Crashes Involving Young Drivers in Michigan: 2015-2019

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1.0 Executive Summary

This report examines young drivers, particularly those age 20 and younger, who were involved in police-reported crashes in Michigan from 2015-2019. Key findings include:

- In 2019, 54,351 drivers age 20 and younger were involved in police-reported crashes in Michigan, a 1.7% drop from the 2018 total of 55,298.
- Of all drivers under 21 who were involved in crashes from 2015-2019, just over two-thirds were age 18 to 20 and just under one-third were age 17 and younger.
- A total of 133 people were killed in 2019 in crashes involving drivers age 20 and younger, and 896 suffered suspected serious injuries.
- In 2015, 3.1% of licensed drivers in Michigan were age 15-17 and 4.2% were age 18-20. These percentages decreased slightly to 3.0% and 4.0%, respectively, in 2019.
- From 2015-2019, 5.6% of all crashes involved a driver age 15-17 and 12.0% involved a driver age 18-20.
- Crash-involved drivers under the age of 15 were more likely to have been driving mopeds, go-carts, snowmobiles, and off-road or all-terrain vehicles than older drivers.
- Hazardous actions were reported for drivers age 20 and younger more frequently than older drivers, and unable to stop in assured clear distance, failure to yield, and speeding were the hazardous actions they were most frequently associated with.
- About 33% of the crash involvements of drivers under age 15 took place on the weekends, compared with 20 to 23% for drivers in older age groups.
- For drivers age 15 to 20, involvement in alcohol- and drug-involved crashes increased with each year of age, and they were increasingly likely to be the driver who was impaired given that a crash involved alcohol or drugs.

2.0 Introduction

This report examines young drivers, particularly those under the age of 21, who were involved in police-reported traffic crashes in Michigan from 2015-2019. Michigan traffic crashes are defined as taking place on public roadways in Michigan, involving at least one motor vehicle in transport, and resulting in death, injury, or property damage of $1,000 or more. The report details the share of young drivers among all licensed drivers in Michigan, number of crashes, and numbers of fatalities and injuries resulting from those crashes. The crash involvement distributions of young drivers are compared with those of older drivers across different crash types, road conditions, light conditions, and time of day. The report also looks into the different hazardous actions of young drivers in crashes, as well as their alcohol and drug involvement and restraint use.

3.0 Crash Involvement Counts and Injury Severity

3.1 Numbers of Young Drivers in Crashes

Figure 1 shows how many motor vehicle drivers age 20 and younger were involved in police-reported crashes each year from 2015 to 2019. The low number of young drivers in crashes occurred in 2019 with 54,531, a decrease of 1.7% from the 55,298 young drivers involved in crashes in 2018. The peak number of crash-involved young drivers over this time was in 2016 with 60,702.

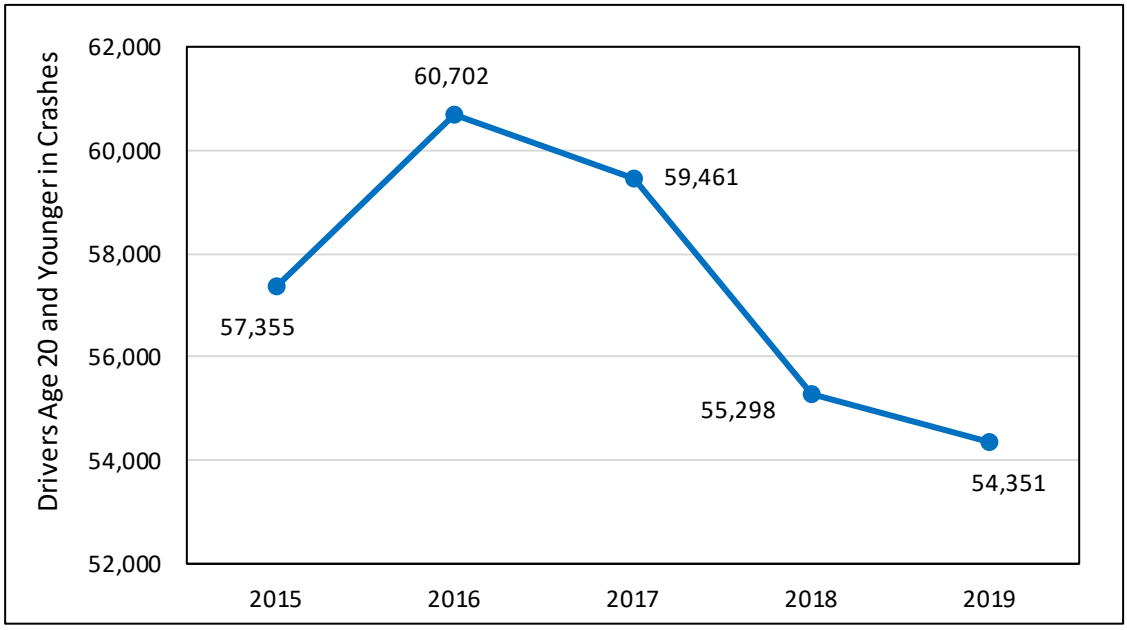

Figure 1 – Drivers Age 20 and Younger Involved in Crashes by Year

Table 1 shows counts of young drivers involved in crashes each year by single year of age and by groups of ages. Of all drivers under the age of 21 who were involved in crashes over the five years, 67.5% were age 18-20 and 32.5% were age 17 and younger. Drivers under age 15 made up just 0.4% of all crash involvements of drivers under the age of 21, and 15-year-old drivers made up just 1.0% of the crash involvements.

Table 1. Young Drivers in Crashes by Driver Age

Driver Age	2015	2016	2017	2018	2019	Total
Under Age 15	250	238	262	245	174	1,169
Age 15	561	599	592	523	591	2,866
Age 16	7,232	7,789	7,972	7,193	7,386	37,572
Age 17	10,194	10,961	10,637	9,998	9,855	51,645
Age 15-17 Subtotal	17,987	19,349	19,201	17,714	17,832	92,083
Age 18	12,791	13,486	13,104	12,189	11,790	63,360
Age 19	13,123	13,878	13,475	12,417	12,284	65,177
Age 20	13,204	13,751	13,419	12,733	12,271	65,378
Age 18-20 Subtotal	39,118	41,115	39,998	37,339	36,345	193,915
Total	57,355	60,702	59,461	55,298	54,351	287,167

3.2 Injuries to People Involved in Young Driver Crashes

The counts of people who sustained fatal or suspected serious injuries in crashes involving a young driver are plotted by year in Figure 2. Over the last five years, an average of 139 people per year have died in crashes involving drivers age 20 and younger. The number of fatalities ranged from 164 in 2015 down to 112 in 2018. An average of 998 people per year sustained suspected serious injuries in young driver crashes. The number of suspected serious injuries in young driver crashes peaked in 2017 with 1,162 then dropped 23.7% to 887 in 2018 before rising slightly to 896 in 2019.

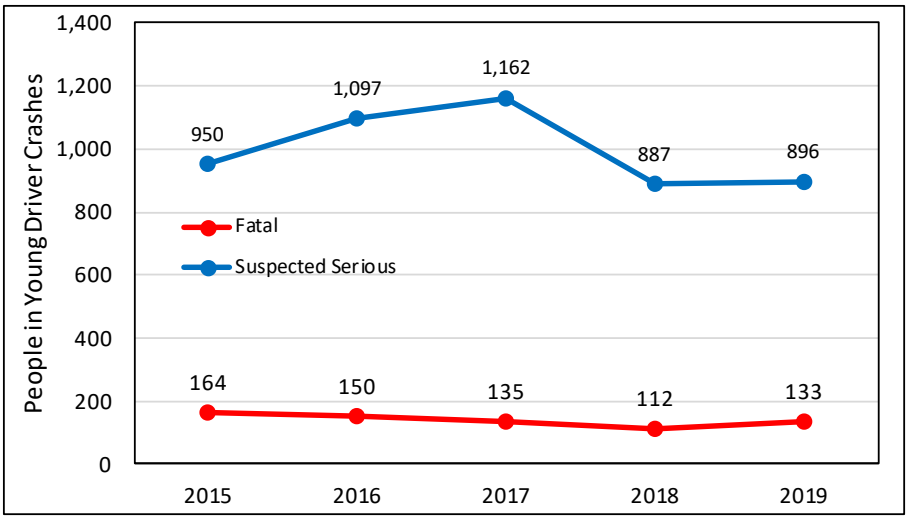

Figure 2 – Number of People with Fatal or Suspected Serious Injuries in Crashes with a Driver Age 20 and Younger

Table 2 shows counts of people with all levels of injury severity in three different groups of young driver crashes: crashes involving a driver under age 15, crashes involving a driver age 15-17, and crashes involving a driver age 18-20. One crash could potentially be included in more than one group. For

example, if a crash involved one driver age 16 and another driver age 18, then people involved in that crash were tallied in both the age 15-17 crash group and the age 18-20 crash group.

Table 2. Counts of People by Injury Severity in Crashes with Young Drivers, 2015-2019

Driver Age	Fatal	Suspected Serious	Suspected Minor	Possible	None	Not Entered	Total
Under Age 15	12 (0.4%)	101 (3.5%)	212 (7.4%)	271 (9.5%)	2,090 (73.1%)	173 (6.1%)	2,859 (100.0%)
Age 15-17	185 (0.1%)	1,496 (0.7%)	7,071 (3.4%)	18,058 (8.7%)	175,570 (84.6%)	5,262 (2.5%)	207,642 (100.0%)
Age 18-20	504 (0.1%)	3,490 (0.8%)	14,208 (3.4%)	38,906 (9.2%)	351,458 (83.3%)	13,230 (3.1%)	421,796 (100.0%)

The injury severity distribution is similar for people involved in a crash with a driver 15-17 and those involved in a crash with a driver 18-20. For both groups, 0.1% of the people suffered a fatal injury, 0.7%-0.8% sustained a suspected serious injury, and 3.4% had a suspected minor injury. The injury severity distribution was slightly more severe for people involved in crashes with the youngest group of drivers, those under age 15. Among those individuals, 0.4% suffered a fatality, 3.5% a suspected serious injury, and 7.4% a suspected minor injury.

4.0 Relative Share of Young Drivers and Their Crash Experience

This section considers the representation of young drivers in terms of number of licensed drivers, crashes, and fatal and serious injuries stemming from those crashes. Table 3 shows the number of licensed drivers age 15-17 and age 18-20 as a percentage of all licensed drivers in Michigan (source: Michigan Department of State, Office of Information Technology). Drivers age 15-17 made up about 3.1% of the drivers in the state from 2015-2019, and this percentage was fairly consistent from year to year. Drivers age 18-20 made up 4.1% of all licensed drivers, but the percentage appears to be decreasing slightly. In 2015, drivers 18-20 were 4.2% of all licensed drivers, but this declined to 4.1% in 2017 and 2018 and 4.0% in 2019.

Table 3. Young Licensed Drivers

Year	Number of Licensed Drivers Age 15-17*	Percent Licensed Drivers Age 15-17 out of Total	Number of Licensed Drivers Age 18-20	Percent Licensed Drivers Age 18-20 out of Total	Total Number of Licensed Drivers
2015	224,260	3.1%	302,720	4.2%	7,158,316
2016	221,905	3.1%	300,185	4.2%	7,176,692
2017	221,072	3.1%	298,268	4.1%	7,200,401
2018	218,290	3.0%	295,786	4.1%	7,222,155
2019	217,842	3.0%	291,537	4.0%	7,253,398
Total	1,103,369	3.1%	1,488,496	4.1%	36,010,962

*This column includes a small number of licensed drivers under age 15 because of grouping in the licensed driver data.

Table 4 shows the percentage of all crashes involving drivers age 15 to 17 and drivers age 18 to 20 from 2015-2019. Whereas we saw in Table 3 that the 15-17 age group made up 3.1% of all licensed drivers, Table 4 indicates that 5.6% of all crashes involved a driver age 15-17. The lowest share of crashes involving a driver 15-17 occurred in 2018 and 2019 with 5.4%. From 2015 to 2019, 12.0% of all crashes involved a driver age 18 to 20, even though drivers 18-20 made up just 4.1% of all licensed drivers. The percent of crashes involving a driver 18-20 has been trending downward, from 12.7% in 2015 to 11.2% in 2019. (There were 5,974 crashes that involved both a driver age 15-17 and a driver age 18-20, so those crashes are included in the columns for both of those age groups in Table 4).

Table 4. Crashes Involving Young Drivers

Year	Crashes That Involved a Driver Age 15-17	Percent of Crashes That Involved a Driver Age 15-17	Crashes That Involved a Driver Age 18-20	Percent of Crashes That Involved a Driver Age 18-20	Total Crashes Involving All Drivers
2015	17,103	5.8%	37,581	12.7%	297,023
2016	18,356	5.9%	39,576	12.7%	312,172
2017	18,248	5.8%	38,452	12.2%	314,921
2018	16,904	5.4%	36,002	11.5%	312,798
2019	17,005	5.4%	35,106	11.2%	314,376
Total	87,616	5.6%	186,717	12.0%	1,551,290

Table 5 shows the number of fatalities resulting from crashes involving drivers age 15-17 and 18-20. The fatality count reflects anyone who may have died in the crashes, not necessarily the young drivers themselves. The table also shows the percentage of these fatalities out of all traffic fatalities for each year. The number of fatalities resulting from crashes with drivers age 15-17 generally decreased from 58 in 2015 to 24 in 2018 and 2019. Overall 3.7% of all fatalities occurred in crashes with drivers age 15-17, which is only slightly higher than the share of drivers that age (3.1%). On the other hand, 10.1% of all fatalities resulted from crashes with drivers age 18-20, which is notably higher than the percentage of licensed drivers who are 18-20 (4.1%). (Eight fatalities resulted from crashes involving both a driver age 15-17 and a driver age 18-20 and are included in the columns for both of those age groups in Table 5).

Table 5. Traffic Fatalities Involving Young Drivers

Year	Traffic Fatalities Involving Drivers Age 15-17	Percent of Total Traffic Fatalities That Involved a Driver Age 15-17	Traffic Fatalities Involving Drivers Age 18-20	Percent of Total Traffic Fatalities That Involved a Driver Age 18-20	Total Traffic Fatalities Involving All Drivers
2015	58	6.0%	107	11.1%	963
2016	40	3.8%	107	10.1%	1,064
2017	39	3.8%	99	9.6%	1,028
2018	24	2.5%	85	8.7%	974
2019	24	2.4%	106	10.8%	985
Total	185	3.7%	504	10.1%	5,014

Similar data is presented in Table 6 but for suspected serious injuries, rather than fatalities, resulting from crashes with young drivers. Overall, 5.4% of people with suspected serious injuries were injured in crashes involving a driver 15-17, but that percentage generally decreased from 6.4% in 2015 to 4.7% in both 2018 and 2019. About 12.6% of people with suspected serious injuries were injured in crashes involving a driver 18-20. For both age groups the overall percentages are higher than were observed for fatalities and for the age groups' shares of all licensed drivers. (There were 88 people who suffered suspected serious injuries in crashes that involved both a driver age 15-17 and a driver age 18-20. These 88 are tallied under both age group columns in Table 6).

Table 6. Suspected Serious Traffic Injuries Involving Young Drivers

Year	Suspected Serious Injuries Involving Drivers Age 15-17	Percent of Total Suspected Serious Injuries That Involved a Driver Age 15-17	Suspected Serious Injuries Involving Drivers Age 18-20	Percent of Total Suspected Serious Injuries That Involved a Driver Age 18-20	Total Suspected Serious Injuries Involving All Drivers
2015	312	6.4%	638	13.1%	4,865
2016	320	5.7%	764	13.6%	5,634
2017	339	5.6%	833	13.7%	6,084
2018	260	4.7%	629	11.3%	5,586
2019	265	4.7%	626	11.1%	5,629
Total	1,496	5.4%	3,490	12.6%	27,798

5.0 Vehicle Type, Crash Type, and Hazardous Action

5.1 Vehicle Type

Table 7 shows counts of drivers in crashes by age group and the type of vehicle they were driving. About 64% of the youngest drivers, those under age 15, were driving a passenger car, SUV, or van, compared with 88-89% of drivers in the next three older age groups (15-17, 18-20, and 21-24). Drivers under 15 were relatively more likely to have been driving mopeds, go-carts, snowmobiles, and off-road or all-terrain vehicles (ORVs and ATVs). The ORV/ATV category was the most striking—about 14% of all crash-involved drivers under 15 were driving ORVs/ATVs, compared with 0.2% or less of drivers in any of the other four age groups. Since these youngest drivers are not allowed to drive cars without an adult in the vehicle, it is not surprising that a greater percentage of their crash involvements were in vehicles that (depending on the exact vehicle type and age of the operator) they are legally allowed to drive at younger ages.

Table 7. Drivers in Crashes by Vehicle Type and Age Group, 2015-2019

Vehicle Type	<15	15-17	18-20	21-24	25+
Passenger car/SUV/van	750	81,988	172,503	221,952	1,522,537
Motor home	13	561	1,188	1,816	26,060
Pickup truck	59	8,366	16,937	22,486	228,517
Small truck	5	410	1,059	1,696	15,187
Motorcycle	32	113	711	1,403	12,277
Moped/goped	60	246	289	216	1,128
Go-cart/golf cart	25	23	15	14	94
Snowmobile	20	28	36	50	436
ORV/ATV	160	188	140	135	831
Truck/bus	4	16	629	3,007	63,688
Other	34	103	309	654	7,709
Not entered	7	41	99	153	919
Total	1,169	92,083	193,915	253,582	1,879,383

5.2 Crash Type

Figure 3 shows distributions of crash involvements by the type of crash for passenger vehicle drivers in five different age groups: under 15, 15-17, 18-20, 21-24, and 25 and older. Restricting the analysis to passenger vehicle drivers allows for a more equal comparison across driver age groups. The categories of crash type are single-vehicle, head-on, head-on/left turn, angle, rear-end (includes general rear-end crashes as well as rear-end/right turn and rear-end/left turn), sideswipe/same direction, sideswipe/opposite directions, and backing. Crash involvements where crash type was coded "other," "unknown," or "not entered" have been excluded.

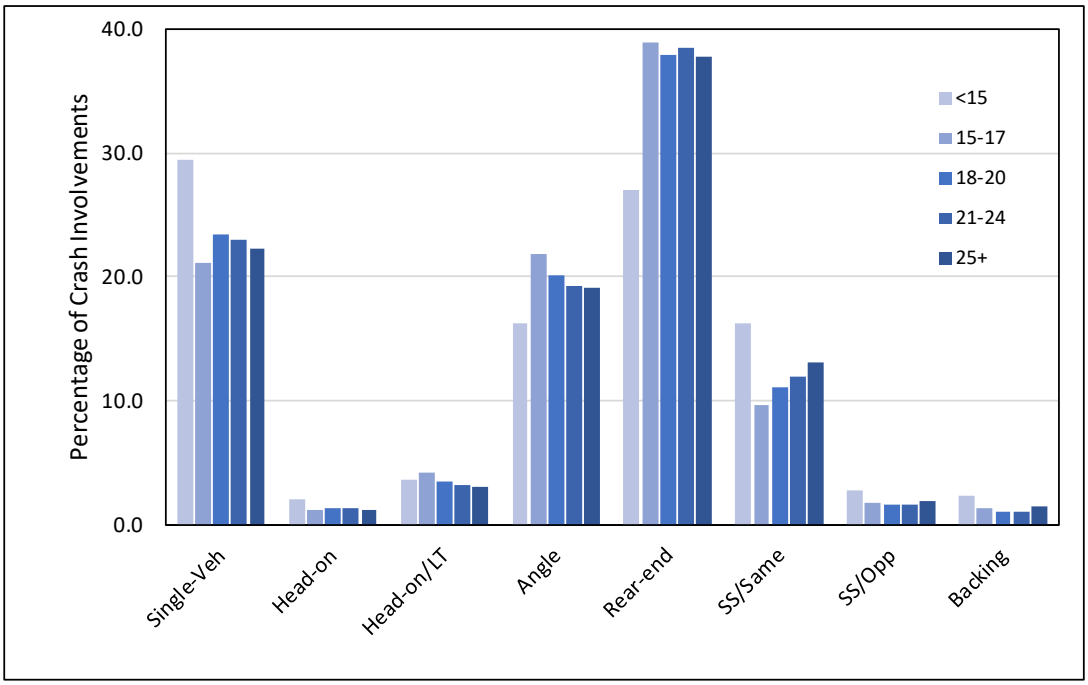

Figure 3 – Crash Type Distributions for Passenger Vehicle Drivers by Age Group, 2015-2019

The crash type distribution for drivers under the age of 15 is different than the crash type distributions of the other four driver age groups. About 29.5% of the crash involvements of the youngest drivers were in single-vehicle collisions, compared with 21% to 23% for the other driver age groups. Conversely, only 27% of the crash involvements of the youngest drivers were in rear-end crashes, compared with 38% to 39% for the other driver age groups. Sideswipe/same direction, sideswipe/opposite direction, and head-on crashes made up higher percentages of the crash involvements of drivers under 15 compared with the other age groups, suggesting that the youngest drivers may have difficulties with lane control.

Differences in crash type distributions among the other four driver age groups are more subtle. About 4.2% of the crash involvements for drivers 15-17 were in head-on/left turn crashes, compared with 3.5% for drivers 18-20, 3.3% for drivers 21-24, and 3.1% for drivers 25 and older. These percentages are consistent with the idea that the judgment involved when turning left across opposing traffic is something that improves with age and driving experience. The benefit of driving experience may also be connected with the observed decrease in the relative share of angle collisions as the age of the driver groups increases.

5.3 Hazardous Action

The hazardous action variable indicates whether the reporting officer thought a driver's actions contributed to the crash. Younger drivers were more likely than older drivers to have been assigned a hazardous action. Hazardous actions were coded for 67.5% of drivers under 15, 65.9% of drivers 15-17, 61.4% of drivers 18-20, 54.7% of drivers 21-24, and 39.6% of drivers 25 and older.

Figure 4 shows hazardous action distributions for drivers of all types of vehicles in five different age groups, excluding drivers who were not assigned a hazardous action and drivers coded "unknown" for

hazardous action. The “other” category in the chart includes the coded levels of speed too slow, drove wrong way, drove left of center, improper passing, improper turn, improper/no signal, improper backing, as well as cases coded “other.”

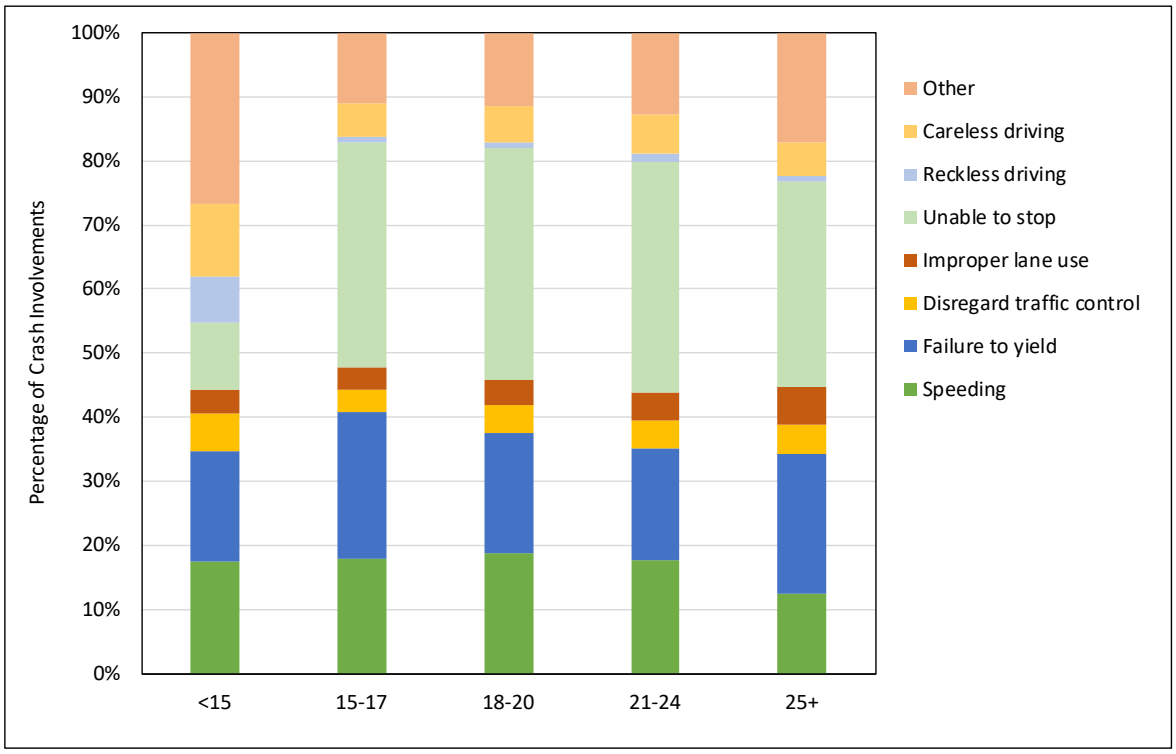

Figure 4 – Hazardous Action Distributions for Drivers by Age Group, 2015-2019

For these known hazardous action cases, 18.5% of the drivers age 20 and younger were coded as speeding, compared with just 12.6% of the drivers 25 and older (Table 12). Unable to stop in assured clear distance shows a similar pattern, coded for 35.8% of drivers 20 and younger and 32.0% of drivers 25 and older. In contrast, failure to yield was slightly more common for drivers 25 and older (21.7%) than drivers 20 and younger (20.1%), and “other” hazardous actions, which include several of the less frequently coded hazardous actions, were also more common among drivers 25 and older (17.2%) than drivers 20 and younger (11.3%).

Table 8. Drivers in Crashes by Hazardous Action and Age Group, 2015-2019

Hazardous Action	Age Group						Total
	Below 15	15-17	18-20	21-24	25 and Above	Unknown	
None	282 (24.1%)	29,786 (32.3%)	70,254 (36.2%)	108,152 (42.6%)	1,082,791 (57.6%)	65,242 (27.3%)	1,356,507 (51.0%)
Speed too fast	138 (11.8%)	10,869 (11.8%)	22,472 (11.6%)	24,414 (9.6%)	93,556 (5.0%)	4,605 (1.9%)	156,054 (5.9%)
Speed too slow	1 (0.1%)	67 (0.1%)	126 (0.1%)	169 (0.1%)	970 (0.1%)	109 (0.0%)	1,442 (0.1%)
Failure to yield	135 (11.5%)	13,862 (15.1%)	22,252 (11.5%)	24,208 (9.5%)	161,840 (8.6%)	9,252 (3.9%)	231,549 (8.7%)
Disregard traffic control	48 (4.1%)	2,168 (2.4%)	5,123 (2.6%)	6,059 (2.4%)	33,832 (1.8%)	4,929 (2.1%)	52,159 (2.0%)
Drove wrong way	4 (0.3%)	57 (0.1%)	134 (0.1%)	220 (0.1%)	1,293 (0.1%)	348 (0.1%)	2,056 (0.1%)
Drove left of center	15 (1.3%)	488 (0.5%)	874 (0.5%)	1,194 (0.5%)	8,249 (0.4%)	1,547 (0.6%)	12,367 (0.5%)
Improper passing	10 (0.9%)	427 (0.5%)	1,007 (0.5%)	1,277 (0.5%)	8,743 (0.5%)	2,358 (1.0%)	13,822 (0.5%)
Improper lane use	29 (2.5%)	2,089 (2.3%)	4,652 (2.4%)	5,996 (2.4%)	43,805 (2.3%)	8,875 (3.7%)	65,446 (2.5%)
Improper turn	24 (2.1%)	1,038 (1.1%)	2,108 (1.1%)	2,505 (1.0%)	18,800 (1.0%)	1,962 (0.8%)	26,437 (1.0%)
Improper/No signal	(0.0%)	104 (0.1%)	186 (0.1%)	258 (0.1%)	1,945 (0.1%)	178 (0.1%)	2,671 (0.1%)
Improper backing	39 (3.3%)	1,436 (1.6%)	2,356 (1.2%)	2,824 (1.1%)	28,381 (1.5%)	3,310 (1.4%)	38,346 (1.4%)
Unable to stop	82 (7.0%)	21,352 (23.2%)	43,169 (22.3%)	50,093 (19.8%)	238,383 (12.7%)	16,737 (7.0%)	369,816 (13.9%)
Reckless driving	56 (4.8%)	426 (0.5%)	1,044 (0.5%)	1,681 (0.7%)	6,898 (0.4%)	2,366 (1.0%)	12,471 (0.5%)
Careless/Negligent	90 (7.7%)	3,199 (3.5%)	6,865 (3.5%)	8,464 (3.3%)	38,367 (2.0%)	6,893 (2.9%)	63,878 (2.4%)
Other	118 (10.1%)	3,091 (3.4%)	6,757 (3.5%)	9,259 (3.7%)	59,782 (3.2%)	5,615 (2.4%)	84,622 (3.2%)
Unknown/not entered	98 (8.4%)	1,624 (1.7%)	4,536 (2.3%)	6,809 (2.6%)	51,748 (2.7%)	104,359 (31.7%)	169,174 (5.2%)
Total	1,169 (100.0%)	92,083 (100.0%)	193,915 (100.0%)	253,582 (100.0%)	1,879,383 (100.0%)	238,685 (100.0%)	2,658,817 (100.0%)

All of the comparisons made in Figure 4 were for drivers who were assigned known hazardous actions. Given that a driver committed a hazardous action, the figure compares the types of hazardous actions among different driver age groups. As mentioned above, a lower share of older drivers were assigned

hazardous actions than younger drivers. Table 8 on the previous page shows the distributions of all the code levels of the hazardous action variable in each driver age group, including "none" and "unknown." The table also has complete counts for all the individually coded hazardous actions that were included in the "other" category in the figure.

6.0 Temporal Factors

6.1 Day of Week

Figure 5 shows the distribution of crash-involved drivers by driver age group and day of the week. Drivers under 15 had a much higher share of their crashes on Saturdays and Sundays compared with all of the other age groups. About 33% of the crash involvements of drivers under age 15 took place on the weekends, whereas 20-23% of crash involvements of drivers in each of the older age groups were on weekends. The difference is likely partially due to relatively more driving of ATVs and similar vehicles by the youngest drivers compared with older drivers, since ATV-riding is likely concentrated on the weekends. If only passenger vehicles are considered, weekend crash involvements represent about 30% of the driver under age 15 crash involvements and about 21-23% of crash involvements of drivers in each of the older age groups. The requirement for drivers under 15 to drive with a licensed adult in the vehicle may be a factor in the relatively high percentage of weekend crashes for drivers under age 15.

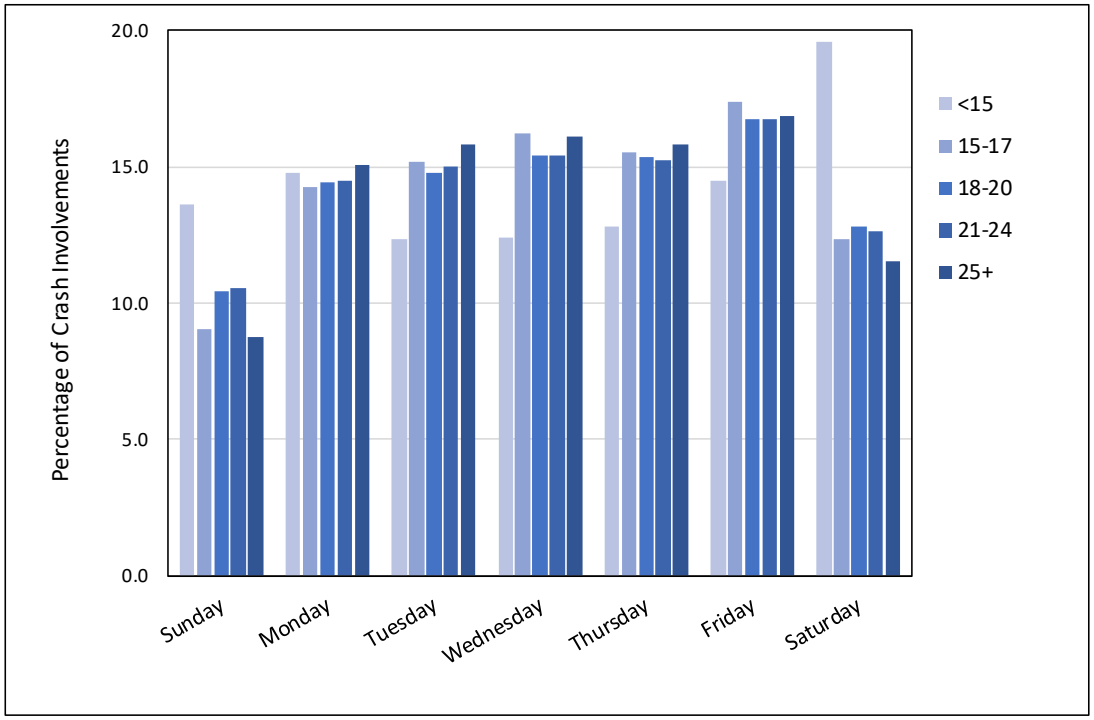

Figure 5 – Distribution of Crash Involvements by Day of Week for Drivers in Different Age Groups, 2015-2019

The crash involvement distributions by day of week were nearly identical between the 18-20 and 21-24 driver age groups. Both of those groups had relatively more crash involvements on the weekends and

fewer on the weekdays compared with the 15-17 group and the 25 and older group. These differences were less pronounced than what was observed for drivers under age 15.

6.2 Time of Day

Figure 6 shows the distribution of crash involvements of the different driver age groups across three-hour time blocks. The peak period for crash involvements for all of the age groups was from 3:00-5:59 p.m., especially for drivers under 15 (27.1% of their involvements) and drivers 15-17 (29.9% of their involvements). Drivers 18-20 and 21-24 had relatively more crashes in the three hours prior to midnight than drivers of other ages.

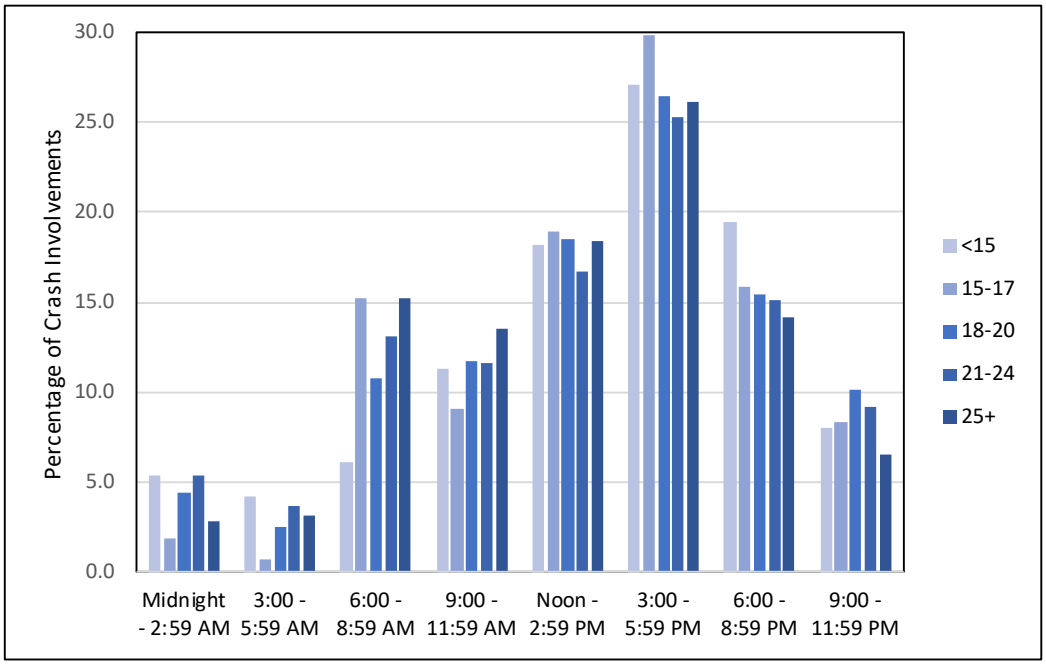

Figure 6 – Distribution of Crash Involvements by Time of Day for Drivers in Different Age Groups, 2015-2019

7.0 External/Environmental Conditions

7.1 Light Conditions

Figure 7 presents the distribution of crash-involved drivers by light condition within five driver age groups. Cases coded other or unknown light condition (about 0.5% of the total) have been excluded. The youngest group of drivers, those under 15, had the highest percentage of crash involvements in daylight (72.3% of their involvements). The percentage of daylight involvements decreased with each of the next three older age groups, down to 65.6% of the crash involvements of drivers 21-24. The percentage of daylight crash involvements was about 70.1% for drivers 25 and older, on par with the 15-17 driver age group.

The pattern for crash involvements in dark, unlighted conditions was the reverse of the daylight pattern. The percentage of dark, unlighted involvements rose from 8.0% for drivers under 15 up to 14.2% of the

crash involvements of drivers 21-24. Crash involvements in dark, unlighted conditions accounted for 13.1% of the crash involvements of drivers 25 and older. Exposure likely accounts for most of these differences—driver age groups with relatively fewer daytime crash involvements were probably doing more of their driving in dark conditions.

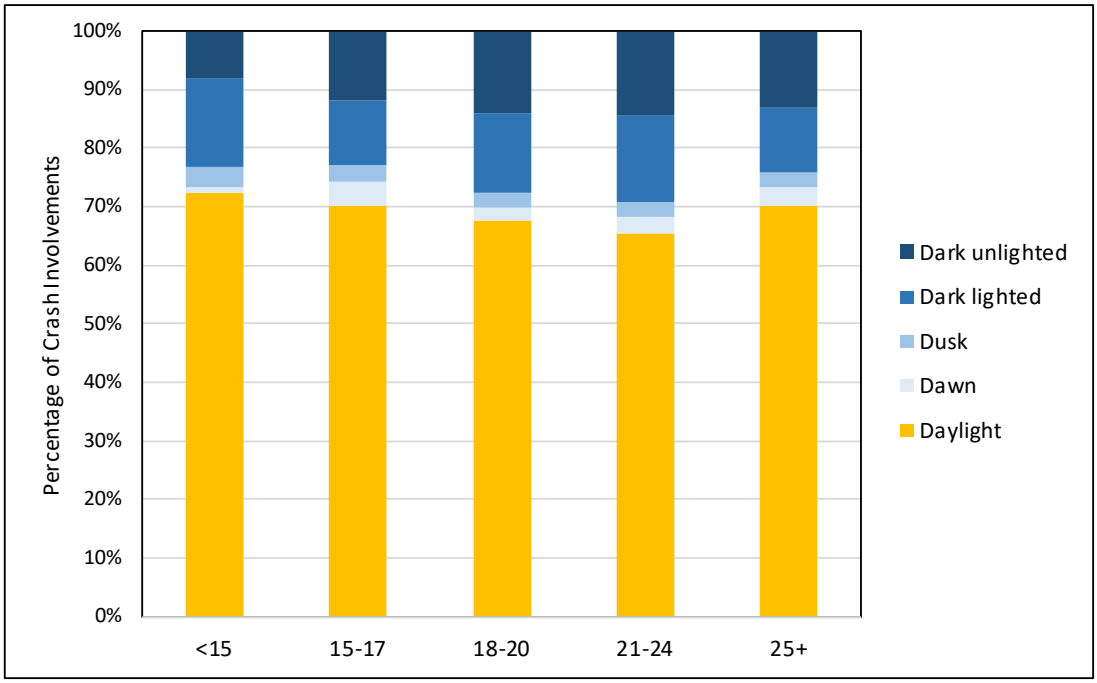

Figure 7 – Distribution of Crash Involvements by Light Condition for Drivers in Different Age Groups, 2015-2019

7.2 Road Conditions

The distributions of the five most commonly coded road conditions—dry, wet, ice, snow, and slush—are shown for five driver age groups in Figure 8 on the following page. Cases coded with other or unknown road conditions (about 1.3% of the total) are excluded from the chart. Road condition distributions were virtually identical for crash involvements of drivers 15-17, 18-20, and 21-24. About 67.2% of crash involvements for drivers in those age groups were on dry roads, compared with 78.6% of the involvements for the youngest drivers and 71.3% of the involvements for drivers 25 and older. Conversely, drivers between 15 and 24 had higher shares of crash involvements on wet, icy, snowy, and slushy roads compared with the youngest drivers or those 25 and older.

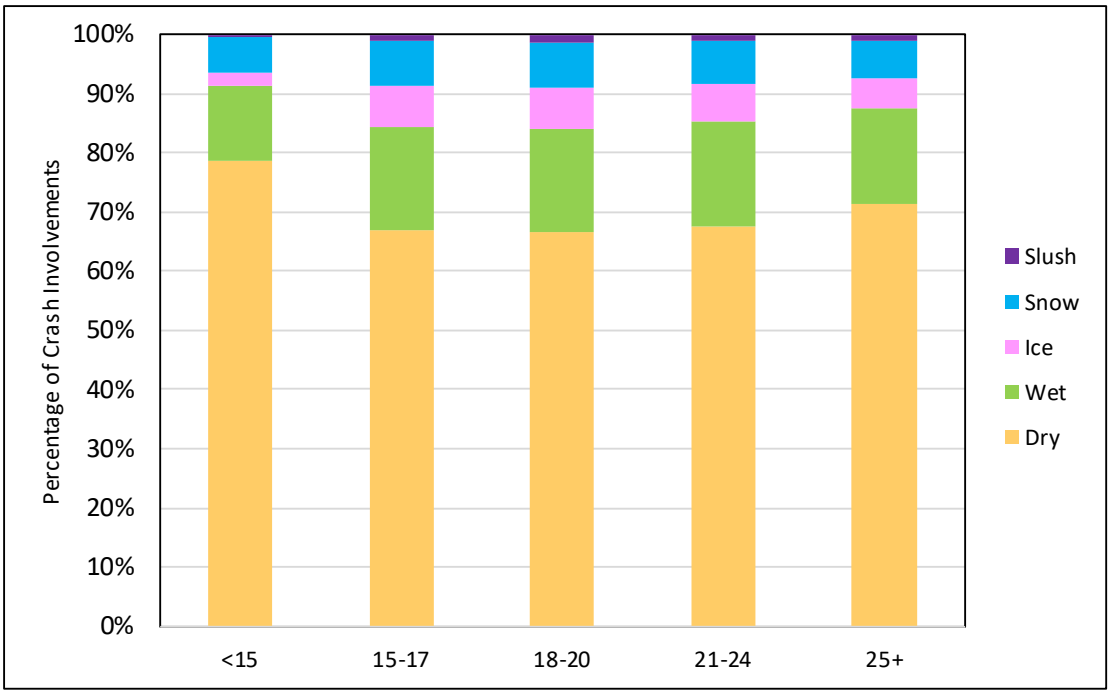

Figure 8 – Distribution of Crash Involvements by Road Condition for Drivers in Different Age Groups, 2015-2019

Both exposure and experience may be factors in the observed road condition distributions for drivers of different ages. The high percentage of dry road crash involvements for drivers under 15 may indicate they were not driving as much during unfavorable road conditions. The higher percentages of crash involvements on wet, icy, snowy, and slushy roads for drivers 15-24 compared with drivers 25 and older may reflect the inexperience of younger drivers with unfavorable road conditions.

8.0 Driver Factors

8.1 Impairment

Table 9 provides statistics to illuminate the scope of young drivers' involvement in alcohol-involved crashes. Taking the first row as an example, drivers age 15 were involved in 59 alcohol-involved crashes over the last five years out of a total 2,858 crashes, so 2.1% of crashes involving 15-year-old drivers involved alcohol. Next, 20 of the 2,866 15-year-old drivers in crashes were reported to have been drinking, which is 0.7% of all 15-year-old drivers in crashes. Since there were 60 15-year-old drivers in alcohol-involved crashes and 20 of them were drinking, this means that 33.3% of 15-year-old drivers who were in alcohol-involved crashes were drinking, which indicates that the remainder of the 15-year-old drivers in alcohol-involved crashes (66.7%) were not themselves drinking.

Table 9. Young Drivers and Alcohol, 2015-2019

Driver Age	Alcohol-Involved Crashes	Total Crashes	Percent Alcohol-Involved Crashes	Drinking Drivers	Total Drivers	Percent Drinking Drivers	Drivers in Alcohol-Involved Crashes	Pct. Drinking Drivers in Alcohol-Involved Crashes
15	59	2,858	2.1%	20	2,866	0.7%	60	33.3%
16	239	36,589	0.7%	90	37,572	0.2%	239	37.7%
17	515	50,239	1.0%	236	51,645	0.5%	518	45.6%
18	875	62,497	1.4%	495	63,360	0.8%	882	56.1%
19	1,257	64,286	2.0%	791	65,177	1.2%	1,266	62.5%
20	1,509	64,447	2.3%	1,050	65,378	1.6%	1,522	69.0%

With each successive year of driver age from age 16 to 20, the drivers were in more alcohol-involved crashes, a higher percentage of the crashes they were in involved alcohol, higher numbers of the drivers were drinking, and a higher percentage of the drivers were drinking. The final column in Table 9 is particularly interesting. It indicates that less than 40% of the drivers age 15 and 16 who were in alcohol-involved crashes were themselves drinking, but the percentage increased in each older age group. About 69% of drivers age 20 who were in alcohol-involved crashes were themselves drinking. In other words, the closer drivers were to age 21 (the legal drinking age), the greater their percentage of drinking drivers in alcohol-involved crashes.

Table 10 has similar breakdowns for crashes involving drugs and drug use by young drivers. Drivers age 15-20 were involved in fewer crashes involving drugs than alcohol, and fewer young drivers were reported to have been using drugs than alcohol. However, the numbers of drug-involved crashes and drivers who used drugs increased with each year of driver age from 15 through 20. The majority of the drivers in each age group who were in drug-involved crashes were themselves reported to have been using drugs. The percentage ranged from 64.7% of drivers age 15 in drug-involved crashes to 79.7% of drivers age 19.

Table 10. Young Drivers and Drugs, 2015-2019

Driver Age	Drug-Involved Crashes	Total Crashes	Percent Drug-Involved Crashes	Drugged Drivers	Total Drivers	Percent Drugged Drivers	Drivers in Drug-Involved Crashes	Pct. Drugged Drivers in Drug-Involved Crashes
15	17	2,858	0.6%	11	2,866	0.4%	17	64.7%
16	129	36,589	0.4%	85	37,572	0.2%	129	65.9%
17	245	50,239	0.5%	174	51,645	0.3%	246	70.7%
18	417	62,497	0.7%	310	63,360	0.5%	423	73.3%
19	484	64,286	0.8%	388	65,177	0.6%	487	79.7%
20	543	64,447	0.8%	424	65,378	0.6%	550	77.1%

8.2 Seat Belt Use

To look at belt use patterns, crash-involved drivers were restricted to those driving passenger vehicles. Drivers were considered to be belted if they were coded as using a shoulder belt only, lap belt only, both lap and shoulder belt, or restraint failure. Unbelted drivers were those coded as "no belts available" or "no belts used" on the restraint use variable. All other levels of the restraint use variable (e.g. child restraint used, helmet used, other, unknown) were excluded from the results shown in Table 11.

Table 11. Crash-Involved Drivers of Passenger Vehicles by Belt Use and Age Group, 2015-2019

Belt Use	<15	15-17	18-20	21-24	25+
Belted	532	88,556	183,031	234,317	1,707,371
	89.6%	99.4%	99.1%	99.0%	99.2%
Unbelted	62	554	1,585	2,341	12,995
	10.4%	0.6%	0.9%	1.0%	0.8%
Total	594	89,110	184,616	236,658	1,720,366
	100.0%	100.0%	100.0%	100.0%	100.0%

The data indicate relatively low belt use for drivers under 15, and this is despite the fact that only drivers of passenger vehicles were included in the analysis. About 10.4% of the drivers under 15 were coded as unbelted. In contrast, only 1% or less of crash-involved drivers of passenger vehicles in each the other four driver age groups were unbelted. Low belt use among crash-involved drivers under 15 may be partly due to coding anomalies and unusual circumstances. These would include drivers of unknown age being inadvertently coded as age 0, small children left unattended in a vehicle who were able to put the car in motion, and underage and unlicensed drivers who either stole a vehicle or took the family car without permission.

9.0 Summary

In 2019, 54,351 drivers age 20 and younger were involved in police-reported crashes in Michigan, a 1.7% drop from the 2018 total. Of all drivers 20 and younger who were involved in crashes from 2015-2019, just over two-thirds were age 18 to 20 and just under one-third were age 17 and younger. A total of 133 people were killed in 2019 in crashes involving drivers age 20 and younger, and 896 received suspected serious injuries.

Hazardous actions were reported for younger drivers more frequently than older drivers, and unable to stop in assured clear distance, failure to yield, and speeding were the hazardous actions they were most frequently associated with.

Crashes involving alcohol or drugs were examined for single years of age for drivers age 15 to 20. Their involvement in alcohol- and drug-involved crashes increased with each year of age, and they were increasingly likely to be the driver who was impaired given that a crash involved alcohol or drugs.