

Inter Tribal Council of Arizona, Inc.



# Arizona

*Preliminary Motor Vehicle Crash Data Analysis  
2007-2016*

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## PURPOSE

The purpose of this study is to compare the recent record of Arizona **motor vehicle crashes involving fatal and incapacitating injuries** on and off-tribal land for the following characteristics. These characteristics were selected to complement an analysis performed in 2009 for the same characteristics, which were emphasis areas in both the 2008 and 2014 Arizona Strategic Highway Safety Plans.

- Restraint Usage
- Young Drivers
- Speeding
- Impaired Driving
- Lane Departure
- Intersection Involvement

Each of the six characteristics listed above was analyzed from the perspectives of yearly changes, rural vs. urban crashes, person type, gender, age group, vehicle type, first harmful event, collision manner, month, day and year. Lane departure crashes were also analyzed based on light conditions.

## METHODS

The study covered a ten-year period, 2007-2016. The crash database is huge, with more than 300 million individual data cells. The reported number of crashes on-tribal land is less than five percent of those off-tribal land and likely to show more variability on a yearly basis.

Raw data for each year were reported on three EXCEL spreadsheets (incident, person and unit) for both on and off-tribal land crashes. The incident spreadsheet data were reported in one row for each incident. Person spreadsheet data were reported with a row for each crash participant, resulting in two or more data rows for most incidents. Unit spreadsheet data were reported with one row for each unit involved in a crash. Microsoft ACCESS Query Design runs were used to integrate the spreadsheets to avoid duplication of data.

There were several changes in the Arizona Crash Report forms over the ten-year period. These revisions included changes in some crash codes. The most significant changes affecting this study involved 2007 and 2008 data. There were fewer codes in those years for Light Conditions and Vehicle Body Style. For example, there was a single code for dark conditions in 2007 and 2008. There are three codes for dark conditions use with the 2016 Form – Dark Lighted, Dark Not Lighted and Dark Unknown Lighting. The 2007 and 2008 dark conditions data were assigned to the Dark Unknown Lighting code.

If there is no entry in a table cell, the indication is that there was no crash data for that item. If a 0.0 is shown in a table cell, the indication is that there was no fatal or incapacitating injury associated with the subject crashes. For example, there might have been a motor home involved in a crash, but there were no fatal or incapacitating injuries associated with the crash.

## PROCEDURES

The following procedures were used in the analysis.

1. A column in the incident spreadsheet states the injury severity of the crash, i.e. fatal, incapacitating injury, non-incapacitating injury, possible injury, no injury. A sort of the incident spreadsheet on this

column for fatal and incapacitating injury crashes led to a new incident spreadsheet with only fatal and incapacitating injury crashes included.

2. The new fatal and incapacitating injury crash incident spreadsheet and the person and unit spreadsheets were imported to ACCESS. A Query Design was set up using these spreadsheets. They were linked in the following way. The incident ID from the incident ID spreadsheet was linked to the incident ID on the person spreadsheet. The incident ID and unit number on the person spreadsheet were linked to the incident ID and unit number on the unit spreadsheet. These linkages avoided duplication of data. The data headings needed for analyzing the characteristics listed above were then selected, and the Query was run. A resulting yearly table was saved as the Master Fatal and Incapacitating Injury Crashes Worksheet for Tribal or Non-Tribal Land as appropriate.
3. A new EXCEL workbook was set up for each of the six characteristic areas. Three spreadsheets were included in each workbook, except two spreadsheets were used for the Seat Restraint analysis. The first spreadsheet included the unedited columns from the Master Fatal and Incapacitating Injury Worksheet that were needed to analyze that characteristic. The second spreadsheet was used to determine the incident IDs needed to analyze that characteristic. Using the Young Drivers characteristic as an example, the incident ID, Person Type and Age columns from the unedited spreadsheet were copied and pasted to the second sheet. These columns were then sorted by Person Type and Age. Type 1 person types under age 25 are the young drivers. After deleting the rows containing other person types and ages, the incident IDs for young drivers' crashes remain. Any duplicate incident IDs were eliminated.
4. The two spreadsheets from procedure 3 were imported to ACCESS and a Query Design run was made using these two spreadsheets. The result was a table of data needed to analyze that characteristic. The table was copied and pasted to the third (edited) spreadsheet for the characteristic involved. The table was used for the analysis of that characteristic.
5. Steps 3 and 4 were repeated for each of the six characteristics.
6. Prior to analyzing these data, an EXCEL analysis workbook was set up to document the analysis and prepare graphics. The workbook had separate spreadsheets for each of the six characteristics to be analyzed. Each spreadsheet was structured for ease of summarizing the analysis and creating tables and graphs. The spreadsheet structure generated updated summaries, tables and graphics automatically as new data were added.
7. The analysis of the data was in some cases complicated when more than two data columns were involved as with seat restraint usage, and time consuming when there were many data fields involved, as with vehicle body type which has 128 alternative types.
8. The graphics for this report were generated from the analysis workbook. The graphics and report format followed that used in the Nevada Motor Vehicle Crash Data Analysis to the extent feasible, consistent with the objectives for Arizona analysis.

**Analysis Assumptions were required to ensure consistency in the analysis. Following are the assumptions used in this analysis.**

- Restraint Usage – Restrained persons that used lap belts, shoulder and lap belts, child restraint systems and air bags. Unrestrained were those so identified and those using helmets. Non-applicable, Other and Unknown were not included in the analysis.
- Young Drivers – Drivers under 25 years of age
- Speeding – Drivers identified for speeding violations and those whose estimated speed exceeded the speed limit by more than 10 miles per hour.
- Impaired Driving – Drivers identified with the following conditions: illness, physical impairment, fatigue, alcohol, drugs, medication, and other.
- Lane Departure – Event 1 Sequence of running off road, crossing centerline or crossing median.

- Intersection – Junction Relation fields for intersection, ramps, railway grade crossing, crossover, frontage road, driveway alley access, and other non-interchange.

### Caveats

- The analysis was based on clearly defined data. In some cases, the data were missing, unreasonable or ambiguous. Those data were not included in the analysis. As examples, an unreasonable age 113 or an ambiguous seat restraint entry of “Not Applicable”.
- Tribes are not required to share their crash data with the Arizona Department of Transportation, so the submitted data for crashes on-tribal land are not complete.
- Some crashes on State Highways or county roads, particularly in urbanized areas, might not be recorded as being on-tribal land when they actually are located on-tribal land. Conversely, some crashes identified to be on-tribal land were identified as rural since they were not located within a city. Crashes on State Route 101L on the Salt River Pima-Maricopa Indian Community are examples.

## SUMMARY OF MAJOR FINDINGS

- The percent of crashes off-tribal land with known fatalities and/or incapacitating injuries is about 3.86 percent. The percent on-tribal land is about 6.95 percent or 80 percent higher.
- The percent of persons with known fatalities and/or incapacitating injuries in crashes on-tribal land is 119 percent (3.88/1.77) higher than off-tribal land.
- The percent of known to be unrestrained persons with fatal or incapacitating injuries relative to all fatal or incapacitating injuries on and off-tribal land is 17 percent (36.3/31.1) higher on-tribal land.
- There are two ways to look at the seriousness of fatal and/or incapacitating injury crashes.
  - Number of fatal and incapacitating injuries for a specific characteristic, e.g. speeding, as a percentage of the total number of fatalities and incapacitating injuries for the location, e.g. on-tribal land (Characteristic seriousness)
  - Number of fatal and incapacitating injuries for a specific characteristic as a percentage of the total number of persons involved in the crashes for that characteristic. (Average crash seriousness)
- The reported number of restrained persons in fatal and/or incapacitating crashes on-tribal land is 93 percent higher than the reported number of unrestrained persons.
- Fatal and incapacitating injuries for crashes involving young drivers are a 36 percent (35.6/26.1) more serious problem off-tribal land than on-tribal land when compared to total fatalities and incapacitating injuries for each. However, for individual crashes involving young drivers, there are 18 percent (47.4/40.0) higher fatalities and incapacitating injuries on-tribal land than off-tribal land crashes when compared to the number of persons in the crashes.
- Speeding is 21 percent (42.3/35.0) more serious on-tribal land than off-tribal land when compared to total fatalities and incapacitating injuries for each. For individual crashes involving speeding, there are 12 percent (50.5/45.0) higher fatalities and incapacitating injuries on-tribal land crashes when compared to the number of persons in the crashes.
- The percent of persons with known fatal or incapacitating injuries due to crashes involving impaired driving is 52 percent (39.0/25.6) higher on-tribal land than off-tribal land, when compared to the total fatalities and incapacitating injuries for each. For individual crashes involving impaired driving, there are 10 percent (54.3/49.4) higher fatalities and incapacitating injuries involved on-tribal land crashes when compared to the number of persons in the crashes.
- Lane departure is 130 percent (46.2/20.1) more serious as a factor in the percentage of fatal and incapacitating injuries on-tribal land than off-tribal land, when compared to the total number of

fatal and incapacitating injuries for each. However, for individual crashes involving lane departure, there are six percent (63.1/59.3) higher fatalities and incapacitating injuries in off-tribal land crashes when compared to the number of persons in the crashes.

- Intersection crashes are nearly 3 ½ times (48.4/13.9) more serious off-tribal land than on-tribal land in terms of total crash fatalities and incapacitating injuries for each. For individual crashes involving intersections, there are only three percent (39.6/38.5) higher fatalities and incapacitating injuries in off-tribal land crashes when compared to the number of persons in the crashes.
- Fatal and incapacitating injury crashes on-tribal land is primarily a rural issue, since only a small percentage of crashes identified as urban occur on-tribal land.

## MOTOR VEHICLE CRASHES OVERVIEW

Table 1 provides a multi-year overview of major crash data. The total number of reported crashes over a 10-year period on-tribal land is about 2.4 percent of that off-tribal land. To have meaningful results for on and off-tribal land comparisons this study focused on the persons experiencing fatal or incapacitating injuries as a percentage of all the persons involved in the crashes for each of the six characteristics being analyzed.

The percent of reported crashes on-tribal land with known fatalities and/or incapacitating injuries is 80 percent higher (6.95/3.86) than off-tribal land. The percent of persons with known fatalities and/or incapacitating injuries in crashes on-tribal land is more than twice (3.88/1.73) that off-tribal land.

<b>Table 1 General Multi-Year Data for Motor Vehicle Crashes from 2007 through 2016 On-tribal land and for 2010 Off-tribal land in Arizona</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
Total Number of Crashes	26637	1117542
Total Number Fatal Crashes	880	6975
Total Number Incapacitating Injury Crashes	971	36126
Total Number Non-Incapacitating Injury Crashes	3443	131912
Total Number Possible Injury Crashes	3991	181612
Total Number of Non-Injury Crashes	17352	760917
Percent of Crashes w/ Known Fatalities and/or Incapacitating Injuries	6.95	3.86
Total Number Persons Involved in Crashes	69457	3080660
Total Number Crash Fatalities	1041	7656
Total Number Crash Incapacitating Injuries	1652	45522
Total Number Non-Incapacitating Injuries	5489	182541
Total Number Non- or Unknown Injuries	61275	2844941
Percent of Persons w/ Known Fatalities or Incapacitating Injuries	3.88	1.73

## RESTRAINT USAGE

Tables 2a and 2b provide an overview of restraint usage in urban and rural areas and by person type and gender. The percent of known to be unrestrained persons with fatal or incapacitating injuries relative to all fatal or incapacitating injuries on and off-tribal land is 17 percent higher (36.3/31.1) on-tribal land. There are very few urban crashes reported on-tribal land, so the comparison with urban crashes off-tribal land is insignificant. The percent of unrestrained persons with fatal or incapacitating injuries on-tribal land in rural areas is eight percent lower (74.7 – 66.7) than off-tribal land. It is not clear that this difference is meaningful since seat restraint use by a large percentage of fatal and incapacitating injury victims was not reported.

Although seemingly about the same in Table 2a, the rate of restrained persons on-tribal land with fatal or incapacitating injuries is about one-half that of unrestrained persons. The difference occurs because over the 10-year period of the study the percent of restrained persons in those crashes, as shown in Table 2c, is about twice (1.93) that of unrestrained persons while the number of fatal and incapacitating injuries is about the same for each group.

The relative importance of seat restraint use in fatal and incapacitating injury rural crashes on-tribal land compared to off-tribal land is demonstrated by the fact that 35.5 percent of all fatal and incapacitating injuries on-tribal land involved unrestrained persons, while the percentage is 10.9 for rural crashes off-tribal land.

Data Category	Data Description	On-Tribal Land		Off-Tribal Land	
		No. of Persons	% of Persons Injured	No. of Persons	% of Persons Injured
<b>Injured Persons Restraint Usage - Total</b>	Total Known Restrained Persons w/Fatal or Incapacitating Injuries	972	36.1	24335	45.8
	Total Known Unrestrained Persons w/Fatal or Incapacitating Injuries	978	36.3	16556	31.1
<b>Injured Persons Restraint Usage - Urban</b>	Total Unrestrained Persons with Known Fatal or Incapacitating Crashes in Urban Crashes	14	0.5	10777	20.3
	Total Unrestrained Persons Involved in Fatal or Incapacitating Injury Urban Crashes	20	70.0	14458	74.5
<b>Injured Persons Restraint Usage - Rural</b>	Total Unrestrained Persons with Known Fatal or Incapacitating Crashes in Rural Crashes	957	35.5	5779	10.9
	Total Unrestrained Persons Involved in Fatal or Incapacitating Injury Rural Crashes	1434	66.7	7739	74.7



Table 2b shows that in fatal and/or incapacitating injury crashes, the percent of unrestrained drivers experiencing fatal or incapacitating injuries exceeds 80 percent both on and off-tribal land. Unrestrained passenger percentages are much lower; however, unrestrained passengers on-tribal land are more apt to experience fatal or incapacitating injuries in those types of crashes. There is no major difference in the percent of unrestrained fatal or incapacitating injuries among females on and off-tribal land. However, unrestrained males appear substantially more vulnerable to fatal or incapacitating injuries in off-tribal land crashes.

<b>Table 2b</b>		
<b>Person Type and Gender Data for Restraint Usage On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Drivers</b>		
Number of Unrestrained Drivers in Fatal and/or Incapacitating Injury Crashes	586	12717
Number of Unrestrained Drivers w/Fatal or Incapacitating Injuries	487	10954
Percent of Unrestrained Drivers w/Fatal or Incapacitating Injuries	83.1	86.1
<b>Passengers</b>		
Number of Unrestrained Passengers in Fatal and/or Incapacitating Injury Crashes	752	7960
Number of Unrestrained Passengers w/Fatal or Incapacitating Injuries	438	4133
Percent of Unrestrained Passengers w/Fatal or Incapacitating Injuries	58.2	51.9
<b>Males</b>		
Number of Unrestrained Males in Fatal and/or Incapacitating Injury Crashes	891	15683
Number of Unrestrained Males w/Fatal or Incapacitating Injuries	530	12104
Percent of Unrestrained Males w/Fatal or Incapacitating Injuries	59.5	77.2
<b>Females</b>		
Number of Unrestrained Females in Fatal and/or Incapacitating Injury Crashes	504	6425
Number of Unrestrained Females w/Fatal or Incapacitating Injuries	337	4445
Percent of Unrestrained Females w/Fatal or Incapacitating Injuries	66.9	69.2

Table 2c shows that the average number of reported seat restrained persons involved in fatal or incapacitating injury crashes on-tribal land is nearly twice (1.93) the reported number of unrestrained persons.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Restrained	422	307	285	229	275	291	215	223	195	281	2723
Unrestrained	242	191	137	122	125	154	114	113	104	111	1413
Ratio	1.74	1.61	2.08	188	2.20	189	189	1.97	1.88	2.53	1.93

Restraint Use Chart 1 show the risk for unrestrained persons of fatal or incapacitating injury increases with age both on and off-tribal land. In general, there are no substantial age group differences in fatal and/or incapacitating injuries between on and off-tribal land crashes, particularly in the early age groups which dominate the crash population. The sample size for older people is small and the crash statistics are subject to more variability.

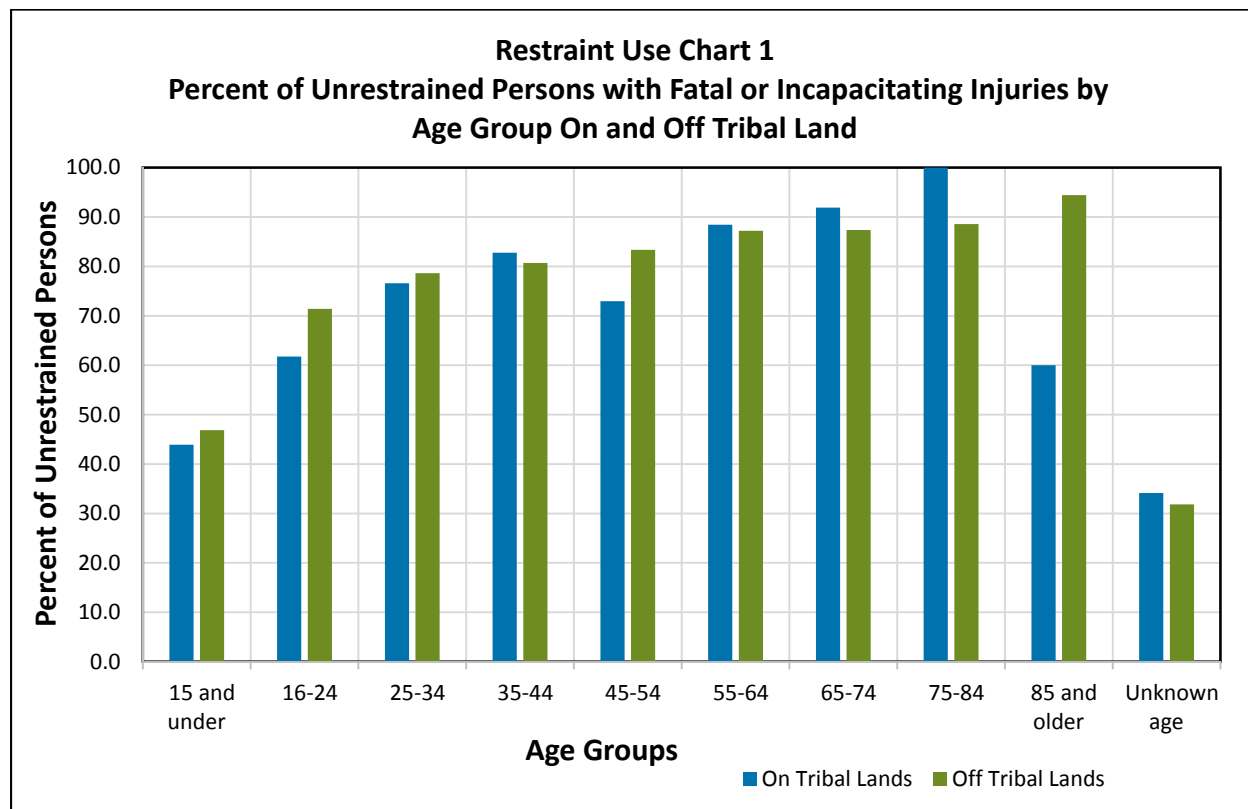


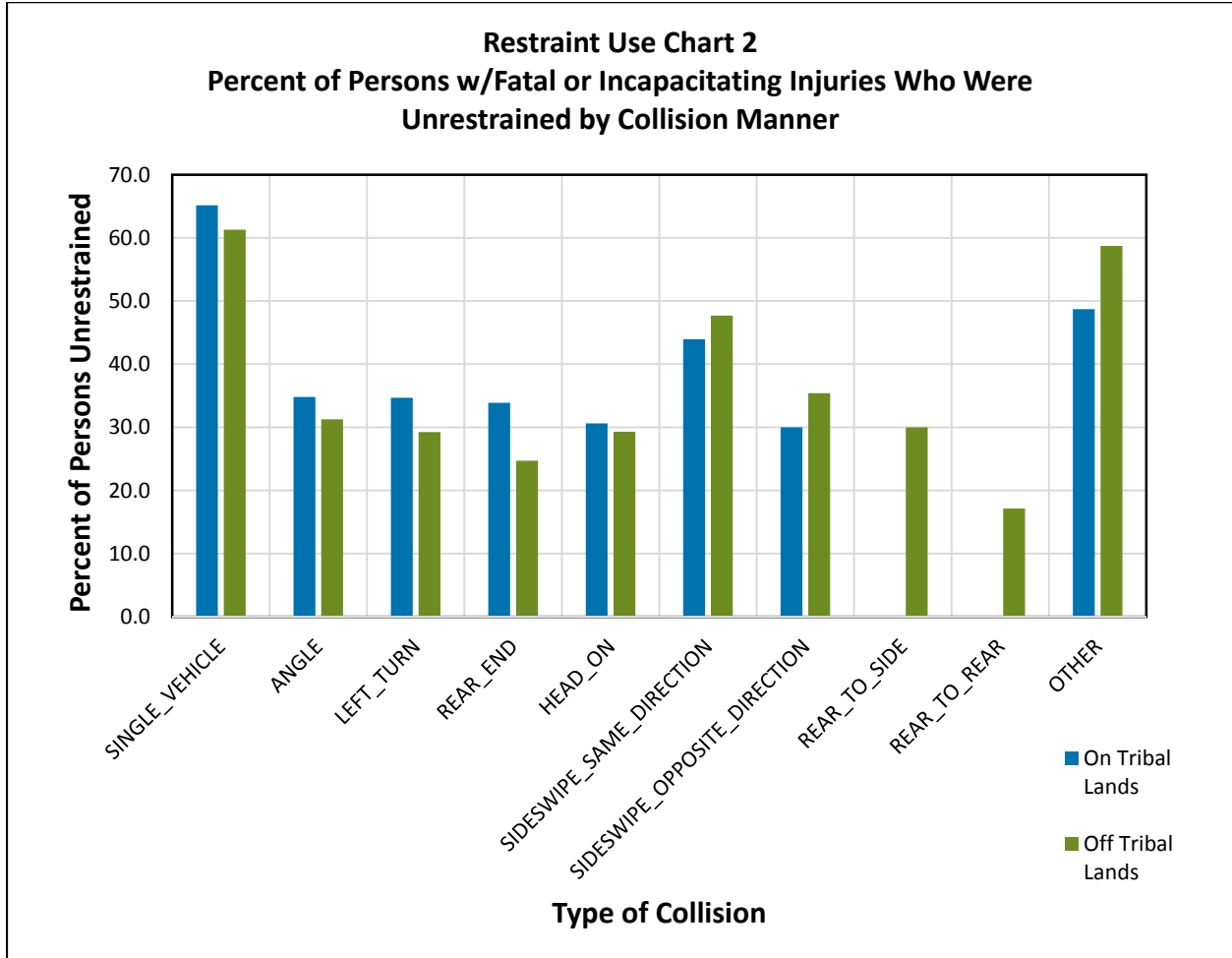
Table 3 shows that unrestrained persons in on-tribal land crashes are substantially more likely to be injured in crashes involving most off roadway objects not associated with urban areas and slightly more vulnerable in overturn rollover crashes. Pedestrian injuries are substantially more significant in off-tribal land crashes. These findings are likely linked to the more rural nature of tribal land compared to the more likely urban setting for off-Tribal land crashes.

<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
OVERTURN_ROLLOVER	65.8	62.0
FIRE_EXPLOSION		0.0
IMMERSION		50.0
JACKKNIFE		0.0
CARGO_EQUIPMENT_LOSS_SHIFT		63.6
FELL_JUMPED_FROM_VEHICLE	90.0	96.9
THROWN_OR_FALLING_OBJECT		80.0
OTHER_NON_COLLISION	60.9	91.2
EQUIPMENT_FAILURE_TIRES_BRAKES		37.5
RAN_OFF_ROAD_RIGHT		57.1
RAN_OFF_ROAD_LEFT		100.0
CROSS_MEDIAN		100.0
CROSS_CENTERLINE		100.0
MOTOR_VEHICLE_IN_TRANSPORT	32.5	28.3
PEDESTRIAN	50.0	82.8
PEDALCYCLE	93.3	99.0
RAILWAY_VEHICLE_TRAIN_ENGINE		42.9
LIGHT_RAILWAY_RAILCAR_VEHICLE		16.7
ANIMAL_WILD_NON_GAME	50.0	60.0
ANIMAL_WILD_GAME	0.0	59.1
ANIMAL_PET	50.0	92.9
ANIMAL_LIVESTOCK	50.0	51.1
PARKED_MOTOR_VEHICLE	60.0	45.6
WORK_ZONE_MAINTENANCE_EQUIPMENT	100.0	52.4
STRUCK_BY_FALLING_SHIFTING_CARGO_OR_OBJECT		50.0
OTHER_NON_FIXED_OBJECT	60.0	55.8
IMPACT_ATTENUATOR_CRASH_CUSHION	33.3	40.7
BRIDGE_OVERHEAD_STRUCTURE		63.4
BRIDGE_RAIL	66.7	55.0
CULVERT	64.3	60.0
CURB	60.0	60.9
DITCH	61.5	58.2
EMBANKMENT	64.8	55.4

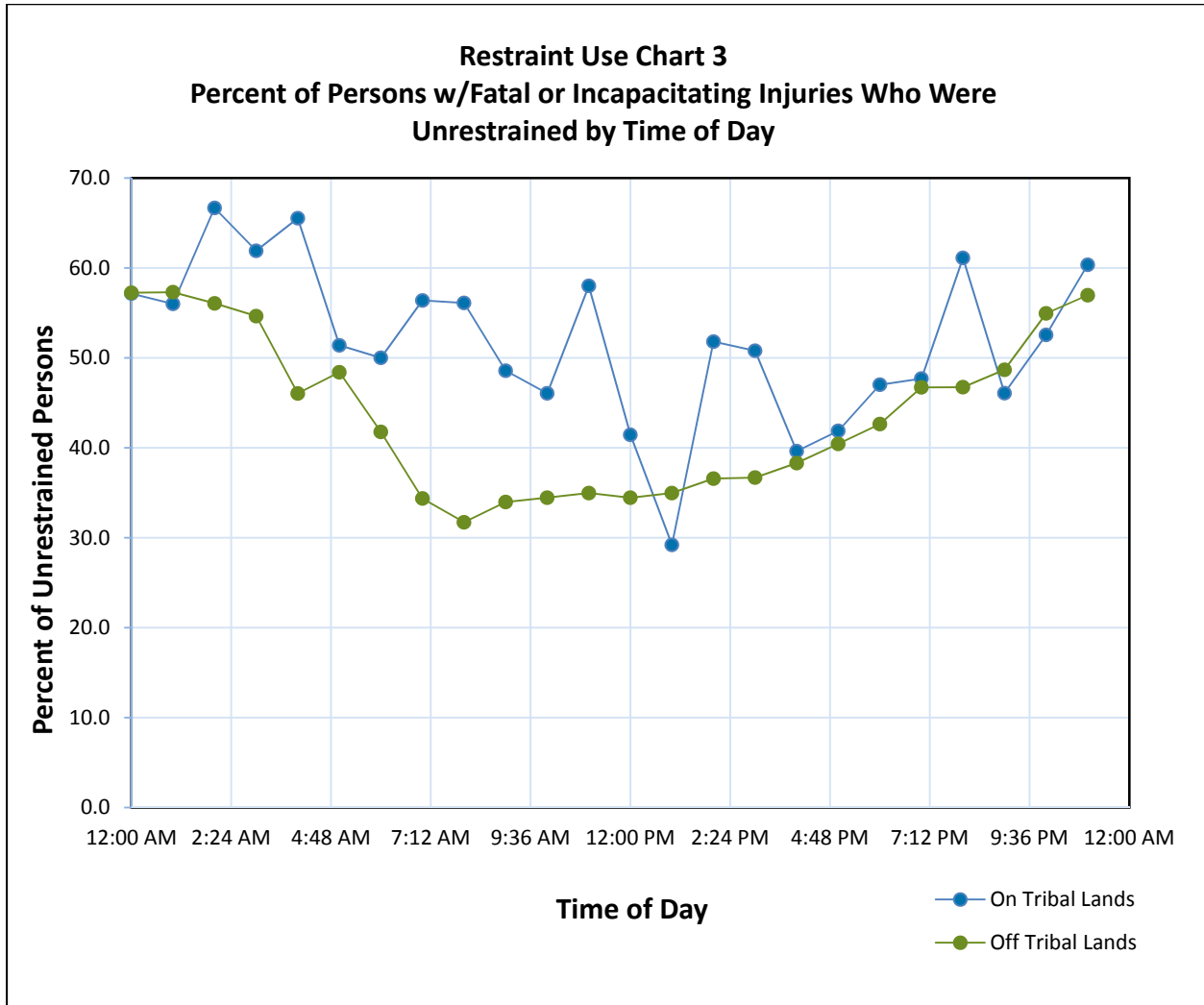
<b>Table 3 (continued)</b>		
<b>Percent of Unrestrained Persons w/Fatal or Incapacitating Injuries by First Harmful Event</b>		
<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
GUARDRAIL_FACE	51.4	60.5
GUARDRAIL_END	40.0	40.9
CONCRETE_TRAFFIC_BARRIER	38.5	41.1
CABLE_TRAFFIC_BARRIER	0.0	34.0
OTHER_TRAFFIC_BARRIER	100.0	53.7
TREE_BUSH_STUMP_STANDING	61.2	49.4
TRAFFIC_SIGN_SUPPORT	50.0	53.5
TRAFFIC_SIGNAL_SUPPORT		48.6
UTILITY_POLE_LIGHT_SUPPORT	77.8	50.1
OTHER_POST_POLE_OR_SUPPORT	100.0	61.4
FENCE	53.6	53.7
MAILBOX		53.3
BUILDING		59.3
OTHER_FIXED_OBJECT	68.6	58.9
UNKNOWN	100.0	71.4
Not Reported	66.7	33.4

Note: Blank cells mean no first harmful event of this type in data. 0.0 entries mean harmful event occurred, but with no fatal or incapacitating injuries.

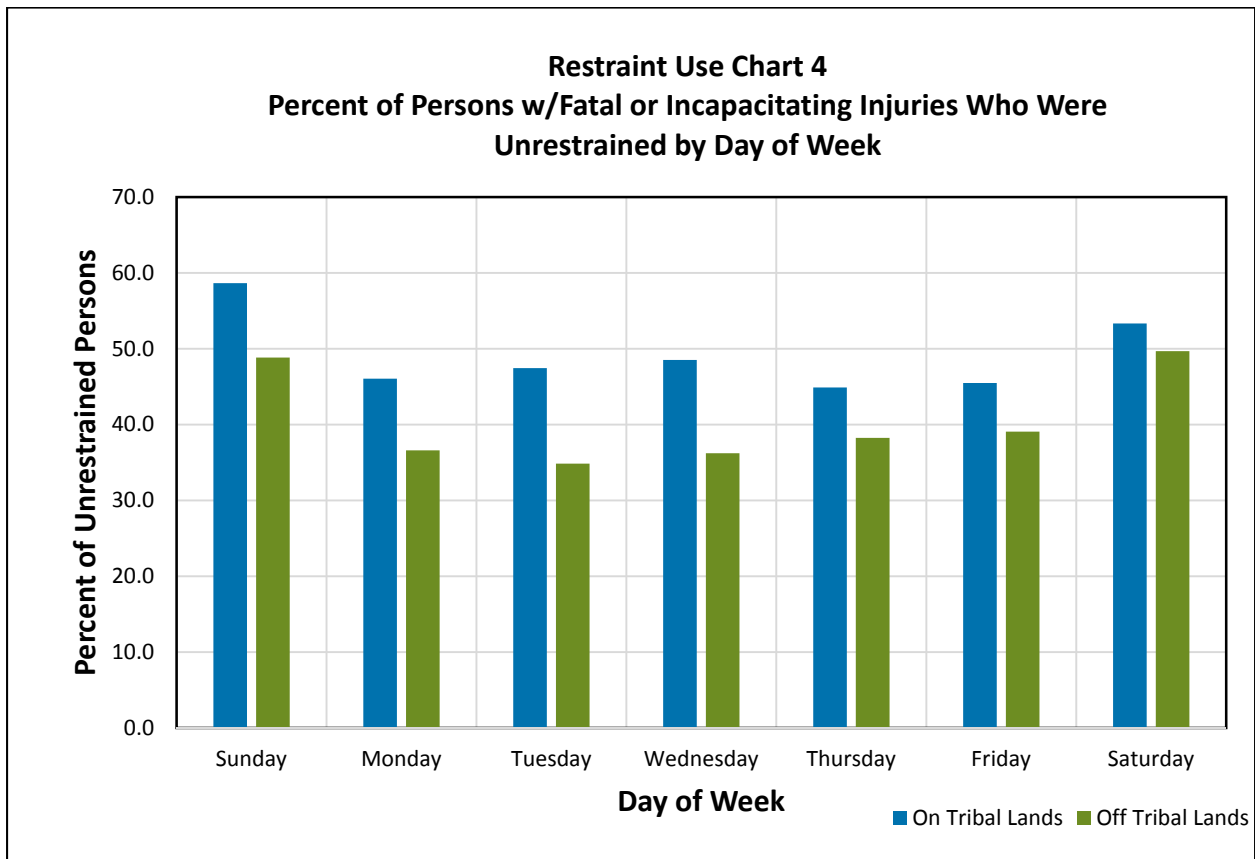
Restraint Use Chart 2 shows that more than 60 percent of the fatal or incapacitating injuries in single vehicle crashes involved unrestrained persons. Unrestrained persons appear to be more vulnerable to fatal or incapacitating injuries in on-tribal land crashes involving single vehicle, angle, left turn, rear end and head on crashes. The data shows that serious rear to side and rear to rear collisions are virtually absent in the primarily rural areas of Tribal land.



Restraint Use Chart 3 shows a generally higher hourly percentage distribution of unrestrained persons experiencing serious crash injuries on-tribal land in comparison with the serious crashes off-tribal land. The low percentages of unrestrained person serious injuries off-tribal land might be due to lower speeds off-tribal land during the more congested hours of the day. Injury peaking in both locations during the early morning and late hours peaking in both locations might be a function of impaired driving.



Restraint Use Chart 4 shows that lack of seat restraint use on-tribal land is more serious than off-tribal land every day of the week. It also supports the data finding that the percentage of fatal and incapacitating injuries on-tribal land is more than twice that off-tribal land.



As with day of the week, the Chart 5 graph for month of year supports the fact that the percentage of fatal and incapacitating injuries on-tribal land is more than twice that off-tribal land, and lack of seat restraint use is more serious on-tribal land.

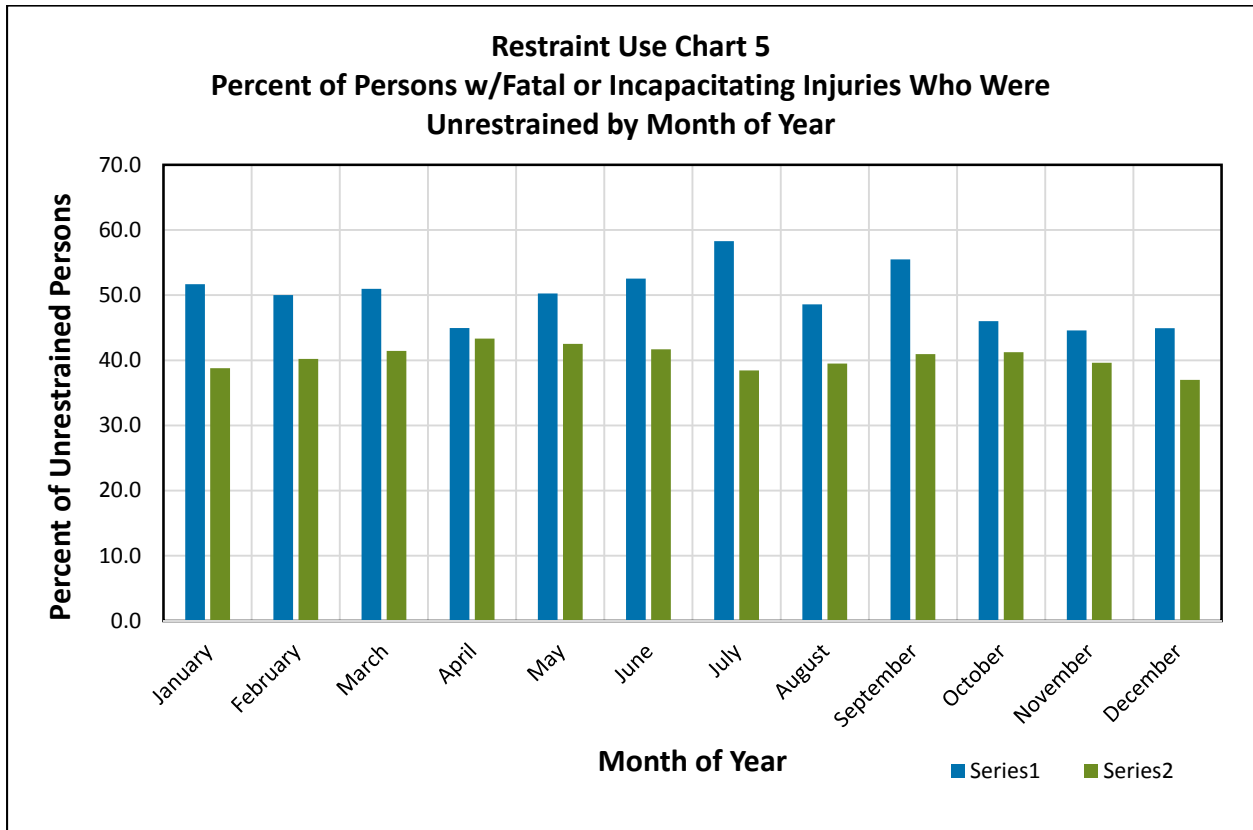




Table 4 shows that for most vehicle types with fatal or incapacitating injuries on-tribal land, there is a higher percentage of unrestrained injuries on-tribal land than off-tribal land. This is a particularly important for commonly used vehicles, such as pickups, sedans and station wagons. Motorcycles are also commonly used, and fatal and incapacitating crashes involving motorcycles show a very high serious injury percentage.

<b>Table 4</b>		
<b>Percent of Unrestrained Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal land</b>
PASSENGER_AM_AMBULANCE	20.0	14.3
PASSENGER_CV_CONVERTIBLE	0.0	22.9
PASSENGER_2DCV_CONVERTIBLE_2_DR	100.0	29.3
PASSENGER_3DCV_CONVERTIBLE_3_DR		25.0
PASSENGER_4DCV_CONVERTIBLE_4_DR	0.0	0.0
PASSENGER_CP_COUPE	40.6	26.8
PASSENGER_DBUG_DUNE_BUGGY	0.0	87.5
PASSENGER_HT_HARDTOP		11.5
PASSENGER_2DHT_HARDTOP_2_DR	0.0	29.8
PASSENGER_3DHT_HARDTOP_3_DR		0.0
PASSENGER_4DHT_HARDTOP_4_DR	0.0	18.0
PASSENGER_5DHT_HARDTOP_5_DR		0.0
PASSENGER_HB_HATCHBACK		15.8
PASSENGER_2DHB_HATCHBACK_2_DR	14.3	34.0
PASSENGER_3DHB_HATCHBACK_3_DR	50.0	16.7
PASSENGER_4DHB_HATCHBACK_4_DR	23.1	12.8
PASSENGER_5DHB_HATCHBACK_5_DR	0.0	11.7
PASSENGER_HR_HEARSE		0.0
PASSENGER_JP_JEEP		28.3
PASSENGER_LB_LIFTBACK		33.3
PASSENGER_2DLB_LIFTBACK_2_DR		0.0
PASSENGER_3DLB_LIFTBACK_3_DR	50.0	22.2
PASSENGER_4DLB_LIFTBACK_4_DR	0.0	20.0
PASSENGER_5DLB_LIFTBACK_5_DR		0.0
PASSENGER_LM_LIMOUSINE		0.0
PASSENGER_MHA_MOTORIZED_HOME	0.0	61.5
PASSENGER_MHB_MOTORIZED_HOME		100.0
PASSENGER_PU_PICKUP	40.9	34.2
PASSENGER_12PU_PICKUP_1_2_TON	46.3	36.6
PASSENGER_34PU_PICKUP_3_4_TON	69.2	37.0
PASSENGER_RV_RECREATIONAL_VEHICLE	0.0	100.0
PASSENGER_RVVN_RECREATIONAL_VAN		44.4

<b>Table 4 (continued)</b>		
<b>Percent of Unrestrained Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal land</b>
PASSENGER_2DRH_RETRACTBLE_HRDTP_2_DR		0.0
PASSENGER_4DRH_RETRACTBLE_HRDTP_4_DR		0.0
PASSENGER_RD_ROADSTER		0.0
PASSENGER_SD_SEDAN	45.9	23.3
PASSENGER_2DSD_SEDAN_2_DR	38.5	26.8
PASSENGER_3DSD_SEDAN_3_DR		16.7
PASSENGER_4DSD_SEDAN_4_DR	37.3	18.4
PASSENGER_5DSD_SEDAN_5_DR	0.0	12.5
PASSENGER_SP_SPECIAL		54.5
PASSENGER_SW_STATION_WAGON	56.8	27.3
PASSENGER_2DSW_STATION_WAGON_2_DR	75.0	39.7
PASSENGER_3DSW_STATION_WAGON_3_DR		28.6
PASSENGER_4DSW_STATION_WAGON_4_DR	52.3	25.0
PASSENGER_5DSW_STATION_WAGON_5_DR	50.0	24.4
PASSENGER_12VN_VAN_1_2_TON	50.0	18.9
PASSENGER_34VN_VAN_3_4_TON	50.0	19.0
TRUCK_AR_ARMORED_TRUCK		33.3
TRUCK_AC_AUTO_CARRIER		0.0
TRUCK_BS_BUS	66.7	63.1
TRUCK_CB_CAB_CHASSIS		37.5
TRUCK_CM_CONCRETE_OR_TRANSIT_MIXER	0.0	20.0
TRUCK_DRTK_DRILLING_TRUCK		0.0
TRUCK_DP_DUMP_TRUCK	0.0	57.1
TRUCK_FT_FIRE_TRUCK		100.0
TRUCK_FB_FLATBED_OR_PLATFORM	0.0	70.0
TRUCK_GG_GARBAGE_OR_REFUSE		50.0
TRUCK_PN_PANEL		0.0
TRUCK_1TPU_PICKUP_1_TON	50.0	36.4
TRUCK_RF_REFRIGERATED_VAN		0.0
TRUCK_SCBS_SCHOOL_BUS	100.0	68.4
TRUCK_SR_SERVICE_BODY_TRUCK	100.0	10.0
TRUCK_ST_STAKE_OR_RACK		20.0
TRUCK_TN_TANK		20.0
TRUCK_WR_TOW_TRUCK_WRECKER		66.7
TRUCK_TK_TRUCK	33.3	30.7
TRUCK_TT_TRUCK_TRACTOR	25.0	26.8
TRUCK_VN_VAN	38.9	21.1
TRUCK_1TVN_VAN_1_TON		32.0
TRUCK_WR_WRECKER	0.0	100.0

<b>Table 4 (continued)</b>		
<b>Percent of Unrestrained Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal land</b>
MOBILEHOME_MB_MODULAR_BUILDING		100.0
MOBILEHOME_MH_MOBILE_HOME	25.0	46.2
TRAILER_TL_TRAILER		100.0
TRAILER_UT_UTILITY_TRAILER		42.9
MOTORCYCLE_ATC_ALL_TERRAIN_CYCLE		92.6
MOTORCYCLE_ATV_ALL_TERRAIN_VEHICLE	100.0	85.7
MOTORCYCLE_GC_GOLF_CART		87.8
MOTORCYCLE_MCSP_MC_WITH_UNIQUE_MODIFICATIONS		66.7
MOTORCYCLE_MP_MOPED		95.6
MOTORCYCLE_MC_MOTORCYCLE	96.2	99.9
MOTORCYCLE_NEV_NEIGHBORHOOD_ELECTRIC_VEHICLE		100.0

Note: Blank cells mean no body style of this type in data. 0.0 entries mean body style used, but no fatal or incapacitating injuries.

## YOUNG DRIVERS

Fatal and incapacitating injuries involving young drivers is a 36 percent (35.6/26.1) more serious problem off-tribal land when compared with total fatalities and incapacitating injuries for all crashes, as shown in Table 5a. However, young drivers on-tribal land are more likely to be involved in fatality and incapacitating injury crashes that result in more fatalities and incapacitating injuries for the involved persons (47.4/40.0).

No significant comparisons can be made for on and off-tribal land crashes in urban areas because of the small sample size of those crashes on-tribal land. Rural crashes involving young drivers account for 25.8 percent of all fatal and incapacitating injuries on-tribal land, while only 8.0 percent in crashes off-tribal land.

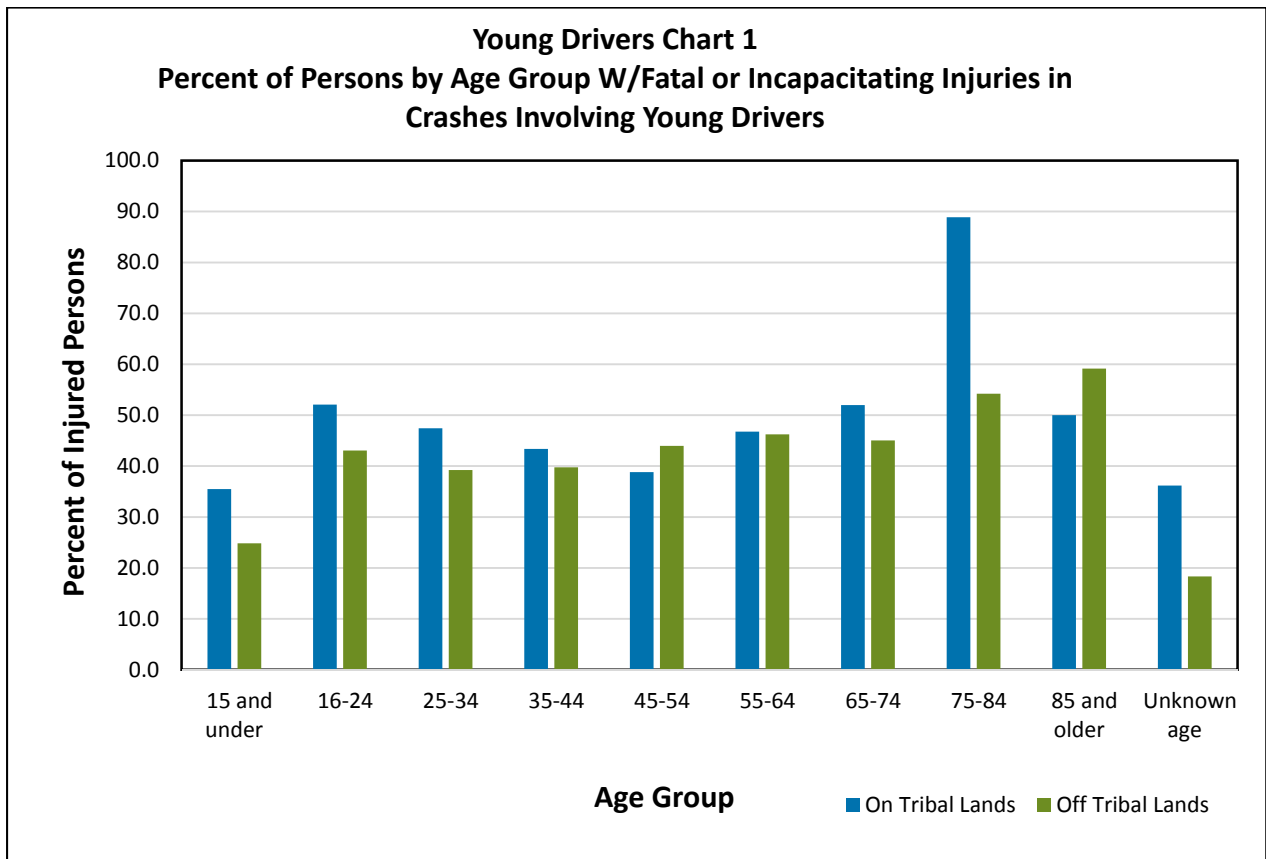
<b>Data Category</b>	<b>Data Description</b>	<b>On-Tribal Land</b>		<b>Off-Tribal Land</b>	
		<b>No. of Persons</b>	<b>% of Persons Injured</b>	<b>No. of Persons</b>	<b>% of Persons Injured</b>
<b>Injured Persons in Young Driver Crashes - Total</b>	Total Persons w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	704	26.1	18917	35.6
	Total Persons involved in Fatal or Incapacitating Crashes Involving Young Drivers	1485	47.4	47287	40.0
<b>Injured Persons in Young Driver Crashes - Urban</b>	Total Persons w/Fatal or Incapacitating Injuries in Urban Crashes Involving Young Drivers	9	0.3	14678	27.6
	Total Persons involved in Fatal or Incapacitating Crashes in Urban Crashes Involving Young Drivers	17	52.9	38306	38.3
<b>Injured Persons in Young Driver Crashes - Rural</b>	Total Persons w/Fatal or Incapacitating Injuries in Rural Crashes Involving Young Drivers	695	25.8	4239	8.0
	Total Persons involved in Fatal or Incapacitating Crashes in Rural Crashes Involving Young Drivers	1469	47.3	8981	47.2

Table 5b shows the percentages of fatal or incapacitating injuries for drivers, passengers, pedestrians and pedacyclists on-tribal land are higher on-tribal land than off-tribal land. This indicates that on the average, each fatal and/or incapacitating injury crash involving young drivers is more serious on-tribal land than off-tribal land. Pedacycle crashes do not appear to be a significant issue on-tribal land in crashes involving young drivers. Risks to males and females are nearly equal in crashes involving young drivers.

<b>Table 5b</b>		
<b>Person Type and Gender Data for Young Drivers On-Tribal Land and Off-Tribal Land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Drivers</b>		
Number of Drivers in Fatal and/or Incapacitating Injury Crashes Involving Young Drivers	773	28264
Number of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	381	11863
Percent of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	49.3	42.0
<b>Passengers</b>		
Number of Passengers in Fatal and/or Incapacitating Injury Crashes Involving Young Drivers	687	17531
Number of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	302	5648
Percent of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	44.0	32.2
<b>Pedestrians</b>		
Number of Pedestrians in Fatal and/or Incapacitating Injury Crashes Involving Young Drivers	23	1068
Number of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	23	1000
Percent of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	100.0	93.6

<b>Table 5b (continued)</b>		
<b>Person Type and Gender Data for Young Drivers On-Tribal Land and Off-Tribal Land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Pedacyclists</b>		
Number of Pedacyclists in Fatal and/or Incapacitating Injury Crashes Involving Young Drivers	1	424
Number of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	1	406
Percent of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	100.0	95.8
<b>Males</b>		
Number of Males in Fatal and/or Incapacitating Injury Crashes Involving Young Drivers	903	26559
Number of Males w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	431	10629
Percent of Males w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	47.7	40.0
<b>Females</b>		
Number of Females in Fatal and/or Incapacitating Injury Crashes Involving Young Drivers	567	20139
Number of Females w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	271	8275
Percent of Females w/Fatal or Incapacitating Injuries in Crashes Involving Young Drivers	47.8	41.1

Persons in all but two age categories are more likely to be fatally or seriously injured in young driver crashes on-tribal land, as shown in Young Drivers Chart 1. The high apparent risk for age group 75 to 84 might be due to the vulnerability of older people, small sample size or both.



In Table 6, percentages are nearly equal for on and off-tribal land for common first harmful events including overturn/rollover, motor vehicle in transport and pedestrians. The composite of striking fixed objects events shows rural related objects more important for on-tribal land crashes and urban related objects more important for off-tribal land crashes.

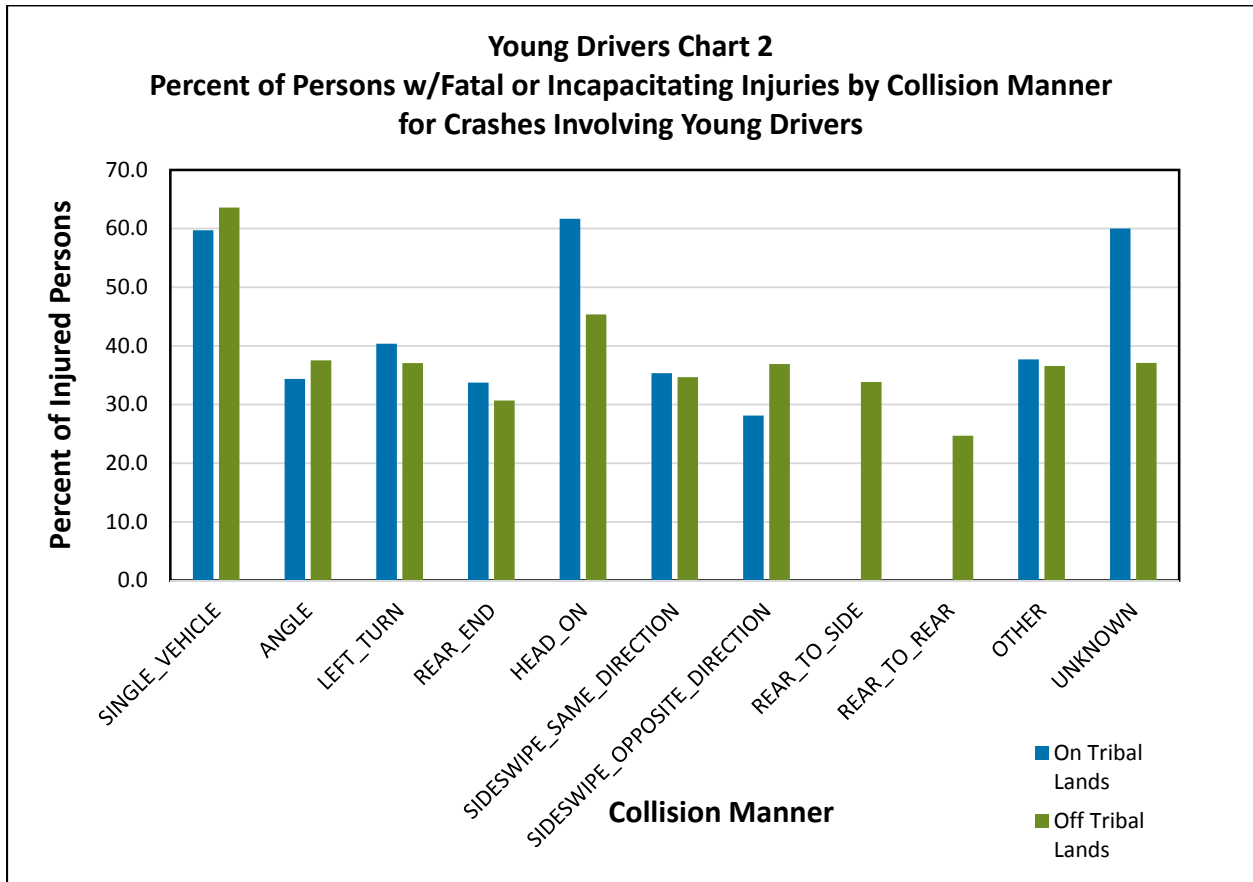
<b>Table 6</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by First Harmful Event in Crashes Involving Young Drivers</b>		
<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
OVERTURN_ROLLOVER	59.2	58.7
IMMERSION		66.7
JACKKNIFE		18.2
CARGO_EQUIPMENT_LOSS_SHIFT		50.0
FELL_JUMPED_FROM_VEHICLE	25.0	41.5
THROWN_OR_FALLING_OBJECT		40.0
OTHER_NON_COLLISION	50.0	68.1
EQUIPMENT_FAILURE_TIRES_BRAKES		21.4
RAN_OFF_ROAD_RIGHT	100.0	75.0
RAN_OFF_ROAD_LEFT		42.9
CROSS_CENTERLINE		100.0
MOTOR_VEHICLE_IN_TRANSPORT	40.9	35.8
PEDESTRIAN	34.9	38.0
PEDALCYCLE	50.0	40.6
RAILWAY_VEHICLE_TRAIN_ENGINE		100.0
LIGHT_RAILWAY_RAILCAR_VEHICLE		100.0
ANIMAL_WILD_NON_GAME		100.0
ANIMAL_WILD_GAME		64.3
ANIMAL_PET		85.7
ANIMAL_LIVESTOCK	44.4	47.4
PARKED_MOTOR_VEHICLE	35.7	39.4
WORK_ZONE_MAINTENANCE_EQUIPMENT	42.9	100.0
STRUCK_BY_FALLING_SHIFTING_CARGO_OR_OBJECT		66.7
OTHER_NON_FIXED_OBJECT	60.0	52.0
IMPACT_ATTENUATOR_CRASH_CUSHION		66.7
BRIDGE_OVERHEAD_STRUCTURE		100.0
BRIDGE_RAIL	100.0	61.5
CULVERT	100.0	60.0
CURB	66.7	67.5
DITCH	50.0	62.0
EMBANKMENT	46.4	67.5



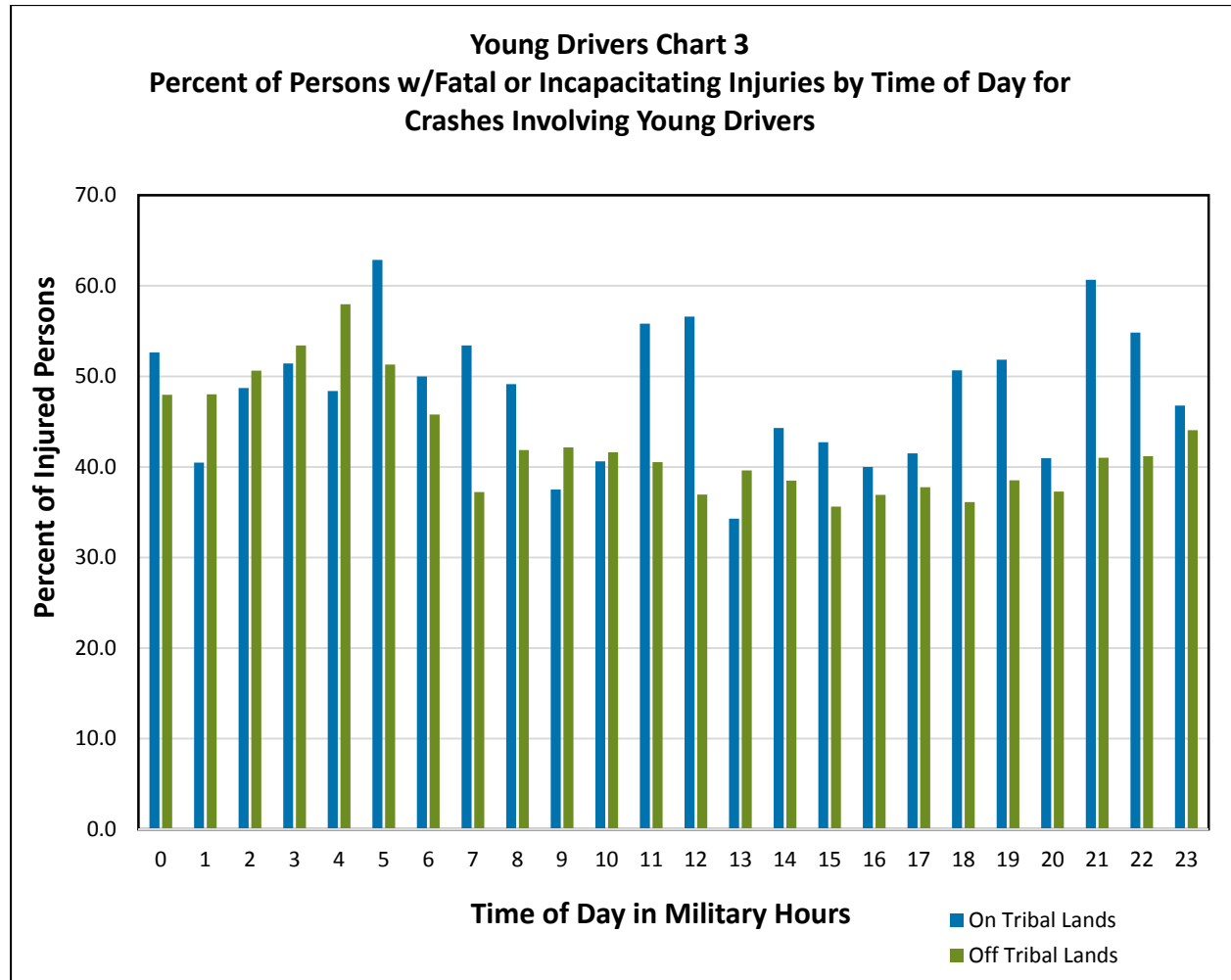
First Harmful Event	On-Tribal Land	Off-Tribal Land
GUARDRAIL_FACE	60.0	59.6
GUARDRAIL_END	37.5	73.2
CONCRETE_TRAFFIC_BARRIER	35.7	60.7
CABLE_TRAFFIC_BARRIER		36.7
OTHER_TRAFFIC_BARRIER		80.0
TREE_BUSH_STUMP_STANDING	76.0	67.0
TRAFFIC_SIGN_SUPPORT	50.0	63.2
TRAFFIC_SIGNAL_SUPPORT		52.0
UTILITY_POLE_LIGHT_SUPPORT	62.5	70.9
OTHER_POST_POLE_OR_SUPPORT		59.0
FENCE	62.5	65.7
MAILBOX		62.5
BUILDING		50.0
OTHER_FIXED_OBJECT	65.4	68.1
UNKNOWN	100.0	85.7
Not Reported	100.0	37.2

Note: Blank cells mean no first harmful event of this type in data. 0.0 entries mean harmful event occurred, but with no fatal or incapacitating injuries.

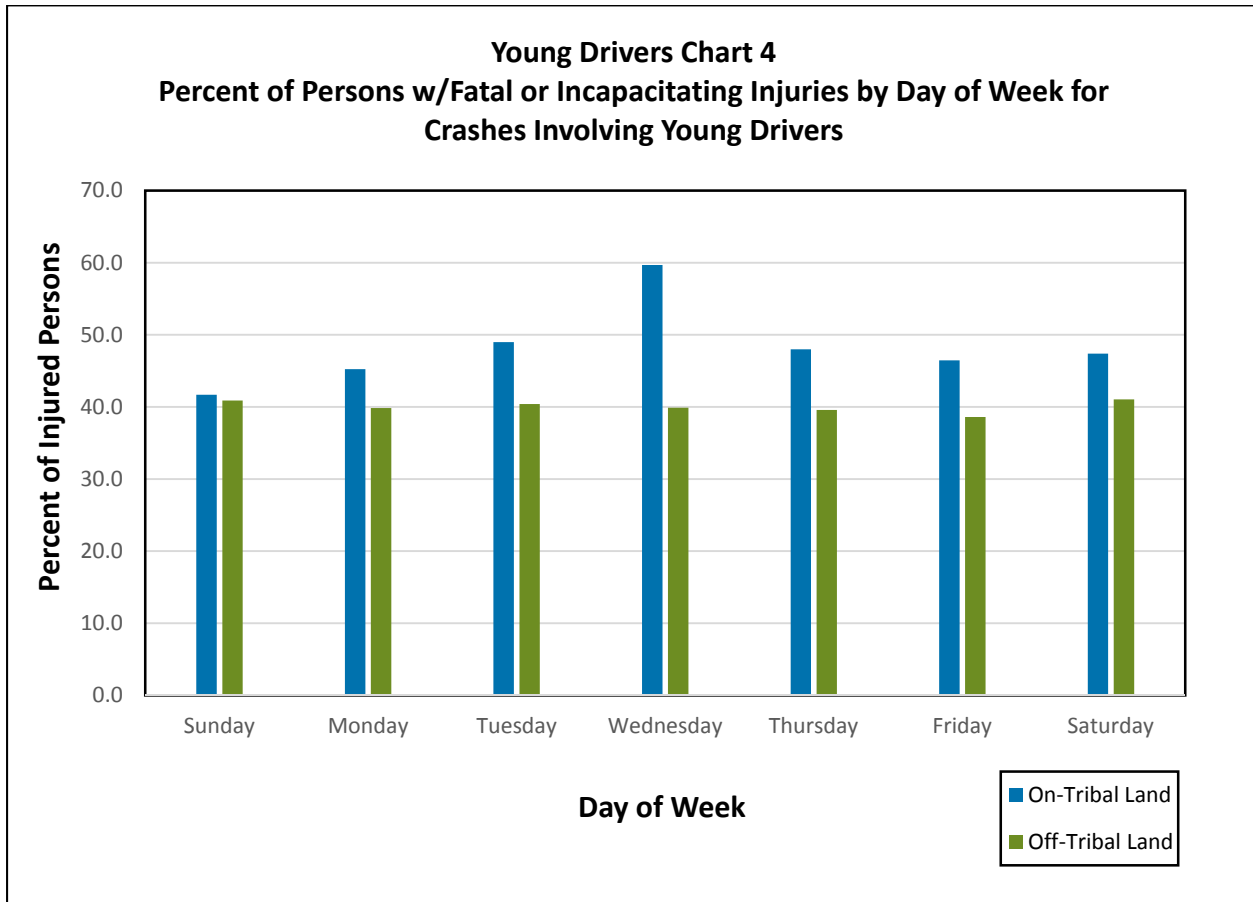
Young Drivers Chart 2 shows head-on collisions are significantly more important on-tribal land, while sideswipes in the opposite direction and urban related rear to side and rear to rear collision manners are more prominent off-tribal land. The percentages of injured persons for the remaining crash types are nearly equal for on and off-tribal land crashes.



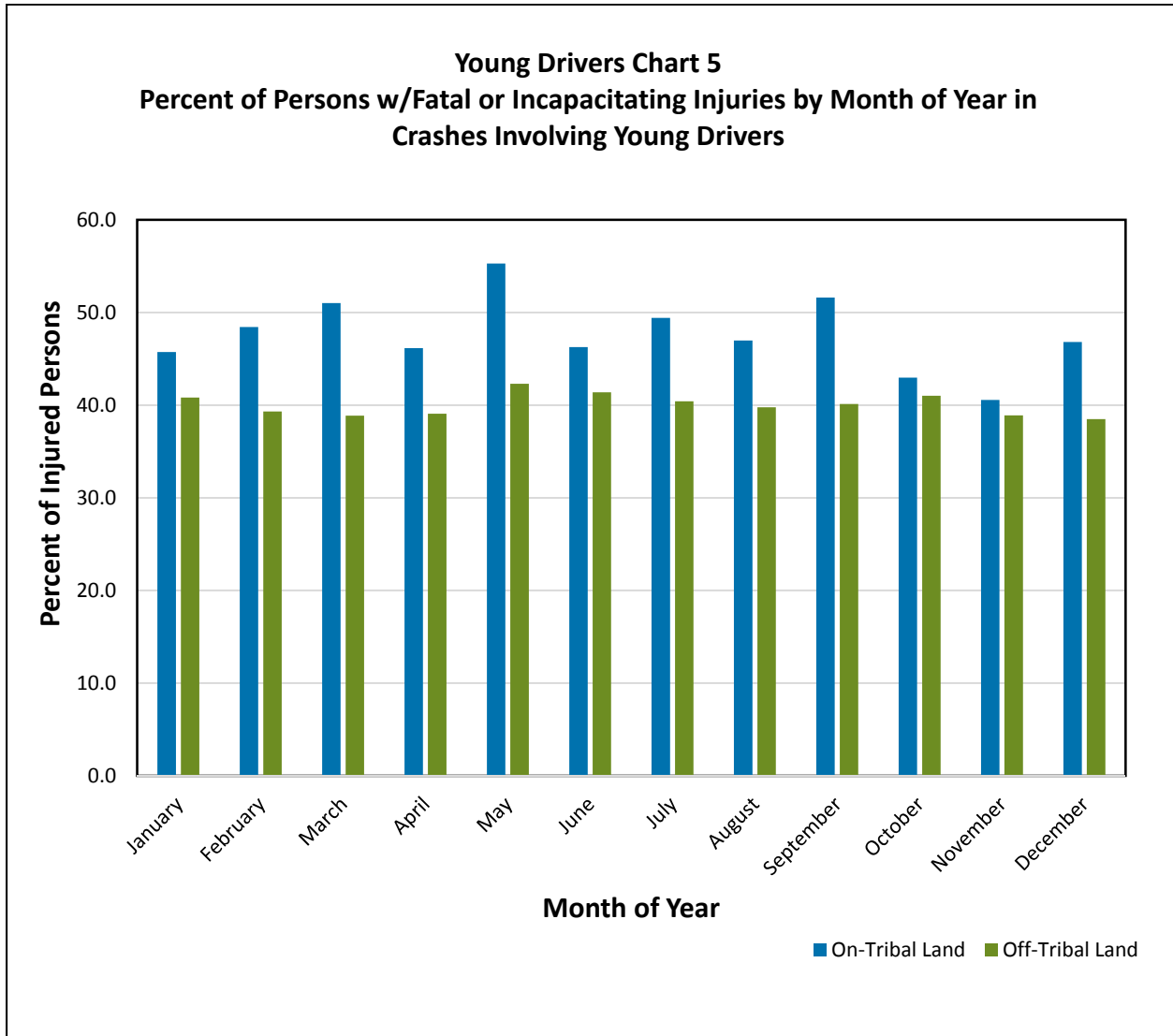
Young Drivers Chart 3 shows fatal and/or incapacitating injury crashes are more significant off-tribal land in the early morning hours, possibly associated with closing of alcohol serving establishments. Tribal land percentages of injured persons dominate most of the rest of the day, including morning and evening commutes and mid-day and evening hours. This latter and somewhat surprising finding could be related to urban related traffic on roadways such as SR101L on the Salt River Pima-Maricopa Indian Community and I-10 through the Gila River Indian Community.



Young Drivers Chart 4 shows a relative even distribution of fatal and/or incapacitating injury crashes for six days of the week. The reasons for the Wednesday peak on-tribal land are unclear and would require more investigation into the causes. Crashes on-tribal land are more serious than crashes off-tribal land every day of the week.



As with day of the week, Young Drivers Chart 5 shows that fatal and/or incapacitating injury crashes are more serious on-tribal land than off-tribal land when young drivers are involved.



The vehicle body styles in Table 7 indicate that on-tribal land sporty cars, station wagons, sedans and pickup trucks are the most prominent body types involved in fatal and/or incapacitating injury crashes. Pickup trucks are a common vehicle resident on-tribal land. Recreational travel could be a major factor in the other three prominent types. Motorcycle related vehicles are much more significant in off-tribal land serious crashes. This is likely related to the high number of these vehicles being operated by young drivers in urban areas.

Body Style	On-Tribal Land	Off-Tribal Land
PASSENGER_AM_AMBULANCE	50.0	46.2
PASSENGER_CV_CONVERTIBLE	75.0	45.7
PASSENGER_2DCV_CONVERTIBLE_2_DR	25.0	44.4
PASSENGER_3DCV_CONVERTIBLE_3_DR		80.0
PASSENGER_4DCV_CONVERTIBLE_4_DR	100.0	14.3
PASSENGER_CP_COUPE	38.1	43.3
PASSENGER_DBUG_DUNE_BUGGY		75.0
PASSENGER_HT_HARDTOP		25.0
PASSENGER_2DHT_HARDTOP_2_DR		45.2
PASSENGER_4DHT_HARDTOP_4_DR		30.6
PASSENGER_5DHT_HARDTOP_5_DR		47.6
PASSENGER_HB_HATCHBACK		19.0
PASSENGER_2DHB_HATCHBACK_2_DR	50.0	44.9
PASSENGER_3DHB_HATCHBACK_3_DR	50.0	32.4
PASSENGER_4DHB_HATCHBACK_4_DR	27.3	35.9
PASSENGER_5DHB_HATCHBACK_5_DR		40.6
PASSENGER_JP_JEEP		52.0
PASSENGER_LB_LIFTBACK		50.0
PASSENGER_2DLB_LIFTBACK_2_DR		40.0
PASSENGER_3DLB_LIFTBACK_3_DR	100.0	48.0
PASSENGER_4DLB_LIFTBACK_4_DR		28.0
PASSENGER_5DLB_LIFTBACK_5_DR		18.2
PASSENGER_LM_LIMOUSINE		100.0
PASSENGER_MHA_MOTORIZED_HOME		0.0
PASSENGER_PU_PICKUP	45.0	30.3
PASSENGER_12PU_PICKUP_1_2_TON	33.7	31.0
PASSENGER_34PU_PICKUP_3_4_TON	31.3	21.7
PASSENGER_RV_RECREATIONAL_VEHICLE		9.1
PASSENGER_RVVN_RECREATIONAL_VAN		18.2
PASSENGER_2DRH_RETRACTBLE_HRDTP_2_DR		100.0
PASSENGER_4DRH_RETRACTBLE_HRDTP_4_DR		57.1
PASSENGER_RD_ROADSTER	100.0	

**Table 7 (continued)**  
**Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Young Drivers**

Body Style	On-Tribal Land	Off-Tribal Land
PASSENGER_SD_SEDAN	50.2	38.6
PASSENGER_2DSD_SEDAN_2_DR	44.4	38.1
PASSENGER_3DSD_SEDAN_3_DR	50.0	40.0
PASSENGER_4DSD_SEDAN_4_DR	47.8	37.7
PASSENGER_5DSD_SEDAN_5_DR		48.5
PASSENGER_SP_SPECIAL	0.0	30.4
PASSENGER_SW_STATION_WAGON	61.5	31.9
PASSENGER_2DSW_STATION_WAGON_2_DR	83.3	41.2
PASSENGER_3DSW_STATION_WAGON_3_DR		46.7
PASSENGER_4DSW_STATION_WAGON_4_DR	45.6	32.5
PASSENGER_5DSW_STATION_WAGON_5_DR	100.0	21.9
PASSENGER_12VN_VAN_1_2_TON	100.0	34.7
PASSENGER_34VN_VAN_3_4_TON		23.9
TRUCK_AR_ARMORED_TRUCK		40.0
TRUCK_AC_AUTO_CARRIER		100.0
TRUCK_BS_BUS	0.0	7.9
TRUCK_CB_CAB_CHASSIS		7.7
TRUCK_CM_CONCRETE_OR_TRANSIT_MIXER		0.0
TRUCK_CR_CRANE		0.0
TRUCK_DP_DUMP_TRUCK	0.0	13.0
TRUCK_FT_FIRE_TRUCK		25.0
TRUCK_FB_FLATBED_OR_PLATFORM	0.0	13.3
TRUCK_GG_GARBAGE_OR_REFUSE		0.0
TRUCK_LW_LUNCH_WAGON		0.0
TRUCK_1TPU_PICKUP_1_TON	44.4	16.8
TRUCK_RF_REFRIGERATED_VAN		0.0
TRUCK_RT_ROAD_TRACTOR		0.0
TRUCK_SCBS_SCHOOL_BUS		2.2
TRUCK_SR_SERVICE_BODY_TRUCK		10.5
TRUCK_ST_STAKE_OR_RACK		57.1
TRUCK_TN_TANK		33.3
TRUCK_WR_TOW_TRUCK_WRECKER	0.0	14.3
TRUCK_TK_TRUCK	45.5	14.7
TRUCK_TT_TRUCK_TRACTOR	0.0	6.9
TRUCK_VN_VAN	20.8	26.2
TRUCK_1TVN_VAN_1_TON		14.0
TRUCK_WR_WRECKER		0.0
MOBILEHOME_MB_MODULAR_BUILDING		100.0

<b>Table 7 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Young Drivers</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
MOBILEHOME_MH_MOBILE_HOME	33.3	7.7
TRAILER_SE_SEMI_TRAILER		0.0
TRAILER_UT_UTILITY_TRAILER		0.0
MOTORCYCLE_ATC_ALL_TERRAIN_CYCLE		82.8
MOTORCYCLE_ATV_ALL_TERRAIN_VEHICLE	50.0	65.4
MOTORCYCLE_GC_GOLF_CART		34.0
MOTORCYCLE_MCSP_MC_WITH_UNIQUE_MODIFICATIONS		100.0
MOTORCYCLE_MP_MOPED	100.0	71.4
MOTORCYCLE_MC_MOTORCYCLE	72.2	93.4
MOTORCYCLE_NEV_NEIGHBORHOOD_ELECTRIC_VEHICLE		80.0

Note: Blank cells mean no body style of this type in data. 0.0 entries mean body style used, but no fatal or incapacitating injuries.



## SPEEDING

Table 8a shows that speeding is about a 21 percent (42.3/35.0) more serious on-tribal land than off-tribal land and is almost a total rural issue (99% of fatalities and incapacitating injuries) on-tribal land. Off-tribal land, only 35 percent of the speeding related fatalities and incapacitating injuries occurred in rural areas.

Data Category	Data Description	On-tribal land		Off-tribal land	
		No. of Persons	% of Persons Injured	No. of Persons	% of Persons Injured
<b>Injured Persons in Speeding Crashes - Total</b>	Total Persons w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	1138	42.3	18632	35.0
	Total Persons involved in Fatal or Incapacitating Crashes Involving Speeding	2254	50.5	41432	45.0
<b>Injured Persons in Speeding Crashes - Urban</b>	Total Persons w/Fatal or Incapacitating Injuries in Urban Crashes Involving Speeding	12	0.4	12051	22.7
	Total Persons involved in Fatal or Incapacitating Crashes in Urban Crashes Involving Speeding	21	57.1	29041	41.5
<b>Injured Persons in Speeding Crashes - Rural</b>	Total Persons w/Fatal or Incapacitating Injuries in Rural Crashes Involving Speeding	1126	41.8	6581	12.4
	Total Persons involved in Fatal or Incapacitating Crashes in Rural Crashes Involving Speeding	2233	50.4	12391	53.1

Table 8b shows that speed related fatalities and incapacitating injuries are more serious problems for passengers on-tribal land than off-tribal land by more than 10 percentage points. Pedestrian casualties are an issue both on and off-tribal land when speeding is involved. One hundred percent of pedestrians involved in speeding crashes on-tribal land received fatal or incapacitating injuries. The percentages of males and females with fatal or incapacitating injuries due to speeding are greater on than off-tribal land. The percent of females with speed related fatal or incapacitating injuries is slightly higher than the percent of males on-tribal land and nearly 19 percent higher than females off-tribal land.

**Table 8b**  
**Person Type and Gender Data for Speeding On-tribal land and Off-tribal land**

Data Description	On-tribal land	Off-tribal land
<b>Drivers</b>		
Number of Drivers in Fatal and/or Incapacitating Injury Crashes Involving Speeding	1171	25897
Number of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	619	12784
Percent of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	52.9	49.4
<b>Passengers</b>		
Number of Passengers in Fatal and/or Incapacitating Injury Crashes Involving Speeding	1050	14829
Number of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	491	5218
Percent of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	46.8	35.2
<b>Pedestrians</b>		
Number of Pedestrians in Fatal and/or Incapacitating Injury Crashes Involving Speeding	17	506
Number of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	17	446
Percent of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	100.0	88.1
<b>Pedacyclists</b>		
Number of Pedacyclists in Fatal and/or Incapacitating Injury Crashes Involving Speeding	16	200
Number of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	10	184
Percent of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	62.5	92.0

<b>Table 8b (continued)</b>		
<b>Person Type and Gender Data for Speeding On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-tribal land</b>	<b>Off-tribal land</b>
<b>Males</b>		
Number of Males in Fatal and/or Incapacitating Injury Crashes Involving Speeding	1358	24614
Number of Males w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	689	11610
Percent of Males w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	50.7	47.2
<b>Females</b>		
Number of Females in Fatal and/or Incapacitating Injury Crashes Involving Speeding	838	15892
Number of Females w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	440	7032
Percent of Females w/Fatal or Incapacitating Injuries in Crashes Involving Speeding	52.5	44.2

Speeding Chart 1 shows that the percent of injured persons due to speeding is higher on-tribal land for all age groups except 45 to 54. It also shows the speed related risk of injury on-tribal land increases with age, while off-tribal land it is nearly constant with increasing age, except in the 15 and under and 75 and older categories.

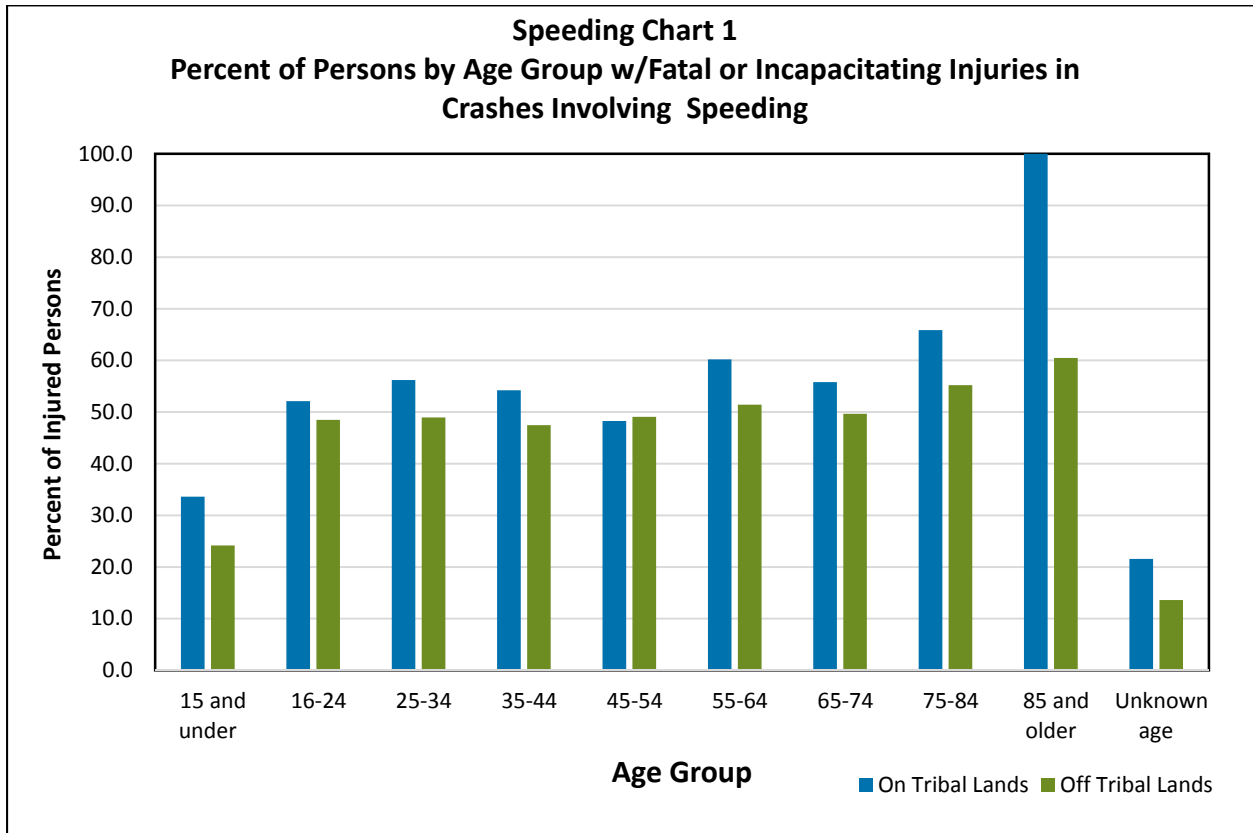


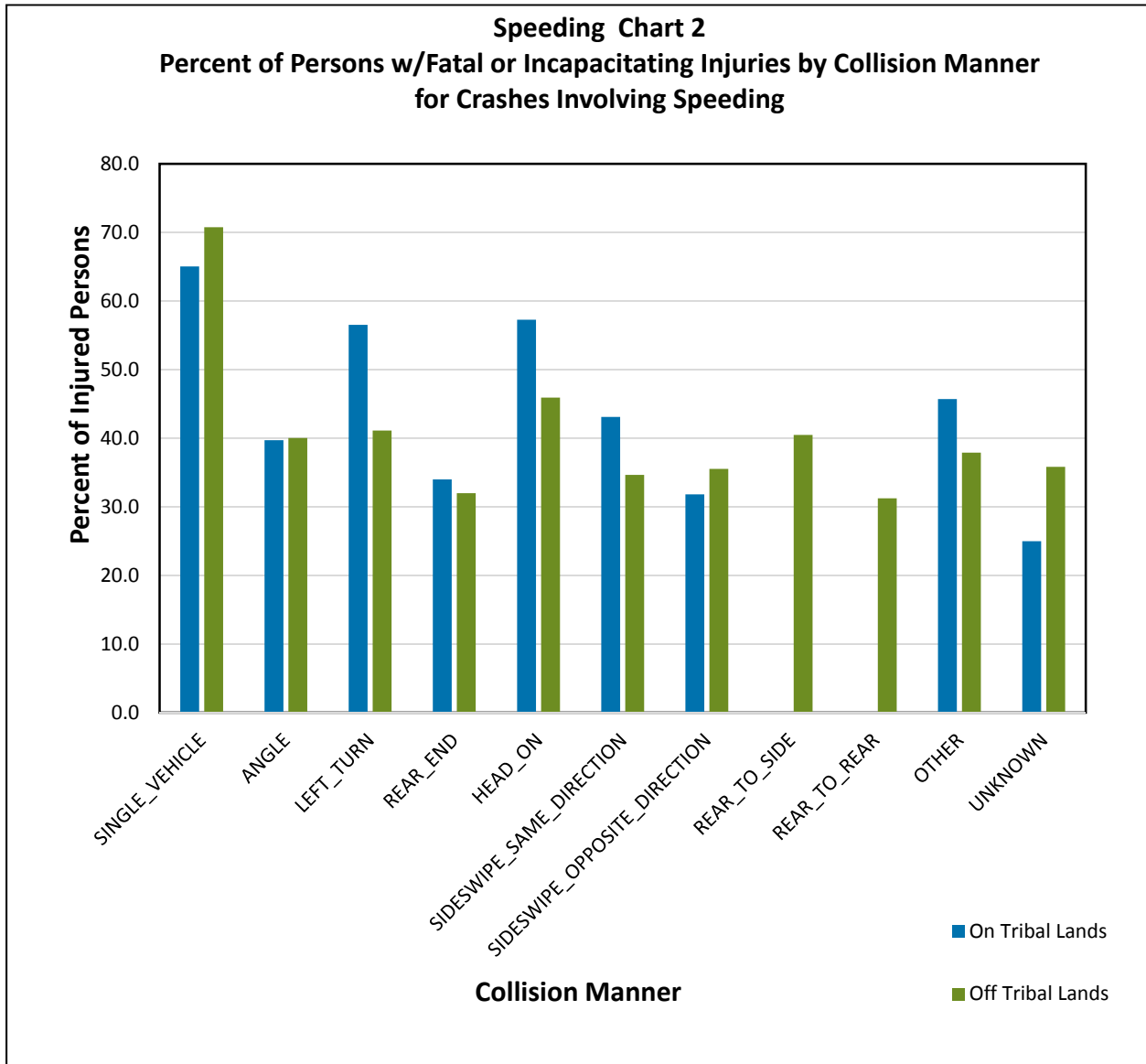
Table 9 shows the severity of speed leading to the important categories of overturn and rollover and embankment first harmful events is about the same for on and off-tribal land. Speed resulting in hitting standing stumps, fences and guardrail faces are more important on-tribal land. Speed resulting in hitting pedestrians, culverts, curbs, ditches and concrete barriers are more serious off-tribal land. Motor vehicle in transport is one of the most cited categories, but tells virtually nothing about the crash.

<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
OVERTURN_ROLLOVER	63.8	63.1
FIRE_EXPLOSION		36.4
IMMERSION		50.0
JACKKNIFE		28.6
CARGO_EQUIPMENT_LOSS_SHIFT		60.0
FELL_JUMPED_FROM_VEHICLE	75.0	71.2
THROWN_OR_FALLING_OBJECT		100.0
OTHER_NON_COLLISION	53.3	85.5
RAN_OFF_ROAD_RIGHT	100.0	75.0
RAN_OFF_ROAD_LEFT		50.0
CROSS_MEDIAN		66.7
CROSS_CENTERLINE		100.0
DOWNHILL_RUNAWAY		100.0
MOTOR_VEHICLE_IN_TRANSPORT	39.4	34.8
PEDESTRIAN	31.9	40.2
PEDALCYCLE	40.0	41.1
RAILWAY_VEHICLE_TRAIN_ENGINE		100.0
ANIMAL_WILD_NON_GAME	100.0	100.0
ANIMAL_WILD_GAME		209.5
ANIMAL_PET		83.3
ANIMAL_LIVESTOCK	39.1	100.0
PARKED_MOTOR_VEHICLE	41.7	34.3
WORK_ZONE_MAINTENANCE_EQUIPMENT	50.0	84.6
OTHER_NON_FIXED_OBJECT	50.0	68.9
IMPACT_ATTENUATOR_CRASH_CUSHION	100.0	64.3
BRIDGE_OVERHEAD_STRUCTURE		94.1
BRIDGE_RAIL	50.0	72.7
CULVERT	60.0	76.8
CURB	50.0	73.9
DITCH	65.0	70.6

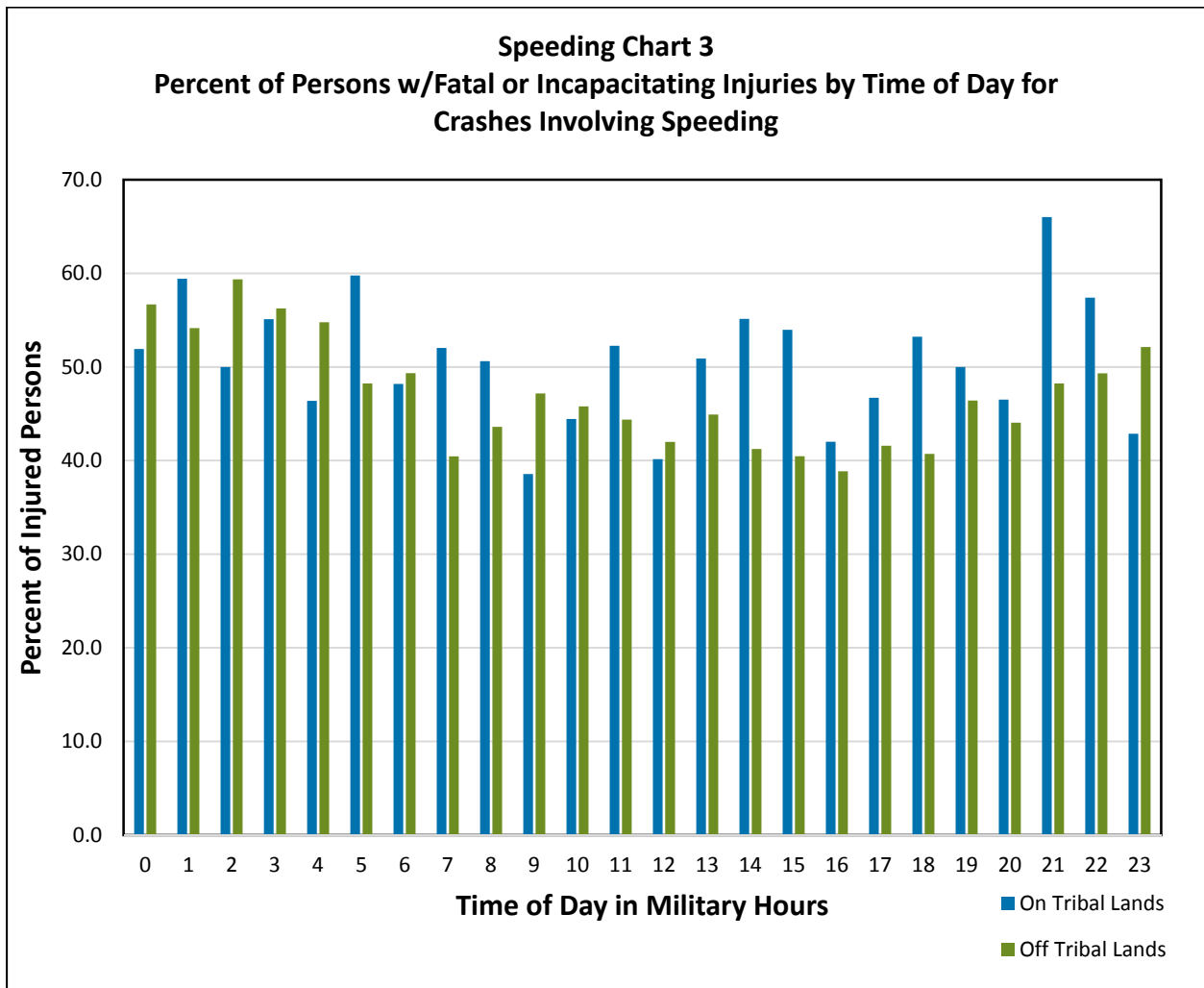
<b>Table 9 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by First Harmful Event in Crashes Involving Speeding</b>		
<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
EMBANKMENT	69.8	69.0
GUARDRAIL_FACE	74.2	61.5
GUARDRAIL_END	55.6	75.6
CONCRETE_TRAFFIC_BARRIER	44.4	59.6
CABLE_TRAFFIC_BARRIER	100.0	43.8
OTHER_TRAFFIC_BARRIER		65.5
TREE_BUSH_STUMP_STANDING	83.0	72.6
TRAFFIC_SIGN_SUPPORT	50.0	69.7
TRAFFIC_SIGNAL_SUPPORT		60.0
UTILITY_POLE_LIGHT_SUPPORT	38.1	74.7
OTHER_POST_POLE_OR_SUPPORT	100.0	75.5
FENCE	80.8	68.8
MAILBOX		72.0
BUILDING		66.7
OTHER_FIXED_OBJECT	60.7	71.7
UNKNOWN		90.9
Not Reported	100.0	35.0

Note: Blank cells mean no first harmful event of this type in data. 0.0 entries mean harmful event occurred, but with no fatal or incapacitating injuries.

Single vehicle, left turn and head-on are the most significant collision manner categories for speeding on-tribal land. Chart 2 shows that on-tribal land left turn and head-on are more substantial than off-tribal land. The significances of speeding in single vehicle, angle and rear end crashes are nearly equal for on and off-tribal land speeding incidents.

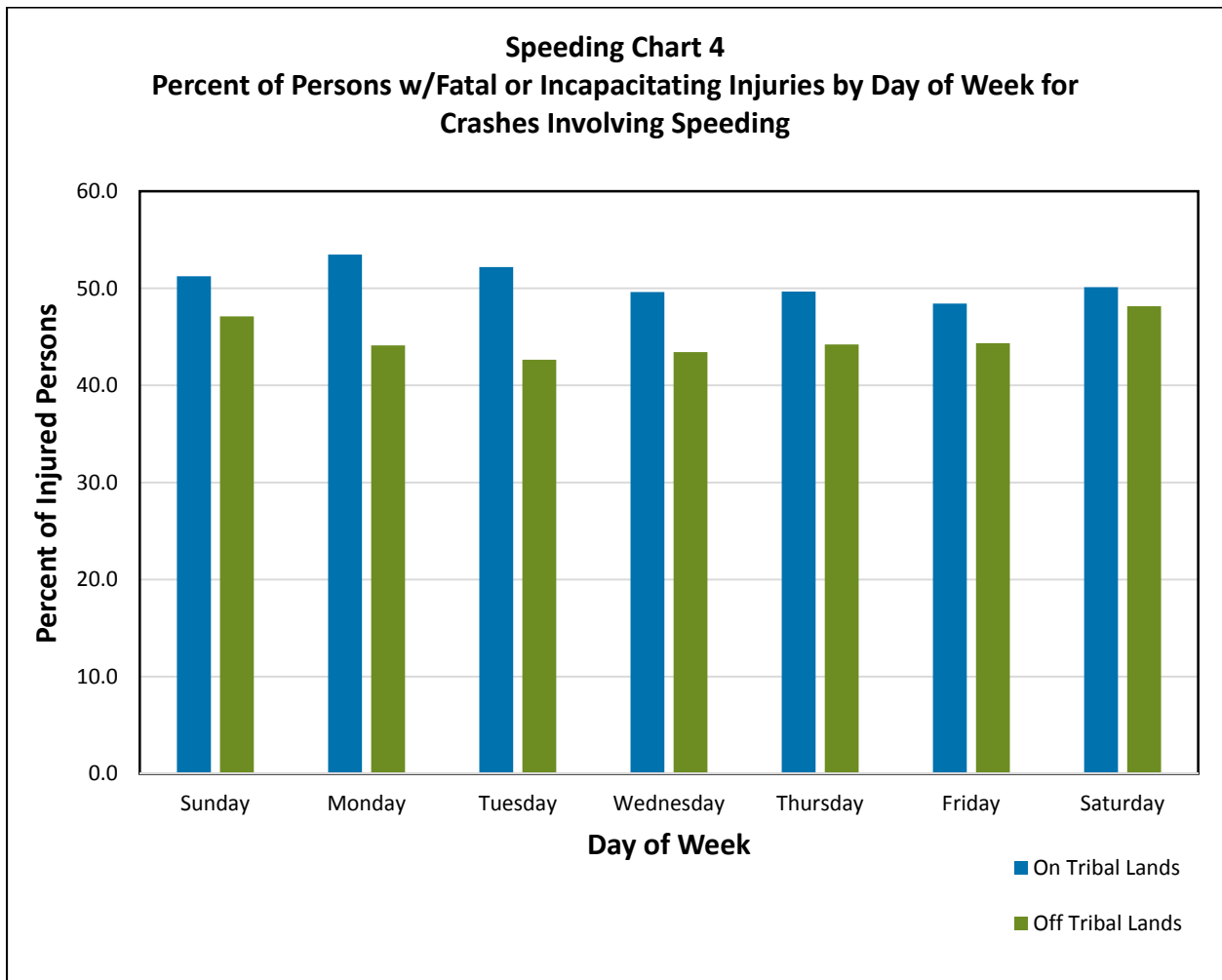


Speeding Chart 3 shows that speeding is an issue on-tribal land throughout the day. Speeding appears to be an issue at night for both crashes on and off-tribal land. Off-tribal land fatal and incapacitating crashes occurred more frequently on a percentage basis in the early morning hours.

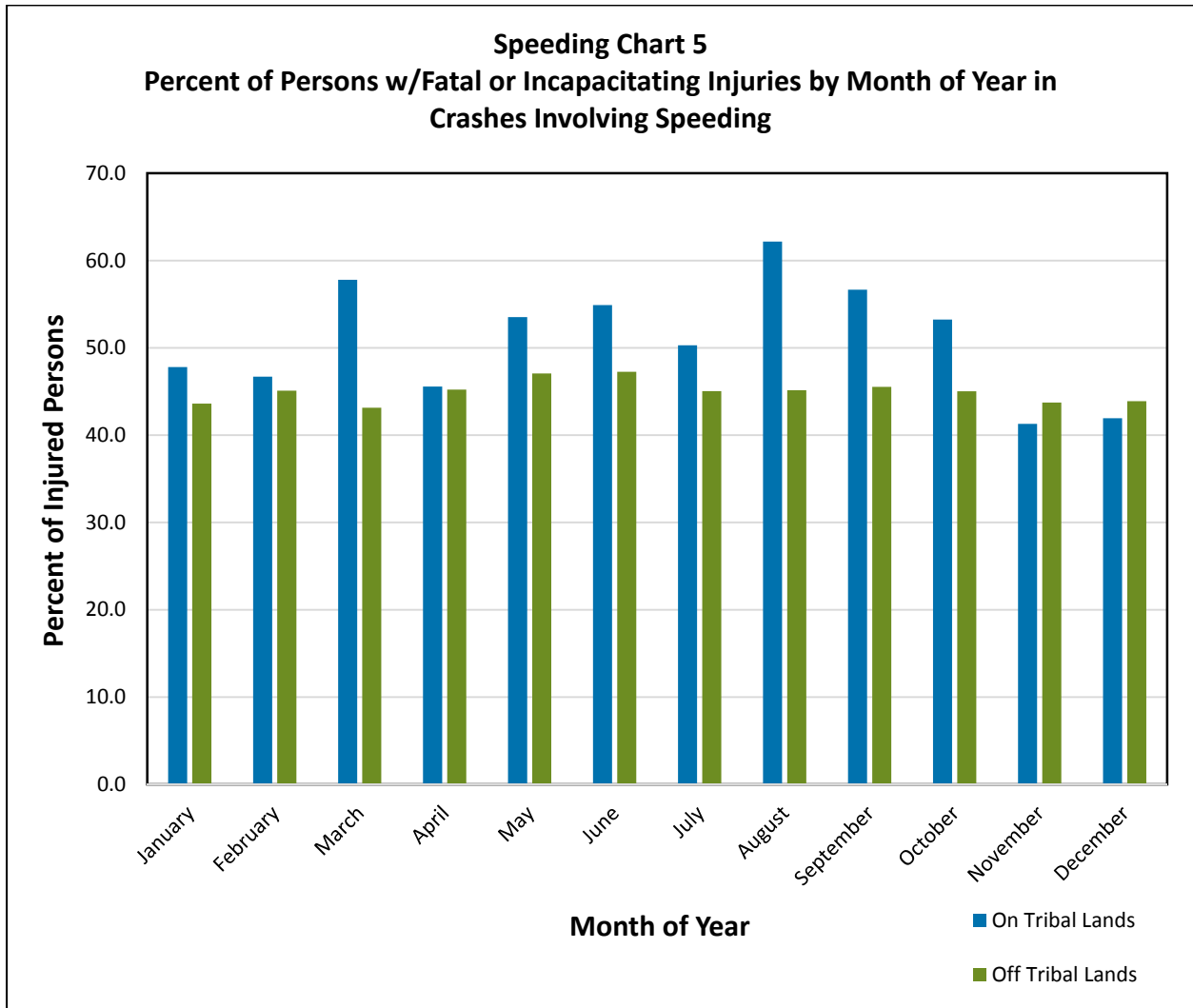




Speeding Chart 4 shows that the percent of fatal and/or incapacitating injuries associated with speed on-tribal land is higher every day of the week. However, both on and off-tribal land serious injury crash percentages show little variation by day throughout the week.



Speeding is more serious on-tribal land month of the year except November and December as shown in Speeding Chart 5. There is more monthly variability on-tribal land than off-tribal land. Substantial peaks on-tribal land occurred during March, May, June, August, September and October. Further study would be required to determine the reasons for the peaks.



The body styles injury percentages in Table 10 and supporting data indicate that on-tribal land station wagons, sedans and pickup trucks are the most prominent body types involved in fatal and/or incapacitating injury crashes. Pickup trucks are known as a common resident vehicle on-tribal land. Recreational travel could be a major factor in the other two prominent types. The data also shows that the injury percentage for crashes involving several styles of trucks is considerably higher on-tribal land. Serious motorcycle related vehicle crashes are significant both on and off-tribal land. This is consistent with national statistics that place motorcycle crash rates at about 20 times that for other vehicles.

Body Style	On-Tribal Land	Off-Tribal Land
PASSENGER_AM_AMBULANCE	50.0	39.1
PASSENGER_CV_CONVERTIBLE	100.0	49.6
PASSENGER_2DCV_CONVERTIBLE_2_DR	0.0	47.6
PASSENGER_4DCV_CONVERTIBLE_4_DR		9.1
PASSENGER_CP_COUPE	43.2	51.6
PASSENGER_DBUG_DUNE_BUGGY		50.0
PASSENGER_HT_HARDDTOP		35.5
PASSENGER_2DHT_HARDDTOP_2_DR	100.0	48.9
PASSENGER_3DHT_HARDDTOP_3_DR		100.0
PASSENGER_4DHT_HARDDTOP_4_DR	0.0	42.9
PASSENGER_5DHT_HARDDTOP_5_DR		0.0
PASSENGER_HB_HATCHBACK		53.8
PASSENGER_2DHB_HATCHBACK_2_DR	20.0	55.3
PASSENGER_3DHB_HATCHBACK_3_DR	100.0	63.6
PASSENGER_4DHB_HATCHBACK_4_DR	43.8	36.3
PASSENGER_5DHB_HATCHBACK_5_DR	0.0	35.2
PASSENGER_JP_JEEP	0.0	50.0
PASSENGER_LB_LIFTBACK		57.1
PASSENGER_2DLB_LIFTBACK_2_DR		40.0
PASSENGER_3DLB_LIFTBACK_3_DR	100.0	61.9
PASSENGER_4DLB_LIFTBACK_4_DR		50.0
PASSENGER_5DLB_LIFTBACK_5_DR		25.0
PASSENGER_MHA_MOTORIZED_HOME		22.2
PASSENGER_MHB_MOTORIZED_HOME		20.0
PASSENGER_PU_PICKUP	47.3	37.9
PASSENGER_12PU_PICKUP_1_2_TON	41.7	40.8
PASSENGER_34PU_PICKUP_3_4_TON	37.0	31.1
PASSENGER_RV_RECREATIONAL_VEHICLE	100.0	35.3

**Table 10 (continued)**  
**Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Speeding**

Body Style	On-Tribal Land	Off-Tribal Land
PASSENGER_RVVN_RECREATIONAL_VAN		40.0
PASSENGER_2DRH_RETRACTBLE_HRDTP_2_DR		100.0
PASSENGER_4DRH_RETRACTBLE_HRDTP_4_DR		100.0
PASSENGER_RD_ROADSTER		0.0
PASSENGER_SD_SEDAN	55.6	44.3
PASSENGER_2DSD_SEDAN_2_DR	41.7	50.2
PASSENGER_3DSD_SEDAN_3_DR	50.0	18.2
PASSENGER_4DSD_SEDAN_4_DR	47.7	42.7
PASSENGER_5DSD_SEDAN_5_DR		47.1
PASSENGER_SP_SPECIAL	0.0	26.1
PASSENGER_SW_STATION_WAGON	48.9	34.0
PASSENGER_2DSW_STATION_WAGON_2_DR	66.7	52.1
PASSENGER_3DSW_STATION_WAGON_3_DR		46.7
PASSENGER_4DSW_STATION_WAGON_4_DR	51.0	37.3
PASSENGER_5DSW_STATION_WAGON_5_DR	100.0	30.3
PASSENGER_12VN_VAN_1_2_TON	37.5	35.2
PASSENGER_34VN_VAN_3_4_TON	0.0	28.6
TRUCK_AC_AUTO_CARRIER		0.0
TRUCK_BS_BUS	52.8	5.8
TRUCK_CB_CAB_CHASSIS		27.3
TRUCK_CM_CONCRETE_OR_TRANSIT_MIXER	50.0	60.0
TRUCK_CR_CRANE		0.0
TRUCK_DP_DUMP_TRUCK	0.0	4.0
TRUCK_FT_FIRE_TRUCK		14.3
TRUCK_FB_FLATBED_OR_PLATFORM	0.0	20.0
TRUCK_GG_GARBAGE_OR_REFUSE		25.0
TRUCK_LW_LUNCH_WAGON		0.0
TRUCK_PN_PANEL		33.3
TRUCK_1TPU_PICKUP_1_TON	30.8	30.7
TRUCK_RF_REFRIGERATED_VAN		12.5
TRUCK_SCBS_SCHOOL_BUS	0.0	1.5
TRUCK_SR_SERVICE_BODY_TRUCK	0.0	12.0
TRUCK_ST_STAKE_OR_RACK		0.0
TRUCK_TN_TANK		16.7
TRUCK_WR_TOW_TRUCK_WRECKER	0.0	16.7
TRUCK_TK_TRUCK	10.0	25.6
TRUCK_TT_TRUCK_TRACTOR	34.5	23.5

<b>Table 10 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Speeding</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
TRUCK_VN_VAN	46.9	34.2
TRUCK_1TVN_VAN_1_TON		18.8
TRUCK_WR_WRECKER		0.0
MOBILEHOME_MH_MOBILE_HOME	50.0	23.1
TRAILER_SE_SEMI_TRAILER		0.0
TRAILER_TV_TRAVEL_TRAILER		0.0
TRAILER_UT_UTILITY_TRAILER		100.0
MOTORCYCLE_ATC_ALL_TERRAIN_CYCLE		83.3
MOTORCYCLE_ATV_ALL_TERRAIN_VEHICLE		67.4
MOTORCYCLE_GC_GOLF_CART		53.1
MOTORCYCLE_MCSP_MC_WITH_UNIQUE_MODIFICATIONS		75.0
MOTORCYCLE_MP_MOPED		100.0
MOTORCYCLE_MC_MOTORCYCLE	86.1	91.5
MOTORCYCLE_NEV_NEIGHBORHOOD_ELECTRIC_VEHICLE		100.0

Note: Blank cells mean no body style of this type in data. 0.0 entries mean body style used, but no fatal or incapacitating injuries.

## IMPAIRED DRIVING

Table 11a shows the percent of persons with known fatal or incapacitating injuries due to crashes involving impaired driving is 52 percent (39.0/25.6) higher on-tribal land than off-tribal land. These data show more serious injuries on-tribal land in rural areas and off-tribal land in urban areas due to impaired driving. As was discussed under other characteristics, these differences are due primarily to the more rural nature for on-tribal land crashes and more urban nature for off-tribal land crashes.

Data Category	Data Description	On-Tribal Land		Off-Tribal Land	
		No. of Persons	% of Persons Injured	No. of Persons	% of Persons Injured
<b>Injured Persons in Impaired Driving Crashes - Total</b>	Total Persons w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	1051	39.0	13609	25.6
	Total Persons involved in Fatal or Incapacitating Crashes Involving Impaired Driving	1935	54.3	27553	49.4
<b>Injured Persons in Impaired Driving Crashes - Urban</b>	Total Persons w/Fatal or Incapacitating Injuries in Urban Crashes Involving Impaired Driving	11	0.4	9416	17.7
	Total Persons involved in Fatal or Incapacitating Crashes in Urban Crashes Involving Impaired Driving	24	45.8	20182	46.7
<b>Injured Persons in Impaired Driving Crashes - Rural</b>	Total Persons w/Fatal or Incapacitating Injuries in Rural Crashes Involving Impaired Driving	1041	38.7	4193	7.9
	Total Persons involved in Fatal or Incapacitating Crashes in Rural Crashes Involving Impaired Driving	1911	54.5	7371	56.9

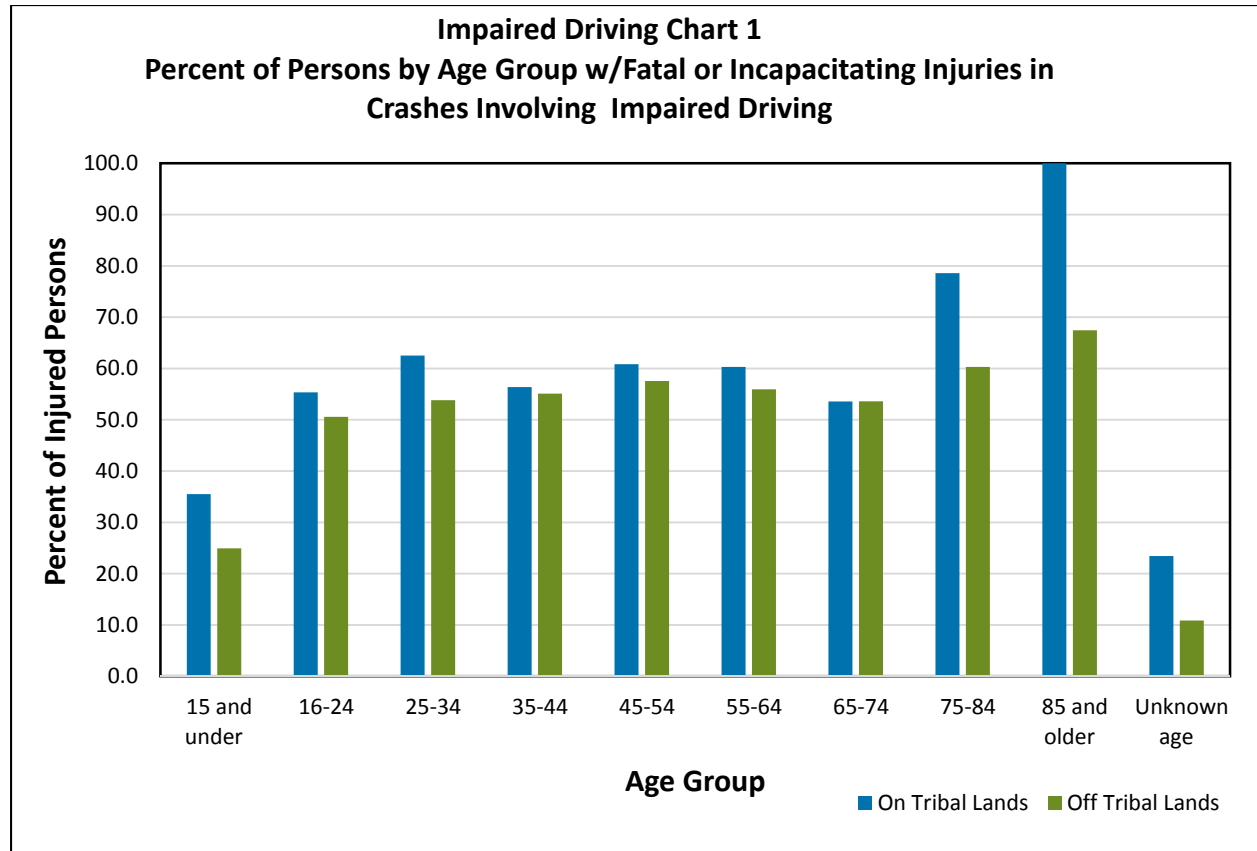
Table 11b shows that for crashes involving impaired driving the percentage for all person types and both genders with known fatal or incapacitating injuries is higher on-tribal land than off-tribal land. The fact that fatal and incapacitating crashes on-tribal lands are on the average more serious than off-tribal land is also a factor (See Table 1). There is no substantive difference in the percentage of males and females experiencing fatal or incapacitating injuries on-tribal land. However, males are more prone than females to be injured in crashes off-tribal land.

<b>Table 11b</b>		
<b>Person Type and Gender Data for Impaired Driving On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-tribal land</b>	<b>Off-tribal land</b>
<b>Drivers</b>		
Number of Drivers in Fatal and/or Incapacitating Injury Crashes Involving Impaired Driving	940	16635
Number of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	533	8522
Percent of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	56.7	51.2
<b>Passengers</b>		
Number of Passengers in Fatal and/or Incapacitating Injury Crashes Involving Impaired Driving	917	9007
Number of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	441	3262
Percent of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	48.1	36.2
<b>Pedestrians</b>		
Number of Pedestrians in Fatal and/or Incapacitating Injury Crashes Involving Impaired Driving	74	1624
Number of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	73	1544
Percent of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	98.6	95.1

<b>Table 11b (continued)</b>		
<b>Person Type and Gender Data for Impaired Driving On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-tribal land</b>	<b>Off-tribal land</b>
<b>Pedacyclists</b>		
Number of Pedacyclists in Fatal and/or Incapacitating Injury Crashes Involving Impaired Driving	4	287
Number of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	4	281
Percent of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	100.0	97.9
<b>Males</b>		
Number of Males in Fatal and/or Incapacitating Injury Crashes Involving Impaired Driving	1198	17206
Number of Males w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	672	9193
Percent of Males w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	56.1	53.4
<b>Females</b>		
Number of Females in Fatal and/or Incapacitating Injury Crashes Involving Impaired Driving	683	9455
Number of Females w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	375	4405
Percent of Females w/Fatal or Incapacitating Injuries in Crashes Involving Impaired Driving	54.9	46.6



Impaired Driving Chart 1 shows that the percent of fatal or incapacitating injured persons is higher on-tribal land than off-tribal land for all age groups in crashes involving impaired driving. The percent of persons, injured for both on and off-tribal land crashes, is relatively constant for ages 16 through 74. The substantially higher percentages for older age groups are likely due to injury propensity and small sample size. The substantially lower injury percentages for the 15 and under persons might be a result of more conscious attention to the safety of the young people by older accompanying adults.



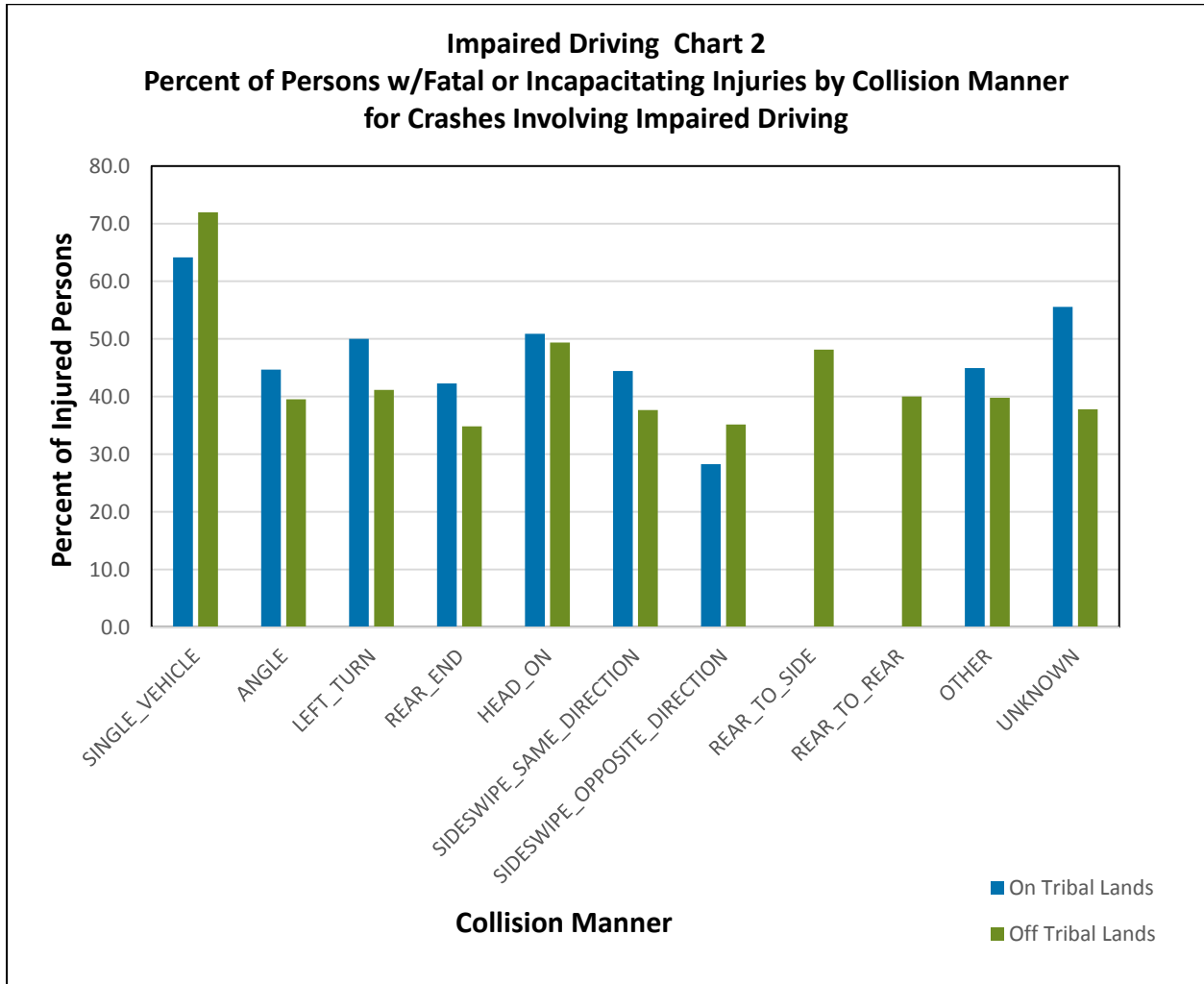
Supporting data shows that overturn/rollover, motor vehicle in transport, pedestrians and striking fixed objects are the principal first harmful events leading to fatal and incapacitating injury crashes due to impaired driving. Table 12 shows that overturn/rollover and pedestrians are slightly more significant off-tribal land crashes, and motor vehicle in transport, which is meaningless from an analysis standpoint, is slightly more significant on-tribal land. Striking culverts, guardrail face, stumps and fences are fixed objects that appear more important in crashes on-tribal land. Striking curbs, ditches, embankment and traffic sign supports are more important off-tribal land.

<b>First Harmful Event</b>	<b>On-tribal land</b>	<b>Off-tribal land</b>
OVERTURN_ROLLOVER	64.3	68.1
FIRE_EXPLOSION	100.0	37.5
IMMERSION		80.0
CARGO_EQUIPMENT_LOSS_SHIFT		57.1
FELL_JUMPED_FROM_VEHICLE	25.0	56.0
THROWN_OR_FALLING_OBJECT		100.0
OTHER_NON_COLLISION	45.5	81.1
RAN_OFF_ROAD_RIGHT		36.8
RAN_OFF_ROAD_LEFT		33.3
CROSS_MEDIAN		66.7
CROSS_CENTERLINE		0.0
MOTOR_VEHICLE_IN_TRANSPORT	46.3	40.0
PEDESTRIAN	38.5	40.5
PEDALCYCLE	44.4	42.3
RAILWAY_VEHICLE_TRAIN_ENGINE		100.0
LIGHT_RAILWAY_RAILCAR_VEHICLE		100.0
ANIMAL_WILD_NON_GAME		100.0
ANIMAL_WILD_GAME		83.3
ANIMAL_PET		100.0
ANIMAL_LIVESTOCK		66.7
PARKED_MOTOR_VEHICLE	60.0	36.9
WORK_ZONE_MAINTENANCE_EQUIPMENT	50.0	77.8
OTHER_NON_FIXED_OBJECT	100.0	73.0
IMPACT_ATTENUATOR_CRASH_CUSHION		100.0
BRIDGE_OVERHEAD_STRUCTURE		127.3
BRIDGE_RAIL	100.0	85.7
CULVERT	83.3	70.0
CURB	58.3	75.0
DITCH	52.9	82.3

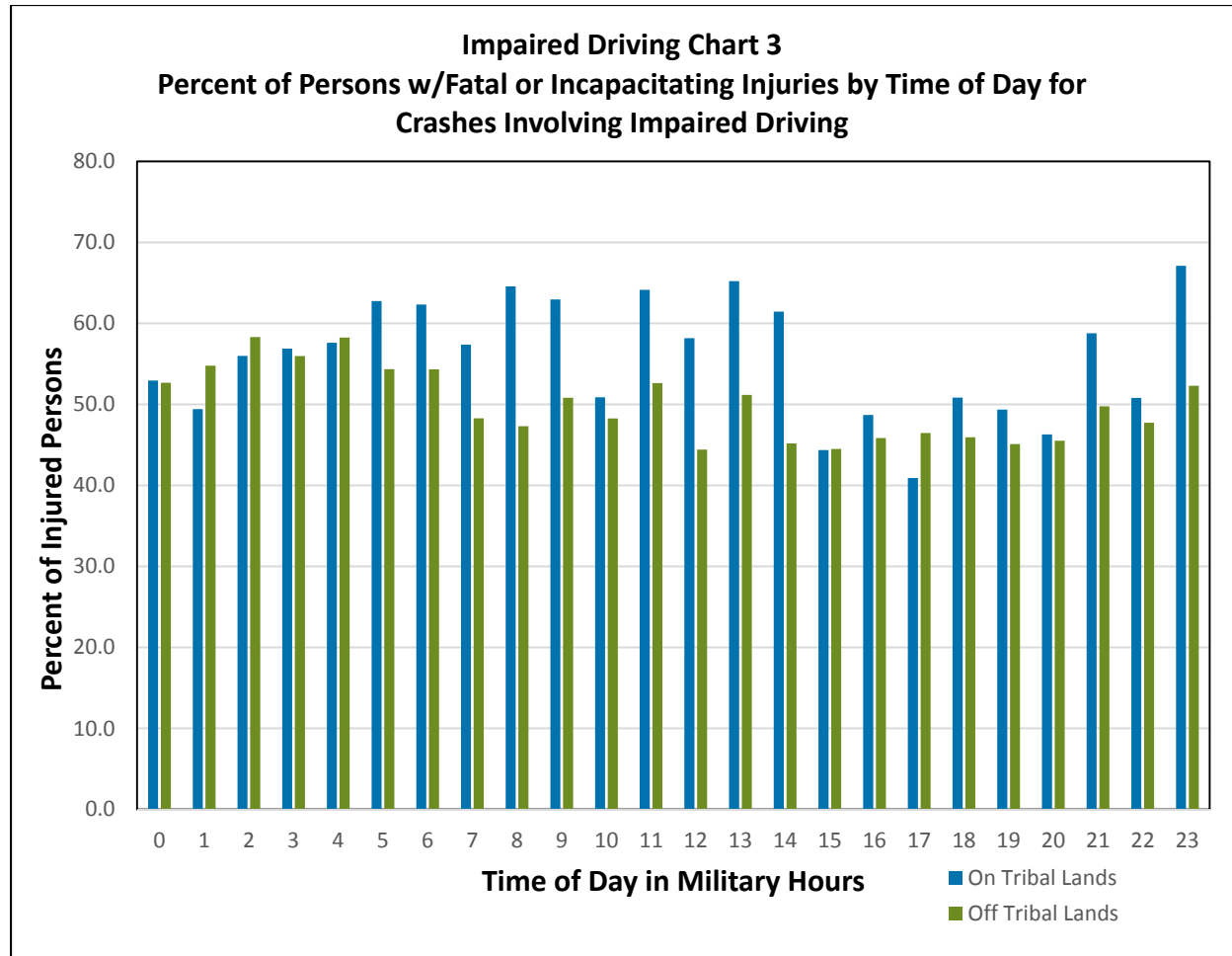
<b>First Harmful Event</b>	<b>On-tribal land</b>	<b>Off-tribal land</b>
EMBANKMENT	67.2	79.0
GUARDRAIL_FACE	73.3	67.2
GUARDRAIL_END	60.0	82.3
CONCRETE_TRAFFIC_BARRIER	52.0	71.7
CABLE_TRAFFIC_BARRIER	100.0	57.7
OTHER_TRAFFIC_BARRIER		58.8
TREE_BUSH_STUMP_STANDING	82.7	76.1
TRAFFIC_SIGN_SUPPORT	46.2	73.3
TRAFFIC_SIGNAL_SUPPORT		66.7
UTILITY_POLE_LIGHT_SUPPORT	71.4	77.6
OTHER_POST_POLE_OR_SUPPORT	100.0	64.2
FENCE	95.7	71.8
MAILBOX		73.1
BUILDING		62.5
OTHER_FIXED_OBJECT	69.4	71.3
UNKNOWN	76.9	76.5
Not Reported		44.9

Note: Blank cells mean no first harmful event of this type in data. 0.0 entries mean harmful event occurred, but with no fatal or incapacitating injuries.

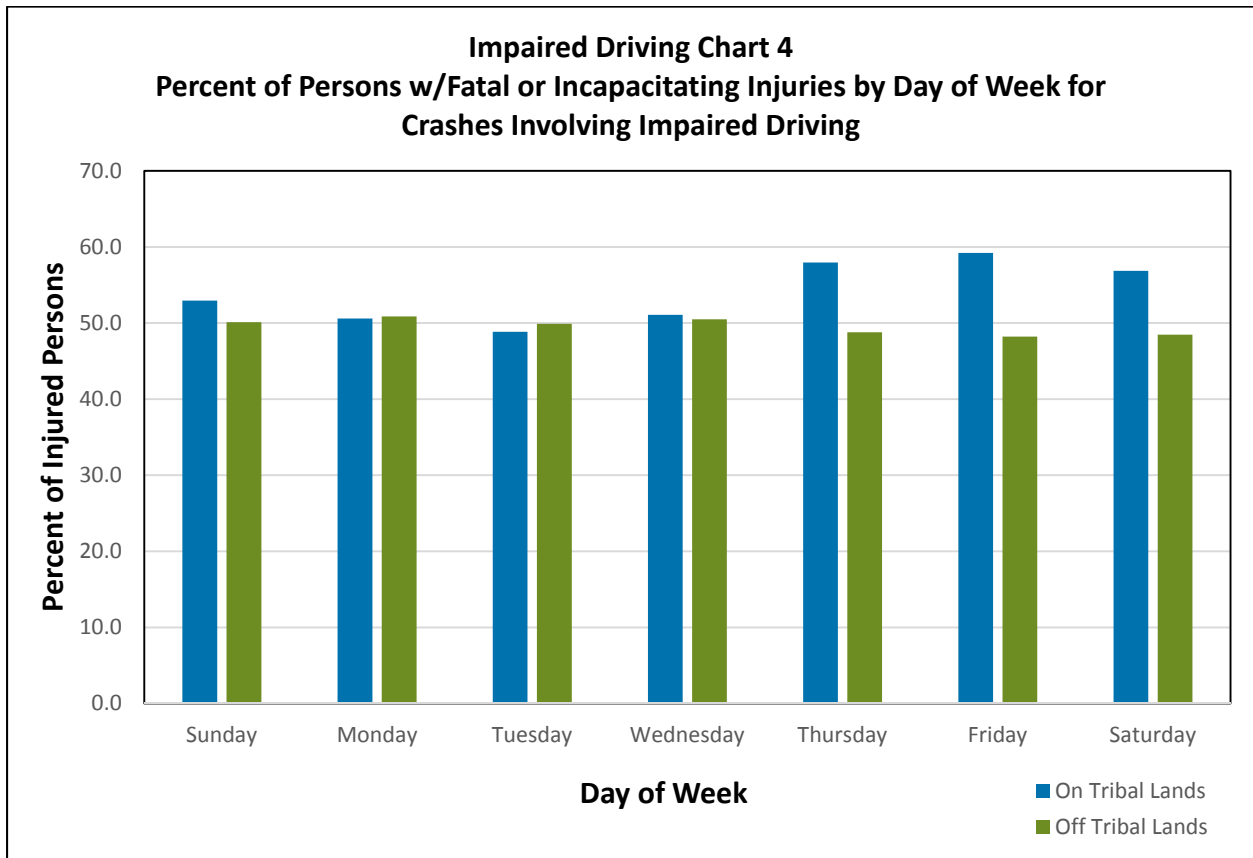
Impaired Driving Chart 2 shows the on-tribal land collision manner to be more dominant in fatal and incapacitating crashes involving five of the most important seven factors. Although single vehicle crashes are slightly more important off-tribal land in the single vehicle category, more than 60 percent of the persons are seriously injured in single vehicle crashes that involve impaired driving and fatal and or incapacitating injuries on-tribal land.



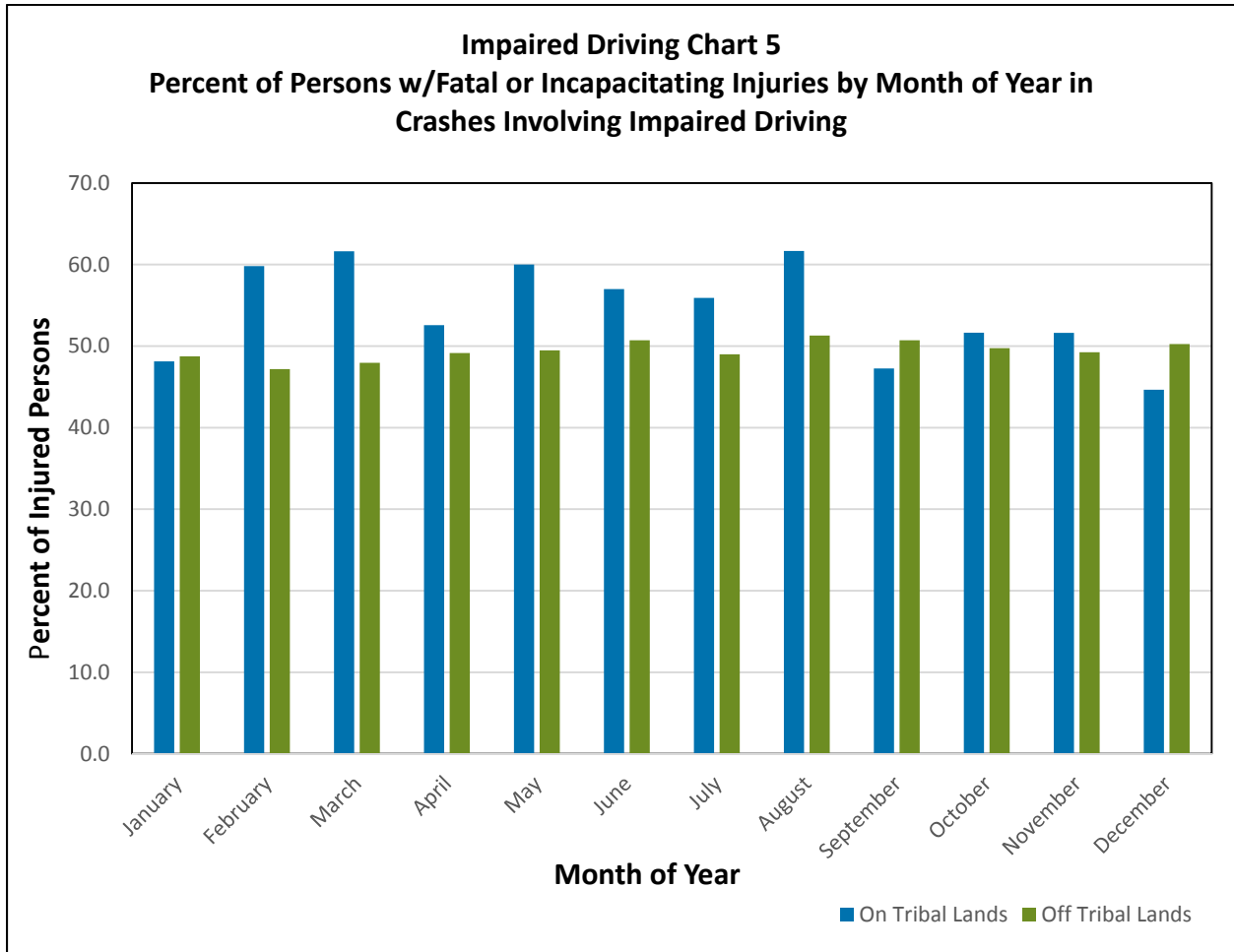
Impaired Driving Chart 3 shows peak off-tribal land injury percent times to be in the early morning hours and falling to minimums in the late afternoon and early evening. On-tribal land percentages increase from early morning hours to peak above 60 percent at 5 a.m. and remain at this level through most of the morning and early afternoon. At that time, on-tribal land percentages drop below 50 percent until late evening when they increase to above 60 percent by midnight. The time of day trends could be a function of different types of impairment.



Impaired driving day of week off-tribal land crashes percentages of injured persons stay nearly constant at about 50 percent throughout the week. Impaired driving day of week on-tribal land crashes percentages of injured persons stay nearly constant at about 50 percent from Sunday through Wednesday, but then increase to nearly 60 percent for Thursday through Saturday. The on-tribal land pattern is different from those found under Young Drivers (Wednesday peak) and Speeding (Sunday through Tuesday peaks). These findings suggest that impairment might be more a weekend phenomenon while young and speeding drivers on-tribal land get into more serious crashes earlier in the week. Weekend impairment could be related to leisure activities.



The percent of persons experiencing fatal or incapacitating injuries in impaired driving crashes is substantially higher on-tribal land from February through August. Off-tribal land percent of injured persons is nearly constant near 50 percent during all 12 months as shown in Impaired Driving Chart 5. The nearly constant injury percentage off-tribal land seems reasonable if the average crash characteristics remain relatively constant throughout the year, even though the number of crashes varies by month. Additional research would be required to determine the reasons for the spikes in the percentages on-tribal land.



The body styles injury percentages in Table 13 and supporting data indicate that on-tribal land station wagons, sedans and pickup trucks are the most prominent body types involved in fatal and/or incapacitating injury crashes. Pickup trucks are known as a common resident vehicle on-tribal land. Recreational travel could be a major factor in the other two prominent types. The data also shows that the injury percentage for crashes involving several styles of trucks is considerably higher on-tribal land. Serious motorcycle related vehicle crashes are significant both on and off-tribal land. This is consistent with national statistics that place motorcycle crash rates at about 20 times that for other vehicles.

<b>Table 13</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Impaired Driving</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
PASSENGER_AM_AMBULANCE		28.6
PASSENGER_CV_CONVERTIBLE	50.0	47.5
PASSENGER_2DCV_CONVERTIBLE_2_DR	0.0	58.3
PASSENGER_4DCV_CONVERTIBLE_4_DR		100.0
PASSENGER_CP_COUPE	55.2	54.2
PASSENGER_DBUG_DUNE_BUGGY		100.0
PASSENGER_HT_HARDDTOP		44.4
PASSENGER_2DHT_HARDDTOP_2_DR	100.0	54.2
PASSENGER_3DHT_HARDDTOP_3_DR		100.0
PASSENGER_4DHT_HARDDTOP_4_DR		37.6
PASSENGER_5DHT_HARDDTOP_5_DR		15.4
PASSENGER_HB_HATCHBACK		41.2
PASSENGER_2DHB_HATCHBACK_2_DR	100.0	52.8
PASSENGER_3DHB_HATCHBACK_3_DR		31.3
PASSENGER_4DHB_HATCHBACK_4_DR	66.7	44.6
PASSENGER_5DHB_HATCHBACK_5_DR		44.9
PASSENGER_JP_JEEP		50.0
PASSENGER_LB_LIFTBACK		50.0
PASSENGER_2DLB_LIFTBACK_2_DR		50.0
PASSENGER_3DLB_LIFTBACK_3_DR		60.0
PASSENGER_4DLB_LIFTBACK_4_DR		23.5
PASSENGER_5DLB_LIFTBACK_5_DR	0.0	100.0
PASSENGER_MHA_MOTORIZED_HOME		0.0
PASSENGER_MHB_MOTORIZED_HOME		20.0
PASSENGER_PU_PICKUP	44.4	41.3
PASSENGER_12PU_PICKUP_1_2_TON	50.7	44.4
PASSENGER_34PU_PICKUP_3_4_TON	57.6	40.7
PASSENGER_RV_RECREATIONAL_VEHICLE		26.1



**Table 13 (continued)**  
**Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Impaired Driving**

Body Style	On-Tribal Land	Off-Tribal Land
PASSENGER_RVVN_RECREATIONAL_VAN		30.8
PASSENGER_2DRH_RETRACTBLE_HRDTP_2_DR		100.0
PASSENGER_4DRH_RETRACTBLE_HRDTP_4_DR		100.0
PASSENGER_RD_ROADSTER	100.0	40.0
PASSENGER_SD_SEDAN	48.5	46.6
PASSENGER_2DSD_SEDAN_2_DR	73.3	49.5
PASSENGER_3DSD_SEDAN_3_DR	50.0	40.0
PASSENGER_4DSD_SEDAN_4_DR	56.0	45.4
PASSENGER_5DSD_SEDAN_5_DR		30.8
PASSENGER_SP_SPECIAL	0.0	23.1
PASSENGER_SW_STATION_WAGON	57.5	38.2
PASSENGER_2DSW_STATION_WAGON_2_DR	71.4	52.0
PASSENGER_3DSW_STATION_WAGON_3_DR		61.5
PASSENGER_4DSW_STATION_WAGON_4_DR	62.2	40.5
PASSENGER_5DSW_STATION_WAGON_5_DR	16.7	52.0
PASSENGER_12VN_VAN_1_2_TON	40.0	36.8
PASSENGER_34VN_VAN_3_4_TON	100.0	25.0
TRUCK_AC_AUTO_CARRIER		0.0
TRUCK_BS_BUS	76.0	7.3
TRUCK_CB_CAB_CHASSIS	0.0	31.8
TRUCK_CM_CONCRETE_OR_TRANSIT_MIXER		0.0
TRUCK_CR_CRANE		0.0
TRUCK_DP_DUMP_TRUCK	0.0	33.3
TRUCK_FT_FIRE_TRUCK		0.0
TRUCK_FB_FLATBED_OR_PLATFORM	0.0	11.1
TRUCK_GG_GARBAGE_OR_REFUSE		0.0
TRUCK_PN_PANEL		100.0
TRUCK_1TPU_PICKUP_1_TON	33.3	30.5
TRUCK_SCBS_SCHOOL_BUS		5.9
TRUCK_SR_SERVICE_BODY_TRUCK	100.0	40.0
TRUCK_ST_STAKE_OR_RACK		0.0
TRUCK_TN_TANK		50.0
TRUCK_WR_TOW_TRUCK_WRECKER	0.0	0.0
TRUCK_TK_TRUCK	37.5	23.1
TRUCK_TT_TRUCK_TRACTOR	8.0	16.6
TRUCK_VN_VAN	56.8	36.1
TRUCK_1TVN_VAN_1_TON		26.8

<b>Table 13 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Impaired Driving</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
TRUCK_VT_VANNETTE		100.0
TRUCK_WR_WRECKER	100.0	0.0
MOBILEHOME_MH_MOBILE_HOME	25.0	23.1
TRAILER_SE_SEMI_TRAILER		0.0
TRAILER_TL_TRAILER		0.0
TRAILER_UT_UTILITY_TRAILER		80.0
MOTORCYCLE_ATC_ALL_TERRAIN_CYCLE		73.3
MOTORCYCLE_ATV_ALL_TERRAIN_VEHICLE		69.5
MOTORCYCLE_GC_GOLF_CART		45.7
MOTORCYCLE_MP_MOPED		93.8
MOTORCYCLE_MC_MOTORCYCLE	86.7	91.6
MOTORCYCLE_NEV_NEIGHBORHOOD_ELECTRIC_VEHICLE		100.0

Note: Blank cells mean no body style of this type in data. 0.0 entries mean body style used, but no fatal or incapacitating injuries.

## LANE DEPARTURE

Table 14a shows that lane departure is 2.3 times (46.2/20.1) more serious as a factor in the percentage of all fatal and incapacitating injuries on-tribal land than off-tribal land. It is a rural issue on-tribal land, being 3.9 times (46.0/11.8) more serious than off-tribal land as a percentage of all fatal and incapacitating injuries. However, as a percentage of only the persons involved in lane departure crashes, off-tribal land crashes are more serious (63.1/59.3).

<b>Data Category</b>	<b>Data Description</b>	<b>On-Tribal Land</b>		<b>Off-Tribal Land</b>	
		<b>No. of Persons</b>	<b>% of Persons Injured</b>	<b>No. of Persons</b>	<b>% of Persons Injured</b>
<b>Injured Persons in Lane Departure Crashes - Total</b>	Total Persons w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	1243	46.2	10683	20.1
	Total Persons involved in Fatal or Incapacitating Crashes Involving Lane Departure	2095	59.3	16939	63.1
<b>Injured Persons in Lane Departure Crashes - Urban</b>	Total Persons w/Fatal or Incapacitating Injuries in Urban Crashes Involving Lane Departure	5	0.2	4391	8.3
	Total Persons involved in Fatal or Incapacitating Crashes in Urban Crashes Involving Lane Departure	8	62.5	6877	63.9
<b>Injured Persons in Lane Departure Crashes - Rural</b>	Total Persons w/Fatal or Incapacitating Injuries in Rural Crashes Involving Lane Departure	1238	46.0	6292	11.8
	Total Persons involved in Fatal or Incapacitating Crashes in Rural Crashes Involving Lane Departure	2087	59.3	10062	62.5

Table 14b shows that more than 50 percent of vehicle occupants suffer fatal or incapacitating injuries when involved in lane departure crashes involving fatal and/or incapacitating injuries both on and off-tribal land. Over 65 percent of drivers on-tribal land and over 70 percent of drivers off-tribal land suffer fatal or incapacitating injuries when involved in lane departure crashes that involve fatal and/or incapacitating injuries. Conversely, the higher percentages reside with passengers on-tribal land 53.4 to 48.2 percent off-tribal land.

The data show that it is extremely dangerous for pedestrians and pedacyclists to be involved in lane departure crashes whether on or off-tribal land. There is no substantial difference in the percentages between males and females suffering fatal or incapacitating injuries. However, the fatal or incapacitating injury percentages are slightly higher in off-tribal land crashes involving lane departure.

<b>Table 14b</b>		
<b>Person Type and Gender Data for Lane Departure On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Drivers</b>		
Number of Drivers in Fatal and/or Incapacitating Injury Crashes Involving Lane Departure	997	9872
Number of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	656	7204
Percent of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	65.8	73.0
<b>Passengers</b>		
Number of Passengers in Fatal and/or Incapacitating Injury Crashes Involving Lane Departure	1084	6900
Number of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	579	3324
Percent of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	53.4	48.2
<b>Pedestrians</b>		
Number of Pedestrians in Fatal and/or Incapacitating Injury Crashes Involving Lane Departure	7	133
Number of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	7	122
Percent of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	100.0	91.7

<b>Table 14b (continued)</b>		
<b>Person Type and Gender Data for Lane Departure On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Pedacyclists</b>		
Number of Pedacyclists in Fatal and/or Incapacitating Injury Crashes Involving Lane Departure	1	34
Number of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	1	33
Percent of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	100.0	97.1
<b>Males</b>		
Number of Males in Fatal and/or Incapacitating Injury Crashes Involving Lane Departure	1290	10719
Number of Males w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	768	6891
Percent of Males w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	59.5	64.3
<b>Females</b>		
Number of Females in Fatal and/or Incapacitating Injury Crashes Involving Lane Departure	774	5955
Number of Females w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	473	3789
Percent of Females w/Fatal or Incapacitating Injuries in Crashes Involving Lane Departure	61.1	63.6

From the standpoint of overall crash fatalities and incapacitating injuries, lane departure is a substantially more serious problem on-tribal land than off-tribal land. However, as Lane Departure Chart 1 shows for lane departure crashes only, off-tribal land crashes have a higher percentage of fatal or incapacitating injuries for all age groups except the young and old. In general, serious injury percentages increase with age both on and off-tribal land.

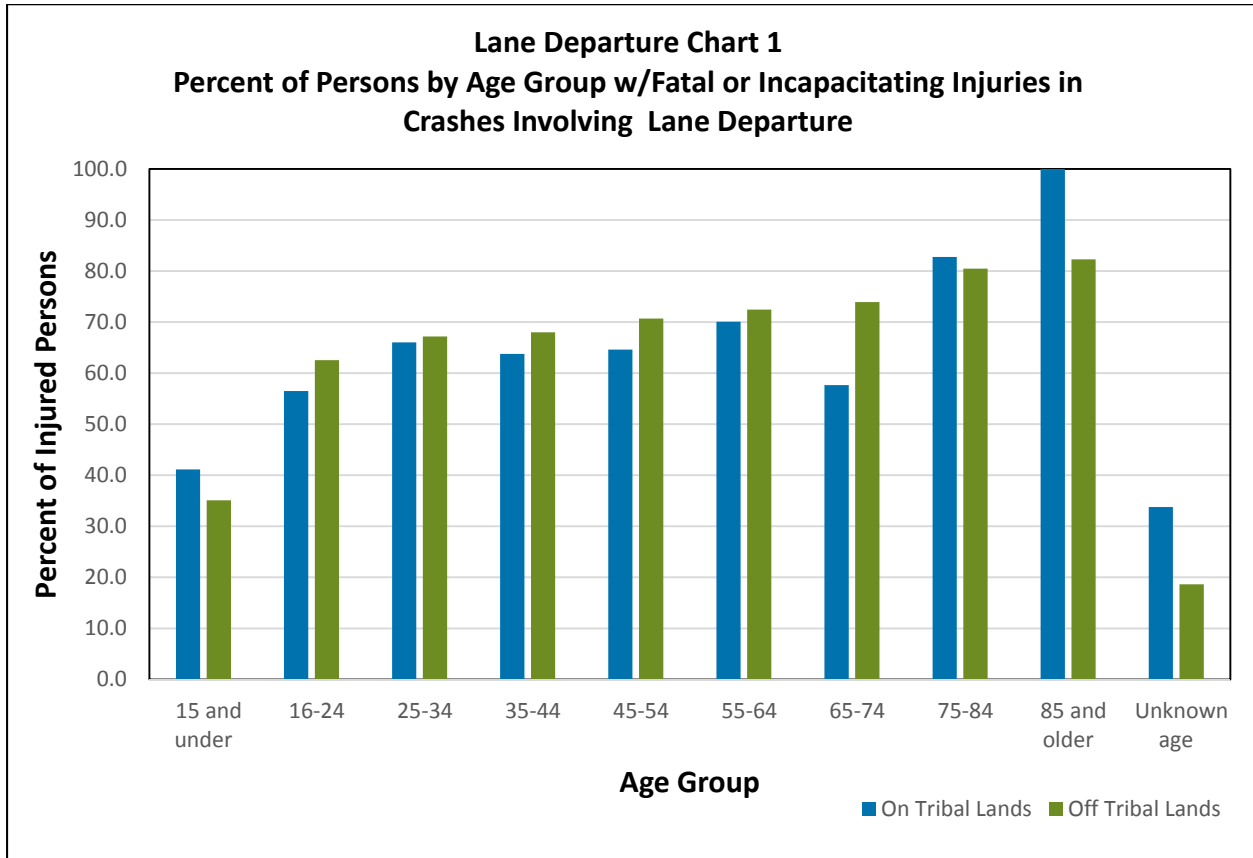


Table 15 shows the percentage of serious injury first harmful events involving lane departure crashes. In general, the lane departure itself is not the first harmful event. The first harmful event usually occurs after the lane departure, such as vehicle overturning or striking another object. For major occurrence events, the percentages of person injuries and fatalities are significantly higher for off-tribal land crashes involving culverts, guardrail ends, utility poles, and fences. There are no major occurrence events for which on-tribal land crash fatalities and incapacitating injuries have a significant percentage lead over off-tribal land crashes. However, for several major first harmful events, including overturn/rollover, striking many types of objects, the percentages for both on and off-tribal land fatal and incapacitating injuries exceed 50, 60 and even 70 percent of the persons involved.

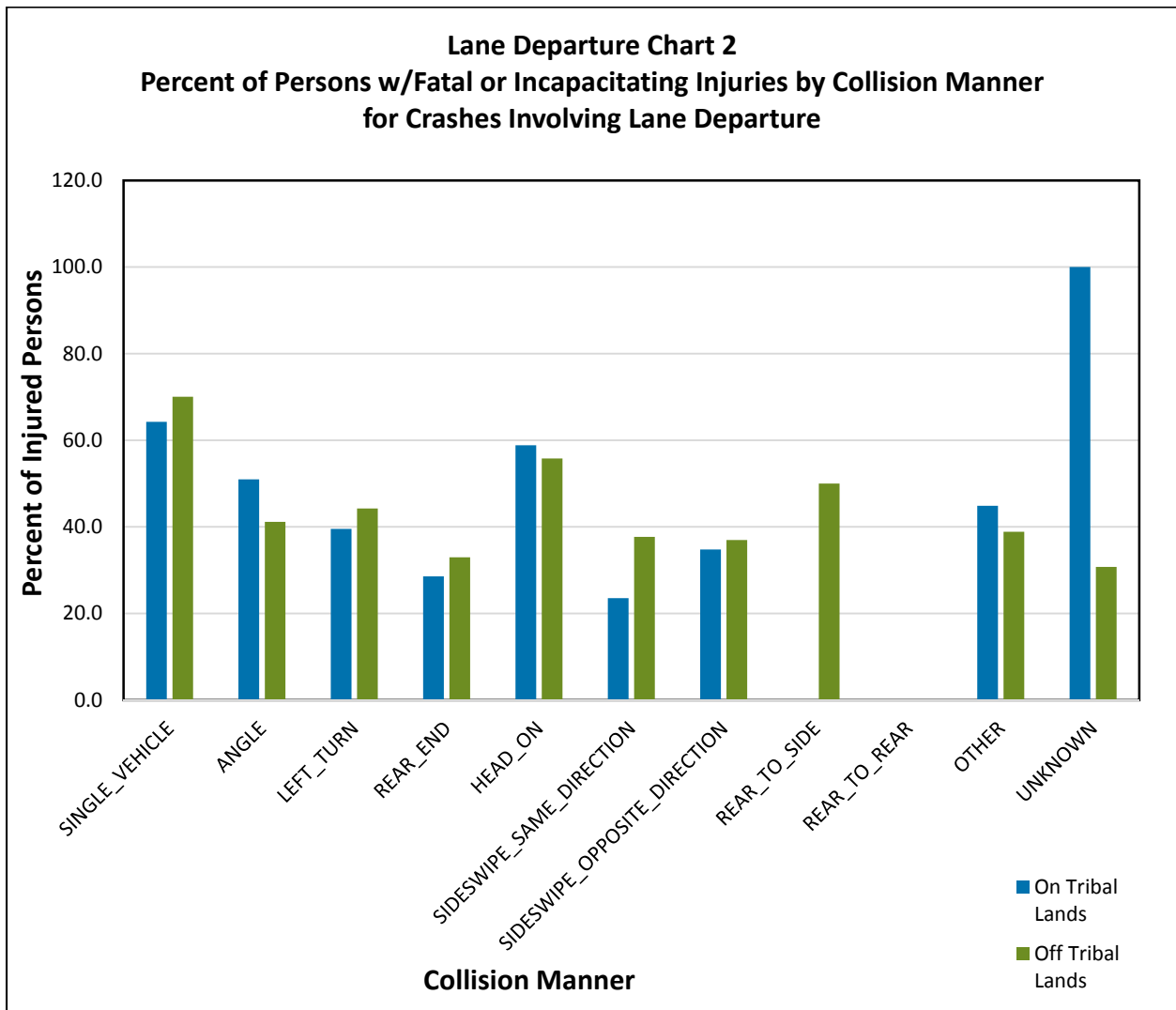
First Harmful Event	On-Tribal Land	Off-Tribal Land
OVERTURN_ROLLOVER	61.7	63.2
FIRE_EXPLOSION		100.0
IMMERSION		80.0
FELL_JUMPED_FROM_VEHICLE	100.0	85.7
OTHER_NON_COLLISION	56.0	78.7
EQUIPMENT_FAILURE_TIRES_BRAKES		0.0
RAN_OFF_ROAD_RIGHT	100.0	56.5
RAN_OFF_ROAD_LEFT		40.0
CROSS_MEDIAN		66.7
CROSS_CENTERLINE		81.8
MOTOR_VEHICLE_IN_TRANSPORT	50.0	47.8
PEDESTRIAN	38.5	42.3
PEDALCYCLE	33.3	40.2
RAILWAY_VEHICLE_TRAIN_ENGINE		60.0
ANIMAL_WILD_GAME	50.0	50.0
PARKED_MOTOR_VEHICLE	35.7	39.7
WORK_ZONE_MAINTENANCE_EQUIPMENT		100.0
OTHER_NON_FIXED_OBJECT	55.6	78.8
IMPACT_ATTENUATOR_CRASH_CUSHION	80.0	55.9
BRIDGE_OVERHEAD_STRUCTURE		95.7
BRIDGE_RAIL	100.0	66.7
CULVERT	61.5	80.0
CURB	77.8	79.1
DITCH	60.0	64.3
EMBANKMENT	72.2	67.9
GUARDRAIL_FACE	62.5	63.4
GUARDRAIL_END	54.5	75.6

<b>Table 15 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by First Harmful Event in Crashes Involving Lane Departure</b>		
<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
CONCRETE_TRAFFIC_BARRIER	57.9	62.0
CABLE_TRAFFIC_BARRIER	100.0	61.7
OTHER_TRAFFIC_BARRIER	100.0	76.0
TREE_BUSH_STUMP_STANDING	74.4	75.7
TRAFFIC_SIGN_SUPPORT	75.0	71.2
TRAFFIC_SIGNAL_SUPPORT		63.3
UTILITY_POLE_LIGHT_SUPPORT	39.1	73.5
OTHER_POST_POLE_OR_SUPPORT	200.0	74.8
FENCE	63.0	71.8
MAILBOX		71.9
BUILDING		72.2
OTHER_FIXED_OBJECT	62.9	72.8
UNKNOWN		81.8
Not Reported		76.9

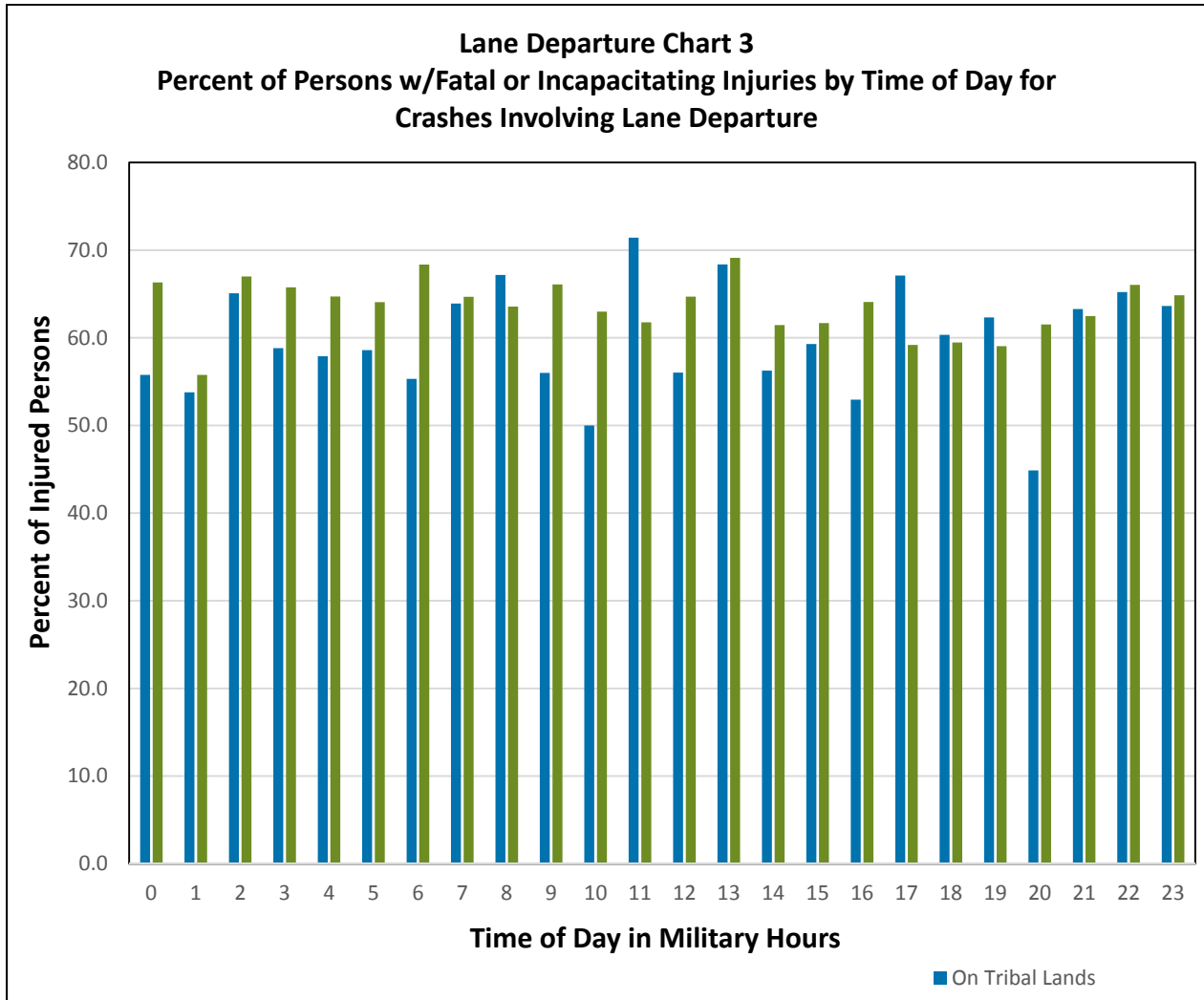
Note: Blank cells mean no first harmful event of this type in data. 0.0 entries mean harmful event occurred, but with no fatal or incapacitating injuries.



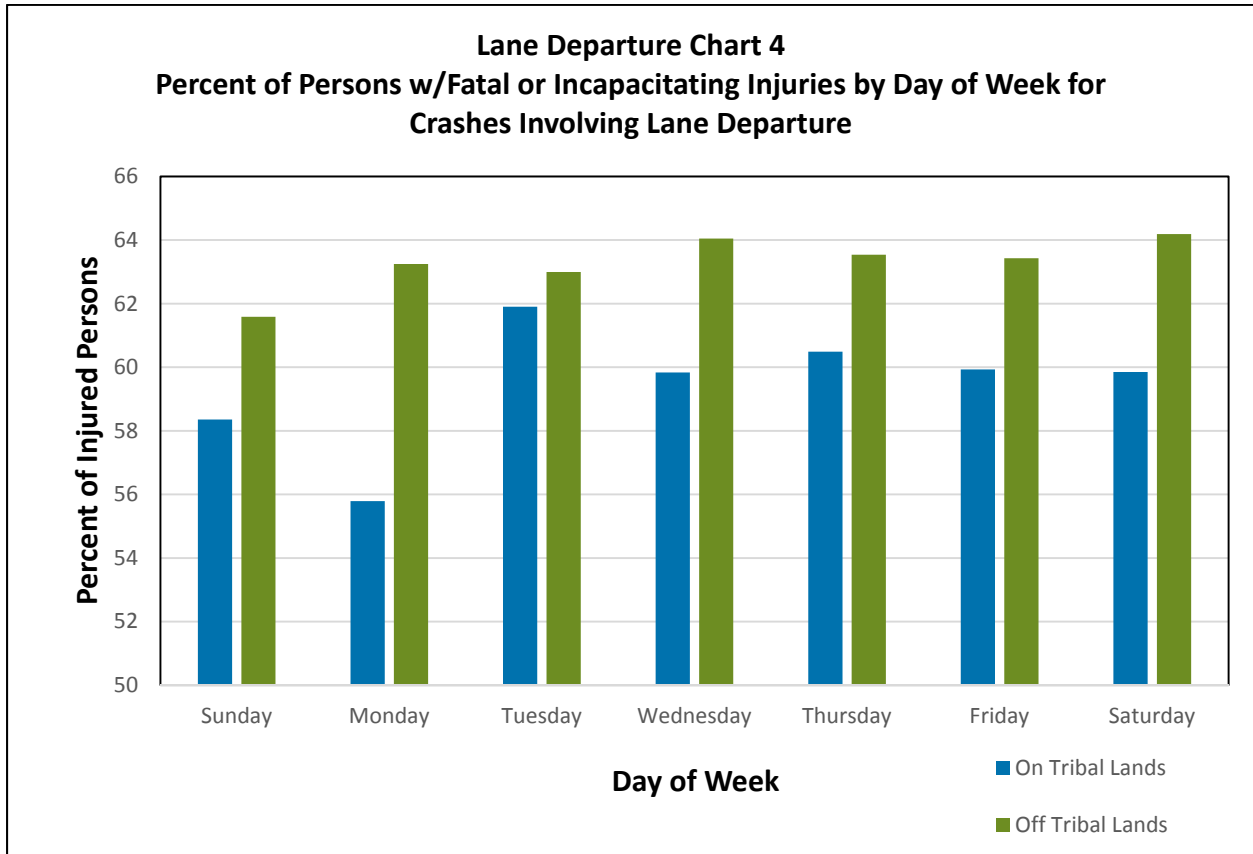
Lane Departure Chart 2 and supporting data show that single vehicle and head-on crashes are the most serious from the perspectives of percent of injured persons and volume of crashes for both on and off-tribal land fatal and incapacitating injury crashes.



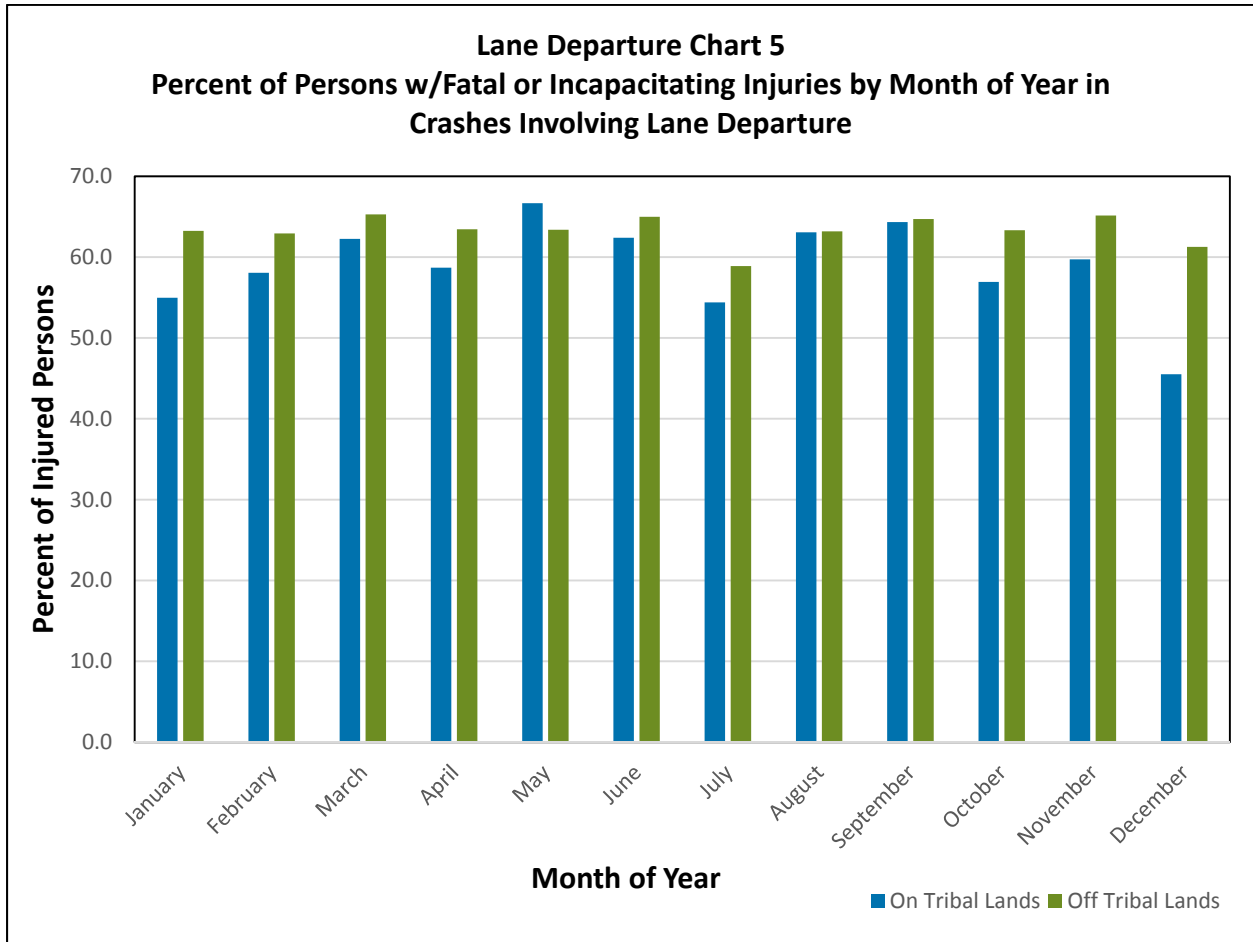
Lane Departure Chart 3 shows that off-tribal land lane departure crashes lead the time of day percentages of persons with fatal or incapacitating injuries for 19 of 24 hours with strong spikes starting after midnight and continuing through 5 p.m. The percent of persons injured in lane departure crashes involving fatal and/or incapacitating injuries exceeds 50 percent for almost all hours of the day for both on and off-tribal land crashes. Average percentages for on and off-tribal land crashes could be determined for on and off-tribal land crashes if the number of persons involved were known for each hour.



Lane Departure Chart 4 shows that off-tribal land lane departure crashes lead the day of week percentages of persons with fatal or incapacitating injuries for all seven days.



Lane Departure Chart 5 shows that off-tribal land lane departure crashes lead the month of year percentages of persons with fatal or incapacitating injuries all months, except May.



The body styles injury percentages in Table 16 and supporting data indicate that for both on and off-tribal land station wagons, sedans and pickup and other trucks are the most prominent body types involved in fatal and/or incapacitating injury crashes. The body styles for some of these vehicles have higher percentages of injured persons on-tribal land, while body styles for others are more important for percentages of injured persons off-tribal land. Serious motorcycle related vehicle crashes are significant both on and off-tribal land. This is consistent with national statistics that place motorcycle crash rates at about 20 times that for other vehicles.

<b>Table 16</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Lane Departure</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
PASSENGER_AM_AMBULANCE		25.0
PASSENGER_CV_CONVERTIBLE	100.0	71.1
PASSENGER_2DCV_CONVERTIBLE_2_DR	0.0	78.1
PASSENGER_4DCV_CONVERTIBLE_4_DR	100.0	100.0
PASSENGER_CP_COUPE	59.5	72.5
PASSENGER_DBUG_DUNE_BUGGY		100.0
PASSENGER_2DHT_HARDTOP_2_DR	100.0	71.4
PASSENGER_4DHT_HARDTOP_4_DR	100.0	53.7
PASSENGER_HB_HATCHBACK		100.0
PASSENGER_2DHB_HATCHBACK_2_DR	100.0	58.1
PASSENGER_3DHB_HATCHBACK_3_DR		57.1
PASSENGER_4DHB_HATCHBACK_4_DR	57.1	60.2
PASSENGER_5DHB_HATCHBACK_5_DR		50.9
PASSENGER_HR_HEARSE		100.0
PASSENGER_JP_JEEP		64.3
PASSENGER_LB_LIFTBACK		50.0
PASSENGER_2DLB_LIFTBACK_2_DR		100.0
PASSENGER_3DLB_LIFTBACK_3_DR	100.0	60.0
PASSENGER_4DLB_LIFTBACK_4_DR	50.0	200.0
PASSENGER_5DLB_LIFTBACK_5_DR		0.0
PASSENGER_MHA_MOTORIZED_HOME	50.0	28.6
PASSENGER_MHB_MOTORIZED_HOME		20.0
PASSENGER_PU_PICKUP	55.2	58.1
PASSENGER_12PU_PICKUP_1_2_TON	52.6	64.0
PASSENGER_34PU_PICKUP_3_4_TON	59.4	53.7
PASSENGER_RV_RECREATIONAL_VEHICLE		44.4
PASSENGER_RVVN_RECREATIONAL_VAN	37.5	42.9
PASSENGER_RD_ROADSTER	100.0	66.7

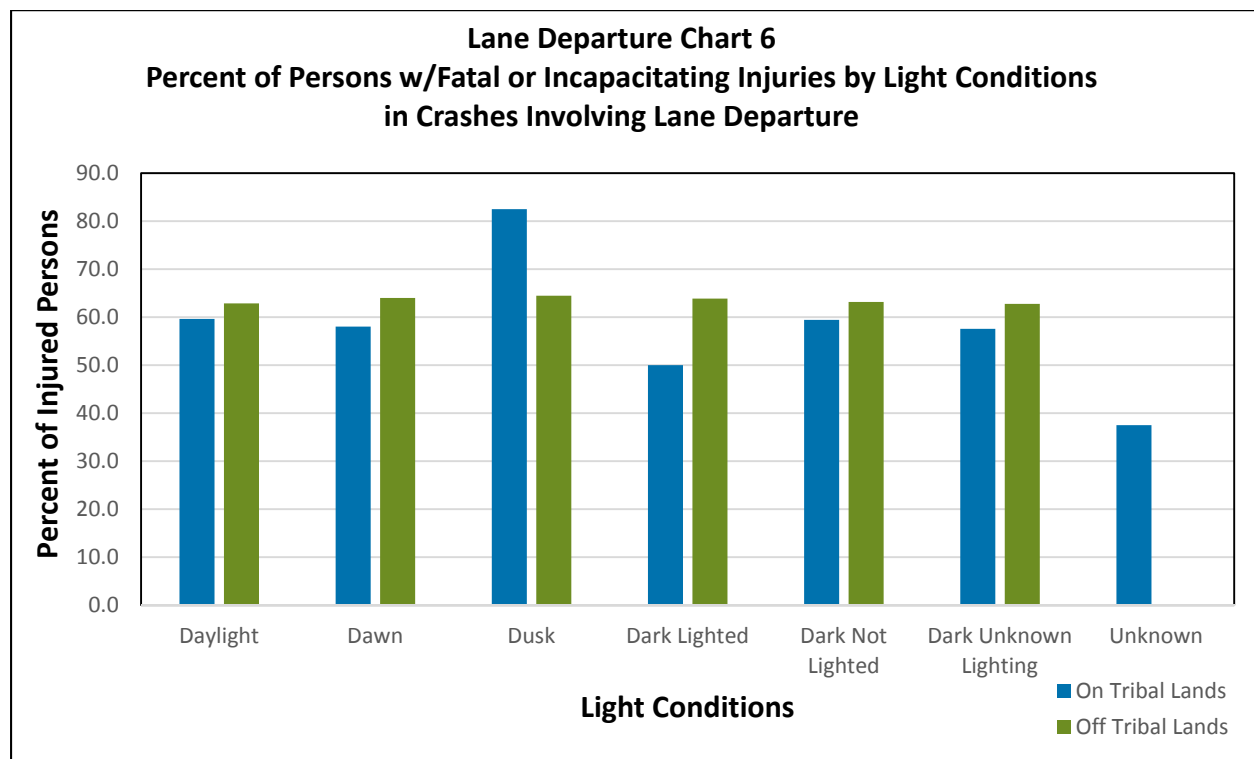
<b>Table 16 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Lane Departure</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
PASSENGER_SD_SEDAN	59.4	63.0
PASSENGER_2DSD_SEDAN_2_DR	57.1	68.9
PASSENGER_3DSD_SEDAN_3_DR		0.0
PASSENGER_4DSD_SEDAN_4_DR	62.5	64.2
PASSENGER_5DSD_SEDAN_5_DR	100.0	100.0
PASSENGER_SP_SPECIAL		27.3
PASSENGER_SW_STATION_WAGON	61.4	55.7
PASSENGER_2DSW_STATION_WAGON_2_DR	80.0	67.6
PASSENGER_3DSW_STATION_WAGON_3_DR		80.0
PASSENGER_4DSW_STATION_WAGON_4_DR	59.9	55.5
PASSENGER_5DSW_STATION_WAGON_5_DR		52.1
PASSENGER_12VN_VAN_1_2_TON	42.9	66.0
PASSENGER_34VN_VAN_3_4_TON		38.5
TRUCK_BS_BUS	0.0	17.8
TRUCK_CB_CAB_CHASSIS		36.4
TRUCK_CM_CONCRETE_OR_TRANSIT_MIXER	50.0	50.0
TRUCK_DP_DUMP_TRUCK		75.0
TRUCK_FT_FIRE_TRUCK		0.0
TRUCK_FB_FLATBED_OR_PLATFORM	0.0	21.4
TRUCK_GG_GARBAGE_OR_REFUSE	0.0	50.0
TRUCK_1TPU_PICKUP_1_TON	44.4	48.3
TRUCK_RF_REFRIGERATED_VAN		100.0
TRUCK_RT_ROAD_TRACTOR		0.0
TRUCK_SCBS_SCHOOL_BUS	71.4	27.3
TRUCK_SR_SERVICE_BODY_TRUCK	100.0	0.0
TRUCK_ST_STAKE_OR_RACK		75.0
TRUCK_TN_TANK		33.3
TRUCK_WR_TOW_TRUCK_WRECKER	0.0	100.0
TRUCK_TK_TRUCK	54.5	51.6
TRUCK_TT_TRUCK_TRACTOR	28.9	41.2
TRUCK_VN_VAN	63.2	57.0
TRUCK_1TVN_VAN_1_TON		50.0
TRUCK_WR_WRECKER	100.0	0.0
MOBILEHOME_MH_MOBILE_HOME	33.3	37.5
TRAILER_UT_UTILITY_TRAILER		100.0
MOTORCYCLE_ATC_ALL_TERRAIN_CYCLE		75.0
MOTORCYCLE_ATV_ALL_TERRAIN_VEHICLE		72.7

<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
MOTORCYCLE_GC_GOLF_CART		53.3
MOTORCYCLE_MCSP_MC_WITH_UNIQUE_MODIFICATIONS		66.7
MOTORCYCLE_MP_MOPED		100.0
MOTORCYCLE_MC_MOTORCYCLE	95.2	92.4
MOTORCYCLE_NEV_NEIGHBORHOOD_ELECTRIC_VEHICLE		100.0

Note: Blank cells mean no body style of this type in data. 0.0 entries mean body style used, but no fatal or incapacitating injuries.

As shown in Lane Departure Chart 6, the percent of people experiencing fatal or incapacitating injuries in lane departure crashes off-tribal land is nearly constant at slightly more than 60 percent for all light conditions. There is considerably more variability with on-tribal land crashes. However, 2007 and 2008 data included only three light codes – daylight, dawn or dusk, and darkness. These data were assigned to Daylight, Dawn and Dark Unknown Lighting for this study, thus skewing the data to these conditions. This would tend to draw down the Dusk peak in the graph and raise the dark lighted category. A reasonable conclusion is that the percent of people experiencing fatal or incapacitating injuries in lane departure crashes on-tribal land is nearly constant at slightly less than 60 percent for all light conditions.

Light conditions might be a more important factor in off-tribal land crashes involving lane departure, except possibly at dusk.



## INTERSECTIONS

Table 17a shows intersection crashes are nearly 3 ½ times (47.8/13.9) more serious off-tribal land in terms of total number of crash fatalities and incapacitating injuries. The reason for this major discrepancy is that most intersection crashes occur in urban areas, and in general Tribal land is rural. Only about 14 percent of the total number of crash fatalities and incapacitating injuries occurred at intersections on-tribal land.

The percentages of people in the crashes with fatal or incapacitating injuries are about the same (38.5/39.6) for on and off-tribal land fatal and/or incapacitating injury crashes. The percentage of persons injured in urban crashes on-tribal land is considerably lower than off-tribal land (21.1/39.3). The percentage of persons injured in rural crashes on-tribal land is slightly less than off-tribal land (39.9/41.7). On the average intersection crashes off-tribal land experience a higher percentage rate of persons injured than on-tribal land.

<b>Table 17a</b>					
<b>General and Urban/Rural Data for Intersection Crashes On-tribal land and Off-tribal land</b>					
<b>Data Category</b>	<b>Data Description</b>	<b>On-Tribal Land</b>		<b>Off-Tribal Land</b>	
		<b>No. of Persons</b>	<b>% of Persons Injured</b>	<b>No. of Persons</b>	<b>% of Persons Injured</b>
<b>Injured Persons in Intersections Crashes - Total</b>	Total Persons w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	373	13.9	25394	47.8
	Total Persons involved in Fatal or Incapacitating Crashes Involving Intersections	970	38.5	64100	39.6
<b>Injured Persons in Intersections Crashes - Urban</b>	Total Persons w/Fatal or Incapacitating Injuries in Urban Crashes Involving Intersections	16	0.6	21887	41.2
	Total Persons involved in Fatal or Incapacitating Crashes in Urban Crashes Involving Intersections	76	21.1	55691	39.3
<b>Injured Persons in Intersections Crashes - Rural</b>	Total Persons w/Fatal or Incapacitating Injuries in Rural Crashes Involving Intersections	357	13.3	3507	6.6
	Total Persons involved in Fatal or Incapacitating Crashes in Rural Crashes Involving Intersections	894	39.9	8409	41.7



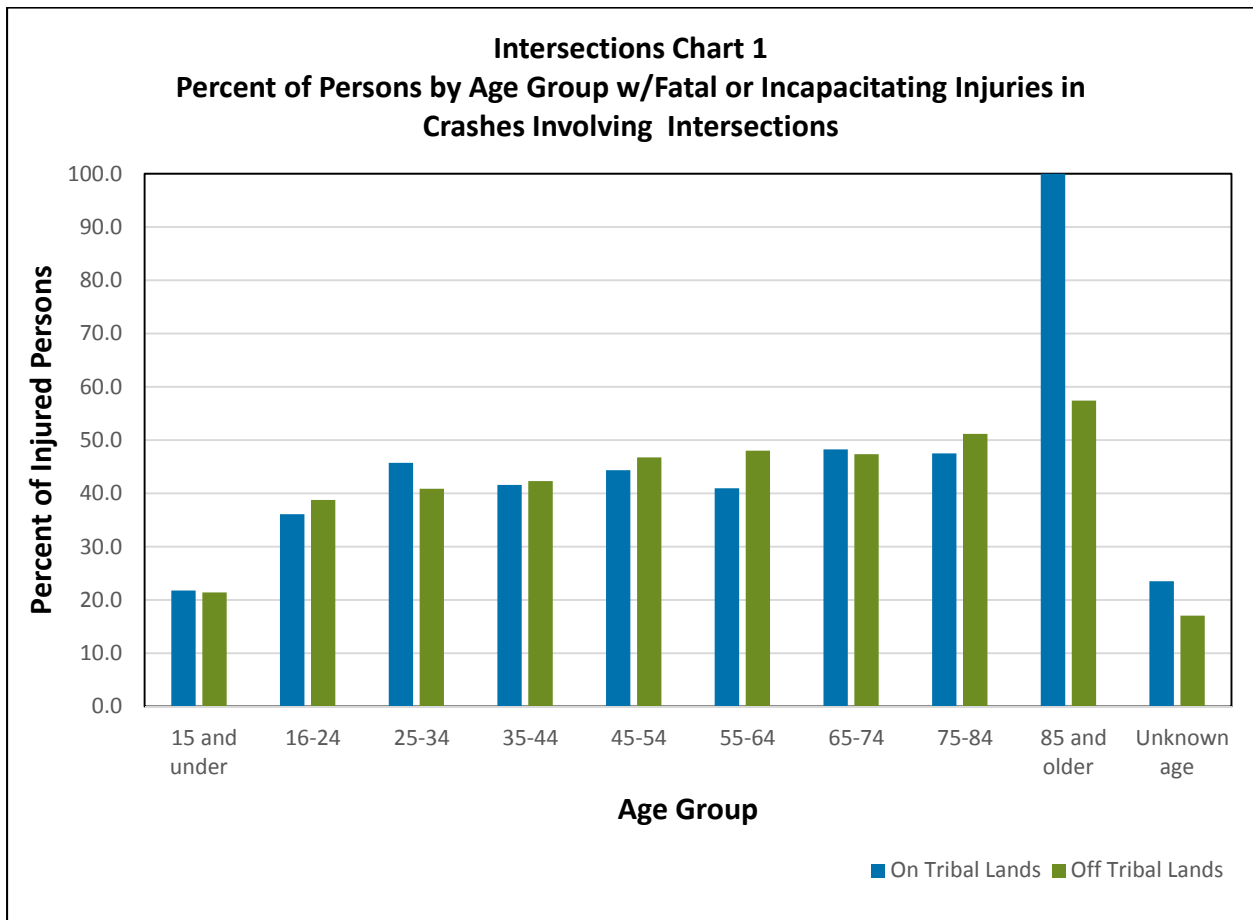
Table 17b shows that drivers are more prone to serious injury than passengers for crashes involving intersections both on and off-tribal land. 100 percent of pedestrians and pedacyclists receive fatal or incapacitating injuries at intersection crashes on and off-tribal land, and nearly 96 percent of pedestrians and over 98 percent of pedacyclists experience fatal or incapacitating injuries when involved in those crashes. However, pedacyling is not a major crash issue on some Tribal lands.

Females are slightly more susceptible to serious injury than males on and off-tribal land. Drivers, passengers, pedestrians, pedacyclists and females in crashes on-tribal land have higher percentages of fatal or incapacitating than in crashes off-tribal land. Males on-tribal land have a lower percentage of injury than off-tribal land.

<b>Table 17b</b>		
<b>Person Type and Gender Data for Intersection Crashes On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Drivers</b>		
Number of Drivers in Fatal and/or Incapacitating Injury Crashes Involving Intersections	490	39468
Number of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	207	15971
Percent of Drivers w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	42.2	40.5
<b>Passengers</b>		
Number of Passengers in Fatal and/or Incapacitating Injury Crashes Involving Intersections	461	20943
Number of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	145	5859
Percent of Passengers w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	31.5	28.0
<b>Pedestrians</b>		
Number of Pedestrians in Fatal and/or Incapacitating Injury Crashes Involving Intersections	19	2140
Number of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	19	2045
Percent of Pedestrians w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	100.0	95.6

<b>Table 17b (continued)</b>		
<b>Person Type and Gender Data for Intersection Crashes On-tribal land and Off-tribal land</b>		
<b>Data Description</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
<b>Pedacyclists</b>		
Number of Pedacyclists in Fatal and/or Incapacitating Injury Crashes Involving Intersections	2	1549
Number of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	2	1519
Percent of Pedacyclists w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	100.0	98.1
<b>Males</b>		
Number of Males in Fatal and/or Incapacitating Injury Crashes Involving Intersections	522	31519
Number of Males w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	188	12425
Percent of Males w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	36.0	39.4
<b>Females</b>		
Number of Females in Fatal and/or Incapacitating Injury Crashes Involving Intersections	426	25508
Number of Females w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	184	10530
Percent of Females w/Fatal or Incapacitating Injuries in Crashes Involving Intersections	43.2	41.3

Intersections Chart 1 shows that the percent of fatal or incapacitating injuries increases gradually with age for both on and off-tribal land intersection crashes. The large spike at 85 and older is likely due to the small sample size.



There were only 970 reported persons involved in fatal and/or incapacitating injury crashes at intersections on-tribal land, compared to 64,100 in off-tribal land intersection crashes over the 10 years of the study. Of the 970, 838 were listed under first harmful even as being in a motor vehicle in transport and 58 were listed as pedestrians. The only other first harmful events shown for on-tribal land crashes with more than 10 persons were overturn/rollover and striking a concrete barrier. Table 17 shows that for overturn/rollover and motor vehicle in transport first harmful events the percentage of injured persons is nearly equal for on and off-tribal land intersection crashes. Pedestrian and concrete barrier person injury percentages were considerably higher for off-tribal land crashes.

<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
OVERTURN_ROLLOVER	65.6	65.5
FIRE_EXPLOSION		100.0
IMMERSION		100.0
CARGO_EQUIPMENT_LOSS_SHIFT		75.0
FELL_JUMPED_FROM_VEHICLE	20.0	61.0
THROWN_OR_FALLING_OBJECT		50.0
OTHER_NON_COLLISION	80.0	74.7
EQUIPMENT_FAILURE_TIRES_BRAKES		100.0
RAN_OFF_ROAD_RIGHT		40.0
RAN_OFF_ROAD_LEFT		33.3
CROSS_MEDIAN		50.0
CROSS_CENTERLINE		100.0
MOTOR_VEHICLE_IN_TRANSPORT	37.1	37.3
PEDESTRIAN	32.8	41.2
PEDALCYCLE	50.0	41.7
RAILWAY_VEHICLE_TRAIN_ENGINE		100.0
LIGHT_RAILWAY_RAILCAR_VEHICLE		45.0
ANIMAL_WILD_GAME		66.7
ANIMAL_PET		100.0
PARKED_MOTOR_VEHICLE		36.1
WORK_ZONE_MAINTENANCE_EQUIPMENT		100.0
OTHER_NON_FIXED_OBJECT		59.5
IMPACT_ATTENUATOR_CRASH_CUSHION		75.0
BRIDGE_OVERHEAD_STRUCTURE		88.9
BRIDGE_RAIL		100.0
CULVERT		66.7
CURB	80.0	73.8
DITCH	25.0	75.9

<b>Table 17 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by First Harmful Event in Crashes Involving Intersections</b>		
<b>First Harmful Event</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
EMBANKMENT		58.6
GUARDRAIL_FACE		83.7
GUARDRAIL_END		60.0
CONCRETE_TRAFFIC_BARRIER	33.3	80.0
OTHER_TRAFFIC_BARRIER		80.0
TREE_BUSH_STUMP_STANDING		67.6
TRAFFIC_SIGN_SUPPORT	66.7	71.2
TRAFFIC_SIGNAL_SUPPORT		68.8
UTILITY_POLE_LIGHT_SUPPORT		69.3
OTHER_POST_POLE_OR_SUPPORT		77.4
FENCE	100.0	66.9
MAILBOX		66.7
BUILDING		55.6
OTHER_FIXED_OBJECT	100.0	74.7
UNKNOWN		100.0
Not Reported		39.9

Note: Blank cells mean no first harmful event of this type in data. 0.0 entries mean harmful event occurred, but with no fatal or incapacitating injuries.

Percent of serious injuries in single vehicle intersection crashes is considerably higher off-tribal land. It is likely that many of these crashes involve pedestrians and pedacyclists in addition to striking fixed objects. Sideswipes at intersections are not important fatal and incapacitating injury issues on-tribal land because of so few occurrences. Angle, left turn and rear end are the highest volume fatal and/or incapacitating injury intersection crashes, both on and off-tribal land. These three collision manners, as well as head-on collision manner are nearly equal in percent for on and off-tribal land crashes.

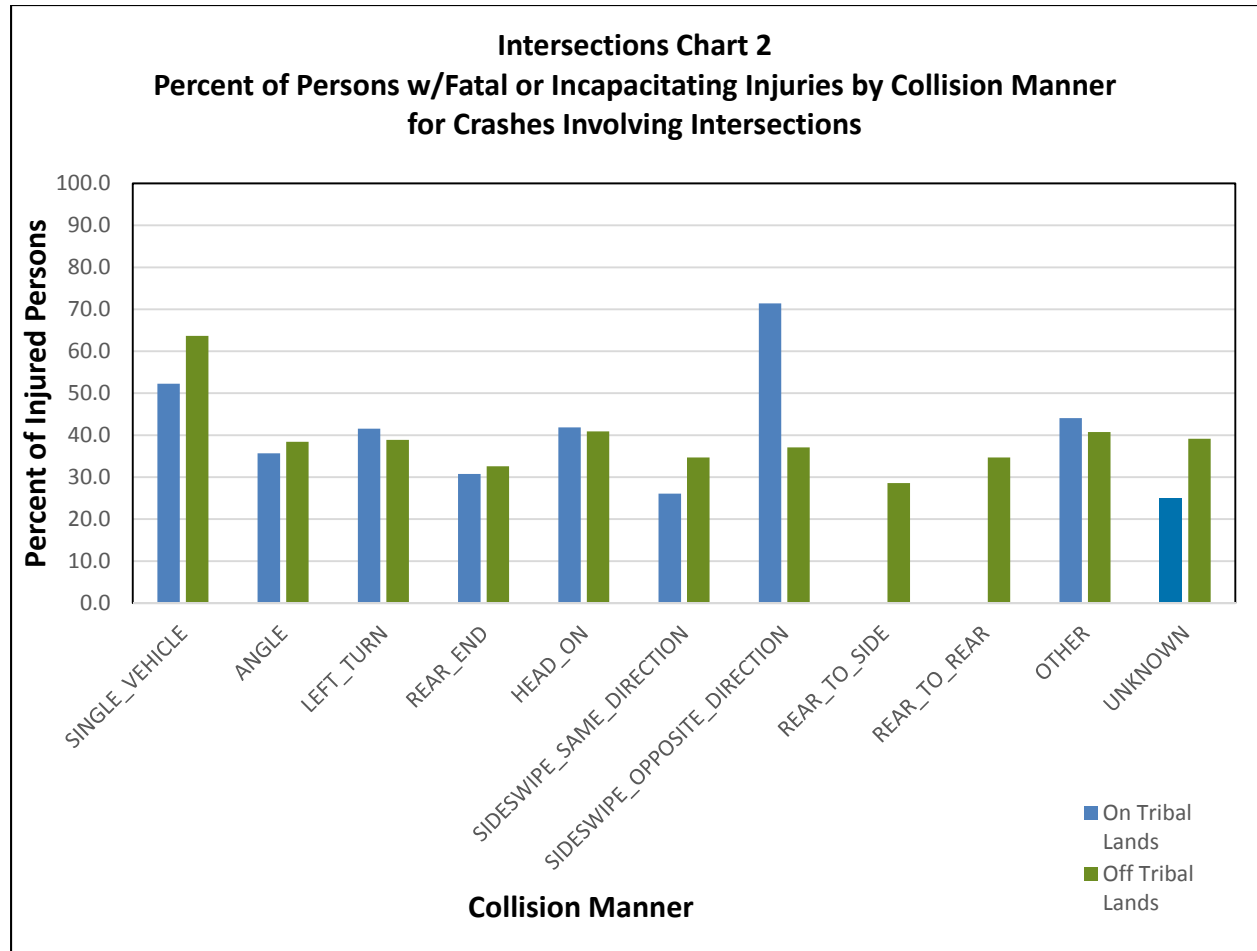
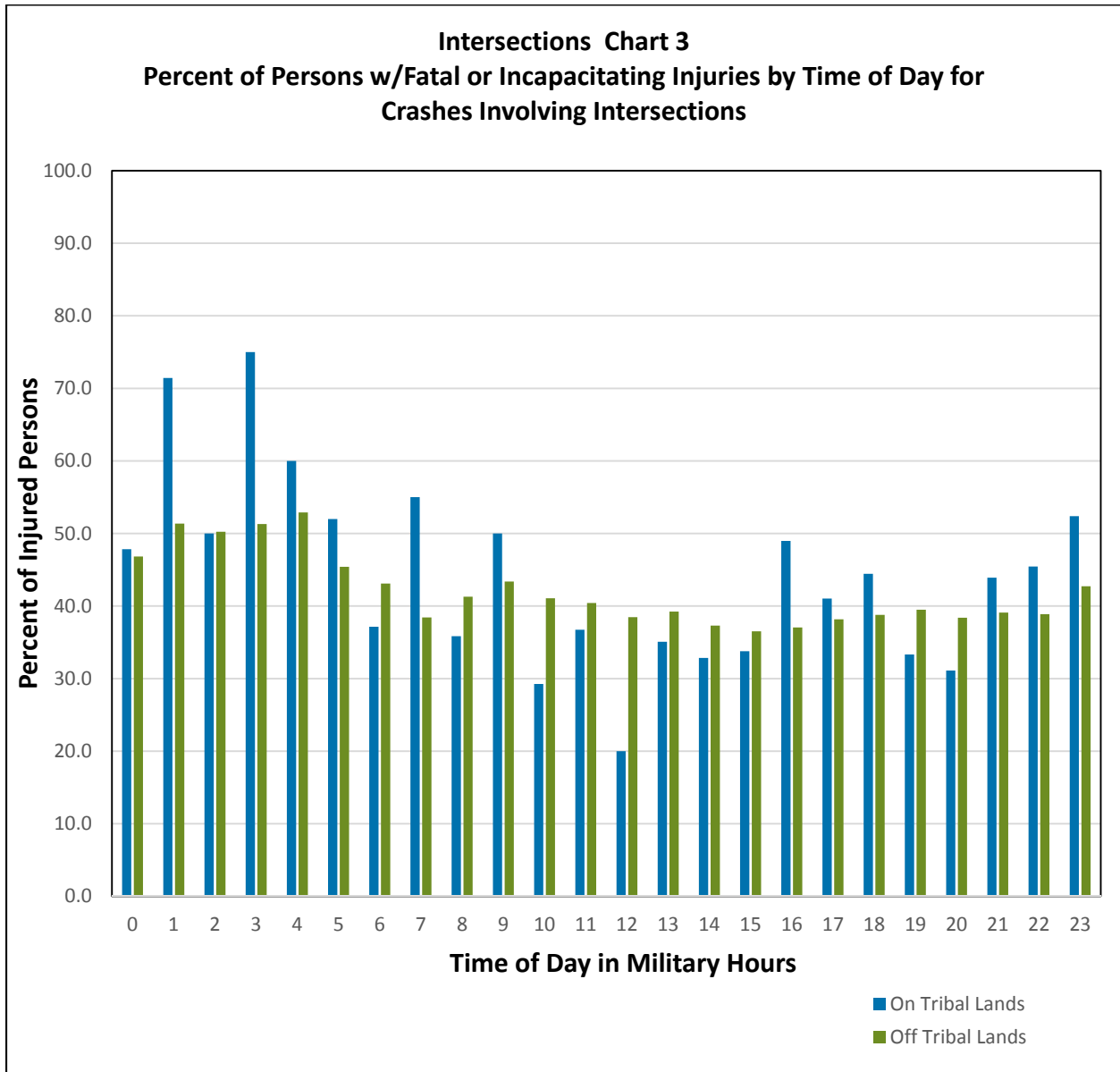
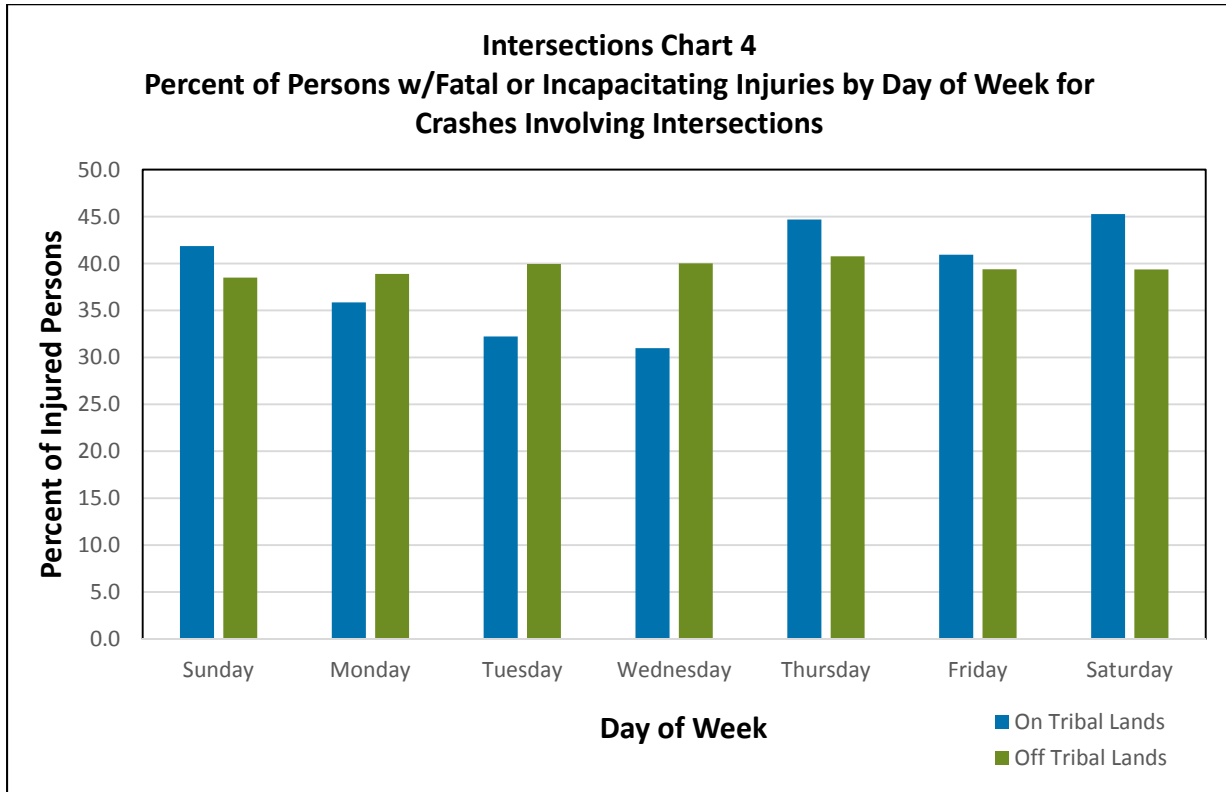


Chart 3 shows that early morning hours are the most dangerous time for high percentage of persons experiencing fatal or incapacitating injuries. Otherwise the percentage of persons injured tends to hover around the 40 percent level for most hours with a few exceptions. The considerable variability in the on-tribal land data could be a function of small sample size.

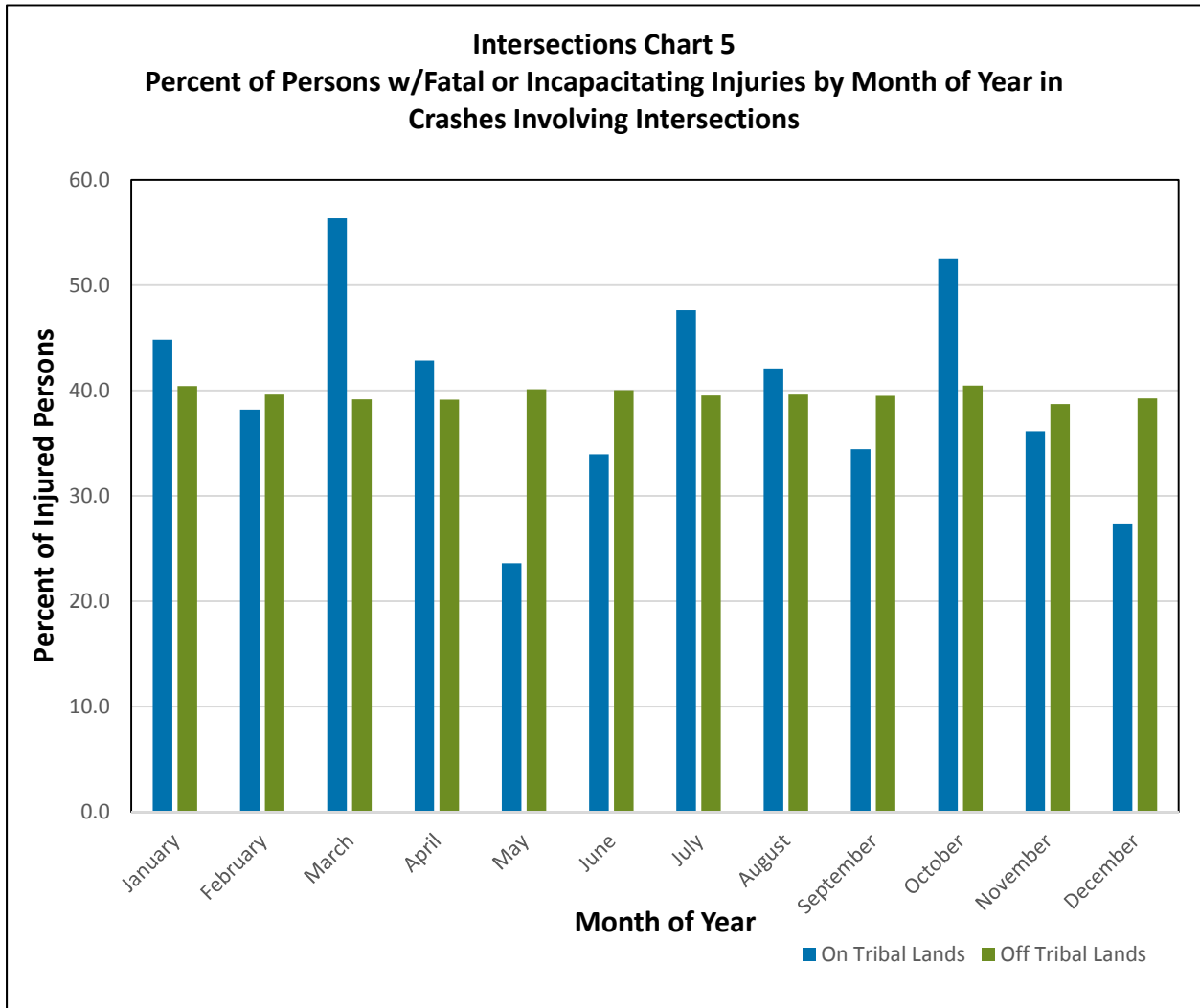


Intersections Chart 4 shows that the percent of persons with fatal or incapacitating injuries from serious injury intersection crashes off-tribal land is quite consistent around 40 percent throughout the week. On-tribal land crashes indicate a decreasing trend for Sunday through Wednesday and a substantial increase as the weekend approaches. The weekend peaks could be a function of leisure time activities, but also sample size.





Intersections Chart 5 shows considerably more variability in the percentage of fatal and incapacitating injuries by month on-tribal land than off-tribal land. This could be the result of the small sample size. The monthly percent of injured persons off-tribal land is consistent near 40 percent. The off-tribal land percentages are very similar to those in Chart 4 for the day of week.



There were only 970 persons with 373 fatal or incapacitating injuries involved in intersection crashes on-tribal land. Using a threshold of 10 injuries for a given body style as significant for on-tribal land crashes, passenger pickup, passenger ½ ton pickup, passenger sedan, passenger sedan 4 DR, passenger station wagon 4 DR, motorcycles meet the comparison threshold. For these body styles, passenger pickups and passenger sedans Table 18 shows that on-tribal land intersection crashes to have higher person injury percentages. Station wagons and motorcycles have higher off-tribal land injury percentages.

<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
PASSENGER_AM_AMBULANCE	100.0	29.8
PASSENGER_CV_CONVERTIBLE		42.4
PASSENGER_2DCV_CONVERTIBLE_2_DR	100.0	50.8
PASSENGER_3DCV_CONVERTIBLE_3_DR		100.0
PASSENGER_4DCV_CONVERTIBLE_4_DR		35.3
PASSENGER_CP_COUPE	0.0	42.4
PASSENGER_DBUG_DUNE_BUGGY	100.0	83.3
PASSENGER_HT_HARDTOP		30.0
PASSENGER_2DHT_HARDTOP_2_DR		44.6
PASSENGER_3DHT_HARDTOP_3_DR		100.0
PASSENGER_4DHT_HARDTOP_4_DR	0.0	28.3
PASSENGER_5DHT_HARDTOP_5_DR		9.1
PASSENGER_HB_HATCHBACK		29.0
PASSENGER_2DHB_HATCHBACK_2_DR	50.0	42.9
PASSENGER_3DHB_HATCHBACK_3_DR		36.1
PASSENGER_4DHB_HATCHBACK_4_DR	77.8	35.3
PASSENGER_5DHB_HATCHBACK_5_DR	50.0	40.0
PASSENGER_JP_JEEP		40.0
PASSENGER_LB_LIFTBACK		0.0
PASSENGER_2DLB_LIFTBACK_2_DR		41.2
PASSENGER_3DLB_LIFTBACK_3_DR		52.6
PASSENGER_4DLB_LIFTBACK_4_DR		23.2
PASSENGER_5DLB_LIFTBACK_5_DR		40.0
PASSENGER_LM_LIMOUSINE		100.0
PASSENGER_MHA_MOTORIZED_HOME		0.0
PASSENGER_PU_PICKUP	35.7	25.4
PASSENGER_12PU_PICKUP_1_2_TON	28.2	26.4
PASSENGER_34PU_PICKUP_3_4_TON	0.0	14.2

<b>Table 18 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Intersections</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
PASSENGER_RV_RECREATIONAL_VEHICLE	0.0	0.0
PASSENGER_RVVN_RECREATIONAL_VAN		31.3
PASSENGER_2DRH_RETRACTBLE_HRDTP_2_DR		40.0
PASSENGER_4DRH_RETRACTBLE_HRDTP_4_DR		70.0
PASSENGER_RD_ROADSTER		33.3
PASSENGER_SD_SEDAN	48.6	36.8
PASSENGER_2DSD_SEDAN_2_DR	100.0	40.3
PASSENGER_3DSD_SEDAN_3_DR		25.0
PASSENGER_4DSD_SEDAN_4_DR	50.0	38.4
PASSENGER_5DSD_SEDAN_5_DR		36.8
PASSENGER_SP_SPECIAL		25.0
PASSENGER_SW_STATION_WAGON	28.0	28.0
PASSENGER_2DSW_STATION_WAGON_2_DR	25.0	35.8
PASSENGER_3DSW_STATION_WAGON_3_DR		46.4
PASSENGER_4DSW_STATION_WAGON_4_DR	25.8	28.4
PASSENGER_5DSW_STATION_WAGON_5_DR	16.7	25.1
PASSENGER_12VN_VAN_1_2_TON	0.0	30.2
PASSENGER_34VN_VAN_3_4_TON		17.1
TRUCK_AR_ARMORED_TRUCK		22.2
TRUCK_AC_AUTO_CARRIER		100.0
TRUCK_BR_BEVERAGE_RACK		0.0
TRUCK_BS_BUS	0.0	5.3
TRUCK_CB_CAB_CHASSIS		15.4
TRUCK_CM_CONCRETE_OR_TRANSIT_MIXER	33.3	50.0
TRUCK_CR_CRANE		0.0
TRUCK_DRTK_DRILLING_TRUCK		100.0
TRUCK_DP_DUMP_TRUCK	0.0	13.5
TRUCK_FT_FIRE_TRUCK		12.5
TRUCK_FB_FLATBED_OR_PLATFORM	0.0	7.8
TRUCK_GG_GARBAGE_OR_REFUSE		7.4
TRUCK_LW_LUNCH_WAGON		0.0
TRUCK_PN_PANEL		0.0
TRUCK_1TPU_PICKUP_1_TON	40.0	22.6
TRUCK_RF_REFRIGERATED_VAN	0.0	0.0
TRUCK_SCBS_SCHOOL_BUS	13.0	1.5
TRUCK_SR_SERVICE_BODY_TRUCK		16.0
TRUCK_ST_STAKE_OR_RACK		0.0
TRUCK_TN_TANK		33.3

<b>Table 18 (continued)</b>		
<b>Percent of Persons w/Fatal or Incapacitating Injuries by Vehicle Body Style in Crashes Involving Intersections</b>		
<b>Body Style</b>	<b>On-Tribal Land</b>	<b>Off-Tribal Land</b>
TRUCK_WR_TOW_TRUCK_WRECKER		10.0
TRUCK_TK_TRUCK	0.0	13.2
TRUCK_TT_TRUCK_TRACTOR	0.0	5.8
TRUCK_VN_VAN	38.9	26.5
TRUCK_1TVN_VAN_1_TON	0.0	11.1
TRUCK_WR_WRECKER	50.0	5.9
MOBILEHOME_MB_MODULAR_BUILDING		66.7
MOBILEHOME_MH_MOBILE_HOME	50.0	6.3
TRAILER_SE_SEMI_TRAILER		0.0
TRAILER_TL_TRAILER		50.0
TRAILER_UT_UTILITY_TRAILER	0.0	45.5
MOTORCYCLE_ATC_ALL_TERRAIN_CYCLE		72.7
MOTORCYCLE_ATV_ALL_TERRAIN_VEHICLE	100.0	69.8
MOTORCYCLE_GC_GOLF_CART		56.3
MOTORCYCLE_MCSP_MC_WITH_UNIQUE_MODIFICATIONS		100.0
MOTORCYCLE_MP_MOPED	0.0	97.4
MOTORCYCLE_MC_MOTORCYCLE	82.2	93.4
MOTORCYCLE_NEV_NEIGHBORHOOD_ELECTRIC_VEHICLE		75.0

Note: Blank cells mean no body style of this type in data. 0.0 entries mean body style used, but no fatal or incapacitating injuries.