

2017 Annual Traffic Crash Fact Book

STATE OF VERMONT

VERMONT AGENCY OF TRANSPORTATION | PREPARED BY
THE OFFICE OF HIGHWAY SAFETY

Vermont Highway Safety Alliance

&

Vermont Strategic Highway Safety Plan

The Vermont Highway Safety Alliance is a network of like-minded private and public organizations working together to collect, share and use data to develop highway safety strategies integrating: road engineering and infrastructure; law enforcement and emergency medical services; and education and outreach.

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

The 5-year Strategic Highway Safety Plan states goals and outlines tactics for minimizing the occurrence and severity of highway crashes, and related injuries and fatalities. The VHSA selected seven Critical Emphasis Areas and two Significant Emphasis Areas.

1. **Improve Infrastructure: Minimize Lane Departure & Improve the Design and Operation of Highway Intersections**

Many of our crashes are the result of a failure to maintain a lane. Lane departure crashes are defined as crashes in which a vehicle ran off the road and/or overturned and/or collided with a tree, a pole or sign, a guardrail, ledge or boulder, or any other fixed object including another vehicle.

Another critical area for infrastructure is intersections. This is a place where vehicles cross paths, creating a higher risk for crashes.

2. **Curb Speeding and Aggressive Driving**

Crashes due to speeding and aggressive driving result in a higher percentage of more severe injury crashes. In fact, they

make up 31% of all major crashes in Vermont and 30% of the fatal crashes.

3. Increase Use of Occupant Protection

Using seatbelts is an effective way to prevent serious injuries and fatalities in traffic crashes. Surveys indicate that 80% of Vermonters wear their seatbelts, however, 52% of occupants killed in crashes were not belted. Reaching the other 20% remains a high priority of the VHSA.

4. Vulnerable Users & Motorcyclists: Increase Pedestrian Safety; Increase Bicyclist Safety; Increase Motorcyclist Safety

Pedestrians, bicyclists and motorcyclists are especially vulnerable to major crashes. Over 30% of the pedestrian major crashes result in a fatality. Bicyclists on the road has steadily been increasing, however, the number of major crashes decreased in 2017 to 2% of all major crashes. Motorcyclists account for 1 in 7 of the major crashes on Vermont roads.

5. Age Appropriate Solutions: Improve Younger Driver Safety (Under 25) & Improve Older Driver Safety (65 and Over)

In the new Strategic Highway Safety Plan (2017-2021) Vermont considered drivers under the age of 25 instead of under 21. When Vermont did this, the number of crashes in which younger drivers were involved more than doubled. Drivers under the age of 25 account for just about 1 in 4 of all fatal and suspected serious injury crashes statewide.

Older drivers account for 26% of the statewide suspected serious injury crashes and 21% of fatal crashes. Both numbers are increases from 2016. The population is increasing according to the US Census Bureau, so Vermont wants to remain proactive at addressing older driver crashes.

6. Reduce Impaired Driving

Impaired driving crashes continue to significantly contribute to the state's fatality total. There has been progress in reducing the major crashes, but impaired driving was reported in 20% of all major crashes in Vermont between 2013 & 2017. In 2017, 38% of fatal crashes involved an impaired driver.

7. Curb Distracted Driving and Keep Drivers Alert

In the age of constant distraction and handheld technology, addressing distracted and inattentive driving has become a heightened priority in Vermont and across the country. In 2014 Vermont adopted a law banning the use of handheld device while driving. While the number of major crashes is decreasing, the percentage of major crashes that include distraction as a contributing circumstance remained at 17% in 2017.

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The data contained in this booklet are based on Reportable Crashes and Non-Reportable crashes as defined below. Definitions of the crash types are also defined below for reference.

Definitions

Reportable Crash	A crash which results in injury, death, or total property damage equal to \$3,000 or more.
Non-Reportable Crash	A crash in which no injury, death or total property damage is less than \$3,000.
All Crashes	The total number of reportable motor vehicle crashes and non-reportable crashes including fatal, injury or property damage.
Fatal Crash	Motor vehicle crash that results in fatal injuries to one or more persons.
Injury Crash	Motor vehicle crash that results in injuries, other than fatal, to one or more persons.
Property Damage Only	Motor vehicle crash in which there is no injury to any person, but only damage to a motor vehicle, or to other property.
Serious Injury Crash	A motor vehicle crash in which the highest level of injury is "Suspected Serious Injury".

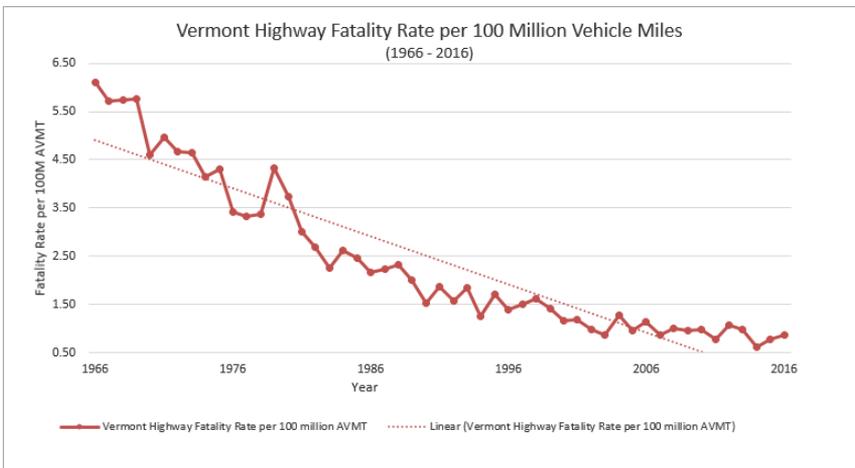
Part I
Overview

Death Rate

The fatality rate for Vermont roadways in 2017 was 0.94 persons killed per 100 million vehicle miles traveled. This is up from the previous two years. However, the overall trend is declining as Figure 1 below shows. Much of the reduction can be attributed to improvements in vehicle design, roadway engineering, emergency medical services, safety programs, enforcement and improved driver awareness.

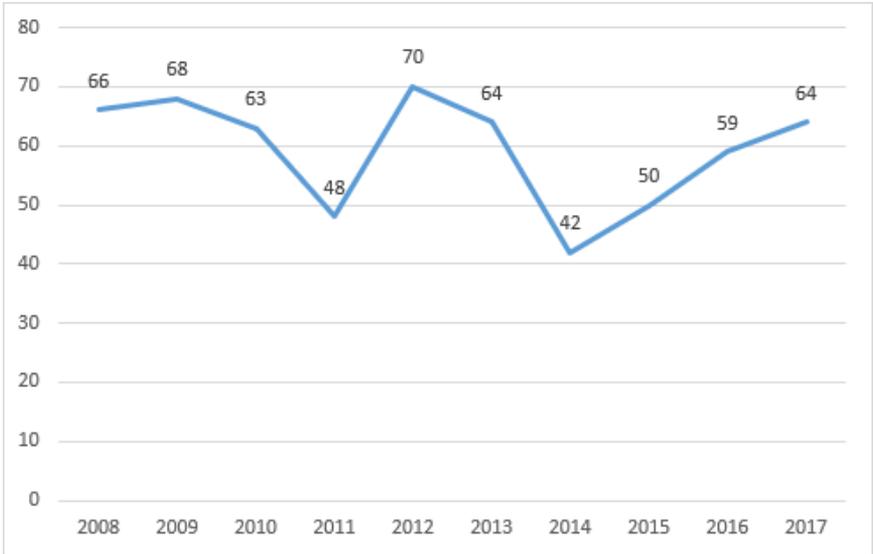
Figure 2 shows the most recent 10 years of fatal crashes. In 2017, there were 64 fatal crashes, an increase from the previous two years.

As with many states, fatal crashes make up a small portion of our total crashes. In 2017, there were 1,959 injury crashes and 8,181 property damage only crashes. Of the 1,959 injury crashes, 206 were serious injury crashes. Fatal crashes make up 0.6% of total crashes and serious injury are 2.5% of total crashes.



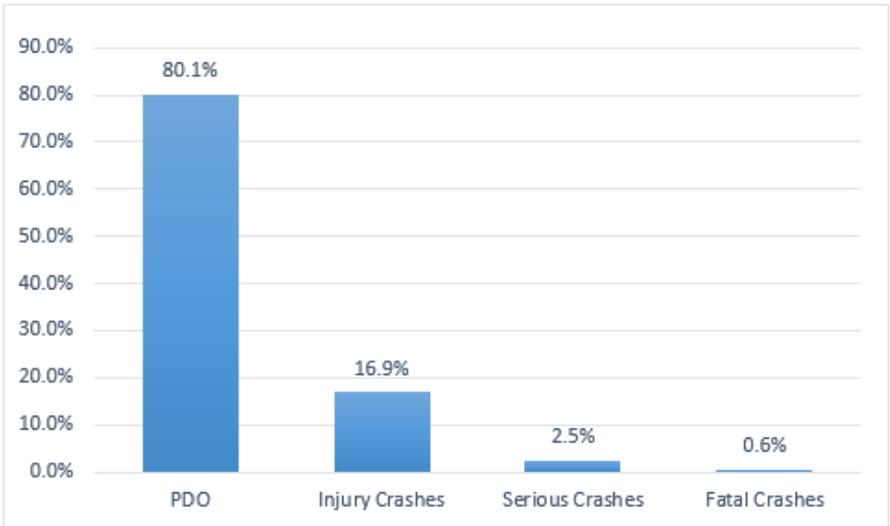
(Figure 1)

Ten-Year Trend in Fatal Crashes (2008-2017)



(Figure 2)

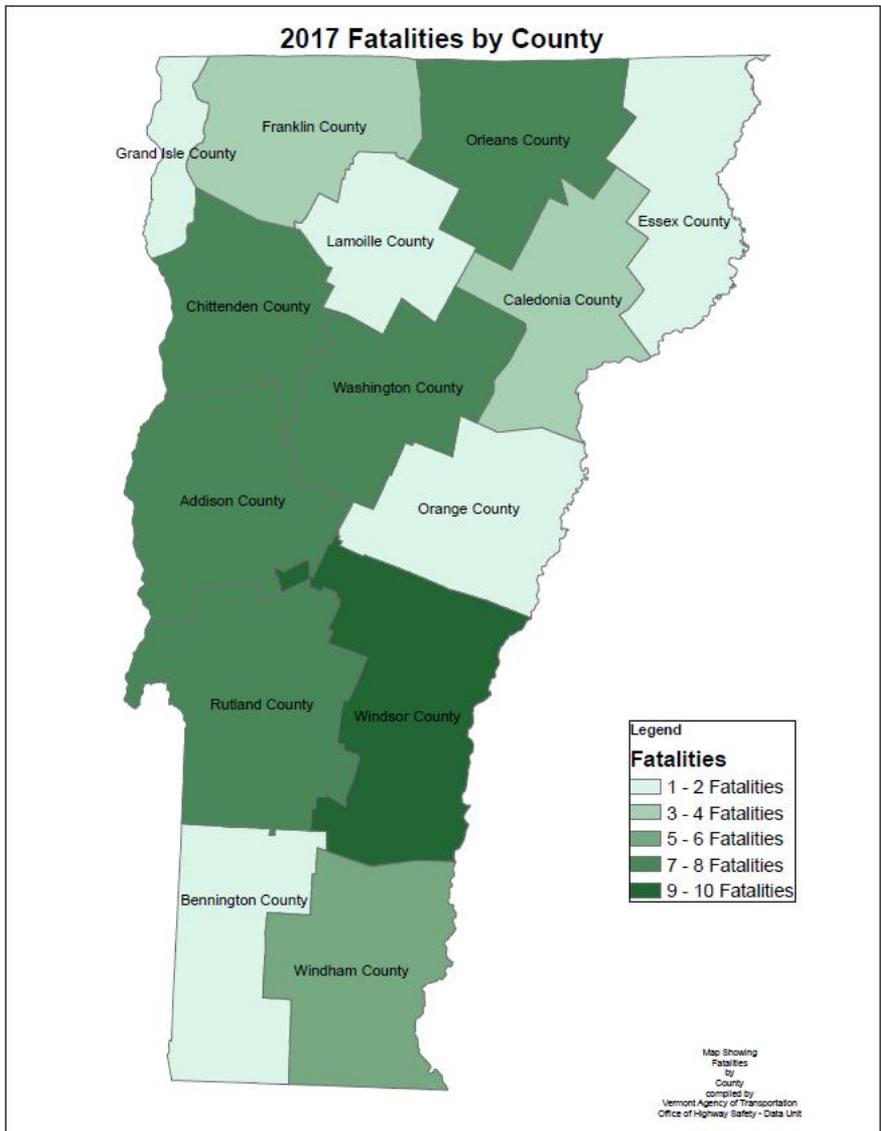
All Crashes in Vermont (2017)



(Figure 3)

Geographic Summary of Traffic Fatalities by County in 2017

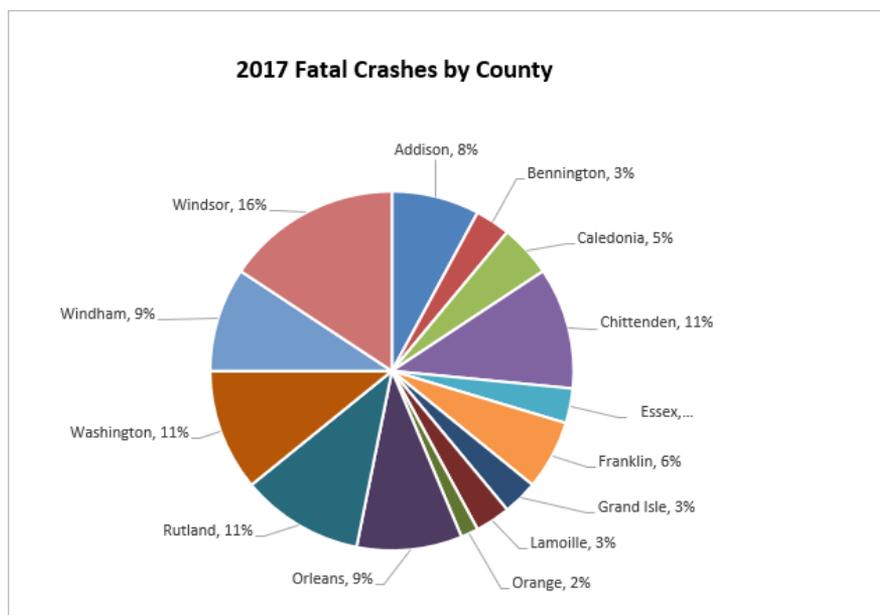
Total Traffic Fatalities – 70



2017 Crash Data by County & Crash Type

County	Crashes					Persons Killed & Injured	
	Total	Fatal	Injury	PDO	UNK	Killed	Injured
Addison	485	5	117	344	19	8	161
Bennington	800	2	116	568	114	2	158
Caledonia	360	3	78	271	8	3	105
Chittenden	4345	7	471	3473	394	8	617
Essex	50	2	15	32	1	2	19
Franklin	635	4	168	240	223	4	237
Grand Isle	75	2	21	37	15	2	22
Lamoille	444	2	77	312	53	2	113
Orange	485	1	65	181	238	1	82
Orleans	321	6	70	230	15	7	92
Rutland	636	7	176	436	17	7	223
Washington	963	7	175	355	426	8	229
Windham	1610	6	218	917	469	6	282
Windsor	1413	10	192	785	426	10	245
Totals	12622	64	1959	8181	2418	70	2585

(Table 1)



(Figure 4)

Part II
2017 Data

Summary

Number of Traffic Crashes

All Crashes.....	12,634
Property Damage Only (PDO).....	8,189
Injury Crashes	1,961
<i>Persons Injured</i>	2,585
Serious Injury Crashes.....	206
<i>Serious Injuries</i>	255
Fatal Crashes.....	64
<i>Fatalities</i>	70
Number of Registered Vehicles in VT.....	765,666

During 2017:

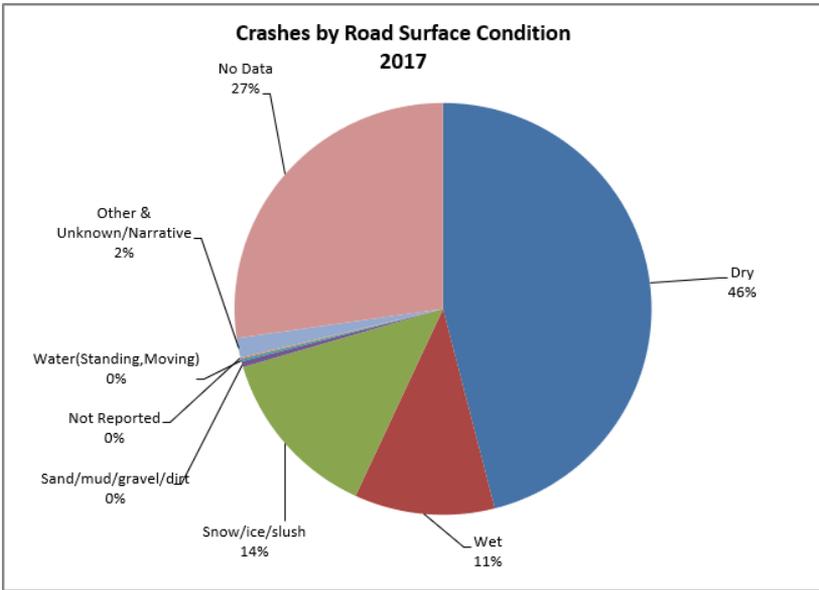
On average, thirty-four crashes occurred
each day,

Eight people were injured each day and

One fatality every 17 days.

Surface Condition

The condition of the road plays an important role in motor vehicle crashes. Adverse surface conditions may prompt drivers to be more cautious. As the figures below show, forty-six percent (46%) of all crashes occur on a dry surface. Twenty-five percent (25%) of all crashes occurred on wet or snow/slush/ice covered roadways in 2017.



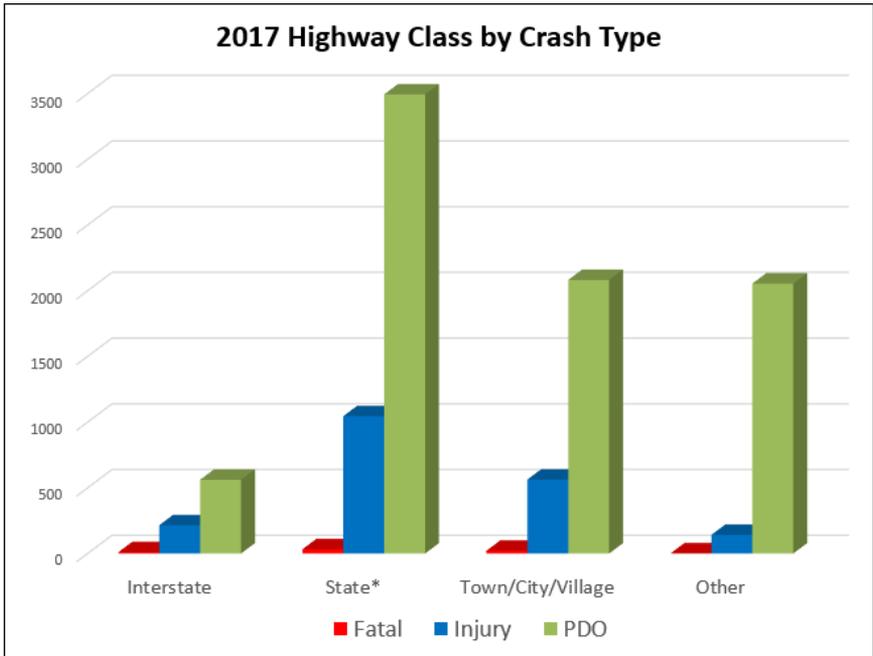
(Figure 5)

Surface Condition	Crash Type				No Data	Total Crashes
	Fatal Crashes	Injury Crashes	Property Crashes	Unknown Crashes		
Dry	44	1207	4569	0	0	5820
Wet	12	306	1060	0	0	1378
Snow/ice/slush	5	312	1396	0	0	1713
Sand/mud/gravel/dirt	1	19	38	0	0	58
Water (Standing, Moving)	0	10	14	0	0	24
Not Reported	0	2	12	0	0	14
Other & Unknown/Narrative	2	28	164	0	0	194
No Data	0	83	944	0	2423	3450
Total	64	1967	8197	0	2423	12651

(Table 2)

Type of Roadway

This chart shows the distributions of crashes by crash type and roadway type. The table below shows the numeric breakdown. The percentage of fatal crashes on the state system is fifty percent (50%) compared to fifteen percent (15%) on interstates.



(Figure 6)

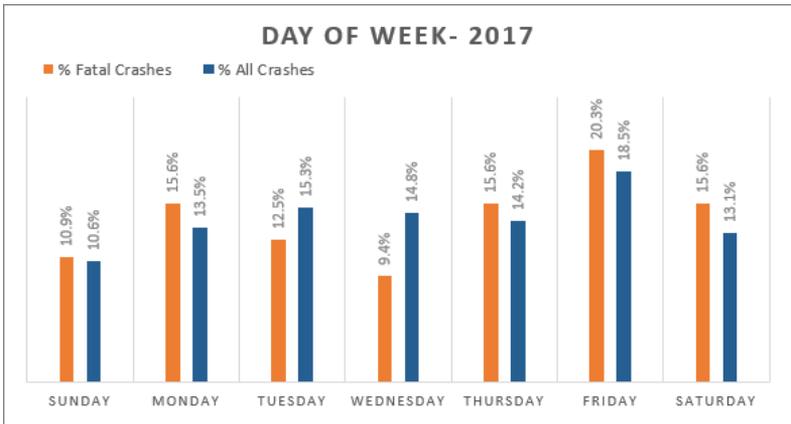
Highway Class:	2017 Crash Type:		
	Fatal	Injury	PDO
Interstate	10	215	561
State*	32	1045	3494
Town/City/Village	21	563	2082
Other	1	142	2054
TOTAL:	64	1965	8191

*State: US, VT and NSH.

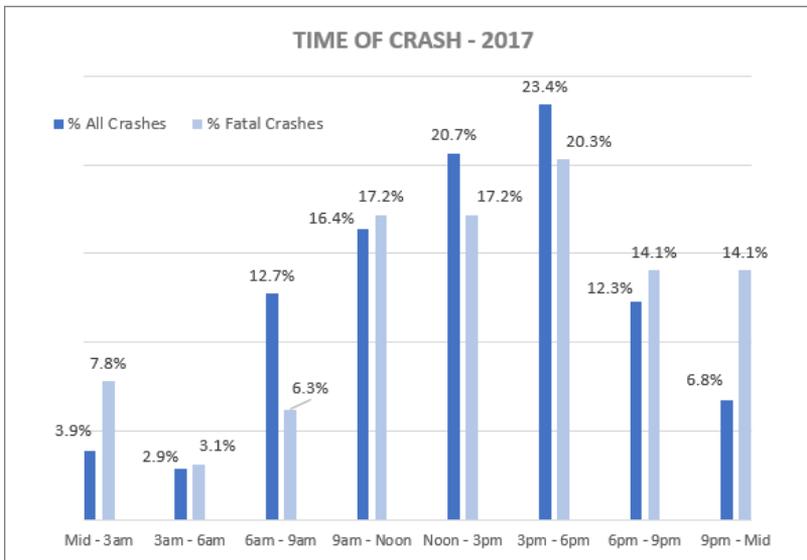
(Table 3)

Day and Time

Crashes occur every day and at all times of the day. These charts show the distribution over weekday and time period. For 2017, the highest percentage of fatal crashes occurred on Friday as well as the percentage of all crashes. The time-period with the highest percentage of crashes remained between 3pm – 6pm again in 2017.



(Figure 7)



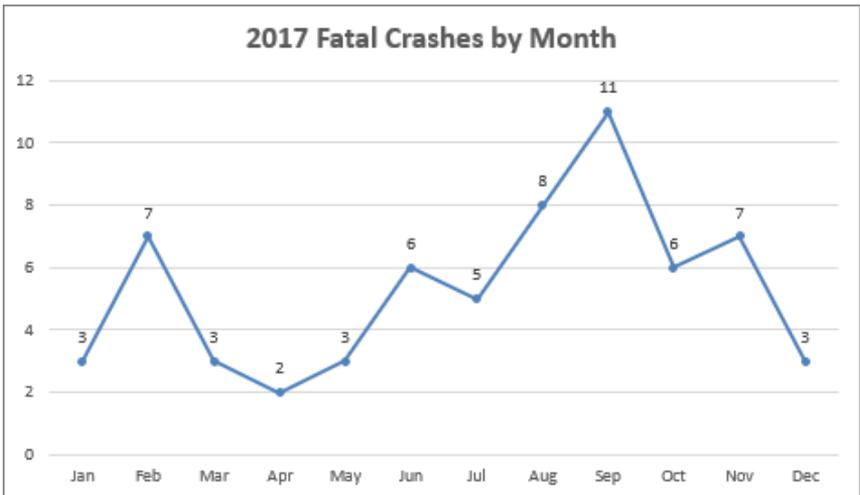
(Figure 8)

Month

The seasonal changes in Vermont can affect driving behaviors as shown below by all crashes and fatal crashes. There is an obvious spike in September in fatal crashes while all crashes are higher in the winter months when road conditions are not always ideal.



(Figure 9)



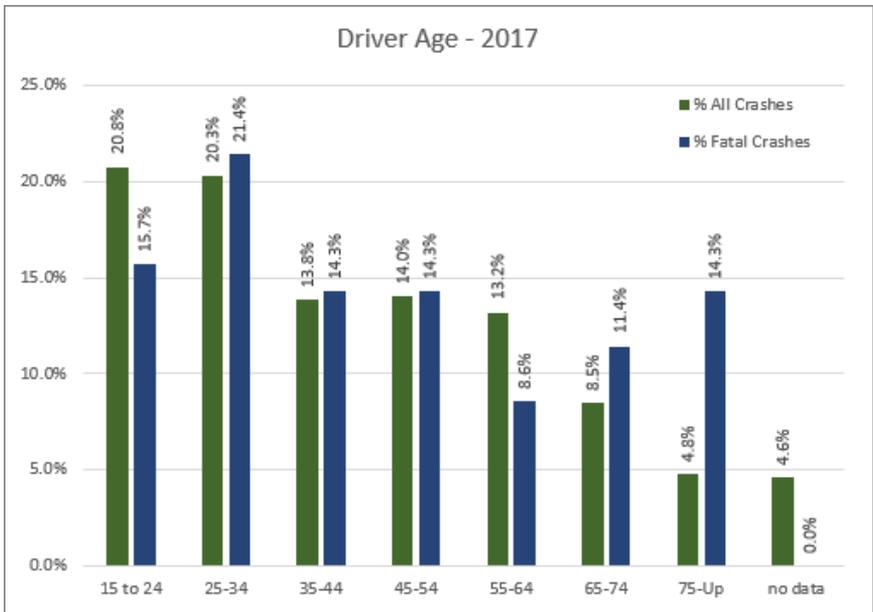
(Figure 10)

Age of Driver

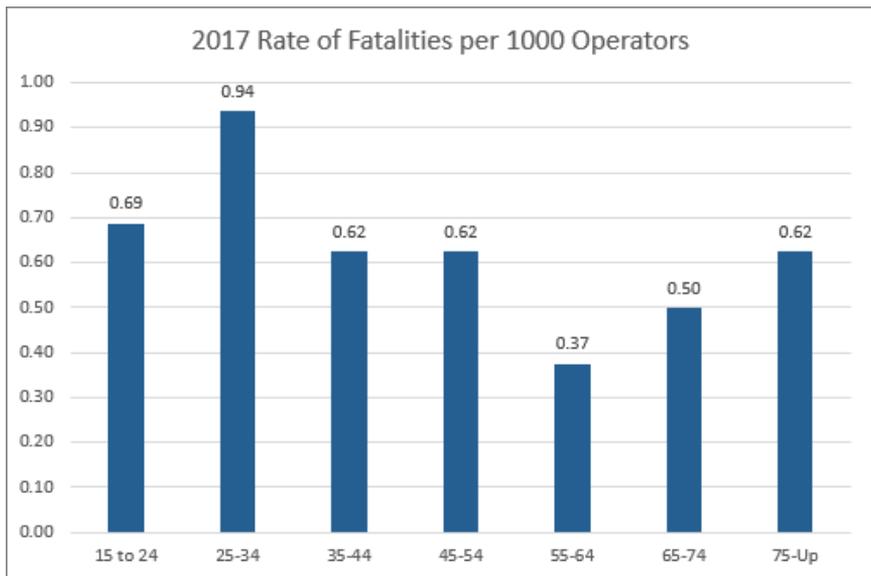
Drivers age 15 – 34 are involved in the largest percentage of crashes. In fatal crashes, it equates to 37% and 41% in all crashes. Interestingly, in 2017 the percentage of drivers 75 and up spiked to 14.3%.

Figure 12 shows the rate of fatalities per 1000 operators. It shows the fatality rate for drivers age 25 – 34 is noticeably higher than other age groups at 0.94.

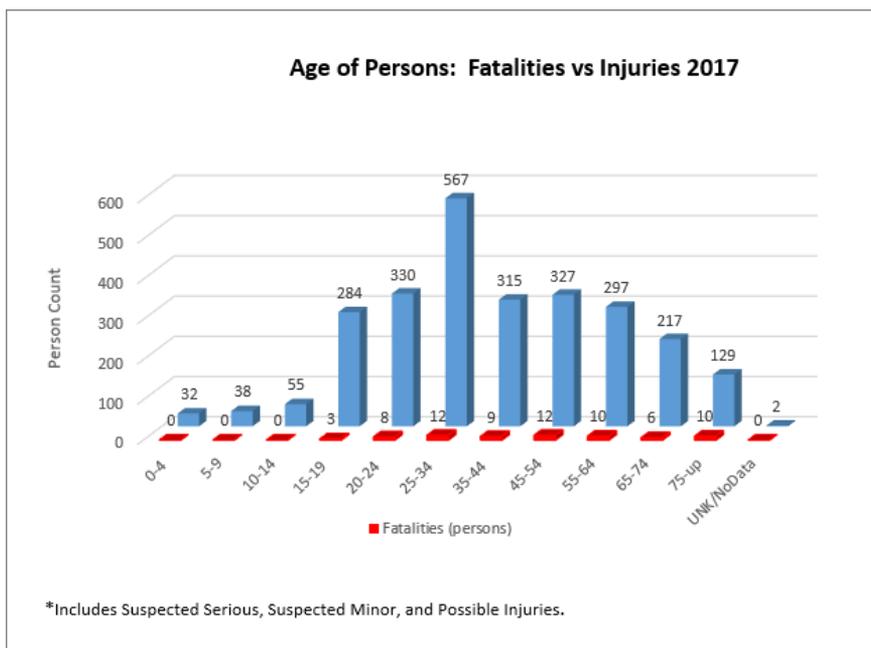
Figure 13 shows the distribution of fatalities and injuries by age group. For injuries, the highest number occurred in the 25 – 34 age group. Fatalities were highest in both 25 – 34-year-old occupants and 45 – 54-year-old occupants.



(Figure 11)



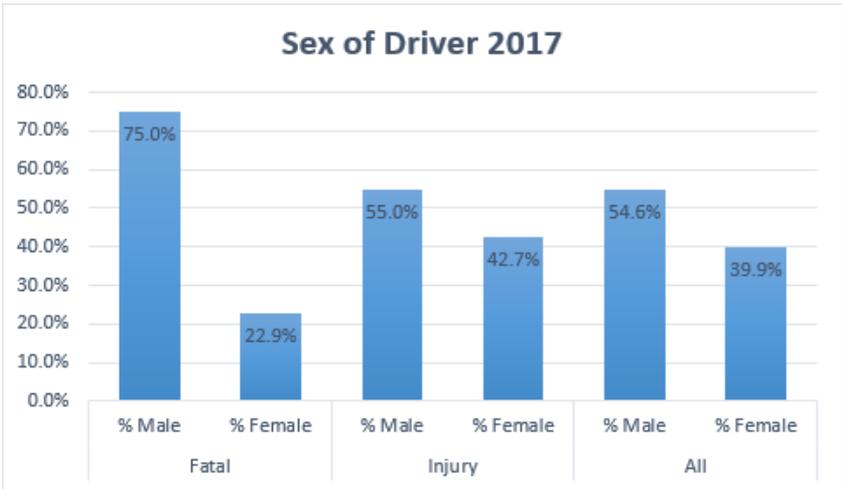
(Figure 12)



(Figure 13)

Sex of Driver

Figure 14 shows the difference between male and female drivers involvement in crashes. Males represented 75% of the drivers in fatal crashes in Vermont in 2017. In all categories, males represent the greater percentage of drivers, but much more so in fatal crashes.



(Figure 14)

Age & Sex of Casualties	Killed			Injured*		
	Total	Male	Female	Total	Male	Female
0 - 4 Years	0	0	0	0	19	13
5 - 9 Years	0	0	0	0	22	16
10 - 14 Years	0	0	0	0	21	34
15 - 19 Years	3	1	2	0	115	169
20 - 24 Years	8	7	1	0	171	158
25 - 34 Years	12	9	3	0	281	283
35 - 44 Years	9	8	1	0	151	160
45 - 54 Years	12	9	3	0	151	175
55 - 64 Years	10	6	4	0	155	138
65 - 74 Years	6	4	2	0	100	114
75 and older	10	7	3	0	67	61
Age not stated	0	0	0	0	1	0
Totals	70	51	19	0	0	0

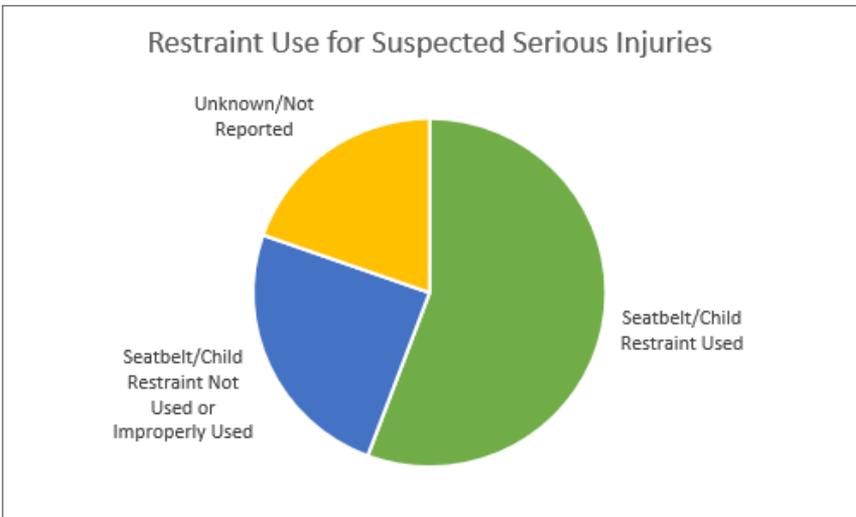
*Injured includes Serious, Minor, Possible.

(Table 4)

Restraint Use

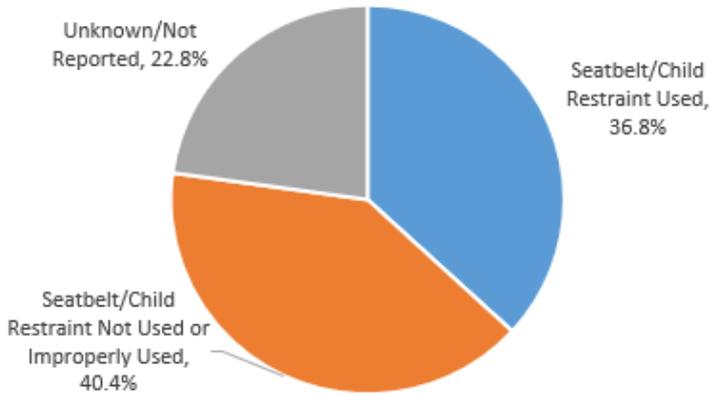
Restraint usage is the greatest available means of preventing fatalities and injuries in motor vehicle crashes. Vermont currently has a secondary seat belt law that mean law enforcement can only write a citation for not wearing a seat belt after the driver is first charged with another violation.

The most accurate measure of safety belt usage in Vermont come from the results of surveys conducted by the Vermont Governor’s Highway Safety Program and approved by the National Highway Traffic Safety Administration (NHTSA). In 2017, the observed seatbelt safety belt usage rate increased from 80.0% to 85.4%. While this is a good increase, Vermont remains below the national average of 89.7%.



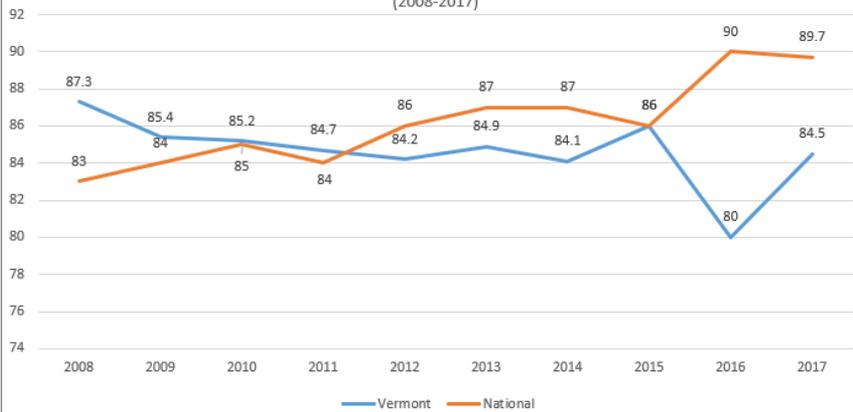
(Figure 15)

Restraint Use for Fatalities



(Figure 16)

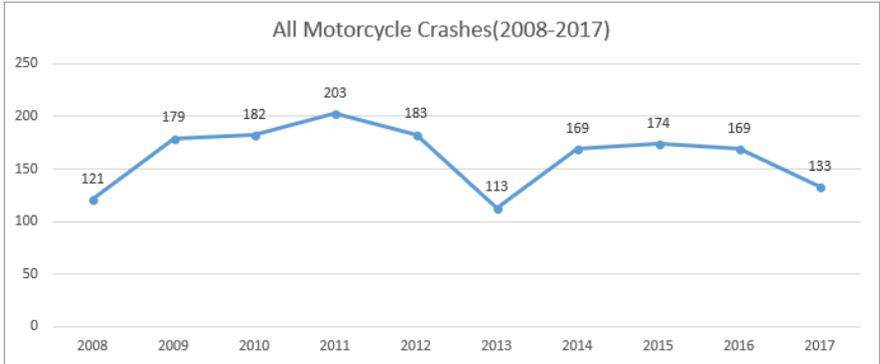
Statewide Safety Belt Usage Rate Compared to the National Rate (2008-2017)



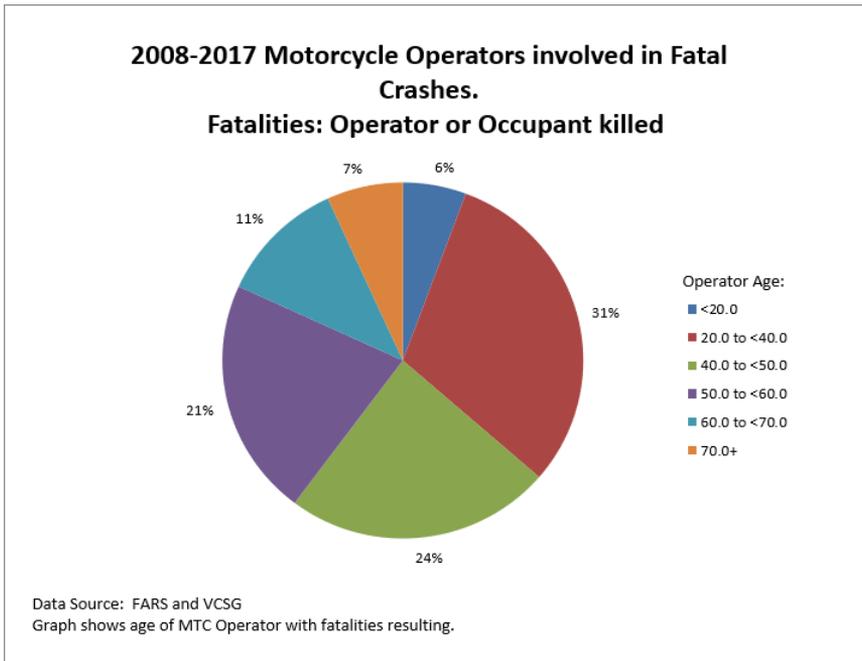
(Figure 17)

Motorcycle Crashes

Crashes have remained steady for motorcycles over the past 10 years. More than half of all motorcycle drivers involved in fatal motorcycle crashes over the past 10 years were between 40 & 60.



(Figure 18)



(Figure 19)

Vehicle Body Style

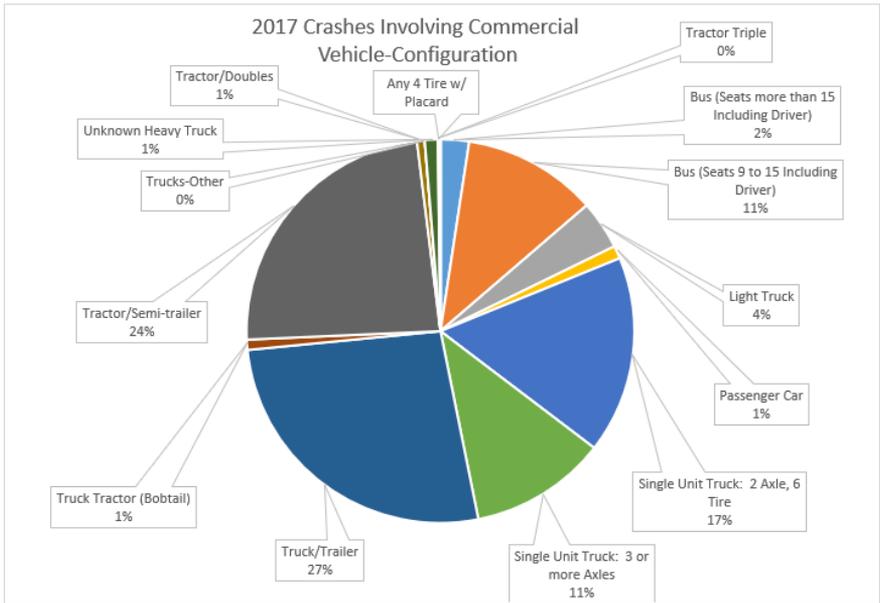
The vehicle type for all crashes by crash type is shown in Table 5. Motorcycles are typically overrepresented in fatal crashes. They offer little protection to riders which means that the crashes are often more severe in nature.

Figure 21 breaks out the large trucks by type. Tractor/Semi-Trailers and Truck/Trailers make up 51% of the large trucks. Buses make up 13% of the vehicles involved in crashes in 2017.

Vehicle Registration Plate Type	Total	Fatal	Injury	PDO
Autos	12858	37	1540	6710
Out of State Auto/Passenger Car-Other	1102	8	220	874
Motorcycle/ATV/Moped	154	13	111	30
Out of State Truck-Other	272	2	34	236
Trucks	2562	20	455	2087
Farm Truck	25	1	3	21
Other/Unknown/No Data	0	0	0	0
Handicapped Plates or Placards	19	1	3	15
Moveable Dealer	42	0	6	36
Municipal Auto or Truck or Bus	196	1	20	175
Bus	57	0	2	55
Trailers	37	0	2	35
Special-unspecified	34	0	8	26
VT State Gov't Auto or Truck	71	0	11	60
Total	17429	83	2415	10360

(Table 5)

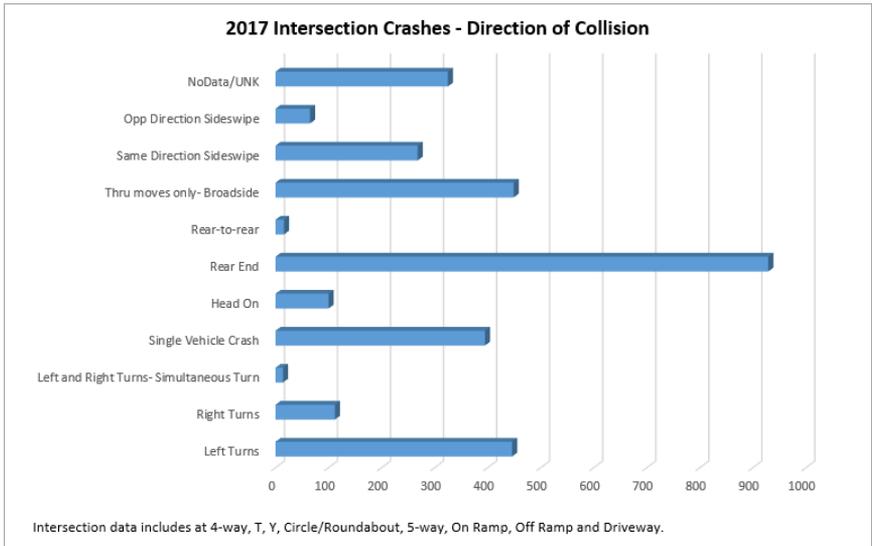
*This table is a count of **vehicles**, not crashes. Therefore, the numbers are larger due to the fact that many crashes involve multiple vehicles.



(Figure 21)

Intersection Crashes

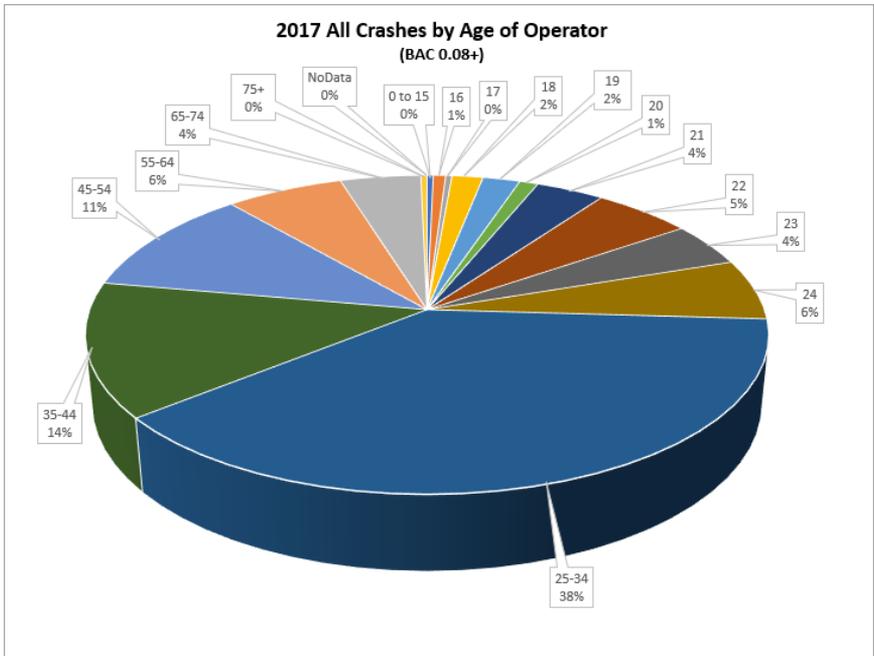
Shown in Figure 22 are the crashes that occurred in intersections. The highest number of these crashes, again in 2017, were rear end collision types. Left Turn crashes and broadside crashes make up the next largest crash types at intersections.



(Figure 22)

Driver Age and Alcohol Involvement

The relationship between driver age and alcohol involvement in motor vehicle crashes is illustrated in Figure 23. Those drivers under 21 represent 6% of all crashes with alcohol involvement, even though the legal drinking age in Vermont is 21. Drivers 25-34 represent the largest group of drivers with a BAC over 0.08.



(Figure 23)

Driver Contributing Circumstances

In 2017 there were 12,634 reported motor vehicle crashes in Vermont involving 16,038 drivers. Below is a table showing the primary contributing circumstances for each driver and the number of drivers by crash type. If there were multiple drivers in a crash, each driver will have a contributing circumstance listed below.

Driver Contributing Circumstances	Total Operators: All Crashes	Operator Count by Crash Type:		
		Fatal	Injury	PDO
No improper driving	4417	29	858	3530
Failed to yield right-of-way	1024	3	230	791
Disregarded traffic controls	183	3	50	130
Exceeded speed limit	122	4	53	65
Speed too fast for conditions	1237	4	289	944
Made an improper turn	194	1	24	169
Followed too closely	740	2	136	602
Failure to keep in proper lane	978	29	324	625
Operating vehicle in erratic, reckless, careless, negligent or aggressive manner	152	3	59	90
Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc.	152	0	32	120
Not Distracted	25	0	4	21
Visibility obstructed	197	0	29	168
Distractions/Inattention/Fatigue/Asleep	1978	5	303	1670
Operating defective equipment	72	0	24	48
Other improper action	391	2	54	335
Under Influence of meds/drugs/alcohol	229	4	72	153
Wrong side or wrong way	51	0	17	34
Unknown	653	6	73	574
No Data	3243	1	391	2851
TOTAL:	16038	96	3022	12920

(Table 6)

Again in 2017, when grouped together, the “Distraction/Inattention/Fatigue/Asleep” category is the most common contributing circumstance for all drivers. For fatal crashes, the most common is “Failure to keep in proper lane”.

*Note: “No Improper Driving” is typically used for Driver 2 and subsequent drivers who are not usually considered the “at fault” drivers.

Part III
Crash Trends

MV Traffic Crash Data

After trending down from 2012 to 2014, Vermont’s fatality rate has increased in 2015 and again in 2016.

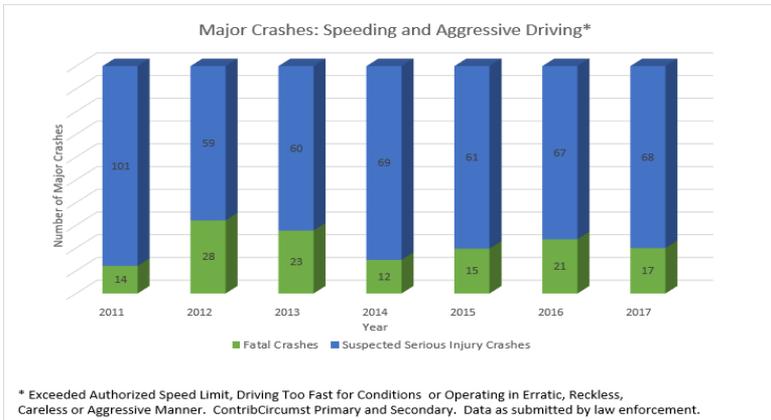
Year	Total Crashes	Persons Injured	Persons Killed	Fatality Rate (per HMVM)	National Fatality Rate (per HMVM)
2007	14,438	3,648	66	0.88	1.36
2008	13,762	3,421	73	1.02	1.26
2009	12,654	3,146	73	0.76	1.15
2010	12,921	3,185	71	0.72	1.11
2011	12,683	3,148	55	0.71	1.1
2012	11,667	2,977	77	0.72	1.14
2013	13,825	2,824	70	0.71	1.1
2014	12,748	2,850	44	0.71	1.08
2015	14,185	2,852	57	0.73	1.13
2016	12,650	3,013	64	0.84	1.18
2017	12,634	2,587	70	0.94	1.17

Hundred Million Vehicle Miles (HMVM)

(Table 7)

Speed & Aggressive

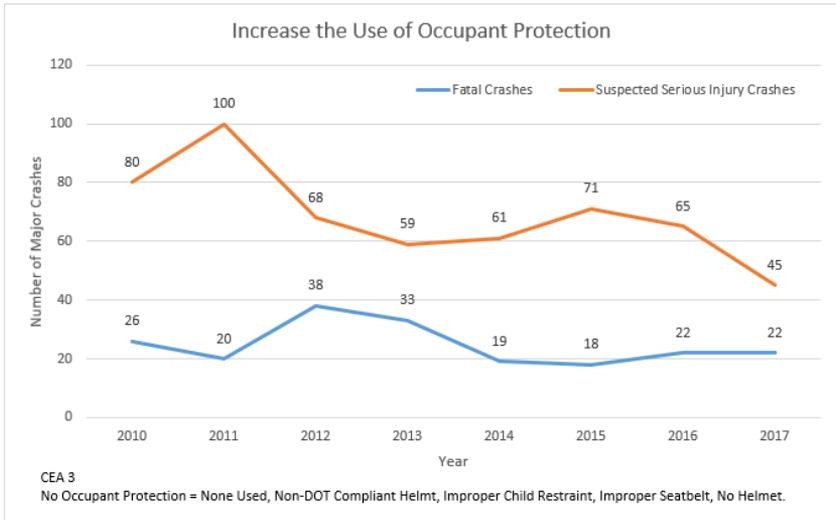
The number of major crashes where speed or aggressive driving is cited as a contributing circumstance are shown in the figure below. The numbers are split by fatal and suspected serious injury crashes. The number of fatal crashes has been increasing over the past few years but showed a decline in 2017.



(Figure 24)

Restraint Use

Over the past several years, the number of unbelted fatalities has been between 45% and 50%. In 2017 the percentage went up to 52%. In table 8, there is a breakdown by road user type and belt use. For 2018, Vermont is currently at 63% unbelted.



(Figure 25)

Fatalities by Vehicle Type and Restraint/Safety Equipment Used		2018	2017	2016	2015	2014	2013
Road User Type	Restraint/Safety Equipment						
Motor Vehicle Occupant	Unbelted	17	24	21	16	16	26
	- Driver	11	17	11	11	13	20
	- Passenger	6	6	10	5	3	6
	- UTV Driver		1	0	0	0	0
	Belted	10	22	23	17	11	25
	- Driver	8	15	20	13	8	16
	- Passenger	2	7	3	4	3	9
	Improper Belt Use/Child Restraint		1	1	0	0	0
Motorcyclist/ATV	Wearing Helmet	3	11	10	11	7	5
	Non-DOT Compliant Helmet/Improper	1	1	1	0	1	0
	No Helmet		2	1	1	1	7
Vulnerable Users	Pedestrians	2	9	5	5	5	6
	Bicyclists		0	1	4	0	0
Unknown	Unknown Belt/Helmet Use	6	1	2	4	3	1
% Unbelted*		63%	52%	48%	48%	59%	51%
Total Fatalities		39	70	64	58	44	70

*Of all fatalities; involving vehicles with seatbelts available were Unbelted. This percentage does not consider the unknown restraint cases. (Sum of Belted" & "Unbelted", divided into "Unbelted")

(Table 8)

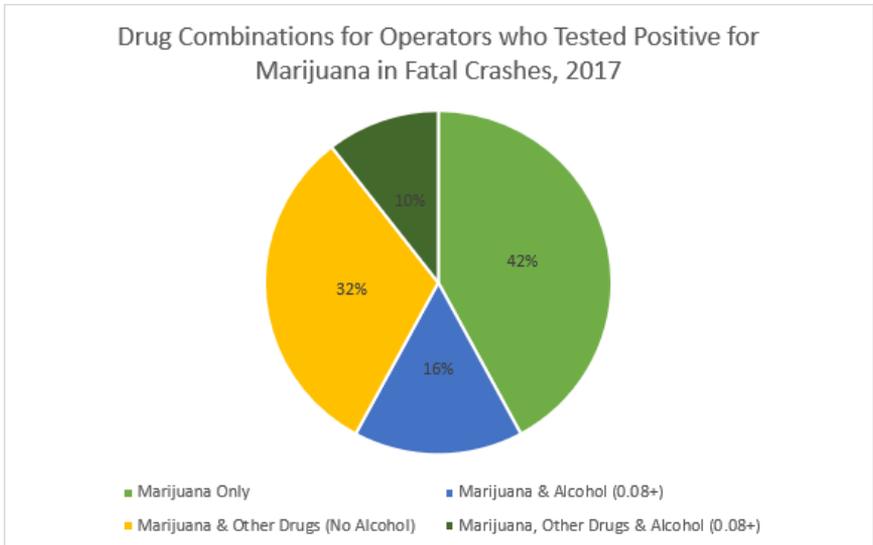
Alcohol & Drug Involvement in Crashes

Drug impaired driving is becoming an increasing issue in Vermont. With the legalization of marijuana in Vermont, it is important to have baseline data. It is also important to continue to collect and evaluate the data as we move forward. Below is a table showing a breakdown of the fatal crashes by type of impairment. In figure 26, marijuana is broken down further to show the percentage of operators that had marijuana alone or in combination with other substances.

Fatal Crashes with Impairment 2012-2017						
Categories	2012	2013	2014	2015	2016	2017
Alcohol Only (0.08+)	13	9	3	4	14	7
Alcohol (0.08+) & Delta-9 THC	4	5	0	5	7	3
Alcohol & Other Drugs (inc. Delta-9 THC)	6	5	3	4	3	6
Drug: Delta-9 THC Only	5	3	5	3	5	8
Drug: Other* (includes Delta-9 THC)	11	6	5	8	4	10
Total Impaired Fatal Crashes	39	28	16	24	33	34
Total Fatal Crashes	70	64	42	50	59	62
Impaired Percentage of Fatal Crashes	55.7%	43.8%	38.1%	48.0%	55.9%	54.8%

*Other Drug categories include: Central Nervous System Depressants, Central Nervous System Stimulants, Hallucinogens, Dissociative Anesthetics, Narcotic Analgesics, Inhalants, & Cannabis.

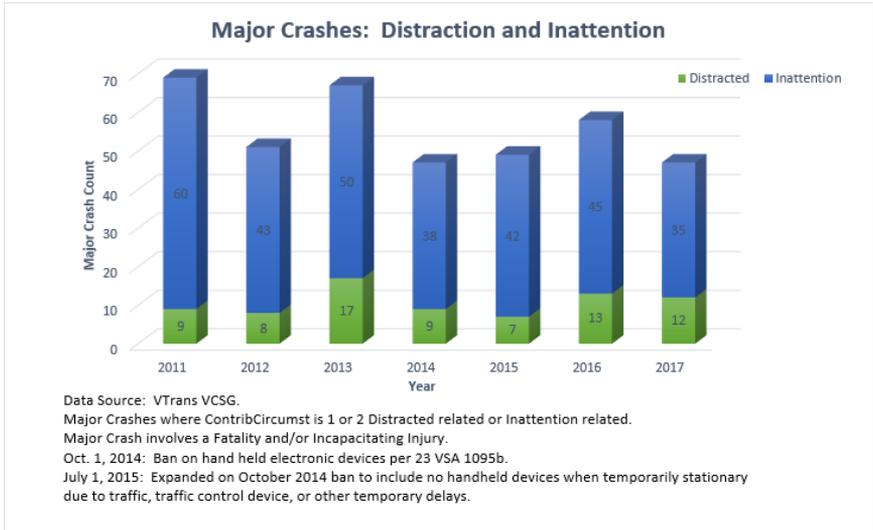
(Table 9)



(Figure 26)

Distracted Driving

In Vermont, distracted driving is a growing area of concern. From 2014 to 2016, the number of distracted and inattentive major crashes has seen an increase as figure 27 shows below. In 2017 the number declined, however the decline is more noticeable in inattention than it is in distraction.



(Figure 27)

