

Montana Highway Traffic Safety FFY 2017

Problem Identification

2015 Data



**Montana Department
of Transportation**

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Table of Contents

Table of Contents	2
1. Vision Zero	4
2. Introduction	4
3. Explanation of Data	4
Data Sources	5
4. Montana Summary of 2015 Crashes	5
5. Montana Demographics	8
5.1 Montana Border to Border	8
5.2 Montana People	8
6. Traffic Crashes and Exposure Statistics	9
6.1 Vehicle Miles Traveled	10
Montana Vehicle Miles Traveled	10
6.2 Fatality Rates	11
Montana vs USA Fatality Rates	11
6.3 Fatalities and Injury Crashes	12
Montana Fatalities/Fatality Rate	12
Roadway Crash Summary 2006-2015	13
MT Severe Injuries - 2013-2015	13
7. Crash Demographics	14
7.1 Gender of Drivers	14
Montana Drivers in Crashes by Gender 2006-2015	14
Montana Driver Gender – Fatal Crashes 2006-2015	15
7.2 Montana - Age in Crashes	15
Fatalities and Serious Injuries by Age	16
8. Montana Traffic Safety Emphasis Areas	16
8.1 Unrestrained Occupant	16
MT Annual Observational Seat belt Count	17
Unrestrained Fatalities - 2006-2015	17
8.2 Impaired Driver Involved	18
Impact of Impaired Drivers	19
8.3 Roadway Departure Crash	19
8.4 At-Risk-Groups	19
Native American Fatalities - 2006-2015	20
Motorcycle Fatalities 2006-2015	20
Young Driver Fatalities & Serious Injuries 2006-2015	21

9. Roadway Crashes	21
10. Fatal and Serious Injury Crashes	22
Montana Crash Data - Multiple Factors	23
11. Conclusion	24
12. Glossary	25

List of Figures

Montana Vehicle Miles Traveled	10
Montana vs USA Fatality Rates	11
Montana Fatalities/Fatality Rate	12
Roadway Crash Summary 2006-2015	13
MT Severe Injuries - 2012-2015	13
Montana Drivers in Crashes by Gender 2006-2015	14
Montana Driver Gender – Fatal Crashes 2006-2015	15
Fatalities and Serious Injuries by Age	16
MT Annual Observational Seat belt Count	17
Unrestrained Fatalities - 2006-2015	17
Impact of Impaired Drivers	19
Native American Fatalities - 2006-2015	20
Motorcycle Fatalities 2006-2015	20
Young Driver Fatalities & Serious Injuries 2006-2015	21
Montana Crash Data - Multiple Factors	23

1. Vision Zero

The Montana Department of Transportation and our partners are united in the mission to save lives on Montana roads. The information presented in the *Montana Highway Traffic Safety Problem Identification* document supports efforts toward Montana's Vision Zero Initiative: zero deaths and zero serious injuries on Montana's Highways. This multipronged initiative has the ultimate goal of eliminating death and serious injuries on Montana's highways because one life lost is one to many.

2. Introduction

The *Montana Highway Traffic Safety Problem Identification*, produced by the Montana Department of Transportation's Highway Traffic Safety Section (SHTSS), provides a description of motor vehicle crash characteristics for crashes that have occurred on Montana's public roadways. The crash data is used to identify problem areas and trends related to highway traffic safety in Montana and serves to heighten awareness about traffic safety and assist highway traffic safety specialists and partners in designing targeted counter-measures to reduce traffic-related fatalities and injuries.

This document is used in the development of Montana's Highway Safety Plan (HSP) to support the request for funds from the National Highway Transportation Safety Administration (NHTSA) for the upcoming fiscal year. These funds will be used to address problem areas which are identified in the research and analysis of information contained herein. The data may also be used for general information on highway safety.

The report will present data on crash numbers, general exposure and demographics. Included will be Montana geographic and population statistics, driver license information, vehicle miles travelled and breakdowns of driver demographics within crashes. Information is presented in the latter part of this document on specific traffic safety areas and other areas of possible interest. Many of the tables represent ten years of data.

3. Explanation of Data

Much of the data for this problem identification is derived from Montana reportable crash reports which are compiled by the law enforcement officers throughout the state who collect data from crash scenes on Montana roadways. Some crashes such as minor single vehicle run-off-the-road crashes, wild-animal crashes and other minor crashes are not always reported to law enforcement.

Reportable crashes are defined as those with a fatality, an injury, or in the case of property damage only crashes, those with at least \$1,000.00 of damage. Based on the information provided in the crash reports, trends and contributing factors of the resultant injuries and

fatalities along with the demographics for the drivers and vehicles involved are presented. Rates are calculated using vehicle miles, licensed drivers or population when possible. Data will be presented on Montana's roadway crashes for the year of 2015 as well as for the ten year period of 2006-2015. The severity of the crash, in particular, the fatalities and serious injuries associated with crashes, is the benchmark by which Montana's crash data is evaluated.

Various aspects of the crash report are then used to investigate the driver and roadway characteristics associated with Montana roadway crashes. Driver's age and level of chemical impairment, the time of day, the time of the year, and the type and location of the roadway are used separately and in combination to provide a perspective on roadway crashes in Montana.

Summary tables, graphs, and bulleted highlights will be presented for each of several different crash characteristics investigated in the report.

It is important to note that this information is based on data from crash reports submitted to the Montana Highway Patrol (MHP) from their patrol officers and from local city/county/reservation law enforcement agencies. This crash database is then shared with the Montana Department of Transportation (MDT).

Data Sources

The MDT crash database is the source of crash data in this document and in the Montana 2015 Problem Identification data tables available on line. The MDT crash database is a dynamic system. Crash data is periodically updated with new, revised, or additional information. Data values may vary from previous publications. In addition, other information related to highway traffic safety such as observed seat belt use comes from other sources and is included when available.

Fatal Crashes – Additional information is used for fatal crashes from the Fatality Analysis Reporting System (FARS). This data base is maintained by the National Highway Traffic Safety Administration. Due to differences in definitions of “traffic fatalities” between the FARS data base and MDT's data base, final FARS numbers and MDT's may vary slightly.

4. Montana Summary of 2015 Crashes

The Montana Department of Transportation, State Highway Traffic Safety Section presents the most recent available data surrounding traffic safety. A summary of findings for 2015 are listed below:

FATALITIES AND INJURIES

- Montana's roadway fatalities were up by 32 in 2015 compared to 2014 (224/192). The ten year (2006-2015) average number of Montana roadway fatalities is 224.

- Montana's 2015 fatality rate (number of fatalities per 100 million vehicle miles traveled) is 1.81. Montana's fatality rate continues to be higher than the national rate of approximately 1.12

OCCUPANT PROTECTION

- Montana state law allows for secondary enforcement only.
- The 2015 observed use of restraints was 77% on all Montana roads. While restraint use is fairly high for a secondary law state, only 32% of vehicle occupants killed in collisions were wearing seat belts.
- 118 deaths in 2015 are attributed to not wearing a seat belt, which is almost 70% of fatalities in vehicles with restraints (not counting pedestrians, bicyclists and motorcyclists).
- 86 of the unrestrained people who died were ejected from the vehicle (73%)
- According to NTHSA, an additional 12 lives and 98 serious injuries could have been saved in fatal crashes in 2015 with 100% seat belt usage by occupants.
- In unrestrained vehicle occupant fatalities and serious injuries 36% were occupants in pickup trucks

ALCOHOL AND/OR DRUG RELATED DRIVING

- The number of all crashes involving an impaired driver increased in 2015 by approximately 3% to 2172. The number of alcohol/drug-related fatal and serious injuries increased by 11% to 461.
- Impaired drivers are involved in over half of all fatal crashes and in 3 out of every 10 serious injury crashes.
- Impaired driver involved crashes occur in rural areas 85% of the time and 57% occur on weekends.

ROAD DEPARTURE CRASHES

- Vehicles leaving the roadway account for 67% of all fatal crashes and 55% of all serious injury crashes.
- Over 80% of all fatal and serious injury crashes occur in rural environments.
- Dry road conditions are reported in almost 80% of the road departure fatalities.
- Single vehicle crashes account for more than three quarters of fatalities in roadway departure crashes.

INTERSECTION RELATED CRASHES

- Approximately 13% of all fatalities in 2015 occurred in an intersection crash. The location of fatal and serious injury intersection crashes are equally distributed between rural and urban crash sites.

OTHER AREAS OF INTEREST

- In 2015, 18% of all roadway fatalities were Native Americans. In 2015 there were 44 Native American Fatalities, which is an increase of seven from 2014. Native Americans make up 6.6% of Montana's population, and are over represented by comprising 15% to 22% of all traffic fatalities in the last 10 years.
- The 2015 motorcycle fatalities increased to 24 from 23 in 2014. Sixty eight percent of these fatalities involved a motorcyclist not wearing a helmet (18). In 2015 motorcyclist were 11% of the total fatalities on Montana roadways. Almost half of the fatalities are motorcyclists in the 46-65 age grouping.
- Non-Motorized-Pedestrian: In 2015, there were 14 pedestrian fatalities which is an increase from 9 in 2014 and 28 serious injuries.
- Non-Motorized-Bicyclist: In 2015, there was 1 bicyclist fatality and 21 serious injuries.
- There were 91 fatalities and serious injuries involving large vehicles in 2015. Large vehicles are those trucks or buses requiring a commercial vehicle license.
- Young drivers 20 years and younger (16% of registered Montana drivers) accounted for 18% of fatalities and serious injuries in 2015.
- Older drivers age 65 and older (23% of registered Montana drivers) accounted for 17% of fatalities and serious injuries in 2015.
- There were 3135 reported crashes involving animals in 2015. There were two fatalities and 30 serious injuries in wild animal involved crashes in 2015.
- Crashes that occur in summer (May, June, July, August) account for 51% of all fatal crashes and 43% serious injury crashes in 2015.

5. Montana Demographics

Montana's geographic attributes and population demographics are useful in discussing the impact of fatal and serious injury crashes on Montana's population.

5.1 Montana Border to Border

- Montana's geographic area is larger than the combined area of 10 North Atlantic states, yet it has only 2% of the combined population of those states.
- Montana's public road miles consist of 75,008 miles, while 12,946 miles are on the state highway system. Billings has the most public road mileage of any incorporated city in Montana with 581 miles; Rexford has the least with 1.5 miles.
- The busiest spot on Montana's roadways is on Reserve Street in Missoula between Mullan Road and American Way where annual average daily traffic was 47,810 vehicles per day in 2015.
- Of Montana's 56 counties, Yellowstone County had the most on system daily vehicle miles traveled in 2015, totaling 2,653,279; Petroleum County had the least with 30,678.
- In 2015, 71% of Montana's highway vehicle miles traveled occurred outside of the state's 19 urban areas.
- According to the Montana Office of Tourism 11.7 million non-residents visited Montana in 2015.

5.2 Montana People

- The July 1, 2015 United State Census Annual Estimates of Population; Montana's population is estimated to be 1,032,949 which is an increase of 4.4% from the 2010 Census count.
- The median household income (2010-2014) is \$46,766, and there are an estimated 407,797 households with 2.40 persons per house hold.
- The median age for Montanans is 39.8 and 39% of the population is over the age of 18.
- Montana is about evenly split between male (50.3%) and female (49.7%) residents.
- Montana's licensed drivers are also evenly split: male (51%), female (49%)

- The mean travel time to work (minutes) for Montana workers age 16 years + (2010-2014) is 18.3 minutes.

6. Traffic Crashes and Exposure Statistics

Due to the size and the population density of Montana, very few of Montana's vehicle miles travelled occur in an urban environment. Seventy six percent of all Montana's 2015 fatal and serious injury crashes occurred on rural roadways. In 2015, 92% of vehicle miles travelled occurred on rural roadways. Compared to states with greater urban centered populations, a high percentage of the miles travelled (92% in 2015) in Montana are in rural areas at higher speeds (>55), thus increasing the likelihood of fatal and serious injury crashes.

On a national level, according to the Insurance Institute for Highway Safety (IIHS)¹, 2015 had a 7% increase in deaths compared to 2014 and was the highest number of traffic deaths since 2008. 53 percent of motor vehicle deaths nationwide in 2015 occurred in rural areas. In Montana in 2015, rural road crashes accounted for 89% of all roadway fatalities. Montana continues to rank high in fatality rate compared to other states and it can be concluded that one of the factors contributing to this is the high percentage of rural vehicle miles travelled in Montana in comparison to other states.

IIHS statistics for 2015 found that on a national level the fatality rate per 100,000 people ranged from a low of 3.4 in the District of Columbia to a high of 24.7 in Wyoming. The national fatality rate per 100 million vehicle miles traveled in 2015 is 1.12. Montana's fatality rate per 100,000 people in 2015 is 21.7 and death rate per 100 million vehicle miles travelled is 1.81.

Nationwide, 55% of motor vehicle crash deaths in 2015 occurred in single-vehicle crashes. The largest proportion of deaths in single-vehicle crashes occurred in the District of Columbia (70%), Montana (68%), and Maine (67%), whereas the smallest proportion occurred in Minnesota (47%).

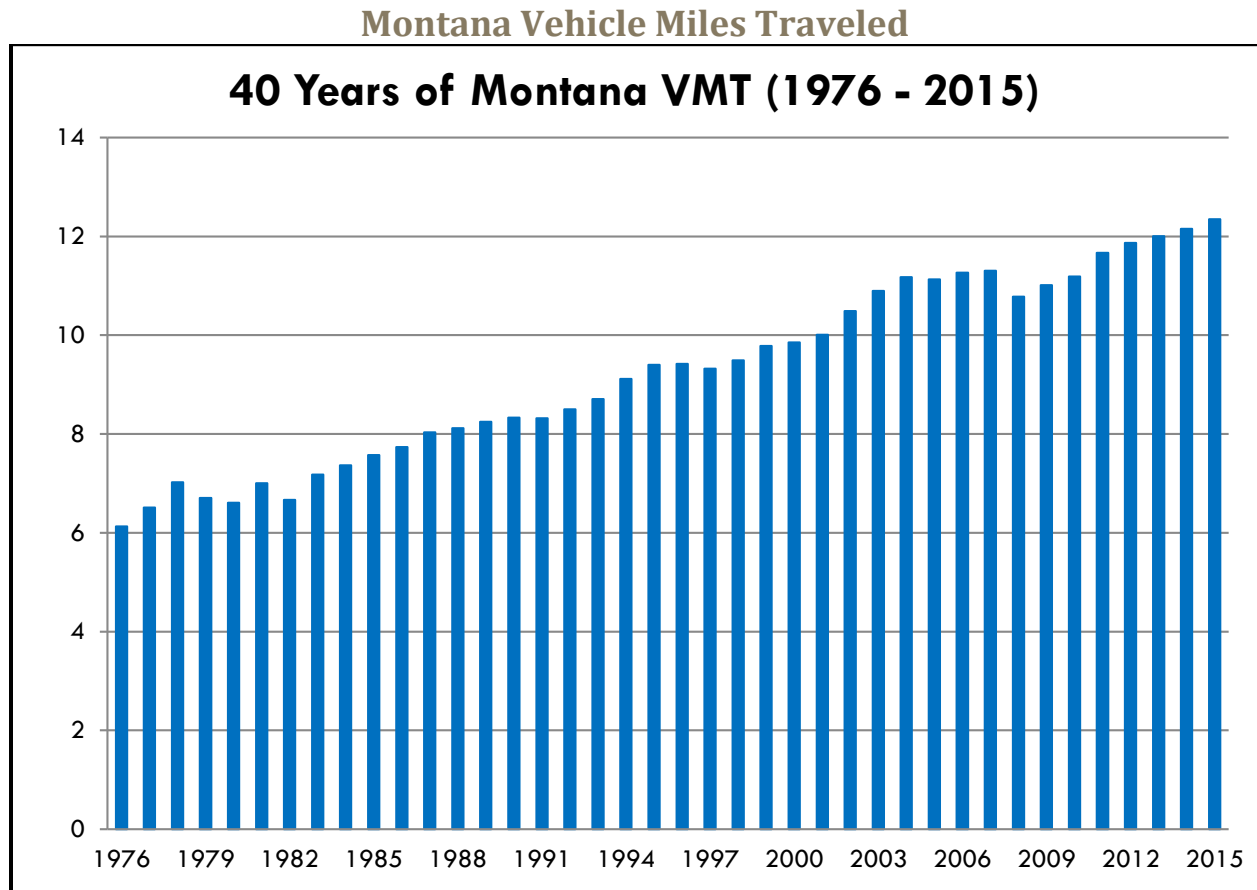
Exposure Statistics

Driving exposure is a frequently used term in the highway safety research community. A agreed upon definition is "driving exposure is the frequency of traffic events which create a risk of accidents." One of the most commonly used measures of exposure is driving distances expressed in vehicle miles of travel. Other common measures include driving time, traffic volume, number of registered vehicles and, number of licensed drivers. Among all of the exposure measures used to evaluate risk, driving distance (vehicle miles) is the one that relates most directly to the processes of highway travel, and hence, to the risk of accident (IIHS). Vehicle Miles Traveled (VMT) is an exposure factor that appears to be a continuing influence on the amount of traffic crashes that occur in Montana.

¹ Insurance Institute for Highway Safety – Highway Loss Data Institute:
<http://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/overview-of-fatality-facts>.

6.1 Vehicle Miles Traveled

Vehicle Miles Traveled (VMT) is the estimated number of total miles driven by all vehicles on Montana public roads. The total miles per year are expressed as per 100 million miles traveled. The annual VMT's are shown below. Montana has seen a doubling of the VMT in the last 40 years. In 1974 the VMT for Montana was 5.8 million and in 2015 the VMT is 12.3 million with 224 fatalities. In recent years, Montana's VMT is increasing at just less than 1% annually.

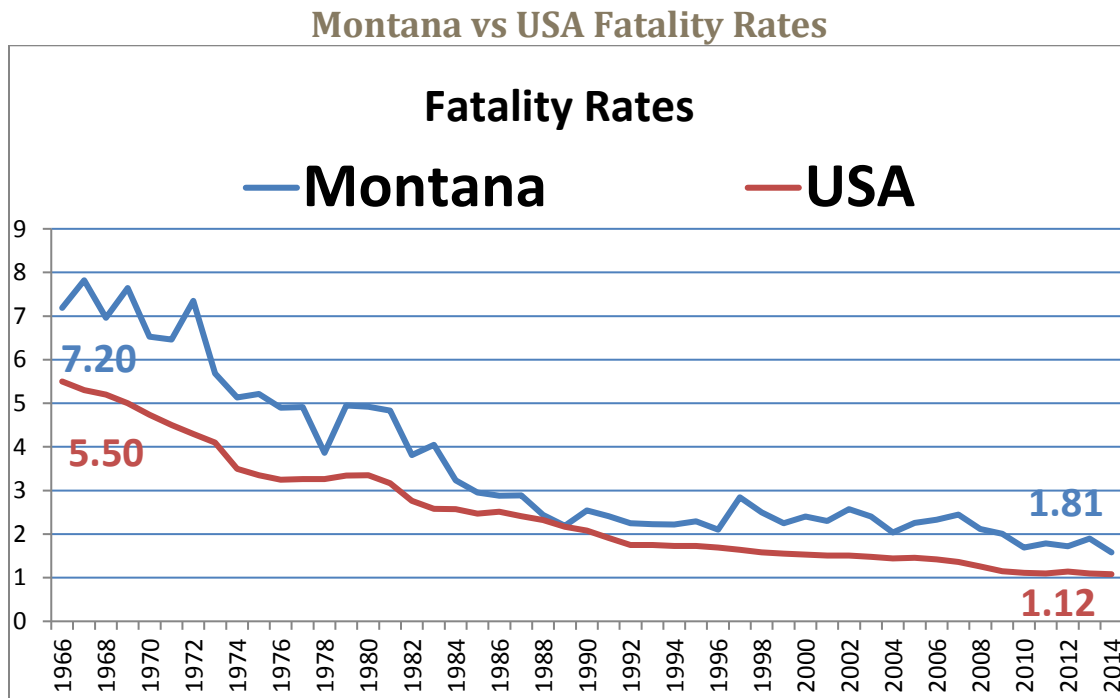


A state's population has an obvious effect on the number of motor vehicle deaths. Fatality rates per capita and per vehicle miles traveled provide a way of examining motor vehicle deaths relative to the population and amount of driving. Many factors influence these rates including types of vehicles driven, travel speeds, rates of licensure, state traffic laws, emergency care capabilities, weather and topography. When compared to the rest of the nation and other states with similar VMT and population bases, Montana continues to be one of the states with a higher death rate per 100 million VMT's traveled per year, coming in at 1.81 in 2015 compared to the national average rate of 1.12.

6.2 Fatality Rates

On a national level, NHTSA reports that there were 35,092 fatalities in 2015, which is an increase of about 7.7% as compared to the final 2014 numbers. The fatality rate for 2015 is estimated to have increased to 1.12 fatalities per 100 million VMT, up from 1.08 fatalities per 100 million VMT in 2014.

The fatality rate for Montana was 1.81 per hundred million vehicle miles travelled during 2015. To compare this to historical data the rate was 4.92 in 1980 and had decreased by almost half to 2.54 by 1990. Between 1990 and 2009 the rate remained relatively consistent between 2.0 and 3.0. The rates have since decreased and for the last three years (2013-2015) the rate has varied between 1.76 to 1.96 (IIHS). Montana shows a downward trend for the last 10 years in fatality rate. The chart below shows the historical fatality trend of Montana and the nation dating from 1966 to 2015.

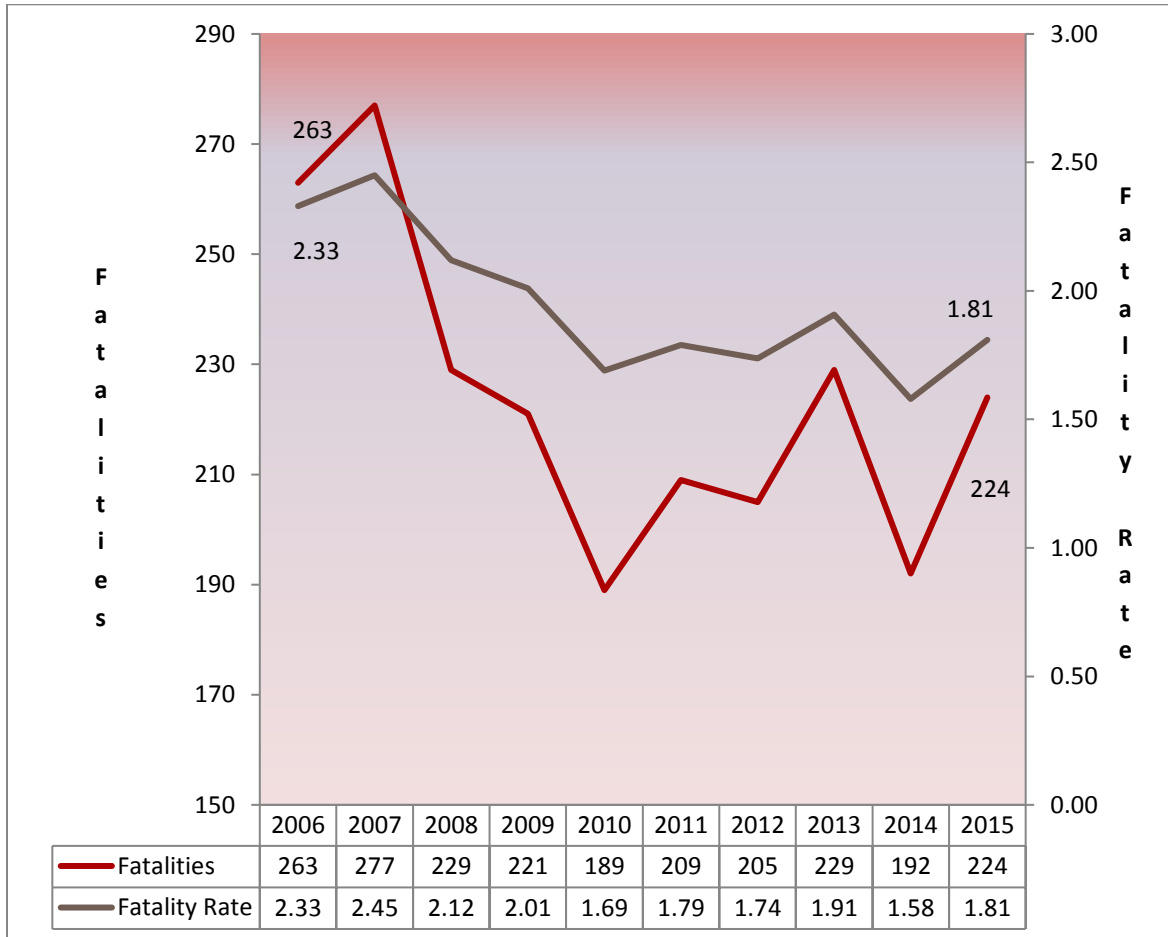


Historically, western rural states have tended to have fatality rates above the national average and when compared to states with more urban based population. One of the reasons is the greater percentage of rural miles travelled which translates to higher average speeds. In 2015, nationally 49% of motor vehicle deaths occurred in rural areas, while in Montana, rural crashes accounted for 89% of fatalities. Two states that share Montana's rural nature, Wyoming and North Dakota, 2015 fatality rates are 1.51 and 1.31 respectively. (NHTSA, IIHS)

6.3 Fatalities and Injury Crashes

Fatalities in Montana reached an all-time high of 395 during 1972. The lowest number of fatalities since 1950 was 181, which occurred during 1989, the second year of Montana's secondary seat belt law. Montana is currently seeing a downward 10 year (2006-2015) roadway fatality trend of 6 people per year.

Montana Fatalities/Fatality Rate



The number of injuries in Montana crashes has declined on average in the last 10 years. Ten years of reportable crash and injury data appear in the table below. The average number of fatalities is 11% lower in 2011-2015 than in the previous 5 years. Serious injuries in roadway crashes have fallen by 20% in the last five years compared to the previous 5 years.

This downward trend in serious injuries would appear to be a significant change in crash data within Montana. Occupant restraints, airbags and child restraints have accounted for at least part of this decrease, as well other improvements to vehicle safety. Traffic safety

engineering to address roadway facility improvements has also contributed to this downward trend. 2015's total of 1000 serious injuries is also well below the 2006-2015 average of 1164.

Roadway Crash Summary 2006-2015

Year	All Crashes	Fatal Crashes	Serious Injury Crashes	Property Damage Crashes	Fatalities	Serious Injuries
2006	22,191	226	1,229	15,563	263	1,614
2007	21,818	249	1,059	15,375	276	1,429
2008	21,830	210	1,021	15,499	231	1,338
2009	20,657	199	857	14,973	222	1,101
2010	20,069	164	781	14,733	192	994
2011	20,316	187	748	14,212	209	956
2012	19,746	192	851	12,990	205	1,129
2013	20,385	203	852	13,814	229	1,102
2014	21,671	176	791	15,788	192	965
2015	22,369	204	786	16,276	224	1000

Severe injuries are displayed in the table below for several important crash criteria characteristics. Severe Injuries are the sum of the fatalities and serious injuries. Percentages shown in the table represent 2013-2015 combined data.

MT Severe Injuries - 2013-2015

Severe Injuries (Fatalities + Serious Injuries)			
	2013	2014	2015
All Crash	1331	1159	1224
Roadway Departure Crash (58%)	754	667	735
Intersection Crash (19%)	277	188	254
Impaired Driver Involved Crash (36%)	469	411	461
Unrestrained Occupants (34%)	446	378	413
Drivers 25 and younger involved (33%)	442	363	410
Older Driver Involved (60 and older) (12%)	159	151	149
Male Driver Involved (76%)	1026	855	934
Female Driver Involved (39%)	528	462	454
Bicyclist/Pedestrian (6%)	88	70	64
Motorcyclist (14%)	192	167	170

7. Crash Demographics

7.1 Gender of Drivers

Driver involvement in crashes by known gender is shown in the table below. As can be seen in the figure below, the split between male drivers and female drivers involved in crashes has remained very consistent for the last 10 years in Montana.

Montana Drivers in Crashes by Gender 2006-2015

Montana Drivers in Crashes by Gender (2006-2015)					
YEAR	Driver Gender			% of Total	
	Male	Female	Total	Male	Female
2006	18741	13650	32391	58%	42%
2007	18354	13392	31746	58%	42%
2008	17923	13086	31009	58%	42%
2009	16771	12464	29235	57%	43%
2010	16199	12550	28749	56%	44%
2011	16833	12305	29138	58%	42%
2012	15849	11784	27633	57%	43%
2013	16450	11902	28352	58%	42%
2014	17682	12408	30090	59%	41%
2015	17598	12439	30037	59%	41%

Men have a disproportionate involvement in fatal crashes, and this is true nationwide. Past studies have shown that men have higher involvement in overturns, other non-collision crashes, crashes into fixed objects and the striking of animals. The involvement by men in these types of crashes may be linked to male over-representation in alcohol and or drug related crashes.

Over a ten-year period, men account for 58% of Montana's registered drivers, but their involvement is overrepresented in fatal crashes at 72%. The chart below follows with information on the gender involvement in fatal crashes.

Montana Driver Gender – Fatal Crashes 2006-2015

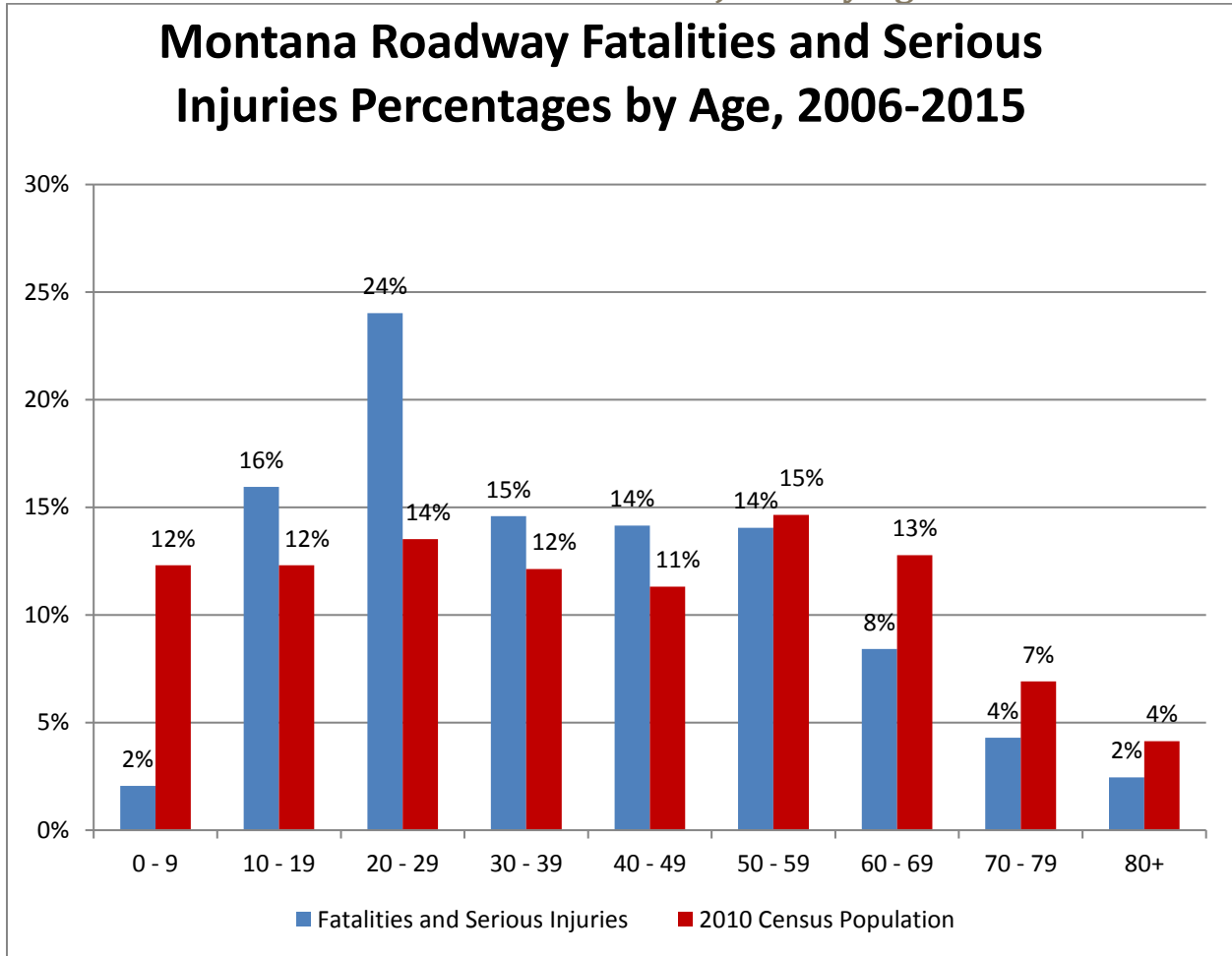
Montana Drivers in Fatal Crashes by Gender (2006-2015)					
	Driver Gender			% of Total	
YEAR	Male	Female	Total	Male	Female
2006	181	79	260	70%	30%
2007	204	80	284	72%	28%
2008	170	70	240	71%	29%
2009	173	68	241	72%	28%
2010	125	62	187	67%	33%
2011	161	72	233	69%	31%
2012	148	62	210	70%	30%
2013	164	63	227	72%	28%
2014	132	57	189	70%	30%
2015	165	64	229	72%	28%

7.2 Montana - Age in Crashes

The percentage of drivers in Montana age 55-74 has increased from 25% in the last 10 years to 32%. The percentage of drivers in Montana age 35-54 has dropped from 38% in the last ten years to 32%. Drivers 29 years old and younger (22% of registered drivers) are involved in 35% of Montana’s fatal and serious injury roadway crashes.

The chart below reflects the fatalities and serious injuries by age groups and the percentage of the total population that age group represents. It should be noted that the younger age groups <30 years of age, specifically those from 10-29 make up 26% of the population and experience the highest percentage of fatalities and serious injuries at 40%. Ages 30-49 are over-represented in fatal and serious injuries compared to their percentage of the population, and we can see that the numbers start to decline at age 50.

Fatalities and Serious Injuries by Age



8. Montana Traffic Safety Emphasis Areas

8.1 Unrestrained Occupant

Montana secondary seat belt law was passed in 1987 with a penalty going into effect beginning January 1, 1988. The secondary seat belt law is for all seating positions in a vehicle. A secondary seat belt law means that law enforcement may not stop the vehicle for seat belt use alone, they must have another reason to stop the vehicle and then may cite for non-seat belt use.

Montana has tracked the seat belt use across Montana through annual observational seat belt counts through methodology approved by NHTSA. The count is of front seat occupants only. As can be seen in the table below, for the last three years (2013-2015) on average, 75% of the travelling public is observed to be wearing restraints, which leaves 25% of the population observed not using occupant restraints in automobiles. By comparison, on a national level the average is 87%.

MT Annual Observational Seat belt Count

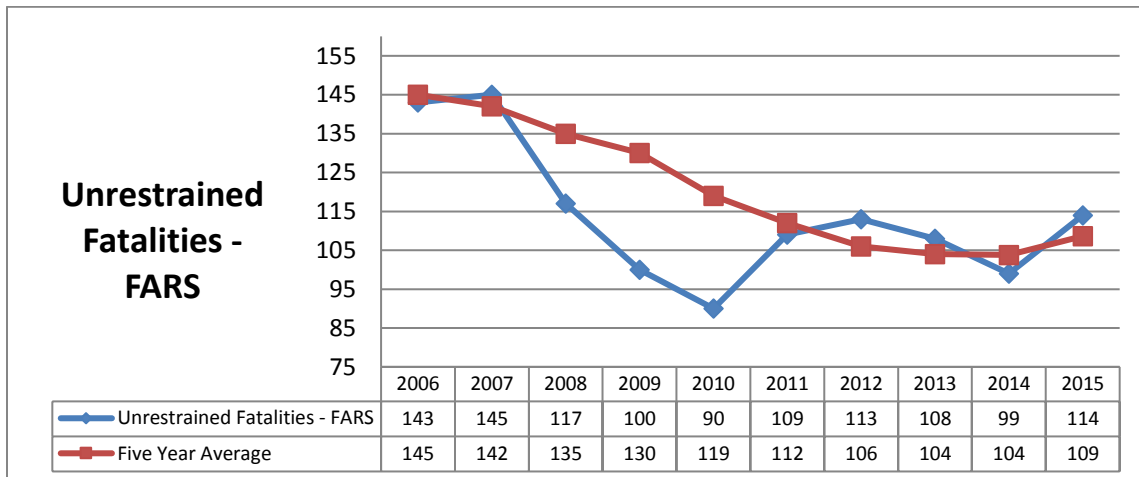
MT Observed Seat Belt Usage Rates							
Year	Interstate	Primary	Secondary	Other	National Highway System	Urban	All Roads (NHTSA weighted)
2013	82.0%	67.8%	78.0%	61.3%	76.6%	67.6%	74.0%
2014	84.0%	62.0%	71.0%	74.0%	74.0%	68.0%	74.0%
2015	86.5%	65.9%	74.3%	71.1%	80.3%	70.6%	77.0%
Chg 1 Yr	2.5%	3.9%	2.3%	-2.9%	6.3%	2.6%	2.8%
Source: Montana Department of Transportation Observational Study							

Restraint usage is much lower for people in a fatal crash than for the overall population, historically; only about 20-30% of occupants killed in crashes were properly wearing an occupant restraint. Young people, ages 14-30, accounted for almost 47% of all unrestrained vehicle occupant fatalities between 2006 and 2015.

Vehicle occupants not using their seat belts or improperly using seat belts are a contributing factor to Montana’s crash fatalities. Sixty Eight percent of those who died on Montana’s roadways in 2015 weren’t wearing a seat belt (excluding pedestrian, bicyclist and motorcyclist fatalities). The challenge is that this percentage in fatal crashes has remained consistent over the last ten years.

Montana’s ten-year trend-line for unrestrained fatalities has continued to go down. As shown in the chart below, unrestrained fatalities in 2015 increased to 118 from 99 in 2014, which is an upturn, however the 5-year average is 109.

Unrestrained Fatalities - 2006-2015



Over the last three years (2013-2015) other crash factors contributing to the unrestrained occupant fatality and serious injury trend include:

- roadway departure of the vehicle (74%)
- impaired driver involved (59%).
- Rural crash (88%)
- weekend crashes (51%) and crashes occurring at nighttime (45%)

The combination of these factors is contributing to Montana's fatalities; the vehicle occupants choosing to use proper occupant protection could perhaps mitigate some of the other behavior choices in fatal crashes.

8.2 Impaired Driver Involved

Drivers involved in crashes while impaired by alcohol and/or drugs continue to be a challenge for Montana. Impaired drivers (alcohol and/or drugs) are involved in nearly half of all fatal crashes and in three out of every ten serious injury crashes. During 2015 Montana ranked among the highest states in the nation for impaired driving fatality rate. There were 461 fatalities and serious injuries involving an impaired driver in 2015. Over the last three years (2013-2015) impaired drivers were involved in 382 fatalities, with the 129 in 2015 compared to 117 in 2014.

Over the last three years (2013-2015) other crash factors contributing to the impaired driver involved crash trend include:

- roadway departure crashes (72%).
- males represent over three-quarters (79%) of drivers in impaired driver involved crashes
- as with unrestrained occupant crash factors, the majority of the impaired driver involved crashes are rural (88%) and
- crashes are happening on weekends defined as Friday through Sunday (58%)
- and more than half (53%) are occurring during nighttime.

Impact of Impaired Drivers

	2013	2014	2015
Severe Injuries	469	411	461
Roadway Departure Crash	325	293	347
Intersection Crash	61	32	65
Unrestrained Occupant	254	220	250
Young Driver Involved	74	45	61
Older Driver Involved	43	37	26
Male Driver Involved	380	324	349
Female Driver Involved	142	128	110
Non-motorized Involved	20	11	9
Motorcyclist	48	47	50
Large Vehicle	22	23	13

8.3 Roadway Departure Crash

Roadway departure crashes tend to be severe due to high speeds and rural locations. They account for about 20% of all people involved in crashes, but 67% of fatalities and over half of serious injuries. The majority (96%) of roadway departure fatalities and serious injuries occur in rural areas. Nine out of ten fatal crashes occur on rural roads within the state.

Over the last three years (2013-2015) other crash factors contributing to roadway departure fatal crashes involved:

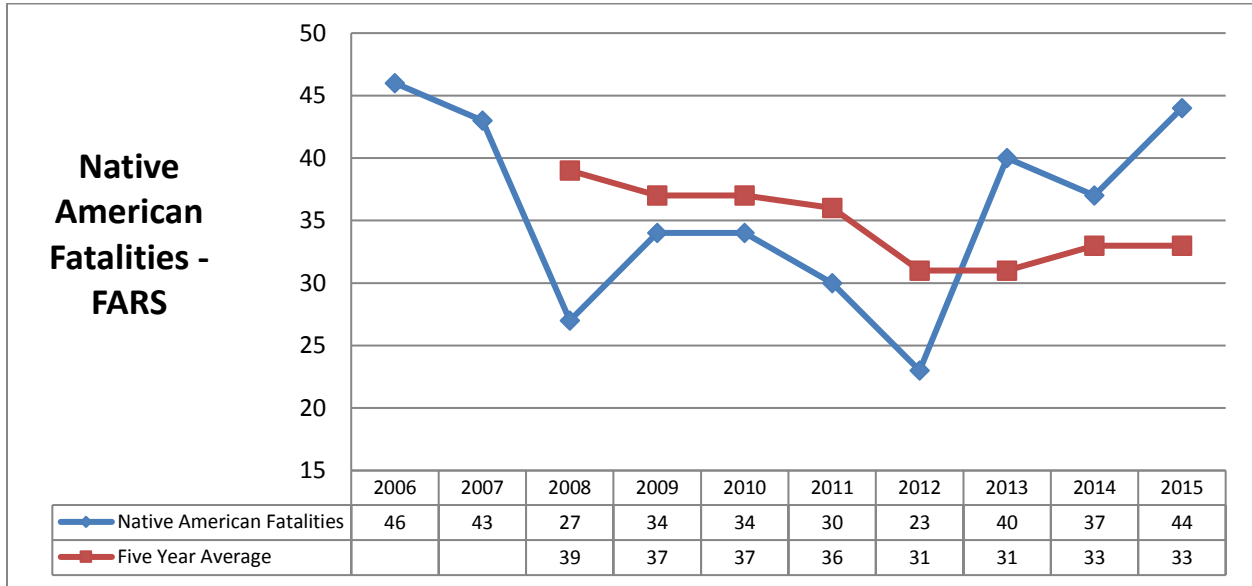
- impaired driving involved (69%)
- unrestrained occupant (65%)
- male drivers are over represented (76%).
- 39% of roadway departure crashes occur between noon Friday and noon Sunday, and 43% are at nighttime.
- the months of May through August account for 48% of these crashes.
- One factor to note that almost half (46%) of the incidents of road departure crashes are occurring on roadways with shoulder widths less than 4 feet.

8.4 At-Risk-Groups

Native Americans account for approximately 6.6% of Montana's population, but are over represented at 15 to 22% of roadway fatalities between 2006 and 2015. During 2015, there were 44 Native American fatalities representing 20% of the state's total fatalities. This continues to be an at-risk group with 2015 being above the five year average of 35 fatalities. Seventy three percent of Native American vehicle occupant fatalities were unbelted.

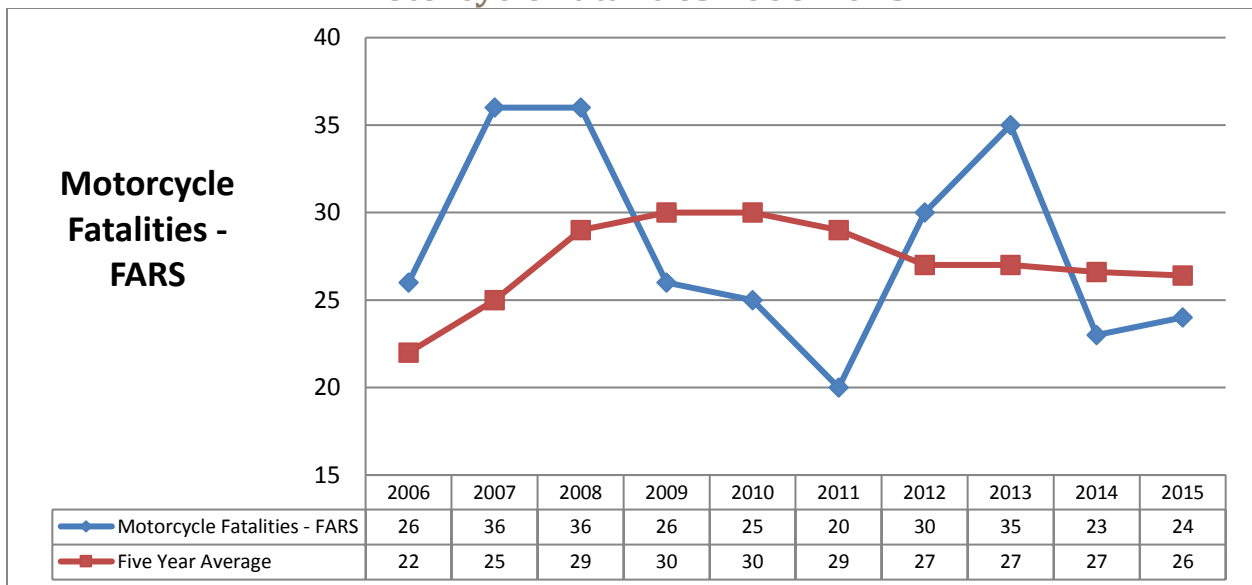
The chart below illustrates the trend over a 10 year period, while the Native American crash fatality trend was going down until 2012; there has been an increase in the last three years.

Native American Fatalities - 2006-2015



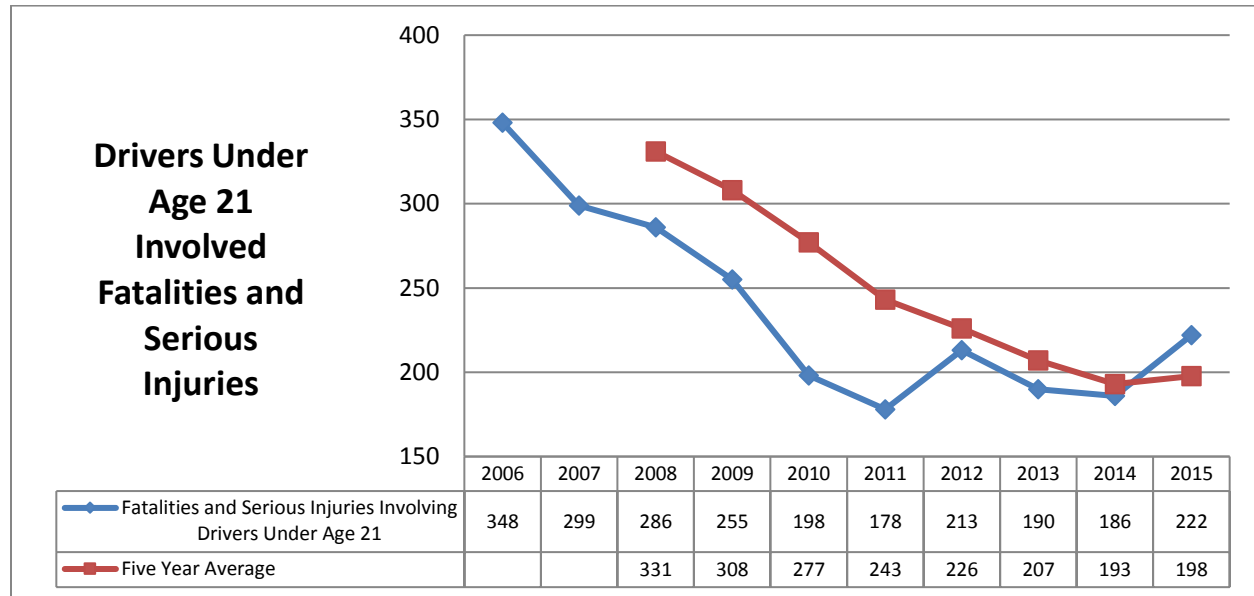
Motorcycle – Motorcycle use tends to be seasonal and motorcycles represent a minority of roadway users in Montana; however 12% of all fatal crashes in Montana involved a motorcycle in 2015. This is a high percentage of the over-all fatalities. During 2015, Montana had 24 motorcycle fatalities, of those 18 were un-helmeted accounting for over 68% of all motorcycle fatalities.

Motorcycle Fatalities 2006-2015



Young Driver - Montana has experienced a decrease in young drivers 20 years and younger involved in fatalities and serious injuries over the last ten years; however in 2015 young drivers represented approximately 16% of all fatalities and about the same percent of Montana's serious injuries. They account for approximately 6.7% of the population. During 2015, there were 36 fatalities involving drivers age 20 or less. The chart below depicts the combined fatalities and serious injuries of this age group.

Young Driver Fatalities & Serious Injuries 2006-2015



9. Roadway Crashes

For a comprehensive look at contributing factors that result in crashes on Montana roadways it is also important to examine all reportable crashes in Montana. The total number of crashes in Montana has stayed fairly consistent over the last five years. There were a total of 22,369 reported crashes during 2015 bringing the five-year annual average to 20,913. The summary of 2015 crash details includes 786 serious injury crashes and 204 fatal crashes or 22% of all crashes reported.

Seat belts were not used or improperly used in 1528 crashes in 2015, or 7% of all crashes. However, in crashes involving a fatality in 2015, not using or improperly using a seat belt played a role in approximately 65% of those crashes. Impaired drivers (alcohol and/or drugs) were involved in 2172 crashes in 2015, or 10% of all crashes. However, in crashes involving a fatality in 2015, an impaired driver played a role in approximately 60% of those crashes.

Rural crashes continue to be an area of concern with regard to traffic safety. During 2015 there were 11334 crashes that occurred in rural areas. This represents over 50% of all statewide crashes. This percentage increases significantly when only serious injury and fatal crashes are considered. Fatal crashes are more likely to occur in rural areas, with 198 of the 224 fatalities in 2015 happening in rural areas.

Other areas that were over-represented in all crash data in 2015 were:

- Young adult drivers, ages 18-40, were involved in 13,120 crashes or 59%, yet represent only 37% of the licensed drivers in Montana
- Roads with higher speed limits (>35) represented 47% of all crashes
- Males drivers were involved in 15,349 crashes or 69% of all crashes

10. Fatal and Serious Injury Crashes

During 2015, there were 990 fatal (204) and serious injury crashes (786). These crashes resulted in 224 fatalities and 1000 serious injuries. 779 of these crashes occurred in rural areas.

Male drivers were involved in 76% of all the fatal and serious injury crashes in Montana during 2015. 52% of all fatal and serious injury crashes occurred on roads with speed limits greater than 55 mph. Roadway departures accounted for 584 (59%) of Montana's fatal and serious injury crashes in 2015.

The following chart presents the types of crashes resulting in a fatality or serious injury. This includes some data with regard to who is involved, and when and where these crashes are occurring.

Montana Crash Data - Multiple Factors

Crash Description	2015 Fatal Crashes	Average number of Fatal Crashes (2006-2015)	2015 Fatal and Serious Injury Crashes	2015 All Crashes
All	204	201	990	22369
Impaired Driver Involved	118	107	361	2172
Rural	179	179	779	11334
Speed Limit >35MPH	147	163	677	10572
Speed Limit >55MPH	121	134	512	7667
Nighttime	78	86	293	6821
Winter (Nov, Dec, Jan, Feb)	39	47	241	8634
Summer (May, Jun, Jul, Aug)	104	89	450	7226
Male Driver Involved	161	157	749	15349
Female Driver Involved	60	65	361	10741
Driver Age 18-25 (13%) Involved	59	50	273	6482
Driver Age 18-40 (37%) Involved	113	109	564	13120
Driver Age 18-60 (74%) Involved	169	166	822	18405
Driver Age 18 and Older (97%) Involved	196	191	942	20606
Dry Roadway	168	161	780	15338
Intersection	29	27	206	6861
Roadway Departure	137	135	584	6391
Pedestrians Involved	14	13	41	194
Bicyclist Involved	1	2	22	197
Motorcycle Involved	24	27	157	447
Unrestrained Occupant Involved	115	116	345	1528
Single Vehicle	143	138	642	10459
Friday Noon to Sunday Noon	73	72	350	6424
Ejection from Vehicle	83	79	174	243
Careless/Inattentive/Distracted	86	29	362	7446

11. Conclusion

The Problem Identification for 2015 crash data explores many traffic safety issues in Montana. It is a compilation of many varied data elements available for review. There are multiple variables that may contribute to crashes including but not limited to driver behavior, vehicles, road characteristics, weather conditions, road conditions, and laws governing driver behavior.

Several behavioral based factors which contribute to fatal and serious injury crashes are highlighted in this report, i.e. choosing to not use or improperly using occupant restraints and the use of alcohol and/or drugs while operating a motor vehicle. The ten year trend for the level of contribution from these behaviors to fatalities and serious injuries has held fairly consistent and continues to be a concern for those addressing highway traffic safety issues.

This document should be used as a guide when looking at the traffic safety problem or when attempting to find solutions for Montana traffic safety. Often the data is of more value when looking at long-term trends rather than the variations between a year-to-year increase or decrease which may be attributed to a statistical variation and unidentifiable causes.

The SHTSS works collaboratively with other MDT staff and stakeholders to coordinate statewide efforts to reduce fatalities and serious injuries on Montana's roads through the Comprehensive Highway Traffic Safety Plan (CHSP). The CHSP is a data-drive, multi-year plan that takes an in-depth look at Montana's crash data – with 10-year crash data trend analysis to determine emphasis areas with the greatest opportunity to reduce crashes. For more information see the MDT website:

<http://www.mdt.mt.gov/visionzero/plans/chsp.shtml>

Montana crash data at the state, county and city level is available. The MDT Crash Database is a dynamic system. Crash data is periodically updated with new, revised, or additional information. Data values may vary from previous publications. Montana crash data that can be viewed and queried is available on the MDT website:

<http://www.mdt.mt.gov/publications/datastats/crashdata.shtml>

Questions or comments on this study should be directed to the State Highway Traffic Safety Section at the Montana Department of Transportation. For additional information, contact Mark Keeffe at (406) 444-3430 or mkeeffe@mt.gov.

12. Glossary

ALCOHOL-IMPAIRED

Crashes or fatalities that involve at least one driver or motorcycle operator with a BAC of 0.08 grams per deciliter (g/dL) or higher.

ALCOHOL-RELATED

A crash, fatality or injury is alcohol-related if at least one driver or non-occupant (such as a pedestrian or pedalcyclist) involved in the crash is determined to have had a BAC of 0.01 g/dL or higher OR if police indicate on the police accident report that there is evidence of alcohol present. This does not necessarily mean that a driver or non-occupant was tested for alcohol.

The term alcohol-related does not indicate that a crash, fatality or injury was caused by the presence of alcohol.

BLOOD ALCOHOL CONCENTRATION (BAC)

The BAC is measured as a %age by weight of alcohol in the blood (g/dL). A positive BAC level (0.01 g/dL and higher) indicates that alcohol was consumed by the person tested; a BAC level of 0.08 g/dL or more indicates that the person was alcohol-impaired.

CONTRIBUTING CIRCUMSTANCES

The law enforcement investigator's professional judgment as to the apparent reason(s) for the crash. Each vehicle in a crash can have up to five contributing circumstances listed (including none listed), falling under one of the six major headings: driver, environment, other person, passenger, road and vehicle.

CRASH

An event that produces injury and/or property damage, involves a motor vehicle in transport and occurs on a traffic way, or while the vehicle is still in motion after running off the traffic way.

DRIVER

An occupant of a vehicle who is in physical control of a motor vehicle in transport, or for an out-of-control vehicle, an occupant who was in control until control was lost.

FATAL CRASH

A law enforcement-reported crash involving a motor vehicle in transport on a traffic-way in which at least one person dies within 30 days of the crash.

FATAL INJURY

An injury that results in the person dying within 30 days of the crash.

FATALITY ANALYSIS REPORTING SYSTEM (FARS)

A national database that contains data on fatal crashes.

IMPAIRED

Person identified as influenced by alcohol, drugs, or both alcohol and drugs.

INJURY CRASH

A law enforcement-reported crash involving a motor vehicle in transport on a traffic way in which no one died but at least one person was reported to have an injury.

INTERSECTION

Intersection or Intersection related

MOTORCYCLE

A two- or three-wheeled motor vehicle designed to transport one or two people, including motor-scooters, minibikes and mopeds. This excludes ATVs and snowmobiles.

NHTSA

National Highway Traffic Safety Administration

NIGHTTIME

Dark or Dark lighted

OCCUPANT

Any person who is in or upon a motor vehicle in transport. This includes the driver, passengers, and persons riding on the exterior of a motor vehicle.

OLDER DRIVER

A driver over the age of 64 years.

PROPERTY DAMAGE ONLY

A law enforcement-reported crash involving a motor vehicle in transport on a traffic way in which no one in the crash suffered any injuries.

ROADWAY DEPARTURE CRASH

A crash in which a vehicle crosses an edge line, a center line, or leaves the traveled way. Types of crashes fitting the definition include fatal crashes in which the first event for a least one of the involved vehicles ran-off-road (right or left), crossed the centerline or media, went airborne or hit a fixed object. (FHWA)

RURAL

Any crash location not specifically marked as urban by the reporting law enforcement agency.

SERIOUS INJURY (incapacitating)

Any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person, was capable of performing.

SEVERE INJURY

Severe Injuries are the sum of the fatalities and serious injuries

SPRING/FALL

March, April/September, October

SUMMER

May, June, July, August

TRUCK

Vehicle with a truck body-type and over 10,000 pounds gross vehicle weight rating, including single unit trucks and truck tractors. Not limited to commercial vehicles, but all trucks.

URBAN

Any location either identified as a city or identified as a urban trafficway by the Department of Transportation.

VEHICLE MILES TRAVELLED (VMT)

The estimated number of total miles driven by all vehicles on public roads.

WINTER

January, February, November, December

YOUNG DRIVER

A driver 20 years of age and younger and not of legal drinking age.