2009 ALASKA TRAFFIC CRASHES

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ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILTIES
Division of Program Development
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ABSTRACT

Crashes In General

Traffic crashes injured 5330 and killed 64 Alaskans during 2009. There were, on average, 35.3 crashes per day and 1.5 crashes per hour. One person died on Alaska highways every 5.7 days.

There were 261 traffic crashes per 100 million vehicle miles traveled (per 100 million VMT) and 1.3 fatal crashes per 100 million VMT in 2009.

12,890 crash reports (10.9% more than the previous year) were processed by Department of Transportation staff for 2009. Of 12,890 reported traffic crashes, 70.2% involved only property damage (no person injuries). In 26.3% of crashes, the most serious injuries were non-incapacitating (minor). In 3.0% of crashes, the most serious injuries were coded as incapacitating (major). Fatalities were reported in 0.5% of all crashes.

Police agencies filed reports for 78.3% of crashes in this publication. Drivers reported 21.7%.

Impaired Driving Crashes and Speed

Alcohol and/or drugs were involved in 6.8% of all crashes (877 impaired driving crashes) and impaired drivers were involved in 39.3% of fatal crashes (35 alcohol and/or drug related fatal crashes). Speed contributed to 13.7% of all crashes and 40.7% of fatal crashes. Over twenty percent (20.4%) of impaired driver crashes and 49% of impaired driver fatal crashes also involved unsafe or excessive speed.

The impaired driver fatality rate (number of persons killed in alcohol and/or drug related crashes as a percent of total crash fatalities) was 62.5%.

Occupant and Vehicle Involvement

There were 34,552 persons involved in traffic crashes during 2009. Ninety-five percent (95%) were occupants of automobiles, trucks, or buses.

There were 40 fatalities in automobiles, trucks, or buses (23 drivers and 17 passengers). Over seventy-nine percent (79.3%) of all auto, truck, or bus occupants in police reported crashes wore seatbelts or used child restraints.

There were 206 motorcycle riders involved in traffic crashes in 2009. Seven motorcycle riders sustained fatal injuries (6 operators and 1 passenger). Over fifty-five percent (55.1%) of all motorcycle occupants in police reported crashes wore helmets for head protection.

Snowmobile and all-terrain vehicles and occupants are coded without distinction as off-highway vehicles and off-highway vehicle occupants. There were 122 off-highway vehicle

occupants involved in traffic crashes in 2009. Five off-road vehicle occupants sustained fatal injuries (4 drivers and 1 passenger).

There were 165 pedestrians and 178 bicyclists involved in crashes with motor vehicles in 2009. Ten pedestrians and two bicyclists died in traffic crashes.

Statewide, 71.6% of traffic crashes involved multiple motor vehicles. Twenty-eight percent (28.3%) were single motor vehicle crashes, including single motor vehicle crashes with non-motorists. Thirteen percent (13%) of single vehicle and four percent (4.3%) of multiple vehicle crashes were alcohol and/or drug related.

Location

Three-quarters (76.8%) of all traffic crashes occurred on urban roadways. Fatal crashes were more equally distributed between urban and rural locations (59% rural, 41% urban).

Close to half of all crashes (43.4%) occurred at intersections, and 11.9% of fatal crashes were intersection-related.

Fifty-nine percent (59.3%) of all traffic crashes and 37.3% of all fatal crashes occurred within the boundaries of the Municipality of Anchorage (MOA). The percentage of crashes in the MOA that resulted in fatalities (0.288%) was lower than statewide. Seventy-five percent (74.8%) of all motor vehicle crashes with pedestrians, 83.5% of all motor vehicle crashes with bicyclists, and 24.2% of all motor vehicle crashes with moose occurred in the MOA. Fifty-four percent (53.6%) of all alcohol and/or drug related crashes and 59% of all speed-related crashes were reported there as well.

Seventy-nine percent (79.4%) of statewide traffic crashes occurred in Alaska DOT's Central Region, 15.3% were reported from areas within the Northern Region, and there were 5.3% accidents from locations within the Southeast Region.

Data Collection

The percentage of reported crashes that resulted in injuries or fatalities was unchanged from the previous year.

Data collected between 2000 and 2009 suggests a stable trend in the severity of traffic crashes that are reported.

2009 SUMMARY STATISTICS

CRASHES	2009
TOTAL CRASHES	12,890
FATAL CRASHES	59
MAJOR INJURY CRASHES	384
MINOR INJURY CRASHES	3,395
PROPERTY DAMAGE ONLY (PDO) CRASHES	9,052
SINGLE VEHICLE CRASHES	3,655
MULTIPLE VEHICLE CRASHES	9,235
CRASHES WITH DISABLING OR >$501 VEHICLE DAMAGE	10,941
HIT & RUN TOTAL CRASHES	901
HIT & RUN FATAL CRASHES	1
HIT & RUN MAJOR INJURY CRASHES	15
HIT & RUN MINOR INJURY CRASHES	183
ALCOHOL &/OR DRUG RELATED CRASHES	871
ALCOHOL &/OR DRUG RELATED FATAL CRASHES	35
ALCOHOL &/OR DRUG RELATED MAJOR INJURY CRASHES	87
ALCOHOL &/OR DRUG RELATED MINOR INJURY CRASHES	322
POLICE REPORTED CRASHES	10,098
DRIVER REPORTED CRASHES	2,792
URBAN CRASHES	9,899
URBAN FATAL CRASHES	24
RURAL CRASHES	2,979
RURAL FATAL	35
CRASHES WITH MOOSE	575
FATAL CRASHES WITH MOOSE	1
ACCIDENT RATES	
CRASHES PER 100 MILLION VMT	261
FATALITIES PER 100 MILLION VMT	1.3
% OF ALL ALCOHOL &/OR DRUG RELATED CRASHES	6.75%
% OF ALCOHOL &/OR DRUG RELATED FATAL CRASHES	59.32%

VEHICLES	2009
TOTAL VEHICLES IN CRASHES	23,394
AUTOS, TRUCKS & BUSES	
TOTAL AUTO, TRUCK & BUS VEHICLES IN CRASHES	21,907
AUTO/TRUCK/BUS VEHICLES IN CRASHES WITH >$501 DAMAGE	16,692
AUTO/TRUCK/BUS VEHICLES IN CRASHES WITH DISABLING DAMAGE	5,712
AUTO/TRUCK/BUS VEHICLES IN CRASHES WITH ALCOHOL &/OR DRUGS	1,281

VEHICLES (CONT)	2009
MOTORCYCLES	
TOTAL MOTORCYCLES IN CRASHES	194
MOTORCYCLES IN ALCOHOL &/OR DRUG RELATED CRASHES	15
OFF-ROAD VEHICLES (ATV'S & SNOWMACHINES)	
TOTAL OFF-ROAD VEHICLES IN CRASHES	87
OFF-ROAD VEHICLES IN ALCOHOL &/OR DRUG RELATED CRASHES	20
BICYCLES	
TOTAL BICYCLES IN CRASHES	176
BICYCLES IN ALCOHOL &/OR DRUG RELATED CRASHES	15
OCCUPANTS	
TOTAL PERSONS	34,552
FATALITIES	64
MAJOR INJURIES	452
MINOR INJURIES	4,878
TOTAL PERSONS IN ALCOHOL &/OR DRUG RELATED CRASHES	2,055
ALCOHOL &/OR DRUG RELATED FATALITIES	40
ALCOHOL &/OR DRUG RELATED MAJOR INJURIES	115
ALCOHOL &/OR DRUG RELATED MINOR INJURIES	496
AUTO, TRUCK & BUS OCCUPANTS	
TOTAL AUTO/TRUCK/BUS OCCUPANTS	32,850
AUTO/TRUCK/BUS PASSENGER FATALITIES	17
AUTO/TRUCK/BUS DRIVER FATALITIES	23
AUTO/TRUCK/BUS OCCUPANTS IN ALCOHOL &/OR DRUG RELATED CRASHES	1,923
AUTO/TRUCK/BUS FATALITIES IN ALCOHOL &/OR DRUG RELATED CRASHES	27
AUTO/TRUCK/BUS PERCENT SEAT BELT USE (POLICE REPORT ONLY)	79.30%
AUTO/TRUCK/BUS PERCENT AIR BAG DEPLOYMENT (POLICE REPORT ONLY)	3%
AUTO/TRUCK/BUS PERCENT USING PROPER CHILD RESTRAINT (POLICE RPT)	81.60%
MOTORCYCLE OCCUPANTS	
MOTORCYCLE OCCUPANTS	206
MOTORCYCLE PASSENGER FATALITIES	1
MOTORCYCLE DRIVER FATALITIES	6
MOTORCYCLE OCCUPANTS IN ALCOHOL &/OR DRUG RELATED CRASHES	16
MOTORCYCLE FATALITIES IN ALCOHOL &/OR DRUG RELATED CRASHES	3
MOTORCYCLE PERCENT OCCUPANTS WEARING HELMETS (POLICE RPT ONLY)	55.10%
OFF-ROAD VEHICLE OCCUPANTS	
OFF-ROAD VEHICLE OCCUPANTS	122
OFF-ROAD VEHICLE PASSENGER FATALITES	1
OFF-ROAD VEHICLE DRIVER FATALITIES	4
OFF-ROAD VEHICLE OCCUPANTS IN ALCOHOL &/OR DRUG RELATED CRASHES	27
OFF-ROAD VEHICLE FATALITIES IN ALCOHOL &/OR DRUG RELATED CRASHES	4

OCCUPANTS (CONT)	2009
PEDESTRIANS	
TOTAL PEDESTRIANS	165
PEDESTRIAN FATALITES	10
PEDESTRIANS IN ALCOHOL &/OR DRUG RELATED CRASHES	48
PEDESTRIAN FATALITIES IN ALCOHOL &/OR DRUG RELATED CRASHES	5
BICYCLISTS	
TOTAL BICYCLISTS	178
BICYCLIST FATALITES	2
BICYCLISTS IN ALCOHOL &/OR DRUG RELATED CRASHES	16
BICYCLIST FATALITIES IN ALCOHOL &/OR DRUG RELATED CRASHES	1

PREFACE

Alaska motor vehicle crash records are stored in the Highway Analysis System (HAS), a database maintained on the State of Alaska Computer Network at the Juneau Data Center. The State of Alaska and the Federal Highway Administration of the U.S. Department of Transportation provide funding for this publication and for the continuing development of HAS, which integrates crash data with road network and other information.

Crash data specific to a particular crash is confidential according to Alaska Statute 28.15.151(f). An Attorney General's opinion of 1988 provides for the public reporting of aggregate crash data such as contained in this publication.

Motor vehicle crash information is first recorded on crash report forms by police or by involved drivers. Police agencies send copies of Form 12-200 to the Department of Administration, Division of Motor Vehicles (Driver Services). Drivers submit report Form 12-209 directly to the Division of Motor Vehicles (Driver Services). The Division of Motor Vehicles then forwards copies of all crash reports to the Division of Program Development, Transportation Information Group, Alaska Department of Transportation and Public Facilities (ADOT&PF). The HAS database includes only crash reports received by ADOT&PF from the Division of Motor Vehicles.

At ADOT&PF, a state record tracking number is assigned, crash information is carefully checked for code consistency and a mile point location is determined for routes in the HAS linear reference system. The coded crash record is then loaded to the HAS database for permanent storage and analysis. Crash data reporting staff, members of the Transportation Data Services Unit of the Division of Program Development, determine which crashes meet program criteria and ensure that crash records submitted to the Highway Analysis System are complete and accurate.

As soon as all crash information is stored in the HAS database for a calendar year, it is available for analysis by ADOT&PF traffic engineers and statistical staff, as well as other authorized users of the State data network. Yearly summaries, including the statistical tables in this publication, are prepared at that time.

TRAFFIC CRASH TERMINOLOGY

Traffic Crash Definition: A traffic crash is a motor vehicle crash that occurs on a trafficway. Motor vehicle crashes in parking lots or on other private property, or crashes where the only vehicle(s) involved are not customarily used for transport on roads, e.g., forklifts or airline baggage carts, are not considered traffic crashes. Also excluded are motor vehicle crashes directly resulting from a natural disaster and crashes caused by an explosion or discharge of a weapon. To maintain consistency with the Fatality Analysis Reporting System (FARS) definition, fatalities directly attributed to pre-existing medical conditions are not considered traffic fatalities. These types of crashes have been omitted from this publication.

Reporting Requirements: Alaska State law (AS 28.35.080) requires the reporting of any motor vehicle crash that results in the death or injury of one or more persons or that causes total property damage of $2,000 or more. Drivers involved in such crashes are required to report crash information to a police agency and submit Form 12-209 to the Department of Administration if police do not investigate. Whenever police investigate a motor vehicle crash, they are required to forward Form 12-200 to the Department of Administration, Division of Motor Vehicles. Drivers are not required to submit a report to the Division of Motor Vehicles if a police agency has investigated and assumed responsibility for reporting.

Alaska State law also requires that drivers or vehicle owners provide proof of motor vehicle liability insurance to the Department of Administration, Division of Motor Vehicles if they are involved in a motor vehicle crash on public property that involves injury, death, or total property damage exceeding $501 (AS28.22.021). Because of this, many drivers voluntarily file Form 12-209 for crashes with less than $2000 damage.

Crash Severity: Traffic crashes are categorized in this publication based on the most serious injury to motor vehicle occupants and any non-motorists that are involved (pedestrians and bicyclists struck by motor vehicles). Crashes that involve no injuries or deaths are designated property damage-only (PDO). A fatal crash has resulted in at least one death within thirty days of the crash. Crashes involving injuries are further subdivided into major and minor injury crashes. A major injury crash is one in which the most serious injury is incapacitating. The most serious injury in a minor injury crash is not incapacitating (typically pain, minor bleeding, a minor burn, a bruise, a contusion, or an abrasion).

Injury Severity: While crash severity reflects the most serious injury within a crash and counts crash incidents, occupant injury severity is evaluated for each person involved and counts persons. Minor, major, and fatal injury designations are based on the same criteria used for assigning crash severity. Occupant injury severity counts the number of persons receiving fatal, major, or minor injuries. Counts of persons not injured in crashes are accumulated under the no injuries category rather than a PDO designation. Vehicle injury severity, based on the most serious injury within a vehicle, is also calculated for some statistical tables in this publication. Numbers of vehicles in which no occupants received injuries are accumulated under a no injuries category. Numbers of vehicles in which fatalities occurred accumulate under the fatality category, while those in which the most

serious injury was major or minor accumulate under the major injury or minor injury categories, respectively.

Classification of Vehicles: In the HAS database structure, pedestrians and non-motorized vehicles such as bicycles are stored as vehicle records. Motor vehicles traditionally used on public roadways as transport vehicles, excluding motorcycles, are called “autos, trucks, and buses” in this publication. This category includes vehicles such as passenger cars, pick-up trucks and other light trucks, large trucks, panel/van trucks, buses, motor homes, tractor-trailer combinations, and emergency vehicles. In “Auto/Truck/Bus” crashes, at least one vehicle involved in the crash must be an automobile, truck, or bus. Off-highway vehicles include snow machines and all-terrain vehicles combined.

Impaired Crashes: A crash is designated impaired (alcohol and/or drug related) if any driver or involved non-motorist is considered impaired by police. Passenger (non-driver) data is not considered. Criteria include police suspicion of alcohol or drug use, positive test results, and traffic citations. An alcohol test is positive if the blood alcohol concentration (BAC) or equivalent is nonzero. The term impairment is used in this publication to designate alcohol and/or drug use without respect the amount of alcohol and/or drugs indicated. In Alaska, intoxication is defined as having a BAC of 0.08% or more. In this publication, alcohol and/or drug related crashes do not necessarily involve drunk drivers and driver impairment does not refer to legal intoxication.

Speed-Related: A crash is designated speed related if any involved driver is issued a traffic ticket for speed (basic speed, racing, or speed in school zones) or is coded for the human circumstance “unsafe speed.”

Holiday and Weekend Intervals: Holiday and weekend intervals comply with National Highway Traffic Safety Administration (NHTSA) guidelines. If a holiday occurs on either Saturday or Sunday, the holiday interval extends from 6:00 pm Friday to 5:59 am Monday. Intervals for holidays occurring on Monday or Tuesday extend from 6:00 pm Friday to either 5:59 am Tuesday or 5:59 am Wednesday. If the holiday falls on Wednesday, a 6:00 pm Tuesday to 5:59 am Thursday interval is used. If the holiday falls on Thursday, the holiday period runs from 6:00 pm Wednesday to 5:59 am Monday. The interval for a holiday occurring on Friday extends from 6:00 pm Thursday to 5:59 am Monday. For many holidays, the length of the holiday interval will vary from year to year. The weekend interval extends from 6:00 pm Friday to 5:59 am Monday (60 hours).

TRENDS IN ALASKA TRAFFIC CRASHES

Population estimates, numbers of licensed drivers and registered motor vehicles, and estimates of annual vehicle miles traveled (AVMT) by all motor vehicles in Alaska are given in Table 1. Annual Vehicle Miles Traveled (AVMT) is from estimates developed in the Federal Highway Administration's Highway Performance Monitoring System (HPMS). The data series for licensed drivers and motor vehicles are from the Division of Motor Vehicles, Alaska Department of Administration. Registered motor vehicle counts include snowmobiles and motorcycles. Drivers with instruction permits are counted as licensed drivers.

TABLE 1
Alaska Mid-year Population, Licensed Drivers, Vehicle Miles Traveled, Fatalities and Fatality Rate (2000 - 2009)

YEAR	MID-YEAR POPULATION	LICENSED DRIVERS	VEHICLE MILES TRAVELED (MILLIONS)	FATALITIES	FATALITY RATE*
2009	699,000	524,000	4,932	64	1.30%
2008	687,000	519,000	4,895	63	1.29%
2007	680,000	512,000	5,153	89	1.73%
2006	675,000	506,000	4,968	77	1.55%
2005	667,000	504,000	5,035	74	1.47%
2004	660,000	500,000	4,990	100	2.00%
2003	649,000	500,000	4,942	100	2.02%
2002	642,000	498,000	4,906	89	1.81%
2001	633,000	490,000	4,812	89	1.85%
2000	627,000	483,000	4,702	106	2.25%

*FATALITY RATE IS CALCULATED PER 100 MILLION ANNUAL VEHICLE MILES TRAVELED

Sources: 1) Alaska mid-year population estimates are from the Alaska Dept of Labor. 2) Licensed driver estimates are from the Division of Motor Vehicles. 3) Annual vehicle miles traveled (VMT) are from the DOT&PF Highway Performance Monitoring System (HPMS).

Table 2 and Figure 1 summarize Alaska traffic crash severity for the ten-year period between 2000 and 2009.

There were 1265 (10.9%) more traffic crashes processed in 2009 than in 2008. The number of fatal crashes increased by three (5.4%). Numbers of both major and minor injury as well as property damage only (PDO) crashes also increased (17%, 16.7% and 8.7% respectively).

Police reported hit and run circumstances for 901 crashes in 2009 (7% of all reported crashes and 3% of injury plus fatal crashes). Hit and run circumstances were coded for one fatal crash.

Between 2000 and 2009, injury crashes ranged from 27.9% (2008) to 31.9% (2002) of all crashes reported annually, while PDO crashes ranged from 67.5% (2002) to 71.7% (2008). In 2009, 29.3% of all crashes involved nonfatal injuries and 70.2% were classed as property damage only.

TABLE 2
Alaska Traffic Crashes by Crash Severity and Year (2000 - 2009)

YEAR	FATAL CRASHES	MAJOR INJURY CRASHES	MINOR INJURY CRASHES	PROPERTY DAMAGE ONLY CRASHES	TOTAL CRASHES
2009	59	384	3,395	9,052	12,890
2008	56	328	2,910	8,331	11,625
2007	82	343	2,728	7,425	10,578
2006	74	361	2,984	8,309	11,728
2005	67	468	3,584	9,018	13,137
2004	96	473	3,732	10,317	14,618
2003	89	534	3,869	10,296	14,788
2002	78	545	3,702	8,996	13,321
2001	80	364	4,152	10,652	15,248
2000	93	342	3,895	9,785	14,115

Source: DOT&PF Highway Analysis System (HAS).

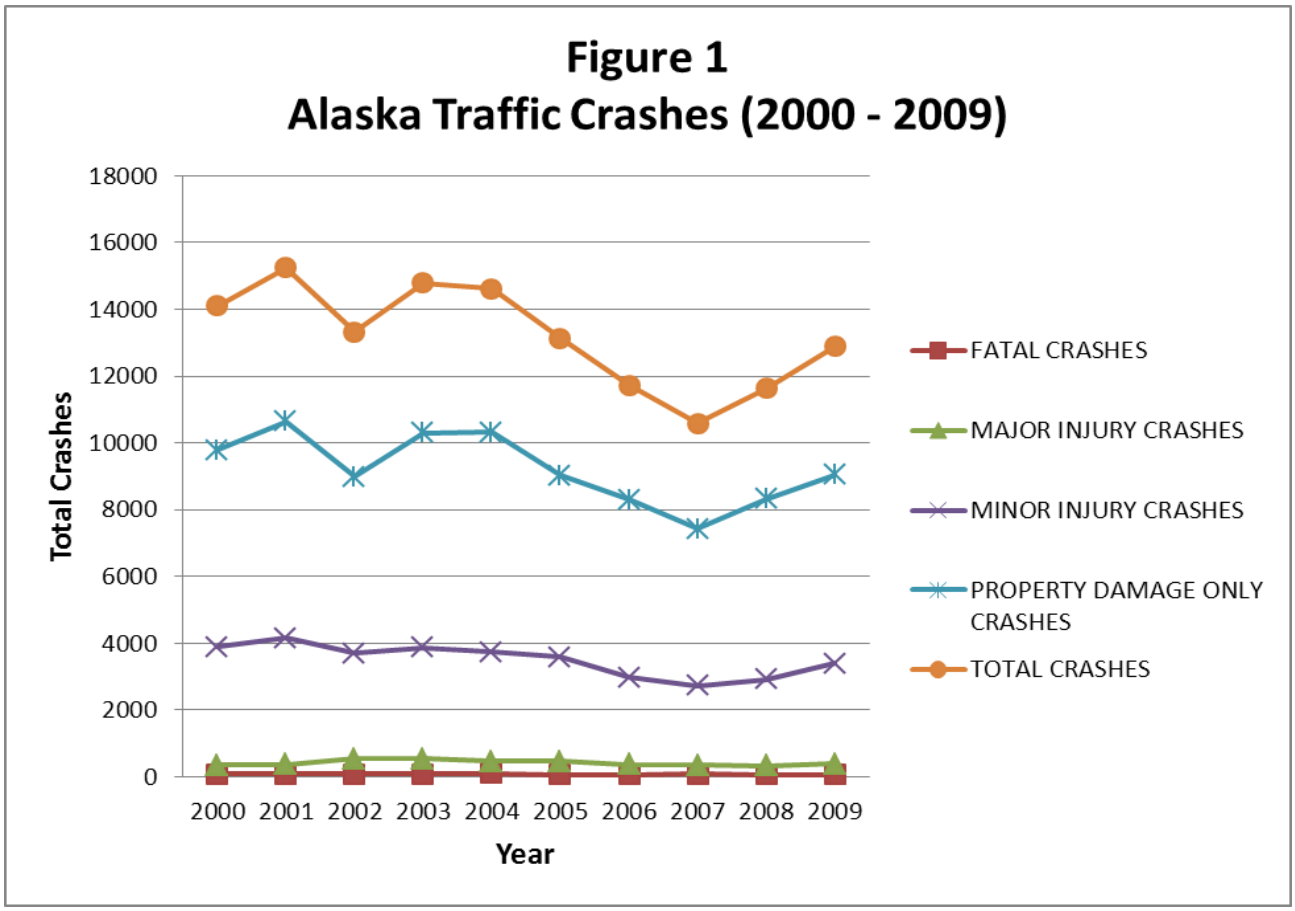


Table 3 summarizes numbers of persons injured or killed in Alaska traffic crashes between 2000 and 2009. Beginning with the 2002 reporting year, a dollar valuation is no longer being assigned for the total cost of damages in each crash or to the cost of damage to individual vehicles. Limited data is available for the number of vehicles with estimated damage greater than $501, for number of vehicles with disabling versus functional damage, and for the number of crashes in which non-vehicular damage occurred.

TABLE 3
Persons Killed and Injured
In Alaska Traffic Crashes (2000 - 2009)

YEAR	FATALITIES	MAJOR INJURIES	MINOR INJURIES	FATALITIES & INJURIES
2009	64	452	4878	5394
2008	63	391	4251	4705
2007	89	433	3956	4478
2006	77	437	4584	5098
2005	74	581	5395	6050
2004	100	584	5607	6291
2003	100	655	5854	6609
2002	89	664	5704	6457
2001	89	433	6104	6626
2000	106	414	5701	6221

Source: DOT&PF Highway Analysis System (HAS). Fatalities may not equal those reported in the Fatality Analysis Reporting System (FARS) due to differences in reporting criteria.

Alaska traffic crash deaths in 2009 included ten pedestrians, two bicyclists, seven motorcyclists, five off-road vehicle occupants, and forty occupants of automobiles, trucks or buses. There was one fatality in 2009 due to a vehicle crash with a moose in the roadway. Forty deaths occurred in alcohol and/or drug related traffic crashes during 2009.

Two accepted methods for making crash severity comparisons are based on calculations of the number of fatalities per million vehicle miles traveled (VMT) or the number of fatalities per million licensed drivers. Table 4 summarizes the United States annual VMT, licensed drivers, and fatalities for the last ten years, as provided by the Federal Highway Administration, Office of Highway Information Management. See Table 1 for corresponding Alaska data.

TABLE 4
US Vehicle Miles Traveled,
Licensed Drivers, Fatalities and Fatality Rate (2000 - 2009)

YEAR	LICENSED DRIVERS (THOUSANDS)	ANNUAL VEHICLE MILES TRAVELED (MILLIONS)	FATALITIES	FATALITY RATE*
2009	209,618	2,954,000	33808	1.14%
2008	208,321	2,977,000	37423	1.26%
2007	205,742	3,031,000	41259	1.36%
2006	202,810	3,014,000	42708	1.42%
2005	200,549	2,989,000	43510	1.46%
2004	198,889	2,965,000	42836	1.44%
2003	196,166	2,890,000	42884	1.48%
2002	194,602	2,856,000	43005	1.51%
2001	191,276	2,796,000	42196	1.51%
2000	190,625	2,747,000	41945	1.53%

* Fatality rate is calculated per 100 million VMT

Source: National Highway Traffic Safety Administration (NHTSA).

Figure 2 compares Alaska and U.S. annual fatalities per 100 million annual vehicle miles traveled for the last ten years. The national fatality rate decreased annually between 2000 and 2009, from 1.53 U.S. fatalities /100 million VMT in 2000 to 1.14 U.S. fatalities /100 million VMT in 2009. Alaska's rate also decreased, but remained above the national rate. In 2000, Alaska's rate rose for the first time in six years, to 2.25 fatalities per 100 million VMT. It decreased to 1.29 traffic fatalities per 100 million VMT in 2008 and 1.30 fatalities per 100million VMT in 2009, the lowest in the last ten years.

Figure 2
Alaska and US Fatalities (2000 - 2009)
Per 100 Million Vehicle Miles Traveled

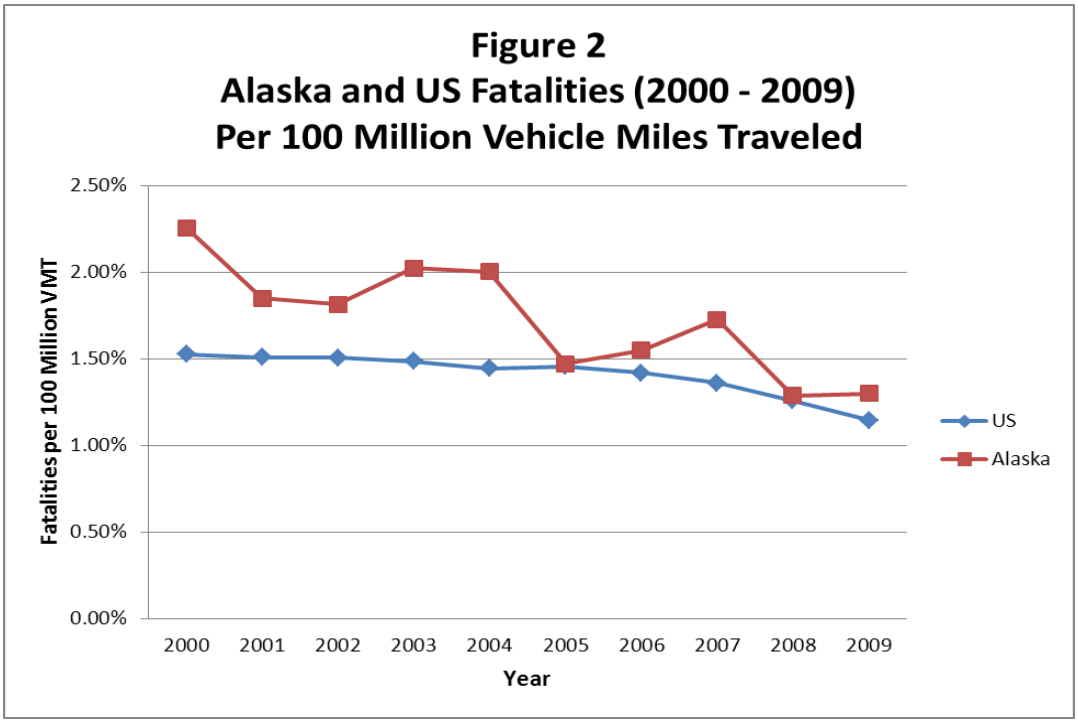
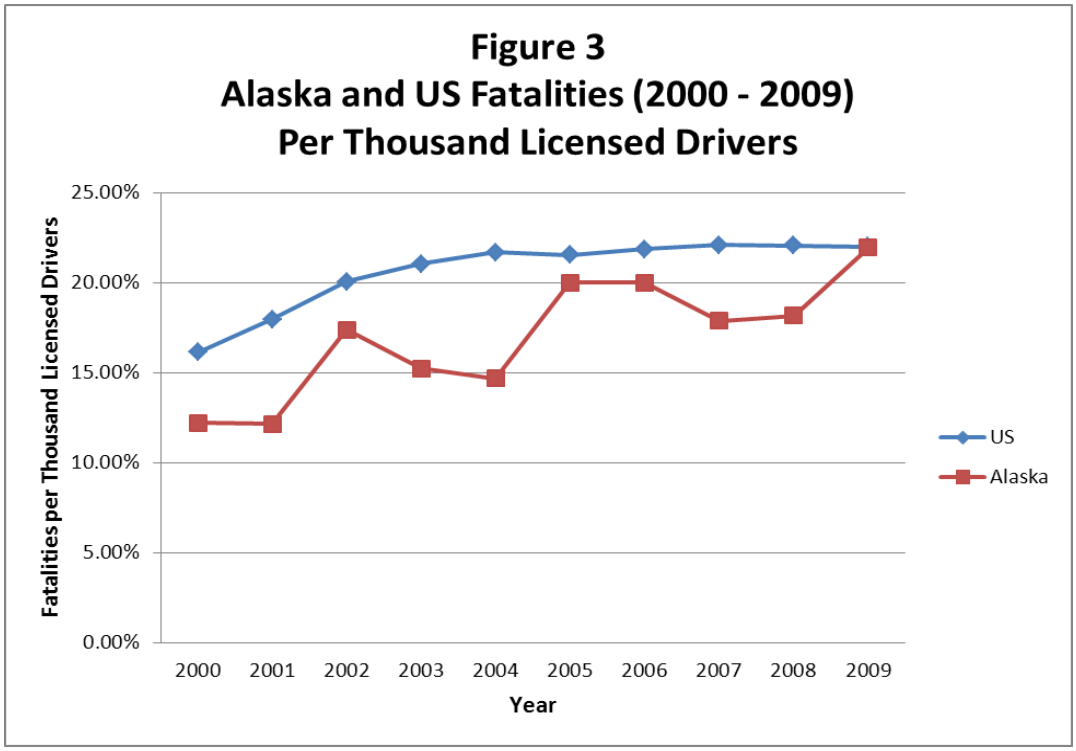


Figure 3 compares the U.S. and Alaska trends for fatalities per million licensed drivers. While Alaska traffic fatality rates based on traffic volumes (by VMT) are typically greater than the corresponding national rate, Alaska traffic fatality rates based on population, number of licensed drivers, or number of registered vehicles tend to be less.



CRASH EVENTS

Event type, or type of crash, describes the events of the traffic crash. Law enforcement personnel indicate a first crash event for the entire crash and a possible second crash event for each vehicle, following procedures described in the State of Alaska Police Crash Report Manual. Drivers are asked only to describe a first crash event for traffic crashes that they report.

No attempt is made to assign a most harmful event in a sequence of crash events. The first crash event is not always the crash event responsible for the most serious injuries to vehicle occupants or for the most damage to vehicles.

The first crash event is used to classify the crash type referenced in this publication. For a single vehicle, this may be a crash with an animal, pedestrian, or fixed object such as a light pole or ditch, or it may be a non-crash event such as an overturn. For multiple vehicle crashes, the first event is typically a crash with another motor vehicle. Crashes between motor vehicles in transport (motor vehicles in the process of transporting people or goods on a public roadway) are classified as rear end, head on, angle, or sideswipe. Crashes between vehicles in transport and parked vehicles (vehicles parked outside of the travel lanes of public roadways) are classified as crashes with parked vehicles.

Figure 4A compares first crash event types for all crashes with those for crashes that resulted in fatalities. Figure 4B presents first crash event data for alcohol and/or drug-related crashes. Sideswipe crash data is combined with motor vehicle angle crash events for this figure. Event types that were very infrequently coded and events coded as “other” are not shown

All Crashes

Crashes between motor vehicles (head-on, rear-end, angle, and sideswipes combined) occurred as first harmful events in sixty-four percent of all crashes in 2009 (60% in 2008) and in twenty-nine percent of fatal crashes (a decrease from 39% of fatal crashes in 2008). Thirty-seven percent of all Alaska traffic crashes in 2009 involved motor vehicle (MV) angle crashes, a crash type associated typically with turning movements, passing, and failure to yield situations. Twenty-five percent of all first crash events were MV rear end crashes, a crash type typical of situations involving unsafe speed and driver inattention at intersections or in slowing traffic. Less than 2% of all crashes involved head-on first event crashes. Crashes with fixed objects were coded as the crash type for 14% of all traffic crashes in 2009.

Fatal Crashes

Fatal crashes included a higher percentage of run off road crashes, head-on crashes with other motor vehicles, and crashes with pedestrians and bicyclists than traffic crashes overall. Crashes with other motor vehicles comprised 39% of fatal crash types (9% head-on, 23% angle, and 7% rear-end crashes coded as first crash events). Seven percent of fatal

crashes involved crashes with fixed objects. In 20% of fatal crashes, crashes with pedestrians or bicycles were coded as first crash events.

Figure 4A
2009 Crashes by Type

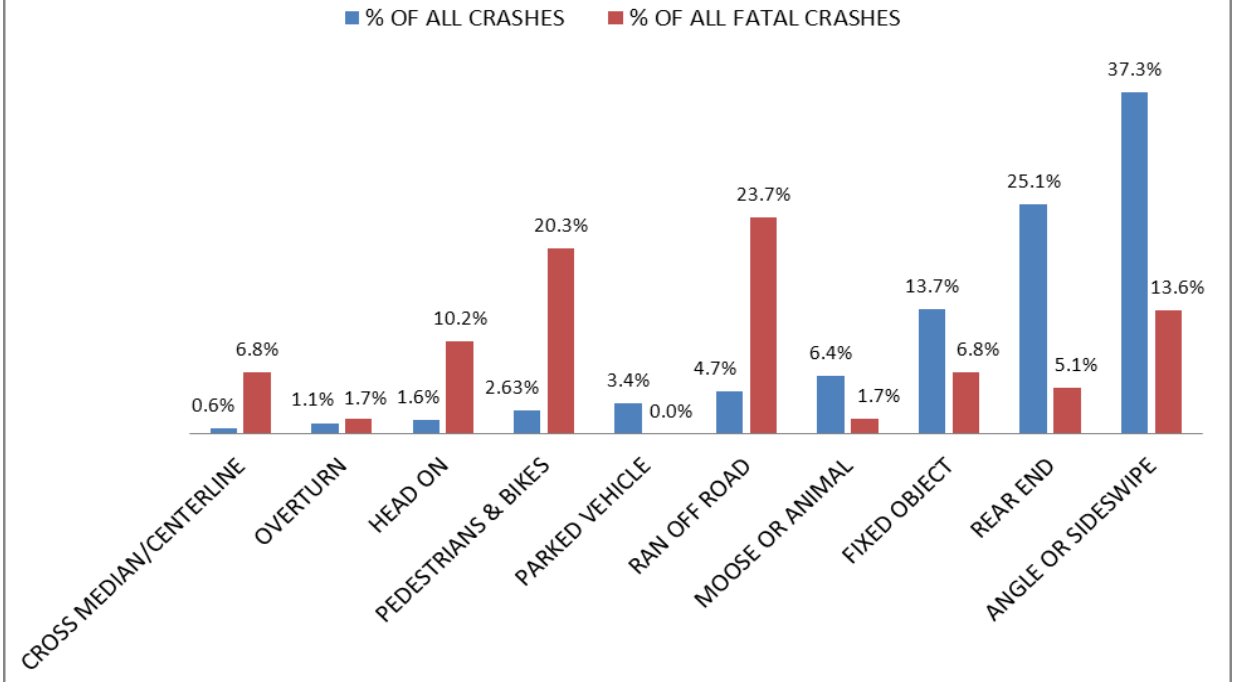
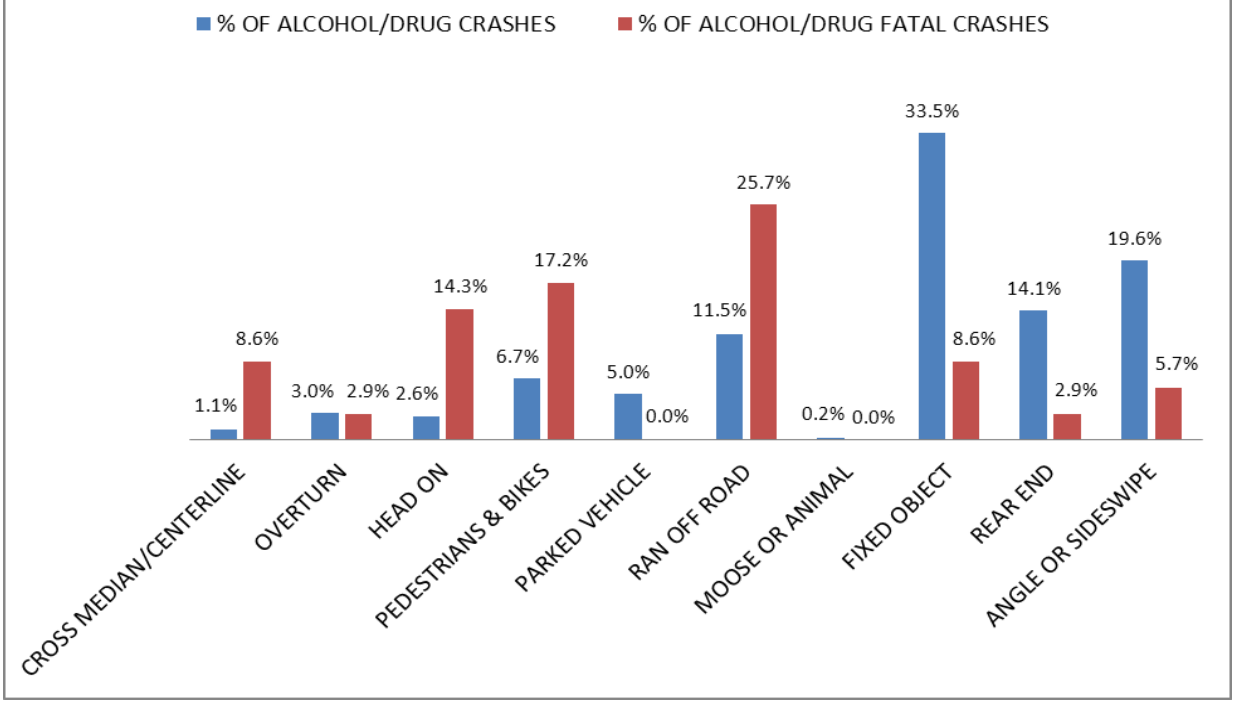
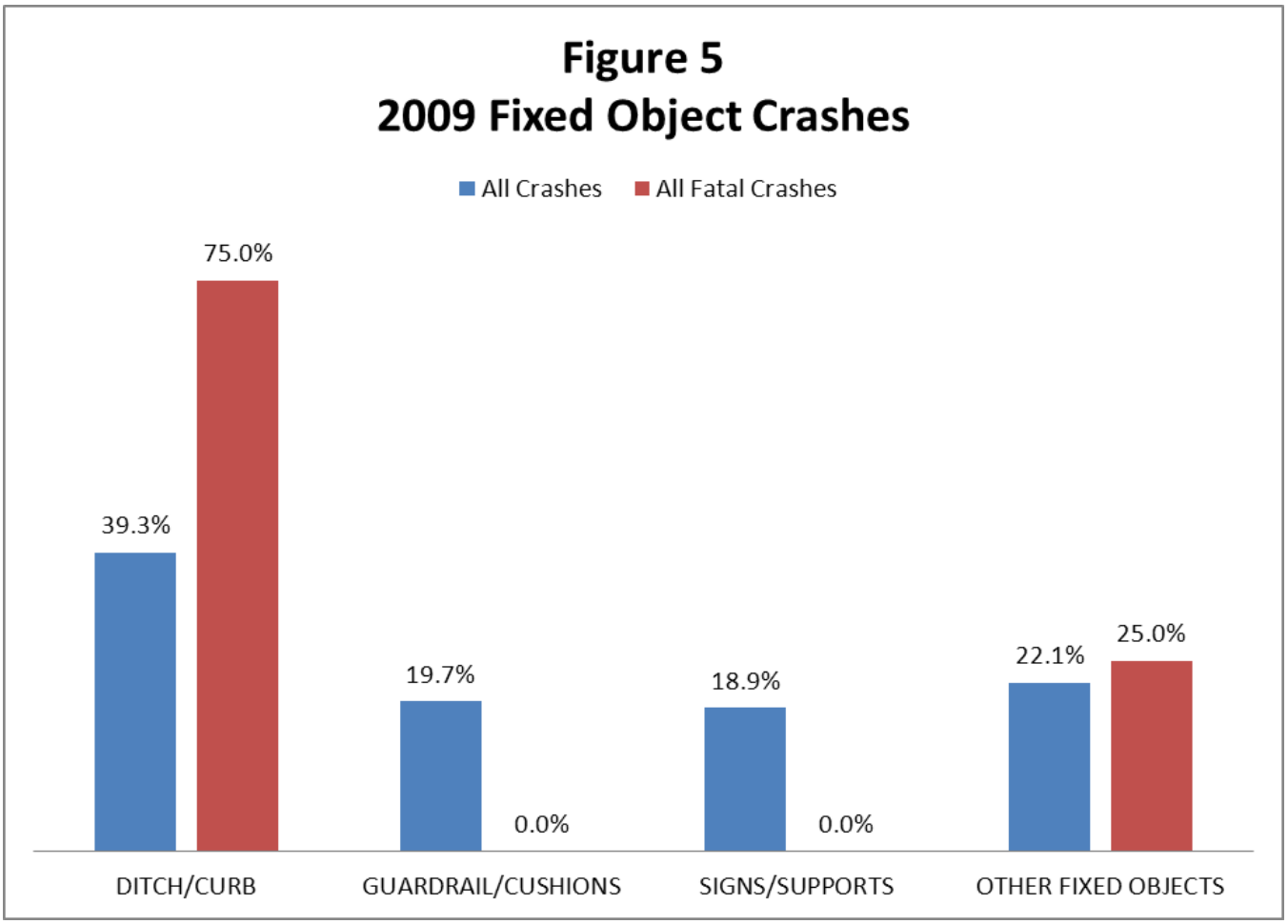


Figure 4B
2009 Alcohol/Drug Related Crashes by Type



Impaired Crashes
Impaired crashes were less likely to involve crashes with another motor vehicle than other crash types. Crashes between motor vehicles accounted for 36% of first event coding for all crashes when alcohol and/or drugs were involved and 23% of first event coding for fatal crashes when alcohol and/or drugs was involved (from 64% and 29% respectively of crash event coding in all crashes and in all fatal crashes). Thirty-four percent of all impaired crashes and almost 9% of fatal alcohol-related crashes had first event coding indicating crashes with fixed objects (14% in all crashes and 7% in all fatal crashes). Impaired crashes were also more likely to involve run-off-road and pedestrians and bicycle crashes.

Crashes With Fixed Objects
Fourteen percent of all crashes and 7% of fatal crashes occurred when vehicles first struck fixed objects. Most often, fixed object crashes were coded for crashes with signs and supports or ditches. In some of these crashes, secondary events such as vehicle overturns or crashes with trees and culverts may have been more harmful to vehicle occupants. Figure 5 summarizes the kinds of objects struck in fixed object crashes.



Ditch/Curb incudes embankments,walls and snow berms. Bridge rails, overpasses and median barriers are grouped with guardrail/cushions. Signs and utlity posts are included with signs/supports.

Multiple Motor Vehicle Crashes

Multiple motor vehicles were involved in 72% of traffic crashes in 2009. Most multiple vehicle crashes occurred on urban roadways. The first crash event was usually (89% of the time) a crash with another motor vehicle, though 3.6% of crashes involving multiple motor vehicles had other first event coding (crashes between motor vehicles were coded as secondary crash events in these crashes). Four percent of multiple vehicle crashes involved alcohol and/or drugs.

Single Motor Vehicle Crashes

Twenty-eight percent of traffic crashes in 2009 were single vehicle crashes (15.7% of all crashes involved only one motor vehicle. An additional 12.3% were single motor vehicle crashes with non-motorists). Most single vehicle crashes with pedestrians and bicyclists occurred in urban settings (90.1%). Crashes that involved only a single motor vehicle were almost as likely to occur in rural locations as in urban locations (45% rural, 55% urban). Crashes with fixed objects, crashes with moose or other animals, crashes with non-motorists, and vehicle rollovers (in that order) predominated as first crash events in single vehicle crashes. Thirteen percent of single vehicle crashes were impaired.

Fatal Vehicle Crashes

Thirty-nine percent (39%) of fatal crashes involved multiple motor vehicles. Sixty-one percent (61%) of fatal crashes involved single motor vehicles. Seventeen percent of fatal crashes (16.9%) were single vehicle crashes with pedestrians.

Impaired Crashes

Forty-six percent (45.6%) of impaired crashes involved multiple vehicles. Sixty-six percent of fatal impaired crashes (65.7%) involved single vehicles. Seventeen percent of fatal impaired crashes (17.1%) were single vehicle crashes with pedestrians and bicyclists.

Vehicle Overturns

Only sixteen percent (16.4%) of vehicles were coded for secondary crash events. Vehicle overturns were coded more often as secondary crash events on vehicle records than as first crash events. There were 143 crashes with first event overturn coding and 357 vehicles were coded for overturns as second events. At least 500 vehicles overturned during traffic crashes in 2009 (about 2% of vehicles).

FACTORS CONTRIBUTING TO ALASKA TRAFFIC CRASHES

Given the opportunity to select up to two factors for each driver, police coded at least one human circumstance for 36.1% of drivers (excluding coding for "no improper driving, missing and unknown"). Twenty-three percent of vehicles were coded for roadway circumstances such as debris in roadway, pavement faults, and missing, obscured, or inoperative traffic control. Six percent were coded for environmental circumstances, including weather conditions, glare, and obstructed (or limited) view. One percent (1.2%) of vehicles were reported as having vehicle defects that contributed to the crash. These factors are shown in Figure 6.

Vehicle circumstances cited most frequently were tire failure or inadequate tires (22.5% of vehicle defects coded). Weather (71.8%) dominated environmental circumstances and road surface condition (77.8%) dominated roadway circumstances coding.

Figures 7 and 8 show the major human factors that contributed to all crashes (Figure 7) and to fatal crashes (Figure 8) in 2009. Because some drivers were coded for two human factors, the number of occurrences does not correspond to the number of driver (vehicle) records.

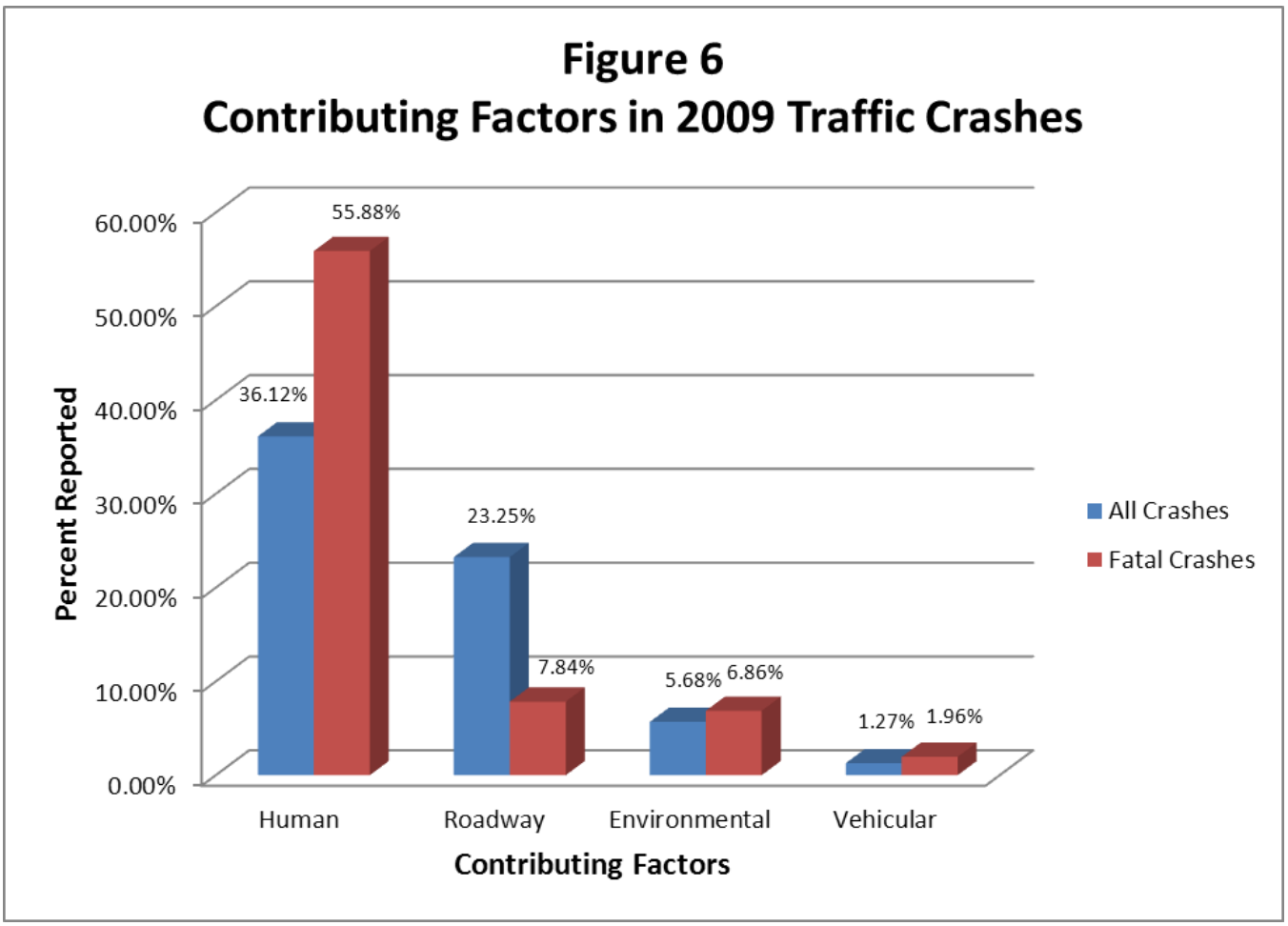


Figure 7
Human Contributing Factors in 2009 Crashes

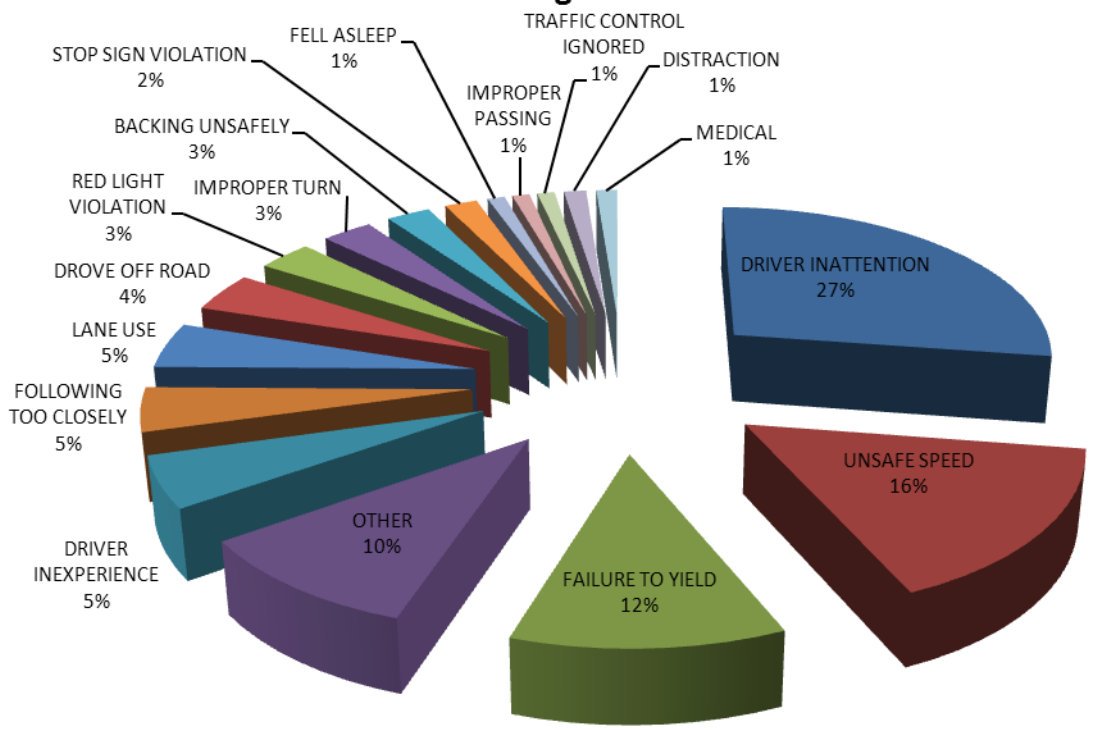
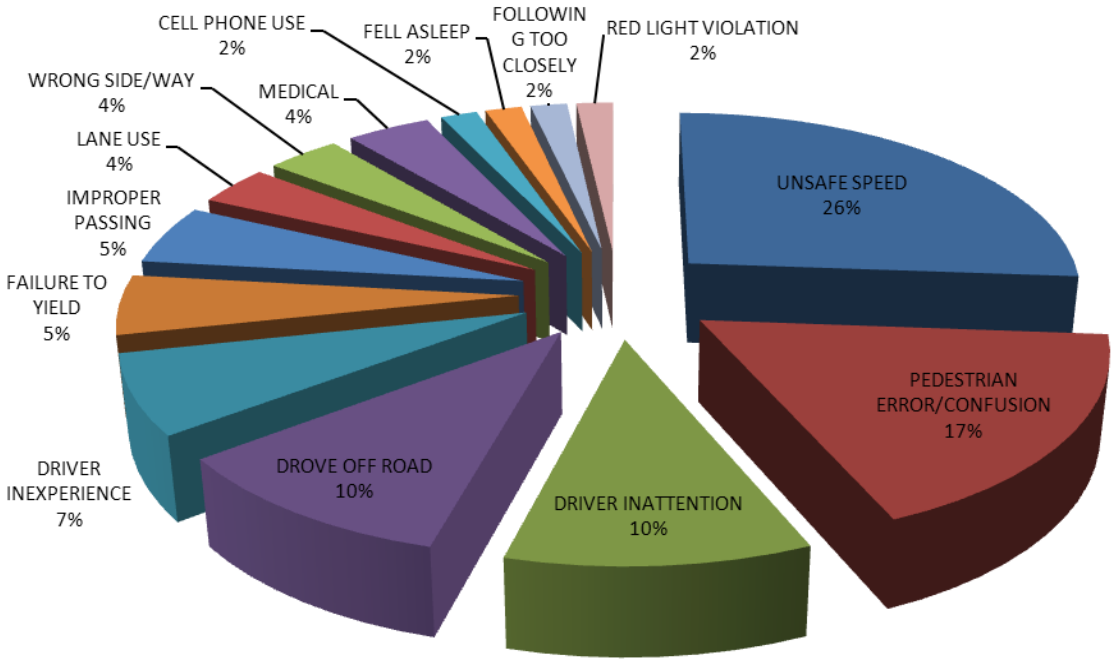


Figure 8
Human Contributing Factors in 2009 Fatal Crashes



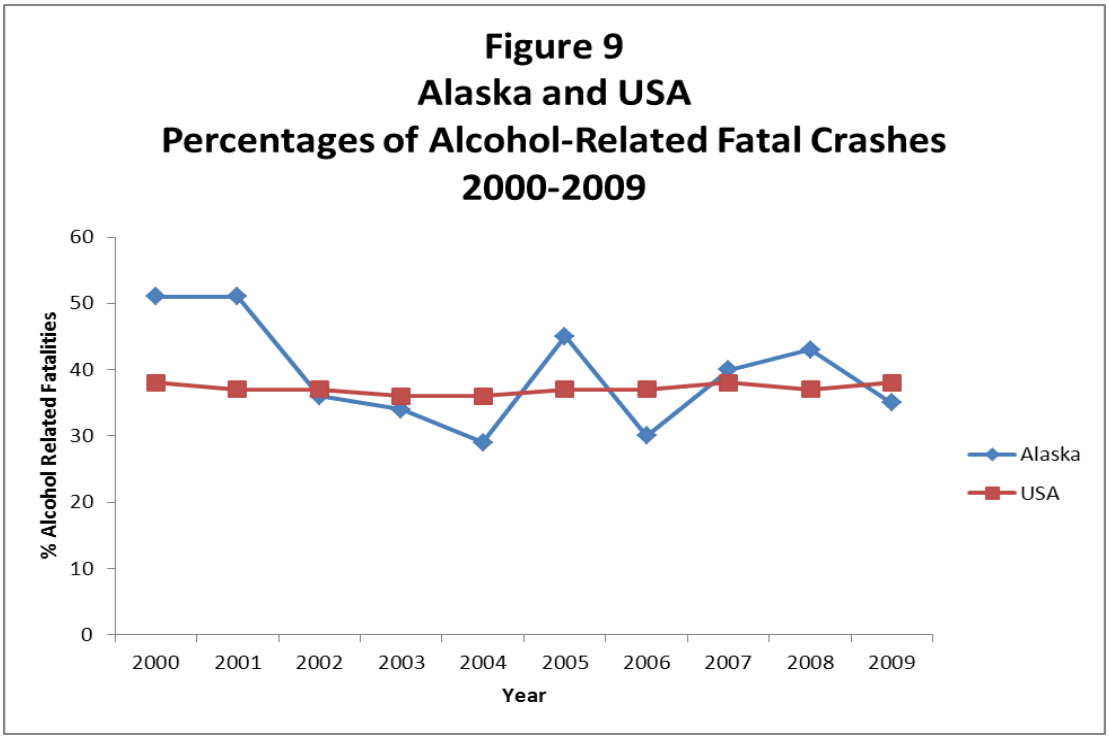
Driver inattention was the most frequently reported human contributing factor on all 2009 crash reports, followed by unsafe speed and failure to yield. Unsafe speed and pedestrian error/confusion were the most frequently recorded human contributing factors on fatal crash reports during 2009.

IMPAIRED DRIVING

Alcohol and/or drug test results, traffic citations, and police suspicion of alcohol and /or drug use are considered when categorizing crashes and injuries in this publication as being alcohol/drug-related. Crashes can be designated alcohol/drug-related based on police suspicion without confirming alcohol or drug tests or based on alcohol or drug related traffic citations (such as driving while intoxicated or open container) without confirming alcohol or drug test results. Alcohol or drug tests are considered positive if nonzero (0.001% blood alcohol would be considered a positive test) and crashes can be designated alcohol/drug-related if test results are the only data available. A crash can be designated alcohol/drug related if an involved non-motorist (pedestrian/bicyclist) is impaired when involved motor vehicle drivers are not. Passenger involvement is not taken into consideration.

Statistics specifically for drunk driving crashes (those meeting the statutory 0.08% driver blood alcohol criteria) are not provided in this publication.

Figure 9 shows Alaska alcohol-related fatality percentages (percentage of fatalities that occurred in alcohol-related crashes) compared to national percentages for the years 2000 to 2009. In 2009, 777 traffic crashes were determined to be alcohol-related (6% of all crashes). Twenty-two fatal crashes involved alcohol use (37% of all fatal crashes). Twenty-six people died in alcohol related crashes (41% of all traffic fatalities).



The forty persons that died in alcohol and/or drug related traffic crashes in 2009 included twenty-seven occupants of automobiles and trucks (16 drivers, 11 passengers), five pedestrians, four off-road vehicle occupants, three motorcyclists and one bicyclist. Twelve driver fatalities in automobiles and trucks were impaired. Nine passenger fatalities were in auto/truck/bus vehicles operated by impaired drivers, and two were in vehicles struck by impaired drivers.

Three off-road vehicle operator and one off-road vehicle passenger fatalities and three motorcyclist fatalities were impaired. Three impaired pedestrians were struck by motor vehicles whose drivers had not used alcohol and/or drugs, and two pedestrian fatalities occurred where both the vehicle drivers and the pedestrians were impaired. One impaired bicyclist was killed in a traffic crash during 2009. One child under age 16 and one senior age 65 died in impaired crashes. Alcohol and/or drugs were not involved in the motor vehicle crash with a moose that resulted in a human death in 2009.

Figure 10 shows the types of vehicles people occupied when they were fatally injured in traffic crashes during 2009. Data is presented for all vehicles involved in fatal impaired crashes.

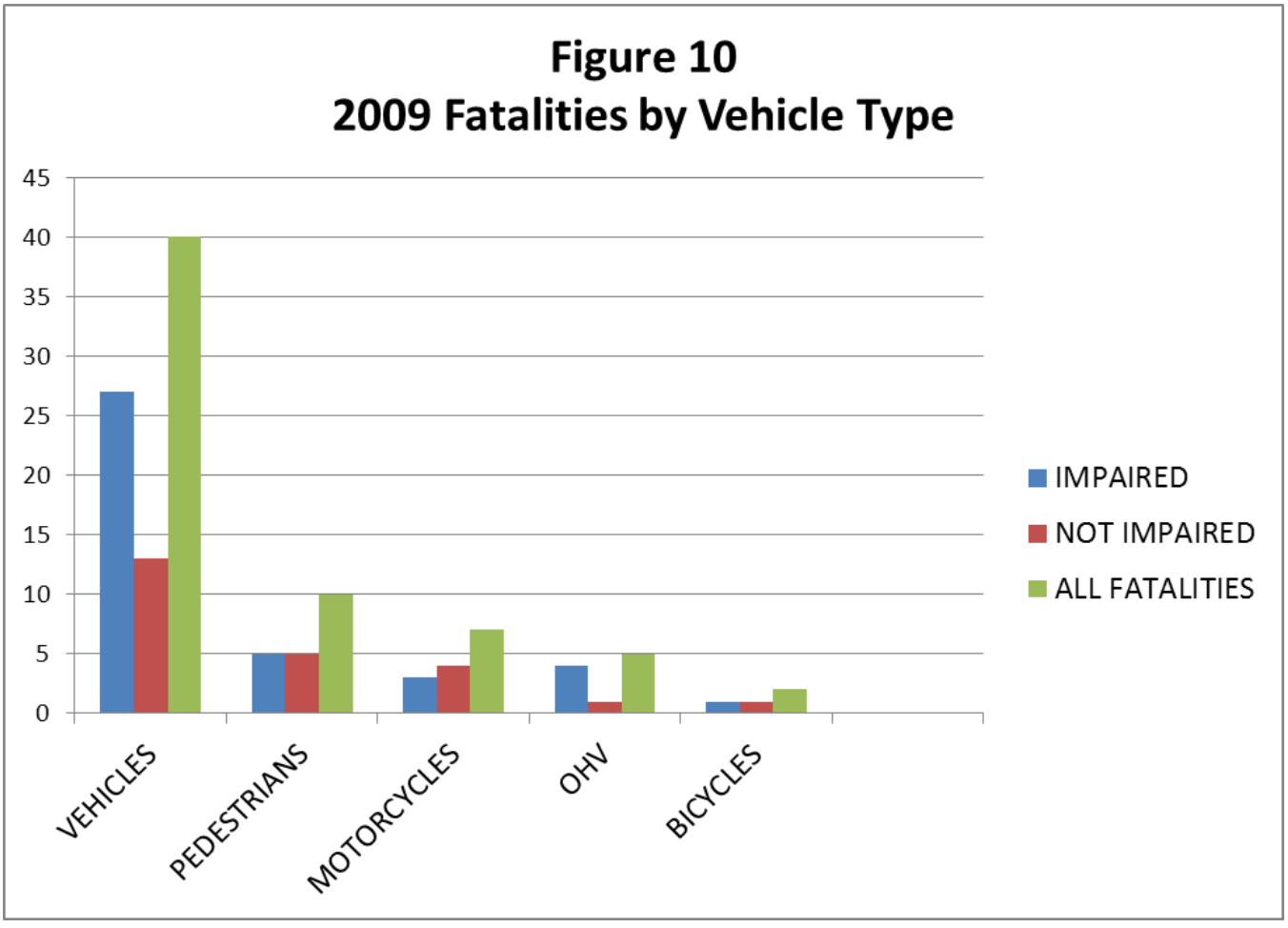


Table 5 summarizes traffic crashes over six holiday periods during 2009, showing the number of crashes as well as the number of persons injured or killed in all crashes during each holiday and in impaired crashes during each holiday.

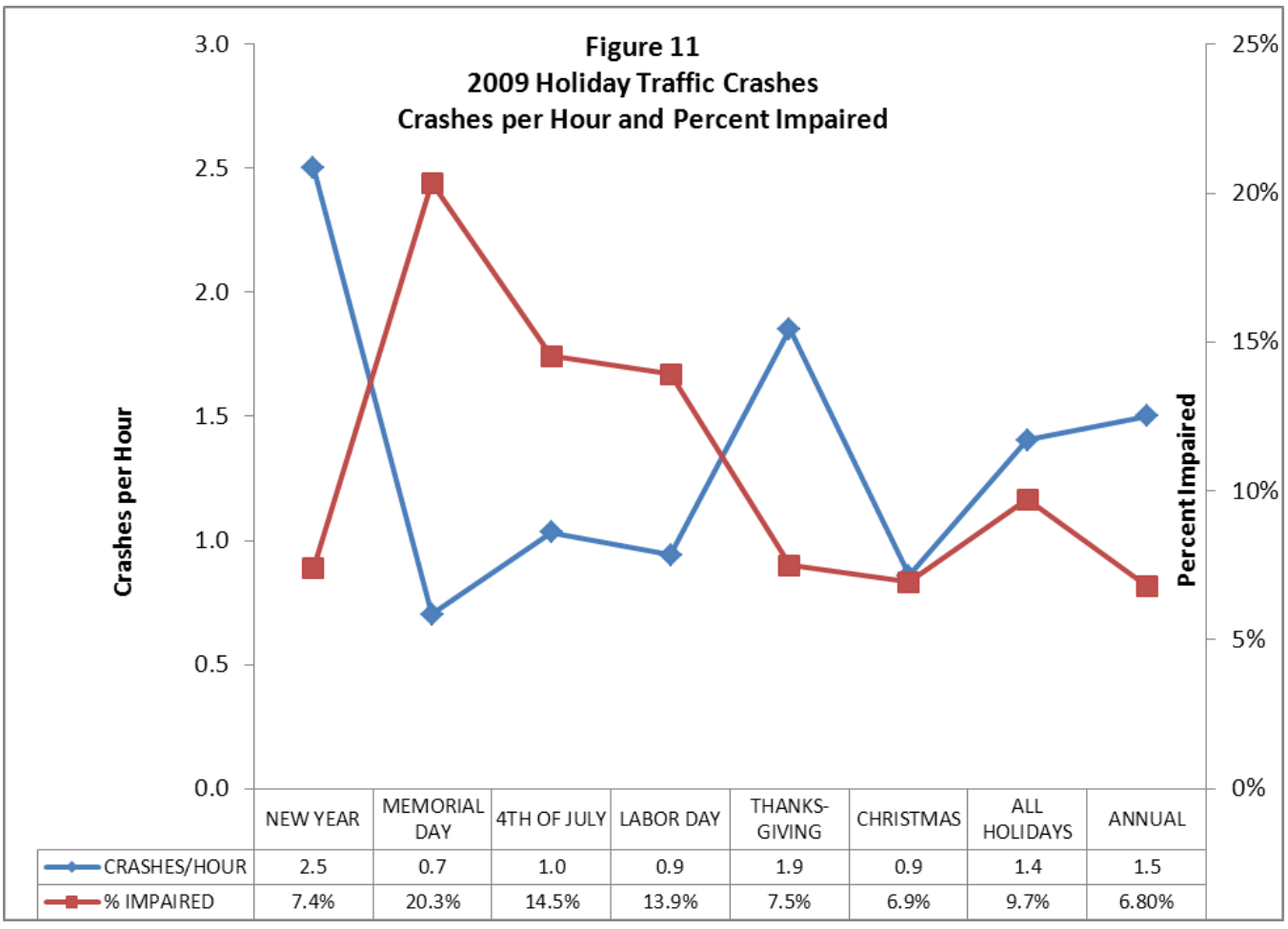
TABLE 5
2009 Holiday Crashes and Injuries

	CRASHES			INJURIES		
HOLIDAY	**CRASH TYPE**	**ALL CRASHES**	**IMPAIRED CRASHES**	**INJURY TYPE**	**ALL INJURIES**	**IMPAIRED INJURIES**
NEW YEAR	FATAL	0	0	FATALITIES	0	0
6PM WED, DEC 31	MAJOR INJURY	5	2	MAJOR INJURIES	5	2
THROUGH	MINOR INJURY	48	3	MINOR INJURIES	66	4
5:59AM MON, JAN 5	PROP DAMAGE	217	15			
108 HOURS	TOTAL CRASHES	270	20			
MEMORIAL DAY	FATAL	1	0	FATALITIES	1	0
6PM FRI, MAY 22	MAJOR INJURY	5	2	MAJOR INJURIES	6	2
THROUGH	MINOR INJURY	15	4	MINOR INJURIES	27	8
5:59AM TUE, MAY 26	PROP DAMAGE	38	6			
84 HOURS	TOTAL CRASHES	59	12			
4TH OF JULY	FATAL	2	0	FATALITIES	2	0
6PM FRI, JULY 3	MAJOR INJURY	4	0	MAJOR INJURIES	7	0
THROUGH	MINOR INJURY	20	4	MINOR INJURIES	28	4
5:59AM MON, JUL 6	PROP DAMAGE	36	5			
60 HOURS	TOTAL CRASHES	62	9			
LABOR DAY	FATAL	3	1	FATALITIES	3	1
6PM FRI, SEPT 4	MAJOR INJURY	3	1	MAJOR INJURIES	6	1
THROUGH	MINOR INJURY	22	2	MINOR INJURIES	36	6
5:59AM TUE, SEPT 8	PROP DAMAGE	51	7			
84 HOURS	TOTAL CRASHES	79	11			
THANKSGIVING	FATAL	1	0	FATALITIES	1	0
6PM WED, NOV 25	MAJOR INJURY	4	1	MAJOR INJURIES	5	1
THROUGH	MINOR INJURY	45	5	MINOR INJURIES	68	7
5:59AM MON, NOV 30	PROP DAMAGE	150	9			
108 HOURS	TOTAL CRASHES	200	15			
CHRISTMAS	FATAL	0	0	FATALITIES	0	0
6PM THURS, DEC 24	MAJOR INJURY	3	1	MAJOR INJURIES	4	1
THROUGH	MINOR INJURY	23	2	MINOR INJURIES	42	8
5:59AM MON, DEC 28	PROP DAMAGE	46	2			
84 HOURS	TOTAL CRASHES	72	5			
HOLIDAY TOTALS	**ALL CRASHES**	**742**	**72**	**INJURIES & FATALITIES**	**307**	**45**

Seven percent (7.4%) of holiday crashes were alcohol and/or drug related in 2009, slightly less than the previous two years (9.3% in 2008, 10% in 2007). Eight percent (8.4%) of injuries plus fatalities during holiday periods were impaired in 2009 (16.7% in 2008, 15.6% in 2007).

One of seven holiday traffic fatalities in 2009 was alcohol and/or drug related.The percentage of injuries due to impaired driving events was greatest during the Memorial Day weekend (29.4% of Memorial Day injuries plus fatalities), and least during the New Years holiday (8.5%). The percentage of holiday crashes that were impaired was greatest during the Memorial Day holiday (20.3%) and least over the Christmas holiday (6.9%).

Figure 11 shows the percentage of crashes that were impaired during each holiday in 2009. An hourly rate (for all traffic crashes during that holiday interval) has been provided to facilitate comparisons between holidays. The lengths of the New Years, Independence Day, and Christmas holiday intervals vary each year, but the lengths of the Memorial Day, Labor Day, and Thanksgiving holiday intervals do not change. Timing and publicity surrounding police impaired driving enforcement during specific holidays likely also affected impaired crash statistics.

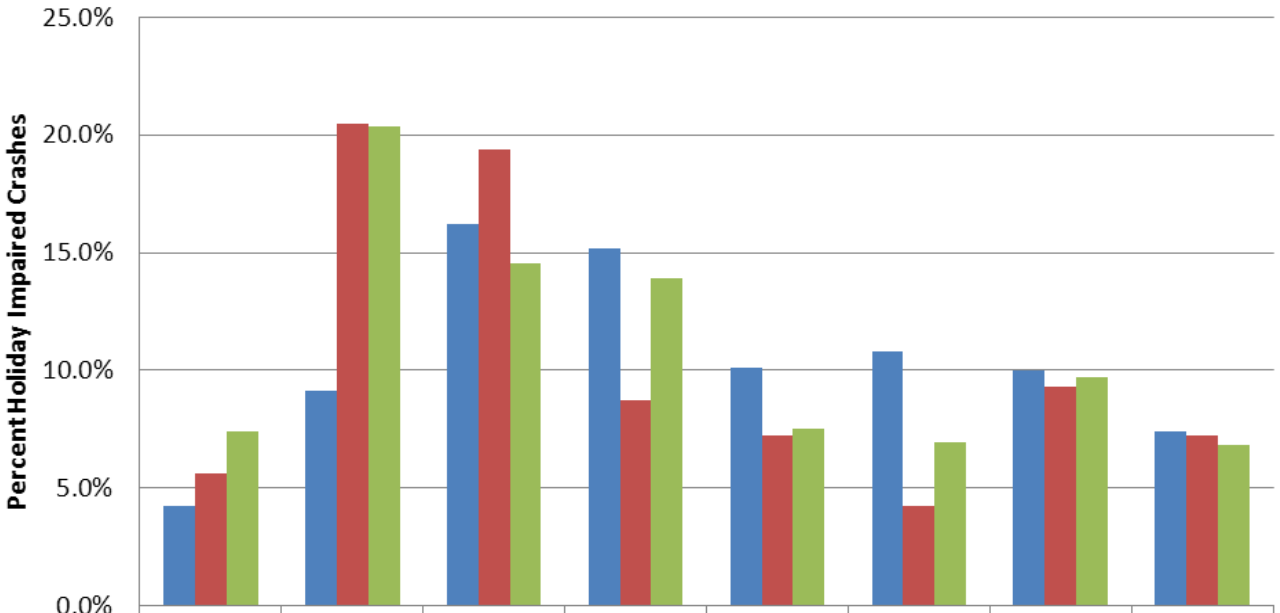


	NEW YEAR	MEMORIAL DAY	4TH OF JULY	LABOR DAY	THANKS-GIVING	CHRISTMAS	ALL HOLIDAYS	ANNUAL
CRASHES/HOUR	2.5	0.7	1.0	0.9	1.9	0.9	1.4	1.5
% IMPAIRED	7.4%	20.3%	14.5%	13.9%	7.5%	6.9%	9.7%	6.80%

Figure 12 compares impaired holiday crashes between 2007 and 2009. Table 6 provides the average hourly crash rate (all crashes, crashes/hour) and number of hours in the holiday for each year. Impaired crashes, on average, occurred more frequently during summer

holidays between 2007 and 2009 than winter holidays. The average number of crashes per hour for all holidays combined (each year) was consistent with the average number of crashes per hour throughout that year.

Figure 12
2007 to 2009 Holiday Crashes
Percent Impaired



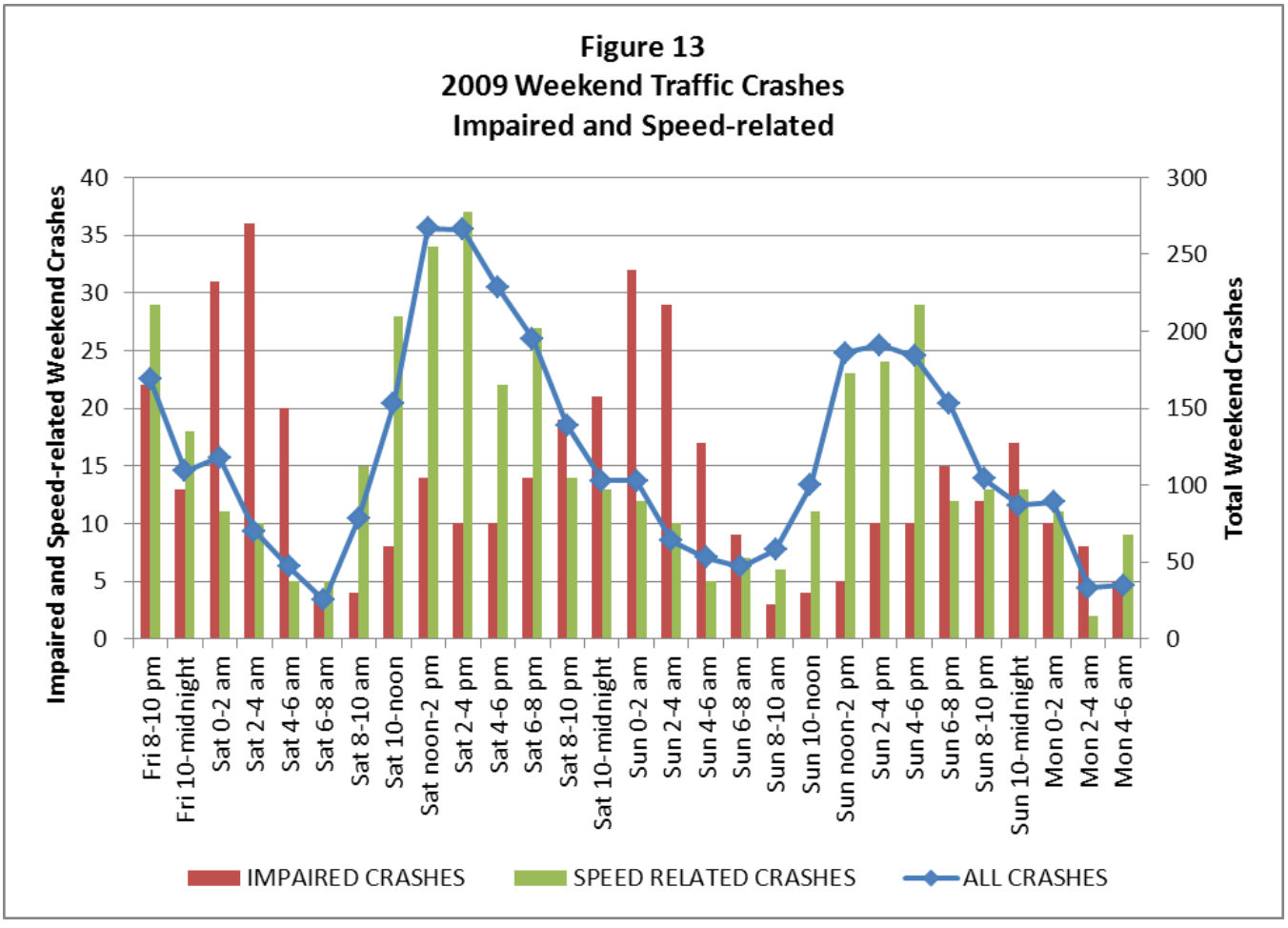
	NEW YEAR	MEMORIAL DAY	4TH OF JULY	LABOR DAY	THANKS-GIVING	CHRISTMAS	ALL HOLIDAYS	ANNUAL
2007	4.2%	9.1%	16.2%	15.2%	10.1%	10.8%	10.0%	7.4%
2008	5.6%	20.5%	19.4%	8.7%	7.2%	4.2%	9.3%	7.2%
2009	7.4%	20.3%	14.5%	13.9%	7.5%	6.9%	9.7%	6.8%

Table 6
2007 - 2009 Holiday Intervals
Average Crashes per Hour and Hours in the Holiday

HOLIDAY	2007		2008		2009	
	CRASHES/HR	HOURS	CRASHES/HR	HOURS	CRASHES/HR	HOURS
NEW YEAR	1.7	84	0.8	108	2.5	108
MEMORIAL DAY	0.5	84	0.9	84	0.7	84
4TH OF JULY	1.0	36	0.9	84	1.0	60
LABOR DAY	1.3	84	1.1	84	0.9	84
THANKSGIVING	1.5	108	1.8	108	1.9	108
CHRISTMAS	1.0	108	1.3	108	0.9	84
ALL HOLIDAYS	1.2	504	1.2	576	1.4	528
ANNUAL	1.2		1.3		1.5	

Forty-eight percent (48.1%) of all impaired crashes during 2009 occurred on weekends, between 6 p.m. Friday evening and 6 a.m. Monday morning. Impaired crashes occurred 7 times per hour during weekends, but only 4.2 times per hour the remainder of the week. During weekends, the incidence of impaired crashes increased to 11.5% (from 4.9% throughout the rest of the week). The percentage of impaired fatal crashes during weekends was 45.7% compared to 54.3% during the rest of the week.

Figure 13 plots numbers of weekend impaired and speed-related crashes, by time of day. Numbers of impaired crashes peaked between ten in the evening and four the following morning. Peaks of speed-related crashes occurred between noon and six in the evening. Relative numbers of impaired crashes and speed-related crashes decreased on Sunday.



Speed contributed to 1743 traffic crashes (13.5% of all crashes) and to 476 weekend crashes (13% of weekend crashes). Twenty-four fatal crashes (40.7% of all fatal crashes) and thirteen fatal weekend crashes (54.2% of weekend fatal crashes) involved speed in 2009.

Speeding appears to be the inverse of impairment, with peaks in winter or in the afternoon (Figures 14, 15, and 16). Drivers were least likely to be coded for the human factor "unsafe speed" when involved in crashes between April and October. Police may have a general tendency to cite more drivers for "basic speed" (unsafe speed for conditions or too fast for conditions) after responding to winter crashes on slick road surfaces than after responding to summer crashes.

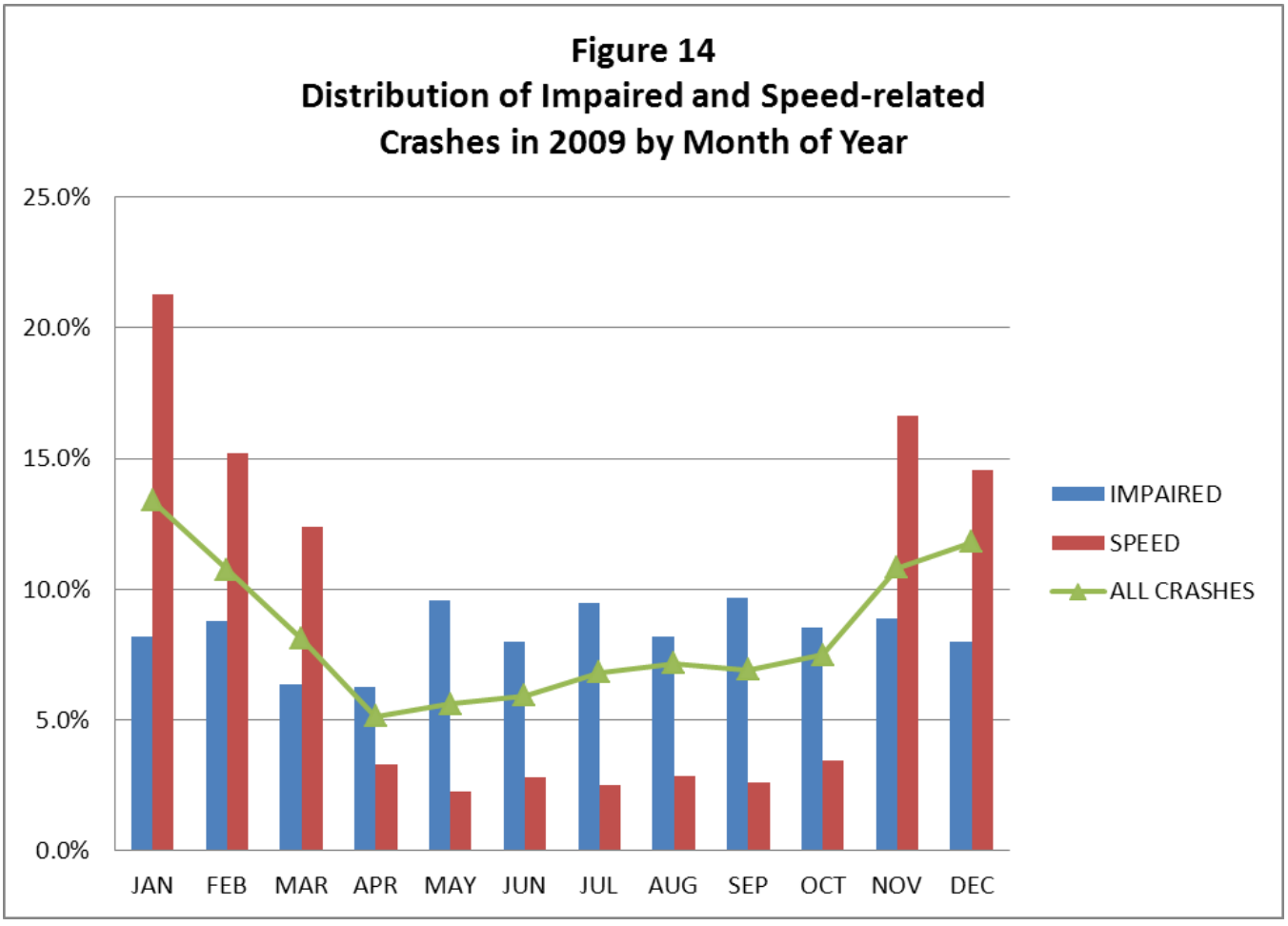


Figure 15
Distribution of Impaired and Speed-related Crashes in 2009 by Day of Week

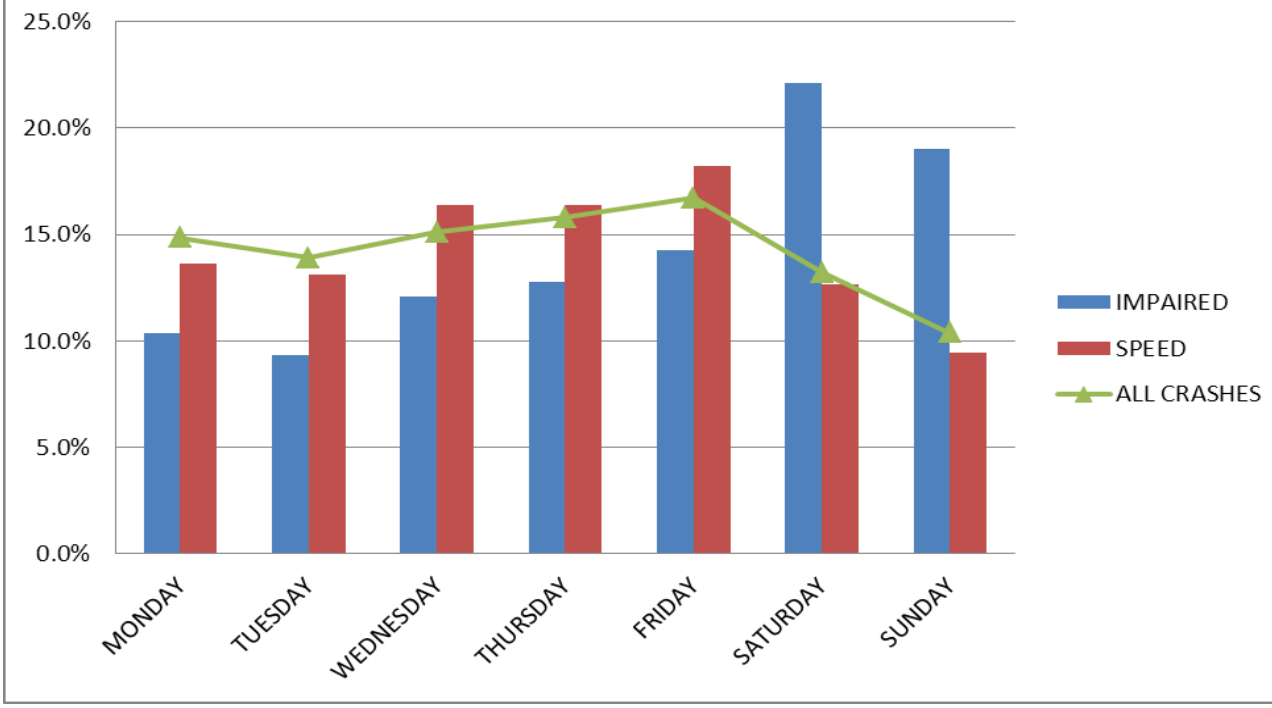
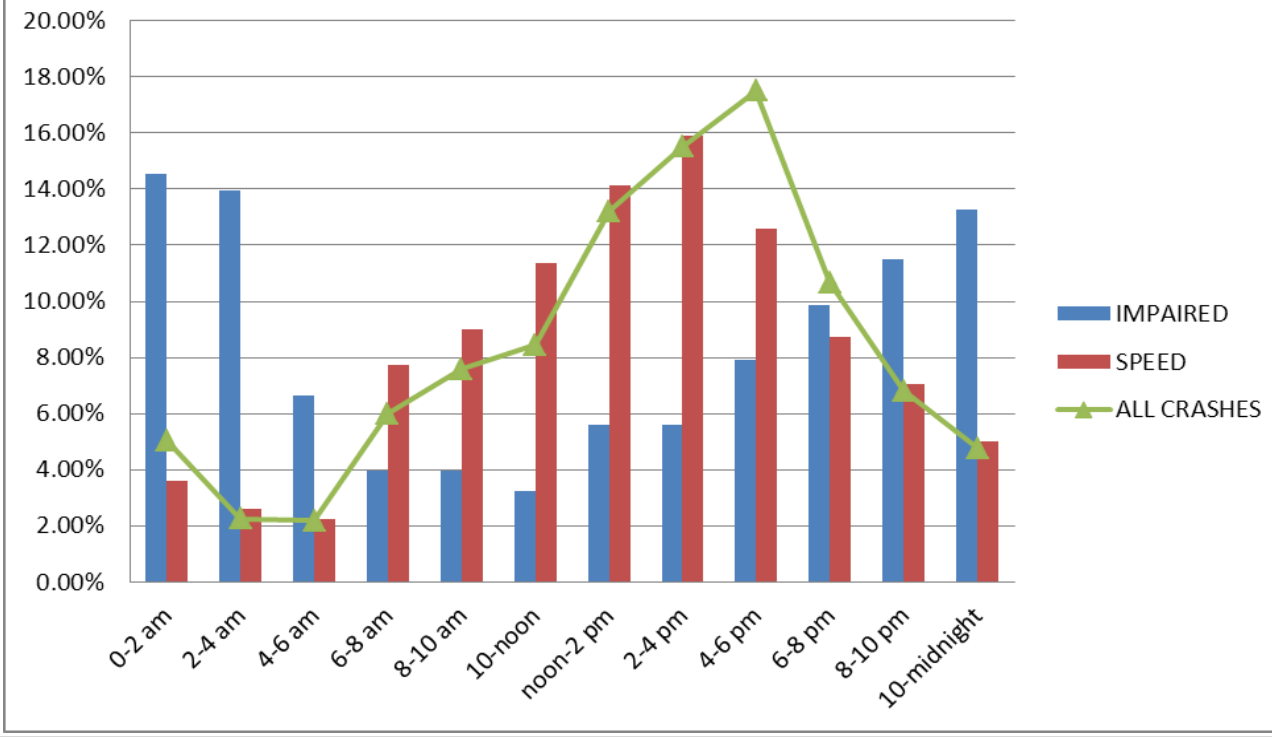


Figure 16
Distribution of Impaired and Speed-related Crashes in 2009 by Time of Day



Twenty percent (20.4%) of impaired crashes also involved unsafe or excessive speed. Seventeen fatal crashes were coded for both impairment and speed involvement (28.8% of all fatal crashes in 2009).

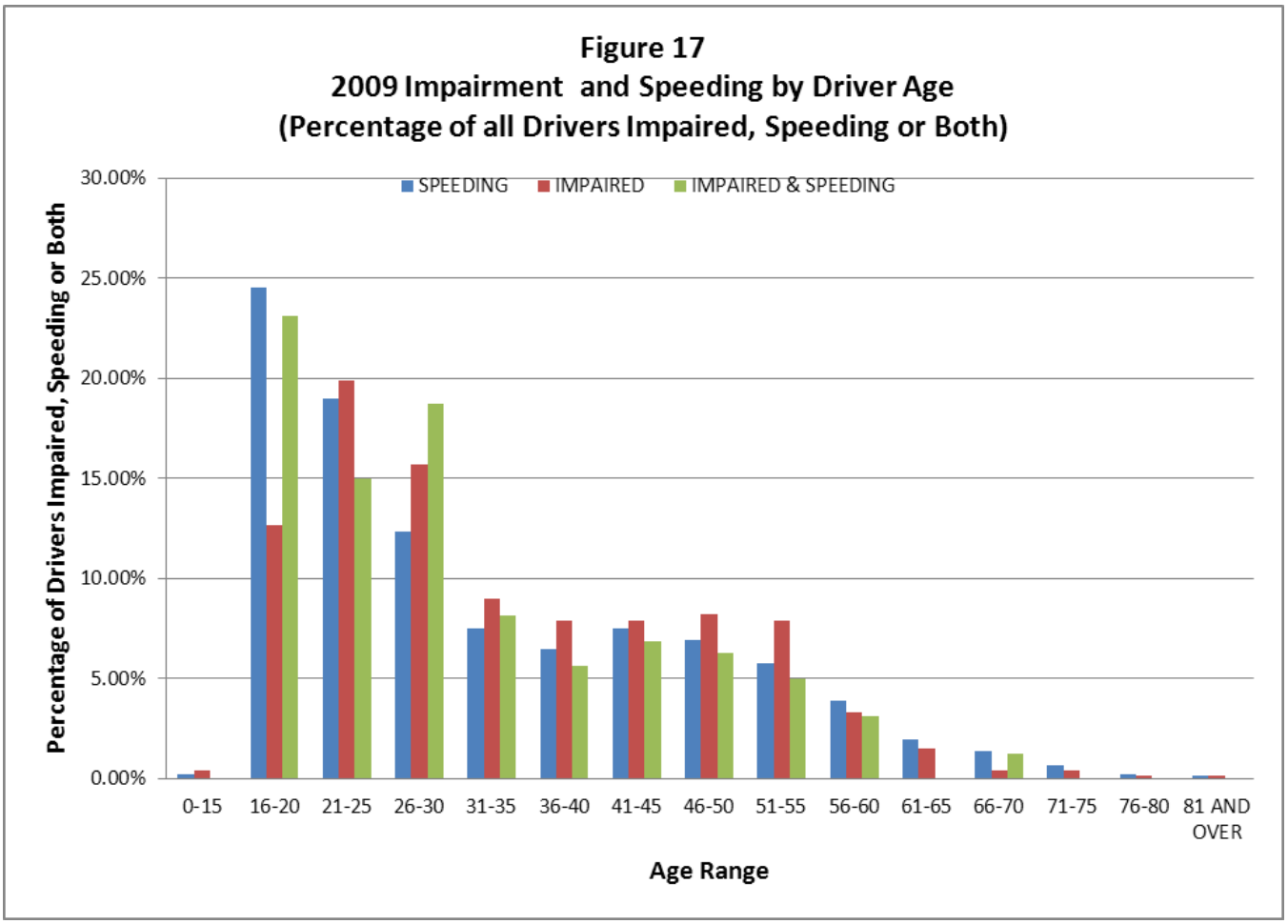
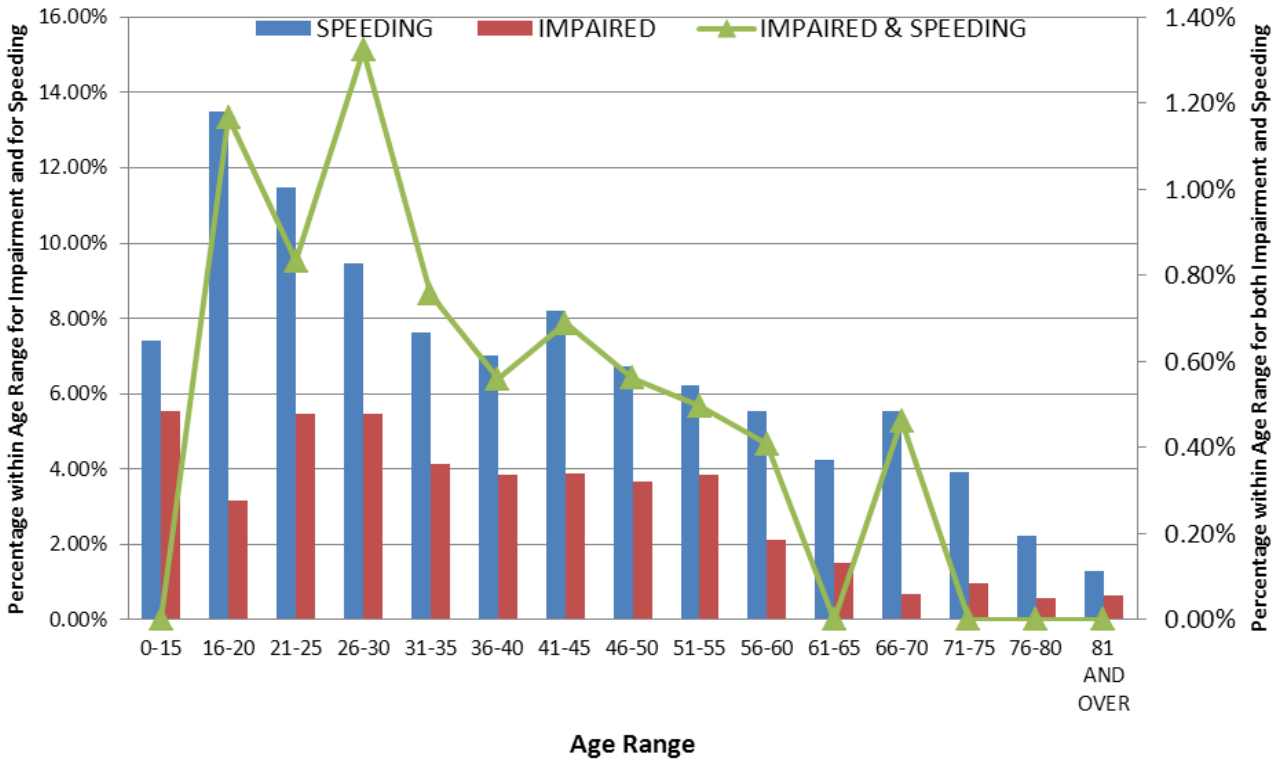


Figure 17 presents data for all automobile, truck and bus drivers involved in traffic crashes that were impaired, speeding or both during 2009 (percent of all drivers impaired, speeding or both). A third of impaired drivers and 44% of speeding drivers were under 26 years of age. Thirty-eight percent of drivers that were both impaired and speeding at the time of the crash were between 16 and 25 years of age. Drivers between 16 and 25 comprised about 29% of all automobile, truck, and bus drivers involved in traffic crashes in 2009 and 7% of drivers with valid Alaska licenses (including instruction permits).

Figure 18 shows impairment and speed involvement within driver age groups. Almost 14% (13.5%) of drivers between the ages of 16 and 20 were speeding when involved in traffic crashes and 3.2% were impaired. Speeding was less frequent among drivers aged 21 to 25 (11.5%) but impairment was more frequent (5.5%).

Figure 18
2009 Impairment and Speeding by Driver Age Range
(Percentage of all Drivers within each Age Range)



There were 22,821 drivers (of all vehicle types, including non-motorists) involved in traffic crashes during 2009 (both police and driver reported). Police coded 782 drivers as suspected of alcohol use or a combination of alcohol and drug use and reported alcohol test results for 647 drivers. There were 458 drivers that tested for blood alcohol concentrations (BAC) at or exceeding 0.08% (legal intoxication by Alaska statute). One hundred twenty-nine drivers tested positive for alcohol use but below 0.08% BAC. Negative tests (0.0% BAC) were reported for 60 drivers. Police suspicion of (illegal) drug use was coded for 104 drivers.

SAFETY EQUIPMENT AND OCCUPANT EJECTION

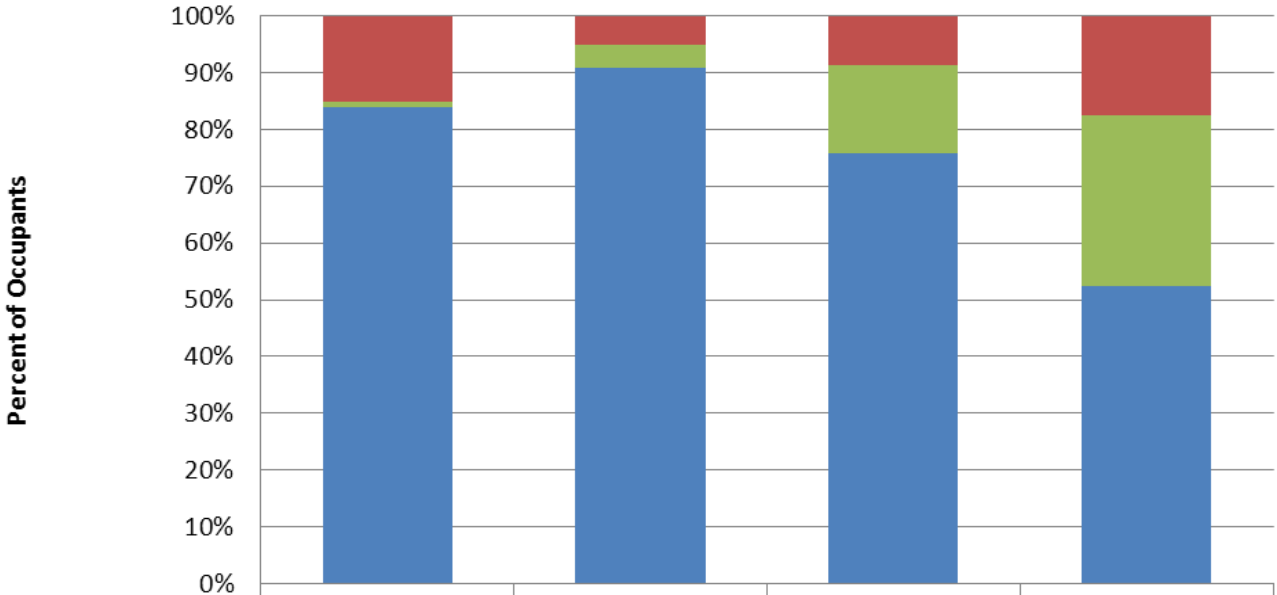
Seatbelt use, airbag deployment, and occupant ejection information is not collected on the driver report form. Discussions that follow are restricted to police reported data unless otherwise indicated.

Seatbelt Use

Seventy-eight percent of all automobile, truck, and bus occupants were restrained by combination lap and shoulder restraint systems or by properly installed and used child safety seats. Another 1.4% used lap belt only, shoulder harness only, or were restrained by improperly installed or fitted child seats. Only 1.6% were reported by police to have failed to wear any safety restraint. A little over four percent of the time (4.2%), police failed to report seatbelt use on crash forms.

About 84% of automobile, truck and bus occupants that were not injured or received only superficial injuries used seatbelts at the time of the crash. Seatbelts were not used as often by occupants that received major or fatal injuries—just over 52% of fatalities and less than 76% of occupants with major injuries wore seatbelts at the time of the crash (Figure 19).

Figure 19
2009 Safety Restraint Use by Occupants of Autos, Trucks and Buses



	NO INJURY	MINOR INJURY	MAJOR INJURY	FATALITY
% NOT REPORTED	15.0%	5.1%	8.7%	17.5%
% NOT USED	1.0%	4.0%	15.6%	30.0%
% RESTRAINED	83.9%	90.9%	75.8%	52.5%

Seventy-nine percent (79.1%) of infants and toddlers (through age 3) were riding in rear seat positions when crashes occurred. There was one fatality in this age group which occurred in the right rear seat with proper child restraint and no major injuries. Eighty-six percent (85.8%) of infants and toddlers were reported by police to be properly restrained in child safety seats. Police failed to report child restraint for 0.4% of children in this age group. State law requires that all children under four years of age be restrained in child safety seats.

Sixty-four percent of children between 4 and 10 years of age occupied rear seat positions. There was one fatality in this age group which occurred in the right rear seat with proper child restraint and 4 major injuries all occurring in rear seat positions without proper child restraint. About thirty-two percent of children in this age group used child restraints. Almost 58% used lap/shoulder combinations, lap belts alone, or shoulder straps alone (51.9% used lap/shoulder combination restraints). Police failed to report child restraint or seatbelt use for less than 1% of children in this age group.

Thirty-four percent of children in crashes between the ages 11 and 15 occupied rear seat positions. There was one fatality in this age group which occurred in the right rear seat position using a lap/shoulder restraint. Seventy-seven percent (76.8%) of children between 11 and 15 used lap/shoulder combination belts and an additional 4% used lap belts alone or shoulder straps alone. One child in this age group was coded as being restrained in a properly installed child safety seat. Police failed to report restraint use for less than1% of automobile, truck, and bus occupants in this age group.

Figure 20
2009 Percentage of Front and Rear Seat Occupants of Autos, Trucks and Buses

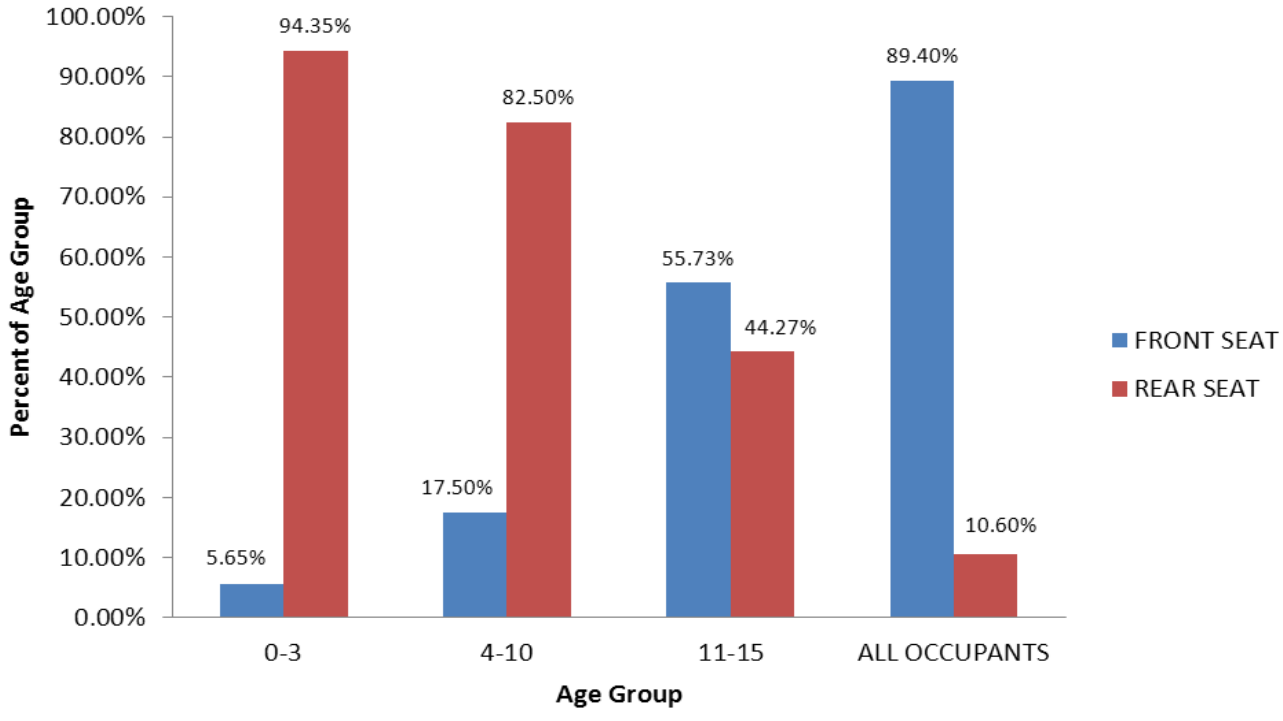
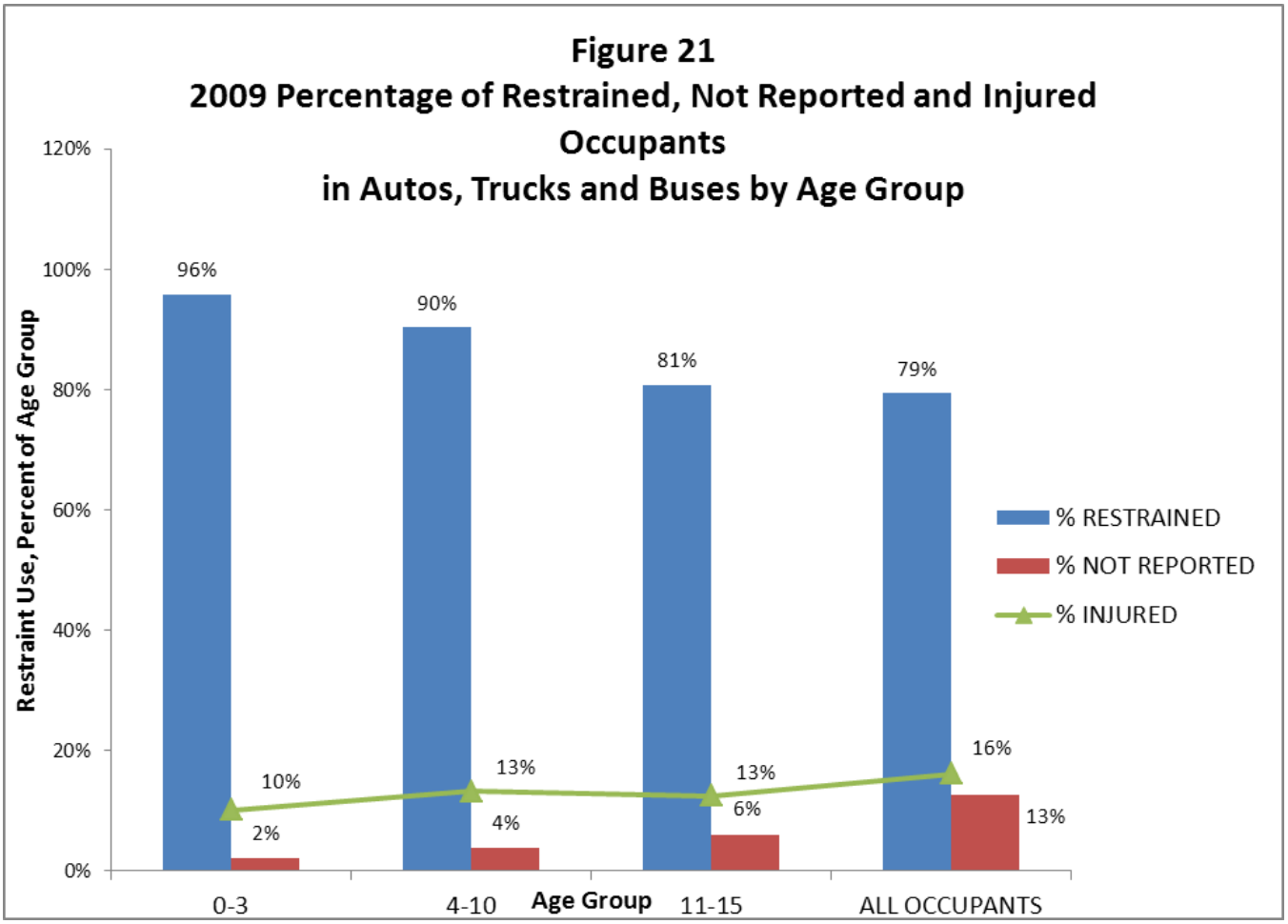


Figure 20 shows percentage of children riding in front and rear seat positions in automobiles, trucks, and buses that were involved in police reported crashes. Seat position data for all occupants (children and adults, all ages combined) is also presented.

Figure 21 summarizes percent restraint use (any belt combination or child seat), police non-reporting, and percent injury (non-fatal+fatal injuries) for children and all occupants.



Airbag Deployment and Seat Position

Police reported that airbags were available and deployed for 4.3% of all auto, truck, and bus occupants. Airbags were available but did not deploy for 21.4% of all occupants. Seventy-four percent of the time, police did not report airbag data.

The number of vehicles involved in crashes that were equipped with airbags and the number of persons seated in positions protected by airbags are not available. Side bag protection for rear seat occupants is not provided in most vehicles manufactured prior to 2009 and rear seat occupants are not protected by front deployed airbags.

Eighty-nine percent (89.4%) of auto, truck, and bus occupants occupied front seat positions and 10.6% sat in rear seat positions. The proportions of occupants with minor, major or fatal

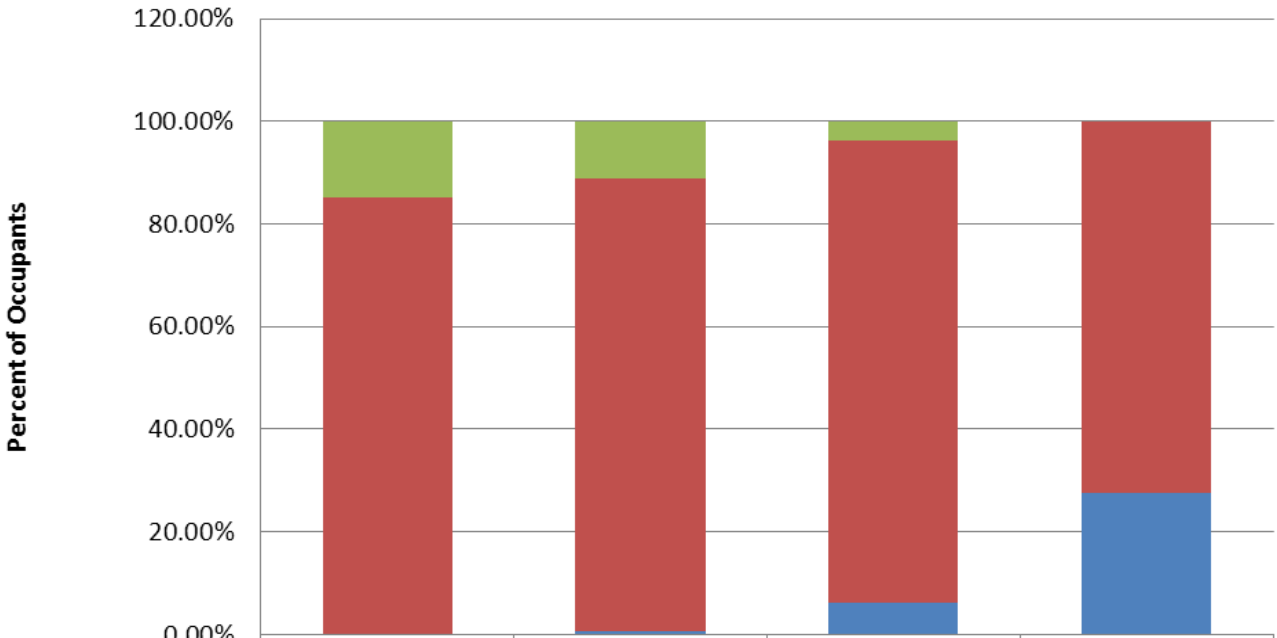
injuries were similar for front and rear seat positions. Sixty-nine percent (69.1%) of front seat occupants used some form of safety restraint, while 91.3% of rear seat occupants buckled up. Airbags deployed for 17.1% of front seat occupants but only for 7.3% of those riding in rear seat positions.

Occupant Ejection

Less than 1% (0.3%) of all automobile, truck, or bus occupants were ejected during crash events, but among those receiving fatal injuries, 27.5% were ejected from their vehicles. Nine of 40 auto, truck, and bus fatalities were fully ejected and two were partially ejected.

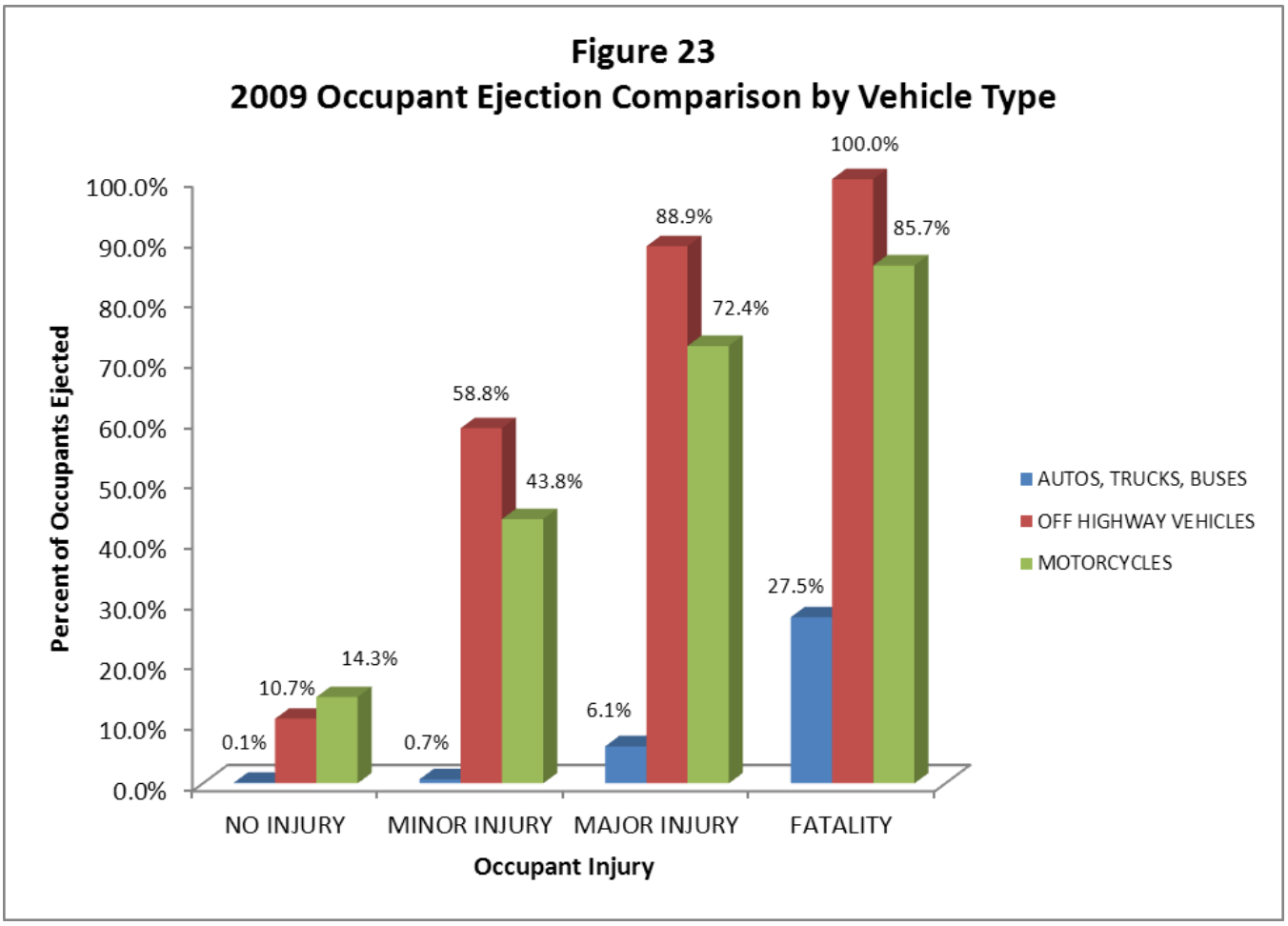
Figure 22 shows the relationship between occupant ejection and injury to automobile, truck, and bus occupants. Partial and full ejection data is combined for the "percent ejected" category. Almost eighty percent (79.2%) of persons that were uninjured after being ejected from automobiles, trucks or buses had worn safety restraints at the time of the crash. In contrast, only nine percent (9.1%) of fatalities wore safety restraints prior to being ejected from their vehicles.

Figure 22
2009 Occupant Ejection from Autos, Trucks and Buses



	NO INJURY	MINOR INJURY	MAJOR INJURY	FATALITY
% NOT REPORTED	14.9%	11.0%	3.7%	0.0%
% NOT EJECTED	85.0%	88.3%	90.2%	72.5%
% EJECTED	0.11%	0.67%	6.12%	27.50%

With no seat restraints to keep them in position, riders of motorcycles and off-road vehicles were ejected from their seats and vehicles more frequently than occupants of other road vehicle types. Figure 23 compares the percent of occupants ejected and occupant injury severity for motorcycle occupants, off-highway vehicle occupants (including all-terrain vehicles and snowmobiles), and automobile, truck, and bus occupants.



Helmet Use by Motorcyclists and Off-Road Vehicle Riders

Riders of open vehicle types such as motorcycles, snow machines, and all-terrain vehicles, have only helmet (head protection) available to them. State law does not currently require operators of such vehicles to wear head protection while operating on public roadways. Just over fifty-five percent (55.1%) of all motorcyclists involved in police reported crashes wore motorcycle helmets. Five out of seven motorcycle riders (71.4%) that received fatal injuries used head protection.

Riders of off-road vehicles, including snow machines and all-terrain vehicles, were less inclined to wear helmets. Only 10.7% of all off-road vehicles riders involved in traffic crashes during 2009 reportedly wore helmets. None of the 5 fatalities in this group used head protection.

TEMPORAL DISTRIBUTIONS

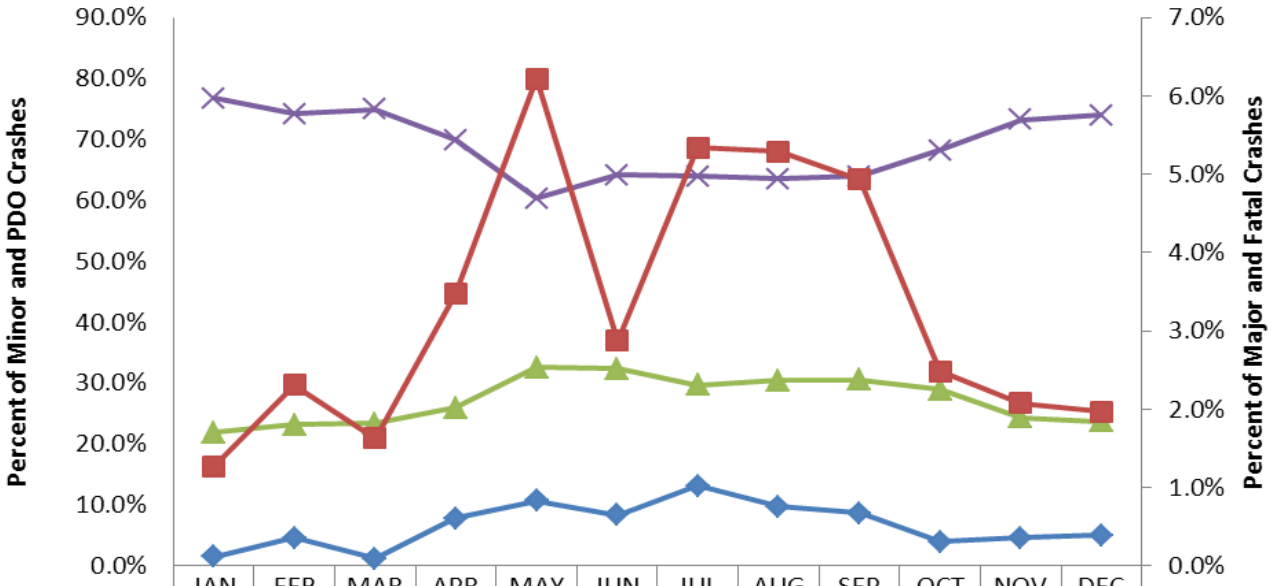
On average, there were 1074 traffic crashes per month and 35.3 traffic crashes per day in 2009. Thirty-one percent of all crashes (31.4%) happened between midnight and 11:59 a.m. and sixty-eight percent (68.2%) happened between noon and 11:59 p.m. (time of day was not reported for 0.4% of crashes).

Month of Year

From January to December 2009, the percentage of monthly crashes that caused only property damage ranged from 60.4% (May) to 76.7% (January). The percentage of all crashes that involved minor injuries ranged from 21.9% (January) to 32.6% (May). Major injury crashes ranged from 1.3% (January) to 6.2% (May) of all reported crashes each month. The percentage of crashes that involved fatalities ranged monthly from 0.1% (January and May) to 1.0% (July).

During the late spring and summer of 2009, the percentage of crashes that involved injuries or fatalities increased while the percentage of crashes that caused only property damage fell proportionally. Numbers of major injury and fatal crashes are often higher during summer months, possibly due to higher daily traffic volumes, higher speeds with lower levels of driver caution, and longer hours of daylight. When drivers reduce speed and are more cautious due to adverse driving conditions during the winter months, crashes that do occur are often less severe.

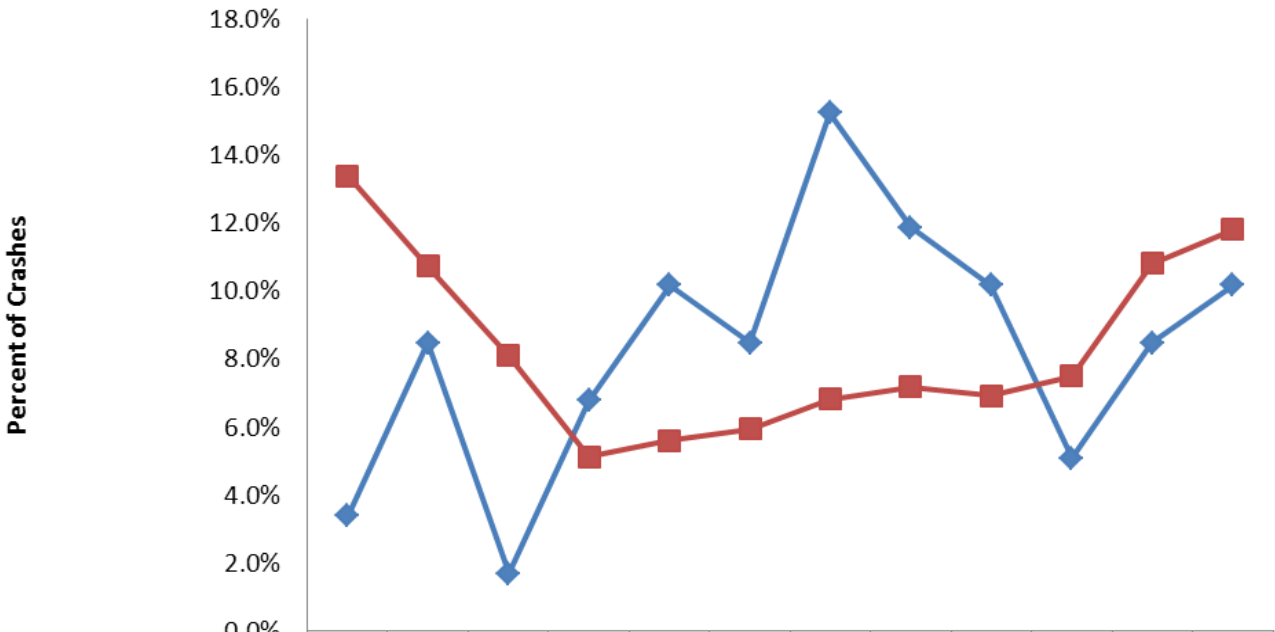
Figure 24
2009 Crash Severity by Month



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MINOR	21.9%	23.2%	23.3%	26.0%	32.6%	32.4%	29.7%	30.5%	30.5%	29.0%	24.4%	23.7%
PDO	76.7%	74.2%	74.9%	69.9%	60.4%	64.1%	64.0%	63.5%	63.9%	68.3%	73.2%	73.9%
FATAL	0.1%	0.4%	0.1%	0.6%	0.8%	0.7%	1.0%	0.8%	0.7%	0.3%	0.4%	0.4%
MAJOR	1.3%	2.3%	1.6%	3.5%	6.2%	2.9%	5.3%	5.3%	4.9%	2.5%	2.1%	2.0%

During 2009, fatal crashes were most frequent in May, July, and August, though fatal crash frequencies in the summer months of June and September were also high (Figure 25). Crash frequency (all severity categories combined) was highest in the month of January (13.4% of all crashes during the year; more than double the frequencies in April, May and June). April was the safest month to drive on Alaska roadways in 2009; 5.1% of all crashes and 6.8% of fatal crashes occurred in April.

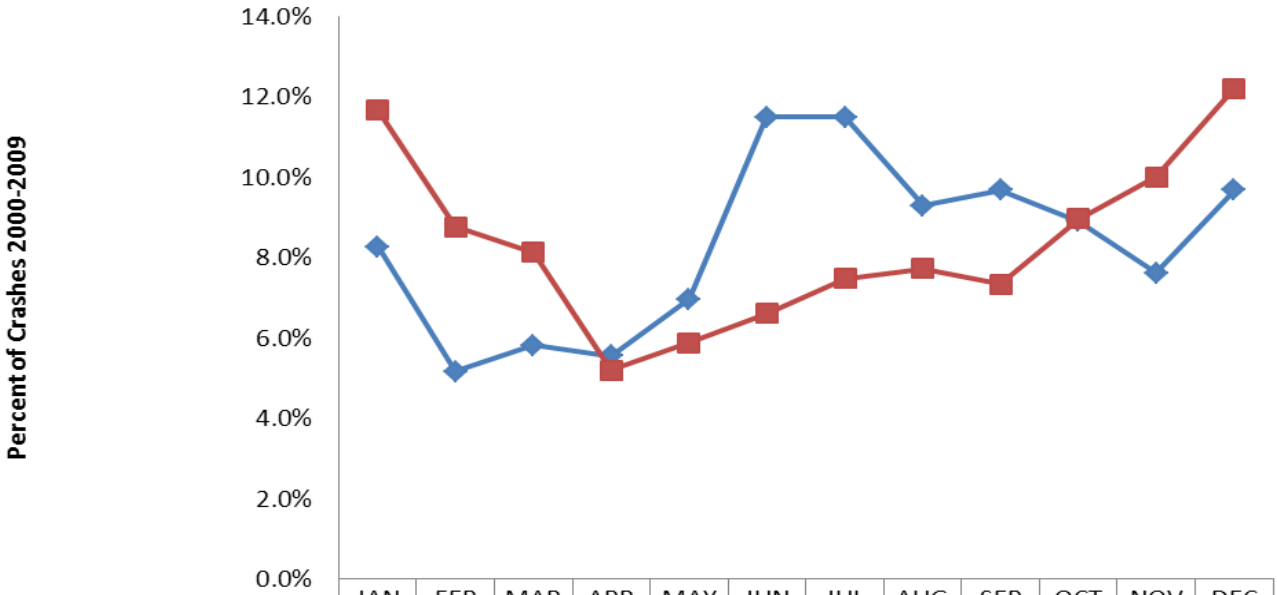
Figure 25
Month of Year Crash Distribution
2009 Traffic Crashes and Fatal Crashes



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% OF FATAL	3.4%	8.5%	1.7%	6.8%	10.2%	8.5%	15.3%	11.9%	10.2%	5.1%	8.5%	10.2%
% OF ALL CRASHES	13.4%	10.7%	8.1%	5.1%	5.6%	5.9%	6.8%	7.2%	6.9%	7.5%	10.8%	11.8%

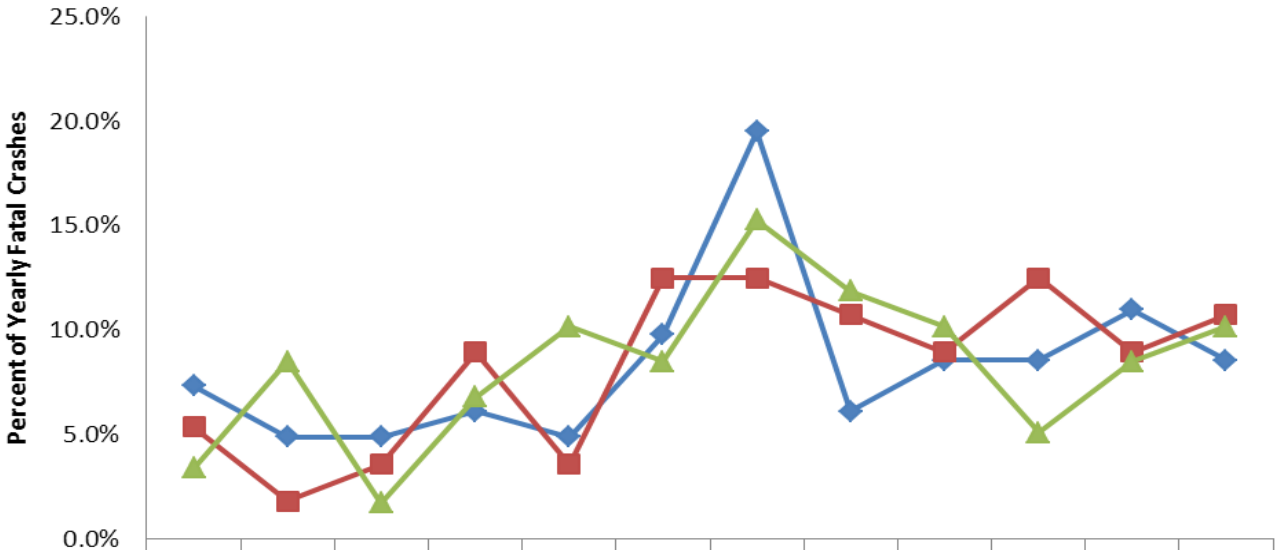
Figure 26 plots crash distribution by month for all crashes and for fatal crashes that occurred between 2000 to 2009 (10 year aggregate data). Figure 27 compares monthly fatal crash distributions for the last three years.

Figure 26
Month of Year Crash Distribution
2000-2009 Aggregate Data



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
% OF FATAL CRASHES	8.3%	5.2%	5.8%	5.6%	7.0%	11.5%	11.5%	9.3%	9.7%	8.9%	7.6%	9.7%
% OF ALL CRASHES	11.7%	8.8%	8.1%	5.2%	5.9%	6.6%	7.5%	7.7%	7.3%	9.0%	10.0%	12.2%

Figure 27
Fatal Crashes 2007 - 2009
Percent Distribution by Month of Year



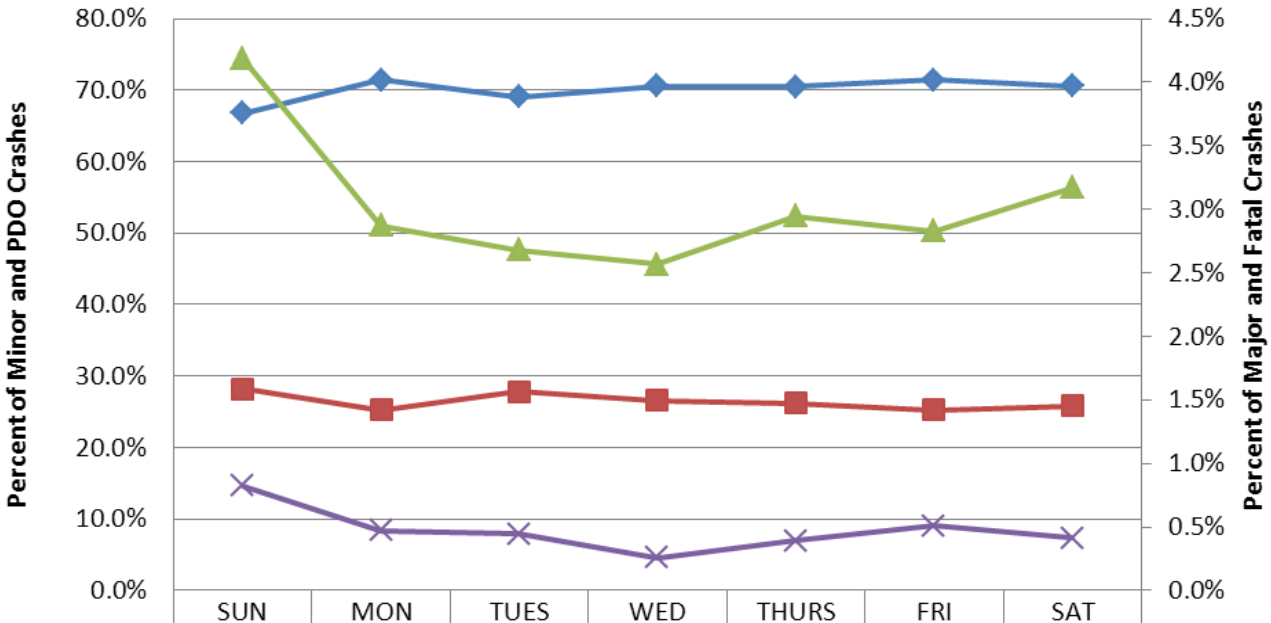
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2007	7.3%	4.9%	4.9%	6.1%	4.9%	9.8%	19.5%	6.1%	8.5%	8.5%	11.0%	8.5%
2008	5.4%	1.8%	3.6%	8.9%	3.6%	12.5%	12.5%	10.7%	8.9%	12.5%	8.9%	10.7%
2009	3.4%	8.5%	1.7%	6.8%	10.2%	8.5%	15.3%	11.9%	10.2%	5.1%	8.5%	10.2%

Day of Week

Property damage only crashes ranged from a low of 66.8% of daily crashes on Sunday, during the weekend, to a high of 71.4% of daily crashes on Monday and Friday, during the workweek. The percentage of crashes that involved minor injuries ranged from a low of 25.2% on Friday to a high of 27.8% on Tuesday. The percentage of crashes that caused major injuries ranged from 2.6% to 4.2% of daily crashes (low during the work week from Monday through Friday). Fatal crashes ranged from 0.3% to 0.8% of all daily crashes and occurred with the highest frequency on Sunday.

During 2009, the proportion of traffic crashes that involved injuries or fatalities increased on weekends while the proportion of crashes involving only property damage decreased slightly on weekends (Figure 28). The number of traffic crashes that happen daily between Monday and Friday is usually higher than the number that occur on either Saturday or Sunday, possibly due to heavier urban traffic volumes as people commute to work. There may be fewer crashes during weekends, but crashes that occur on Saturday or Sunday often result in more serious injuries.

Figure 28
2009 Crash Severity by Day of Week



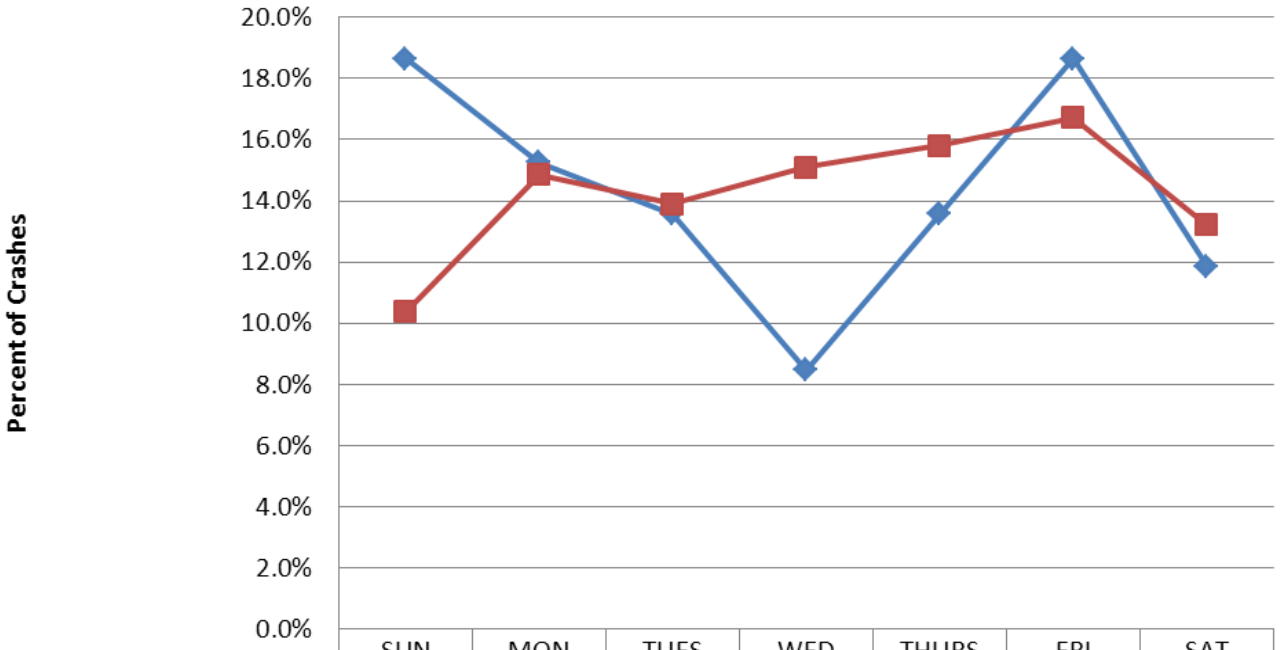
	SUN	MON	TUES	WED	THURS	FRI	SAT
PDO	66.8%	71.4%	69.1%	70.6%	70.5%	71.4%	70.6%
MINOR	28.2%	25.3%	27.8%	26.6%	26.2%	25.2%	25.8%
MAJOR	4.2%	2.9%	2.7%	2.6%	2.9%	2.8%	3.2%
FATAL	0.8%	0.5%	0.4%	0.3%	0.4%	0.5%	0.4%

Figure 29 shows crash distribution by day of week during 2009, using standard 24-hour days ending at midnight. Figure 30 presents the corresponding distributions for the 10-year data aggregate.

In 2009, more crashes occurred on Friday than on any other day of the week (2156 crashes, or 16.7% of all crashes). The number of crashes that occurred on Sunday was lower than on any other day of the week (1339, or 10.4% of all crashes).

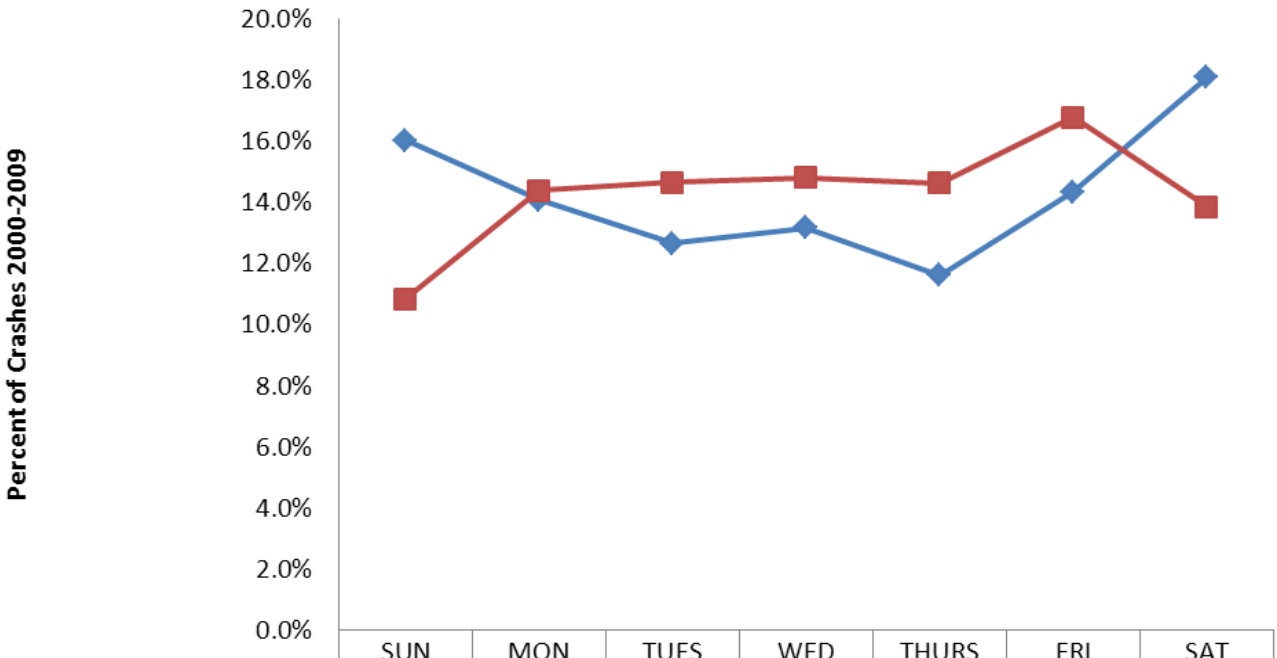
The percentage of fatal crashes that occurred on Saturday and Sunday combined (30.5%) in 2009 decreased from the previous year (from 37.5% in 2008) while the percentage of all traffic crashes that occurred on Saturday and Sunday was unchanged (23.6% in both 2008 and 2009). The percentage of fatal crashes that occurred on Friday more than doubled (8.9% in 2008 to 18.6% in 2009) while the percentage of all crashes that occurred on Friday increased only slightly from the previous year (15.5% in 2008 and 16.7% in 2009).

Figure 29
Day of Week Crash Distribution
2009 Traffic Crashes and Fatal Crashes



	SUN	MON	TUES	WED	THURS	FRI	SAT
% OF FATAL CRASHES	18.6%	15.3%	13.6%	8.5%	13.6%	18.6%	11.9%
% OF ALL CRASHES	10.4%	14.9%	13.9%	15.1%	15.8%	16.7%	13.2%

Figure 30
Day of Week Crash Distribution
2000 - 2009 Aggregate Data

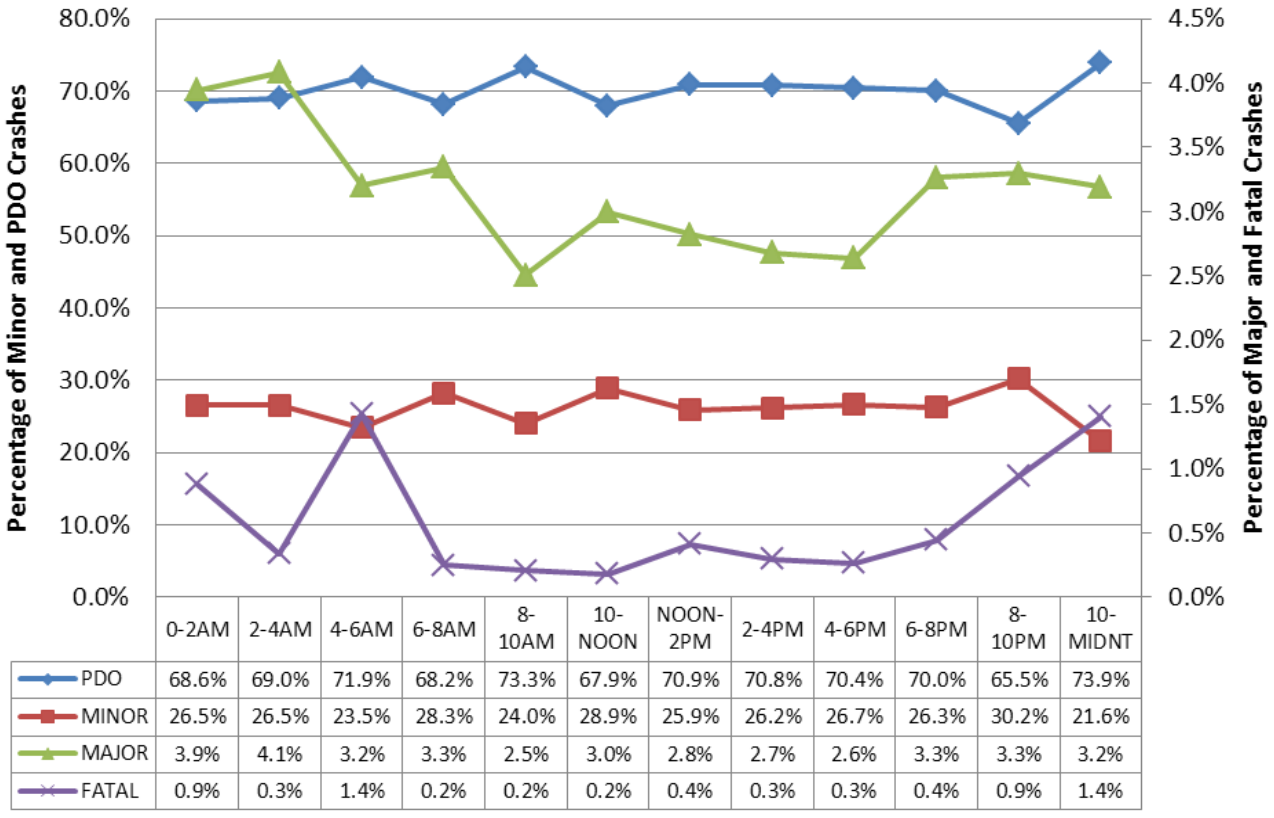


	SUN	MON	TUES	WED	THURS	FRI	SAT
% OF FATAL CRASHES	16.0%	14.1%	12.7%	13.2%	11.6%	14.3%	18.1%
% OF ALL CRASHES	10.8%	14.4%	14.7%	14.8%	14.6%	16.8%	13.9%

Time of Day

The percentage of property damage only crashes ranged from 73.9% between 10pm and midnight, to 65.5% between 8pm and 10pm. The percent that involved minor injuries ranged from 21.6% to 30.2% (lowest between 10pm and midnight; highest between 8pm and 10pm) while the percent that involved major injuries ranged from 2.5% to 4.1% (lowest between 8am and 10am; highest between 2am and 4am). The percent of crashes that involved fatalities was greatest between 4am and 6am as well as 10pm and midnight. Time of day was not reported for about 0.4% of crashes (data not included in Figure 31).

Figure 31
2009 Crash Severity by Time of Day

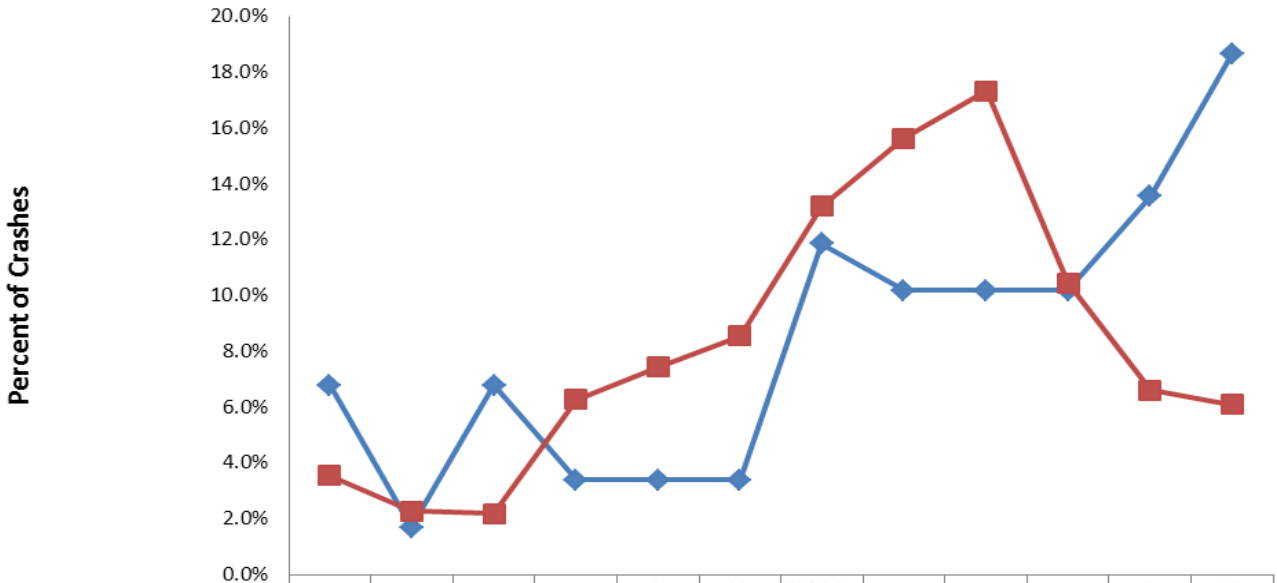


	0-2AM	2-4AM	4-6AM	6-8AM	8-10AM	10-NOON	NOON-2PM	2-4PM	4-6PM	6-8PM	8-10PM	10-MIDNT
PDO	68.6%	69.0%	71.9%	68.2%	73.3%	67.9%	70.9%	70.8%	70.4%	70.0%	65.5%	73.9%
MINOR	26.5%	26.5%	23.5%	28.3%	24.0%	28.9%	25.9%	26.2%	26.7%	26.3%	30.2%	21.6%
MAJOR	3.9%	4.1%	3.2%	3.3%	2.5%	3.0%	2.8%	2.7%	2.6%	3.3%	3.3%	3.2%
FATAL	0.9%	0.3%	1.4%	0.2%	0.2%	0.2%	0.4%	0.3%	0.3%	0.4%	0.9%	1.4%

Traffic crashes (all severity classes combined) followed the expected hourly distribution in 2009, rising from lowest numbers of crashes between 4am and 6am, reaching a maximum during the afternoon rush hour, then falling steadily from midnight to 6am. Figure 32 plots crash distribution for all crashes and fatal crashes by time of day for the current year and Figure 33 presents the corresponding distribution for 2000-2009 crashes combined.

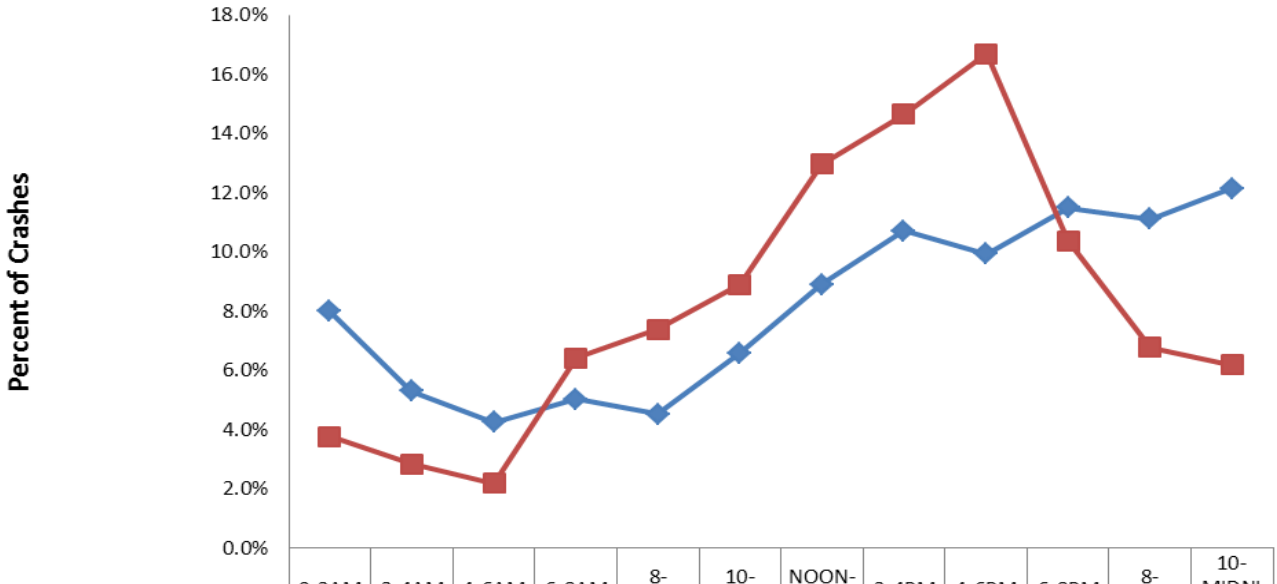
Typically, numbers of fatal crashes increase after 4 in the afternoon (beginning with the afternoon commute) and remain high throughout the evening and early morning hours. Drivers are least likely to become involved in fatal crashes in the hours after 6 in the morning, extending through the morning commute to the noon hour. In 2009, the frequency of fatal crashes was greatest between 10 in the evening and midnight (18.6% of all fatal crashes) and between noon and 2 in the afternoon (11.9%).

Figure 32
2009 Traffic Crashes and Fatal Crashes by Time of Day



	0-2AM	2-4AM	4-6AM	6-8AM	8-10AM	10-NOON	NOON-2PM	2-4PM	4-6PM	6-8PM	8-10PM	10-MIDNT
% OF FATAL CRASHES	6.8%	1.7%	6.8%	3.4%	3.4%	3.4%	11.9%	10.2%	10.2%	10.2%	13.6%	18.6%
% OF ALL CRASHES	3.5%	2.3%	2.2%	6.3%	7.4%	8.5%	13.2%	15.6%	17.3%	10.4%	6.6%	6.1%

Figure 33
Traffic Crash and Fatal Crash Distribution By Time of Day, 2000-2009 Aggregate Data



	0-2AM	2-4AM	4-6AM	6-8AM	8-10AM	10-NOON	NOON-2PM	2-4PM	4-6PM	6-8PM	8-10PM	10-MIDNIGHT
% OF FATAL CRASHES	8.0%	5.3%	4.3%	5.0%	4.5%	6.6%	8.9%	10.7%	9.9%	11.5%	11.1%	12.1%
% OF ALL CRASHES	3.8%	2.8%	2.2%	6.4%	7.4%	8.9%	13.0%	14.7%	16.7%	10.4%	6.8%	6.2%

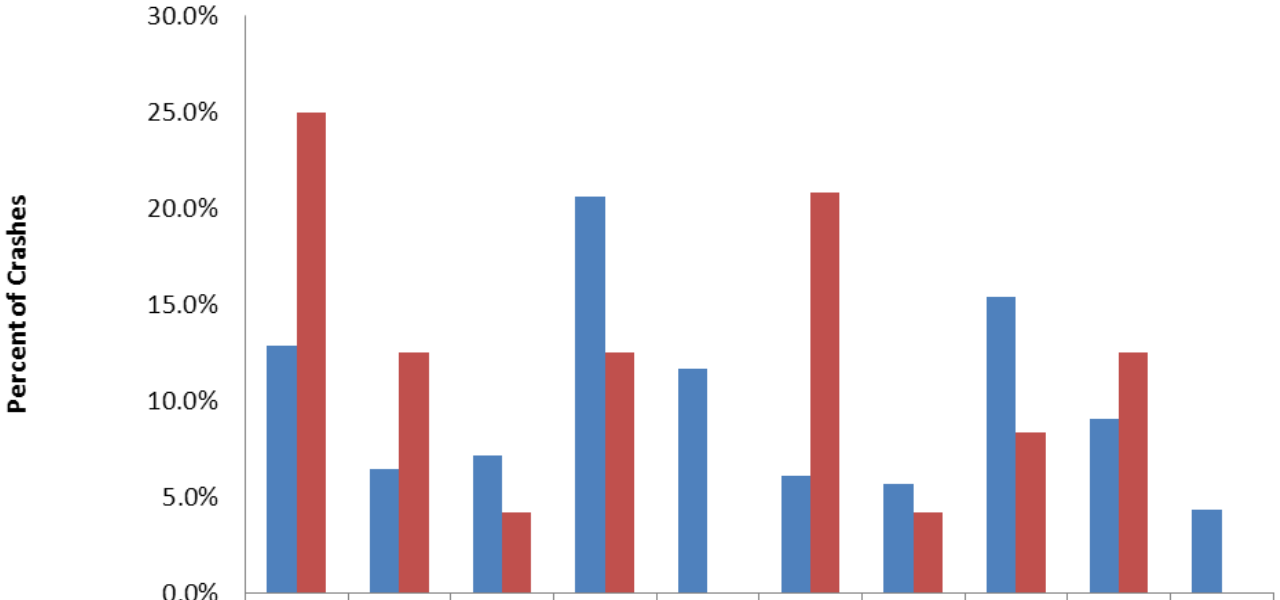
Weekends

Figure 34 summarizes 2009 crash activity during the 60 hour NHSTA weekend interval, from 6 p.m. Friday evening to 6 a.m. Monday morning.

Twenty-eight percent (28.5%) of all Alaska traffic crashes and 40.7% of fatal crashes occurred on weekends during 2009. The percentage of annual crashes that occurred on weekends in 2008 was similar to previous years (29.1% in 2008, 31.6% in 2007).

Weekend crashes in 2009 were most frequent on Saturday and Sunday afternoons between noon and 6 p.m., though overall crash frequency was also high Friday evening. Fatal crashes were most likely on Friday evenings (6 fatal crashes between 6 p.m. and midnight) and very early Sunday morning, following Saturday evening activities.

Figure 34
2009 Weekend Traffic Crashes and Fatal Crashes
by 60 Hour NHSTA Weekend Intervals



	FRI 6PM-MIDNT	SAT 0-6AM	SAT 6AM-NOON	SAT NOON-6PM	SAT 6PM-MIDT	SUN 0-6AM	SUN 6AM-NOON	SUN NOON-6PM	SUN 6PM-MIDNT	MON 0-6AM
% OF ALL CRASHES	12.8%	6.5%	7.1%	20.6%	11.7%	6.1%	5.6%	15.4%	9.0%	4.3%
% OF FATAL CRASHES	25.0%	12.5%	4.2%	12.5%	0.0%	20.8%	4.2%	8.3%	12.5%	0.0%

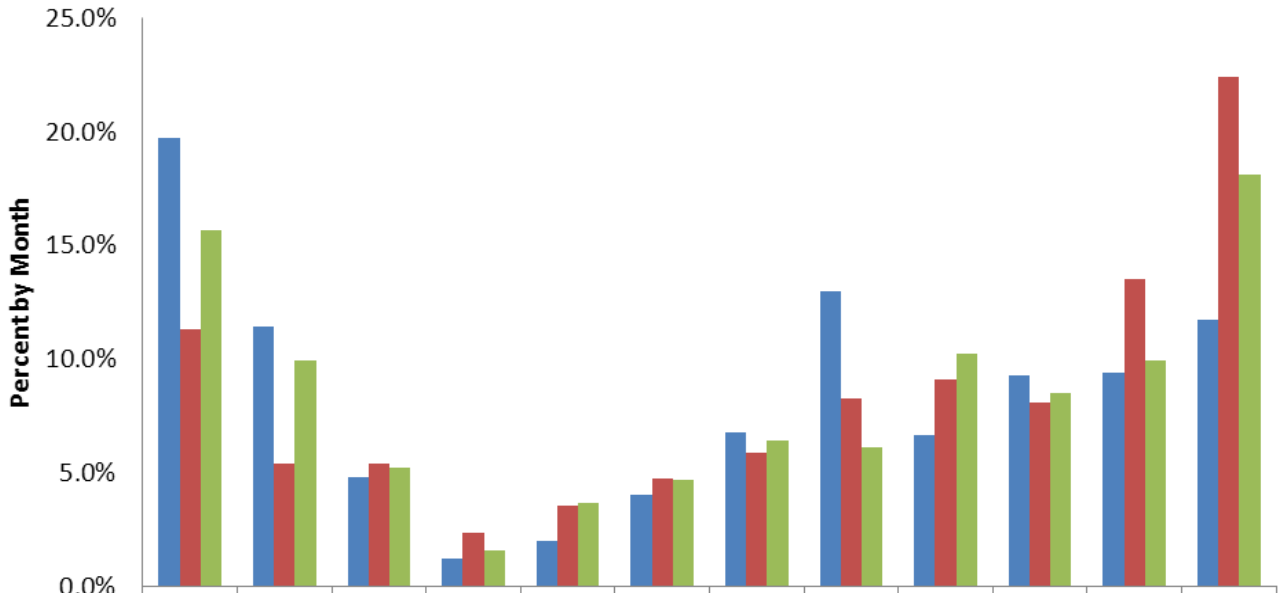
CRASHES WITH MOOSE

There were 575 motor vehicle crashes with moose on Alaska roadways in 2009 (4.5% of all traffic crashes, based on the crash event type).

While overall crash rates and fatal crash rates probably reflect road conditions, traffic volumes, and driver error, crashes with moose may be more dependent on environmental conditions (snowfall patterns in Southcentral Alaska and hours of daylight) and are often the consequence of animal foraging behavior and visibility.

In 2009, moose collisions occurred more frequently in December (18%) than other months of the year. The month of April had the lowest frequency of encounters (1.6% of all moose crashes). On average, there were 69 moose crashes per month between September and February and 26 moose crashes per month between March and August in 2009. Figure 35 compares monthly distribution of moose collisions between 2007 and 2009.

Figure 35
Moose Crashes by Month of Year
2007 - 2009



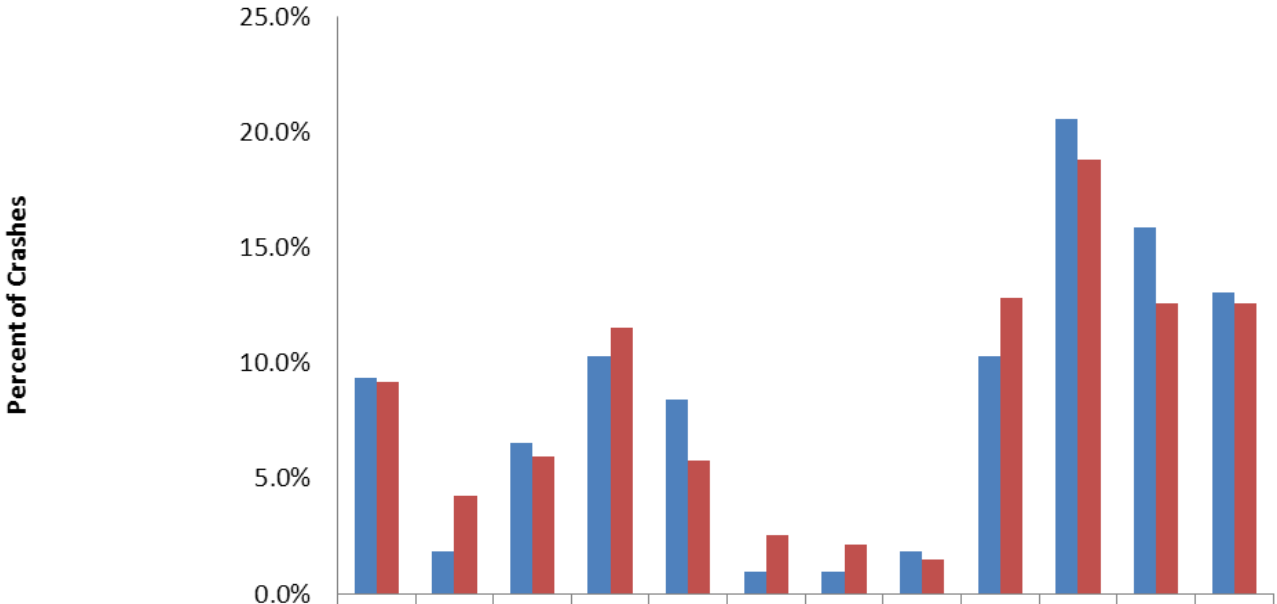
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2007	19.8%	11.4%	4.8%	1.2%	2.0%	4.0%	6.8%	13.0%	6.6%	9.3%	9.4%	11.7%
2008	11.3%	5.4%	5.4%	2.4%	3.5%	4.7%	5.9%	8.3%	9.1%	8.1%	13.5%	22.4%
2009	15.7%	9.9%	5.2%	1.6%	3.7%	4.7%	6.4%	6.1%	10.3%	8.5%	9.9%	18.1%

Forty-five percent of crashes with moose occurred during the six hours between 6 in the evening and midnight. Moose encounters on Alaska roadways were least likely during the midday (only 5.7% occurred in the six hours between 10 in the morning and 4 in the afternoon). The distribution of moose collisions by time-of-day in 2009 was similar to that in 2007 and 2008.

Motor vehicle collisions with moose usually result in fewer injuries to vehicle occupants than other traffic collisions. Eighty-one percent (81.4%) of moose collisions in 2009 caused only property damage, 17.6% resulted in only minor injuries to vehicle occupants and less than 2% caused major or fatal injuries (0.9% major and less than 0.2% fatal).

Figure 36 shows the percent of non-injury (PDO) and injury crashes (minor, major, and fatal combined) with moose by time-of day. Both non-injury and injury crashes were most frequent in the evening. On average, at any hour of the day 17% of moose collisions caused person injuries in 2009. That percentage increased to 22% between 8 and 10 in the evening then to 25% between 8 and 10 am, possibly due to reduced light conditions and less time for drivers to take evasive action. The single fatal collision with a moose in 2009 occurred in November between 4 and 6 in the evening on a rural principal arterial.

Figure 36
2009 Moose Crashes
Time of Day and Crash Severity



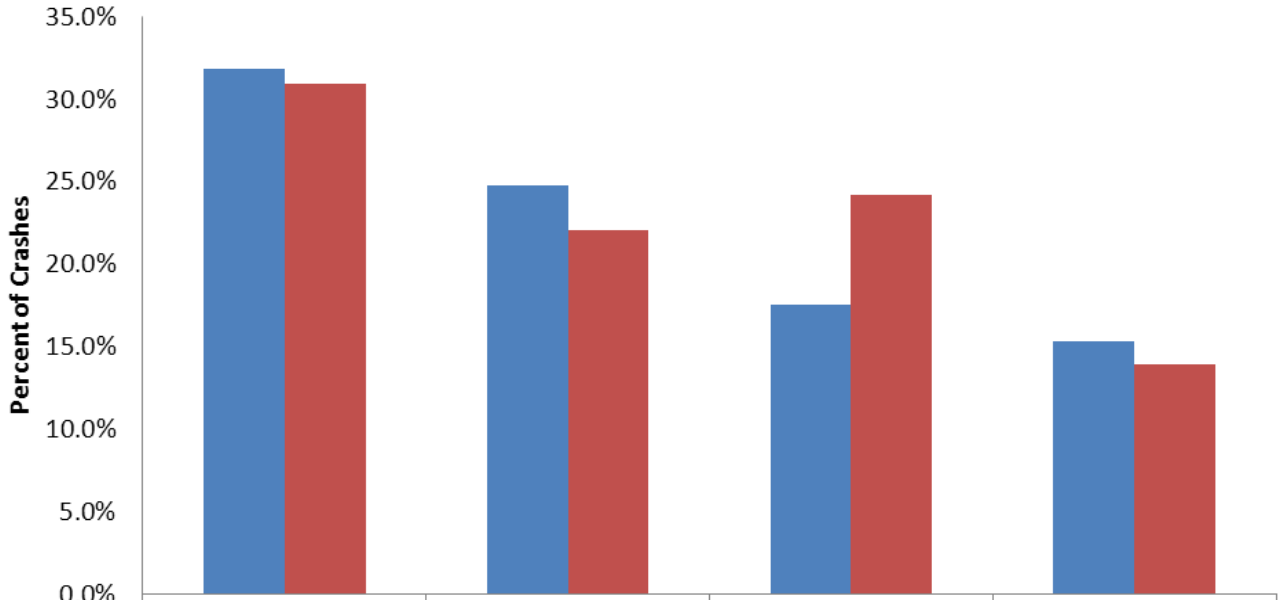
	0-2AM	2-4AM	4-6AM	6-8AM	8-10AM	10AM-NOON	NOON-2PM	2-4PM	4-6PM	6-8PM	8-10PM	10-MIDNT
% OF FATAL & INJURY CRASHES	9.3%	1.9%	6.5%	10.3%	8.4%	0.9%	0.9%	1.9%	10.3%	20.6%	15.9%	13.1%
% OF PDO CRASHES	9.2%	4.3%	6.0%	11.5%	5.8%	2.6%	2.1%	1.5%	12.8%	18.8%	12.6%	12.6%

Most moose collisions occurred in darkness (64.7%) or in reduced light conditions (18.3% in either streetlight or twilight/dawn ambient light). No adverse weather conditions were coded for 75% of moose collisions; most occurred in clear or cloudy weather without precipitation or blowing debris.

Sixty-six percent (65.6%) of all moose collisions happened on rural roadways and thirty-four percent occurred at urban locations. Almost a third of rural and a third of urban moose collisions occurred on interstate highways. Thirty-five percent of all moose collisions statewide occurred on the Sterling, Seward, Glenn, Parks, Richardson, Alaska, or Tok Cut-Off highways.

Seventy-seven percent (77.2%) of statewide moose collisions occurred in three large Southcentral boroughs. Moose collisions within the boundaries of the Municipality of Anchorage increased from 17.5% of statewide in 2008 to 24.2% in 2009. Kenai Peninsula moose crashes decreased slightly, from 24.8% of statewide in 2008 to 22.1% in 2009. Moose collisions in the Matanuska-Susitna Borough also decreased slightly , from 31.9% in 2008 to 31% in 2009. Fourteen percent (13.9%) of all moose collisions occurred in the Fairbanks Northstar Borough (down from 15.3% of statewide in 2008).

Figure 37
2009 Moose Crashes
Percent by Borough



	MATANUSKA SUSITNA BOROUGH	KENAI PENINSULA BOROUGH	ANCHORAGE MUNICIPALITY	FAIRBANKS NORTH STAR BOROUGH
2008	31.9%	24.8%	17.5%	15.3%
2009	31.0%	22.1%	24.2%	13.9%

GEOGRAPHIC DISTRIBUTION OF TRAFFIC CRASHES

Figures 38 through 46 illustrate property damage and injury crash trends for the years 2000 through 2009. Figures 38 through 45 chart the percent of crashes that involved injuries (nonfatal and fatal combined), the percent of crashes that involved only property damage, and the total number of crashes for Alaska's eight most populous boroughs. Figure 46 summarizes for all other areas (less populous boroughs and unorganized areas). Statewide data was presented in Figure 1.

Most boroughs reported more traffic crashes in 2009 than in 2008 with only the City and Borough of Juneau and the Ketchikan Gateway Borough with fewer crashes. Crash severity increased in all boroughs except the City and Borough of Juneau and the Fairbanks North Star Borough.

Reduced crash reporting may have influenced severity statistics over the past few years. When law enforcement agencies report fewer property damage only crashes, the overall severity of crashes increases because those are the predominant crash type they are reporting. The 2009 data is not consistent with the 10 year trend data that indicates slightly decreasing severity of reported traffic crashes. Figure 47 shows a simple linear trend for crash severity (annual percent injury plus fatal crashes) in the most populous boroughs.

By 2009, about twelve percent of the State's population lived within the Matanuska-Susitna Borough boundaries. Twelve percent (12.5%) of alcohol related crashes, thirty-one percent (31%) of moose collisions, and seventeen percent (16.9%) of fatal crashes occurred there in 2009. The percentage of traffic crashes that resulted in fatalities decreased from the previous year (0.659% in 2009, 0.666% in 2008) but remained higher than statewide.

The Municipality of Anchorage, with 41.4% of the State's population in 2009, reported fifty–nine percent (59.3%) of all traffic crashes and thirty-seven percent 37.3%) of all fatal crashes that occurred statewide during 2009. Seventy-five percent (74.8%) of motor vehicle crashes with pedestrians and 83.5% of crashes with bicyclists occurred within Anchorage boundaries. Fifty-four percent (53.6%) of Alaska's alcohol-related crashes and twenty-four percent (24.2%) of crashes with moose occurred there. The percentage of traffic crashes that resulted in fatalities was lower than the statewide percentage (0.458% statewide; 0.288% in the Municipality of Anchorage).

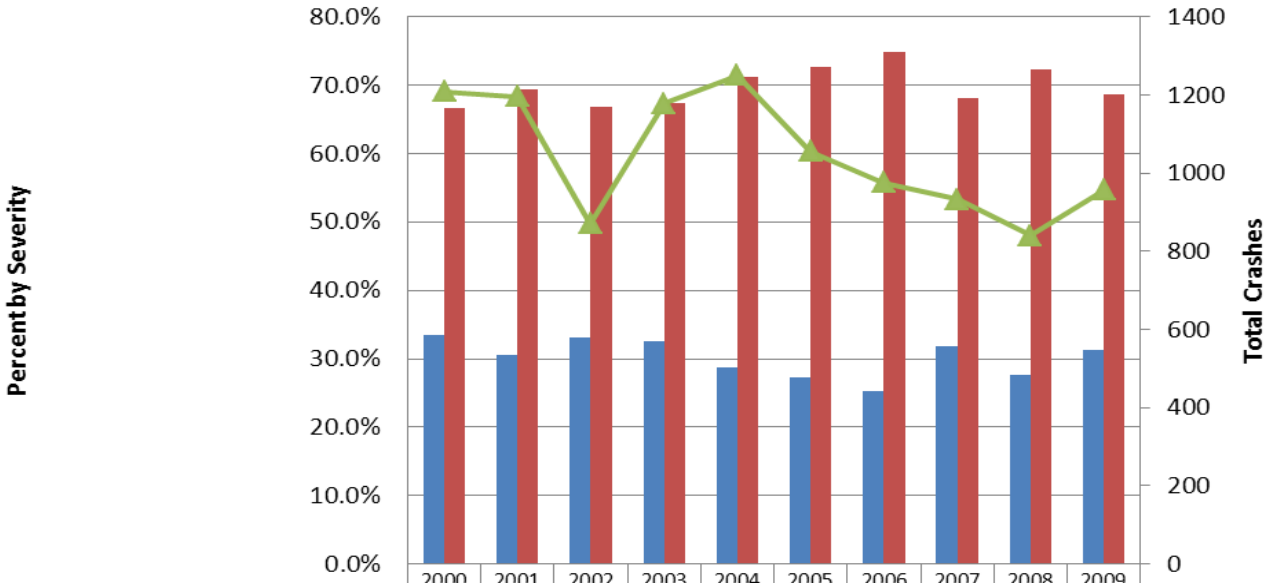
Figure 38
Anchorage Municipality Traffic Crashes by Crash Severity 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL & INJURY CRASHES	29.3%	29.2%	31.2%	29.8%	29.8%	32.9%	30.3%	29.7%	27.7%	30.1%
% OF PDO CRASHES	70.7%	70.8%	68.8%	70.2%	70.2%	67.1%	69.7%	70.3%	72.3%	69.9%
TOTAL CRASHES	8274	9158	8583	8918	8481	7266	6684	5412	6607	7643

Figure 39
Fairbanks North Star Borough Traffic Crashes by Crash Severity 2000 - 2009

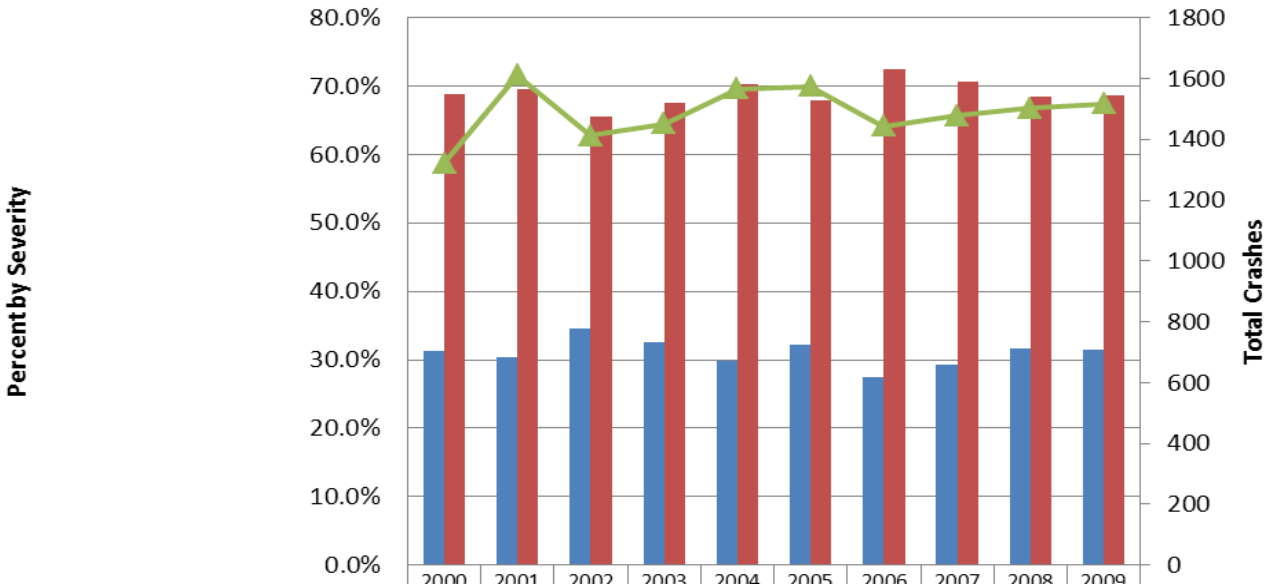
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	26.7%	29.5%	32.3%	27.1%	25.3%	25.2%	25.2%	26.4%	25.1%	23.9%
% OF PDO CRASHES	73.3%	70.5%	67.7%	72.9%	74.7%	74.8%	74.8%	73.6%	74.9%	76.1%
TOTAL CRASHES	1729	1672	1359	1835	1999	1842	1312	1486	1495	1513

Figure 40
Kenai Peninsula Borough Traffic Crashes by Crash Severity 2000 - 2009



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	33.4%	30.5%	33.2%	32.6%	28.7%	27.4%	25.2%	31.8%	27.6%	31.3%
% OF PDO CRASHES	66.6%	69.5%	66.8%	67.4%	71.3%	72.6%	74.8%	68.2%	72.4%	68.7%
TOTAL CRASHES	1209	1195	871	1178	1250	1056	975	933	840	956

Figure 41
Matanuska Susitna Borough Traffic Crashes by Crash Severity 2000 - 2009



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	31.2%	30.4%	34.5%	32.5%	29.8%	32.1%	27.4%	29.3%	31.6%	31.4%
% OF PDO CRASHES	68.8%	69.6%	65.5%	67.5%	70.2%	67.9%	72.6%	70.7%	68.4%	68.6%
TOTAL CRASHES	1323	1611	1412	1451	1566	1575	1443	1478	1502	1517

Figure 42
Juneau City and Borough Traffic Crashes by Crash Severity 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	49.7%	41.5%	44.4%	40.8%	40.1%	38.0%	37.2%	40.6%	38.0%	31.7%
% OF PDO CRASHES	50.3%	58.5%	55.6%	59.2%	59.9%	62.0%	62.8%	59.4%	62.0%	68.3%
TOTAL CRASHES	358	431	349	387	382	368	360	345	353	338

Figure 43
Ketchikan Gateway Borough Traffic Crashes by Crash Severity 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	40.3%	36.8%	42.1%	35.4%	36.2%	41.2%	36.8%	27.9%	29.8%	46.1%
% OF PDO CRASHES	59.7%	63.2%	57.9%	64.6%	63.8%	58.8%	63.2%	72.1%	70.2%	53.9%
TOTAL CRASHES	176	220	114	144	152	182	144	154	198	167

Figure 44
Kodiak Island Borough Traffic Crashes by Crash Severity 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	33.5%	26.6%	28.0%	23.2%	28.2%	32.5%	18.5%	28.0%	22.1%	26.1%
% OF PDO CRASHES	66.5%	73.4%	72.0%	76.8%	71.8%	67.5%	81.5%	72.0%	77.9%	73.9%
TOTAL CRASHES	158	139	118	142	110	123	119	93	68	92

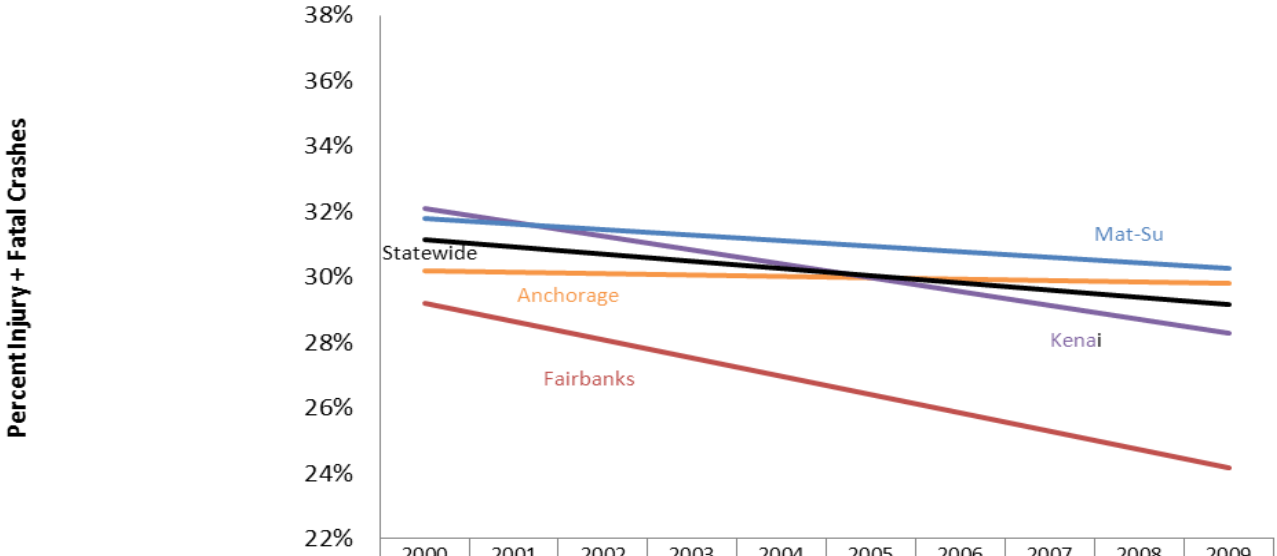
Figure 45
Sitka City and Borough Traffic Crashes by Crash Severity 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	36.5%	36.0%	45.9%	23.7%	27.6%	13.1%	26.5%	14.3%	18.1%	10.0%
% OF PDO CRASHES	63.5%	64.0%	54.1%	76.3%	72.4%	86.9%	73.5%	85.7%	81.9%	90.0%
TOTAL CRASHES	85	86	61	114	76	99	102	105	72	90

Figure 46
Sparsely Populated Areas Traffic Crashes by Crash Severity 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
% OF FATAL AND INJURY CRASHES	36.4%	33.3%	37.2%	34.1%	29.9%	31.8%	31.2%	35.1%	33.3%	31.9%
% OF PDO CRASHES	63.6%	66.7%	62.8%	65.9%	70.1%	68.2%	68.8%	64.9%	66.7%	68.1%
TOTAL CRASHES	803	736	454	619	602	626	589	572	490	574

Figure 47
Crash Severity Trendlines by Borough 2000 - 2009



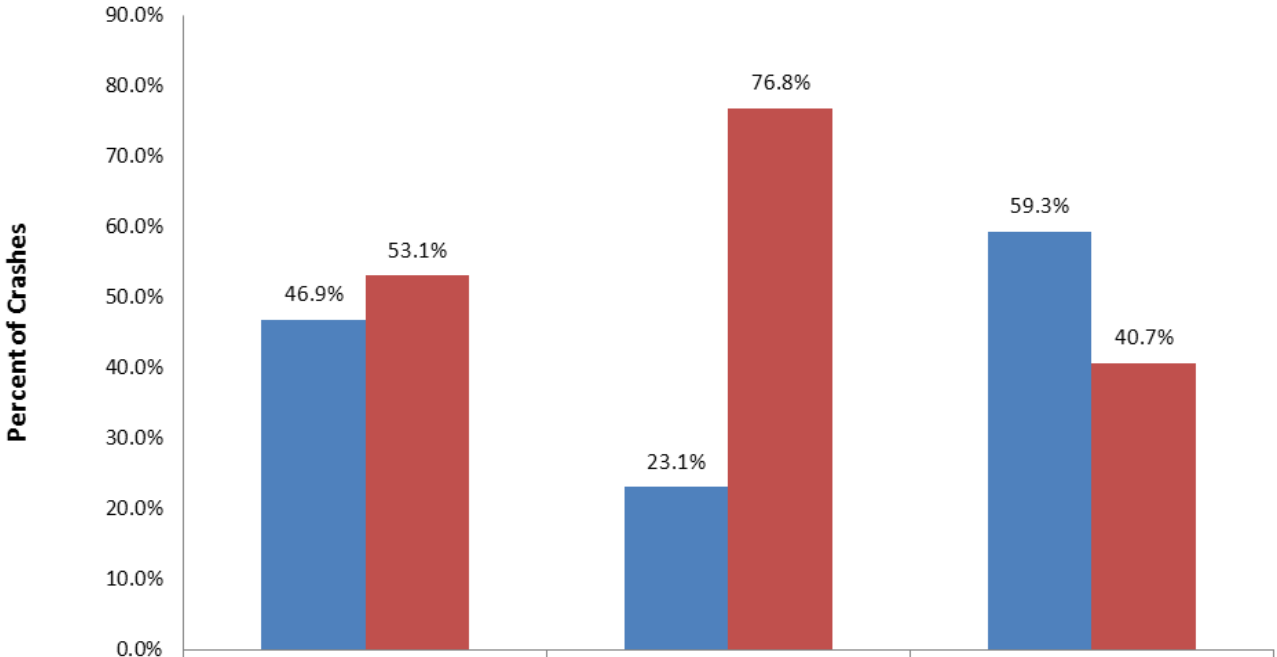
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
ANCHORAGE MUNICIPALITY	29%	29%	31%	30%	30%	33%	30%	30%	28%	30%
FAIRBANKS NORTH STAR BOROUGH	27%	30%	32%	27%	25%	25%	25%	26%	25%	24%
KENAI PENINSULA BOROUGH	33%	31%	33%	33%	29%	27%	25%	32%	28%	31%
MATANUSKA SUSITNA BOROUGH	31%	30%	34%	33%	30%	32%	27%	29%	32%	31%
STATEWIDE	31%	30%	32%	30%	29%	31%	29%	30%	28%	30%

ROAD TYPE & LOCATION

Urban/Rural

Although traffic volumes on rural and urban roadways were similar, over three quarters of the traffic crashes that were reported in 2009 occurred on urban roadways (Figure 48). The percent urban/rural distribution for all 2009 crashes is consistent with Alaska crash data collected since 2000.

Figure 48
2009 Traffic Volume, Traffic Crashes and Fatal Crashes
Percentage of Urban and Rural Locations



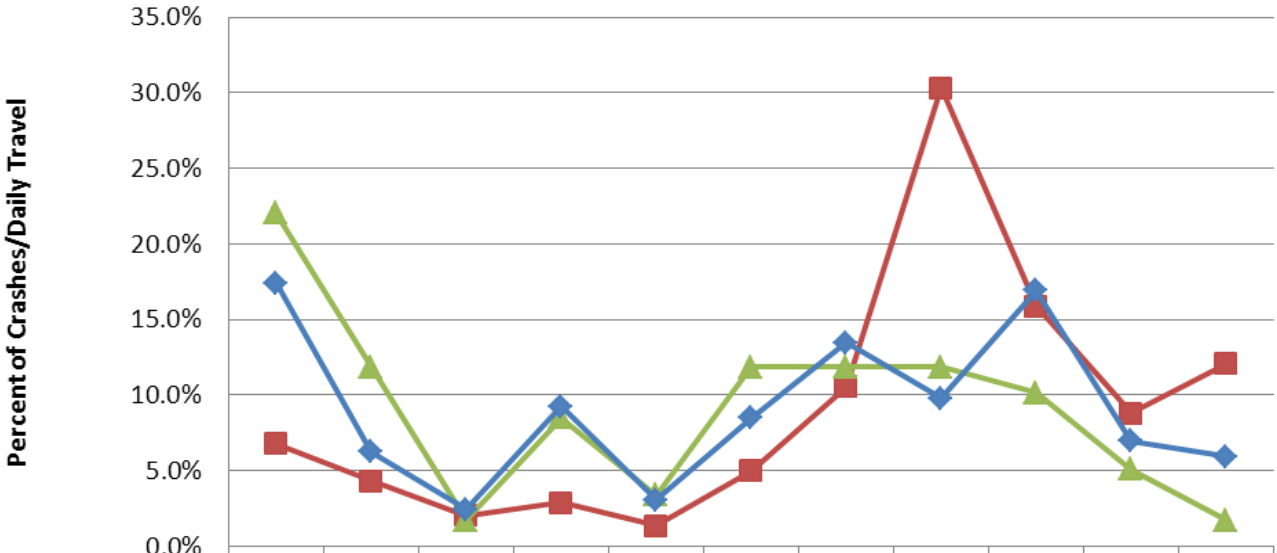
	% OF DAILY TRAVEL	% OF ALL CRASHES	% OF FATAL CRASHES
RURAL ROADS	46.9%	23.1%	59.3%
URBAN ROADS	53.1%	76.8%	40.7%

Between 2000 and 2009, the percent of fatal crashes on rural roadways annually exceeded the percentage at urban locations except for 2002. During 2002, fifty-six percent of fatal crashes occurred on urban roadways and forty-four percent occurred on rural roadways. Urban/rural distribution of fatal crashes followed the ten-year trend in 2009.

Functional Class and Rural/Urban

Figure 49 shows percent distributions of crashes and traffic volumes by road functional class at urban and rural crash locations.

Figure 49
2009 Crash and Traffic Distribution by Functional Classification



	RURAL INTERSTATE	RURAL OTHER PRINCIPAL ARTERIAL	RURAL MINOR ARTERIAL	RURAL MAJOR COLLECTOR	RURAL MINOR COLLECTOR	RURAL LOCAL ROAD	URBAN INTERSTATE	URBAN OTHER PRINCIPAL ARTERIAL	URBAN MINOR ARTERIAL	URBAN COLLECTOR	URBAN LOCAL ROAD
% OF ALL CRASHES	6.8%	4.3%	2.0%	2.9%	1.4%	5.0%	10.5%	30.3%	15.9%	8.8%	12.1%
% OF FATAL CRASHES	22.0%	11.9%	1.7%	8.5%	3.4%	11.9%	11.9%	11.9%	10.2%	5.1%	1.7%
% OF DAILY TRAVEL	17.4%	6.2%	2.4%	9.2%	3.1%	8.5%	13.4%	9.8%	16.9%	6.9%	5.9%

Traffic volumes were highest on rural instate highways (17.4% of average annual daily traffic in 2009), followed by urban minor arterials (16.9%), and urban interstate roadways (13.4%). Twenty-two percent (22%) of fatal crashes occurred on rural interstates, 11.9% on each of rural principal arterials, rural local roads, urban interstates and urban principal arterials.

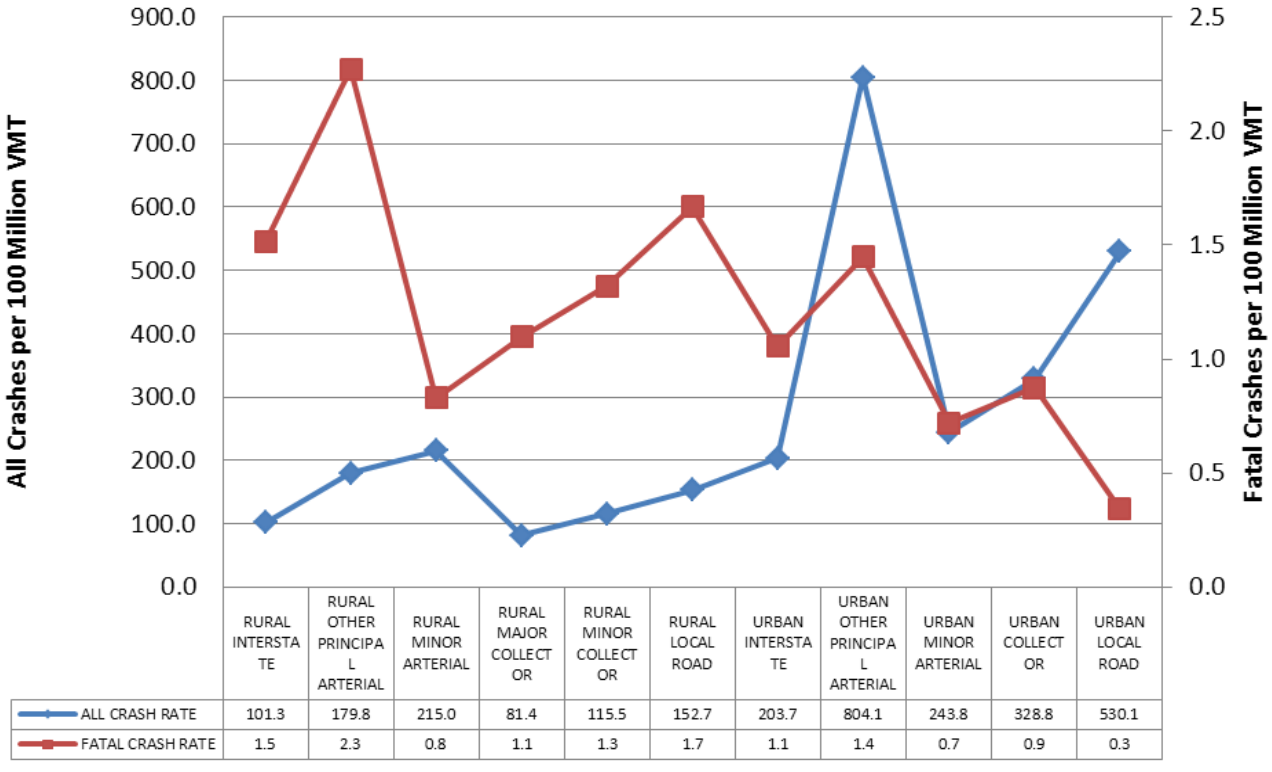
Accident Rates

Statewide, there were 261 traffic crashes for every 100 million vehicle miles traveled during 2009. The crash rate at rural locations was 124 crashes per 100 million VMT and at urban locations, 380 crashes per 100 million VMT. There were 1.3 fatal crashes per 100 million VMT statewide, with 1.5 fatal crashes per 100 million VMT on rural roads and 0.92 on urban roads. Figure 50 presents crash rates and fatal crash rates by road functional class at urban and rural crash locations during 2009.

Crash rates on rural roads were less than half the rates on urban roads of the same class in 2009. The highest overall crash rates occurred on urban minor arterials, urban collectors, and urban local roads.

The highest fatal crash rates were calculated for rural principal arterials while the lowest fatal crash rates were calculated for urban local roads. Fatal crash rates for rural minor arterials were similar to rates for urban minor arterials.

Figure 50
2009 All Crash and Fatal Crash Rates by Functional Classification

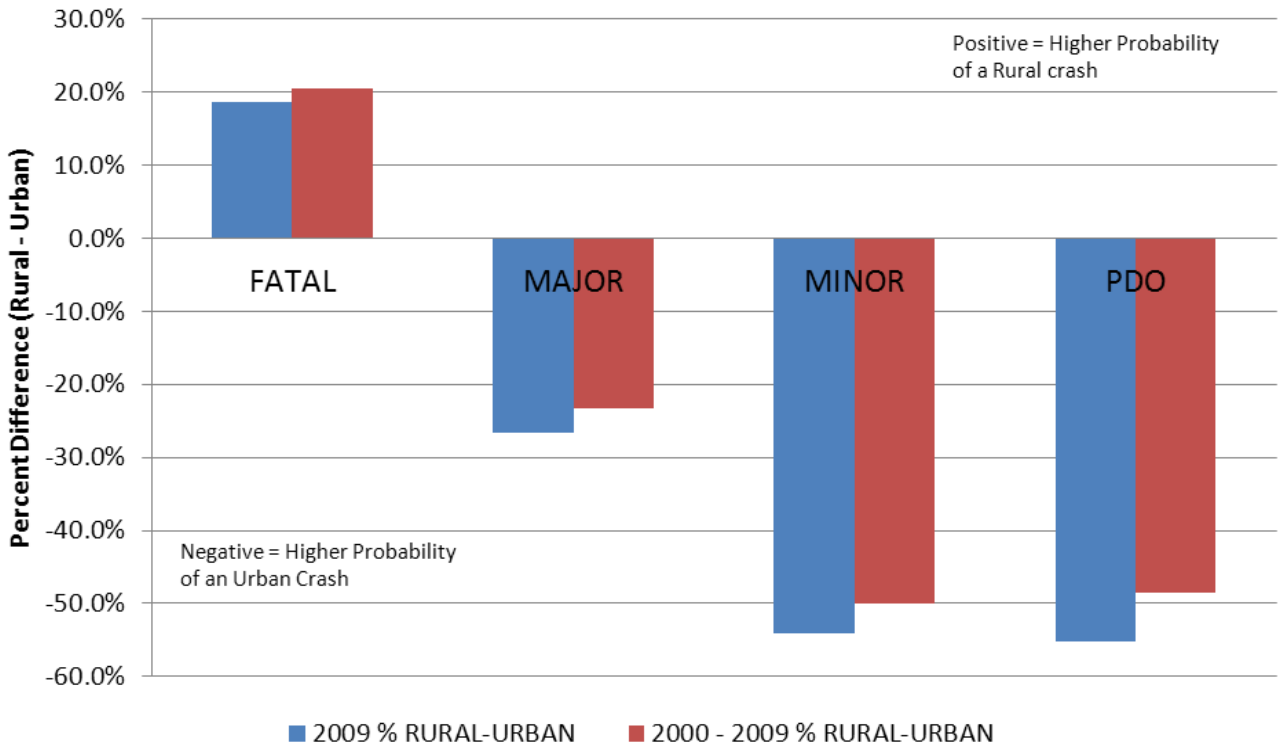


	RURAL INTERSTATE	RURAL OTHER PRINCIPAL ARTERIAL	RURAL MINOR ARTERIAL	RURAL MAJOR COLLECTOR	RURAL MINOR COLLECTOR	RURAL LOCAL ROAD	URBAN INTERSTATE	URBAN OTHER PRINCIPAL ARTERIAL	URBAN MINOR ARTERIAL	URBAN COLLECTOR	URBAN LOCAL ROAD
ALL CRASH RATE	101.3	179.8	215.0	81.4	115.5	152.7	203.7	804.1	243.8	328.8	530.1
FATAL CRASH RATE	1.5	2.3	0.8	1.1	1.3	1.7	1.1	1.4	0.7	0.9	0.3

Although motorists were less likely to be involved in crashes on rural roadways, they were more likely to be injured or killed if a crash occurred at a rural location. The proportion of crashes that involved person injuries or fatalities was higher on rural than urban roadways, on average, for all road functional classes.

In 2009 the percent of rural crashes that involved fatalities was higher by 18.6% than the percent of urban crashes that resulted in traffic deaths on what is considered a statistically small sample size. For the same rural vs. urban comparison during 2009, the percent of crashes that caused major injuries was 26.6% higher in urban areas (percent minor injury, major injury, and fatal injury combined was 50.2% higher on urban roadways). The percent of rural crashes that involved property damage only was 55.2% less than at urban locations. The percent difference between rural and urban crash severity for 2009 displayed in Figure 51 is consistent with annual and aggregate crash data since 2000.

Figure 51
2009 Crash Severity - Percent Difference between Rural and Urban Locations

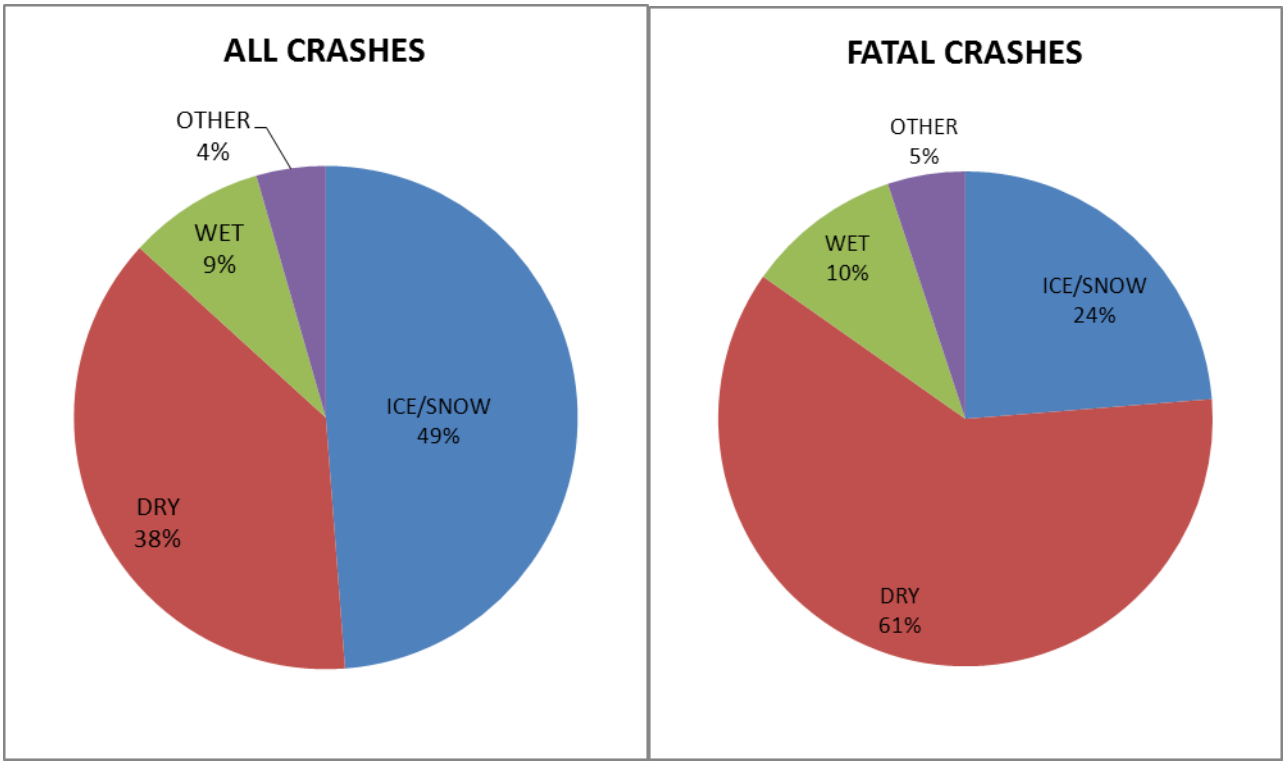


ROADWAY ATTRIBUTES

Roadway Surface

Forty-one percent (41.4%) of crashes during the year occurred on dry pavement. Ice, slush, or snow was present on the road surface at 40.4% of crash locations and wet pavement conditions were coded for another 10.8% of crashes. About five percent of crash locations had loose gravel or standing water on the road surface. Figure 52 graphically contrasts surface conditions for all crashes versus fatal crashes.

Figure 52
2009 All Crashes and Fatal Crashes
Percent by Road Surface Condition



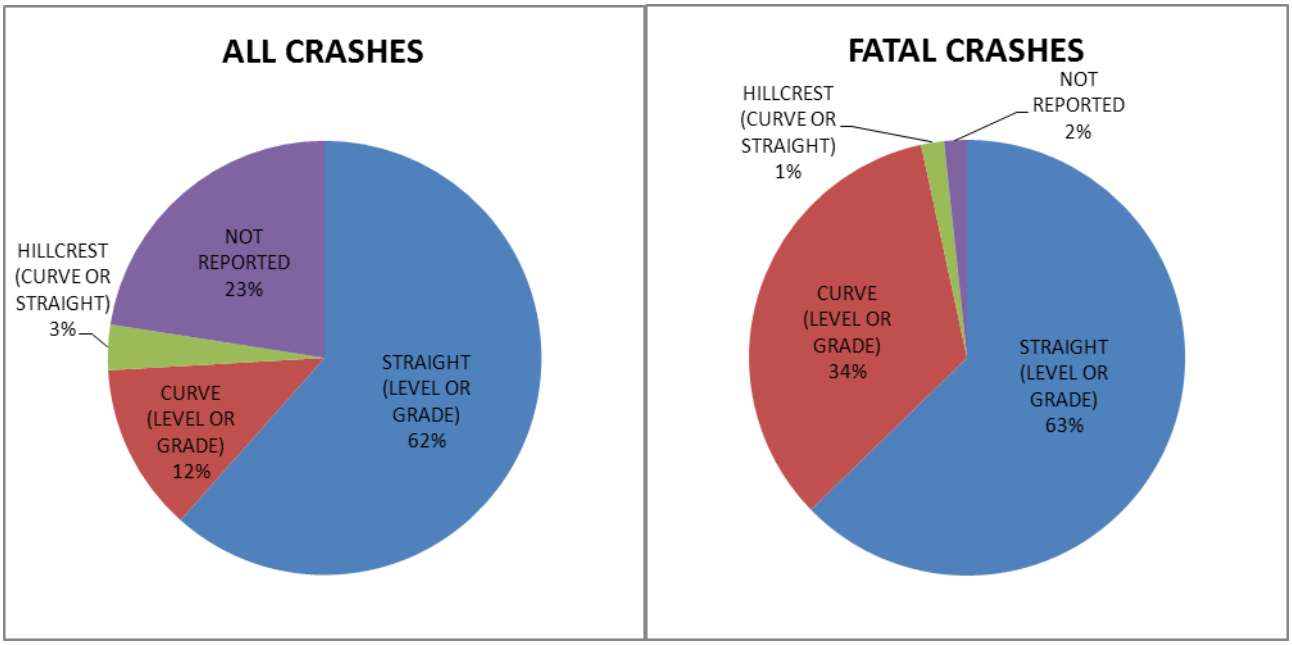
Compared with surface conditions at locations of property damage only and minor injury crashes, a higher proportion of major injury and fatal crashes occurred on dry pavement (52% of major and 61% of fatal); in contrast, a lower percentage occurred on ice or snow covered roadways (29% of major and 24% of fatal crashes). The proportion of major injury and fatal crashes that occurred on wet pavement was similar to the proportion for property damage only and minor injury crashes.

Roadway Geometry

Most crashes (61.6% of property damage only, injury, and fatal crashes combined) occurred on straight stretches of roadway, either level or at grade. Thirteen percent (12.5%) of all crashes occurred on curves (either level or at grade) and another 3.4% occurred at hillcrests of either straight or curved roadways (Figure 53).

Fatal crashes also occurred most frequently on straight stretches of roadway (62.7%). Higher proportions of fatal crashes occurred on curves (33.9% of fatal crashes, 12.5% of all crashes), than crashes overall.

Figure 53
2009 All Crashes and Fatal Crashes
Percent by Roadway Geometry



Roadway Segment Accident Rates

Statewide crash rates for 2009 as well as 2008 are provided in Table 9. Road categories in this table are based on the functional class of the roadway, presence of medians (divided or undivided), and opposing traffic (1 or 2 way traffic). The crash rate was calculated as the number of crashes per 1 million vehicle miles traveled at crash locations.

TABLE 9
2008 - 2009 Statewide Segment Crash Rates
by Road Category

CATEGORY	ROAD TYPE	CRASH RATE	
		2008	2009
A	UNDIVIDED URBAN & RURAL INTERSTATE	0.849	1.001
B	DIVIDED RURAL INTERSTATE	0.611	0.948
C	DIVIDED URBAN INTERSTATE/OTHER FREEWAY & EXPRESSWAY	0.914	1.080
D	DIVIDED OR UNDIVIDED RURAL ARTERIAL - PRINCIPAL OR MINOR	0.946	1.080
E	DIVIDED OR UNDIVIDED RURAL COLLECTOR/LOCAL MAJOR OR MINOR	0.988	1.089
F	UNDIVIDED URBAN ARTERIAL/PRINCIPAL OR MINOR/TWO-WAY TRAFFIC	1.789	1.991
G	UNDIVIDED URBAN ARTERIAL/PRINCIPAL OR MINOR/ONE-WAY TRAFFIC	2.739	3.021
H	DIVIDED URBAN ARTERIAL/PRINCIPAL OR MINOR	1.239	1.344
J	DIVIDED OR UNDIVIDED URBAN COLLECTOR & LOCAL ROADS	1.970	2.244

Intersection Crash Rates

About half of all traffic crashes in 2009 occurred at intersections and 35% occurred at locations where no traffic could enter the roadway (not at junction). Four percent (3.5%) of crashes were not coded for road junction information.

Table 10 summarizes statewide intersection crash rates for 2008 and 2009. Intersections are grouped by number of conflicts and traffic control type. The analysis in Table 10 is based on “named intersections” (a group of intersections identified as statistically significant and tracked for safety analysis by Alaska DOT&PF Traffic Safety Engineers).

TABLE 10
2009 Statewide Crash Rates at Intersections
by Number of Conflicts

NUMBER OF CONFLICTS	TRAFFIC SIGNAL			TWO-WAY STOP			FOUR-WAY STOP		
	COLLISION RATE		NUMBER OF SITES	COLLISION RATE		NUMBER OF SITES	COLLISION RATE		NUMBER OF SITES
	2008	2009		2008	2009		2008	2009	
1	N/A	N/A	N/A	0.164	0.076	2/1	N/A	N/A	N/A
2	N/A	N/A	N/A	0.823	0.522	5	N/A	N/A	N/A
3	1.151	1.360	28/29	0.388	0.591	3/4	N/A	N/A	N/A
5	1.176	0.820	2/4	0.781	0.702	2	N/A	N/A	N/A
6	1.108	0.876	54/82	0.460	0.503	205/292	0.448	0.418	3/1
8	1.029	1.277	55/74	0.597	0.692	7/10	N/A	N/A	N/A
11	1.337	0.506	1	N/A	N/A	N/A	N/A	N/A	N/A
12	1.218	2.012	1	N/A	N/A	N/A	N/A	N/A	N/A
20	1.263	1.749	137/274	0.537	0.652	51/68	0.981	0.723	4/3

Most intersection crashes occurred either at “T” or 4-way intersections of public roads (43%, combined). Thirteen percent (13.2%) of all crashes occurred at or were related to traffic flow at “T” intersections. Twenty-nine percent (29.3%) occurred at or were related to traffic flow at 4-way intersections. Five percent of crashes occurred at a junction with driveways (including private residences, businesses and public facilities) and 1.9% occurred at an intersection with on ramps or off ramps.

Fatal crashes were less likely to occur at an intersection. Only 11.9% of fatal crashes occurred at “T”, “Y”, or 4-way intersections. Almost seventy-eight percent (77.9%) of fatal crashes were not intersection related.

National Highway System Crashes

The National Highway System (NHS) is a Federal-aid system mandated by Congressional legislation. Each state, in coordination with the Federal Highway Administration, has developed a statewide NHS list that incorporates highways of various functional classifications.

Table 11 provides a summary of calendar year 2009 crash data for selected Alaskan NHS routes. Data is provided for the Sterling, Seward, Glenn, Parks, Richardson, Alaska and Tok Cutoff Highways. Thirty-two percent (32.2%) of all fatal crashes, 31.8% of all moose crashes, and 13.5% of all impaired crashes occurred on the seven selected NHS highways. Crashes on these roadways comprised 15.3% of all crashes statewide.

TABLE 11
2009 NHS Route Crash Summary

NHS ROUTE	FATAL CRASHES	MOOSE CRASHES	IMPAIRED CRASHES	TOTAL CRASHES	TOTAL MILES
ALASKA HIGHWAY	0	14	3	17	198
GLENN HIGHWAY	6	44	38	88	180
PARKS HIGHWAY	3	51	32	86	324
SEWARD HIGHWAY	9	25	27	61	126
STERLING HIGHWAY	1	43	18	62	138
TOK CUTOFF HIGHWAY	0	6	0	6	123

CRASH DATA SOURCE

Summary

Seventy-eight percent (78.3%) of the traffic crashes (10,098 of 12,890 crash reports) processed into the HAS crash database for 2009 were submitted on the police report form 12-200; tweney-two percent (21.7%, 2,792 reports) were submitted by drivers using report form 12-209. The total number of crash reports processed increased by 10.9% from the previous year.

Police reported crashes increased about four percent (from 74 % in 2007 and 75% in 2008, to 78% in 2009) while driver reported crashes decreased proportionately (from 25.7% in 2007 and 24.8% in 2008, to 21.7% in 2009). Property damage only crash reporting by police decreased by about 1%, minor injury crash reporting increased by about 1%, and major injury crash reporting by police did not change from the previous year.

Statutory Reporting Requirements

Alaska State law (AS 28.35.080) requires the reporting of any motor vehicle crash that results in the death or injury of one or more persons or that causes total property damage of $2,000 or more. Drivers involved in such crashes are required to report crash information to a police agency. If the police agency with jurisdiction declines to investigate, drivers must submit crash information to the Department of Administration, Division of Motor Vehicles (using driver report form 12-209). When police investigate a motor vehicle crash, they assume responsibility to report crash information to the Division of Motor Vehicles, using police report form 12-200. Drivers are not required to submit a report to the Division of Motor Vehicles if a police agency has investigated and assumed responsibility for reporting it.

Alaska State law also requires that drivers or vehicle owners provide proof of motor vehicle liability insurance to the Department of Administration, Division of Motor Vehicles if they are involved in a motor vehicle crash on public property that involves injury, death, or total property damage exceeding $501 (AS28.22.021). Because of this, many drivers voluntarily file the driver report form 12-209 for crashes with less than $2000 damage.

Police Reporting Policies

Some legally reportable Alaska motor vehicle crashes (injury crashes and those with total damage equal to $2000 or more) escape investigation by local police officers or State Troopers and probably also go unreported by drivers. Law enforcement agencies may not perform a formal crash investigation when there are no apparent injuries, the crash does not involve collision with wildlife, and all vehicles can be driven away from the crash scene. Each local police agency establishes its own policy for investigating traffic crashes, with some departments having a floor of $5,000 or more before they will do an on-scene investigation. If police decline to investigate, some drivers may not understand their obligation to report, or may choose not to report the crash to the Division of Motor Vehicles.

Crash Severity

The 12-200 crash report form implemented on January 1, 2002 collects damage information for each involved vehicle using two data elements: vehicle damage type (disabling or functional), and vehicle damage estimate (greater or less than $501). Non-vehicular damage (presence or absence of other property damage) is collected only from police reported crashes. A dollar estimate for vehicle damage is not assigned and the cost of all damage in a crash is not estimated or stored.

For this publication, (crash) damage severity has been derived from vehicle damage reporting. Damage severity over $501 was assigned if any vehicle involved in the crash had a vehicle damage estimate greater than $501. Damage severity under $501 was assigned if no vehicle was coded for damage over $501.

Eighty-five percent (84.9%) of all crashes involved over $501 damage to at least one involved vehicle. Drivers reported 18% of all crashes with more than $501 vehicular damage and 36% of all crashes with less than $501 damage to vehicles. Police reported 82% and 64%, respectively.

Eighty-four percent of property damage only (PDO; non-injury) crashes had damage to vehicles exceeding $501 in 2009 and 16% were coded for vehicular damage of less than $501.

Crash Data Requests

This and prior years crash reports can be found at:
http://www.dot.alaska.gov/stwdplng/transdata/crash.shtml

Other requests for crash data can be directed to the Statewide Crash Data Manager, Bonnie Walters at (907) 465-6996 or bonnie.walters@alaska.gov.