenger vehicle occupants in 2009 properly used their restraints, a figure that was above the 34.7% recorded for Region 1 in 2009, but below the Nationwide use rate of 43.4% in 2009. Restraint use among fatally-injured passenger vehicle occupants in Vermont has consistently been above that of Region 1 and the Nation, except for 2009 (Table 51). In every year, in every jurisdiction (Vermont, Region, Nation), the restraint use among fatally-injured passenger vehicle occupants in crashes occurring at night is lower than restraint use as a whole (Table 51).
- In Vermont, 71.4% of fatally-injured passenger vehicle occupants in the 25-34 age group were not using restraints. The age groups with the highest percentage of restraint use were under age 10; 100% of fatally-injured passenger vehicle occupants ages under 10 used their restraint (although there were only 4 fatalities) (Table 52).

The findings summarized above are supported by the tables and charts that follow in this section.

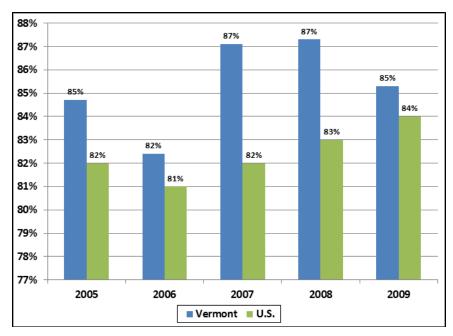


Figure 26. Observed Seat Belt Usage Rates, 2005-2009

As seen in Figure 26, above, Vermont's observed seat belt usage rate has been stable (the 2009 usage rate was a 0.3% decrease over the average of the previous four years) and has consistently been above the U.S. as a whole.

Table 51 shows restraint use among fatally-injured passenger vehicle occupants, for *all crashes* and for those that occurred at night. As shown above, the restraint use by fatally injured passenger vehicle occupants in Vermont has consistently been above both the Region and the U.S., for crashes as a whole (night crashes are a subset of these numbers), with the exception of 2009. However, the restraint percent use for fatally-injured passenger vehicle occupants in Vermont for 2009 (40.7%) represented a 14.9% decline over the average of the previous 4 years. For night (8 p.m. to 4 a.m.) crashes Vermont has been consistently below the Region and the Nation (with the exception of 2006).

Table 51. Restraint Use of Fatally-Injured Passenger Vehicle Occupants

	2005	2006	2007	2008	2009
Restraint Used					
Vermont	45.3%	46.6%	51.1%	49.2%	40.7%
Region	33.7%	33.3%	36.5%	36.3%	34.7%
U.S.	41.4%	41.4%	42.4%	42.0%	43.4%
Restraint Used Night*					
Vermont	25.0%	38.9%	0.0%	11.1%	9.1%
Region	26.0%	26.7%	28.1%	18.8%	27.2%
U.S.	30.8%	30.9%	31.3%	30.0%	32.1%

Restraint use percentage based on all fatalities

<sup>\*</sup>In crashes that occurred between 8 pm and 4 am.

Table 52. Fatally-Injured Passenger Vehicle Occupants, Restraint Use by Age Group: Totals 2005-2009

	0	ccupant F	Restraint Us	sage
Age Group	N	Used	Not Used	Unknown
<5	1	100.0%	0.0%	0.0%
5-9	3	100.0%	0.0%	0.0%
10-15	8	37.5%	50.0%	12.5%
16-20	46	41.3%	52.2%	6.5%
21-24	26	30.8%	65.4%	3.8%
25-34	42	21.4%	71.4%	7.1%
35-44	31	35.5%	61.3%	3.2%
45-54	28	42.9% 50.0%		7.1%
55-64	37	48.6%	45.9%	5.4%
65-74	25	68.0%	32.0%	0.0%
75+	42	78.6%	11.9%	9.5%
Unknown	1	100.0%	0.0%	0.0%
VT	290	46.6%	47.6%	5.9%
Region	3,893	34.8%	51.7%	13.5%
U.S.	140,151	42.0%	50.5%	7.5%

<sup>\*</sup> Automobiles, SUVs, and Pickup Trucks

Highlighting is to help reader identify cells discussed in the text.

Table 53. Restraint Use of Fatally-Injured Occupants by Passenger Vehicle Type

	2005	2006	2007	2008	2009	Total 2005-2009
Cars						
Vermont	53.8%	53.3%	56.0%	63.2%	42.1%	53.5%
Region	45.0%	42.0%	46.3%	46.0%	42.7%	44.4%
U.S.	51.0%	51.1%	53.1%	51.6%	53.9%	52.0%
Pickup						
Vermont	28.6%	10.0%	61.5%	33.3%	33.3%	35.7%
Region	19.5%	29.7%	39.5%	36.2%	30.2%	30.6%
U.S.	31.0%	31.4%	32.2%	32.4%	32.4%	31.8%
Other (incl. SUV)						
Vermont	25.0%	64.3%	25.0%	35.7%	66.7%	45.7%
Region	25.9%	37.1%	29.7%	28.3%	39.0%	31.9%
U.S.	39.6%	40.5%	40.7%	40.8%	42.8%	40.8%

<sup>\*</sup> Known restraint use

Table 53 (above) breaks down restraint use (where restraint use is known) of fatally-injured passenger vehicle occupants by vehicle type. In Vermont from 2005 through 2009, 53.5% of fatally-injured occupants of *Cars* used their restraints, a rate that was higher than both the Region

(44.4%) and the U.S. as a whole (52.0%). The same pattern was also observed for fatally-injured occupants of *Pickups*. In Vermont, 35.7% of fatally-injured occupants of *Pickups* used their restraints, as compared to 30.6% for the Region and 31.8% Nationwide. 45.7% of fatally injured occupants of the other *Other* (*including SUV*) vehicle category used their restraints in Vermont, while 31.9% did so in the Region and 40.8% did so Nationwide.

For both the *Cars* and *Other* vehicle categories, the percentage of restraint use by fatally-injured occupants declined over the 2005-2009 time period, with *Cars* experiencing a 25.4% decline and *Pickups* a 7.7% decline. The *Other* category, however, experienced a 56.9% increase in the percentage of fatally-injured occupant restraint use.

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VI. PEDESTRI	AN AND	BICYCLIS	T CRASHES

#### PEDESTRIAN AND BICYCLIST CRASHES – KEY FINDINGS

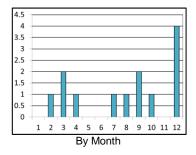
### In the period 2005-2009:

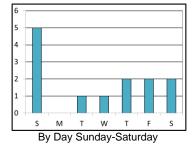
- Slightly more than 54% of pedestrian fatal crashes in Vermont occurred between 6 p.m. and 3 a.m., as compared to 48.1% in Region 1 and 58.6% Nationwide. 69.3% of pedestrian fatal crashes in Vermont occurred on Friday, Saturday, and Sunday, as compared to 44.3% in Region 1 and 48.3% Nationwide for these days (Table 54).
- The 13 cities with the largest number of pedestrian fatalities in Vermont accounted for 100% of all pedestrian fatalities in the state. All 13 cities accounted for only one fatality each (7.7% of the total) (Table 55).
- Persons ages 65-74 and 21-24 constituted the highest numbers of pedestrian fatalities in Vermont, with 30.8% of all pedestrian fatalities each. This was not true for Region 1, where persons 75 and older constituted a plurality (20.6%) of pedestrian fatalities. Nationwide, persons ages 45-54 constituted 19.5% of pedestrian fatalities. Persons ages 25-64 constituted 30.8% of pedestrian fatalities in Vermont, as compared to 50.3% in Region 1 and 60.3% in the U.S. as a whole for the same age group. Persons age 65 and over accounted for 38.5% of pedestrian fatalities in the Vermont, compared to 32.5% in the Region and 19.2% in the U.S. as a whole (Table 56).
- Males represented 61.5% of the state's pedestrian fatalities, a similar rate to that of the Region (63.9%) and lower than that of the U.S. as a whole (69.7%) (Table 56).
- Of pedestrians ages 16 and above killed in Vermont and with a known BAC, 45.4% had a BAC of at least 0.08%, substantially above the percentage for the Region (24.2%) and somewhat above the percentage for the U.S. as a whole (38.7%). In Vermont, a BAC of at least 0.08% (when BAC as known) was most common in the 25-34 and the 55-64 age groups (100% for each). In Region 1, a BAC of at least 0.08% (when BAC was known) was most common in the 35-44 age group (52.3%), (ignoring those in the Unknown age category). In the U.S., however, 54.8% of those in the 21-24 age group with a known BAC had a BAC of at least 0.08%, the highest percentage of any age group (Table 57).
- There were no bicyclist fatalities in Vermont between 2005 and 2009 (Table 58). In Region 1, and Nationwide, where more bicyclist fatalities were recorded, there was a downward trend in bicyclist fatalities, with a 58.4% decrease in the Region and a 15.4% decrease Nationwide.

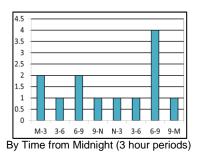
The findings summarized above are supported by the tables and charts that follow in this section.

Table 54. Pedestrian Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2005-2009

	Verm	ont	Regi	ion	U.S	-
	(N=13)	%	(N=673)	%	(N=22,534)	%
MONTH	N	%	N	%	N	%
January	0	0.0%	55	8.2%	2,070	9.2%
February	1	7.7%	45	6.7%	1,749	7.8%
March	2	15.4%	50	7.4%	1,764	7.8%
April	1	7.7%	47	7.0%	1,575	7.0%
May	0	0.0%	37	5.5%	1,536	6.8%
June	0	0.0%	41	6.1%	1,535	6.8%
July	1	7.7%	54	8.0%	1,663	7.4%
August	1	7.7%	53	7.9%	1,826	8.1%
September	2	15.4%	56	8.3%	1,979	8.8%
October	1	7.7%	61	9.1%	2,253	10.0%
November	0	0.0%	84	12.5%	2,273	10.1%
December	4	30.8%	90	13.4%	2,311	10.3%
DAY OF WEEK						
Sunday	5	38.5%	80	11.9%	3,245	14.4%
Monday	0	0.0%	91	13.5%	2,848	12.6%
Tuesday	1	7.7%	90	13.4%	2,877	12.8%
Wednesday	1	7.7%	94	14.0%	3,038	13.5%
Thursday	2	15.4%	100	14.9%	2,892	12.8%
Friday	2	15.4%	118	17.5%	3,640	16.2%
Saturday	2	15.4%	100	14.9%	3,993	17.7%
Unknown	0	0.0%	0	0.0%	1	0.0%
TIME OF DAY						
Midnight-3am	2	15.4%	63	9.4%	2,871	12.7%
3am-6am	1	7.7%	34	5.1%	2,063	9.2%
6am-9am	2	15.4%	84	12.5%	2,015	8.9%
9am-Noon	1	7.7%	66	9.8%	1,249	5.5%
Noon-3pm	1	7.7%	66	9.8%	1,453	6.4%
3pm-6pm	1	7.7%	98	14.6%	2,412	10.7%
6pm-9pm	4	30.8%	153	22.7%	5,551	24.6%
9pm-Midnight	1	7.7%	108	16.0%	4,789	21.3%
Unknown	0	0.0%	1	0.1%	131	0.6%







As shown in Table 54 (above), the three months with the greatest number of pedestrian fatal crashes in Vermont were December (4 fatal crashes, 30.8% of total) and March and September (2 fatal crashes, 15.4% of total each). For Region 1, 61 fatal crashes occurred in October (9.1% of total), 84 in November (12.5% of total), and 90 in December (13.4% of total). Nationwide, 2,253 fatal crashes occurred in October (10% of total), 2,273 in November (10.1%), and 2,311 in December (10.3%).

The days of the week with the most pedestrian fatal crashes in Vermont were Sunday (5, 38.5% of the total) and Thursday, Friday, and Saturday (2, 15.4% of the total each). For Region 1, 94 pedestrian fatal crashes occurred on Wednesday (14.0%), 100 each on Thursday and Saturday (14.9%), and 118 on Friday (17.5%). Nationwide, the days with the most pedestrian fatal crashes were Saturday (17.7%), Friday (16.2%), and Sunday (14.4%).

The three-hour windows in which the most pedestrian fatal crashes occurred in Vermont were 6 p.m. to 9 p.m. (4 crashes, 30.8% of total), midnight to 3 a.m. and 6 a.m. to 9 a.m. (2, 15.4% each). Region 1 showed a different pattern, where 22.7% of pedestrian fatal crashes occurred between 6 p.m. and 9 p.m., 16.0% occurred between 9 p.m. and midnight, and 14.6% occurred between 3 p.m. and 6 p.m. The pattern Nationwide was more similar to Vermont's, where 24.6% of pedestrian fatal crashes occurred between 6 p.m. and 9 p.m., 21.3% occurred between 9 p.m. and midnight, and 12.7% occurred between midnight and 3 a.m.

Table 55. Pedestrian Fatalities by Top Cities

						Total 2005-2009	
City	2005	2006	2007	2008	2009	N	%
Barre	0	0	1	0	0	1	7.7%
Brattleboro	0	0	0	1	0	1	7.7%
Cabot	0	0	1	0	0	1	7.7%
Coventry	1	0	0	0	0	1	7.7%
Dover	0	0	1	0	0	1	7.7%
North Troy	0	0	0	0	1	1	7.7%
Poultney	0	0	1	0	0	1	7.7%
St. Albans	1	0	0	0	0	1	7.7%
Shoreham	0	0	0	0	1	1	7.7%
South Burlington	0	0	0	0	1	1	7.7%
White River Jctn	1	0	0	0	0	1	7.7%
Williston	0	0	0	0	1	1	7.7%
Winooski	0	0	0	0	1	1	7.7%
Total Top Cities	3	0	4	1	5	13	100.0%
All Pedestrian Fatalities	3	0	4	1	5	13	100%

Table 56. Pedestrian Fatalities by Age Group and Gender: Totals 2005-2009

	Fata	lities by	Age		Fatalities by Age and Gender						
	Veri	mont	Region	U.S.	Vermont				Region % Males	U.S.% Males	
	(N=13)	%	(N=678)	(N=22,892)	F	emales		Males			
Age Group					Ν	%	Z	%			
<5	0	0.0%	0.9%	2.2%	0	0.0%	0	0.0%	50.0%	61.6%	
5-9	0	0.0%	1.2%	2.0%	0	0.0%	0	0.0%	87.5%	64.6%	
10-15	0	0.0%	3.4%	3.2%	0	0.0%	0	0.0%	56.5%	62.8%	
16-20	0	0.0%	5.8%	6.0%	0	0.0%	0	0.0%	71.8%	68.8%	
21-24	4	30.8%	5.6%	6.3%	2	50.0%	2	50.0%	57.9%	75.0%	
25-34	1	7.7%	7.7%	13.0%	0	0.0%	1	100.0%	78.8%	74.6%	
35-44	2	15.4%	10.6%	15.8%	0	0.0%	2	100.0%	69.4%	72.6%	
45-54	0	0.0%	17.8%	19.5%	0	0.0%	0	0.0%	70.2%	73.8%	
55-64	1	7.7%	14.2%	12.0%	0	0.0%	1	100.0%	61.5%	70.1%	
65-74	4	30.8%	11.9%	8.3%	2	50.0%	2	50.0%	55.6%	64.8%	
75+	1	7.7%	20.6%	10.9%	1	100.0%	0	0.0%	55.7%	57.0%	
Unknown	0	0.0%	0.3%	0.8%	0	0.0%	0	0.0	100.0%	81.0%	
Total	13	100.0%	100.0%	100.0%	5	38.5%	8	61.5%	63.9%	69.7%	

Highlighting is to help reader identify cells with higher numbers/percentages

For Vermont, those ages 21-24 and 65-74 constituted the plurality of pedestrian fatalities (30.8% each), followed by those ages 35-44 (15.4%). In Region 1, those ages 75 and older made up 20.6% of pedestrian fatalities, followed by those ages 45-54 (17.8%) and those ages 55-64 (14.2%). Nationwide, those ages 45-54 accounted for the plurality of pedestrian fatalities (19.5%), followed by those ages 35-44 (15.8%) and those ages 25-34 (13.0%). Males accounted for 61.5% of Vermont's pedestrian fatalities, a lower percentage than Region 1 (63.9%) and the Nation (69.7%).

Table 57. Pedestrian Fatalities by Age Group With BAC: Totals 2005-2009

	Vermont	Region	U.S.	
A O	0.08% or greater	0.08% or greater	0.08% or greater	
Age Group	N=5 of 11*	N=106 of 439*	N=5,807 of 14,995*	
16-20	N/A	19.35%	29.69%	
21-24	75.00%	50.00%	54.77%	
25-34	100.00%	39.53%	53.01%	
35-44	0.00%	52.27%	53.46%	
45-54	N/A	42.67%	49.95%	
55-64	100.00%	17.46%	33.04%	
65+	0.00%	0.78%	8.63%	
Unknown	N/A	0.00%	55.21%	
Total	45.45%	24.15%	38.73%	

\*Persons with known BACs

Highlighting is to help reader identify cells with higher percentages.

As Table 57 (above) shows, 100% of Vermont pedestrian fatalities ages 25-34 and ages 55-64 with a known BAC had a BAC of 0.08% or higher. Overall, 45.4% of Vermont pedestrian fatalities with a known BAC had a BAC of 0.08% or higher, a percentage that was significantly higher than both Region 1 and the U.S. as a whole (38.7%).

**Table 58. Bicyclist Fatalities** 

	2005	2006	2007	2008	2009	Total 2005-2009	% Change 2005-09
Vermont	0	0	0	0	0	0	0.00%
Region	15	18	21	23	8	85	-58.44%
U.S.	786	772	701	718	630	3,607	-15.35%

# VII. YOUNG DRIVERS

#### YOUNG DRIVERS – KEY FINDINGS

#### <u>In the period 2005-2009</u>:

- Fatal crashes involving young drivers (16-20 years old) in Vermont decreased by 24.5%, compared to 31.3% in Region 1 and 25.8% in the U.S. as a whole (Table 59).
- In Vermont, young driver fatalities decreased by 15.2% between 2005 and 2009. Region 1 and the U.S. showed greater decreases: 32.2% and 27.1%, respectively (Table 59).
- Young driver fatalities in Vermont have accounted for between 4.5% (2007) and 13.8% (2006) of all fatalities in the Vermont. Young driver fatalities have accounted for between 6.9% (2009) and 9.6% (2006) of all fatalities in Region 1, and between 6.8% (2009) and 8.0% (2006) of all fatalities in the U.S. as a whole (Figure 27).
- Over 47% of fatal crashes involving young drivers in Vermont occurred between 3 p.m. and midnight, whereas 48.6% and 49.4% of these crashes occurred during the same time in Region 1 and the U.S. as a whole, respectively. 58.7% of fatal crashes involving young drivers in Vermont occurred on Friday, Saturday, and Sunday, compared to 54.1% in Region 1 and 53.3% in the U.S. as a whole (Table 60).
- At least one driver-related factor was reported for 92.3% of young drivers involved in fatal crashes in Vermont. "Failure to keep in proper lane" was the most frequently reported factor and was reported in 55.4% of the crashes, followed by "Driving too fast" (44.6%) (Table 61).
- Compared to all drivers, a higher percentage of young drivers involved in fatal crashes have previous speeding convictions. This was observed in Vermont (29.2% for young drivers compared to 23.8% for all), in the Region (22.8% for young drivers compared to 18.5% for all) and in the U.S. as a whole (20.5% of young drivers compared to 18.9% for all).
- In Vermont, a higher percentage of young drivers involved in fatal crashes had a previous crash than all drivers: 21.5% as compared to 13.6%. This was also seen in Region 1 and the U.S. as a whole. 17.1% of young drivers in Region 1 involved in fatal crashes had been involved in a previous crash as compared to 14.7% for all drivers, and for the U.S. as a whole, 13.7% of young drivers in a fatal crash had been involved in a previous crash compared to 12.1% of all drivers (Table 62).
- Young drivers themselves accounted for 58.8% of fatalities in crashes involving young drivers in Vermont; passengers represented 25% of fatalities, and other road users accounted for 16.2% of fatalities in these crashes. In Region 1, 45.8% of fatalities in crashes involving young drivers were young drivers themselves; 27.3% were passengers and 26.9% were other road users. Nationwide, young drivers accounted for 42% of the fatalities in young driverinvolved crashes, while passengers and other road users accounted for 25.9% and 32.1% of the fatalities, respectively. (Table 63).
- The counties of Chittenden, Franklin, and Rutland (9 fatalities each, each 13.2% of the total) accounted for 39.6% of fatalities involving young drivers in the years 2005 through 2009. (Table 64).

The findings summarized above are supported by the tables and charts that follow in this section.

The data in Table 59 underscore the fact that Vermont has not performed as well as Region 1 and the Nation as a whole in reducing fatal crashes involving young drivers in 2009, compared to the previous four-year average. In terms of the number of young driver fatalities, Vermont's improvement over this interval lagged significantly behind Region 1 and the Nation.

Table 59. Fatal Crashes and Fatalities Involving Young Drivers

	2005	2006	2007	2008	2009	Total 2005-2009	% Change 2005-2009
Vermont							
Fatal Crashes	15	13	12	13	10	63	-24.53%
Young Drivers Killed	10	12	3	8	7	40	-15.15%
Region							
Fatal Crashes	214	207	199	154	133	907	-31.27%
Young Drivers Killed	106	118	92	85	68	469	-32.17%
U.S.							
Fatal Crashes	7,004	7,012	6,593	5,527	4,850	30,986	-25.77%
Young Drivers Killed	3,382	3,407	3,124	2,687	2,295	14,895	-27.14%

As shown in Figure 27, below, the percentage of fatalities in Vermont that were young drivers has generally been declining from a high of 13.8% in 2006, although 2008 (11%) did represent an increase from 2007 (4.5%). Young drivers have consistently made up a large percentage of total fatalities in both Vermont and Region 1 than the U.S. as a whole.

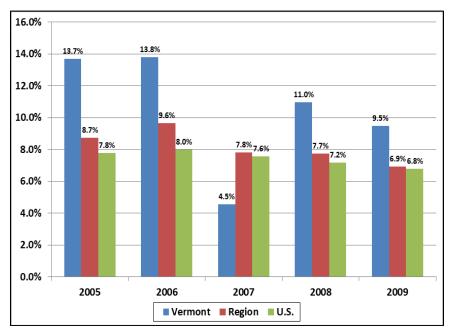
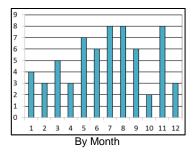
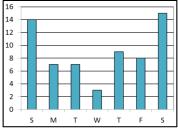


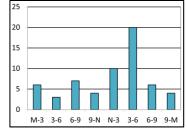
Figure 27. Young Driver Fatalities as Percent of Total

Table 60. Young Driver-Involved Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2005-2009

	Vermont		Region	U.S.
		(N=63)	(N=907)	(N=30,986)
	N	%	%	%
MONTH				
January	4	6.3%	6.6%	7.2%
February	3	4.8%	5.8%	6.8%
March	5	7.9%	7.1%	7.9%
April	3	4.8%	9.2%	8.3%
May	7	11.1%	8.9%	9.0%
June	6	9.5%	9.0%	9.2%
July	8	12.7%	9.9%	9.8%
August	8	12.7%	12.2%	8.9%
September	6	9.5%	7.6%	8.3%
October	2	3.2%	7.8%	8.7%
November	8	12.7%	8.4%	8.4%
December	3	4.8%	7.4%	7.6%
DAY OF WEEK				
Sunday	14	22.2%	17.4%	17.6%
Monday	7	11.1%	11.1%	11.9%
Tuesday	7	11.1%	11.8%	11.4%
Wednesday	3	4.8%	10.1%	11.7%
Thursday	9	14.3%	12.8%	11.8%
Friday	8	12.7%	17.1%	16.0%
Saturday	15	23.8%	19.6%	19.7%
Unknown	0	0.0%	0.0%	0.0%
TIME OF DAY				
Midnight-3am	6	9.5%	17.2%	14.4%
3am-6am	3	4.8%	7.4%	8.2%
6am-9am	7	11.1%	7.6%	8.9%
9am-Noon	4	6.3%	6.5%	7.2%
Noon-3pm	10	15.9%	12.1%	11.5%
3pm-6pm	20	31.7%	15.2%	16.4%
6pm-9pm	6	9.5%	15.3%	15.8%
9pm-Midnight	4	6.3%	18.1%	17.2%
Unknown	3	4.8%	0.6%	0.6%







By Day Sunday-Saturday

As shown in Table 60 (above), in Vermont the months that recorded the most young driver-involved fatal crashes were July, August, and November (8 fatal crashes, 12.7% each). In Region 1, 12.2% of young driver-involved fatal crashes occurred in August, followed by July (9.9%), and April (9.2%). Nationwide, the months with the most young driver-involved fatal crashes were July (9.8%), June (9.2%), and May (9.0%).

The days with the most young driver-involved fatal crashes in Vermont were Saturday (15 crashes, 23.8% of the total), Sunday (14 crashes, 22.2%), and Thursday (9 crashes, 14.3% of the total). The ranking order of the days was slightly different across the Region, with 19.6% of such crashes occurring on Saturday, 17.4% on Sunday, and 17.1% on Friday. Nationwide, 19.7% of such crashes occurred on Saturday, 17.6% on Sunday, and 16.0% on Friday.

The three-hour windows in which the most young driver-involved fatal crashes occurred were 3 p.m. to 6 p.m. (20 crashes, 31.7% of all such crashes), noon to 3 p.m. (10 crashes, 15.9%), and 6 a.m. to 9 a.m. (7 crashes, 11.1%). Different three-hour windows accounted for the highest percentage of fatal crashes across the Region. The time from 9 p.m. to midnight accounted for 18.1% of young driver-involved fatal crashes, followed by midnight to 3 a.m. (17.2%), and 6 p.m. to 9 p.m. (15.3%). Nationwide, the windows changed, with the most young driver-involved fatal crashes occurring from 9 p.m. to midnight (17.2%), followed by 3 p.m. to 6 p.m. (16.4%), then 6 p.m. to 9 p.m. (15.8%).

As seen in Table 61, 92.3% of young drivers involved in fatal crashes reported at least one factor. The top factor was *failure to keep in proper lane* (55.4%), followed by *driving too fast* (44.6%).

Table 61. Driver Factors of Young Drivers Involved in Fatal Crashes

	2005	2006	2007	2008	2009	Total 2005-2009
	(N=15)	(N=14)	(N=12)	(N=14)	(N=10)	(N=65)
Factors	%*	<b>%</b> *	<b>%</b> *	%*	%*	%*
None reported	13.3%	0.0%	16.7%	7.1%	0.0%	7.7%
One or more factors reported	86.7%	100.0%	83.3%	92.9%	100.0%	92.3%
Top Factors						
Driving too fast	60.0%	42.9%	41.7%	35.7%	40.0%	44.6%
Inattentive	6.7%	7.1%	25.0%	14.3%	30.0%	15.4%
Erratic, reckless manner	33.3%	7.1%	0.0%	28.6%	0.0%	15.4%
Failure to keep in proper lane	46.7%	78.6%	66.7%	35.7%	50.0%	55.4%
Failure to yield right of way	0.0%	0.0%	0.0%	7.1%	0.0%	1.5%

<sup>\*</sup>Driver may have multiple factors reported

Table 62 shows that, in Vermont, more young drivers (16-20) in fatal crashes had a previous speeding conviction (29.2%) than did drivers of all ages (23.8%), and more (21.5% of young drivers as compared to 13.6% of all drivers) had a previous crash recorded.

Highlighting is to help reader identify most common factor

Table 62. Previous Speeding Convictions and Previous Crashes for Young Drivers versus All Drivers: Totals 2005-2009

	Vermont				Reg	ion	U.S.	
	Young drive	ers	All drivers		Young drivers	All drivers	Young drivers	All drivers
	(N=65)	%	(N=491)	%	(N=939)	(N=7,607)	(N=32,344)	(N=268,731)
Previous Speeding*	19	29.2%	117	23.8%	22.8%	18.5%	20.5%	18.9%
Previous Crash Recorded**	14	21.5%	67	13.6%	17.1%	14.7%	13.7%	12.1%

<sup>\*</sup>Convictions recorded within three years prior to the fatal crash

As seen in Table 63, young drivers themselves made up the plurality of fatalities in crashes for Vermont (58.8%), Region 1 (45.8%), and Nationwide (42%).

Table 63. Fatalities in Young Driver-Involved Crashes

	2005	2006	2007	2008	2009	VT 2005-2009 %	Region 2005-2009 %	U.S. 2005-2009 %
Victims	(N=16)	(N=14)	(N=13)	(N=14)	(N=11)	(N=68)	(N=1,024)	(N=35,443)
Young Drivers	10	12	3	8	7	58.8%	45.8%	42.0%
Passengers	3	2	5	5	2	25.0%	27.3%	25.9%
Other Road Users	3	0	5	1	2	16.2%	26.9%	32.1%

Table 64. Young Driver-Involved Fatalities by County

						Total 20	005-2009
County	2005	2006	2007	2008	2009	N	%
Addison	0	2	1	2	1	6	8.8%
Bennington	1	0	0	1	1	3	4.4%
Caledonia	3	0	0	1	0	4	5.9%
Chittenden	2	2	3	2	0	9	13.2%
Essex	0	0	1	0	0	1	1.5%
Franklin	2	1	4	1	1	9	13.2%
Grand Isle	0	0	0	0	0	0	0.0%
Lamoille	0	4	0	0	1	5	7.4%
Orange	1	0	2	0	0	3	4.4%
Orleans	1	1	0	2	2	6	8.8%
Rutland	2	1	0	3	3	9	13.2%
Washington	1	1	1	1	2	6	8.8%
Windham	2	2	0	1	0	5	7.4%
Windsor	1	0	1	0	0	2	2.9%
Total	16	14	13	14	11	68	100.0%

Counties with the highest number of young driver-involved fatalities are highlighted

<sup>\*\*</sup>Crashes recorded within three years prior to the fatal crash

Highlighting is to help reader identify young drivers

# VIII. OLDER DRIVERS

#### OLDER DRIVERS – KEY FINDINGS

#### In the period 2005-2009:

- Fatal crashes involving drivers age 65-74 decreased by 13.5% in Vermont from 2005 to 2009, compared to a 3.3% increase in Region 1 and a 6.1% decrease Nationwide (Table 65).
- Driver fatalities for the age group 65-74 increased 5.3% in Vermont, compared to a 12.8% increase in Region I and a 8.9% decrease Nationwide (Table 65).
- Driver fatalities for the 65-74 age group in Vermont have been between 2.7% and 12.1% of all fatalities in the state, more variable than and generally above the percentages for Region 1 and the U.S. as a whole. In Region 1, they have accounted for between 3.5% and 5.4% of all fatalities, while being between 4.0% and 4.6% of all U.S. fatalities (Figure 28).
- In Vermont, 71.1% of crashes that involved drivers in the 65-74 age group occurred between noon and 6 p.m. In Region 1, 51.2% of crashes that involved drivers in this age group occurred between noon and 6 p.m., and for the Nation as a whole, 45.9% of crashes that involved drivers in this age group occurred between noon and 6 p.m. (Table 67).
- Fatal crashes involving drivers ages 75 and older increased by 3.2% in Vermont, compared to decreases of 22.7% in Region and 11.5% Nationwide. Driver fatalities for the age group 75 and older increased 10.3% in Vermont, compared to a 25.5% decrease in Region I and a 12.2% decrease Nationwide (Table 66).
- Driver fatalities for the age group 75 and older in Vermont have been between 6.8% and 12.6% of all fatalities in the state, above the percentages for Region 1. In Region 1, they have accounted for between 6.5% and 8.7% of all fatalities. Both these areas percentages are above those for the Nation as a whole, which ranged from 5.5% to 6.0% (Figure 29).
- In Vermont, 53.9% of crashes that involved drivers 75 and older age occurred between noon and 6 p.m. In Region 1, 53.5% of crashes that involved drivers in this age group occurred between noon and 6 p.m., and for the Nation as a whole, 50.8% of crashes that involved drivers in this age group occurred between noon and 6 p.m. (Table 68).

The findings summarized above are supported by the tables and charts that follow in this section.

Table 65. Fatal Crashes and Fatalities Involving Drivers Ages 65-74

	2005	2006	2007	2008	2009	Total 2005-2009	% Change 2005-2009
Vermont							
Fatal Crashes	6	8	11	12	8	45	-13.5%
Drivers Ages 65-74 Killed	3	6	8	2	5	24	5.3%
Region							
Fatal Crashes	88	76	93	72	85	414	3.3%
Drivers Ages 65-74 Killed	50	48	52	38	53	241	12.8%
U.S.							
Fatal Crashes	3,217	3,029	3,038	2,927	2,868	15,079	-6.1%
Drivers Ages 65-74 Killed	1,831	1,695	1,698	1,640	1,564	8,428	-8.9%

Table 65, above, shows that fatal crashes involving drivers ages 65-74 have declined 13.5% in Vermont from 2005 to 2009; the number of drivers ages 65-74 killed in fatal crashes increased 5.3%. Region 1, however, has experienced an increase in both fatal crashes involving drivers ages 65-74 (3.3%) and in drivers killed (12.8%). The Nation has experienced a decline in both crashes (6.1%) and drivers killed (8.9%).

As shown in Figure 28, below, drivers ages 65-74 generally made up a larger percentage of total fatalities in Vermont than in Region 1 or the U.S. as a whole.

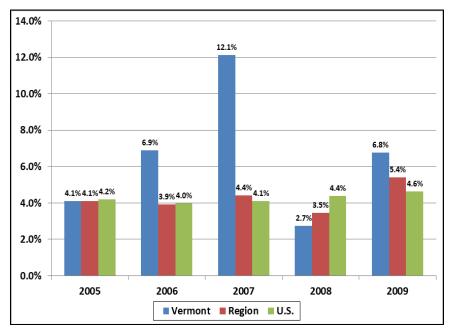


Figure 28. Driver Ages 65-74 Fatalities as Percent of Total Fatalities

Table 66. Fatal Crashes and Fatalities Involving Drivers Ages 75 and Older

	2005	2006	2007	2008	2009	Total 2005-2009	% Change 2005-2009
Vermont							
Fatal Crashes	5	12	7	7	8	39	3.2%
Drivers Ages 75 and Older Killed	5	11	6	7	8	37	10.3%
Region							
Fatal Crashes	106	123	102	109	85	525	-22.7%
Drivers Ages 75 and Older Killed	89	106	76	94	68	433	-25.5%
U.S.							
Fatal Crashes	2,932	2,902	2,800	2,602	2,485	13,721	-11.5%
Drivers Ages 75 and Older Killed	2,416	2,391	2,272	2,155	2,027	11,261	-12.2%

Table 66, above, shows that fatal crashes involving drivers ages 75 and older increased by 3.2% in Vermont from 2005 to 2009, while the number of drivers ages 75 and older killed in fatal crashes increased by 10.3%. Region 1 experienced a 22.7% decline in fatal crashes and a 25.5% decline in drivers killed, while the U.S. experienced an 11.5% decline in fatal crashes and a 12.2% decline in drivers killed.

Figure 29, below, shows that, in both Vermont and Region 1, drivers ages 75 and older consistently made up a larger percentage of total fatalities than in the Nation.

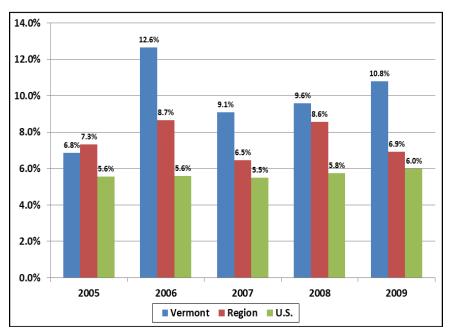
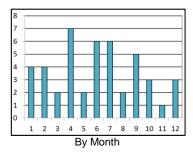
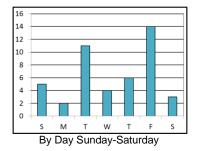


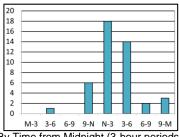
Figure 29. Driver Ages 75 and Older Fatalities as Percent of Total Fatalities

Table 67. Fatal Crashes Involving Drivers Ages 65-74 by Month, Day of Week, and Time of Day: Totals 2005-2009

	Vermont		Region	U.S.
	(N=	45)	(N=414)	(N=15,079
	N	%	%	%
MONTH				
January	4	8.9%	7.2%	7.8%
February	4	8.9%	5.3%	7.2%
March	2	4.4%	7.0%	7.5%
April	7	15.6%	10.1%	8.1%
May	2	4.4%	7.0%	8.2%
June	6	13.3%	8.7%	8.9%
July	6	13.3%	13.3%	8.8%
August	2	4.4%	7.5%	8.7%
September	5	11.1%	7.7%	8.7%
October	3	6.7%	9.9%	8.6%
November	1	2.2%	7.2%	8.7%
December	3	6.7%	8.9%	8.8%
DAY OF WEEK				
Sunday	5	11.1%	10.1%	11.9%
Monday	2	4.4%	10.1%	13.8%
Tuesday	11	24.4%	15.0%	13.8%
Wednesday	4	8.9%	15.0%	14.7%
Thursday	6	13.3%	17.1%	15.1%
Friday	14	31.1%	17.1%	16.3%
Saturday	3	6.7%	13.0%	14.5%
Saturday	3	0.7 /0	13.070	14.5 /6
TIME OF DAY				
Midnight-3am	0	0.0%	1.4%	2.4%
3am-6am	1	2.2%	2.4%	3.0%
6am-9am	0	0.0%	8.5%	9.9%
9am-Noon	6	13.3%	18.4%	17.5%
Noon-3pm	18	40.0%	25.4%	23.7%
3pm-6pm	14	31.1%	25.8%	22.2%
6pm-9pm	2	4.4%	10.9%	13.7%
9pm-Midnight	3	6.7%	7.0%	7.2%
Unknown	1	2.2%	0.2%	0.4%







As Table 67 (above) shows for Vermont, the months with the highest number of fatal crashes involving drivers ages 65-74 were April (7 fatal crashes, 15.6% of total) and June and July (6, 13.3% each). For Region 1, the months with the highest number of fatal crashes were April (10.1%), July (13.3%), and October (9.9%). Nationwide, the three months with the highest number of fatal crashes were June (8.9%), followed by July and December (8.8% each).

The days of the week the highest number of fatal crashes involving drivers ages 65-74 in Vermont were Friday (14 total crashes, 31.1% of total), Tuesday (11, 24.4%), and Thursday (6, 13.3%). In Region 1, the most fatal crashes occurred on Friday (19.3%), followed by Thursday (17.1%), then Tuesday and Wednesday (15.0% each). Nationwide, most crashes occurred on a Friday (16.3%), followed by Thursday (15.1%) and Wednesday (14.7%).

The 3-hour windows in which the most fatal crashes involving drivers ages 65-74 occurred in were 9 a.m. to noon (13.3%), noon to 3 p.m. (40%), and 3 p.m. to 6 p.m. (31.1%). For Region 1, 25.8% of such crashes occurred between 3 p.m. and 6 p.m., 25.4% occurred between noon and 3 p.m., and 18.4% occurred between 9 a.m. and noon. Nationwide, 23.7% occurred between noon and 3 p.m., 22.2% occurred between 3 p.m. and 6 p.m., and 17.5% occurred between 9 a.m. and noon.

As Table 68 (below) shows, the top months for fatal crashes involving drivers ages 75 and older in Vermont were August (8 crashes, 20.5% of total), June (7 crashes, 17.9%), and November (5, 12.8%). For Region 1, the top months for such crashes were August (11.8%), October (11.6%), and July (9.9%). Nationwide, the top months were October (9.3%), May (9.05), and June and July (8.8% each).

The top three days of the week for such crashes in Vermont were Wednesday and Saturday (9 crashes, 23.1% of total each) and Monday (6, 15.4%). For the Region, the days with the most such crashes were Friday (16.4%), Wednesday (16.0%), and Monday (15.8%). Nationwide, the days with the most such crashes were Friday (16.5%), Tuesday (15.2%), and Monday (15.0%).

The 3-hour windows in which the most fatal crashes involving drivers ages 75 and older occurred in Vermont were 9 a.m. to noon and noon to 3p.m. (12 crashes, 30.8% of the total each) and 3 p.m. to 6 p.m. (9 crashes, 23.1% of the total). This also held true for Region 1 and the Nation as well, with very few fatal crashes involving drivers ages 75 and older occurring earlier than 6 a.m. or later than 9 p.m.

Table 68. Fatal Crashes Involving Drivers Ages 75 and Older by Month, Day of Week, and Time of Day: Totals 2005-2009

	Verr	nont	Region	U.S.
	(N=	:39)	(N=525)	(N=13,721)
	N	%	%	%
MONTH				
January	2	5.1%	7.2%	7.8%
February	2	5.1%	7.2%	6.9%
March	1	2.6%	5.5%	8.0%
April	0	0.0%	6.3%	7.7%
May	4	10.3%	8.4%	9.0%
June	7	17.9%	8.4%	8.8%
July	3	7.7%	9.9%	8.8%
August	8	20.5%	11.8%	8.3%
September	2	5.1%	7.4%	7.9%
October	2	5.1%	11.6%	9.3%
November	5	12.8%	8.4%	8.6%
December	3	7.7%	7.8%	8.7%
DAY OF WEEK				
Sunday	2	5.1%	11.0%	11.1%
Monday	6	15.4%	15.8%	15.0%
Tuesday	4	10.3%	14.3%	15.2%
Wednesday	9	23.1%	16.0%	14.7%
Thursday	4	10.3%	15.4%	14.9%
Friday	5	12.8%	16.4%	16.5%
Saturday	9	23.1%	11.0%	12.5%
TIME OF DAY				
Midnight-3am	0	0.0%	0.4%	1.1%
3am-6am	0	0.0%	1.3%	1.6%
6am-9am	5	12.8%	9.7%	8.5%
9am-Noon	12	30.8%	24.6%	22.8%
Noon-3pm	12	30.8%	29.1%	27.3%
3pm-6pm	9	23.1%	24.4%	23.5%
6pm-9pm	0	0.0%	6.9%	10.9%
9pm-Midnight	1	2.6%	3.6%	4.0%
Unknown	0	0.0%	0.0%	0.3%

