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National Highway Traffic Safety Administration

Analysis of Fatal Crash Data

Vermont: 2006-2010

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 2006-2010. It also provides selected fatal crash and fatality data for all of NHTSA's Region 1 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 2006 and 2010.

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 nine 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 Drivers Fatal Crashes and Fatalities**
- **Older Drivers Fatal Crashes and Fatalities**
- **Distraction (2010 only)**

The majority of the tables and figures in the report are based on data from NHTSA's Fatality Analysis Reporting System (FARS). Data for 2006-2009 were obtained from the *final* and *auxiliary* FARS files for those years. The 2010 data came from the *Annual Report File*, which may be updated in future years.

Data on vehicle miles of travel were obtained from FHWA's Highway Statistic as available at this link for years 2005 to 2010: http://www.fhwa.dot.gov/policy/ohpi/qftravel.cfm (2004 through 2009 data; 2010 data will eventually be posted at this address). 2010 data were taken from: http://www.fhwa.dot.gov/policyinformation/statistics/2010/vm2.cfm.

Population data reflect the U.S. Census Bureau's Estimates found at http://www.census.gov, that were available in February 2012. 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: http://www.census.gov/popest/data/index.html. The population data used in this year's data books came from 2000 to 2010 intercensal estimates, as opposed to vintage, data. The previous year's data books used vintage data. Please see appendix for more information.

Other population data sources were accessed for National data (divided into State-level groupings)[1]; for data by County[2]; for data by State, race, and Hispanic origin[3], and for data by State, single year of age and sex[4]. It was necessary to obtain geographic locator codes for converting county/city codes in FARS to county/city names[5]. Finally, helmet laws were imported from the table at: http://www.iihs.org/laws/HelmetUseCurrent.aspx, and occupant restraint use summary data were extracted from the table in the following pdf: http://www-nrd.nhtsa.dot.gov/Pubs/811493.pdf

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 electronic copy of this report submitted to NHTSA will be supplemented with a copy on CD; a printed version will be submitted upon request. 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.

Cover art copied with permission from the photo library of the AAA Foundation for Traffic Safety is gratefully acknowledged.

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[1] (ST-EST00INT-01.csv): http://www.census.gov/popest/data/intercensal/state/state2010.html

[2] (CO-EST00INT-TOT.csv): http://www.census.gov/popest/data/intercensal/county/county2010.html

[3] (ST-EST00INT-SEXRACEHISP.csv): http://www.census.gov/popest/data/intercensal/state/state2010.html

[4] (ST-EST00INT-AGESEX.csv): http://www.census.gov/popest/data/intercensal/state/state2010.html

[5] Source: (http://www.gsa.gov/graphics/ogp/FRPP_GLC_UnitedStates.xls): http://www.gsa.gov/portal/content/102761

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DATA BOOK DEFINITIONS

Fatality: Any police reported crash on a public traffic way in which a driver, occupant, motorcycle rider, pedestrian, or bicyclist is killed or dies within 30 days of the crash.
"Alcohol Impairment-Related" Fatalities (Old Definition): Any fatality occurring on a public traffic way where the known BAC of an involved driver, motorcycle operator, pedestrian or bicyclist is .01 or higher. For purposes of the Data Book, this definition will be limited to an *imputed* BAC of *.08 or higher* and will apply to *all participants* in a crash.
"Alcohol-Impaired Driving" Fatalities (New Definition): Any fatality occurring on a public traffic way where the *imputed* BAC of at least one of the drivers (including motorcycle operators) is .08 or higher.
Speed Related Fatal Crashes and Fatalities: A fatal crash or fatality on a public traffic way is considered to be speeding-related if the driver was charged with a speeding-related offense *or* if an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash. Beginning in 2009, a new variable replaced all previous speeding driver-related factors to indicate whether a driver's speed was related to the crash (as identified by law enforcement). In addition to the actions listed above, the new variable includes: speed greater than reasonable or prudent (even if not necessarily over the limit), and exceeding special limit (e.g., for trucks, buses, at night, etc.).
Motorcycle Rider Fatal Crashes and Fatalities: A motorcycle rider or motorcyclist (these terms are interchangeable) fatality refers to any individual on a motorcycle including both operators and passengers who is killed in a crash on a public traffic way. The definition of a motorcycle includes: mopeds, scooters, two- or three-wheeled motorcycles, off-road motorcycles, scooters, mini bikes, and pocket bikes, but NOT all terrain vehicles (ATVs).
Occupant Restraint Use: Known restraint use (including improper use, for years 2006-2009) among occupants of a passenger vehicle involved in a crash on a public traffic way. Passenger vehicles include cars and light trucks (pickup, utility, van, and other). Only fatally-injured occupants are considered in the Data Books.
Pedestrian and Bicyclist Fatal Crashes and Fatalities: A pedestrian is any person on foot, walking, running, jogging, hiking, sitting or lying down who is involved in a motor vehicle fatal crash on a public traffic way. Bicyclists and other cyclists include riders of two-wheel non-motorized vehicles, tricycles, and unicycles powered solely by pedals who are involved in a motor vehicle fatal crash on a public traffic way.
Young Driver Fatal Crashes and Fatalities: Any fatal crash or fatality on a public traffic way involving a driver between the ages of 16 and 20 years old.
Older Driver Fatal Crashes and Fatalities: Any fatal crash or fatality on a public traffic way involving a driver age 65 and older.
Distracted Driving Fatal Crashes and Fatalities: Any fatal crash or fatality on a public traffic way with one or more distractions reported. These include operating a vehicle in a careless or inattentive manner. Behaviors include the use of car/cell phones, text messaging, fax, GPS/head-up display systems, DVD player and other manual and cognitive distractions such as reading, eating, talking, adjusting the radio, etc. Beginning in 2010, many elements that were encoded as fields in the vehicle table were broken out into a separate *Distraction* table.

Sources: NHTSA Traffic Safety Fact Sheets, Research Notes, State Traffic Safety Information Web Site Footnotes, and FARS User Manual and Auxiliary Table User Manual.

EXECUTIVE SUMMARY

Based on the data provided in Table 1 of this report, fatalities in Vermont declined by 24% in 2007 (-21); then trended modestly upward through 2009 (+8); before declining slightly in 2010 (-3). This trend differed from the Regional trend, which showed a decline through 2009 and an increase in 2010. Across the Nation, there was a steady decline through 2010, although the decline in 2010 was smaller than in the prior two years.

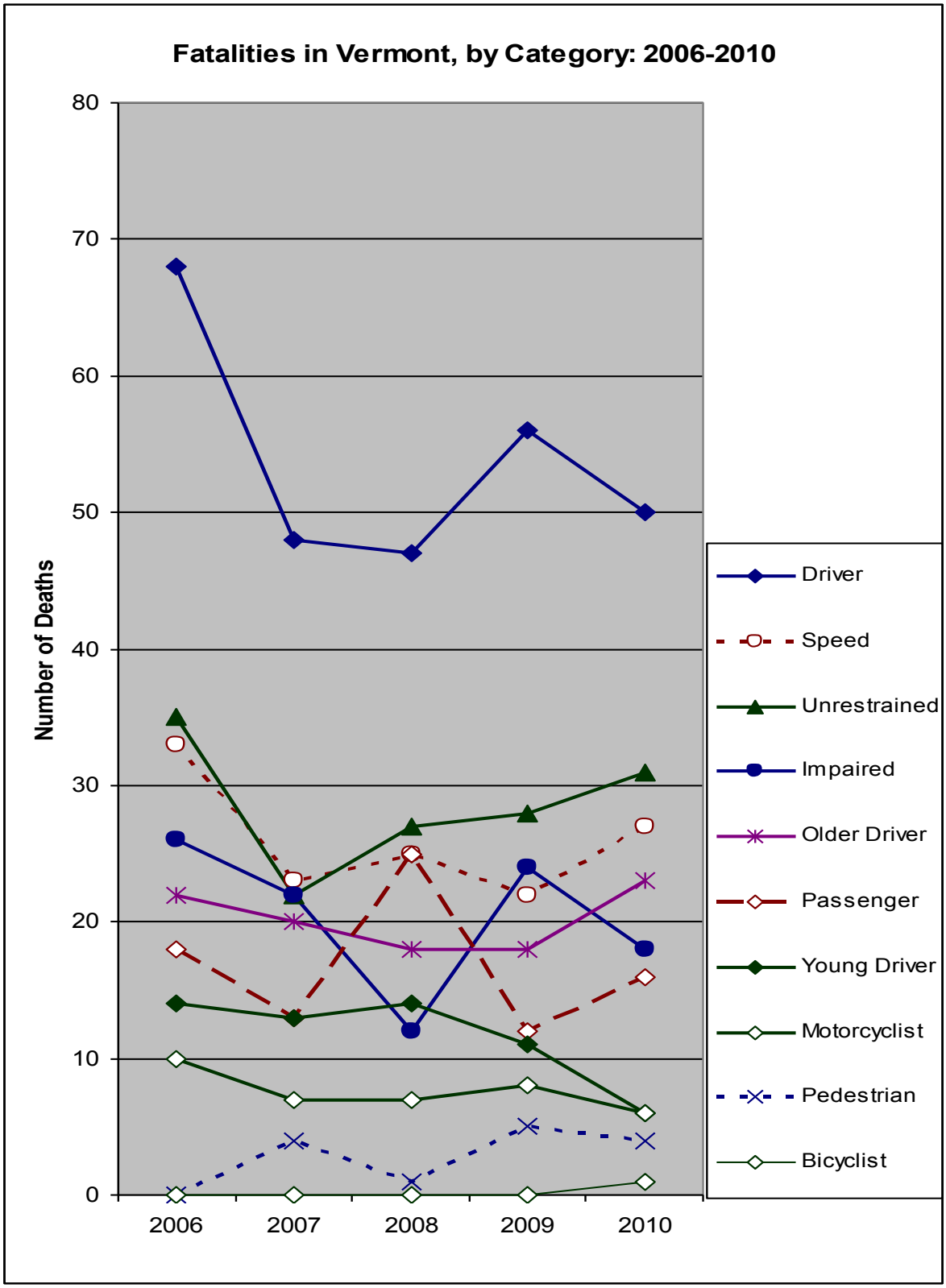
In Vermont, there were 18% fewer deaths in 2010 (71) than in 2006 (87) and 5% fewer than the average of the prior four years (75). Both the VMT-based and population-based fatality rates followed similar patterns. Because *population* changed very little over this period, the year-to-year proportional changes in the *population-based* rate were nearly identical to the proportional changes in fatalities. The *VMT-based rate* followed the same pattern, but the *proportional increases* in 2008 and 2009 were greater for this rate than for fatalities. That is because deaths increased during these years, while VMT declined (an atypical relationship).

The *linear trendline* was downward (-2.4 deaths per year) but the R^2 value was very low. The *3-year moving average* showed an increase in 2010, despite the small decline in actual deaths in that year. As indicated, VMT increased in 2010, likely associated with a slight improvement in the economy. [*See Tables 1 and 29 in the report; as well as Figures 1, 2, and 3 for trends in total deaths and death rates in Vermont*.]

The largest category of fatalities in Vermont was *driver* deaths (73% of the total). Thus, the trend in such deaths was similar to the trend in total deaths, declining by 29% (-20) in 2007; remaining relatively unchanged in 2008; increasing modestly in 2009 (+9); and then declining again in 2010 (-6). There were 27% fewer driver deaths in 2010 than in 2006; 9% fewer than the average of the prior four years. *[See Table 29 of the report for driver deaths in Vermont, across Region 1, and across the Nation.]*

The second largest group of deaths included *two categories*: 1) *unrestrained occupants* of passenger vehicles (39% of total); and 2) *speeding-related* deaths (35%). *Unrestrained occupant* deaths declined substantially in 2007 (-37%), but then increased in every subsequent year. Because these increases were (in total) smaller than the decline in 2007, there were 11% fewer unrestrained deaths in 2010 than in 2006, but 11% more than the average of the prior four years. *Speed-related* deaths also declined in 2007; they remained relatively unchanged through 2009, but then increased in 2010. While there were 18% fewer speed-related deaths in 2010 than in 2006; there were 5% more than the average of the prior four years. [*See Table 11, as well as Figures 10, 11, and 12 for unrestrained occupant deaths; and Table 8, as well as Figures 7, 8, and 9 for speed-related deaths.]*

The third largest group consisted of *three categories*, each associated with between 20% and 30% of total deaths. They were: 1) *alcohol-impaired driving deaths* (27%); 2) *older driver-involved* deaths (27%); and *passenger* deaths (23%). Impaired driving deaths declined substantially through 2008; then increased just as substantially in 2009; before declining in 2010. There were 31% fewer impaired driving deaths in 2010 than in 2006; 14% fewer than the average of the prior four years.


Fatalities in Vermont, by Category: 2006-2010
Number of Deaths
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
Driver
Speed
Unrestrained
Impaired
Older Driver
Passenger
Young Driver
Motorcyclist
Pedestrian
Bicyclist

Older driver-involved deaths trended downward from 2006 through 2009 (-4 deaths overall), before increasing in 2010 (+5 deaths). There were nearly 5% more older driver-involved deaths in 2010 than in 2006; 18% more than the average of the prior four years (each of which was associated with a small decline). *Passenger* deaths followed a somewhat more erratic trend, characterized by a sharp rise in 2008, a sharp decline in 2009, and a slight increase in 2010. As a result, there were 11% fewer passenger deaths in 2010 than in 2006 (-2 deaths); 6% less than the average of the prior four years (-1). *[See Figures 4, 5, and 6 for alcohol-impaired driving deaths; Table 26 and Figures 21 and 22 for older driver-involved deaths; and Table 29 for all categories of deaths, including passenger deaths.]*

The final grouping included *four categories* of fatalities, each associated with less than 20% of all deaths in Vermont. They were: 1) *young driver-involved* deaths (16%); 2) *motorcyclists* (10%); *pedestrians* (4%); and *bicyclists* (<1%). There was a decline in the largest of these categories (*young driver-involved* deaths) after 2008, leaving the number of such deaths 57% lower in 2010 (6 deaths) than in 2006 (14), and 54% lower than the average of the prior four years (13). *Motorcyclist* deaths declined modestly in 2007, increased modestly between 2007 and 2009, and declined again in 2010. Overall, there were 40% fewer motorcyclist deaths in 2010 (6) than in 2006 (10); 25% fewer than the average of the prior four years (8). The number of *pedestrian deaths* ranged from 0 in 2006 to 5 in 2009. In 2010, four pedestrians were killed, 60% more than the average of the prior four years (2.5). There were no *bicyclist deaths* in Vermont from 2006 through 2009; there was 1 such death in 2010. *[See Table 23 and Figures 21 and 22 for young driver-involved deaths; Table 14 and Figures 13 and 14 for motorcyclist deaths; Table 17 and Figures 15 and 16 for pedestrian deaths; and Table 20 and Figures 17 and 18 for bicyclist deaths.]*

In summary, total fatalities in Vermont declined in 2007 but the number was elevated in the final three years of the period. The **greatest proportions** of total deaths were associated with *driver deaths*, followed by *unrestrained occupant* deaths and s*peed-related* deaths. While all three categories showed declines in 2010 (compared with 2006), only driver deaths declined with respect to the average of the prior four years. Compared to the previous year, only driver deaths declined in 2010. The next group included *alcohol-impaired driving* deaths, *older driver-involved* deaths, and *passenger* deaths. There were fewer impaired driving and passenger deaths in 2010 than in 2006 or during the prior four years; there were slightly more older driver-involved deaths in 2010 than in 2006 or during the prior four years (average). Of these three categories, only impaired driving deaths declined in 2010. The final group included: *young driver-involved* deaths, *motorcyclists*, *pedestrians*, and *bicyclists*. Young driver-involved deaths and motorcyclist deaths declined over time. Pedestrian and bicyclist deaths remained relatively unchanged at very low levels. All except bicyclist deaths declined in 2010.

The trends for 4 of the 5 largest categories *(drivers, impaired driving, unrestrained occupants, and passengers)* trended *downward* <u>*and*</u> *each* of these categories showed a decrease in 2010 relative to 2006 and to the prior four year average. *Speed-related* deaths trended upward, although there was a decline in 2010, relative to 2006. Increases from 2009 to 2010 in 4 of 6 of the largest categories, plus an increase in VMT in that year, provide some evidence of upward pressure on travel and fatalities, possibly associated with changes in the economy.

KEY FINDINGS

DETAILED SUMMARY OF KEY FINDINGS

Fatalities

- Over the entire five-year period, Vermont's population-based fatality rate was 11.89 fatalities per 100,000 population, compared to 7.73 for Region 1 and 12.38 Nationwide. Over the same period, Vermont's VMT-based fatality rate was 1.00 fatalities per 100 million VMT, compared to 0.86 for the Region and 1.27 for the Nation (Tables 1, 2, and 3).
- Overall fatalities decreased by 5.3% Vermont, compared to a similar decreases of 5.6% in the Region and a decrease of 15.3% Nationwide. Vermont saw the largest changes in motorcyclist (a 25.0% decrease) and driver fatalities (a 8.7% decrease). Pedestrian fatalities rose 60.0% and the State also recorded its first bicyclist fatality in the five year period in 2010. (Table 29).
- Three counties (Chittenden, Franklin and Windham Counties) accounted for 30.5% of all fatalities in Vermont. For the years 2006 through 2010, Chittenden County accounted for 10.5% of all fatalities in Vermont, while Franklin and Windham Counties each represented 10.0%. (Table 30).

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

- Over the entire five-year period, Vermont's alcohol-impaired driving population-based fatality rate was 3.27 fatalities per 100,000 population, compared to 2.58 for Region 1 and 3.90 Nationwide. Over the same period, Vermont's VMT-based fatality rate was 0.28 fatalities per 100 million VMT, compared to 0.29 for the Region and 0.40 for the Nation (Tables 4, 5, and 6).
- The percentage of Vermont's fatalities that were related to alcohol-impaired driving has generally been lower than the percentages for both Region 1 and the Nation, sometimes to a substantial degree. The percentages for Region 1 have generally been higher than those Nationwide. In 2010, alcohol-impaired driving fatalities accounted for 25.4% of all fatalities in Vermont, higher than the average of 31.3% for the five year period. (Figure 23).
- The three counties with the most alcohol-impaired driving fatalities over the 2006-2010 period were Chittenden (39) and Franklin and Windham (37 each). The counties with the highest percentage of fatalities involved alcohol-impaired driving were Franklin (48.6%), Caledonia (35.5%) and Essex (33.3%) (Table 35).
- The counties with the highest alcohol-impaired population-based fatality rates in 2010 were Orleans (14.69 per 100,000 population) Caledonia (12.82) and Lamoille (4.06) (Table 36).
- In Vermont, 64.3% percent of alcohol-impairment-related crashes occurred between 6 p.m. and 3 a.m.; 62.2% occurred on Friday, Saturday, and Sunday. The same pattern held true for Region 1 and the U.S. as a whole. Slightly fewer than 69% of alcohol-impairment-related crashes in Region 1 occurred between 6 p.m. and 3 a.m., and 63.2% occurred on Friday, Saturday, and Sunday. For the U.S. as a whole, 65.5% of alcohol-

impairment related crashes occurred between 6 p.m. and 3 a.m. and 61.3% occurred on Friday, Saturday, and Sunday (Table 37).

- For the years 2006 through 2010, 29% 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 38).
- NHTSA's alcohol imputation data estimate BACs where no test results are available. These data show that, for the years 2006 through 2010, 19.7% of *drivers* and *operators* involved in fatal crashes in Vermont had a BAC of at least 0.08. This percentage was lower than that in Region 1, 24.0%, and the U.S. as a whole, 21.8% (Table 39).

Speeding-Related Fatal Crashes and Fatalities

- Over the entire five-year period, Vermont's speeding-related population-based fatality rate was 4.16 fatalities per 100,000 population, compared to 2.66 for Region 1 and 3.92 Nationwide. Over the same period, Vermont's VMT-based fatality rate was 0.35 fatalities per 100 million VMT, compared to 0.30 for the Region and 0.40 for the Nation (Tables 8, 9, and 10).
- The percentage of speeding-related fatalities in Vermont has generally been greater than those of the Region and the U.S. as a whole, with the exception of Year 2009. In 2010, 38.0% of fatalities were recorded as speed-related in Vermont for the year, higher than both the values for the Region and the Nation for the year, as well as the average for Vermont for the five year period (35.0%) (Figure 25).
- Three counties accounted for 40.0% of speeding-related fatalities in Vermont. Franklin County had the highest number of speeding-related fatalities (20 crashes, 15.4% of total), followed by Caledonia and Washington, each with 16 crashes and each representing 12.3% (Table 41).
- Vermont's speeding-related population-based fatality increased by 4.50% in 2010 (as compared to the average of the previous four years), although 2010 had more fatalities per 100,000 population than 2006. (2006 had 5.30 fatalities per 100,000 population, compared to 4.31 in 2010.) The counties with the highest speeding-related population-based fatality rates during these years were Caledonia (10.25), Orleans (8.81), and Lamoille (7.47) (Table 42).
- Statewide, 39.2%, of speeding-related fatalities in Vermont occurred on roads with a speed limit of 45 mph or below and 80.8% of speed-related fatalities occurred on roads with a speed limit less than 50 mph, compared to 77.4% in Region 1 and 50% Nationwide (Table 43).
- A plurality, 32.3% of Vermont's speeding-related fatalities occurred on local roads. This is very similar to Region 1, where 32.1% of speeding-related fatalities occurred on local roads. Nationwide, 34.7%, occurred on arterial roads (Table 44).
- In Vermont, 50% of speeding-related fatal crashes occurred on Friday, Saturday, and Sunday. For Region 1, 57.1% of speeding-related fatal crashes occurred on these same days, and Nationwide, 54.5% of speeding-related fatal crashes also occurred on these days. In Vermont, the highest number of fatal crashes occurred in August (14 crashes, 12.5% of total), May (12 crashes, 10.7%) and November (11 crashes, 9.8%) Statewide,

45.5% of speeding-related fatal crashes occurred between 6 p.m. and 3 a.m., compared to 56.4% in Region 1 and 49.2% Nationwide (Table 45).

- In Vermont, 23.7% of drivers involved in fatal crashes had previous speeding convictions. This percentage was higher than the percentage for the Region 1 (18.4%) and the U.S. as a whole (18.7%) (Table 46).

Motorcycle Fatal Crashes and Fatalities

- Over the entire five-year period, Vermont's motorcyclist population-based fatality rate was 1.22 fatalities per 100,000 population, compared to 1.20 for Region 1 and 1.60 Nationwide (Tables 14, 15, and 16).
- The percentages of fatalities that were motorcyclists in Vermont have generally been lower than the percentages for Region 1 and have consistently been lower than the percentages for the U.S. as a whole. In 2010, 8.5% of fatalities in Vermont were motorcyclists, compared to 16.6% in Region 1, and 13.7% in the U.S. as a whole (Figure 26).
- In Vermont, 52.6% of motorcycle fatal crashes occurred on Sunday, Monday or Saturday. This is in contrast to the pattern observed in Region 1 and the Nation, which saw the highest number of such crashes on Saturday, Friday and Sunday. For Region 1 and the Nation, these three days accounted for 55.9% and 57.5% of all motorcycle fatal crashes, respectively (Table 48).
- Almost 58% of motorcyclist fatalities in Vermont were between the ages of 25 and 54, and 81.6% were males (Table 49).
- Vermont requires helmet use by all riders, regardless of age. Between 2006 and 2010, 21.1% of motorcyclist fatalities did not have a helmet. This percentage is substantially lower than both the Region (46.2%) and the U.S. as a whole (41.2%) (Table 50).
- 27.3% 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 lower than both Region 1 (38.1%) and Nationwide (38%) (Table 51).
- In fatal crashes involving motorcycles, 71.8% of motorcycle operators had at least one driver factor reported, versus 56.0% of the operators of other vehicles. The three most common driver factors for motorcycle operators were failure to keep in proper lane (30.8%), driving too fast (28.2%), and operating the vehicle in an erratic manner (17.9%) (Table 52).

Occupant Restraint

- Over the entire five-year period, Vermont's unrestrained population-based fatality rate was 4.58 fatalities per 100,000 population, compared to 2.64 for Region 1 and 4.28 Nationwide. Over the same period, Vermont's VMT-based fatality rate was 0.39 fatalities per 100 million VMT, compared to 0.29 for the Region and 0.44 for the Nation (Tables 11, 12, and 13).
- In Vermont, observed seat belt usage has fluctuated, rising from 82.4% in 2006 to a high for the five-year period of 87.3% in 2008 before dropping to 85.2% in 2010. Observed

seat belt usage for the state has consistently been above the National rate, which was 81.0% in 2006 and 85.0% in 2010 (Figure 27).

- In Vermont, 41.8% of fatally-injured passenger vehicle occupants in 2010 properly used their restraints, a figure that was above the 38.0% recorded for Region 1 in 2010, but above the Nationwide use rate of 44.8%. Restraint use among fatally-injured passenger vehicle occupants in Vermont has consistently been above that of Region 1 for every year, with the exception of 2009, and for the Nation for every year. In every year, in every jurisdiction (State, 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 53).
- In Vermont, 71.0% of fatally-injured passenger vehicle occupants in the 21-24 age group were *not* using restraints, followed by the 25-34 and 35-44 age groups, with 68.3% and 59.3%. When looking at restraint *use*, almost 80% of fatally-injured passenger vehicle occupants in the 75 and older age group were using restraints (Table 54).

Pedestrian and Bicyclist Fatal Crashes and Fatalities

- Over the entire five-year period, Vermont's population-based fatality rate for pedestrians was 0.45 fatalities per 100,000 population, compared to 0.94 for Region 1 and 1.47 Nationwide. Over the same period, Vermont's population-based fatality rate for bicyclists was 0.03 fatalities per 100,000 population, compared to 0.12 for the Region and 0.23 for the Nation (Tables 17, 18, 19, 20, 21, and 22).
- In Vermont, 57.1% of pedestrian fatal crashes occurred between noon and 9 p.m. This is in contrast to the Region and the Nation, which saw the greatest concentration of pedestrian fatal crashes between 3 p.m. and midnight (52.0% in Region 1 and 56.5% Nationwide). The days with the greatest number of pedestrian fatal crashes in Vermont were spread throughout the week, with Sunday accounting for 28.6% of such crashes, Friday accounting for 21.4% and Tuesday and Thursday representing 14.3%. This is in contrast to the statistics for the Region, which saw the greatest number of such crashes on Thursday (14.6%), Friday (16.4%), and Saturday (17.1%),, while Nationwide, the top three days for pedestrian fatal crashes were Saturday (17.5%), Friday (16%), and Sunday (14.6%) (Table 56).
- There were only 14 pedestrian fatalities in Vermont during the period from 2006-2010 and only one city, South Burlington, saw more than 1 such fatality. There were 2 pedestrian fatalities in South Burlington, accounting for 14.3% of the total. (Table 57).
- Pedestrian fatalities were spread across the age groups with persons between 21-24, 35-44 and 65-74 each accounting for 21.4% of all such fatalities. Persons ages 75 and older constituted the plurality (18.9%) of pedestrian fatalities in Region 1, and Nationwide, persons between the ages of 45-54 constituted the plurality (19.6%), of pedestrian fatalities. Persons ages 25-64 constituted 42.9% of pedestrian fatalities in Vermont, as compared to 51.5% in Region 1 and 60.7% in the U.S. as a whole for the same age group. Persons ages 65 and over accounted for 35.7% of pedestrian fatalities in the State, which was higher than both the value in the Region (30.8%) and for the U.S. as a whole (19.0%) (Table 58).

- Males represented 64.3% of the State's pedestrian fatalities, a percentage higher than that of the Region (63.8%) but lower than that of the U.S. as a whole (69.4%) (Table 58).
- Of pedestrians killed in Vermont with a known BAC, 33.3% had a BAC of at least 0.08, slightly higher than the percentage for the Region (23.9%), but below the percentage for the U.S. as a whole (38.7%). In Vermont, among fatally injured pedestrians with a known BAC, a BAC of at least 0.08 was most common in the 21-24 age group, with 66.7% of pedestrian fatalities in this category having a BAC of at least 0.08, though caution must be used when interpreting this result, due to the very small sample size. In Region 1, a BAC of at least 0.08 was most common in the 35-44 age group (48.2%), while Nationwide, 54.8% of fatally-injured pedestrians ages 21-24 with a known BAC had a BAC of at least 0.08. (Table 59).
- There was one bicyclist fatality in the five-year period examined in this report. As it occurred in 2010, and was the only such fatality in the period, the percentage change cannot be calculated. For the Region and the Nation, there were 2.9% decrease and 12.3% decrease in these fatalities, respectively. (Table 60).

Young and Older Age Groups

- Over the entire five-year period, Vermont's population-based fatality rate for young driver-involved (16-20) crashes was 1.86 fatalities per 100,000 population, compared to 1.30 for Region 1 and 2.13 Nationwide. Vermont's population-based fatality rate for older driver-involved (ages 65 and above) crashes was 3.24 fatalities per 100,000 population, compared to 1.34 for the Region and 1.95 for the Nation (Tables 23, 24, 25, 26, 27, and 28).
- Fatal crashes involving young drivers (16-20 years old) in Vermont decreased by just over 58.3%, a decrease much larger than the decreases seen in Region 1 (24.6%) and the U.S. as a whole (27.8%) (Table 61).
- Young driver fatalities represented 13.8% of all fatalities in Vermont in 2006 and declined to 4.2% in 2010. Because of the wide range seen over the observed years, this statistic has fluctuated considerably in relation to Region 1 and the Nation. Such fatalities have accounted for between 6.4% (2010) and 9.6% (2006) of all fatalities in Region 1, and between 5.8% (2010) and 8.0% (2006) of all fatalities in the U.S. as a whole (Figure 28).
- At least one driver-related factor was reported for 94.5% 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 60.0% of young driver-involved crashes (Table 63).
- Compared to all drivers, a higher percentage of young drivers involved in fatal crashes have previous speeding convictions. In Vermont, for the five-year period, 36.4% of young drivers had previous speeding convictions compared to 23.7% for all drivers. This was similar to the pattern for the Region (23.5% for young drivers compared to 18.4% for all) and in the U.S. as a whole (20.1% of young drivers compared to 18.7% for all) (Table 64).
- *Young drivers* themselves accounted for 56.9% of fatalities in crashes involving young drivers in Vermont; *passengers* represented 29.3% of fatalities, and *other road users* accounted for 13.8% of fatalities in these crashes. (Table 65).

- The four counties of Orleans (15.5%), Franklin (13.8%) and Chittenden and Rutland (12.1% each) accounted for over half (53.4%) of fatalities involving young drivers in the years 2006 through 2010 (Table 66).
- Fatal crashes involving drivers age 65-74 fell slightly (2.7%) in Vermont from 2006 to 2010. This is similar to the slight drop found across the Region and the Nation, each of which had a 2.2% decline in such crashes for the same time period (Table 68).
- Driver fatalities for the age group 65-74 saw a decline in Vermont from 2006 to 2010 (4.8%), comparable to the 3.7% drop in Region 1 and a 5.6% decrease Nationwide (Table 68).
- Fatal crashes involving drivers ages 75 and older increased by 41.2% in Vermont, while remaining unchanged in Region 1 and decreasing 3.8% Nationwide. Driver fatalities for the age group 75 and older increased 12.5% in Vermont, compared to a 2.6% decrease in Region 1and a 4.6% decrease Nationwide (Table 69).

Distraction

- Note: This is the first year in which Distractions were gathered in a separate table, so no historical data are available
- Fatal crashes where at least one car reported at least one distraction accounted for 12.7% of total crashes in Vermont, a percentage identical to that reported for Region 1 (12.7%) and slightly higher than in the Nation as a whole (11.1%) (Table 74).
- Of crashes in Vermont where at least one driver had at least one or more distractions recorded, 37.5% involved at least one driver who *was eating/drinking/smoking* and 25% involved at least one driver with *cell phone* use. (Table 75).
- In Region 1, 40.8% involved at least one driver who was *unaware/did not see*, 24.8% involved at least one driver with *distraction/inattention,* with details unknown, and 14.4% involved a driver with *other distraction*. (Table 75).
- Nationwide, *distraction/inattention* was involved in more than a third (37.3%) of such crashes, while at least one driver who *was unaware/did not see* was involved in 27%. *Cell phone* use by at least one driver was involved in 10.6% of distracted crashes (Table 75).

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.

BASIC DATA AND TREND ANALYSES

BASIC DATA AND TREND ANALYSES

About This Section

This Section contains basic information about the motor vehicle fatalities that occurred in Vermont from 2006 through 2010. 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.[6] 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 Vermont'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 http://www-fars.nhtsa.dot.gov/Main/index.aspx. Although queries cannot be run across multiple years, there is a wealth of information that may be obtained by running single year queries. Mapping data is also available, and result sets from a query may be exported to a variety of formats. 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.

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[6] 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 2006 through 2010. It indicates that annual motor vehicle fatalities in the State dropped from 87 in 2006 to 71 in 2010, a decline of 5.3% from the average of the prior four years. During this period, the number of *vehicle miles traveled* (VMT) fluctuated somewhat, though the 2010 value for VMT dropping by 2.5% when compared to the average of the prior four years and *population* remained basically the same, rising 0.3%. The *VMT-based fatality rate* (i.e., expressed as the number of deaths per 100 million miles traveled) *increased* by 2.9% and the *population-based fatality rate* (expressed as the number of deaths per 100,000 population) decreased by 5.6%.

The data in Table 1 show that, in 2010, Vermont accounted for 4.3% of the *population* in Region 1; 5.6% of the Region's *VMT*; and 6.7% of the Region's *fatalities.* While Vermont's percentage of the Region's fatalities did not change appreciably during this five-year period (rising only 0.3%), Vermont's percentage of the Region VMT dropped by just under 2.0% and Vermont's percentage of the Vermont's percentage of the Region's population dropped by 0.6% when compared to the average of the previous four years. 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 higher than the average for Region 1 (0.86), though lower than the average for the Nation (1.27).

Similarly, Vermont's average population-based fatality rate (11.89 per 100,000 residents) was higher than the Regional rate (7.73), but lower than the National rate (12.38).

Table 1. Vermont Basic Data

	2006	2007	2008	2009	2010	2006-2010 % Change
Total Fatalities	87	66	73	74	71	-5.33%
VMT*	7,832	7,694	7,312	6,890	7,247	-2.49%
VMT Rate**	1.11	0.86	1.00	1.07	0.98	-2.92%
Population	622,892	623,481	624,151	624,817	625,960	0.34%
Pop. Rate***	13.97	10.59	11.70	11.84	11.34	-5.65%
Pct of Region Fatalities	7.11%	5.61%	6.65%	7.47%	6.70%	0.28%
Pct of Region VMT	5.95%	5.83%	5.65%	5.52%	5.63%	-1.99%
Pct of Region Population	4.37%	4.37%	4.35%	4.34%	4.33%	-0.63%

* Vehicle Miles of Travel (millions)
** Rate per 100 million vehicle miles
*** Rate per 100,000 population

Table 2 shows that total annual motor vehicle fatalities in Region 1 decreased by 5.6% in 2010, compared with the 2006-2009 average; while VMT-based and population-based fatality rates dropped by over 5.1% and 6.5%, respectively.

Table 2. Region 1 Basic Data

	2006	2007	2008	2009	2010	2006-2010 % Change
Total Fatalities	1,223	1,177	1,097	990	1,059	-5.59%
VMT*	131,669	131,948	129,340	124,854	128,798	-0.51%
VMT Rate**	0.93	0.89	0.85	0.79	0.82	-5.11%
Population	14,245,540	14,279,205	14,340,115	14,403,575	14,457,499	0.98%
Pop. Rate***	8.59	8.24	7.65	6.87	7.32	-6.51%

* Vehicle Miles of Travel (millions)
** Rate per 100 million vehicle miles
*** Rate per 100,000 population

Looking Nationwide, Table 3 (below) shows that fatalities across the U.S. declined even more than in Region 1. Total deaths declined by 15.3%, while *VMT*-based and *population*-based fatality rates dropped by 15.5% and 17.1%, respectively.

Table 3. Nationwide Basic Data

	2006	2007	2008	2009	2010	2006-2010 % Change
Total Fatalities	42,708	41,259	37,423	33,883	32,885	-15.28%
VMT*	3,014	3,032	2,974	2,814	2,967	0.27%
VMT Rate**	1.42	1.36	1.26	1.20	1.11	-15.51%
Population (thousands)	298,380	301,231	304,094	306,772	309,350	2.22%
Pop. Rate***	14.31	13.70	12.31	11.05	10.63	-17.13%

* Vehicle Miles of Travel (billions)
** Rate per 100 million vehicle miles
*** Rate per 100,000 population

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 **67** in 2011, **65** in 2012, and **62** in 2013. Here, the R^2 value is 0.24[7]. Some caution is advisable, however, since some of the decline since 2007 may be associated with the economy and the trend may reverse itself. The three-year moving average, represented by the red line, indicates a slight rise, and this may be the more accurate predicator at this time.

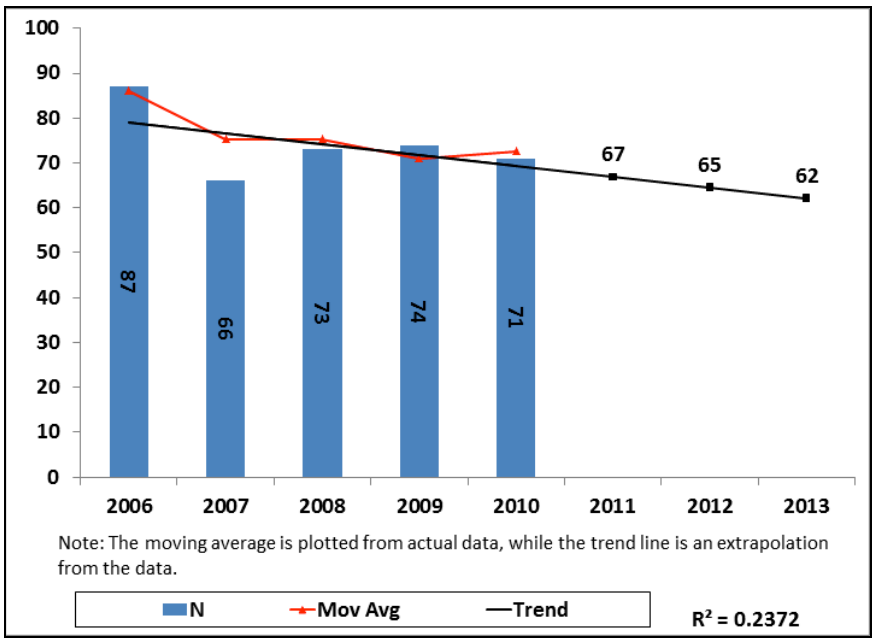


Figure 1. Vermont Total Fatalities

Figure 2 shows a basically flat trend in the *VMT-based* fatality rate for Vermont. If this trend were to continue, there would be **0.99** deaths per 100 million VMT in 2011, 2012 and in **0.98** in 2013. Here, the R^2 value is negligible. The three-year moving average shows a slight increase throughout the five-year period. Again, some caution is advised in terms of these projections as trends *may* change in 2011.

[7] The R^2 value is called the *coefficient of determination*. It is a measure of how much of the change in fatalities is accounted for by a unit change over time. A high value of R^2 (up to a maximum of 1.0) would indicate that time (i.e., year) accounts for a good deal of the variability in – and may be regarded as a good predictor of – fatalities. A low value of R^2 (closer to 0.0) indicates that time is a relatively poor predictor of fatalities. See the Appendix for a more complete discussion of linear trendlines and this coefficient.

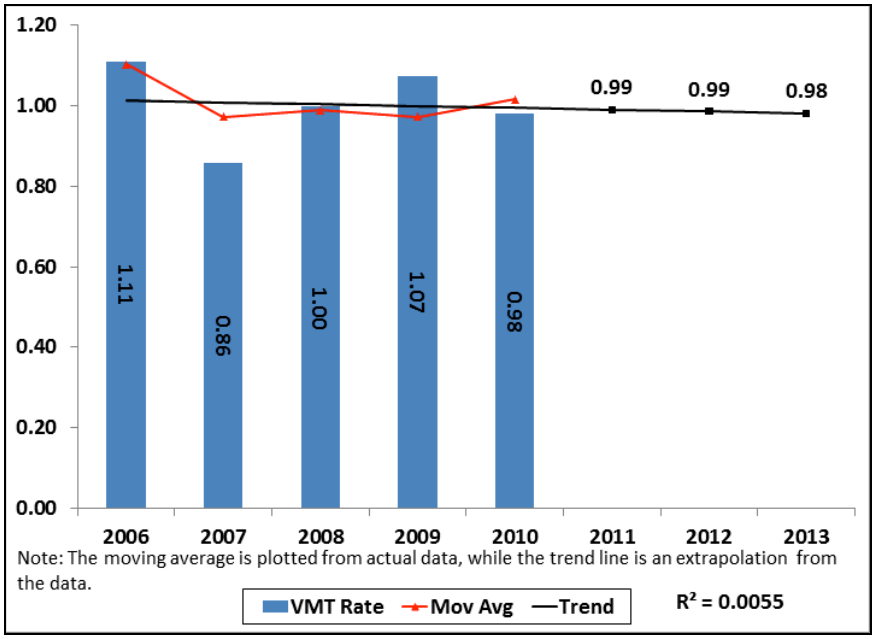


Figure 2. Vermont Total Fatalities, VMT Rate

Figure 3 shows the trend in the *population-based* fatality rate for Vermont. If this trend were to continue, there would be **10.69** deaths per 100,000 population in 2011, **10.29** in 2012, and **9.89** in 2013. Here, the R^2 value is 0.25. The three-year moving average shows a modest decline throughout the five-year period, ending with a slight rise in 2010. Again, some caution is advised in terms of these projections as trends *may* change due to changing conditions in 2011.

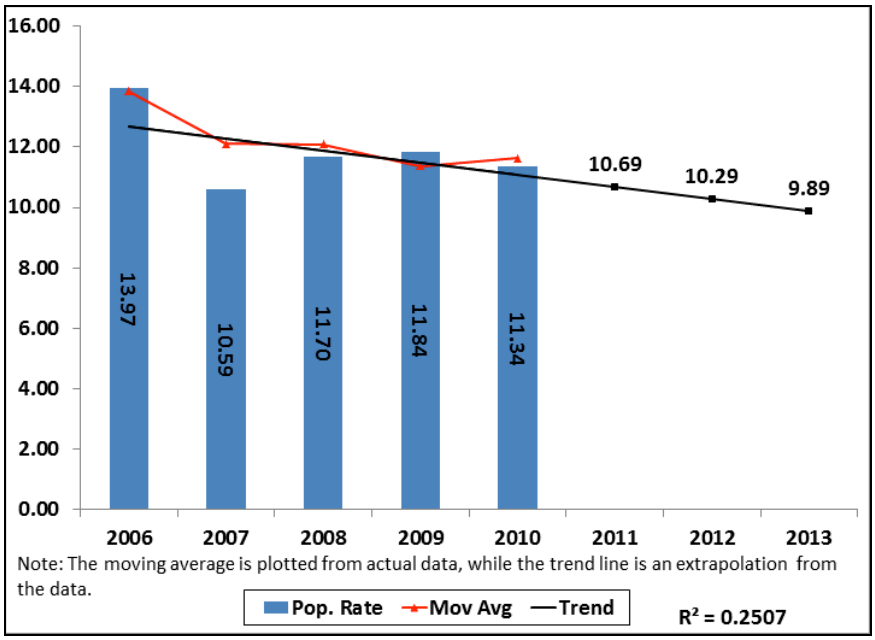


Figure 3. Vermont Total Fatalities, Population Rate

Alcohol-Impaired Driving Fatalities

Between 2006 and 2010, Vermont's alcohol-impaired driving fatalities averaged about 20 per year, with no clear pattern over the five-year period. There were 18 such deaths in 2010, which represented over a 14.3% *decrease* from the average of the prior four years. Similarly, the decline in the *population-based* fatality rate was comparable to the drop in the number of fatalities, decreasing by 14.6%, from a four-year average of 3.37 (2006-2009) to 2.88 (2010). Likewise, the 2010 alcohol-impaired *VMT rate* (0.25 deaths per 100 million VMT) represented a similar 12.1% decrease from the previous four-year average (0.28).

Historically, the impaired *percent* of *total deaths* has been a key index of this problem. This proportion *decreased* in 2010, though at a slightly smaller rate (9.5%) when compared to the drop in the *number* and *rate* of alcohol-impaired fatalities. This suggests that similar factors were affecting alcohol-impaired driving deaths and all other deaths. Table 4 also indicates that Vermont's *proportion of the Region's impaired deaths* decreased by 11.4% in 2010, compared with the average for the previous four years.

Table 4. Vermont Alcohol-Impaired Driving Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	26	22	12	24	18	-14.29%
VMT Rate*	0.33	0.29	0.16	0.35	0.25	-12.10%
Pop. Rate**	4.17	3.53	1.92	3.84	2.88	-14.58%
Pct of Total	29.89%	33.33%	16.44%	32.43%	25.35%	-9.46%
Pct of Region	6.34%	5.37%	3.56%	7.14%	4.99%	-11.38%

* Rate per 100 million miles of travel
** Rate per 100,000 population

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 (0.28 deaths) was slightly lower than the rate for Region 1 (0.29 deaths per 100 million VMT) as well than the rate across the U.S. (0.40 deaths), while the *population-based* rate followed a similar pattern with Vermont (3.27 deaths/100,000 residents) higher than the Region but lower than Nationwide rates (2.58 and 3.90, respectively).

Table 5. Region 1 Alcohol-Impaired Driving Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	410	410	337	336	361	-3.28%
VMT Rate*	0.31	0.31	0.26	0.27	0.28	-2.79%
Pop. Rate**	2.88	2.87	2.35	2.33	2.50	-4.22%
Pct of Total	33.52%	34.83%	30.72%	33.94%	34.09%	2.45%

* Rate per 100 million miles of travel
** Rate per 100,000 population

With regard to change, Table 5 shows that alcohol impaired driving fatalities decreased by 3.3% in Region 1 between 2006 and 2010, while VMT-based and population-based fatality rates

dropped by 2.8% and 4.2%, respectively. These Regional declines were in contrast to the increases found in Vermont (Table 4). Nationwide, Table 6 indicates that alcohol-impaired deaths declined by 16.5%, while VMT-based and population-based fatality rates dropped by 16.7% and 18.3%, respectively. These National declines were less than the declines in Vermont, but greater than those in Region 1.

In 2010, the *impaired driving percentage of total fatalities* increased in Vermont (12.5%), but decreased across the Region (9%) and across the U.S. (1.5%). Here again, these changes in 2010 are relative to the average from 2006 through 2009.

Table 6. Nationwide Alcohol-Impaired Driving Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	13,491	13,041	11,711	10,759	10,228	-16.51%
VMT Rate*	0.45	0.43	0.39	0.38	0.34	-16.73%
Pop. Rate**	4.52	4.33	3.85	3.51	3.31	-18.33%
Pct of Total	31.59%	31.61%	31.29%	31.75%	31.10%	-1.45%

* Rate per 100 million miles of travel
** Rate per 100,000 population

Figure 4 shows the trend in Vermont's *impaired driving fatalities*. If this trend were to continue, there would be **16** such fatalities in 2011, **15** in 2012 and **13** in 201. Here, the R^2 value is 0.16. However as Vermont sees few such fatalities in a given year, a large shift, such as the drop in 2008, may exert disproportionate influences on future trends. Also, an improving economy after 2010 *may* reverse this decline. At this point, however, the three-year moving average (red line) also shows a steady decrease in 2010 throughout the projected period.

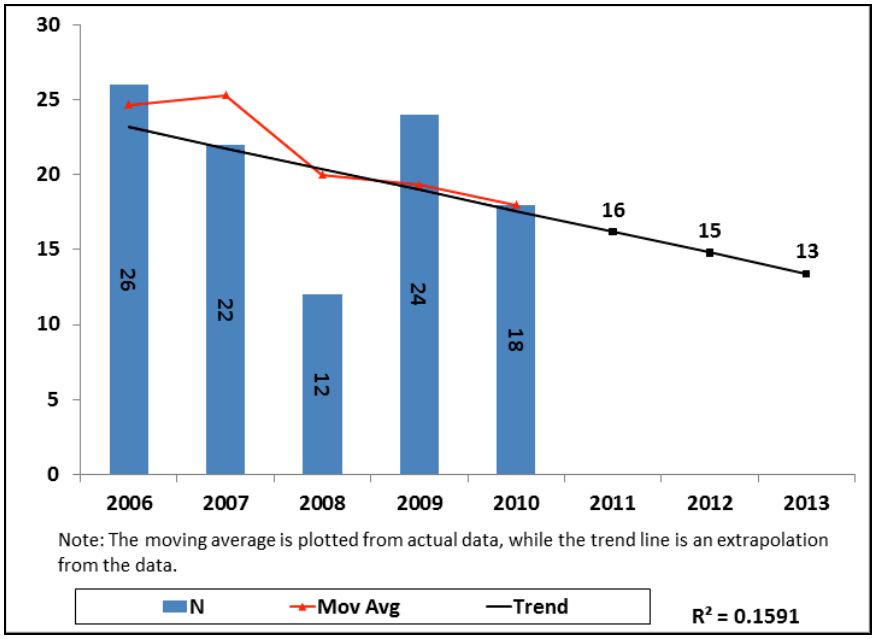


Figure 4. Vermont Alcohol-Impaired Driving Fatalities

The trends in impaired driving death *rates* show declines, particularly in 2008. The linear trend line shown in Figure 5 projects Vermont's *VMT-based fatality rate* to **0.24** deaths (per 100 million VMT) in 2011, **0.23** in 2012, and **0.22** in 2013. Here, the R^2 value is 0.05.

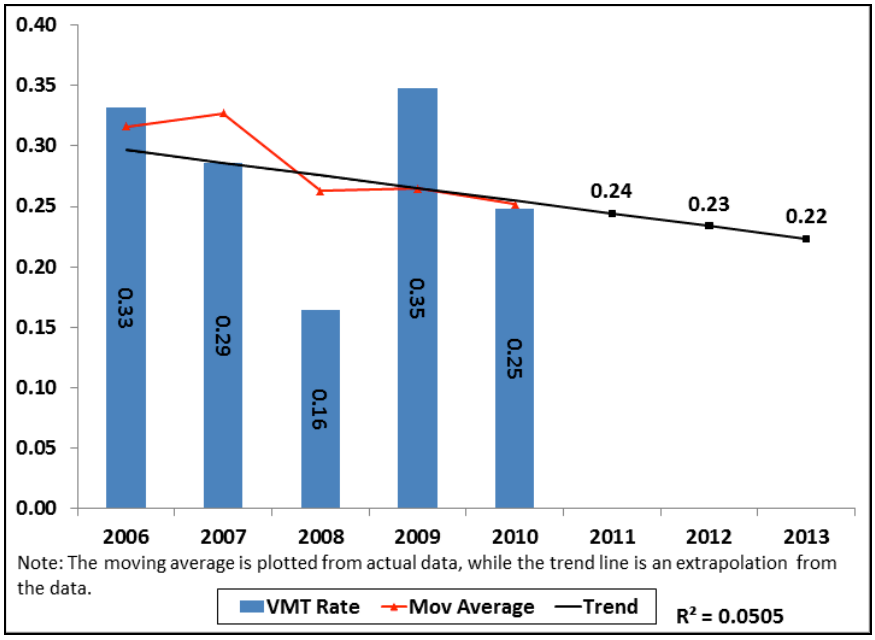


Figure 5. Vermont Alcohol-Impaired Driving Fatalities, VMT Rate

The *population-based rate* shown in Figure 6 also shows a downward trend, projecting to **2.58** deaths (per 100,000 residents) in 2011, **2.35** in 2012, and **2.13** in 2013. Here, the R^2 value is 0.16. Again, these trends may slow with an improving economy (particularly for the population-based rate) as there *could* be an increase in fatalities associated with such improvements.

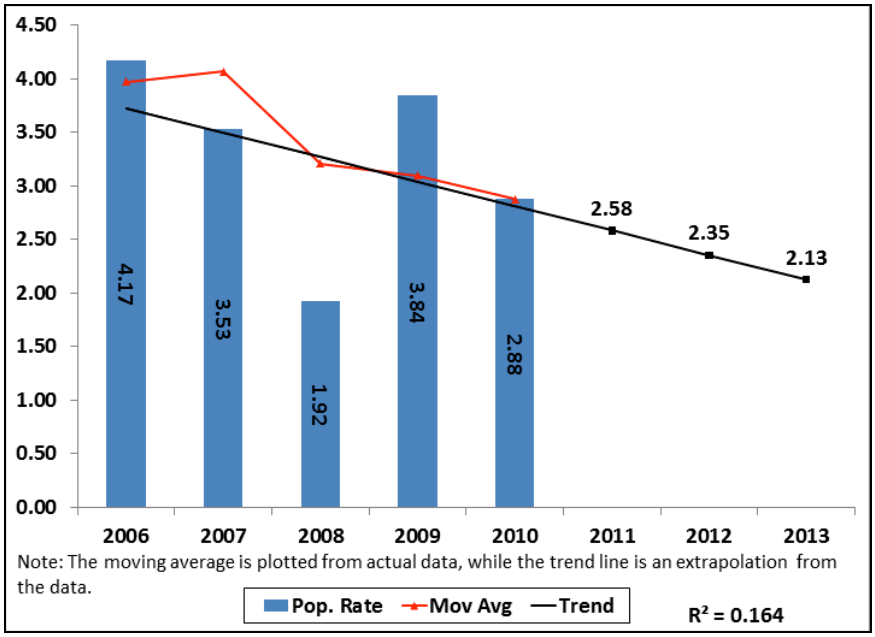


Figure 6. Vermont Alcohol-Impaired Driving Fatalities, Population Rate

BAC reporting rates for Vermont, the U.S., and the "Best States(s)" are presented in Table 7. Vermont had an average 31% *rate of BAC reporting for surviving drivers* over the five-year

period, though Vermont's rate of BAC reporting in 2010 was 46%, as compared to 28% for the previous four-year period. Vermont had a *high rate of reporting for fatally-injured drivers*, averaging about 93% over the five-year period, and reaching 99% reporting in this category in 2006, equal to the best state in that year.

Across the Nation, BACs were reported for an average of 28% of surviving drivers and 73% of fatally-injured drivers. By comparison, the best States(s) provided BACs for 85% 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 percentages with reported BACs were 66% in Vermont, 49% across the Nation, and 87% among the best State(s). Vermont compares favorably to the Best State(s), with percentages approaching and sometimes matching the Best State(s) reporting for fatally injured drivers.

Table 7. BAC Reporting Rates for Drivers and Motorcycle Operators

		2006	2007	2008	2009	2010
Surviving Drivers and Operators						
Total	**VT**	37	37	55	41	37
	U.S.	30,498	29,449	26,162	23,502	23,424
Total with BAC Reported	**VT**	12	11	13	10	17
	U.S.	7,482	7,631	7,656	7,188	6,955
% with BAC Reported	**VT**	32%	30%	24%	24%	46%
	U.S.	25%	26%	29%	31%	30%
	Best State*	81%	82%	81%	86%	88%
Killed Drivers and Operators						
Total	**VT**	68	48	47	56	50
	U.S.	27,348	26,570	24,254	21,835	21,016
Total with BAC Reported	**VT**	67	46	42	53	43
	U.S.	18,911	19,434	18,415	16,753	14,872
% with BAC Reported	**VT**	99%	96%	89%	95%	86%
	U.S.	69%	73%	76%	77%	71%
	Best State*	99%	100%	99%	100%	93%
All Drivers and Operators						
Total	**VT**	105	85	102	97	87
	U.S.	57,846	56,019	50,416	45,337	44,440
Total with BAC Reported	**VT**	79	57	55	63	60
	U.S.	26,393	27,065	26,071	23,941	21,827
% with BAC Reported	**VT**	75%	67%	54%	65%	69%
	U.S.	46%	48%	52%	53%	49%
	Best State*	85%	84%	85%	90%	87%

* Best State: highest percentages could be in different States

In the Best State(s) among *killed* drivers for which there was a reported BAC, such data were available for 88% of killed drivers in 2010, which was equal to the reporting rate for the prior four year period. Vermont's percentage of *all* drivers (*killed* and *surviving)* for which there was a reported BAC also remained relatively constant, with available for 69% of all drivers in 2010, compared with an average of 65% across the prior four years.

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.[8]

Table 8 shows that there were 33 speeding-related fatalities in Vermont in 2006. This figure dropped over the five-year period, to a low of 22 such fatalities in 2009. The 27 speeding-related fatalities in Vermont in 2010 represented a 4.9% increase over the average previous four-year period. The total of The VMT-based death rate also rose over this five-year period, with the value for 2010 (0.37) being 4.9% higher than the average for the previous four years (0.35) Likewise, the population-based rate showed a similar pattern, a decline from the high seen in 2006 decreasing from 5.30 deaths per 100,000 population to 4.31 in 2010. Similarly, the population-based death rate in 2010 was 4.50% higher than the average of the prior four years, (4.13 deaths per 100,000 population). In 2006, 37.9% of all fatalities in the Vermont were speeding-related. This proportion increased to a 38.0% in 2010, an increase of 10.8% from the average of the previous four years.

In Vermont, most of the speeding-related indices (i.e., fatalities, VMT death rate, and population death rate) reached their peak for the five-year period in 2006, though the values for these indices were greater for 2010 than the average of the previous four years.

Table 8. Vermont Speeding-Related Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	33	23	25	22	27	4.85%
VMT Rate*	0.42	0.30	0.34	0.32	0.37	7.53%
Pop. Rate**	5.30	3.69	4.01	3.52	4.31	4.50%
Pct of Total	37.93%	34.85%	34.25%	29.73%	38.03%	10.76%
Pct of Region	7.64%	5.58%	7.51%	6.45%	6.89%	1.51%

* Rate per 100 million miles of travel
** Rate per 100,000 population

[8] In this section, we use speeding-related and speed-related interchangeably.

Table 9 indicates that, between 2006 and 2010, *speeding-related fatalities* increased by 3.3% across Region 1, accounting for 35.3% of all Regional fatalities in 2006, declining to 30.4% in 2008, and then rising to 37% in 2010.

As shown in Table 10, across the U.S., such *fatalities* decreased by about 15.5% in 2010, compared with the prior 4-year average. Both the *VMT and population-based rates* decreased nationally, with the VMT rate falling by 15.7% and the population-based rate falling by 17.3%. The *speeding-related percentage of total deaths* remained relatively unchanged at about 31.7% throughout the five-year period.

Table 9. Region 1 Speeding-Related Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	432	412	333	341	392	3.29%
VMT Rate*	0.33	0.31	0.26	0.27	0.30	3.82%
Pop. Rate**	3.03	2.89	2.32	2.37	2.71	2.29%
Pct of Total	35.32%	35.00%	30.36%	34.44%	37.02%	9.41%

* Rate per 100 million miles of travel

** Rate per 100,000 population

Table 10. Nationwide Speeding-Related Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	13,609	13,140	11,767	10,664	10,395	-15.45%
VMT Rate*	0.45	0.43	0.40	0.38	0.35	-15.68%
Pop. Rate**	4.56	4.36	3.87	3.48	3.36	-17.29%
Pct of Total	31.87%	31.85%	31.44%	31.47%	31.61%	-0.20%

* Rate per 100 million miles of travel

** 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 **22** in 2011, **21** in 2012, and **20** in 2013. Here, the R^2 value is 0.22. This linear trend should be viewed with some caution. The moving average indicates a slight rise and may be the more accurate indicator at this time.

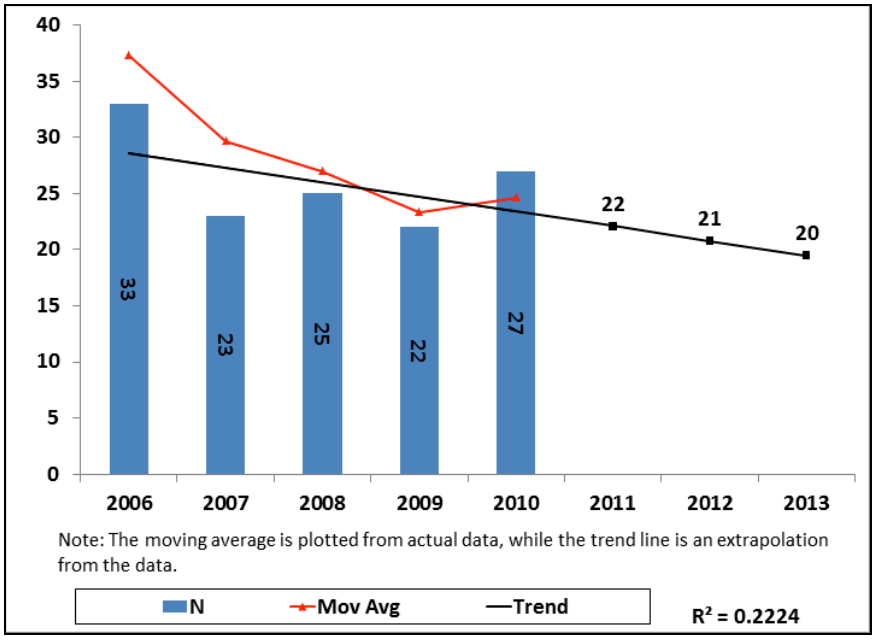


Figure 6. Vermont Speeding-Related Fatalities

Based on the linear trend line shown in Figure 8, the VMT-based rate of speeding-related deaths has been decreasing slightly and, if this trend were to continue, the number of speeding-related deaths per 100 million VMT would be **0.33** in 2011, **0.32** in 2012 and **0.31** in 2013. Here, the R^2 value is 0.06. Again the moving average indicates a slight rise and may be the more accurate indicator at this time.

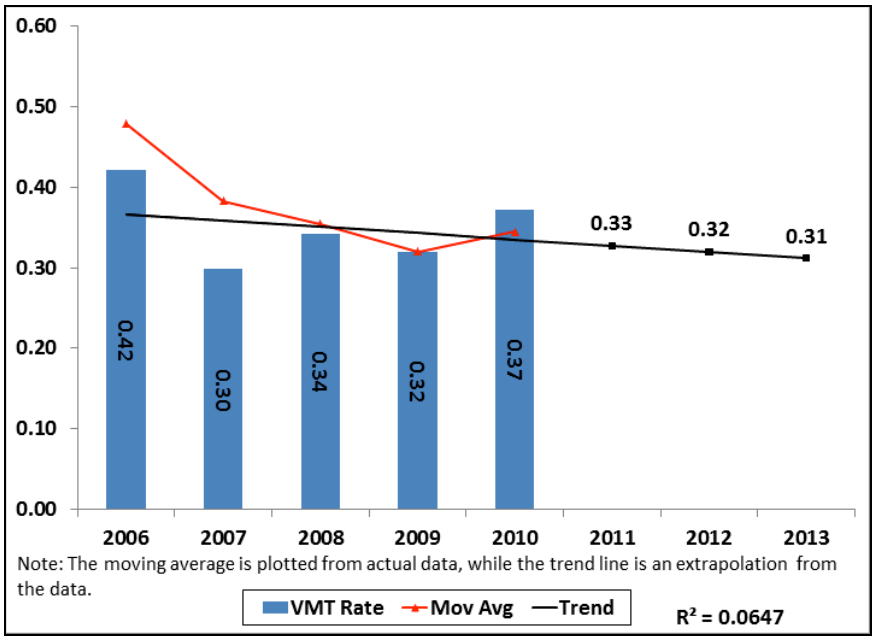


Figure 7. Vermont Speeding-Related Fatalities, VMT Rate

Figure 9 shows a pattern similar to that seen in the two preceding charts, a linear trend with a slight descent and moving average with a slight increase. Here the linear trend projects **3.52** deaths (per 100,000 population) in 2011, **3.31** in 2012, and **3.10** in 2013. Here, the R^2 value is 0.23. Again, this trend should be viewed with some caution. The three-year moving averages for both indices *may be* the more accurate indices of change at this time.

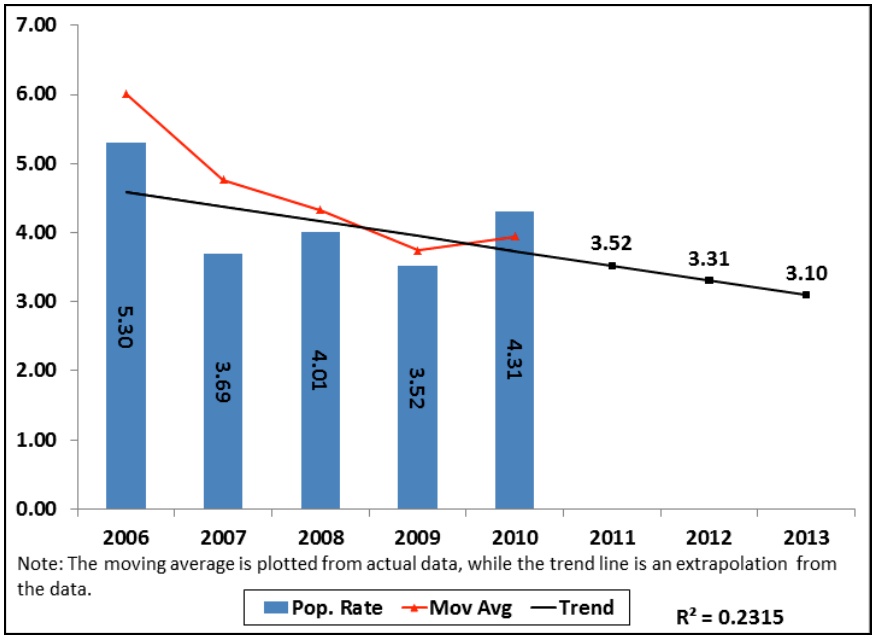


Figure 8. Vermont Speeding-Related Fatalities, Population Rate

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 2006 through 2010. There were 10.7% more *unbelted fatalities* in 2010 (31) than the average of the prior four years (28).

In 2010, the *VMT-based and population-based fatality rates* decreased by 13.5% and 10.6%, respectively, compared with the averages of the previous four-year period. Vermont's fatality rates were generally higher than both the Regional rates and the National rates during the five year period, though as Vermont had comparatively few fatalities of this type, a small number of such fatalities can cause a large shift in this proportion relative to the Region and Nation.

During this period, *observed safety belt use* rose from 82.4% in 2006 to 85.2% in 2010; however, the 2010 rate was slightly lower (by 0.4%) than the average of the prior four years (85.5%).

Unbelted fatalities represented *40.2% of all deaths* in 2006 and 43.7% in 2010, an almost 17% increase from the previous four-year average.

Table 11. Vermont Unbelted Passenger Vehicle Occupant Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	35	22	27	28	31	10.71%
VMT Rate*	0.45	0.29	0.37	0.41	0.43	13.54%
Pop. Rate**	5.65	3.54	4.33	4.49	4.97	10.66%
Pct of Total	40.23%	33.33%	36.99%	37.84%	43.66%	16.95%
Pct of Region	8.03%	5.38%	7.28%	8.14%	9.23%	28.51%
Observed Belt Use	82.4%	87.1%	87.3%	85.3%	85.2%	-0.38%

* Rate per 100 million miles of travel
** Rate per 100,000 population

Table 12 shows similar data for *Region 1.* These data indicate that, between 2006 and 2010, unbelted occupant *fatalities* decreased by 13.9% across the Region, accounting for about 35.7% of all Regional deaths in 2006 and 31.7% in 2010. The 2010 level represented a decline of 8.7% in this proportion, compared with the average of the prior four years.

Table 12. Region 1 Unbelted Passenger Vehicle Occupant Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	436	409	371	344	336	-13.85%
VMT Rate*	0.33	0.31	0.29	0.28	0.26	-13.41%
Pop. Rate**	3.06	2.86	2.59	2.39	2.32	-14.68%
Pct of Total	35.65%	34.75%	33.82%	34.75%	31.73%	-8.74%

* Rate per 100 million miles of travel
** Rate per 100,000 population

Table 13 shows that the number of unbelted occupant deaths declined *nationally*, from 15,635 in 2006 to 10,547 in 2010. The 2010 level was 22.7% lower than in the average of the four prior years. Unbelted fatalities accounted for 36.6% of all deaths in 2006 and 32% in 2010. The 2010 proportion was 8.7% lower than the proportion for the prior four years.

Table 13. Nationwide Unbelted Passenger Vehicle Occupant Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	15,635	14,446	12,925	11,545	10,547	-22.66%
VMT Rate*	0.52	0.48	0.43	0.41	0.36	-22.87%
Pop. Rate**	5.24	4.80	4.25	3.76	3.41	-24.35%
Pct of Total	36.61%	35.01%	34.54%	34.07%	32.07%	-8.71%

* Rate per 100 million miles of travel
** 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 **28** such deaths in 2011, **28**(27.8) in 2012, and **28** (27.6) in 2013. The trend line data points are shown out to one decimal place to help illustrate change. Here, the R^2 value is negligible. The three-year moving average shows a slight upward trend at this time, however.

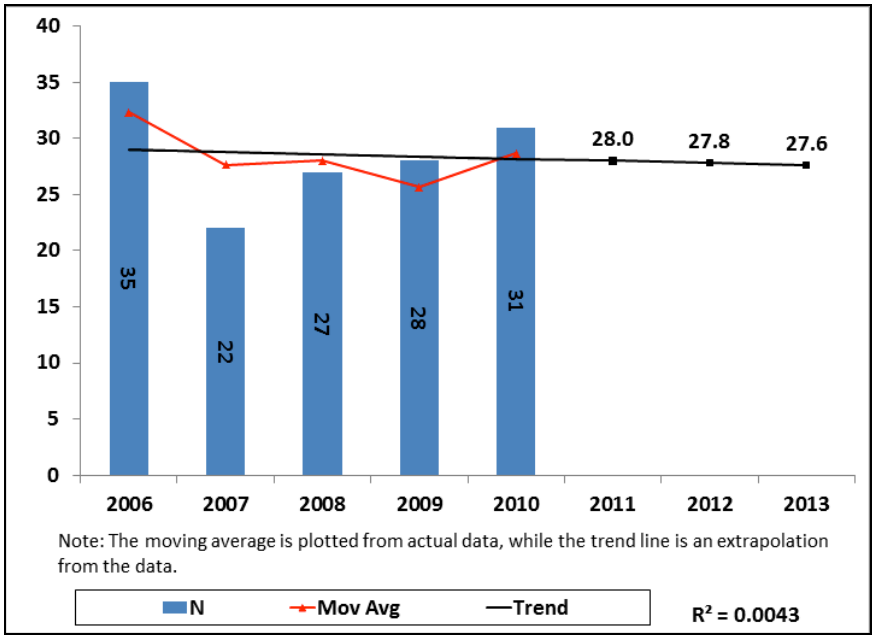


Figure 9. Vermont Unbelted Passenger Vehicle Occupant Fatalities

Figure 11 shows the *VMT-based* fatality rate for unbelted fatalities in Vermont. Both the moving average and the linear trend project moderate increases. If the linear trend were to continue, the unbelted death rate would be **0.41** (deaths per 100 million VMT) in 2011, **0.42** in 2012, and **0.43** in 2013. Here, the R^2 value is 0.04.

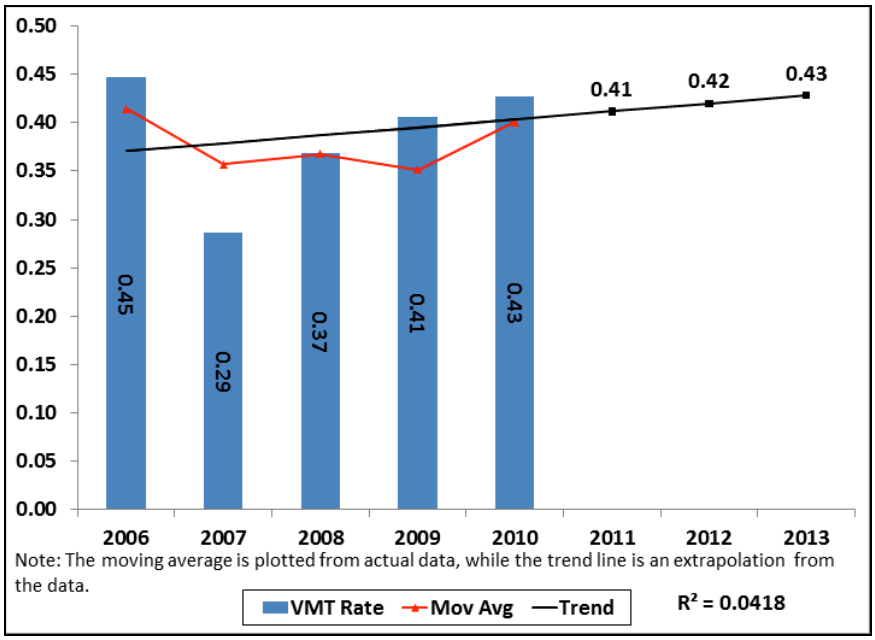


Figure 10. Vermont Unbelted Passenger Vehicle Occupant Fatalities, VMT Rate

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 **4.47** (deaths per 100,000 residents) in 2011, **4.43** in 2012, and **4.39** in 2013. Here, the R^2 value is negligible.

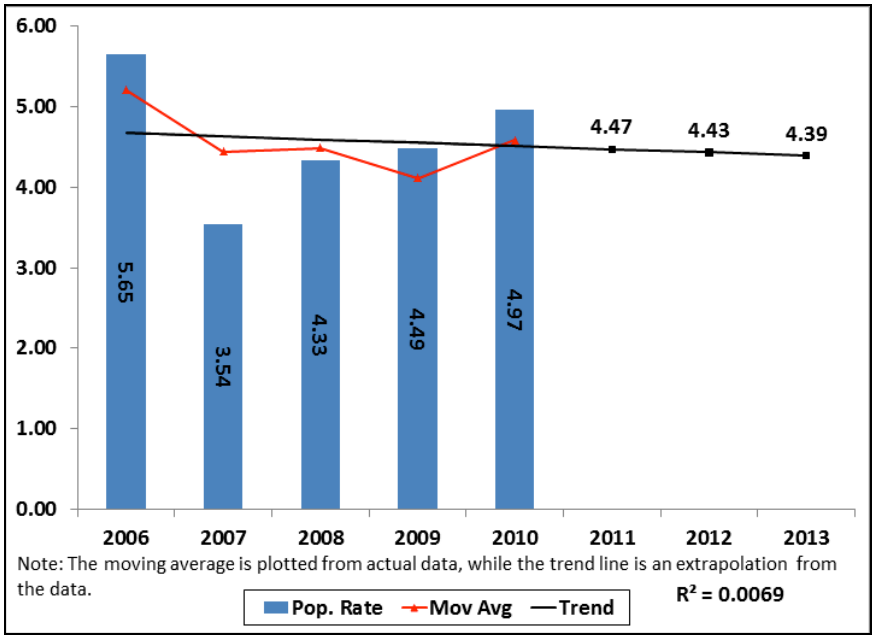


Figure 11. Vermont Unbelted Passenger Vehicle Occupant Fatalities, Population Rate

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 2006 through 2010, the *number of motorcyclist deaths* in Vermont show a modest decline, though due to the small numbers, these data must be viewed with some care. There were 38 such fatalities during the five year period, 10 in 2006 and declining to 6 in 2010. The 2010 level represented a 25.0% decrease compared to the previous four-year average (8).

Similarly, the *population-based death rate* was at its peak in 2006 (1.61 per 100,000 residents) declining to 0.96 in 2010. Compared with the prior four years, the 2010 rate was 25.0% lower than the prior four-year average (1.28 per 100,000 residents). The average rate in Vermont (2006-2010) was 1.22 per 100,000 residents, only slightly higher than both the Region (1.20) and lower than the Nation (1.60).

As a percentage of total deaths in Vermont, motorcyclists accounted for 11.5% in 2006, and I decreased to 8.5% in 2010. The percentage of deaths fell by 20.8% in 2010 compared to the

average of the previous four years. Over all five years, Vermont accounted for 4.4% of all motorcyclist deaths in the Region.

Unhelmeted motorcyclists accounted for 4 of Vermont's motorcyclist fatalities in 2006 and for 0 (zero) in 2010, meaning that there were no unhelmeted motorcyclist fatalities reported in Vermont in 2010. Thus 2010 level represented a 100% decrease over the prior four-year average. As a percentage of all motorcyclist deaths in the Vermont, unhelmeted motorcyclists accounted for 40% in 2006 and 0% in 2010, with the average for the five year period being 18.7%.

Table 14. Vermont Motorcycle Rider Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	10	7	7	8	6	-25.00%
Pop. Rate*	1.61	1.13	1.12	1.28	0.96	-25.04%
Pct of Total	11.49%	10.61%	9.59%	10.81%	8.45%	-20.77%
Pct of Region	5.65%	4.09%	4.19%	4.65%	3.41%	-26.81%
Unhelmeted Fatalities	4	2	0	2	0	-100.00%
Pct Unhelmeted Fatalities	40.0%	28.6%	0.0%	25.0%	0.0%	-100.00%

* Rate per 100,000 population

Table 15 provides data for such fatalities in Region 1. The Region as a whole saw an *increased* number of fatalities both in number and as a percentage of population rate. The Regional number of motorcyclist deaths in 2010 (176) represented a 2.5% increase over the average of the prior four years. Similarly, the population-based fatality rate in Region 1 increased by just less than 1.5%.

Table 15. Region 1 Motorcycle Rider Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	177	171	167	172	176	2.47%
Pop. Rate*	1.24	1.20	1.16	1.19	1.22	1.47%
Pct of Total	14.47%	14.53%	15.22%	17.37%	16.62%	7.92%
Unhelmeted Fatalities	87	72	77	79	84	6.67%
Pct Unhelmeted Fatalities	49.2%	42.1%	46.1%	45.9%	47.7%	4.15%

* Rate per 100,000 population

Nationwide, Table 16 shows that the *number of motorcyclist fatalities* and the *population-based fatality rate* declined by 9% and 11%, respectively. The *motorcyclist percent of total deaths* increased by about 7.4% in 2010, compared with the prior four-year average. Finally, while the *number of unhelmeted deaths* declined by 8.6% nationally, the *unhelmeted percent of total motorcyclist deaths* rose marginally (by approximately 0.5%), indicating that unhelmeted fatalities did not decline as much as all motorcyclist fatalities.

Table 16. Nationwide Motorcycle Rider Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	4,837	5,174	5,312	4,469	4,502	-9.01%
Pop. Rate*	1.62	1.72	1.75	1.46	1.46	-10.99%
Pct of Total	11.33%	12.54%	14.19%	13.19%	13.69%	7.40%
Unhelmeted Fatalities	1,973	2,103	2,160	1,915	1,863	-8.58%
Pct Unhelmeted Fatalities	40.79%	40.65%	40.66%	42.85%	41.38%	0.48%

* Rate per 100,000 population

The next two figures show annual and projected motorcycle *fatalities* and *population-based fatality rates* for Vermont. Figure 13 shows a downward direction, with a projection of **5** (5.5) deaths in 2011, **5** (4.8) in 2012 and **4** (4.1) in 2013. Trend line data points are shown out to one decimal place to help illustrate decline. Here, the R^2 value is 0.53. Due to the small figures involved, the trends must be viewed with considerable caution. An improving economy is likely to affect this trend, possibly resulting in an increase in the number of motorcyclist deaths.

Figure 14 also shows descending linear trend in the population-related fatality rate for motorcyclists in Vermont. If this trend were to continue, there would be approximately **0.88** such deaths per 100,000 residents in 2011, **0.76** deaths in 2012, and **0.65** in 2013, though again, an improving economy may result in an increased number of fatalities. Here, the R^2 value is 0.54.

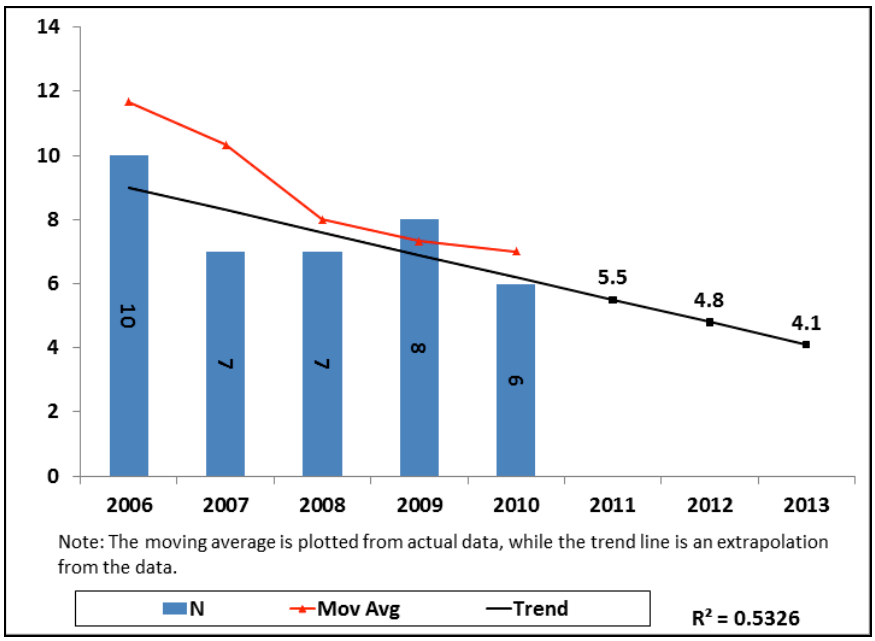


Figure 12. Vermont Motorcycle Rider Fatalities

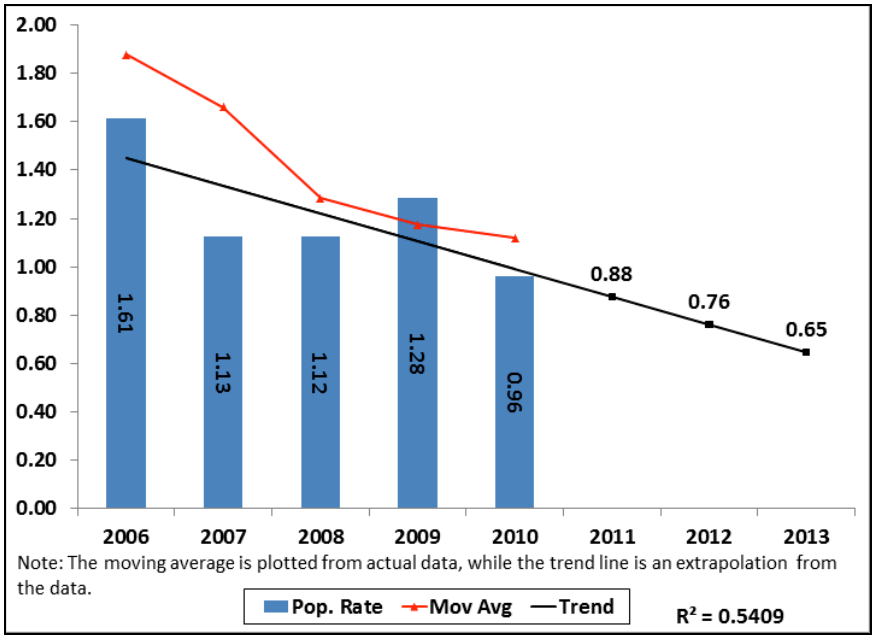


Figure 13. Vermont Motorcycle Rider Fatalities, Population Rate

Pedestrian Fatalities

Table 17 shows the *number* and *rate* of pedestrian deaths in Vermont, which fluctuated over the five-year period observed. Overall, the 2010 total (4) was 60.0% higher than the four-year average from 2006 through 2009. Caution must be used in interpreting these results, however, as a small number of pedestrian fatalities were recorded and therefore the percent change is highly sensitive to small differences

Through the years 2006 to 2010 shown in Table 17, pedestrians accounted for an average of 3.8% of all traffic-related deaths in Vermont. The 2010 percentage (5.6%) represented a 69.0% increase compared with the prior four-year average.

Vermont accounted for 2.1% of all pedestrian deaths across the Region for the five year period. This percentage has remained relatively low throughout the observed period, with a low of 0.0% in 2006 (a year in which no pedestrian fatalities were reported in Vermont) to 4.5% in 2009.

The State's *population-based fatality rate* increased by 59.4% in 2010 (0.64 deaths per 100,000 population), compared with the prior four years (0.40). Over all five years covered in Table 17, Vermont's population death rate for pedestrians (0.80) was lower than both the Region (0.94) and the Nation (1.47), sometimes to a significant degree, as Vermont's population death rate for pedestrians was 0.00 in 2006 and 0.16 in 2008.

Table 17. Vermont Pedestrian Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	0	4	1	5	4	60.00%
Pop. Rate*	0.00	0.64	0.16	0.80	0.64	59.46%
Pct of Total	0.00%	6.06%	1.37%	6.76%	5.63%	69.01%
Pct of Region	0.00%	2.90%	0.65%	4.46%	2.92%	56.20%

* Rate per 100,000 population

Table 18 shows that pedestrian fatalities in the Region increased slightly, by about 2.4%, in 2010 (137 deaths), compared with the average of the prior four years (134). The Regional fatality rate (per 100,000 residents) increased by 1.4% in 2010 (0.95), compared with the four years prior (0.93). Finally, over this period, pedestrians accounted for about 12.2% of all deaths across Region 1, 11.9% across the U.S., and 3.8% in Vermont.

Table 18. Region 1 Pedestrian Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	130	138	155	112	137	2.43%
Pop. Rate*	0.91	0.97	1.08	0.78	0.95	1.44%
Pct of Total	10.63%	11.72%	14.13%	11.31%	12.94%	8.50%

* Rate per 100,000 population

Table 19 shows that pedestrians accounted for an average of 4,459 deaths per year Nationwide, accounting for slightly less than 12% of all fatalities (2006-2010). There was a 5% decline in the number of pedestrian deaths in 2010, and an accompanying 7% decrease in the percentage of all deaths accounted for by pedestrians.

Table 19. Nationwide Pedestrian Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	4,795	4,699	4,414	4,109	4,280	-4.98%
Pop. Rate*	1.61	1.56	1.45	1.34	1.38	-7.05%
Pct of Total	11.23%	11.39%	11.79%	12.13%	13.02%	12.17%

* Rate per 100,000 population

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 **5** such deaths in 2011, **6** in 2012, and 7 in 2013. The three- year moving average shows a decline followed by a leveling out through 2010. Here, the R^2 value is 0.43. Again, due to the small number of pedestrian fatalities, these projections must be interpreted with considerable caution.

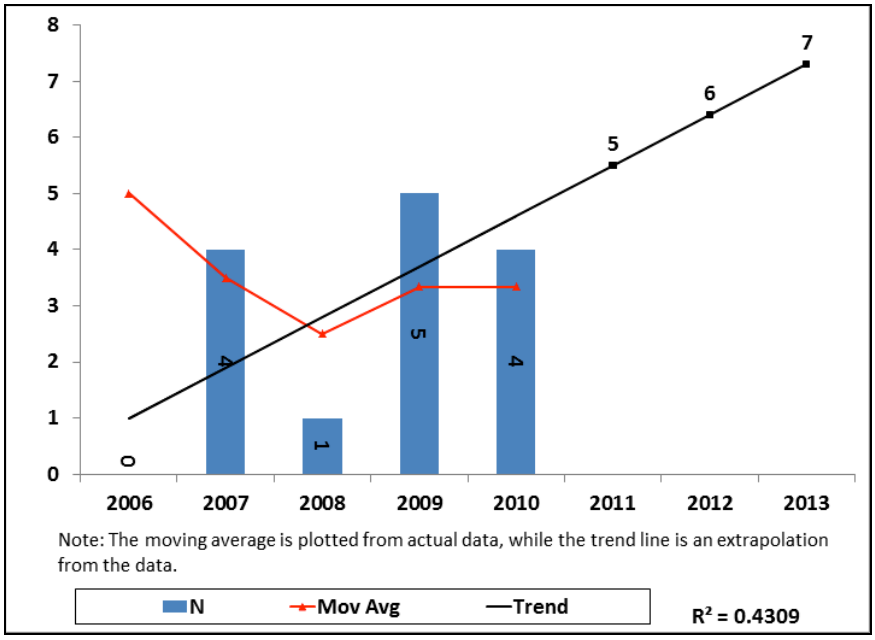


Figure 14. Vermont Pedestrian Fatalities

Figure 16 shows a slight upward trend for the *population-based fatality rate* as well. The population rate projects to **0.88** per 100,000 residents in 2011, **1.02** in 2012, and **1.17** in 2013. However, the three-year moving average follows the same pattern observed in Figure 15, above, and due to the small number of such fatalities, small shifts can have large impacts on these projections. Here, the R^2 value is 0.43.

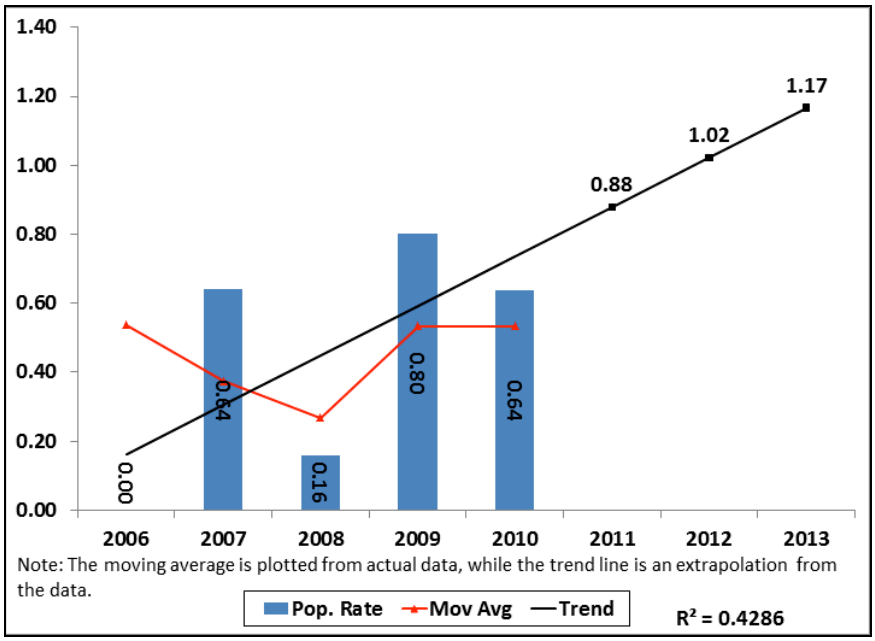


Figure 15. Vermont Pedestrian Fatalities, Population Rate

Bicyclist Fatalities

Table 20 indicates the number of bicyclist fatalities in Vermont for the period 2006-2010. Tables 21 and 22 provide data for Region 1 and the U.S., respectively. Over the past five years, bicyclist fatalities accounted for approximately 0.27% of all fatalities in Vermont; 1.6% across the Region; and 1.8% across the U.S.

With regard to change, there was only one bicyclist fatality in 2010. However, as this was the only bicyclist fatality reported in Vermont for the period 2006-2010, the percentage change cannot be calculated. Across the Region, bicycle deaths declined by about 3% in 2010 (17 deaths), compared with the prior four-year average (an average of 17.5 deaths per year).

Over five years, Vermont's *population-based fatality rate* (0.03 deaths per 100,000 population) was well below the Regional rate (0.12) during the same period, and the U.S. rate (0.23).

Again, because there were no fatalities reported during the prior four-year-period, the percentage change cannot be calculated. The Region experienced a decline of 3.8% and the Nation, 14.2.

Table 20. Vermont Bicyclist Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	0	0	0	0	1	Cannot be calculated**
Pop. Rate*	0.00	0.00	0.00	0.00	0.16	Cannot be calculated**
Pct of Total	0.00%	0.00%	0.00%	0.00%	1.41%	Cannot be calculated**
Pct of Region	0.00%	0.00%	0.00%	0.00%	5.88%	Cannot be calculated**

*Rate per 100,000 population

**Percent change calculation results in a divide by 0 (i.e., incalculably large) error, as there were no such fatalities recorded in the given time frame.

Table 21. Region 1 Bicyclist Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	18	21	23	8	17	-2.86%
Pop. Rate*	0.13	0.15	0.16	0.06	0.12	-3.80%
Pct of Total	1.47%	1.78%	2.10%	0.81%	1.61%	2.90%

* Rate per 100,000 population

Table 22. Nationwide Bicyclist Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	772	701	718	628	618	-12.31%
Pop. Rate*	0.26	0.23	0.24	0.20	0.20	-14.22%
Pct of Total	1.81%	1.70%	1.92%	1.85%	1.88%	3.51%

* Rate per 100,000 population

Figure 17 and Figure 18 show trends in the *numbers* and *rates* of bicyclist fatalities in Vermont. Because of the extremely small sample size, it is extremely difficult to apply these to future trends. Figure 17 suggests that, if the linear trend were to continue, there would be **1** (0.8) such

death in 2011, **1** in 2012**,** and **1** (1.2) in 2013. The trend line data points are shown out to one decimal to help illustrate increase. Here, the R^2 value is 0.5.

Similarly, Figure 18 shows the trend for the population-based rate. The population rate projects to **0.13** fatalities per 100,000 residents in 2011, **0.16** in 2012, and **0.19** in 2013. Here, the R^2 value is 0.5 again.

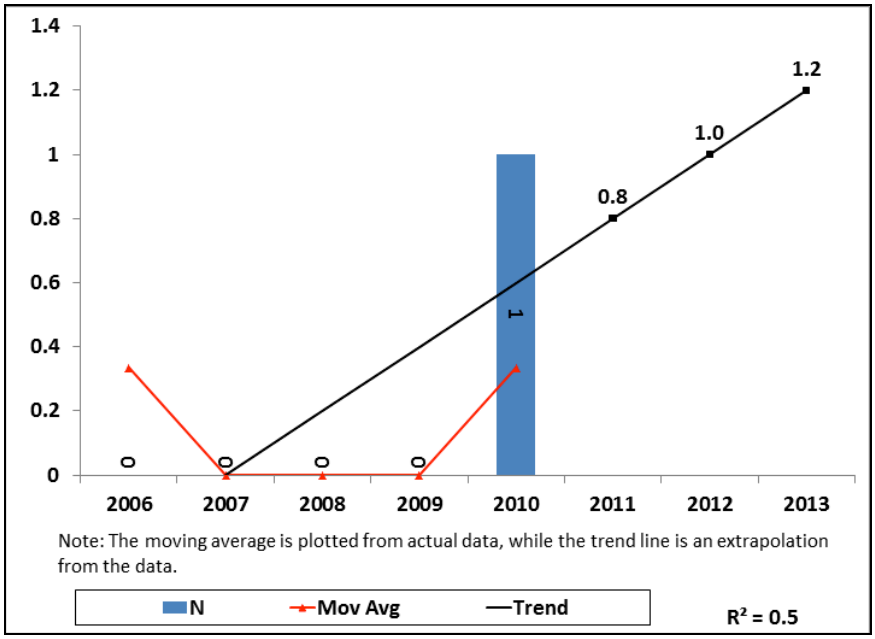


Figure 16. Vermont Bicyclist Fatalities

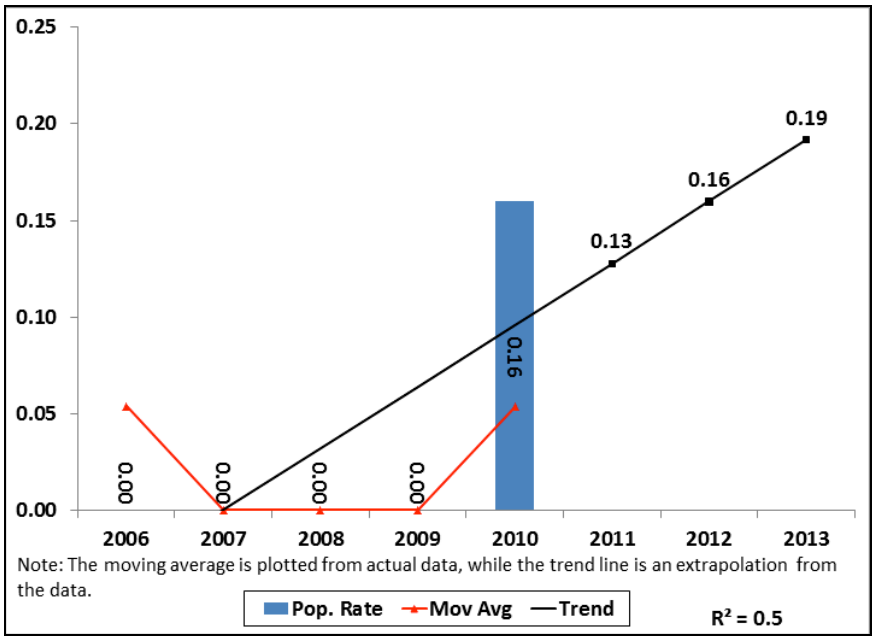


Figure 17. Vermont Bicyclist Fatalities, Population Rate

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 2006, there were 14 such deaths. Fatalities involving young drivers declined to 6 in 2010. The 2010 level represented a 53.9 % decline when compared with the prior four-year average.

The population-based fatality rate decreased from 2.25 deaths per 100,000 residents in 2006 to 0.96 in 2010, a 54.0% decline compared with the prior four-year average. Over the entire five-year period, the average population-based death rate in Vermont was 1.86 deaths per 100,000 residents, slightly higher than across the Region (1.30), and but lower than the nation as a whole (2.13).

In 2006, 16.1% of all fatalities in Vermont involved young drivers, declining to 8.5% in 2010. Compared with the prior four years, the 2010 level represented a decrease of 51.3%. Young driver-involved fatalities in Vermont were 6.0% of all such deaths across the Region in 2006, declining to a low of 4.2% in 2010. Compared with the prior four years, the 2010 level represented a 36.9% decrease over the previous four-year average.

Overall, these data indicate that young driver-involved fatalities were declining substantially in Vermont across all indices.

Table 23. Vermont Young Driver-Involved Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	14	13	14	11	6	-53.85%
Pop. Rate*	2.25	2.09	2.24	1.76	0.96	-54.00%
Pct of Total	16.09%	19.70%	19.18%	14.86%	8.45%	-51.25%
Pct of Region	5.96%	5.80%	8.00%	7.19%	4.17%	-36.94%

* Rate per 100,000 population

Young driver-involved deaths decreased Region-wide, decreasing every year from 235 in 2006 to 144 in 2010 (-38.7% compared to 2006). Compared with the prior four-year average (197), the 2010 level represented a 26.8% decline. Over the same five-year period, the Regional, population-based, fatality rate decreased by nearly 39.3% compared with 2006; 27.5% compared with the prior four-year average. The most significant declines were in 2008 and 2009 (Table 24).

Young driver-involved fatalities accounted for 19.2% of all Region 1 motor vehicle deaths in 2006 and 13.6% in 2010 (-29.2% compared with 2006; -22.5% compared with the average percentage from 2006 through 2009). The largest declines, compared to 2006, were in 2008 and 2010 (Table 24).

Table 24. Region 1 Young Driver-Involved Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	235	224	175	153	144	-26.81%
Pop. Rate*	1.65	1.57	1.22	1.06	1.00	-27.52%
Pct of Total	19.22%	19.03%	15.95%	15.45%	13.60%	-22.47%

* Rate per 100,000 population

Nationwide, young driver-involved *fatalities* decreased by 38.6% from 2006 to 2010. Using the prior four years as a comparison, Table 25 shows that the decline was 28.3%. There was a decline in every year after 2006, but the largest declines were in 2008 and 2009.

The *population-based fatality rate* decreased by 40.1% nationally, from 2005 to 2009. Table 25 shows a smaller (29.8%) decline in 2010 when compared with the average of the previous four years. The largest declines were in 2008 and 2010.

Young driver-involved deaths, on average, accounted for *17.2% of all deaths* across the U.S. from 2006 through 2010, declining from 18.8% in 2006 to slightly under 15% in 2010. The percentages and declines were less pronounced but broadly similar to those across Region 1 (i.e., from 19.2% in 2006 to 13.6% in 2010 across Region 1).

Table 25. Nationwide Young Driver-Involved Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	8,009	7,552	6,311	5,544	4,916	-28.28%
Pop. Rate*	2.68	2.51	2.08	1.81	1.59	-29.84%
Pct of Total	18.75%	18.30%	16.86%	16.36%	14.95%	-15.33%

* Rate per 100,000 population

Figure 19 shows the downward trend in Vermont's young driver-involved fatalities. If this trend continues, the number of such fatalities would be **6** (6.2) in 2011, **4** (4.4) in 2012, and **3** (2.6) in 2013. The trend line data points are shown out to one decimal to illustrate the decline. Here, the R^2 value is 0.72.

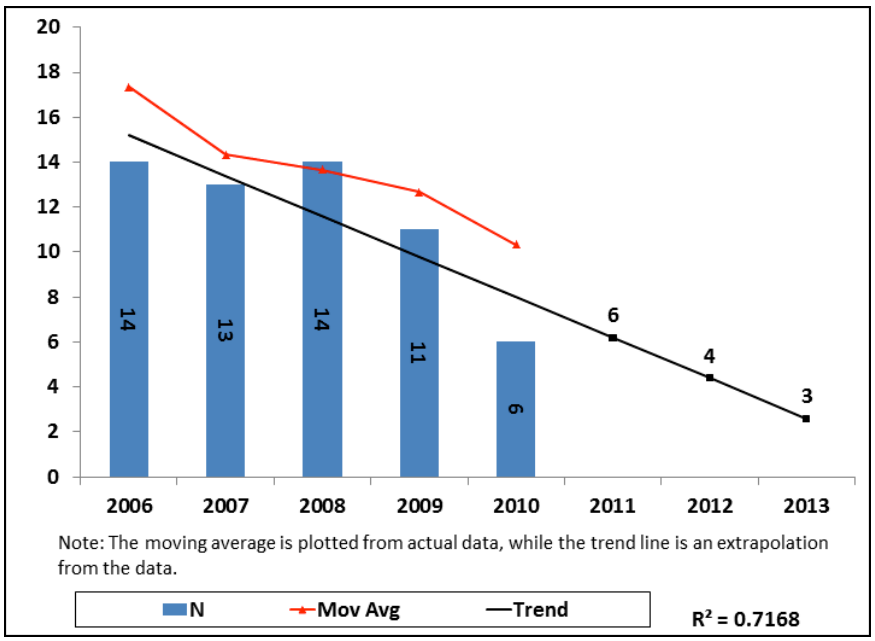


Figure 18. Vermont Young Driver-Involved Fatalities

Figure 20 shows a similar trend in the population-based fatality rate. The rate projects to **0.99** per 100,000 residents in 2010, **0.70** in 2012, and **0.41** in 2013. Here, the R^2 value is 0.72. However, as there were relatively few such accidents in the past five years, small shifts may have a disproportionate influence on projections of future trends and such projections must be viewed with considerable scrutiny.

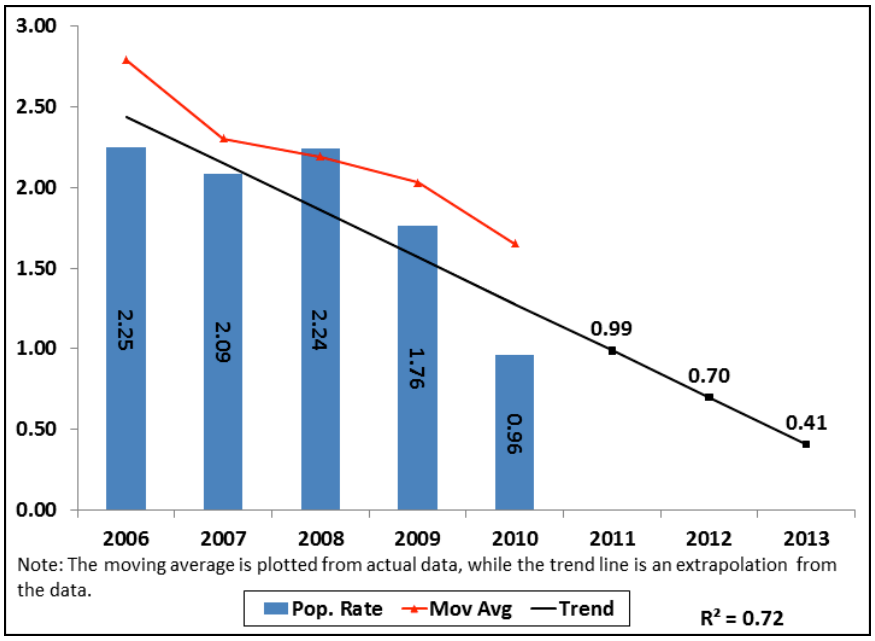


Figure 19. Vermont Young Driver-Involved Fatalities, Population Rate

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 22 *older driver-involved deaths* in Vermont in 2006. This figure has dropped slightly over the five-year period but 2010 saw 23 older driver-involved deaths in Vermont, which represents an increase of 18.0% when compared to the average of the previous four years.

Vermont's *population-based fatality rate* increased from 3.53 (deaths per 100,000 population) in 2006 to 3.67 deaths in 2010, a rise of 4.0%. The increase in 2010 compared with the prior four-year average (3.13) was 17.6%, a slightly smaller rise than the overall percentage change in fatalities.

On average over the five-year period, Vermont's older driver-involved population death rate (3.24 deaths per 100,000 population) has been notably higher than both that of the Region (1.34), and the Nation (1.95).

Table 26 shows that though there were fewer older driver fatalities in 2007 than there were in 2006, the *older driver proportion of all fatalities* in Vermont *rose* from in 2007, (increasing from 25.3% to 30.3%), because there were fewer fatalities of all types in 2007 and older driver fatalities consequently made up a larger proportion of the smaller number. The proportion remained basically the same until 2010, rising from previous years values to 32.4%. Reflecting this drop and rise, the 2010 percentage was 24.6% greater than the average of the prior four years.

Vermont's older driver-involved deaths accounted for an average of 10.5% of such deaths across the Region over all five years. The 2010 value represents a 18.0% increase when compared to the average of the previous four years.

Table 26. Vermont Older Driver-Involved Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	22	20	18	18	23	17.95%
Pop. Rate*	3.53	3.21	2.88	2.88	3.67	17.55%
Pct of Total	25.29%	30.30%	24.66%	24.32%	32.39%	24.59%
Pct of Region	10.68%	9.90%	9.84%	10.17%	11.98%	17.95%

* Rate per 100,000 population

Across the Region, Table 27 shows that the *number* of older driver-involved deaths continually decreased from 206 in 2006 to a low of 177 in 2009, until increasing to 192 in 2010. The 2010 level represented approximately a 7% decline in older driver-involved deaths from 2006. When 2010 was compared with the prior four-year average, there was no percentage change, because

the four-year period from 2006 to 2010 average 192 such fatalities, a figure exactly equal to the number of fatalities in 2010.

The Regional *population-based fatality rate* followed the same pattern of gradual decline from 2006 (1.45 per 100,000 population) to 2009 (1.23) with an increase in 2010 to 1.33. The 2010 level was essentially the same as that of the average over the previous four year period. When compared, the decrease in the population-based fatality rate was less than one percent.

Overall, older driver-involved deaths *accounted for about* 17.3% *of total deaths* across the Region, increasing from 16.8% in 2006 to 18.1% in 2010, an increase of almost 6% when compared to the average of the previous four years.

Table 27. Region 1 Older Driver-Involved Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	206	202	183	177	192	0.00%
Pop. Rate*	1.45	1.41	1.28	1.23	1.33	-0.97%
Pct of Total	16.84%	17.16%	16.68%	17.88%	18.13%	5.93%

* Rate per 100,000 population

Nationwide, Table 28 shows that the *number of* older driver-involved deaths declined steadily from 2006 through 2009, before rising slightly in 2010. The 2010 level (5,752) was 9.2% lower than in 2005 (6,334) and 3.9% lower than the average of the prior four years (5,985).

The U.S. *population-based fatality rate* followed the same pattern, decreasing from a high of 2.12 in 2006 every year through 2009 (1.83), but rising slightly in 2010. The value of 1.86 per 100,000 population in 2010, represents a decline of about 12% from 2006; 6% from the average of 2006-2009.

Over five years, older driver-involved deaths accounted for about *15.8% of all deaths* across the Nation; steadily increasing year on year, from 14.8% in 2006 to 17.5% in 2010, an increase of 13.4% when compared to the average of the previous four years.

Table 28. Nationwide Older Driver-Involved Fatalities

	2006	2007	2008	2009	2010	2006-2010 % Change
Fatalities	6,334	6,169	5,825	5,613	5,752	-3.90%
Pop. Rate*	2.12	2.05	1.92	1.83	1.86	-5.99%
Pct of Total	14.83%	14.95%	15.57%	16.57%	17.49%	13.44%

* Rate per 100,000 population

Figure 21 projects Vermont's older driver-involved fatalities to remain at levels similar to those of the past five years. If this trend were to continue, there would be **20** such fatalities in 2011, 2012 and 2013. The trend line evidences very little change in the number of older driver-involved fatalities. Here, the R^2 value is negligible.

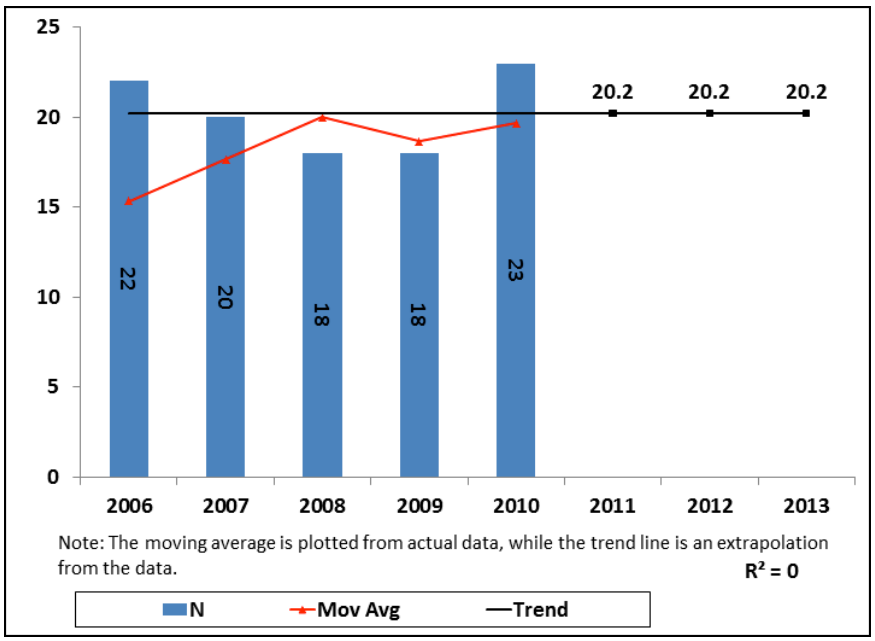


Figure 20. Vermont Older Driver-Involved Fatalities

Figure 22 (below) shows the same trend in Vermont's older driver-involved population-based fatality rate. If this trend were to continue, there would be **3.22** fatalities per 100,000 population in 2011, 2012 and **3.21** 2013. Here, the R^2 value is negligible as well.

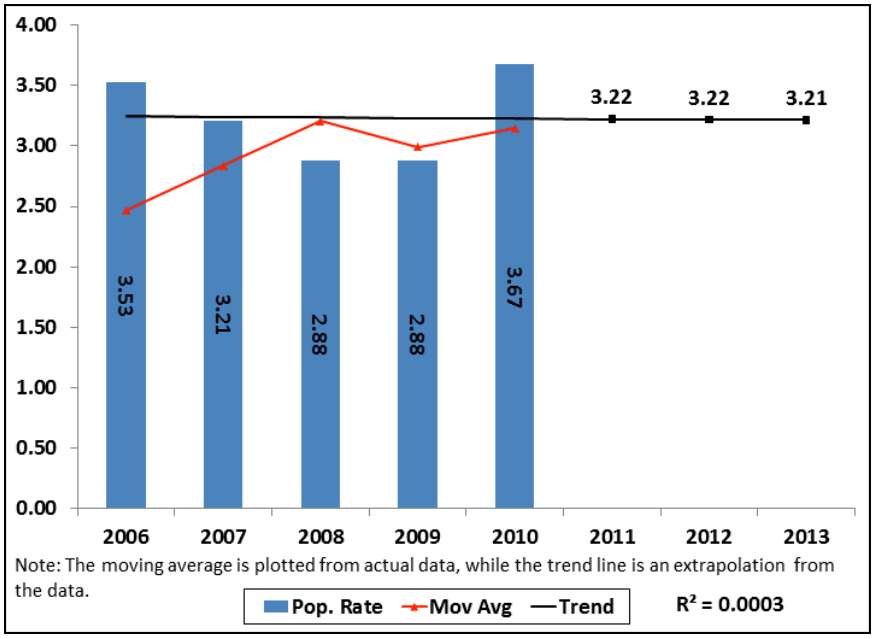


Figure 21. Vermont Older Driver-Involved Fatalities, Population Rate

EMPHASIS AREA DATA PROFILES

I. FATALITIES

FATALITIES – KEY FINDINGS

In the period 2006-2010:

- Overall fatalities decreased by 5.3% Vermont, compared to a similar decreases of 5.6% in the Region and a decrease of 15.3% Nationwide. Vermont saw the largest decreases in young driver-involved (a 53.9% decrease) and motorcyclist (25% decrease) fatalities. Older driver-involved fatalities increased by almost 18% between 2006 and 2010, while unrestrained occupant fatalities increased by 10.7%. Pedestrian fatalities *rose* 60.0% (although there were never any more than 5 fatalities recorded in any given year) and the State also recorded its first bicyclist fatality during the five year period in 2010. (Table 29).
- Three counties (Chittenden, Franklin and Windham Counties) accounted for 30.5% of all fatalities in Vermont. For the years 2006 through 2010, Chittenden County accounted for 10.5% of all fatalities in Vermont, while Franklin and Windham Counties each represented 10.0%. (Table 30).
- The three counties that averaged the highest population-based fatality rates between 2006 and 2010 were Orleans (20.55 per 100,000 population), Caledonia (19.86 per 100,000 population), and Lamoille (19.23 per 100,000 population) (Table 31).
- Persons age 25-34 constituted a plurality (13.7%) of fatalities in Vermont for the years between 2006 and 2010. A similar pattern was found in Region 1 and the U.S. as a whole, where the persons age 25-34 constituted 14.8% and 16.8% of fatalities, respectively. However, persons age 75 or older had the highest population-based fatality rate, with 25.75 fatalities per 100,000 population in Vermont. Males constituted 69.0% of fatalities in Vermont, compared to 70.5% in Region 1 and 70.4% in the U.S. as a whole (Table 32).
- Over the five year period, 96.8% of Vermont's fatalities were racially White, while constituting 95.6% of Vermont's population in 2010. Blacks represented 0.8% of fatalities over this period and 1.0% of Vermont's 2010 population. (Table 33).

Table 29. Fatalities by Type*

	2006	2007	2008	2009	2010	Total 2006-2010	Percent Change 2006 to 2010 (1 Year)	Percent Change 2006-2010 (4 Year Average)
Total Fatalities								
Vermont	87	66	73	74	71	371	-18.39%	-5.33%
Region	1,223	1,177	1,097	990	1,059	5,546	-13.41%	-5.59%
U.S.	42,708	41,259	37,423	33,883	32,885	188,158	-23.00%	-15.28%
Driver Fatalities								
Vermont	68	48	47	56	50	269	-26.47%	-8.68%
Region	850	787	726	667	711	3,741	-16.35%	-6.14%
U.S.	27,348	26,570	24,254	21,835	21,016	121,023	-23.15%	-15.94%
Passenger Fatalities								
Vermont	18	13	25	12	16	84	-11.11%	-5.88%
Region	219	222	185	201	186	1,013	-15.07%	-10.04%
U.S.	9,507	9,036	7,775	7,097	6,724	40,139	-29.27%	-19.51%
Motorcyclist Fatalities								
Vermont	10	7	7	8	6	38	-40.00%	-25.00%
Region	177	171	167	172	176	863	-0.56%	2.47%
U.S.	4,837	5,174	5,312	4,469	4,502	24,294	-6.93%	-9.01%
Pedestrian Fatalities								
Vermont	0	4	1	5	4	14	Cannot be calculated**	60.00%
Region	130	138	155	112	137	672	5.38%	2.43%
U.S.	4,795	4,699	4,414	4,109	4,280	22,297	-10.74%	-4.98%
Bicyclist Fatalities								
Vermont	0	0	0	0	1	1	Cannot be calculated**	Cannot be calculated**
Region	18	21	23	8	17	87	-5.56%	-2.86%
U.S.	772	701	718	628	618	3,437	-19.95%	-12.31%
Impaired Driving Fatalities								
Vermont	26	22	12	24	18	102	-30.77%	-14.29%
Region	410	410	337	336	361	1,854	-11.95%	-3.28%
U.S.	13,491	13,041	11,711	10,759	10,228	59,230	-24.19%	-16.51%
Speeding Fatalities								
Vermont	33	23	25	22	27	130	-18.18%	4.85%
Region	432	412	333	341	392	1,910	-9.26%	3.29%
U.S.	13,609	13,140	11,767	10,664	10,395	59,575	-23.62%	-15.45%
Unrestrained Occupant Fatalities								
Vermont	35	22	27	28	31	143	-11.43%	10.71%
Region	436	409	371	344	336	1,896	-22.94%	-13.85%
U.S.	15,635	14,446	12,925	11,545	10,547	65,098	-32.54%	-22.66%
Young Driver-Involved Fatalities								
Vermont	14	13	14	11	6	58	-57.14%	-53.85%
Region	235	224	175	153	144	931	-38.72%	-26.81%
U.S.	8,009	7,552	6,311	5,544	4,916	32,332	-38.62%	-28.28%
Older Driver-Involved Fatalities								
Vermont	22	20	18	18	23	101	4.55%	17.95%
Region	206	202	183	177	192	960	-6.80%	0.00%
U.S.	6,334	6,169	5,825	5,613	5,752	29,693	-9.19%	-3.90%

*Fatality types cross multiple categories; therefore, some fatalities contribute to multiple categories (rows) in this table.

**Percent change calculation results in a divide by 0 (i.e., incalculably large) error, as there were no such fatalities recorded in the given time frame.

As seen in Table 30 for the years 2006 through 2010, Chittenden County accounted for 10.5% of all fatalities in Vermont, while Franklin and Windham Counties each represented 10.0%. Together, these three counties accounted for almost a third (30.5%) of all fatalities in Vermont.

Table 30. Fatalities by County

County	2006	2007	2008	2009	2010	Total 2006-2010 N	Total 2006-2010 %
Addison	9	4	9	6	2	**30**	**8.1%**
Bennington	5	2	6	7	4	**24**	**6.5%**
Caledonia	7	7	5	2	10	**31**	**8.4%**
Chittenden	9	6	6	5	13	**39**	**10.5%**
Essex	0	2	3	0	1	**6**	**1.6%**
Franklin	12	10	3	8	4	**37**	**10.0%**
Grand Isle	0	0	1	0	2	**3**	**0.8%**
Lamoille	9	2	5	5	2	**23**	**6.2%**
Orange	5	5	4	5	1	**20**	**5.4%**
Orleans	3	5	4	6	10	**28**	**7.5%**
Rutland	1	5	6	11	7	**30**	**8.1%**
Washington	10	7	5	8	3	**33**	**8.9%**
Windham	10	7	9	7	4	**37**	**10.0%**
Windsor	7	4	7	4	8	**30**	**8.1%**
Total	**87**	**66**	**73**	**74**	**71**	**371**	**100.0%**

As seen in Table 31, the three counties that averaged the highest population-based fatality rates between 2006 and 2010 were Orleans were Orleans (20.55 per 100,000 population), Caledonia (19.86 per 100,000 population), and Lamoille (19.23 per 100,000 population).

Table 31. Fatalities by County: Rate per 100,000 Population

County	2006	2007	2008	2009	2010
Addison	24.48	10.84	24.39	16.28	5.43
Bennington	13.47	5.39	16.14	18.84	10.78
Caledonia	22.40	22.41	16.04	6.41	32.05
Chittenden	5.89	3.91	3.88	3.21	8.30
Essex	0.00	31.15	46.85	0.00	15.88
Franklin	25.32	21.07	6.32	16.80	8.37
Grand Isle	0.00	0.00	13.87	0.00	28.71
Lamoille	38.07	8.41	20.86	20.67	8.12
Orange	17.09	17.17	13.78	17.26	3.46
Orleans	11.02	18.29	14.67	22.03	36.72
Rutland	1.59	7.98	9.62	17.76	11.37
Washington	16.83	11.81	8.43	13.48	5.04

County	2006	2007	2008	2009	2010
Windham	22.53	15.75	20.27	15.75	8.99
Windsor	12.24	7.01	12.31	7.05	14.12
Statewide Average	**13.97**	**10.59**	**11.70**	**11.84**	**11.34**

As seen in Table 32, the age groups in Vermont with the greatest number of fatalities per 100,000 population are those ages 75 and older (14.3%), 25-34 (13.7%), and those ages 16-20 and 55-64 (13.2% each). Age groups 75 and older, 25-34, and 45-54 made up the greatest number of total fatalities, although their population-based fatality rates were lower. This is in contrasts to the statistics for the Region, which followed a different trend, with the greatest percentages of fatalities in the 25-34, 45-54, and 16-20 age groups, in order of decreasing fatalities, while Nationwide, those ages 25-34 constituted the plurality of fatalities, followed by ages 45-54, and then ages 35-44.

Table 32. Fatalities by Age Group and Gender: Totals 2006-2010

	Fatalities by Age					Fatalities by Age and Gender					
	Vermont			Region	U.S.	Vermont				Region % Males	U.S. % Males
	(N=371)	%	Pop. Rate*	(N=5,546)	(N=188,158)	Females		Males			
Age Group			Per 100k			N	%	N	%		
<5	1	0.3%	0.62	0.4%	1.2%	0	0.0%	1	100.0%	47.8%	53.9%
5-9	2	0.5%	1.15	0.6%	1.1%	1	50.0%	1	50.0%	64.7%	56.4%
10-15	8	2.2%	3.34	1.7%	2.3%	2	25.0%	6	75.0%	58.8%	58.5%
16-20	49	13.2%	19.87	13.1%	12.2%	12	24.5%	37	75.5%	70.9%	68.2%
21-24	39	10.5%	23.25	12.1%	10.5%	7	17.9%	32	82.1%	76.4%	76.9%
25-34	51	13.7%	14.97	14.8%	16.8%	14	27.5%	37	72.5%	77.3%	76.1%
35-44	40	10.8%	9.59	12.9%	14.5%	9	22.5%	31	77.5%	73.6%	73.2%
45-54	44	11.9%	8.54	14.7%	15.2%	14	31.8%	30	68.2%	75.8%	73.0%
55-64	49	13.2%	11.62	11.3%	10.7%	18	36.7%	31	63.3%	69.9%	70.9%
65-74	34	9.2%	14.69	6.7%	6.6%	11	32.4%	23	67.6%	62.5%	63.8%
75+	53	14.3%	25.75	11.3%	8.5%	26	49.1%	27	50.9%	52.5%	56.8%
Unknown	1	0.3%	N/A	0.1%	0.2%	1	100.0%	0	0.0%	71.4%	73.3%
Total	371	100.0%	11.89	100.0%	100.0%	115	31.0%	256	69.0%	70.5%	70.4%

Highlighting is to help reader identify cells with higher numbers/percentages/population rates
*Population rate based on intercensal estimates (2006-2010)

Table 33. Fatalities by Race and Hispanic Origin

	Vermont					Total 2006-2010*		
Race/Hispanic	2006	2007	2008	2009	2010	VT %	Region %	U.S. %
White	87	66	64	70	72	96.8%	84.4%	70.9%
Black	0	0	2	1	0	0.8%	5.1%	11.1%
Other	0	0	4	0	0	1.1%	2.5%	4.2%
Hispanic**	1	2	3	0	0	1.6%	5.0%	10.7%
Total Race Known	87	66	70	71	72	98.7%	92.0%	86.2%

*Percentages based on total fatalities.

**Hispanic is an ethnic, not racial, designation. Because a Hispanic fatality may be of any race, or may not have had their race recorded, Hispanic fatalities do not contribute to the "Total Race Known" calculation.

By road type, a plurality, 34.5%, of Vermont's fatalities occurred on arterial roads while 25.8% occurred on collector roads. For Region 1, 29.8% of fatalities occurred on arterial roads, with almost as many, 28.4% occurring on local roads. Nationwide, a plurality, 42.4%, occurred on arterial roads, while 20.5% occurred on collector roads.

Table 34. Fatalities by Road Type

	Vermont					Total 2006-2010		
	2006	2007	2008	2009	2010	VT	Region	U.S.
	(N=87)	(N=66)	(N=73)	(N=74)	(N=71)	(N=371)	(N=5,546)	(N=188,158)
Road Type								
Interstate/Expressway	16	8	22	11	9	17.79%	25.42%	16.60%
Arterial	37	21	19	27	24	34.50%	29.75%	42.45%
Collector	18	14	23	17	24	25.88%	15.87%	20.52%
Local	16	22	9	18	14	21.29%	28.36%	19.44%
Unknown	0	1	0	1	0	0.54%	0.60%	0.99%
Total	87	66	73	74	71	100.00%	100.00%	100.00%

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

II. ALCOHOL-IMPAIRED DRIVING FATALITIES AND ALCOHOL-IMPAIRMENT-RELATED FATAL CRASHES AND FATALITIES

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

In the period 2006-2010:

- The percentage of Vermont's fatalities that were related to alcohol-impaired driving has generally been lower than the percentages for both Region 1 and the Nation, sometimes to a substantial degree. The percentages for Region 1 have generally been higher than those Nationwide. In 2010, alcohol-impaired driving fatalities accounted for 25.4% of all fatalities in Vermont, higher than the average of 31.3% for the five year period. (Figure 23).
- The three counties with the most alcohol-impaired driving fatalities over the 2006-2010 period were Chittenden (39) and Franklin and Windham (37 each). The counties with the highest percentage of fatalities involved alcohol-impaired driving were Franklin (48.6%), Caledonia (35.5%) and Essex (33.3%) (Table 35).
- The counties with the highest alcohol-impaired population-based fatality rates in 2010 were Orleans (14.69 per 100,000 population) Caledonia (12.82) and Lamoille (4.06) (Table 36).
- In Vermont, 64.3% percent of alcohol-impairment-related crashes occurred between 6 p.m. and 3 a.m.; 62.2% occurred on Friday, Saturday, and Sunday. The same pattern held true for Region 1 and the U.S. as a whole. Slightly fewer than 69% of alcohol-impairment-related crashes in Region 1 occurred between 6 p.m. and 3 a.m., and 63.2% occurred on Friday, Saturday, and Sunday. For the U.S. as a whole, 65.5% of alcohol-impairment related crashes occurred between 6 p.m. and 3 a.m. and 61.3% occurred on Friday, Saturday, and Sunday (Table 37).
- For the years 2006 through 2010, 29% 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 38).
- NHTSA's alcohol imputation data estimate BACs where no test results are available. These data show that, for the years 2006 through 2010, 19.7% of *drivers* and *operators* involved in fatal crashes in Vermont had a BAC of at least 0.08. This percentage was lower than that in Region 1, 24.0%, and the U.S. as a whole, 21.8% (Table 39).

As shown in Figure 23 the percentage of fatalities in Vermont that were alcohol-impaired has generally been lower that of Region 1 and the U.S. as a whole, [9] though there were two years during the observed period (2007 and 2009) when this percentage fell below the that of the Nation but not the Region. In 2010, 25.4% of all fatalities in Vermont were alcohol-impaired driving fatalities, slightly lower than the average of 27.5% for the five year period.

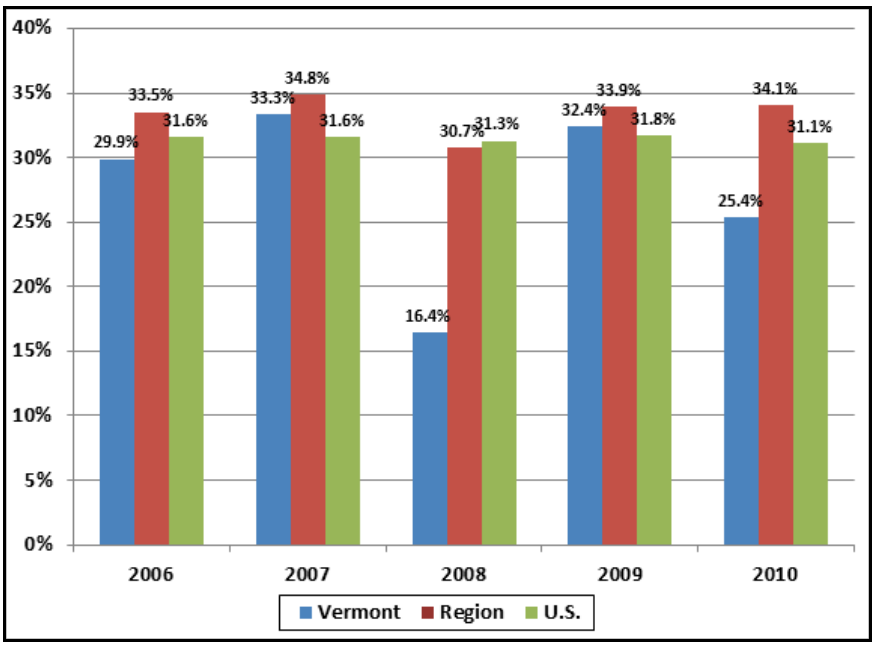


Figure 22. Alcohol-Impaired Driving Fatalities as Percent of Total Fatalities

Table 35 shows the alcohol-impaired driving fatalities by county for Vermont. The three counties with the most alcohol-impaired driving fatalities over the 2006-2010 period were Chittenden (39 such fatalities) and Franklin and Windham (with 37 each), The counties with the highest percentage of fatalities involved alcohol-impaired driving were Franklin (48.6%), Caledonia (35.5%) and Essex (33.3%).

Table 35. Alcohol-Impaired Driving Fatalities by County

	Alcohol-Impaired Driving (A-I) Fatalities*					Total A-I Fatalities	Total Fatalities	% A-I
County	2006	2007	2008	2009	2010			
Addison	1	1	0	0	0	**2**	**30**	**6.7%**
Bennington	2	2	0	2	1	**7**	**24**	**29.2%**
Caledonia	3	2	1	1	4	**11**	**31**	**35.5%**

[9] For this report, *alcohol-impairment-related* fatalities include those resulting from when any crash participant was impaired (BAC ≥ 0.08), while *alcohol-impaired driving* fatalities refer only to those resulting from impaired (BAC ≥ 0.08) drivers/motorcycle operators.

County	Alcohol-Impaired Driving (A-I) Fatalities*					Total A-I Fatalities	Total Fatalities	% A-I
	2006	2007	2008	2009	2010			
Chittenden	1	3	0	0	4	**8**	**39**	**20.5%**
Essex	0	1	1	0	0	**2**	**6**	**33.3%**
Franklin	9	3	0	5	1	**18**	**37**	**48.6%**
Grand Isle	0	0	0	0	0	**0**	**3**	**0.0%**
Lamoille	1	1	2	2	1	**7**	**23**	**30.4%**
Orange	1	0	2	1	1	**5**	**20**	**25.0%**
Orleans	2	0	0	2	4	**8**	**28**	**28.6%**
Rutland	0	2	1	3	0	**6**	**30**	**20.0%**
Washington	3	3	0	2	0	**8**	**33**	**24.2%**
Windham	2	3	1	4	1	**11**	**37**	**29.7%**
Windsor	0	1	3	2	0	**6**	**30**	**20.0%**
Totals	**25**	**22**	**11**	**24**	**17**	**99**	**371**	**26.7%**

Table 36. Alcohol-Impaired Driving Fatalities by County: Rate per 100,000 Population

County	2006	2007	2008	2009	2010
Addison	2.72	2.71	0.00	0.00	0.00
Bennington	5.39	5.39	0.00	5.38	2.70
Caledonia	9.60	6.40	3.21	3.20	12.82
Chittenden	0.65	1.95	0.00	0.00	2.55
Essex	0.00	15.57	15.62	0.00	0.00
Franklin	18.99	6.32	0.00	10.50	2.09
Grand Isle	0.00	0.00	0.00	0.00	0.00
Lamoille	4.23	4.21	8.34	8.27	4.06
Orange	3.42	0.00	6.89	3.45	3.46
Orleans	7.35	0.00	0.00	7.34	14.69
Rutland	0.00	3.19	1.60	4.84	0.00
Washington	5.05	5.06	0.00	3.37	0.00
Windham	4.51	6.75	2.25	9.00	2.25
Windsor	0.00	1.75	5.28	3.53	0.00
Statewide Average	**4.01**	**3.53**	**1.76**	**3.84**	**2.72**

As can be seen in Table 37 the three months with the greatest number of alcohol-impairment-related fatal crashes were May (with 14 crashes, 14.1% of total), April (13 crashes, 13.1%) and June, August and September (each with 9 such crashes and 9.1% of the total). In Region 1, July had the greatest number of crashes (10.3%), followed by August and September (9.3% each) and October, with 9.2%. Nationwide, the three months with the most fatal crashes were August (9.3%), July (9.0%) and October (9.0%).

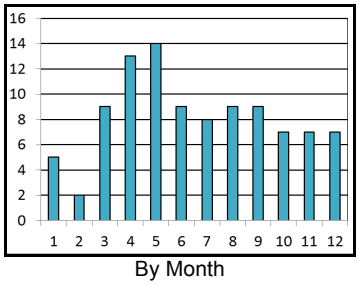
Alcohol-impairment-related fatal crashes were much more common on the weekends or Friday than at other times of the week, for Vermont, Region 1, and the U.S. as a whole. In Vermont, 22 alcohol-impairment-related fatal crashes (22.4%) occurred on a Saturday, 20 (20.4%) occurred on a Friday, and 19 (19.4%) occurred on a Sunday. In Region 1, 24.3% of such crashes occurred on a Saturday, 22.1% on a Sunday, and 16.8% on a Friday. Nationwide, 24% of such crashes occurred on a Saturday, 21.7% on a Sunday, and 15.6% 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, 19 alcohol-impairment-related fatal crashes (19.4%) occurred between midnight and 3 a.m., an equal number, 19 (19.4%) occurred between 9 p.m. and midnight and 15 (15.3%) occurred between 6 p.m. and 9 p.m. In Region 1, 29.2% of such crashes occurred between midnight and 3 a.m., 22.6% occurred between 9 p.m. and midnight, and 16.9% occurred between 6 p.m. and 9 p.m. Nationwide, 25.8% of such crashes occurred between midnight and 3 a.m., 22.1% occurred between 9 p.m. and midnight, and 17.6% occurred between 6 p.m. and 9 p.m.

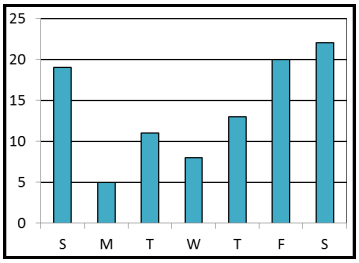
Table 37. Alcohol-Impairment-Related* Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2006-2010

	Vermont		Region	U.S.
	(N=99)		(N=1,843)	(N=60,956)
	N	%	%	%
MONTH				
January	5	5.1%	7.3%	7.4%
February	2	2.0%	6.1%	7.0%
March	9	9.1%	7.8%	7.9%
April	13	13.1%	8.5%	8.3%
May	14	14.1%	8.7%	8.8%
June	9	9.1%	8.5%	8.5%
July	8	8.1%	10.3%	9.0%
August	9	9.1%	9.3%	9.3%
September	9	9.1%	9.3%	8.7%
October	7	7.1%	9.2%	9.0%
November	7	7.1%	7.2%	8.2%
December	7	7.1%	7.8%	7.8%
DAY OF WEEK				
Sunday	19	19.4%	22.1%	21.7%
Monday	5	5.1%	8.1%	9.6%
Tuesday	11	11.2%	8.9%	8.7%
Wednesday	8	8.2%	8.6%	9.6%
Thursday	13	13.3%	11.1%	10.8%
Friday	20	20.4%	16.8%	15.6%
Saturday	22	22.4%	24.3%	24.0%
TIME OF DAY				
Midnight-3am	19	19.4%	29.2%	25.8%
3am-6am	7	7.1%	10.4%	13.0%
6am-9am	5	5.1%	3.6%	4.1%
9am-Noon	3	3.1%	2.3%	2.6%
Noon-3pm	6	6.1%	4.4%	4.4%
3pm-6pm	14	14.3%	9.9%	9.2%
6pm-9pm	15	15.3%	16.9%	17.6%
9pm-Midnight	19	19.4%	22.6%	22.1%
Unknown	10	10.2%	0.7%	1.2%

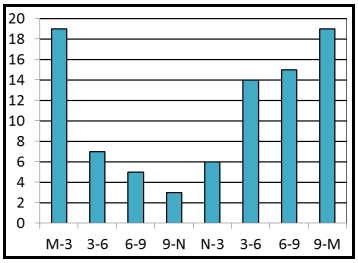
*Based on fatal crashes in which any crash participant had a BAC of 0.08 or above. Total fatal crashes may differ slightly depending on grouping (month, day, time) due to imputation method.



By Month



By Day Sunday-Saturday



By Time from Midnight (3-hr periods)

As shown in Table 38, Vermont had a lower percentage of fatalities (29%) 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 38. Fatalities by the Highest BAC in the Crash*

BAC	2006 (N=87)	2007 (N=66)	2008 (N=73)	2009 (N=74)	2010 (N=71)	VT (N=371)	Region (N=5,546)	U.S. (N=188,158)
0.00	67%	58%	79%	61%	65%	66%	57%	59%
0.01 - 0.07	2%	5%	4%	5%	10%	5%	7%	6%
0.08+	31%	38%	16%	34%	25%	29%	36%	35%

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

As Table 39 shows, Vermont had a smaller percentage of drivers involved in fatal crashes who had a BAC of 0.08 or above (19.7%) for the years 2006 through 2010 than either Region 1 (24%) or the U.S. as a whole (21.8%). The year-by-year percentages are also displayed in Figure 24.

Table 39. BACs of Drivers/Operators Involved in Fatal Crashes

	2006	2007	2008	2009	2010	Total 2006-10
VT	**(N=105)**	**(N=85)**	**(N=102)**	**(N=97)**	**(N=87)**	**(N=476)**
BAC						
0.00	76.2%	69.4%	86.3%	72.2%	75.9%	76.3%
0.01-0.07	1.9%	5.9%	2.0%	4.1%	6.9%	4.0%
0.08+	21.9%	24.7%	10.8%	24.7%	17.2%	19.7%
Region	**(N=1,649)**	**(N=1,549)**	**(N=1,427)**	**(N=1,326)**	**(N=1,366)**	**(N=7,317)**
BAC						
0.00	71.6%	69.5%	73.0%	70.9%	69.7%	70.9%
0.01-0.07	4.5%	5.7%	4.9%	5.1%	5.2%	5.1%
0.08+	24.0%	24.7%	22.1%	24.0%	25.1%	24.0%
U.S.	**(N=57,846)**	**(N=56,019)**	**(N=50,416)**	**(N=45,337)**	**(N=44,440)**	**(N=254,058)**
BAC						
0.00	74.0%	73.9%	74.1%	73.5%	74.3%	74.0%
0.01-0.07	4.3%	4.5%	4.2%	4.4%	3.9%	4.3%
0.08+	21.7%	21.6%	21.6%	22.1%	21.8%	21.8%

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

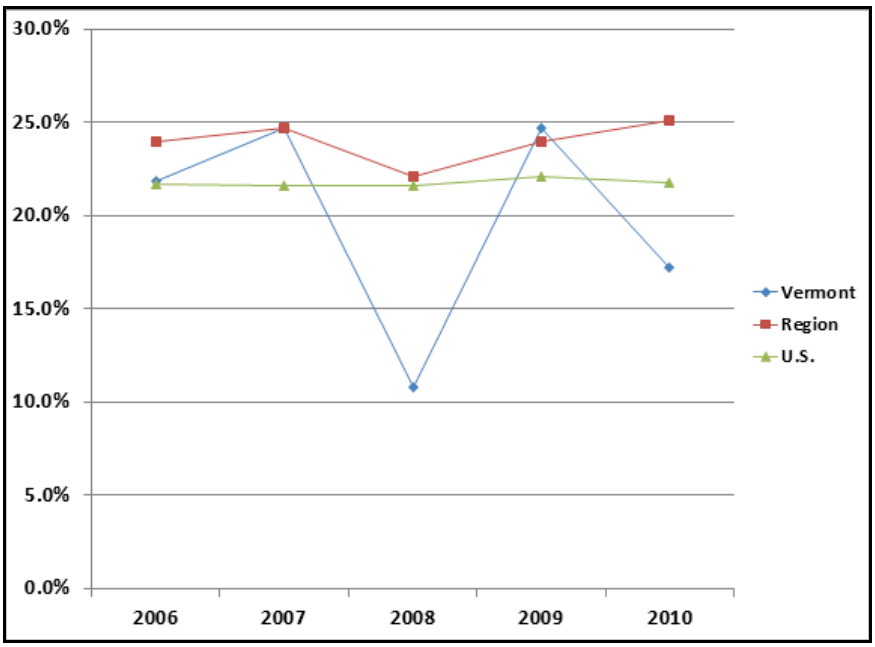


Figure 24. Percent of Drivers/Operators with BAC ≥ 0.08%

Table 40. Alcohol-Impaired Driving Fatalities by Road Type

	Vermont					Total 2006-2010		
	2006	2007	2008	2009	2010	VT	Region	U.S.
	(N=25)	(N=22)	(N=11)	(N=24)	(N=17)	(N=99)	(N=1,858)	(N=59,234)
Road Type								
Interstate/Expressway	5	1	5	5	1	17.17%	26.70%	15.06%
Arterial	5	3	1	4	4	17.17%	26.05%	36.82%
Collector	8	5	4	6	6	29.29%	15.12%	23.60%
Local	7	12	1	9	6	35.35%	31.75%	23.33%
Unknown	0	1	0	0	0	1.01%	0.38%	1.19%
Total	25	22	11	24	17	100.00%	100.00%	100.00%

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

By road type, a plurality, 35.4%, of Vermont's alcohol-impaired driving fatalities for the period 2006-2010 occurred on local roads, followed by collector roads, at 29.3%. For Region 1, 31.8% of such fatalities occurred on local roads, with 26.7% occurring on interstates or expressways, and 26.1% occurring on local roads. Nationwide, a plurality, 36.8%, occurred on arterial roads, while 23.6% occurred on collector roads and 23.3% occurred on local roads.

III. SPEEDING-RELATED CRASHES

SPEEDING-RELATED CRASHES – KEY FINDINGS

In the period 2006-2010:

- The percentage of speeding-related fatalities in Vermont has generally been greater than those of the Region and the U.S. as a whole, with the exception of 2009, where Vermont had a smaller proportion of speeding-related fatalities than the Nation. In 2010, a high of 38.0% of fatalities were speeding-related in Vermont (Figure 25).
- Three counties accounted for 40.0% of speeding-related fatalities in Vermont. Franklin County had the highest number of speeding-related fatalities (20 crashes, 15.4% of total), followed by Caledonia and Washington, each with 16 crashes and each representing 12.3% (Table 41).
- Vermont's speeding-related population-based fatality increased by 4.50% in 2010 (as compared to the average of the previous four years). The counties with the highest speeding-related population-based fatality rates over this period were Caledonia (10.25), Orleans (8.81), and Lamoille (7.47) (Table 42).
- Slightly over 39% of speeding-related fatalities in Vermont occurred on roads with a speed limit of 45 mph. Statewide, 80.8% of speed-related fatalities occurred on roads with a speed limit under 50 mph, compared to 77.4% in Region 1 and 50% Nationwide (Table 43).
- A plurality, 32.3% of Vermont's speeding-related fatalities occurred on local roads. This is very similar to Region 1, where 32.1% of speeding-related fatalities occurred on local roads. Nationwide, a plurality, 34.7%, occurred on arterial roads (Table 44).
- In Vermont, 50% of speeding-related fatal crashes occurred on Friday, Saturday, and Sunday. For Region 1, 57.1% of speeding-related fatal crashes occurred on these same days, and Nationwide, 54.5% of speeding-related fatal crashes also occurred on these days. In Vermont, the highest number of fatal crashes occurred in August (14 crashes, 12.5% of total) May (12 crashes, 10.7%) and November (11 crashes, 9.8%) Statewide, 45.5% of speeding-related fatal crashes occurred between 6 p.m. and 3 a.m., compared to 56.4% in Region 1 and 49.2% Nationwide (Table 45).
- In Vermont, 23.7% of drivers involved in fatal crashes had previous speeding convictions. This percentage was higher than the percentage for the Region 1 (18.4%) and the U.S. as a whole (18.7%) (Table 46).
- The distribution of drivers in Vermont involved in a fatal crash with a previous speeding conviction was very uniform across age groups. Persons age 16-20, 25-34 and 45-54 each accounted for 20 crashes and 17.7% of all such drivers. In Region 1, drivers between the ages of 25 and 34 constituted the plurality (23.3%) of such drivers. Nationwide, drivers between the ages of 25 and 34 represented 25.9% of drivers involved in a fatal crash with a previous speeding conviction. (Table 47).

As shown in Figure 25, Vermont's percentage of fatalities that were speeding-related has generally been has generally been greater than those of the Region and the U.S. as a whole. An exception to this was 2009, where Vermont had a lower proportion of speeding-related fatalities than the Nation, though still greater than the Region. In 2010, 38% of total fatalities were speeding-related in Vermont, compared to 37% for the Region and 31.6% for the Nation as a whole.

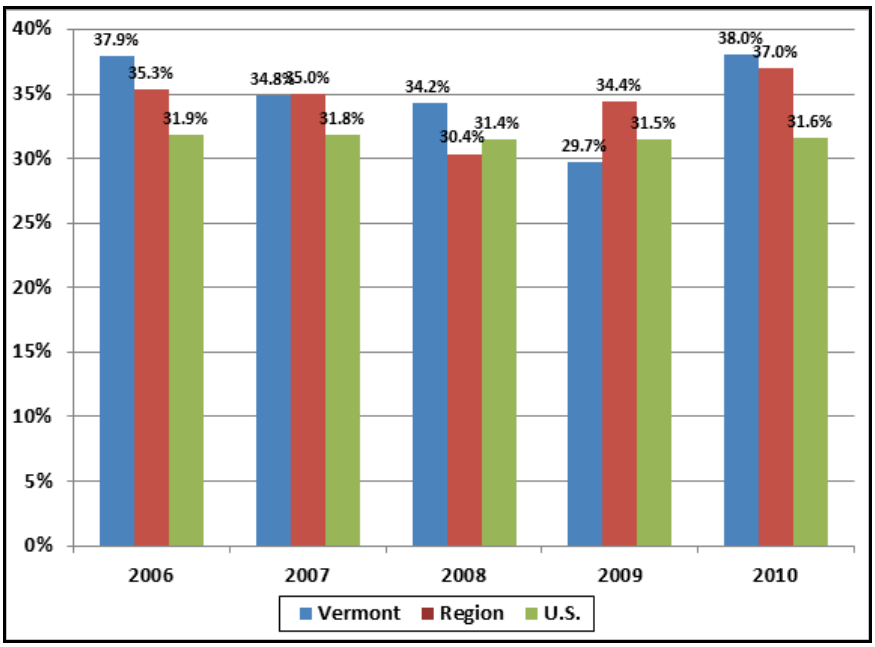


Figure 25. Speeding-Related Fatalities As Percent of Total Fatalities

As shown in table 41, below, Franklin County had the highest number of speeding-related fatalities (20 crashes, 15.4% of total), followed by Caledonia and Washington, each with 16 crashes and each representing 12.3% of the Statewide total. These three counties accounted for 40.0% of speeding-related fatalities in Vermont.

Table 41. Speeding-Related Fatalities by County

	Speed-Related Fatalities					Total 2006-2010	
County	**2006**	**2007**	**2008**	**2009**	**2010**	**N**	**%**
Addison	5	0	4	0	0	**9**	**6.9%**
Bennington	2	0	2	3	0	**7**	**5.4%**
Caledonia	2	2	4	1	7	**16**	**12.3%**
Chittenden	4	3	2	0	3	**12**	**9.2%**
Essex	0	1	0	0	1	**2**	**1.5%**
Franklin	7	8	0	3	2	**20**	**15.4%**
Grand Isle	0	0	0	0	0	**0**	**0.0%**
Lamoille	1	2	1	3	2	**9**	**6.9%**
Orange	1	0	1	0	0	**2**	**1.5%**
Orleans	1	0	3	2	6	**12**	**9.2%**

	Speed-Related Fatalities					Total 2006-2010	
County	**2006**	**2007**	**2008**	**2009**	**2010**	**N**	**%**
Rutland	0	2	0	2	1	**5**	**3.8%**
Washington	5	4	2	3	2	**16**	**12.3%**
Windham	4	1	3	3	2	**13**	**10.0%**
Windsor	1	0	3	2	1	**7**	**5.4%**
Totals	**33**	**23**	**25**	**22**	**27**	**130**	**100.0%**

Population-based rates for speeding-related fatalities by county are shown in Table 42. The counties with the highest speeding-related population-based fatality rates during these years were Caledonia (10.25), Orleans (8.81), and Lamoille (7.47). However, 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 42. Speeding-Related Fatalities by County: Rate per 100,000 Population

County	2006	2007	2008	2009	2010
Addison	13.60	0.00	10.84	0.00	0.00
Bennington	5.39	0.00	5.38	8.08	0.00
Caledonia	6.40	6.40	12.83	3.20	22.43
Chittenden	2.62	1.95	1.29	0.00	1.91
Essex	0.00	15.57	0.00	0.00	15.88
Franklin	14.77	16.86	0.00	6.30	4.18
Grand Isle	0.00	0.00	0.00	0.00	0.00
Lamoille	4.23	8.41	4.17	12.40	8.12
Orange	3.42	0.00	3.44	0.00	0.00
Orleans	3.67	0.00	11.00	7.34	22.03
Rutland	0.00	3.19	0.00	3.23	1.62
Washington	8.42	6.75	3.37	5.05	3.36
Windham	9.01	2.25	6.76	6.75	4.49
Windsor	1.75	0.00	5.28	3.53	1.77
Statewide Average	**5.30**	**3.69**	**4.01**	**3.52**	**4.31**

As shown in Table 43, the majority (80.8%) 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 77.4% of speeding-related fatalities occurred on roads with speed limits of 50 miles per hour or less. Vermont had few crashes on roads with a posted speed limit of 30 mph or less, with only 7.7% of such fatalities occurring on roads with this speed limit. This is in stark contrast to Region 1, in which almost a third (30.4%) of speeding-related fatalities occurred on roads with a posted speed limit of 30 mph or less. Nationwide, however, the posted speed limits associated with the majority of fatalities (58.2%) were 55 mph (27.5%), 65+ mph (16.1%), and 45 mph (14.6%).

Table 43. Speeding-Related Fatalities by Posted Speed Limit

	Vermont					Total 2006-2010**		
	2006	2007	2008	2009	2010	VT	Region	U.S.
	(N=33)	(N=23)	(N=25)	(N=22)	(N=27)	(N=130)	(N=1,910)	(N=59,575)
Posted Speed								
30 or less	2	4	0	3	1	7.7%	30.4%	12.0%
35	5	2	7	5	3	16.9%	16.4%	12.3%
40	3	7	1	2	5	13.8%	10.5%	6.9%
45	0	0	0	0	1	0.8%	11.0%	14.6%
50	16	6	12	9	11	41.5%	9.1%	4.2%
55	0	2	0	2	0	3.1%	8.6%	27.5%
60	0	0	0	0	0	0.0%	0.4%	3.7%
65+	7	2	5	1	5	15.4%	10.8%	16.1%
No Limit	0	0	0	0	1	0.8%	1.2%	0.3%
Unknown/Not Reported	0	0	0	0	0	0.0%	1.6%	2.3%
Total	33	23	25	22	27	100.0%	100.0%	100.0%

*Highlighting is to help the reader identify cells with higher numbers/percentages. Starting in 2010, the 'Unknown' category also includes 'Not Reported' speed limits

**See note in appendix on speed limits in 2010.

In Vermont, almost one-third, 32.3% of all speeding-related fatalities occurred on local roads. Arterial and Collector roads each accounted for 25.4%. For Region 1, 32.1% of all speeding-related fatalities occurred on Local roads, and Nationwide, a plurality, 34.7%, of speeding-related fatalities occurred on Arterial roads.

Table 44. Speeding-Related Fatalities by Road Type

	Vermont					Total 2006-2010		
	2006	2007	2008	2009	2010	VT	Region	U.S.
	(N=33)	(N=23)	(N=25)	(N=22)	(N=27)	(N=130)	(N=1,910)	(N=59,575)
Road Type								
Interstate/Expressway	7	2	8	1	4	16.9%	23.1%	16.8%
Arterial	10	5	4	5	9	25.4%	26.6%	34.7%
Collector	10	4	5	6	8	25.4%	17.7%	23.7%
Local	6	12	8	10	6	32.3%	32.1%	23.6%
Unknown	0	0	0	0	0	0.0%	0.4%	1.2%
Total	33	23	25	22	27	100.0%	100.0%	100.0%

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

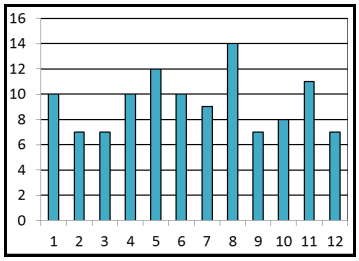
As seen in Table 45, the months with the greatest number of speeding-related fatal crashes in Vermont were August (14 crashes, 12.5% of total) May (12 crashes, 10.7%) and November (11 crashes, 9.8%). Nationwide, there was no clear pattern, with May, July and August each accounting for 9.0% of the year's speeding-related fatal crashes, and June and August following with 8.7% and 8.6%.

Looking at Vermont's speeding-related fatal crashes by day, the greatest number occurred on Sunday (22 crashes, 19.6% of the total), followed by Saturday and Friday, each with 17 crashes and 15.2% of the total. In Region 1, the greatest number occurred on Saturday (21.5%), followed by Sunday (19.8%), and then Friday (15.8%). This was true for the U.S. as a whole as well, with 20.5% occurring on Saturday, 18.6% on Sunday, and 15.4% on Friday.

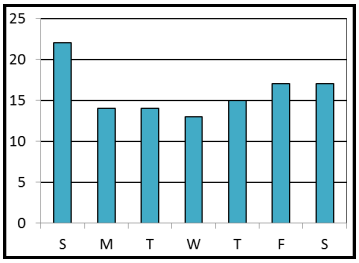
In Vermont the 3-hour windows with the most speeding-related fatal crashes were 6 p.m. to 9 p.m., (18 crashes, 15.2%) 9 p.m. to midnight (17 crashes, 15.2%), and 3 p.m. to 6 p.m. (15 crashes, 13.4%). In Region 1, 22.2% of such crashes occurred between midnight and 3 a.m., 19.3% occurred between 9 p.m. and midnight, and 14.9% occurred between 6 p.m. and 9 p.m. Nationwide, 18.1% occurred between midnight and 3 a.m., 16.1% occurred between 9 p.m. and midnight, and 15.0% occurred between 6 p.m. and 9 p.m.

Table 45. Speeding-Related Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2006-2010

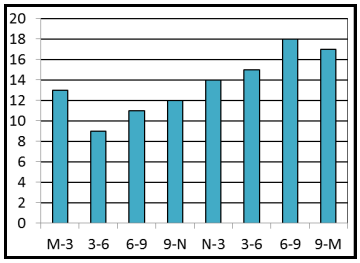
	Vermont (N=112)		Region (N=1,704)	U.S. (N=53,278)
	N	%	%	%
MONTH				
January	10	8.9%	7.4%	7.9%
February	7	6.3%	5.6%	7.3%
March	7	6.3%	6.9%	7.8%
April	10	8.9%	8.3%	8.5%
May	12	10.7%	9.7%	9.0%
June	10	8.9%	9.5%	8.7%
July	9	8.0%	10.3%	9.0%
August	14	12.5%	9.7%	9.0%
September	7	6.3%	8.0%	8.3%
October	8	7.1%	9.9%	8.6%
November	11	9.8%	7.6%	7.9%
December	7	6.3%	7.2%	8.0%
DAY OF WEEK				
Sunday	22	19.6%	19.8%	18.6%
Monday	14	12.5%	11.2%	11.4%
Tuesday	14	12.5%	10.5%	10.8%
Wednesday	13	11.6%	9.4%	11.3%
Thursday	15	13.4%	11.8%	11.9%
Friday	17	15.2%	15.8%	15.4%
Saturday	17	15.2%	21.5%	20.5%
TIME OF DAY				
Midnight-3am	13	11.6%	22.2%	18.1%
3am-6am	9	8.0%	8.4%	9.6%
6am-9am	11	9.8%	6.3%	8.3%
9am-Noon	12	10.7%	6.5%	7.6%
Noon-3pm	14	12.5%	9.4%	10.6%
3pm-6pm	15	13.4%	12.6%	14.1%
6pm-9pm	18	16.1%	14.9%	15.0%
9pm-Midnight	17	15.2%	19.3%	16.1%
Unknown	3	2.7%	0.4%	0.7%



By Month



By Day Sunday-Saturday



By Time from Midnight (3-hour periods)

Table 46 shows that, of the drivers in Vermont involved in a fatal crash between the years 2006 and 2010, 21.8% had a previous speeding conviction. This is higher than both the percentage for the Region (18.4%) and the Nation as a whole (18.7%).

Table 46. Drivers Involved in Fatal Crashes with Previous Speeding Convictions*

	Drivers with previous speeding convictions**						
	2006	2007	2008	2009	2010	Total 2006-2010	
	%	%	%	%	%	N	%
Vermont	25.7%	25.9%	20.6%	24.7%	21.8%	113	23.7%
Region	19.5%	17.6%	18.1%	19.4%	17.3%	1,346	18.4%
U.S.	18.9%	19.0%	19.0%	18.4%	18.1%	47,540	18.7%

*Recorded speeding convictions that occurred within three years prior to the crash
** Counts exclude instances in which no occupant could be identified as a driver.

Table 47 shows that, in Vermont, the 46.9% of drivers involved in fatal crashes with previous speeding convictions were between the ages of 21-44. The distribution of drivers in Vermont involved in a fatal crash with a previous speeding conviction was very uniform across age groups, with three categories; persons age 16-20, 25-34 and 45-54, each with 20 crashes and 17.7% of the total, accounting for the majority (53%) of such drivers. In Region 1, drivers between the ages of 25 and 34 constituted the plurality (23.3%), followed by those ages 21-24 (23%), and those ages 35-44 (17.5%). Nationwide, persons between the ages of 25 and 34 represented 25.9% of drivers involved in a fatal crash with a previous speeding conviction, followed by those ages 35-44 (18.6%) and those ages 21-24 (18.1%).

Table 47. Drivers Involved in Fatal Crashes with Previous Speeding Convictions by Age Group and Gender: Totals 2006-2010

	Vermont		Region	U.S.	Vermont				Region % Males	U.S. % Males
	(N=113)	%	(N=1,346)	(N=47,540)	Females		Males			
Age Group					N	%	N	%		
16-20	20	17.7%	14.9%	12.5%	2	10.0%	18	90.0%	81.6%	78.2%
21-24	18	15.9%	23.0%	18.1%	1	5.6%	17	94.4%	82.8%	79.6%
25-34	20	17.7%	23.3%	25.7%	5	25.0%	15	75.0%	81.8%	78.6%
35-44	15	13.3%	17.5%	18.6%	4	26.7%	11	73.3%	75.0%	79.0%
45-54	20	17.7%	12.5%	13.8%	2	10.0%	18	90.0%	78.0%	80.7%
55-64	5	4.4%	5.3%	7.3%	2	40.0%	3	60.0%	83.3%	82.7%
65+	15	13.3%	3.5%	3.9%	4	26.7%	11	73.3%	85.1%	82.5%
Unknown	0	0.0%	0.0%	0.0%	0	N/A	0	N/A	N/A	45.5%
Total	113	100.0%	100.0%	100.0%	20	17.7%	93	82.3%	80.5%	79.5%

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

IV. MOTORCYCLE CRASHES

MOTORCYCLE CRASHES – KEY FINDINGS

In the period 2006-2010:

- The percentage of fatalities that were motorcyclists in Vermont have consistently been lower than the percentages for Region 1 and have generally been lower than the percentages for the U.S. as a whole (with the exception of 2006). In 2010, 8.5% of fatalities in Vermont were motorcyclists, compared to 16.6% in Region 1, and 13.7% in the U.S. as a whole (Figure 26).
- In Vermont, 52.6% of motorcycle fatal crashes occurred on Sunday, Monday or Saturday. This is in contrast to the pattern observed in Region 1 and the Nation, which saw the highest number of such crashes on Saturday, Friday and Sunday. For Region 1 and the Nation, these three days accounted for 55.9% and 57.5% of all motorcycle fatal crashes, respectively (Table 48).
- Almost 58% of motorcyclist fatalities in Vermont were between the ages of 25 and 54, and 81.6% were males (Table 49).
- Vermont requires helmet use by all riders, regardless of age. Between 2006 and 2010, 21.1% of motorcyclist fatalities did not use a helmet. This percentage is substantially lower than both the Region (46.2%) and the U.S. as a whole (41.2%) (Table 50).
- Slightly over 27% 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 lower than both Region 1 (38.1%) and Nationwide (38%) (Table 51).
- In fatal crashes involving motorcycles, 71.8% of motorcycle operators had at least one driver factor reported, versus 56.0% of the operators of other vehicles. The three most common driver factors for motorcycle operators were failure to keep in proper lane (30.8%), driving too fast (28.2%), and operating the vehicle in an erratic manner (17.9%) (Table 52).

As Figure 26 shows, motorcyclists accounted for a smaller percentage of total fatalities in Vermont than in Region 1 or the U.S. as a whole. The percentage of total fatalities that were motorcyclists has generally decreasing, falling from 11.5% in 2006 to 8.5% in 2010. This is lower than both the Region (16.6%) and the Nation (13.7%).

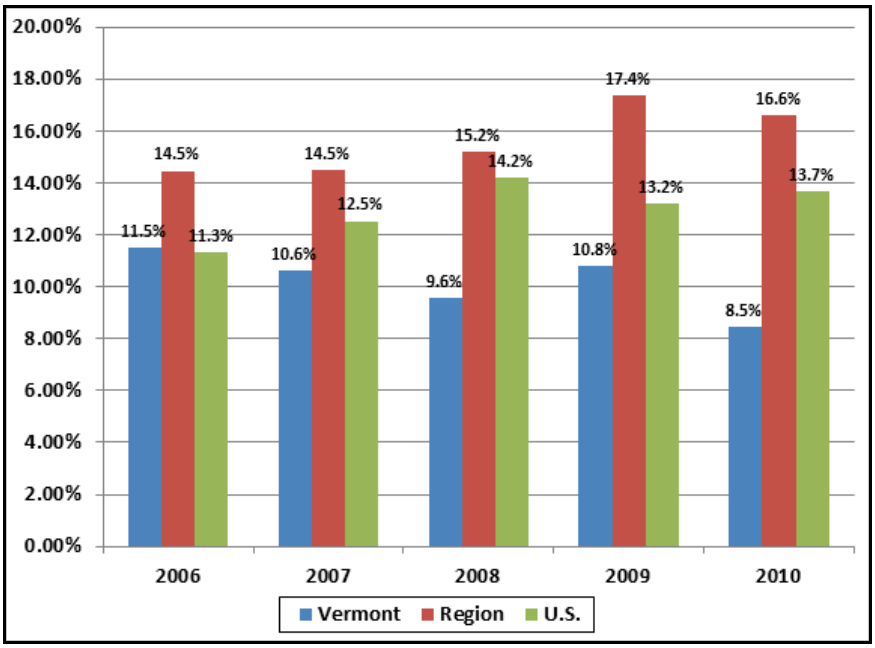


Figure 26. Motorcyclist Fatalities as Percent of Total Fatalities

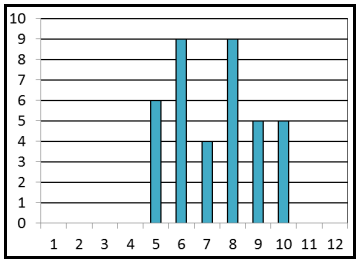
As Table 48 shows, the months with the most motorcycle fatal crashes in Vermont were June and August (each with 9 such crashes, 23.7% of the total) and May with 6 crashes and 15.8%. There were no motorcycle fatal crashes reported in Vermont for the months of November, December, January, February, March or April during the period from 2006 to 2010. For Region 1, the top three months for such crashes were July (18.9%), June (17.3%), and August (16.4%). For the Nation, the top three months for such crashes were July (13.1%), August (13%), then June (12.3%).

On a day by day basis, 57.0% of motorcycle fatal crashes occurred on Sunday (8 crashes, 21.1%), and Saturday or Friday (each with 6 crashes and 15.8%). This differs somewhat from the pattern observed in Region 1 and the Nation, which saw the highest number of such crashes on Saturday, Friday and Sunday. For Region 1 and the Nation, these three days account percentages were 55.9% and 57.5%, respectively In Region 1, where 22.1% of motorcycle fatal crashes occurred on a Saturday, 20.2% on a Sunday, and 13.6% on a Friday. Nationwide, 22.6% of motorcycle fatal crashes occurred on a Saturday, 19.9% on a Sunday, and 15% on a Friday.

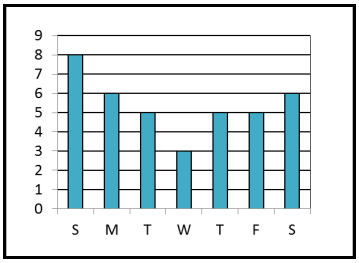
In Vermont, the three-hour windows in which the most motorcycle fatal crashes occurred were Noon to 3 p.m. (34.2%), 3 p.m. to 6 p.m. (28.9%), and 6 p.m. to 9 p.m. (15.8%), these nine hours accounting for 78.9% of all such crashes. In Region 1, 24.3% of motorcycle fatal crashes occurred between 6 p.m. to 9 p.m., 23.1% occurring between 3 p.m. to 6 p.m. and 16.4% occurring between noon and 3 p.m. Nationwide, the top three-hour windows were 3 p.m. to 6 p.m. (21.6%), 6 p.m. to 9 p.m. (20.5%), and noon to 3 p.m. (15.9%).

Table 48. Motorcycle Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2006-2010

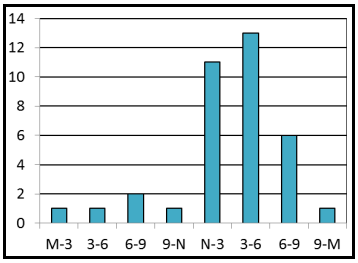
	Vermont (N=38)		Region (N=837)	U.S. (N=23,586)
	N	%	%	%
MONTH				
January	0	0.0%	0.5%	3.0%
February	0	0.0%	0.1%	3.3%
March	0	0.0%	3.7%	6.1%
April	0	0.0%	8.0%	9.4%
May	6	15.8%	13.0%	11.9%
June	9	23.7%	17.3%	12.3%
July	4	10.5%	18.9%	13.1%
August	9	23.7%	16.4%	13.0%
September	5	13.2%	12.1%	11.2%
October	5	13.2%	6.9%	8.4%
November	0	0.0%	2.6%	5.4%
December	0	0.0%	0.5%	3.0%
DAY OF WEEK				
Sunday	8	21.1%	20.2%	19.9%
Monday	6	15.8%	11.0%	10.2%
Tuesday	5	13.2%	11.2%	10.0%
Wednesday	3	7.9%	9.7%	10.6%
Thursday	5	13.2%	12.2%	11.7%
Friday	5	13.2%	13.6%	15.0%
Saturday	6	15.8%	22.1%	22.6%
Unknown	0	0.0%	0.0%	0.0%
TIME OF DAY				
Midnight-3am	1	2.6%	9.7%	9.8%
3am-6am	1	2.6%	2.0%	3.7%
6am-9am	2	5.3%	5.0%	5.2%
9am-Noon	1	2.6%	6.3%	8.4%
Noon-3pm	11	28.9%	16.4%	15.9%
3pm-6pm	13	34.2%	23.1%	21.6%
6pm-9pm	6	15.8%	24.3%	20.5%
9pm-Midnight	1	2.6%	12.8%	14.4%
Unknown	2	5.3%	0.5%	0.7%



By Month



By Day Sunday-Saturday



By Time from Midnight (3-hour periods)

As shown in Table 49, the 45-54 age group made up a plurality (11 crashes, 28.9%) of motorcyclist fatalities in Vermont, followed closely by the 55-64 age group, accounting for 21.1% of such fatalities. In Region 1, the 45-54 age group accounted for the plurality of motorcyclist fatalities (23.4%), followed by the 35-44 age group (21.7%) and the 25-34 age group (20%). 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 (81.6% versus 16.0%), a percentage somewhat smaller than those for the Region (89.5% male) and the U.S. as a whole (90.8% male).

Table 49. Motorcyclist Fatalities by Age Group and Gender: Totals 2006-2010

Fatalities by Age					Fatalities by Age and Gender					
	Vermont		Region	U.S.	Vermont				Region % Males	U.S. % Males
	(N=38)	%	(N=863)	(N=24,294)	Females		Males			
Age Group					N	%	N	%		
< 16	0	0.0%	0.2%	0.6%	0	N/A	0	N/A	100.0%	86.2%
16-20	3	7.9%	6.5%	6.3%	0	0.0%	3	100.0%	85.7%	89.8%
21-24	3	7.9%	11.8%	11.0%	0	0.0%	3	100.0%	96.1%	94.5%
25-34	6	15.8%	20.0%	20.4%	1	16.7%	5	83.3%	94.2%	93.3%
35-44	5	13.2%	21.7%	21.1%	1	20.0%	4	80.0%	85.6%	88.4%
45-54	11	28.9%	23.4%	22.5%	2	18.2%	9	81.8%	87.1%	88.3%
55-64	8	21.1%	12.6%	13.3%	3	37.5%	5	62.5%	87.2%	91.7%
65-74	1	2.6%	2.9%	3.8%	0	0.0%	1	100.0%	92.0%	93.4%
75+	1	2.6%	0.8%	0.9%	0	0.0%	1	100.0%	100.0%	95.9%
Unknown	0	0.0%	0.0%	0.0%	0	N/A	0	N/A	N/A	58.3%
Total	38	100.0%	100.0%	100.0%	7	18.4%	31	81.6%	89.5%	90.8%

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

As shown in Table 50, 78.9% of motorcyclist fatalities in Vermont used a helmet, a number significantly greater than the Region (50.6%) and the U.S. as a whole (56.4%). The age group with the greatest percentage helmet usage was ages 16-20, 21-24 and 25-34 with 100% of fatalities using a helmet. The group with the lowest percentage of helmet usage was 55-64, with 62.5% of fatalities in that age group using a helmet. However, even among this group, the percentages of helmet use were greater than the average helmet use among fatalities in the Region (50.6%) and the Nation. The use of helmets is required of all riders in Vermont.

Table 50. Motorcyclist Fatalities by Age Group and Helmet Use*: Totals 2006-2010

Age Group	Motorcyclist Fatalities	Helmet Used		Helmet Not Used		Helmet Use Unknown	
		N	%	N	%	N	%
<16	0	0	N/A	0	N/A	0	N/A
16-20	3	3	100.0%	0	0.0%	0	0.0%
21-24	3	3	100.0%	0	0.0%	0	0.0%
25-34	6	6	100.0%	0	0.0%	0	0.0%
35-44	5	4	80.0%	1	20.0%	0	0.0%
45-54	11	8	72.7%	3	27.3%	0	0.0%
55-64	8	5	62.5%	3	37.5%	0	0.0%
65+	2	1	50.0%	1	50.0%	0	0.0%
Unknown	0	0	N/A	0	N/A	0	N/A
VT**	38	30	78.9%	8	21.1%	0	0.0%
Region	863	437	50.6%	399	46.2%	27	3.1%
U.S.	24,294	13,695	56.4%	10,014	41.2%	585	2.4%

*Helmet use percentage based on total fatalities.

**State law requires use by all motorcycle riders.

As shown in Table 51, 40% of motorcycle operators in both the 45-54 and 54-65 age groups who were tested for BAC had a BAC of at least 0.01. Overall, 27.3% of motorcycle operator fatalities in Vermont who were tested for BAC had a positive BAC, a percentage substantially lower than found in Region 1 (38.1%) or the U.S. as a whole (38.0%) during the same time period. Though speed was a factor in 80% of such crashes in the 25-34 age group, it was also involved in 66.7% of motorcycle operator fatalities for the 16-20 age group. Overall, 34.3% of Vermont motorcycle operator fatalities involved a crash in which speed was a factor, a percentage lower than both that of the Region (38%) or the Nation (39.4%).

Table 51. Motorcycle Operator Fatalities, Alcohol Involvement and Speed: Totals 2006-2010

Age Group	MC Operator Fatalities	BAC ≥ 0.01*			Speeding Involved**	
		# Tested	# ≥ 0.01	%	#	%
<16	0	0	0	N/A	0	N/A
16-20	3	3	0	0.0%	2	66.7%
21-24	3	3	1	33.3%	1	33.3%
25-34	5	5	1	20.0%	4	80.0%
35-44	5	5	1	20.0%	2	40.0%
45-54	10	10	4	40.0%	2	20.0%
55-64	7	5	2	40.0%	1	14.3%
65+	2	2	0	0.0%	0	0.0%
Unknown	0	0	0	N/A	0	N/A
VT	35	33	9	27.3%	12	34.3%
Region	803	667	254	38.1%	305	38.0%
U.S.	22,702	17,605	6,685	38.0%	8,949	39.4%

* Based on actual state BAC data
**Refers to entire crash event.

Table 52 shows the operator factors of fatal crashes involving motorcycles. During the period 2006-2010, 71.8% of motorcycle operators and 56.0% of other operators had at least one factor reported in such crashes, with the most common for motorcycle operators common driver factors for motorcycle operators were *failure to keep in proper lane* (30.8%), *driving too fast* (28.2%), and *operating the vehicle in an erratic manner* (17.9%). For other operators, the most common factors were *failure to yield* (20.0%), *failure to keep in proper lane* (16.0%) and *inattentive/distracted driving* (16.0%).

Table 52. Fatal Crashes Involving Motorcycles: Operator Factors

	2006		2007		2008		2009		2010***		Total 2006-2010	
	MC (N=10)	Other Op (N=7)	MC (N=7)	Other Op (N=5)	MC (N=7)	Other Op (N=5)	MC (N=9)	Other Op (N=5)	MC (N=6)	Other Op (N=3)	MC (N=39)	Other Op (N=25)
Factors	%*	%*	%*	%*	%*	%*	%*	%*	%*	%*	%*	%*
None reported	30.0%	42.9%	0.0%	60.0%	28.6%	20.0%	44.4%	40.0%	33.3%	66.7%	28.2%	44.0%
One or more factors reported	70.0%	57.1%	100.0%	40.0%	71.4%	80.0%	55.6%	60.0%	66.7%	33.3%	71.8%	56.0%
Top Factors**												
Driving too fast… in excess of speed limit	30.0%	0.0%	42.9%	20.0%	42.9%	20.0%	11.1%	20.0%	16.7%	0.0%	**28.2%**	12.0%
Failure to…lane	30.0%	14.3%	57.1%	20.0%	14.3%	0.0%	0.0%	40.0%	66.7%	0.0%	**30.8%**	**16.0%**
Inattentive (2006-2009)*** Distracted (2010)***	0.0%	28.6%	0.0%	0.0%	0.0%	0.0%	11.1%	20.0%	0.0%	33.3%	2.6%	**16.0%**
Operating vehicle in erratic …manner	30.0%	0.0%	0.0%	0.0%	28.6%	20.0%	11.1%	0.0%	16.7%	33.3%	**17.9%**	8.0%
Operator inexperience	0.0%	0.0%	0.0%	0.0%	14.3%	20.0%	0.0%	0.0%	0.0%	0.0%	2.6%	4.0%
Failure to yield	0.0%	28.6%	0.0%	20.0%	0.0%	20.0%	0.0%	0.0%	0.0%	33.3%	0.0%	**20.0%**

*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.

Percentages based on **total operators/drivers at the vehicle level. 'None reported' includes instances in which a violation, driver factor, distraction, or speeding was marked as 'Unknown', 'Not Reported', or where data were missing.

***For the years 2006 through 2009, Inattentive was a single element—Inattentive/Careless (Talking, Eating, Car Phones, etc.). In 2010, many individual factors that had been subsumed the Inattentive element were broken out into their own separate categories, as Distraction became an entirely new table in FARS.

V. RESTRAINT USE

OCCUPANT RESTRAINT – KEY FINDINGS

In the period 2006-2010:

- In Vermont, observed seat belt usage has fluctuated, rising from 82.4% in 2006 to a high for the five-year period of 87.3% in 2008 before dropping to 85.2% in 2010. Observed seat belt usage for the state has consistently been above the National rate, which was 81.0% in 2006 and 85.0% in 2010 for the Nation as a whole. (Figure 27).
- In Vermont, 41.8% of fatally-injured passenger vehicle occupants in 2010 properly used their restraints, a figure that was above the 38.0% recorded for Region 1 in 2010, but above the Nationwide use rate of 44.8%. Restraint use among fatally-injured passenger vehicle occupants in Vermont has consistently been above that of Region 1 for every year, with the exception of 2009, and for the Nation for every year. In every year, in every jurisdiction (State, 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 53).
- In Vermont, 71.0% of fatally-injured passenger vehicle occupants in the 21-24 age group were not using restraints, followed by the 25-34 and 35-44 age groups, with 68.3% and 59.3%. When looking at restraint *use*, almost 80% of fatally-injured passenger vehicle occupants in the 75 and older age group were using restraints (Table 54).

As seen in Figure 27, while Vermont's observed seat belt usage rate has been seen some fluctuation, the general trend has been that of an increase. has consistently been below the U.S. as a whole. By 2010, Vermont's rate had risen to 85.2%, slightly above the National rate of 85%.

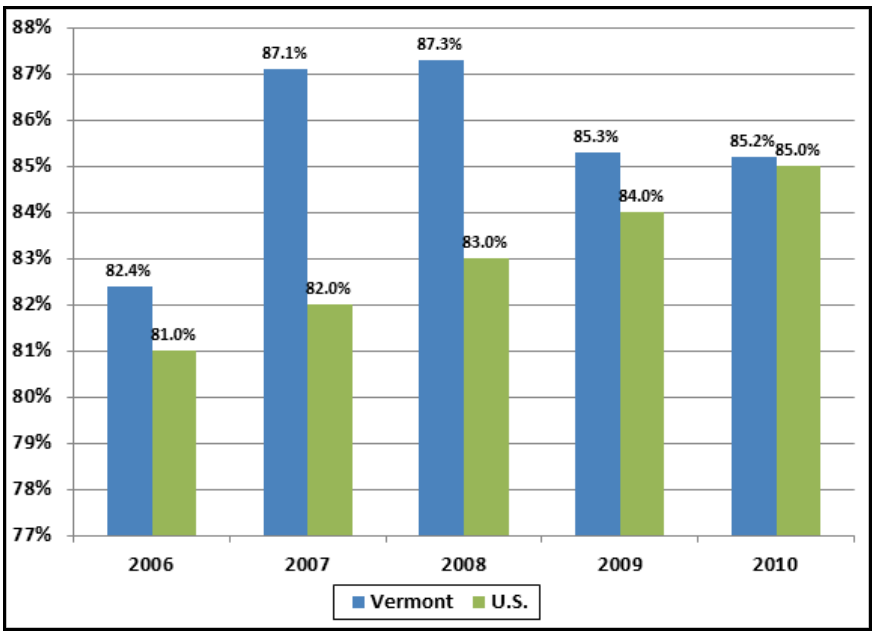


Figure 27. Observed Seat Belt Usage Rates, 2006-2010

Table 53 shows restraint use among fatally-injured passenger vehicle occupants, for *all crashes* and for those that occurred at night (8 p.m. to 4 a.m.). Restraint use among fatally-injured passenger vehicle occupants in Vermont has generally fallen between that of Region 1 for almost every year and for the Nation, being greater than the Region but lower than the Nation.

In Vermont, 41.8% of fatally-injured passenger vehicle occupants in 2010 properly used their restraints, a figure that was above the Region but the Nation, at 38.0% and 44.8%, respectively. The restraint percent use for fatally-injured passenger vehicle occupants in Vermont for 2010 represented a 10.7% decline over the average of the previous 4 years.

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

	2006	2007	2008	2009	2010
Restraint Used					
Vermont	46.6%	51.1%	49.2%	40.7%	41.8%
Region	33.3%	36.5%	36.3%	34.2%	38.0%
U.S.	41.4%	42.4%	42.0%	43.5%	44.8%
Restraint Used Night*					
Vermont	38.9%	0.0%	11.1%	9.1%	21.7%
Region	26.7%	28.1%	18.8%	26.4%	26.6%
U.S.	30.9%	31.3%	30.0%	32.2%	32.3%

Restraint use percentage based on all fatalities

*In crashes that occurred between 8 pm and 4 am.

As shown in Table 54, restraint use was more common in the older age groups. In Vermont, the age group with the highest percentage of restraint *use* was the 75+ age group, with a 79.6% rate of use. 71.0% of fatally-injured passenger vehicle occupants in the 21-24 age group *were not* using restraints, followed by the 25-34 and 35-44 age groups, with 68.3% and 59.3% not using restraints.

Table 54. Fatally-Injured Passenger Vehicle* Occupants, Restraint Use by Age Group: Totals 2006-2010

Age Group	Occupant Restraint Usage			
	N	Used	Not Used	Unknown
<5	1	100.0%	0.0%	0.0%
5-9	1	0.0%	100.0%	0.0%
10-15	7	28.6%	57.1%	14.3%
16-20	43	41.9%	53.5%	4.7%
21-24	31	25.8%	71.0%	3.2%
25-34	41	24.4%	68.3%	7.3%
35-44	27	37.0%	59.3%	3.7%
45-54	27	44.4%	51.9%	3.7%
55-64	36	44.4%	50.0%	5.6%
65-74	28	60.7%	39.3%	0.0%
75+	49	79.6%	12.2%	8.2%
Unknown	1	100.0%	0.0%	0.0%
VT	292	45.9%	49.0%	5.1%
Region	3,763	35.6%	50.4%	14.0%
U.S.	130,854	42.7%	49.7%	7.6%

* Automobiles, SUVs, and Pickup Trucks

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

Table 55 breaks down restraint use (where restraint use is known) of fatally-injured passenger vehicle occupants by vehicle type. In Vermont from 2006 through 2010, 53.3% of fatally-injured occupants of *Cars* used their restraints, a percentage that was higher than the Region (44.7%) and comparable to the U.S. as a whole (52.9%). In Vermont, 32.5% of fatally- injured occupants of *Pickups* used their restraints, a rate very similar to the 32% seen for the Region and 32.6% Nationwide. 43.9% of fatally injured occupants of the *Other (including SUV)* vehicle category used their restraints in Vermont, while 35.9% did so in the Region and 41.5% did so Nationwide.

The percentage of restraint use by fatally-injured occupants of *Cars* dropped by 0.9% over the 2006-2010 time period. However, restraint use by fatally-injured occupants of *Pickups* fell by 100%, as there was 0% reported restraint use in this category in 2010. *Other* vehicles saw a 30.0% decrease, as compared to the average of the previous four years.

Table 55. Restraint Use* of Fatally-Injured Occupants by Passenger Vehicle Type

	2006	2007	2008	2009	2010	Total 2006-2010
Cars						
Vermont	53.3%	56.0%	63.2%	42.1%	52.9%	53.3%
Region	42.0%	46.3%	46.0%	42.1%	47.2%	44.7%
U.S.	51.1%	53.1%	51.6%	53.9%	55.6%	52.9%
Pickup						
Vermont	10.0%	61.5%	33.3%	33.3%	0.0%	32.5%
Region	29.7%	39.5%	36.2%	30.2%	23.9%	32.0%
U.S.	31.4%	32.2%	32.4%	32.5%	35.2%	32.6%
Other (incl. SUV)						
Vermont	64.3%	25.0%	35.7%	66.7%	33.3%	43.9%
Region	37.1%	29.7%	28.3%	39.1%	45.3%	35.9%
U.S.	40.5%	40.7%	40.8%	42.7%	43.3%	41.5%

* Known restraint use

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VI. PEDESTRIAN AND BICYCLIST CRASHES

PEDESTRIAN AND BICYCLIST CRASHES – KEY FINDINGS

In the period 2006-2010:

- In Vermont, 57.1% of pedestrian fatal crashes occurred between noon and 9 p.m. This is in contrast to the Region and the Nation, which saw the greatest concentration of pedestrian fatal crashes between 3 p.m. and midnight (52.0% in Region 1 and 56.5% Nationwide). The days with the greatest number of pedestrian fatal crashes in Vermont were spread throughout the week, with Sunday accounting for 28.6% of such crashes, Friday accounting for 21.4% and Tuesday and Thursday representing 14.3%. This is in contrast to the statistics for the Region, which saw the greatest number of such crashes on Thursday (14.6%), Friday (16.4%), and Saturday (17.1%),, while Nationwide, the top three days for pedestrian fatal crashes were Saturday (17.5%), Friday (16%), and Sunday (14.6%) (Table 56).
- There were only 14 pedestrian fatalities in Vermont during the period from 2006-2010 and only one city, South Burlington, saw more than 1 such fatality. There were 2 pedestrian fatalities in South Burlington, accounting for 14.3% of the total Statewide (Table 57).
- Pedestrian fatalities were spread across the age groups with persons between 21-24, 35-44 and 65-74 each accounting for 21.4% of all such fatalities. Persons ages 75 and older constituted the plurality (18.9%) of pedestrian fatalities in Region 1, and Nationwide, persons between the ages of 45-54 constituted the plurality (19.6%), of pedestrian fatalities. Persons ages 25-64 constituted 42.9% of pedestrian fatalities in Vermont, as compared to 51.5% in Region 1 and 60.7% in the U.S. as a whole for the same age group. Persons ages 65 and over accounted for 35.7% of pedestrian fatalities in the State, which was higher than both the value in the Region (30.8%) and for the U.S. as a whole (19.0%) (Table 58).
- Males represented 64.3% of the State's pedestrian fatalities, a percentage higher than that of the Region (63.8%) but lower than that of the U.S. as a whole (69.4%) (Table 58).
- Of pedestrians killed in Vermont with a known BAC, 33.3% had a BAC of at least 0.08, slightly higher than the percentage for the Region (23.9%), but below the percentage for the U.S. as a whole (38.7%). In Vermont, among fatally injured pedestrians with a known BAC, a BAC of at least 0.08 was most common in the 21-24 age group, with 66.7% of pedestrian fatalities in this category having a BAC of at least 0.08, though caution must be used when interpreting this result, due to the very small sample size. In Region 1, a BAC of at least 0.08 was most common in the 35-44 age group (48.2%), while Nationwide, 54.8% of fatally-injured pedestrians ages 21-24 with a known BAC had a BAC of at least 0.08. (Table 59).
- There was one bicyclist fatality in the five-year period examined in this report. As it occurred in 2010, and was the only such fatality in the period, the percentage change cannot be calculated. For the Region and the Nation, there were 2.9% decrease and 12.3% decrease in these fatalities, respectively. (Table 60).

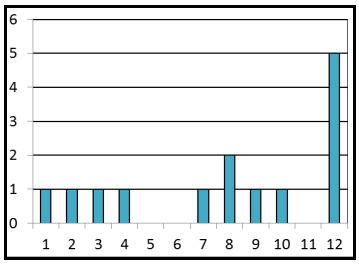
As shown in Table 56, the months with the greatest number of pedestrian fatal crashes in Vermont were December, with 5 such crashes and 35.7% of the total and august, with 2 crashes and 14.3%. For Region 1, 94 fatal crashes occurred in October (14.1% of total), 76 in November (11.4% of total), and 59 in January (8.9% of total). Nationwide, 2,292 fatal crashes occurred in December (10.4% of total), 2,234 in November (10.2%), and 2,198 in October (10%).

Most pedestrian fatal crashes in Vermont occurred on Sunday (4, 28.6% of the total) and Friday (3 crashes, 21.4%). For Region 1, 114 pedestrian fatal crashes occurred on Saturday (17.1%), 109 on Friday (16.4%) and 97 on Thursday (14.6%). Nationwide, the days with the most pedestrian fatal crashes were Saturday (17.5%), Friday (16%), and Sunday (14.6%).

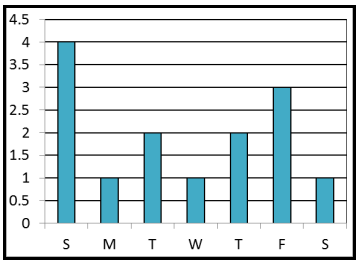
The three-hour windows in which the most pedestrian fatal crashes occurred in Vermont were 6 p.m. to 9 p.m. (4 crashes, 28.6%), noon to 3 p.m. (3 crashes, 21.4%) and 6 a.m. to 9 a.m. (2 crashes, 14.3%). Region 1 showed different pattern, where 21.2% of pedestrian fatal crashes occurred between 6 p.m. and 9 p.m., 15.9% occurred between 3 p.m. and 6 p.m. and 12.9% occurred between 6 a.m. and 9 a.m. The pattern Nationwide varied slightly, where 24.7% of pedestrian fatal crashes occurred between 6 p.m. and 9 p.m., 21.3% occurred between 9 p.m. and midnight, and 12.8% occurred between midnight and 3 a.m.

Table 56. Pedestrian Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2006-2010

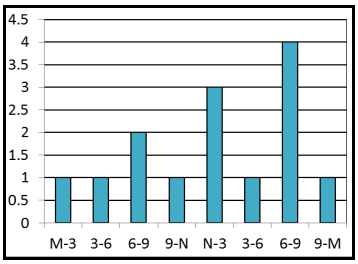
	Vermont		Region		U.S.	
	(N=14)	%	(N=666)	%	(N=21,952)	%
MONTH	**N**	**%**	**N**	**%**	**N**	**%**
January	1	7.1%	59	8.9%	1,989	9.1%
February	1	7.1%	45	6.8%	1,688	7.7%
March	1	7.1%	47	7.1%	1,714	7.8%
April	1	7.1%	41	6.2%	1,548	7.1%
May	0	0.0%	41	6.2%	1,544	7.0%
June	0	0.0%	38	5.7%	1,486	6.8%
July	1	7.1%	55	8.3%	1,620	7.4%
August	2	14.3%	58	8.7%	1,741	7.9%
September	1	7.1%	54	8.1%	1,898	8.6%
October	1	7.1%	58	8.7%	2,198	10.0%
November	0	0.0%	76	11.4%	2,234	10.2%
December	5	35.7%	94	14.1%	2,292	10.4%
DAY OF						
Sunday	4	28.6%	81	12.2%	3,210	14.6%
Monday	1	7.1%	95	14.3%	2,789	12.7%
Tuesday	2	14.3%	86	12.9%	2,807	12.8%
Wednesday	1	7.1%	84	12.6%	2,963	13.5%
Thursday	2	14.3%	97	14.6%	2,819	12.8%
Friday	3	21.4%	109	16.4%	3,518	16.0%
Saturday	1	7.1%	114	17.1%	3,846	17.5%
TIME OF						
Midnight-3am	1	7.1%	64	9.6%	2,807	12.8%
3am-6am	1	7.1%	40	6.0%	2,052	9.3%
6am-9am	2	14.3%	86	12.9%	1,989	9.1%
9am-Noon	1	7.1%	61	9.2%	1,202	5.5%
Noon-3pm	3	21.4%	68	10.2%	1,384	6.3%
3pm-6pm	1	7.1%	106	15.9%	2,296	10.5%
6pm-9pm	4	28.6%	141	21.2%	5,417	24.7%
9pm-Midnight	1	7.1%	99	14.9%	4,681	21.3%
Unknown	0	0.0%	1	0.2%	124	0.6%



By Month



By Day Sunday-Saturday



By Time from Midnight (3-hour periods)

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As Table 57 shows, there were only 14 pedestrian fatalities reported in Vermont during the five-year period examined in this report, and only South Burlington had more than 1. With 2 such fatalities, it accounted for 14.3% of all pedestrian fatalities in the State.

Table 57. Pedestrian Fatalities by Top Cities

City	2006	2007	2008	2009	2010	Total 2006-2010 N	Total 2006-2010 %
South Burlington	0	0	0	1	1	2	14.3%
Winooski	0	0	0	1	0	1	7.1%
Rutland	0	0	0	0	1	1	7.1%
Brattleboro	0	0	1	0	0	1	7.1%
Poultney	0	1	0	0	0	1	7.1%
Cabot	0	1	0	0	0	1	7.1%
Shoreham	0	0	0	1	0	1	7.1%
Dover	0	1	0	0	0	1	7.1%
Williston	0	0	0	1	0	1	7.1%
Newport	0	0	0	0	1	1	7.1%
Barre	0	1	0	0	0	1	7.1%
North Troy	0	0	0	1	0	1	7.1%
Total Top Cities	0	4	1	5	3	13	92.9%
All Pedestrian Fatalities	0	4	1	5	4	14	100%

For Vermont, persons between 65-74 constituted a plurality of pedestrian fatalities, accounting for 20.9% of all such fatalities in the state, followed by persons age 25-34 and 75+, each of which made up 16.3% of such fatalities. Males accounted for 64.3% of the State's pedestrian fatalities, a percentage slightly higher than that of the Region (63.8%) but lower than that of the U.S. as a whole (69.4%)

Table 58. Pedestrian Fatalities by Age Group and Gender: Totals 2006-2010

Fatalities by Age					Fatalities by Age and Gender					
	Vermont		Region	U.S.	Vermont				Region % Males	U.S.% Males
	(N=14)	%	(N=672)	(N=22,297)	Females		Males			
Age Group					N	%	N	%		
<5	0	0.0%	1.2%	2.2%	0	N/A	0	N/A	62.5%	60.7%
5-9	0	0.0%	1.0%	1.9%	0	N/A	0	N/A	85.7%	66.4%
10-15	0	0.0%	3.3%	3.1%	0	N/A	0	N/A	59.1%	63.2%
16-20	0	0.0%	5.8%	6.1%	0	N/A	0	N/A	71.8%	68.5%
21-24	3	21.4%	6.3%	6.4%	1	33.3%	2	66.7%	66.7%	74.7%
25-34	2	14.3%	8.6%	13.3%	0	0.0%	2	100.0%	74.1%	74.8%
35-44	3	21.4%	11.2%	15.2%	0	0.0%	3	100.0%	70.7%	71.5%
45-54	0	0.0%	18.0%	19.6%	0	N/A	0	N/A	71.1%	73.1%
55-64	1	7.1%	13.7%	12.6%	0	0.0%	1	100.0%	60.9%	70.2%
65-74	2	14.3%	11.9%	8.3%	1	50.0%	1	50.0%	53.8%	63.2%
75+	3	21.4%	18.9%	10.7%	3	100.0%	0	0.0%	52.8%	57.4%
Unknown	0	0.0%	0.1%	0.7%	0	N/A	0	N/A	100.0%	82.4%
Total	14	100.0%	100.0%	100.0%	5	35.7%	9	64.3%	63.8%	69.4%

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

As Table 59 shows, 33.3% of Vermont pedestrian fatalities with a known BAC had a BAC of 0.08 or higher, a percentage higher than Region 1 (23.89%) but lower than the U.S. as a whole (38.7%). Due to the extremely small number of such fatalities, care must be used when evaluating this table.

Table 59. Pedestrian Fatalities by Age Group With BAC: Totals 2006-2010

Age Group	Vermont 0.08 or greater	Region 0.08 or greater	U.S. 0.08 or greater
	N=4 of 12*	N=113 of 473*	N=5,781 of 14,959*
<16	N/A	0.00%	3.14%
16-20	N/A	18.75%	28.47%
21-24	66.67%	45.71%	54.48%
25-34	50.00%	44.68%	53.21%
35-44	0.00%	48.15%	52.14%
45-54	N/A	35.23%	49.98%
55-64	100.00%	17.46%	34.44%
65+	0.00%	1.52%	8.96%
Unknown	N/A	0.00%	58.97%
Total	33.33%	23.89%	38.65%

*Persons with known BACs

Highlighting is to help reader identify cells with higher percentages.

As seen in Table 60, there was one bicyclist fatality reported in the period between 2006 and 2010. As this fatality occurred in 2010, and was the only such fatality in the period, the percentage change cannot be calculated. In Region 1, and Nationwide, where more bicyclist fatalities were recorded, there was a downward trend in bicyclist fatalities, with a 2.9% decrease in the Region and a 12.3% decrease Nationwide.

Table 60. Bicyclist Fatalities

	2006	2007	2008	2009	2010	Total 2006-2010	% Change 2006-10
Vermont	0	0	0	0	1	1	Cannot be calculated*
Region	18	21	23	8	17	87	-2.86%
U.S.	772	701	718	628	618	3,437	-12.31%

*Percent change calculation results in a divide by 0 (i.e., incalculably large) error, as there were no such fatalities recorded in the given time frame.

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VII. YOUNG DRIVERS

YOUNG DRIVERS – KEY FINDINGS

In the period 2006-2010:

- Fatal crashes involving young drivers (16-20 years old) in Vermont decreased by just over 58.3%, a decrease much larger than the changes seen in Region 1 (24.6%) and the U.S. as a whole (27.8%) (Table 61).
- In Vermont, young driver fatalities decreased by 60.0% between 2006 and 2010, a significantly larger decrease than seen in Region 1 and the U.S. as a whole, which showed decreases of 25.7% and 33.5%, respectively (Table 61).
- Young driver fatalities represented 13.8% of all fatalities in Vermont in 2006, and declined to 4.2% by 2010. Young drivers have accounted for between 6.4% (2010) and 9.6% (2006) of all fatalities in Region 1, and between 5.8% (2010) and 8.0% (2006) of all fatalities in the U.S. as a whole (Figure 28).
- 39.5% of fatal crashes involving young drivers in Vermont occurred between 3 p.m. and Midnight; lower than the percentages across the Region and to those across the Nation. (49.1% and 49.5%, respectively). Fatal crashes involving young drivers in Vermont tend to happen more often near the weekend, with Saturday accounting for 13 crashes and 24.5% of the total, Sunday for 11 and 20.8% and Friday crashes representing 8 crashes and 15.1% of the total. This tendency towards weekend crashes was also observed at the Regional and National levels, with Friday, Saturday, and Sunday accounting for 53.4% of fatal crashes involving young drivers in Region 1 and 53.2% in the U.S. as a whole (Table 62).
- At least one driver-related factor was reported for 94.5% of young drivers involved in fatal crashes in Vermont. *Failure to keep in proper lane* was the most frequently reported factor and was reported for 60.0% of all young drivers involved in a fatal crash (Table 63).
- Compared to all drivers, a higher percentage of young drivers involved in fatal crashes have previous speeding convictions. In Vermont, for the five-year period, 36.4% of young drivers had previous speeding convictions compared to 23.7% for all drivers. This was similar to the pattern for the Region (23.5% for young drivers compared to 18.4% for all) and in the U.S. as a whole (20.1% of young drivers compared to 18.7% for all) (Table 64).
- In Vermont, a higher percentage of young drivers involved in fatal crashes had a previous crash (of any sort) than all drivers: 20.0% as compared to 12.4%. The same pattern was seen in Region 1 and the U.S. as a whole. Almost 16% of young drivers in Region 1 involved in fatal crashes had been involved in a previous crash, as compared to 13.6% for all drivers, and for the U.S. as a whole, 13.5% of young drivers in a fatal crash had been involved in a previous crash, compared to 11.8% of all drivers (Table 64).
- *Young drivers* themselves accounted for 56.9% of fatalities in crashes involving young drivers in Vermont; *passengers* represented 29.3% of fatalities, and *other road users* accounted for 13.8% of fatalities in these crashes. In Region 1, 46.6% of fatalities in crashes involving young drivers were *young drivers* themselves; 27% were *passengers* and 26.4% were other *road users*. Nationwide, *young drivers* accounted for 41.6% of the fatalities in young driver-involved crashes, while *passengers* and *other road users* accounted for 25.8% and 32.6% of the fatalities, respectively (Table 65).

- The counties of Orleans (15.5%), Franklin (13.8%) and Chittenden and Rutland (12.1% each) accounted for over half (53.4%) of fatalities involving young drivers in the years 2006 through 2010 (Table 66).

The data in Table 61 show that Vermont experienced a much larger (58.3%) decline in the number of fatal crashes involving young across the five-year period than did Region 1 and the U.S. as a whole. Likewise, in terms of the number of young drivers killed, Vermont experienced a larger decrease (60.0%) than either the Region and the Nation, which saw declines of 25.7% and 33.5%, respectively. However, due to the small numbers involved, this percentage change is very sensitive to small shifts from year to year.

Table 61. Fatal Crashes and Fatalities of Young Drivers

	2006	2007	2008	2009	2010	Total 2006-2010	% Change 2006-2010
Vermont							
Fatal Crashes	13	12	13	10	5	53	-58.33%
Young Drivers Killed	12	3	8	7	3	33	-60.00%
Region							
Fatal Crashes	207	199	154	140	132	832	-24.57%
Young Drivers Killed	118	92	85	71	68	434	-25.68%
U.S.							
Fatal Crashes	7,012	6,593	5,527	4,871	4,331	28,334	-27.83%
Young Drivers Killed	3,407	3,124	2,687	2,302	1,915	13,435	-33.51%

As shown in Figure 28, the percentage of total fatalities in Vermont that were young drivers has fluctuated significantly over the course of the five-year period. The overall pattern has been one of uneven decline, with the percentage dropping to 4.5% in 2007 (from 13.8% in 2006) before rising again in 2008. The value for 2010 (4.2%) was slightly lower than that in the Region (6.4%) and the Nation (5.8%).

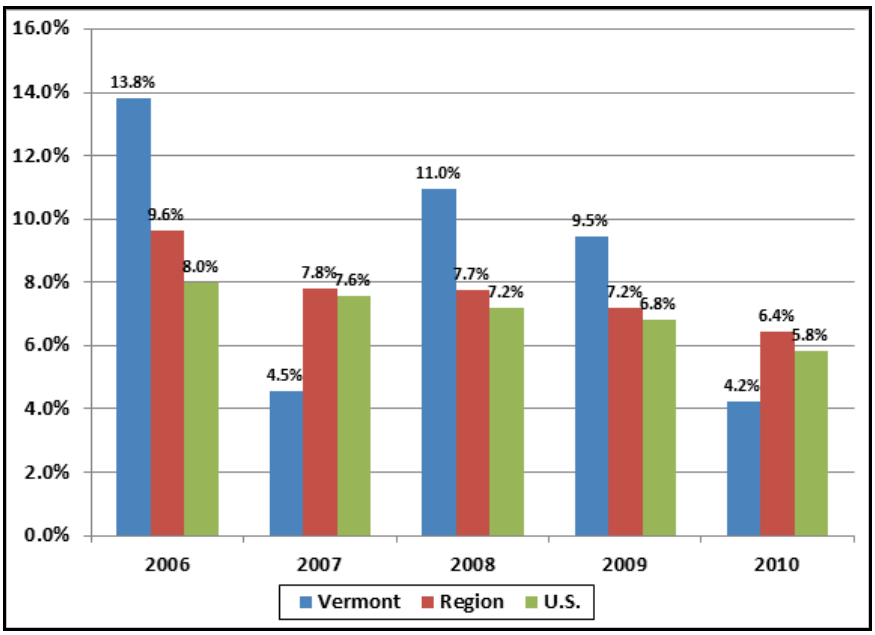


Figure 28. Young Driver Fatalities as Percent of Total

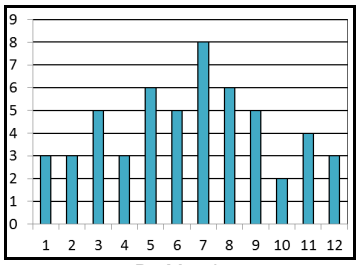
In Vermont, the months that recorded the most young driver-involved fatal crashes July (8 crashes, 15.1%), and May and August (each with 6 crashes and 11.3%) In Region 1, 13.1% of young driver-involved fatal crashes occurred in August, followed by July (10.3%), and April (9.3%). Nationwide, the months with the most young driver-involved fatal crashes were July (9.7%), May (9.2%), and June (9.0%).

The days with the greatest number of young driver-involved fatal crashes in Vermont were Saturday, accounting for 13 crashes and 24.5% of the total, Sunday with 11 such crashes and 20.8% of the total, and Friday, representing 8 crashes and 15.1% of the total. A similar pattern was observed across the Region, with 19.1% of such crashes occurring on Saturday, 17.4% on Friday, and 16.9% on Sunday. Nationwide, 19.6% of such crashes occurred on Saturday, 17.6% on Sunday, and 16.0% on Friday.

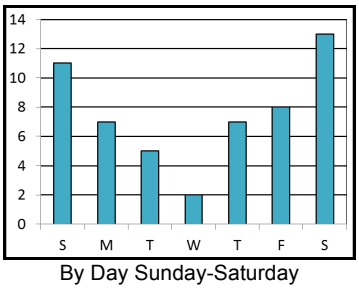
The three-hour windows in which the most young driver-involved fatal crashes in Vermont occurred were spread out over the day, with crashes occurring from 3 p.m. to 6 p.m. (12 crashes, 22.6%), 6 a.m. to 9 a.m. and noon to 3 p.m. (each with 8 crashes, 15.1% of all such crashes), and midnight to 3 a.m., representing 7 crashes and 13.2% of the total. This is in contrast to the time periods that accounted for the highest percentage of fatal crashes across the Region. The hours from 9 p.m. to midnight accounted for 18% of young driver-involved fatal crashes, followed by midnight to 3 a.m. (17.7%), and 6 p.m. to 9 p.m. (15.6%). Nationwide, the most young driver-involved fatal crashes occurred from 9 p.m. to midnight (17.2%), followed by 3 p.m. to 6 p.m. (16.5%), then 6 p.m. to 9 p.m. (15.8%).

Table 62. Young Driver-Involved Fatal Crashes by Month, Day of Week, and Time of Day: Totals 2006-2010

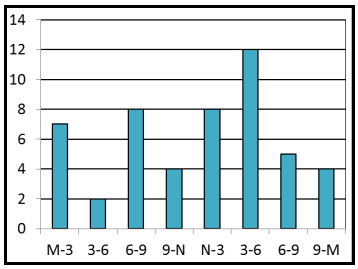
	Vermont		Region	U.S.
	(N=53)		(N=832)	(N=28,334)
	N	%	%	%
MONTH				
January	3	5.7%	6.7%	7.4%
February	3	5.7%	5.4%	6.8%
March	5	9.4%	7.5%	7.9%
April	3	5.7%	9.0%	8.2%
May	6	11.3%	9.3%	9.2%
June	5	9.4%	8.5%	9.0%
July	8	15.1%	10.3%	9.7%
August	6	11.3%	13.1%	8.9%
September	5	9.4%	7.1%	8.4%
October	2	3.8%	7.8%	8.6%
November	4	7.5%	7.2%	8.3%
December	3	5.7%	8.1%	7.6%
DAY OF WEEK				
Sunday	11	20.8%	16.9%	17.6%
Monday	7	13.2%	10.6%	11.9%
Tuesday	5	9.4%	12.9%	11.5%
Wednesday	2	3.8%	10.6%	11.5%
Thursday	7	13.2%	12.5%	11.8%
Friday	8	15.1%	17.4%	16.0%
Saturday	13	24.5%	19.1%	19.6%
TIME OF DAY				
Midnight-3am	7	13.2%	17.7%	14.1%
3am-6am	2	3.8%	7.3%	8.3%
6am-9am	8	15.1%	7.6%	8.9%
9am-Noon	4	7.5%	6.4%	7.2%
Noon-3pm	8	15.1%	11.4%	11.5%
3pm-6pm	12	22.6%	15.5%	16.5%
6pm-9pm	5	9.4%	15.6%	15.8%
9pm-Midnight	4	7.5%	18.0%	17.2%
Unknown	3	5.7%	0.5%	0.6%



By Month



By Day Sunday-Saturday



By Time from Midnight (3-hour periods)

As seen in Table 63, nearly all (94.5%) of young drivers involved in fatal crashes in Vermont reported at least one factor during the years 2006 through 2010. The top factor was *failure to keep in proper lane* (60.0%) followed by *driving too fast* (40.0%), and driving in an *inattentive/distracted* manner (16.4%).

Table 63. Driver Factors of Young Drivers Involved in Fatal Crashes

	2006	2007	2008	2009	2010	Total 2006-2010
	(N=14)	(N=12)	(N=14)	(N=10)	(N=5)	(N=55)
Factors	%*	%*	%*	%*	%*	%*
None reported	0.0%	16.7%	7.1%	0.0%	0.0%	5.5%
One or more factors reported	100.0%	83.3%	92.9%	100.0%	100.0%	94.5%
Top Factors						
Driving too fast…	42.9%	41.7%	35.7%	40.0%	40.0%	40.0%
Inattentive (2006-2009)*** Distracted (2010)***	7.1%	25.0%	14.3%	30.0%	0.0%	16.4%
Erratic, reckless manner	7.1%	0.0%	28.6%	0.0%	40.0%	12.7%
Failure to keep in proper lane	78.6%	66.7%	35.7%	50.0%	80.0%	60.0%
Failure to yield right of way	0.0%	0.0%	7.1%	0.0%	0.0%	1.8%

*Driver may have multiple factors reported

*****For the years 2006 through 2009, Inattentive was a single element—Inattentive/Careless (Talking, Eating, Car Phones, etc.). In 2010, many individual factors that had been subsumed the Inattentive element were broken out into their own separate categories, as Distraction became an entirely new table in FARS. Highlighting is to help reader identify most common factors.

In Vermont, more young drivers (16-20) in fatal crashes had a previous speeding conviction (36.4%) than did drivers of all ages (18.2%). When looking at the Region, 23.5% of young drivers had a previous speeding conviction compared to 18.4% for all drivers and in the U.S. as a whole 20.1% of young drivers had a previous speeding conviction compared to 18.7% for all.

When looking at previous crashes (of any type) within three years of a fatal crash, 20.0% of young drivers had a previous crash, as compared to 12.4% of all drivers. Almost 16% of young drivers in Region 1 involved in fatal crashes had been involved in a previous crash as compared to 13.6% for all drivers, and for the U.S. as a whole, 13.5% of young drivers in a fatal crash had been involved in a previous crash, as compared to 11.8% of all drivers.

Table 64. Previous Speeding Convictions and Previous Crashes for Young Drivers versus All Drivers: Totals 2006-2010

	Vermont				Region		U.S.	
	Young drivers	All drivers			Young drivers	All drivers	Young drivers	All drivers
	(N=55)	%	(N=476)	%	(N=857)	(N=7,317)	(N=29,519)	(N=254,058)
Previous Speeding*	20	36.4%	113	23.7%	23.5%	18.4%	20.1%	18.7%
Previous Crash Recorded**	11	20.0%	59	12.4%	15.9%	13.6%	13.5%	11.8%

*Convictions recorded within three years prior to the fatal crash; counts exclude instances in which no person was identified as a driver.

**Crashes recorded within three years prior to the fatal crash; counts exclude instances in which no person was identified as a driver.

Highlighting is to help reader identify young drivers

As seen in Table 65, young drivers themselves made up the majority of fatalities in young driver-involved fatal crashes for Vermont (56.9%), a percentage somewhat larger than that seen in Region 1 (46.6%), and Nationwide (41.6%).

Table 65. Fatalities in Young Driver-Involved Crashes

Victims	2006 (N=14)	2007 (N=13)	2008 (N=14)	2009 (N=11)	2010 (N=6)	VT 2006-2010 % (N=58)	Region 2006-2010 % (N=931)	U.S. 2006-2010 % (N=32,332)
Young Drivers	12	3	8	7	3	56.9%	46.6%	41.6%
Passengers	2	5	5	2	3	29.3%	27.0%	25.8%
Other Road Users	0	5	1	2	0	13.8%	26.4%	32.6%

Table 64 shows the young driver-involved fatalities by county. Four counties, Orleans (15.5%), Franklin (13.8%) and Chittenden and Rutland (12.1% each) accounted for over half (53.4%) of fatalities involving young drivers in the years 2006 through 2010

Table 66.Young Driver-Involved Fatalities by County

County	2006	2007	2008	2009	2010	Total 2006-2010 N	Total 2006-2010 %
Addison	2	1	2	1	0	**6**	**10.3%**
Bennington	0	0	1	1	0	**2**	**3.4%**
Caledonia	0	0	1	0	0	**1**	**1.7%**
Chittenden	2	3	2	0	0	**7**	**12.1%**
Essex	0	1	0	0	0	**1**	**1.7%**
Franklin	1	4	1	1	1	**8**	**13.8%**
Grand Isle	0	0	0	0	0	**0**	**0.0%**
Lamoille	4	0	0	1	0	**5**	**8.6%**
Orange	0	2	0	0	0	**2**	**3.4%**

Orleans	1	0	2	2	4	**9**	**15.5%**
Rutland	1	0	3	3	0	**7**	**12.1%**
Washington	1	1	1	2	0	**5**	**8.6%**
Windham	2	0	1	0	1	**4**	**6.9%**
Windsor	0	1	0	0	0	**1**	**1.7%**
Totals	**14**	**13**	**14**	**11**	**6**	**58**	**100.0%**

By road type, a plurality (37.9%) of Vermont's young driver-involved fatalities occurred on arterial roads with 24.0% occurring on local roads. For Region 1, 35.8% of such fatalities occurred on local roads, with arterial roads accounting for 25.5%. Nationwide, a plurality, 40.8%, of young driver-involved fatalities occurred on arterial roads, almost 23% occurred on local roads, and 22.4% occurred on collector roads.

Table 67. Young Driver-Involved Fatalities by Road Type

	Vermont					Total 2006-2010		
	2006	**2007**	**2008**	**2009**	**2010**	**VT**	**Region**	**U.S.**
	(N=14)	**(N=13)**	**(N=14)**	**(N=11)**	**(N=6)**	**(N=58)**	**(N=931)**	**(N=32,332)**
Road Type								
Interstate/Expressway	2	2	1	0	1	10.34%	19.98%	12.85%
Arterial	6	3	4	8	1	37.93%	25.46%	40.83%
Collector	4	2	5	1	1	22.41%	18.47%	22.41%
Local	2	6	4	2	3	29.31%	35.77%	22.98%
Unknown	0	0	0	0	0	0.00%	0.32%	0.93%
Total	14	13	14	11	6	100.00%	100.00%	100.00%

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

VIII. OLDER DRIVERS

OLDER DRIVERS – KEY FINDINGS

In the period 2006-2010:

- Fatal crashes involving drivers age 65-74 fell slightly (2.7%) in Vermont from 2006 to 2010. This is similar to the slight drop found across the Region and the Nation, each of which had a 2.2% decrease in such crashes for the same time period (Table 68).
- Driver fatalities for the age group 65-74 saw a decline in Vermont from 2006 to 2010 (4.8%), comparable to the 3.7% drop in Region 1 and a 5.6% decrease Nationwide (Table 68).
- Driver fatalities for the 65-74 age group in Vermont have been between 2.7% and 12.1% of all fatalities in the State, and as such, have fluctuated in relation to Region 1 and the Nation. In Region 1, they have accounted for between 3.5% and 5.4% of all fatalities, while being between 4.0% and 4.7% of all U.S. fatalities (Figure 29).
- Fatal crashes involving drivers ages 75 and older increased by 41.2% in Vermont, while remaining unchanged in Region 1 and decreasing 3.8% Nationwide. Driver fatalities for the age group 75 and older increased 12.5% in Vermont, compared to a 2.6% decrease in Region 1and a 4.6% decrease Nationwide (Table 69).
- In Vermont, over half (60.9%) of fatal crashes that involved drivers in the 65-74 age group occurred between noon and 6 p.m. In Region 1, 52.1% of fatal crashes that involved drivers in this age group occurred between noon and 6 p.m., and for the Nation as a whole, 45.2% of fatal crashes that involved drivers in this age group occurred between noon and 6 p.m. (Table 70).
- Driver fatalities for the age group 75 and older in Vermont have seen some rise and fall over the five year period, accounting for 12.6% of all fatalities in the state in 2006 and dropping to 9.1% the following year, but consistently remained higher than the Region and the Nation. In Region 1, driver fatalities for the age group 75 and older have accounted for between 6.5% and 8.7% of all fatalities. Percentages for the Nation as a whole ranged from 5.5% to 6.4% (Figure 30).
- In Vermont, 52.2% of fatal crashes that involved drivers 75 and older age occurred between noon and 6 p.m. If the window is extended to look at the period between 9 a.m. and 6 p.m., more than three-quarters (84.4%) occur during this time period. In Region 1, 53.9% of fatal crashes that involved drivers in this age group occurred between noon and 6 p.m., and, for the Nation as a whole, 50.5% of fatal crashes that involved drivers in this age group occurred between noon and 6 p.m. (Table 71).

Table 68 shows that fatal crashes involving drivers ages 65-74 have fallen by 2.7% in Vermont from 2006 to 2010, and the number of drivers ages 65-74 killed in fatal crashes fell by almost 5.0%. Region 1, however, experienced a decline in fatal crashes involving drivers ages 65-74 (2.7%) as well as a decline in drivers killed (3.7%). The Nation has experienced a decline in both crashes (2.2%) and drivers killed (5.6%).

Table 68. Fatal Crashes and Fatalities Involving Drivers Ages 65-74

	2006	2007	2008	2009	2010	Total 2006-2010	% Change 2006-2010
Vermont							
Fatal Crashes	8	11	11	7	9	46	-2.7%
Drivers Ages 65-74 Killed	6	8	2	5	5	26	-4.8%
Region							
Fatal Crashes	74	93	71	81	78	397	-2.2%
Drivers Ages 65-74 Killed	48	52	38	53	46	237	-3.7%
U.S.							
Fatal Crashes	2,924	2,944	2,844	2,765	2,805	14,282	-2.2%
Drivers Ages 65-74 Killed	1,695	1,698	1,640	1,566	1,557	8,156	-5.6%

As shown in Figure 29, the percentage of drivers ages 65-74 as total fatalities in Vermont has changed considerably from year to year with no clear pattern. In 2007, drivers in this age group composed 12.1% of all fatalities in the state, before dropping down to to 2.7% in 2008, and then rising back up to 7.0% in 2010.

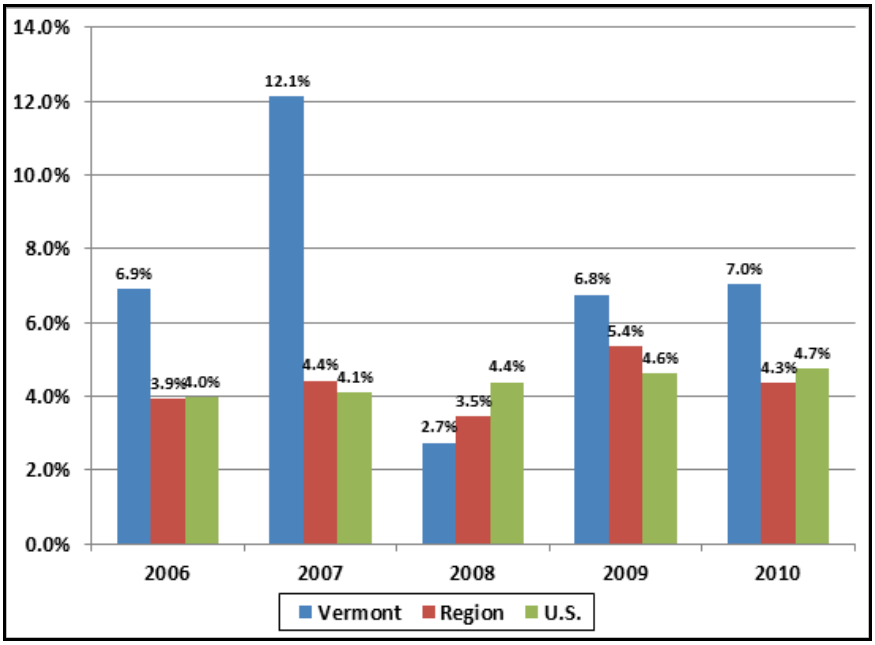


Figure 29. Driver Ages 65-74 Fatalities as Percent of Total Fatalities

Table 69 shows that fatal crashes involving drivers ages 75 and older increased by 41.1% in Vermont from 2006 to 2010, while the number of drivers ages 75 and older killed in fatal crashes

increased by 12.5%. Region 1 did not experience a change in fatal crashes, though there was a 2.6% decline in drivers killed, and the U.S. experienced a 3.8% decline in fatal crashes and a 4.6% decline in drivers killed.

Table 69. Fatal Crashes and Fatalities Involving Drivers Ages 75 and Older

	2006	2007	2008	2009	2010	Total 2006-2010	% Change 2006-2010
Vermont							
Fatal Crashes	12	7	7	8	12	46	41.2%
Drivers Ages 75 and Older Killed	11	6	7	8	9	41	12.5%
Region							
Fatal Crashes	123	102	109	86	105	525	0.0%
Drivers Ages 75 and Older Killed	106	76	94	69	84	429	-2.6%
U.S.							
Fatal Crashes	2,902	2,800	2,602	2,495	2,596	13,395	-3.8%
Drivers Ages 75 and Older Killed	2,391	2,272	2,155	2,036	2,112	10,966	-4.6%

Figure 30 shows that, in Vermont, the percentage of total fatalities accounted for by drivers ages 75 and older has fluctuated year to year, though it was not as pronounced as the changes seen when looking at drivers ages 65-74. Drivers ages 75 and older have ranged from a high of 12.7% of all fatalities in 2010 to a low of 9.1% in 2007. These percentages were consistently above those seen in the Region (ranging between 6.5% and 8.7%) and Nationwide (with a high a 6.4%) during this period.

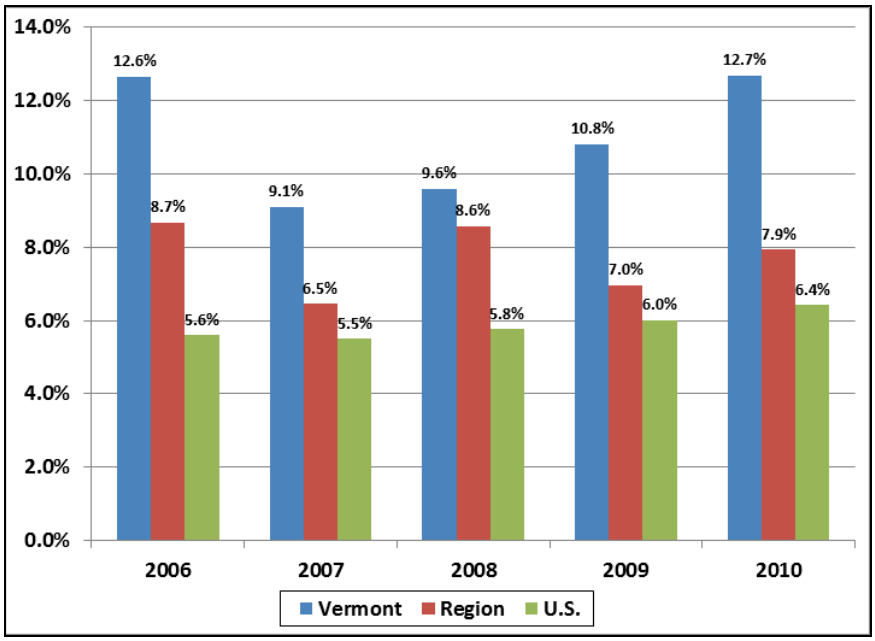


Figure 30. Driver Ages 75 and Older Fatalities as Percent of Total Fatalities

As Table 70 shows for Vermont, the months with the highest number of fatal crashes involving drivers ages 65-74 were April and September (each with 7 crashes and 15.2% of the total), with the remainder of such fatalities being evenly distributed across the remaining months. The For Region 1, the months with the highest number of fatal crashes were July (11.8%), April (10.8%) and October (10.1%). Nationwide, July, August, and September each accounted for 8.9% of fatal crashes involving drivers ages 65-74

The days of the week the highest number of fatal crashes involving drivers ages 65-74 in Vermont were Friday (13 crashes, 28.3%), Tuesday (11 crashes, 23.9%) and Thursday and Monday (13.0% and 6 crashes each). In Region 1, the most fatal crashes occurred on Friday (18.6%), followed by Thursday (16.9%), then Tuesday (15.4%). Nationwide, most crashes occurred on a Friday (16.4%), followed by Thursday and Saturday (14.8% each) and Wednesday (14.5%).

The 3-hour windows in which the most fatal crashes involving drivers ages 65-74 occurred in were noon to 3 p.m. (16 crashes, 34.8%), 3 p.m. to 6 p.m. (12 crashes, 26.1%), and 9 a.m. to noon (7 crashes, 15.2%) For Region 1, 26.4 % of such crashes occurred between noon and 3 p.m., 25.7% occurred between 3 p.m. and 6 p.m. and 17.9% occurred between 9 a.m. and noon. Nationwide, 23.3% occurred between noon and 3 p.m., 21.9% occurred between 3 p.m. and 6 p.m., and 17.4% occurred between 9 a.m. and noon.

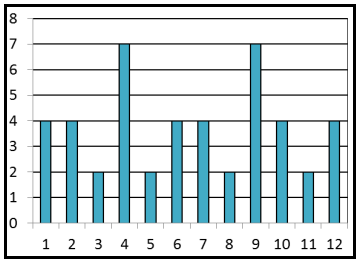
As Table 71 shows, the top months for fatal crashes involving drivers ages 75 and older in Vermont were August (8 crashes, 17.4% of total), May (7 crashes, 15.2%) and June, November and December (5 crashes, 10.9% each). For Region 1, the top months for such crashes were August (12.0%), October (11.6%), and July (9.9%). Nationwide, the top months were October (9.3%), May (9.0%), and November (8.8%).

The top three days of the week for such crashes in Vermont were Saturday (11 crashes, 23.9%) and Wednesday (9 crashes, 19.6%). For the Region, the days with the most such crashes were Tuesday (16.6%), Monday (16.0%), and Thursday (15.2%). Nationwide, the days with the most such crashes were Friday (16.3%), Tuesday (15.4%), and Monday (14.9%).

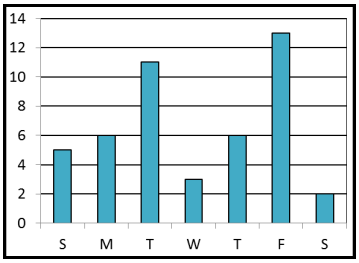
The 3-hour windows in which the most fatal crashes involving drivers ages 75 and older occurred in Vermont were 9 a.m. to noon, (15 crashes, 32.6%) noon to 3 p.m. (13 crashes, 28.3%) and 3 p.m. to 6.p.m. (11 crashes, 23.9%). This also held true for Region 1 and the Nation as well, with very few fatal crashes involving drivers ages 75 and older occurring earlier than 6 a.m. or later than 9 p.m.

Table 70. Fatal Crashes Involving Drivers Ages 65-74 by Month, Day of Week, and Time of Day: Totals 2006-2010

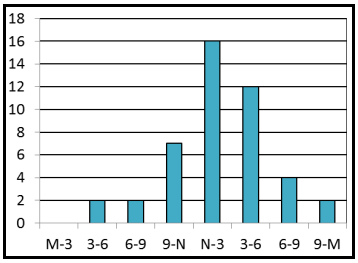
	Vermont		Region	U.S.
	(N=46)		(N=397)	(N=14,282
	N	%	%	%
MONTH				
January	4	8.7%	6.8%	7.4%
February	4	8.7%	6.3%	7.0%
March	2	4.3%	7.8%	7.6%
April	7	15.2%	10.8%	8.2%
May	2	4.3%	6.3%	8.2%
June	4	8.7%	8.3%	8.8%
July	4	8.7%	11.8%	8.9%
August	2	4.3%	6.8%	8.9%
September	7	15.2%	9.6%	8.9%
October	4	8.7%	10.1%	8.7%
November	2	4.3%	7.1%	8.7%
December	4	8.7%	8.3%	8.7%
DAY OF WEEK				
Sunday	5	10.9%	11.8%	12.0%
Monday	6	13.0%	11.3%	13.9%
Tuesday	11	23.9%	15.4%	13.6%
Wednesday	3	6.5%	14.4%	14.5%
Thursday	6	13.0%	16.9%	14.8%
Friday	13	28.3%	18.6%	16.4%
Saturday	2	4.3%	11.6%	14.8%
TIME OF DAY				
Midnight-3am	0	0.0%	1.8%	2.5%
3am-6am	2	4.3%	2.5%	3.3%
6am-9am	2	4.3%	7.3%	9.8%
9am-Noon	7	15.2%	17.9%	17.4%
Noon-3pm	16	34.8%	26.4%	23.3%
3pm-6pm	12	26.1%	25.7%	21.9%
6pm-9pm	4	8.7%	12.6%	14.0%
9pm-Midnight	2	4.3%	5.5%	7.3%
Unknown	1	2.2%	0.3%	0.4%



By Month



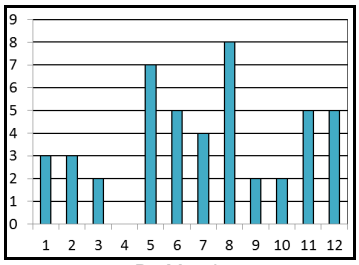
By Day Sunday-Saturday



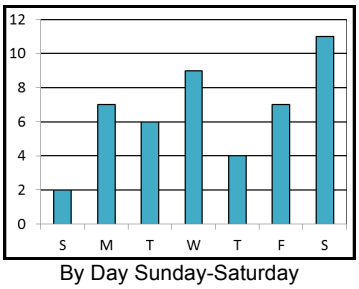
By Time from Midnight (3-hour periods)

Table 71. Fatal Crashes Involving Drivers Ages 75 and Older by Month, Day of Week, and Time of Day: Totals 2006-2010

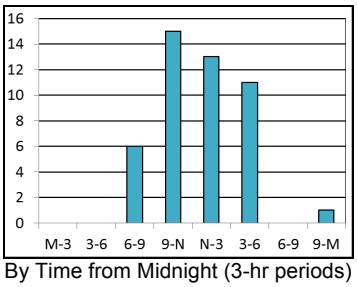
	Vermont		Region	U.S.
	(N=46)		(N=525)	(N=13,395)
	N	%	%	%
MONTH				
January	3	6.5%	8.0%	7.8%
February	3	6.5%	7.4%	6.6%
March	2	4.3%	5.7%	7.9%
April	0	0.0%	5.9%	8.1%
May	7	15.2%	8.4%	9.0%
June	5	10.9%	8.8%	8.6%
July	4	8.7%	9.9%	8.5%
August	8	17.4%	12.0%	8.3%
September	2	4.3%	5.9%	8.4%
October	2	4.3%	11.6%	9.3%
November	5	10.9%	7.8%	8.8%
December	5	10.9%	8.6%	8.7%
DAY OF WEEK				
Sunday	2	4.3%	10.9%	11.1%
Monday	7	15.2%	16.0%	14.9%
Tuesday	6	13.0%	16.6%	15.3%
Wednesday	9	19.6%	14.9%	15.0%
Thursday	4	8.7%	15.2%	14.8%
Friday	7	15.2%	14.7%	16.3%
Saturday	11	23.9%	11.8%	12.6%
TIME OF DAY				
Midnight-3am	0	0.0%	0.6%	1.1%
3am-6am	0	0.0%	1.5%	1.6%
6am-9am	6	13.0%	9.1%	8.7%
9am-Noon	15	32.6%	25.7%	23.2%
Noon-3pm	13	28.3%	29.7%	27.5%
3pm-6pm	11	23.9%	24.2%	23.0%
6pm-9pm	0	0.0%	5.7%	10.7%
9pm-Midnight	1	2.2%	3.4%	4.0%
Unknown	0	0.0%	0.0%	0.4%



By Month



By Day Sunday-Saturday



By Time from Midnight (3-hr periods)

By road type, a plurality (36.0%) of Vermont's fatalities involving drivers ages 65-74 occurred on arterial roads and 28.0% occurred on collector roads. A similar distribution was seen for Region 1, where 35.4% of such fatalities occurred on arterial roads, with local roads accounting for 24.9%, and interstate/expressways accounting for 23%. Nationwide, more than half, 51.9%, of such fatalities occurred on arterial roads, 18.2% occurred on collector roads and 15.7% occurred on interstate/expressways.

Table 72. Fatalities Involving Drivers Ages 65-74 by Road Type

	Vermont					Total 2006-2010		
	2006	2007	2008	2009	2010	VT	Region	U.S.
	(N=8)	(N=11)	(N=12)	(N=8)	(N=11)	(N=50)	(N=421)	(N=15,948)
Road Type								
Interstate/Expressway	0	4	3	3	2	24.0%	23.0%	15.7%
Arterial	4	2	4	2	6	36.0%	35.4%	51.9%
Collector	3	2	4	3	2	28.0%	16.2%	18.2%
Local	1	3	1	0	1	12.0%	24.9%	13.3%
Unknown	0	0	0	0	0	0.0%	0.5%	0.8%
Total	8	11	12	8	11	100.0%	100.0%	100.0%

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

A majority (51.9%) of Vermont's fatalities involving drivers ages 75 and older occurred on arterial roads, with the remainder being fairly evenly distributed among the other road types. For Region 1, 44.5% of such fatalities occurred on arterial roads, with local roads accounting for 22.9%. Nationwide, more than half, 55.6%, of such fatalities occurring on arterial roads, 18.4% occurring on collector roads and 14.7% occurring on collector roads.

Table 73. Fatalities Involving Drivers Ages 75 and Older by Road Type

	Vermont					Total 2006-2010		
	2006	2007	2008	2009	2010	VT	Region	U.S.
	(N=14)	(N=9)	(N=8)	(N=10)	(N=13)	(N=54)	(N=568)	(N=14,698)
Road Type								
Interstate/Expressway	4	0	4	0	1	16.7%	16.5%	10.5%
Arterial	8	5	4	7	4	51.9%	44.5%	55.6%
Collector	1	1	0	1	6	16.7%	15.0%	18.4%
Local	1	3	0	2	2	14.8%	22.9%	14.7%
Unknown	0	0	0	0	0	0.0%	1.1%	0.8%
Total	14	9	8	10	13	100.0%	100.0%	100.0%

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

IX. DISTRACTION (2010 ONLY)

DISTRACTION – KEY FINDINGS

- Note: This is the first year in which Distractions were gathered in a separate table, so no historical data are available
- Fatal crashes where at least one car reported at least one distraction accounted for 12.7% of total crashes in Vermont, a percentage identical to that reported for Region 1 (12.7%) and slightly higher than in the Nation as a whole (11.1%) (Table 74).
- Of crashes in Vermont where at least one car had at least one or more distractions recorded, one of more distractions were recorded, 37.5% involved at least one driver who was *eating/ drinking/smoking* and 25% involved at least one driver with reported *cell phone use*. (Table 75).
- In Region 1, 40.8% involved at least one driver who was *unaware/did not see*, 24.8% involved at least one driver with *distraction/inattention*, details unknown, and 14.4% involved at least one driver with *other distraction*. (Table 75).
- Nationwide, *distraction/inattention* was involved in more than a third (37.3%) of such crashes, while at least one driver who was *unaware/did not see* was involved in 27%. *Cell phone* use by at least one driver was involved in 10.6% of all distracted crashes (Table 75).

As seen in the table above, there were 8 fatal crashes with one or more distractions a reported in Vermont in 2010, accounting for 12.7% of the total crashes reported for the year. This is in line with the percentages for the Region 1 (12.7%) and the Nation (11.1%).

Table 74. Distracted Fatal Crashes (2010 only)

	Vermont		Region		Nation	
	(N=63)		(N=988)		(N=30,196)	
	Crashes	% of Total Crashes	Crashes	% of Total Crashes	Crashes	% of Total Crashes
One or More Distractions Reported*	8	12.7%	125	12.7%	3,360	11.1%

*Includes crashes with Distraction table codes for No driver present and Looked but did not see.

By behavior, of the 8 fatal crashes in Vermont in 2010 in which a distraction was recorded in at least one vehicle, a plurality, 37.5% involved at least one driver who was *eating, drinking or smoking* and 25% involved at least one driver distracted by *cell phone* use. In Region 1, a plurality of distracted crashes, 40.8%, involved at least one driver who was *unaware/did not see*, 24.8% involved at least one driver with *distraction/inattention*, details unknown and 14.4% of such crashes involved at least one driver with *other distractions*. Looking at the Nation, *distraction/inattention* accounts for more than a third (37.3%) of such crashes, with *unaware/did not see* accounting for 27%. *Cell phone use* accounted for 10.6% of the total.

Table 75. Distracted Fatal Crashes by Behavior (2010 only)

Total Distracted Crashes	Vermont (N=8)	Region (N=125)	U.S. (N=3,360)
Distraction*			
Unaware/Did not see	12.5%	40.8%	27.0%
Distracted by Outside Person/Object/Event	12.5%	3.2%	6.0%
Other Distraction	0.0%	14.4%	7.1%
Distracted by Other Occupants	0.0%	2.4%	4.9%
No Driver Present	0.0%	4.0%	5.9%
Distracted by Objects in Vehicle/Vehicle Controls	12.5%	4.8%	4.4%
Eating/Drinking/Smoking	37.5%	2.4%	1.9%
Cell Phone	25.0%	4.8%	10.6%
Distraction/Inattention, Details Unknown	12.5%	24.8%	37.3%

*Percentage of distracted crashes in which the distraction was recorded in at least one vehicle.
Each crash may have involved multiple distractions (distractions recorded at the vehicle level).

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APPENDIX: DATA BOOK CHANGES RELATED TO FARS 2010

Basic Data Moving Average

In the basic data section, the moving average is an average of the current year and the previous two years. Thus, the moving average for the first year in this data's books discussion, 2006, is an average of the values of 2004, 2005, and 2006.

Basic Data Linear Trend Line

In the basic data section, a linear trendline is also provided to show, in the simplest terms, whether the past trends (usually in fatalities) have been up, down, or flat. A linear trendline is often used as a predictive as well, but the reliability its predictions depends on how much of the variation in variable "Y" (e.g., fatalities) is accounted for by change in variable "X" (e.g., year). The R^2 value for the linear trendline provides an index of that reliability. An R^2 value of 1.00 indicates that *all* of the variation in "Y" is accounted for by change in "X". On the other hand, an R^2 value of 0.00 indicates that *none* of the variability in Y is accounted for by a unit change in X. Thus, in this report, it would mean that fatalities vary totally independently of time. The predictions (i.e., future fatality counts) that are provided for the linear trendline assume a high R^2 value *and* they assume an environment in which there is constancy with regard to important factors (e.g., the legal environment, current enforcement practices, the economy, etc.). To the extent that these assumptions are accurate, the reliability of the linear estimates is high. To the extent that these conditions are not met, the reliability of these estimates deteriorates.

In general, States have been encouraged to examine the *linear trends* and the *three-year moving averages* in their data over the most recent five year period as a precursor to establishing goals and performance measures. This has been common practice for several years.

Consistent with these recommendations, we provide the linear trendline (as well as the three-year moving average) for each fatality area that we examine *and* we extend the linear trendline for three years beyond the last data point.

In our interpretation of these predictions, however, we also discuss the R^2 value of the linear trendline (i.e., the reliability or robustness of the trendline) as well as any other factors that might affect the reliability/validity of the linear trendline as a predictor (e.g., an expected change in the economy).

Speeding Limits

In the 2010 FARS database, speeding limits were changed from a crash to a pre-crash level variable. Thus, each crash could have multiple speed limits – as many speed limits as there were cars in the crash, provided that each car was travelling on a different roadway prior to the critical pre-crash event. However, to allow us to look at speed limits at the crash level, we took the *maximum* speed limit of all the vehicles involved in the crash, setting that as the crash-level speed limit. Again, this applies only to 2010 crashes.

Beginning in 2010, an additional speed limit data element, 'Not Reported', began usage. 'Not Reported' and 'Unknown' were collapsed together into one category for 2010.

Census Data

In the previous year's data books, population data were from the U.S. Census Bureau's vintage estimates for 2005 through 2009. This year's data books, however, used 2010 post-census intercensal, as opposed to vintage, data. It was not expected that vintage data would be completed in time for use in the data books. The methodology behind intercensal data may be found here:

http://www.census.gov/popest/methodology/2000-2010_Intercensal_Estimates_Methodology.pdf

Inattention (Distraction) Driver Factors

Beginning in 2010, many elements that previously had been encoded at the vehicle/driver level were broken out into separate tables (e.g., the new *Distraction* and *Violation* tables).

In Tables 52 (Fatal Crashes Involving Motorcycles – Operator Factors) and 63 (Driver Factors of Young Drivers Involved in Fatal Crashes), for the years 2005 through 2009, *Inattentive* was a single element – *Inattentive/Careless (Talking, Eating, Car Phones, etc.)*. However, in 2010, many individual factors that had been subsumed under the *Inattentive* data element were broken out into their own separate categories, as *Distraction* became an entirely new table in FARS.

In 2010, there were many more categories of *Inattention* (e.g., *Driver Distracted By Moving Object in Vehicle, Smoking Related Distraction*, etc.) to be found in the *Distraction* table. Thus, if *any* of these *Distraction* data elements were used in a crash (with the exception of *Not Reported* and *Unknown if Distracted*), the driver was considered to have been *Inattentive* (see Tables 52 and 63).