Analysis Report: Fatal Crashes in Michigan (2023 Edition)

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Special Note

The Michigan Office of Highway Safety Planning and the University of Michigan Transportation Research Institute acknowledge the differences in traffic and commuting patterns in 2020 and 2021 due to the COVID-19 pandemic. Travel restrictions from the "Stay Home, Stay Safe" Executive Order (EO 2020-21) were initially in place starting on March 24, 2020. That order was then extended through additional executive orders. The stay-at-home order was officially lifted June 1, 2020.

The total number of police-reported crashes on Michigan roadways decreased from 2019 to 2020 by 21.9%, declining from 314,376 in 2019 to 245,432 in 2020, and then in 2021 increased slightly to 282,640 crashes which is still 10.1% less than the 2019 crash total. There were 293,341 crashes in 2022, up 3.8% from 2021, but still 6.7% less than in 2019. Despite the lower amount of crashes since 2019, the fatality count increased from 985 in 2019, to 1,083 in 2020 (9.9% increase from 2019), 1,131 in 2021 (14.8% increase from 2019), and 1,123 in 2022 (14.0% increase from 2019). In 2020, there was a decrease in vehicle miles traveled, licensed drivers, and vehicle registrations: vehicle miles traveled decreased 15.5% to 86.31 billion, motor vehicle registrations were down 0.5% to 9.04 million, and the number of licensed drivers was down 1.9% to 7.12 million. The increased 2020 fatality count in combination with the reduction of the exposure factors contributed to a fatality rate of 1.25 per 100 million miles of travel, a 30.2% increase from 2019 (0.96 per 100 million miles). The 2020 fatality rate is also above the 10-year (2011-2020) average of 1.01 fatalities per 100 million miles. In 2021, vehicle miles traveled was still 5.3% less than 2019 at 96.74 billion miles, and the fatality rate was 1.17 fatalities per 100 million miles of travel – a slight decrease from the 2020 fatality rate but still much higher than the 2011-2020 average rate. In 2022, vehicle miles traveled decreased to 95.89 billion miles, with the fatality rate the same as in 2021, at 1.17 fatalities per 100 million miles of travel. In 2023, vehicle miles traveled increased to 98.29 billion miles, and the fatality rate decreased to 1.11 fatalities per 100 million miles of travel.

1.0 Executive Summary

This report analyzes traffic crashes that took place on public roadways in Michigan, involved at least one motor vehicle in transport, and resulted in death, injury, or property damage of $1,000 or more. The primary focus of the report is fatal crashes in 2023. The number of fatal crashes and fatalities in 2023 are examined and compared with counts from previous years to identify trends. Fatal crashes are considered both in the aggregate and according to key factors of interest, including highway class, road conditions, alcohol involvement, and driver age.

Fatal crash and fatality trends are primarily examined in five- and 10-year blocks in this report, but the report begins with a broader historical context. Notably, Michigan roads have become much safer over the past fifty years. Traffic fatalities in Michigan peaked in 1969 with 2,487, but declined 56.0% to 1,095 in 2023.

Here are some takeaways about the fatal traffic crash experience in Michigan in 2023:

- 1,095 people were killed in 1,021 fatal crashes, compared with 1,123 people killed in 1,053 fatal crashes in 2022.
- 26.6% of fatal crashes involved alcohol, compared with 3.1% of all crashes.
- 297 people died in alcohol-involved crashes, and 256 died in drug-involved crashes. These two groups of fatalities overlapped—108 people were killed in crashes that involved *both* alcohol and drugs.
- 223 of the motor vehicle occupants who were killed were not wearing seat belts, which is 25.1% of all motor vehicle occupants who were killed. Only 1.3% of all crash-involved motor vehicle occupants were unbelted.
- 210 people died in crashes where at least one driver was speeding. Speeding was involved in 19.0% of fatal crashes and 7.4% of all crashes.
- 17.5% of fatal crashes involved pedestrians, compared with 0.7% of all crashes.
- 165 motorcyclists were killed, 72 (43.6%) of whom were not wearing a helmet.
- 183 pedestrians were killed, and police reports indicate that 24 of these pedestrians had been drinking at the time of the crash.
- 24 bicyclists were killed, 2.2% of all fatalities, and 4 bicyclists were reported to have been drinking.

2.0 Historical Crash and Fatality Counts

2.1 Number of Crashes

Figure 1 shows the total number of crashes of all severity levels in Michigan from 1940 to 2023. Crashes peaked in 1996 with 435,477. Figure 2 highlights the 10-year period from 2014 to 2023. The 10-year high occurred in 2017 at 314,921 crashes. The large drop to 245,432 crashes in 2020 corresponds to the COVID-19 pandemic. The total number of crashes in Michigan decreased from 293,341 in 2022 to 287,953 in 2023 (1.8%).

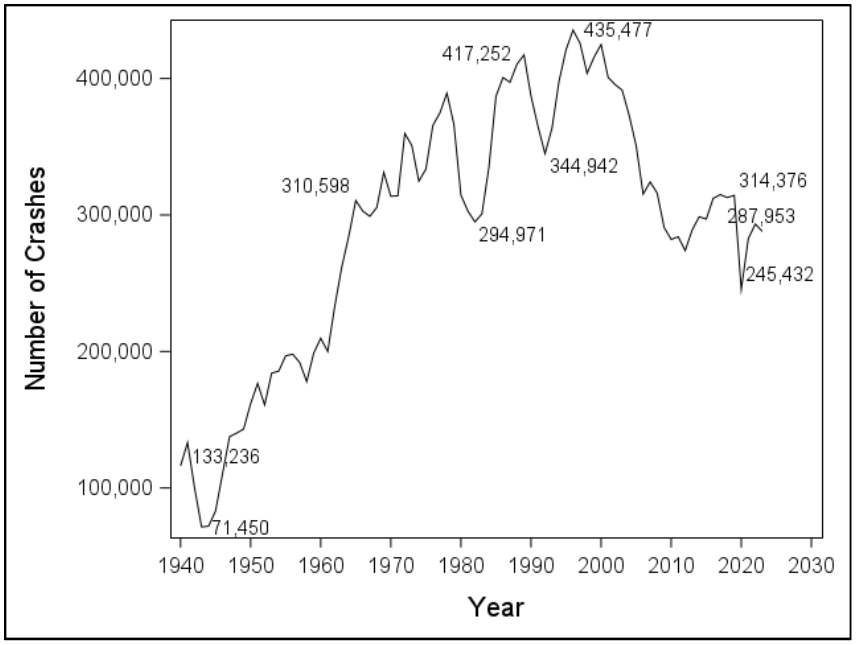

Figure 1 – All Michigan Crashes, 1940-2023

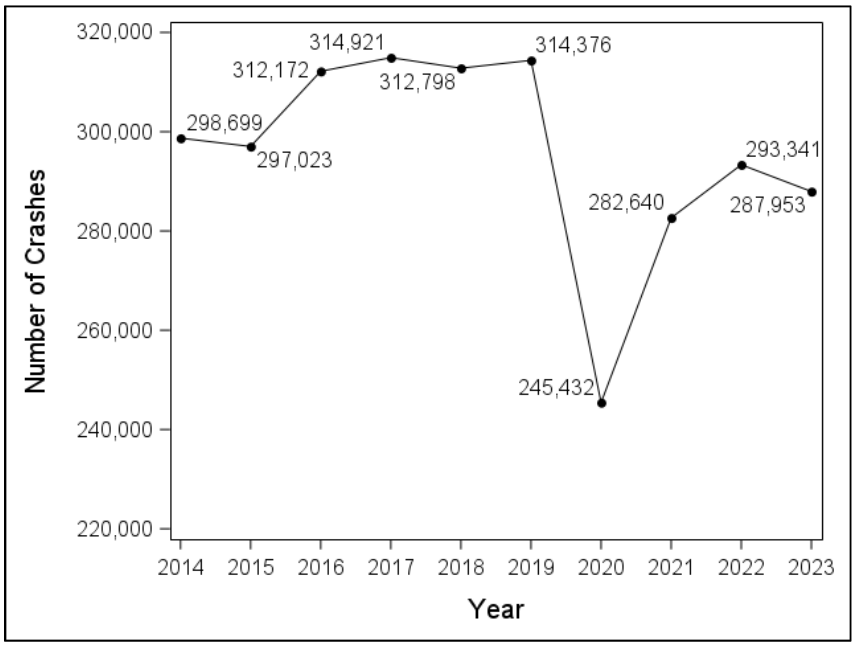

Figure 2 – All Michigan Crashes, 2014-2023

2.2 Number of Fatalities

When looking at the counts of fatalities in crashes, Figure 3 shows the total crash fatalities in Michigan from 1940 to 2023. Fatalities reached their highest in 1969 with 2,487 and have generally decreased since then. The low occurred in 2009 at 871 fatalities. Figure 4 highlights fatalities from 2014 to 2023 only. The peak number of fatalities over the 10-year period was 1,131 in 2021. There was a 4.4% increase in the fatality count from 1,083 in 2020 to 1,131 in 2021, followed by a 0.7% decrease to 1,123 in 2022. In 2023, the fatality count decreased again by 2.5% to 1,095.

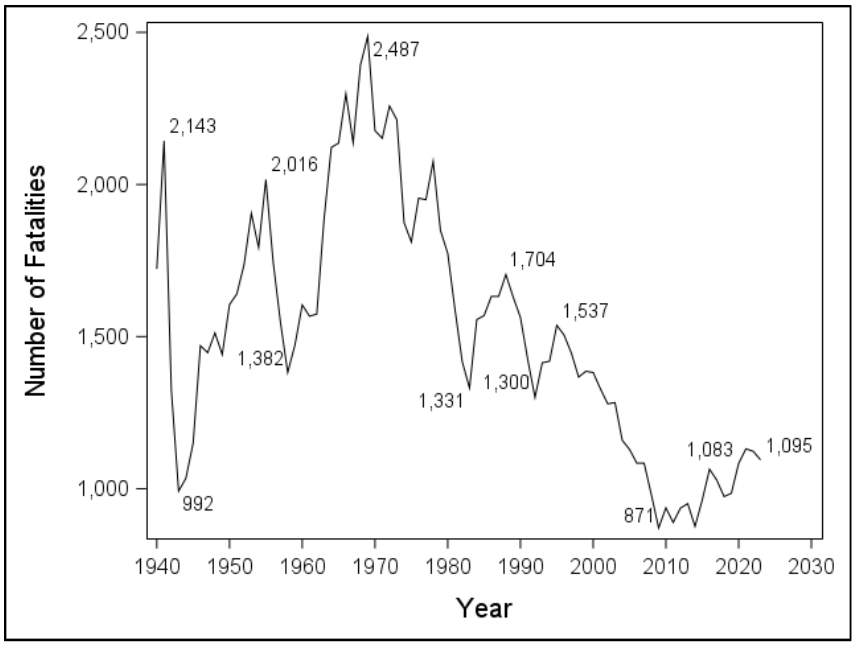

Figure 3 – Michigan Crash Fatalities, 1940-2023

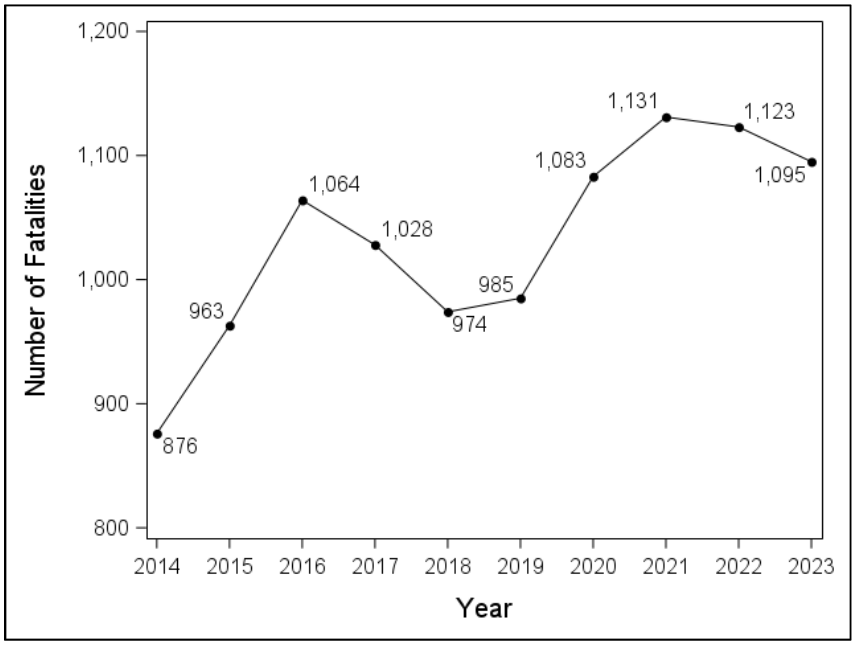

Figure 4 – Michigan Crash Fatalities, 2014-2023

In Figure 5, fatalities are plotted by four age groups. The age groups are broken into 0 to 20 (solid purple line), 21 to 35 (dashed blue line), 36 to 64 (dotted green line), and 65 and older (dashed/dotted orange line). In 2023, 103 people under the age of 21 were killed in crashes. This count is up slightly from 100 fatalities in 2023, an increase of 3.0%. The number of fatalities age 21 to 35 increased 5.8% from 275 in 2022 to 291 in 2023. The number of people age 36 to 64 who were killed has generally increased over the 10-year time period. The peak number of fatalities was 502 in 2022, which is an increase of 7.5% from the 2021 count of 467 fatalities. There was a 13.5% decrease to 434 fatalities in 2023. The number of fatalities among people 65 and older has also risen in recent years and has topped 200 deaths in each of the last eight years, reaching the highest count at 267 in 2023. This count is an 8.5% increase from 246 fatalities in 2022.

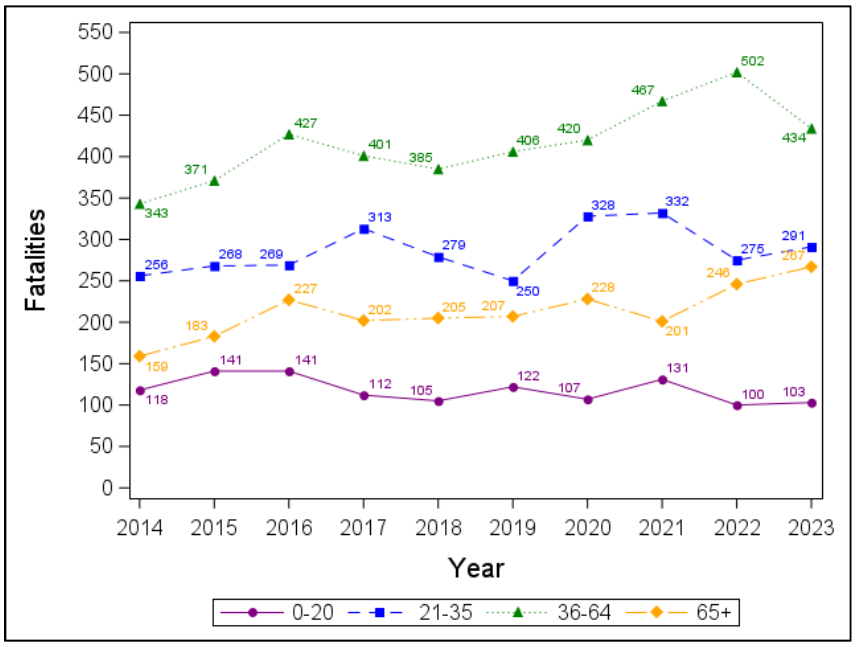

Figure 5 – Fatalities by Age Group

3.0 Fatal Crashes and Fatalities by Factors of Interest

3.1 Driver Age

Table 1 shows the number of fatal crashes for young driver age groups from 2019 to 2023, along with the percent change from one year to the next. The driver age groups are not mutually exclusive—a crash involving one driver age 16 and another age 18 would be counted in both the 15-17 and 18-20 age groups.

The number of fatal crashes in the 15-17 age group has increased over the five-year period, with a high of 42 in 2021. The 18-20 age group reached a five-year high in 2021 at 119 fatal crashes. The fatal crash high of 139 in the 21-24 age group also occurred in 2021. The 15-17, 18-20, and 21-24 age groups each had a decrease in the number of fatal crashes from the five-year highs in 2021 to 2022, followed by an increase in each of the fatal crash counts in 2023.

Table 1. Young Driver Fatal Crashes by Age Group

Fatal Crashes Involving Young Drivers									
Age Group	2019	2020	2021	2022	2023	2019-2020 Percent Change	2020-2021 Percent Change	2021-2022 Percent Change	2022-2023 Percent Change
Driver Age 15-17	23	32	42	35	36	39.1%	31.3%	-16.7%	2.9%
Driver Age 18-20	98	92	119	92	97	-6.1%	29.3%	-22.7%	5.4%
Driver Age 21-24	118	138	139	117	122	16.9%	0.7%	-15.8%	4.3%

Figure 6 shows the number of fatalities that occurred in crashes involving a driver in each of the young driver age groups defined above from 2014 through 2023. These age groups do not necessarily correspond to the age of the fatality victims. Fatalities in crashes with drivers age 15-17 increased 11.9% from 34 in 2014 to 38 in 2023. Fatalities in crashes with drivers age 18-20 increased to 103 in 2023, up 7.3% from 96 in 2014. Fatalities in crashes with a driver age 21-24 peaked in 2017 with 180. The 2023 fatality count of 139 for fatalities in crashes with a driver age 21-24 is a 15.8% decrease from 165 fatalities in 2014.

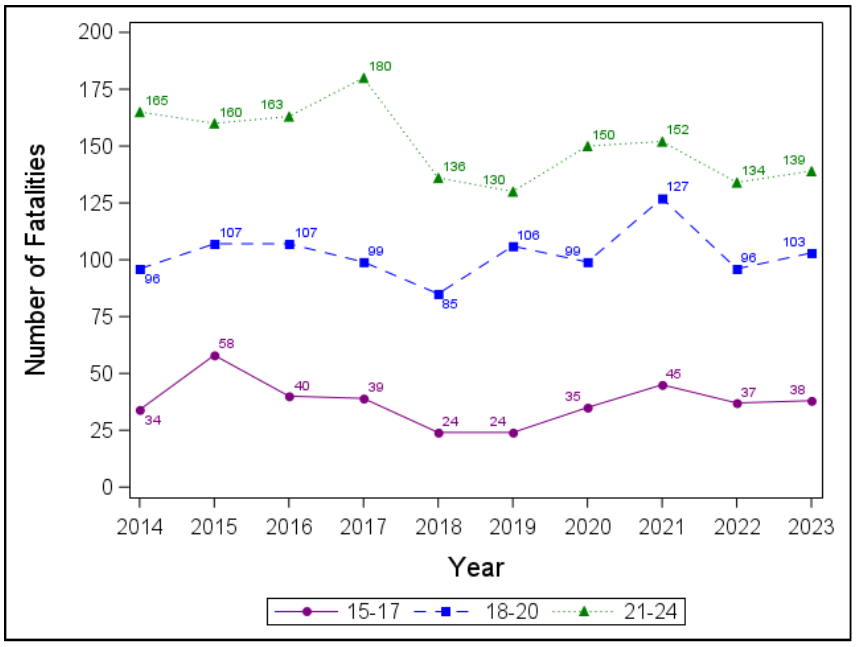

Figure 6 – Fatalities in Young Driver Crashes by Age Group

Table 2 displays the data for fatal crashes involving older drivers divided into four age groups. Again, the age groups are not mutually exclusive, and some fatal crashes may be included in both the younger driver table and the older driver table. The number of fatal crashes involving the first group of older drivers, age 60-64, has been mostly stable over the past five years, with a high of 96 in 2022 and a low of 81 in 2021. In 2023, the driver age 60-64 fatal crash count was 92. The number of fatal crashes involving drivers age 65-74 was at a five-year low of 96 in 2019, but has increased each subsequent year, with the largest increase from 136 fatal crashes in 2022 to 163 in 2023 (19.9% increase). Drivers age 75-84 were in 96 fatal crashes in 2022, a five-year high, but decreased to 84 fatal crashes in 2023 (-12.5%). The last

group of older drivers, age 85 and older, were involved in 19 fatal crashes in 2021, the lowest count during the five-year period, and the high occurred in 2023 at 35 fatal crashes. The counts were relatively low each year compared to each of the three other older driver age groups (i.e., 60-64, 65-74, and 75-84).

Table 2. Older Driver Fatal Crashes by Age Group

Fatal Crashes Involving Older Drivers									
Age Group	2019	2020	2021	2022	2023	2019-2020 Percent Change	2020-2021 Percent Change	2021-2022 Percent Change	2022-2023 Percent Change
Driver Age 60-64	90	85	81	96	92	-5.6%	-4.7%	18.5%	-4.2%
Driver Age 65-74	96	110	125	136	163	14.6%	13.6%	8.8%	19.9%
Driver Age 75-84	86	73	78	96	84	-15.1%	6.8%	23.1%	-12.5%
Driver Age 85+	31	33	19	22	35	6.5%	-42.4%	15.8%	59.1%

Figure 7 shows the number of fatalities that occurred in crashes involving an older driver in each of the driver age groups defined above from 2014 through 2023. Again, the age groups do not necessarily reflect the ages of the fatality victims. While the driver 60-64 older driver age group remained relatively constant from 2017 through 2023, each of the age groups showed an overall increase over the 10-year period from 2014 to 2023 and the 65-74 and 85+ older driver age groups also showed an increase in the number of crash fatalities from 2022 to 2023 with an increase of 26 (17.6%) and 17 (77.3%) fatalities, respectively. These increases relate directly to the aging population in Michigan. There was a 37.1% increase in Michigan's older licensed drivers, from 1,360,248 in 2014 to 1,865,341 in 2023.

Fatalities in crashes involving a driver 60-64 peaked in 2016 with 124 but have declined since then, down to a low of 85 fatalities in 2021. The number of fatalities in the 60-64 age group then increased to 102 in 2022 (15.9%) and decreased to 99 in 2023 (-2.9%). Fatalities in crashes involving a driver 65-74 have been increasing over the last five years from 2019 to 2023. The 10-year high occurred in 2023 at 174. Fatalities in crashes involving a driver 75-84 increased from a low of 52 in 2015 to a high of 103 in 2022. There was a decrease to 91 fatalities in 2023 (11.7%). The 2021 fatality count of 20 for drivers 85 and older is a 10-year low and a 56.5% reduction from the 10-year high of 46 in 2016. The 2023 fatality count increased to 39 from 22 fatalities in 2022.

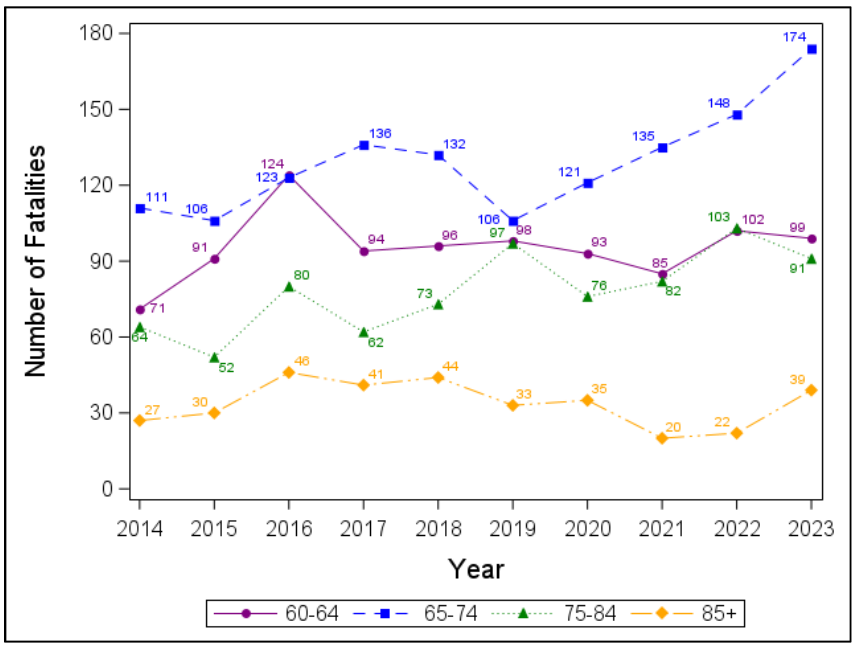

Figure 7 – Fatalities in Older Driver Crashes by Age Group

3.2 Seat Belt Use

The number of occupants of motor vehicles who were killed each year by reported seat belt use status at the time of the crash is displayed in Figure 8. Belted occupants were those who were wearing a lap belt, a shoulder belt, both lap and shoulder belts, or who were coded "restraint failure." Unbelted occupants were those for whom restraints were either unavailable or not used. For this comparison, all other possibilities of restraint use (child seats, motorcycle helmets, unknown, etc.) were excluded. Unknown belt use among fatalities is excluded from Figure 8. When interpreting the fatality counts of belted and unbelted occupants, it is important to consider the fact that most crash-involved occupants are belted.

In 2023, when other or unknown belt use was excluded, 98.4% of all crash-involved motor vehicle occupants were belted, and 1.6% were unbelted. Over the 10-year period, the number of unbelted fatalities had been relatively constant from 2014 through 2018, before starting an upward trend in 2019. In 2021, the unbelted fatality count reached a 10-year high of 254 fatalities. The 2022 count of 244 unbelted fatalities was down 3.9% from the high in 2021. The count again decreased to 223 unbelted fatalities in 2023, a decrease of 8.6%. Belted fatalities peaked in 2016 at 364 and were at the lowest at 294 fatalities in both 2014 and 2020. There were 342 belted fatalities in 2023, which was up 1.8% from 336 belted fatalities in 2022 and up 16.3% from the 10-year low.

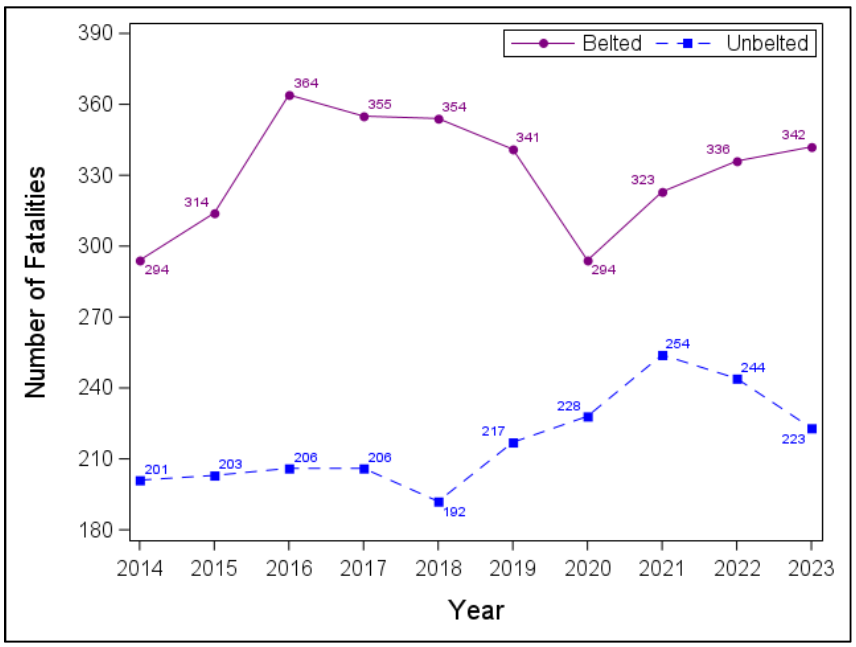

Figure 8 – Fatalities by Seat Belt Use

3.3 Speeding

Over the last 10 years, the most common hazardous action coded for drivers in fatal crashes was speed too fast, followed by "unknown," and failed to yield. Out of the 15,473 motor vehicle drivers involved in fatal crashes in Michigan from 2014 to 2023, there were 1,878 drivers in 1,845 fatal crashes coded as speed too fast. Figure 9 shows the number of fatalities resulting from these speeding crashes each year. The greatest number of speed-related fatalities occurred in 2021 at 237, which was an 18.5% increase from the 2020 count of 200. In 2022, the speed-related fatality count decreased to 223, a 5.9% decrease from 2021. The lowest number of speed-related fatalities was 175 in 2017. In 2023, the speed-related fatality count of 210 was a 5.8% decrease from the 2022 count of 223. Alcohol was involved in the crash in an average of 77 (38.3%) of these speed-related fatalities each year.

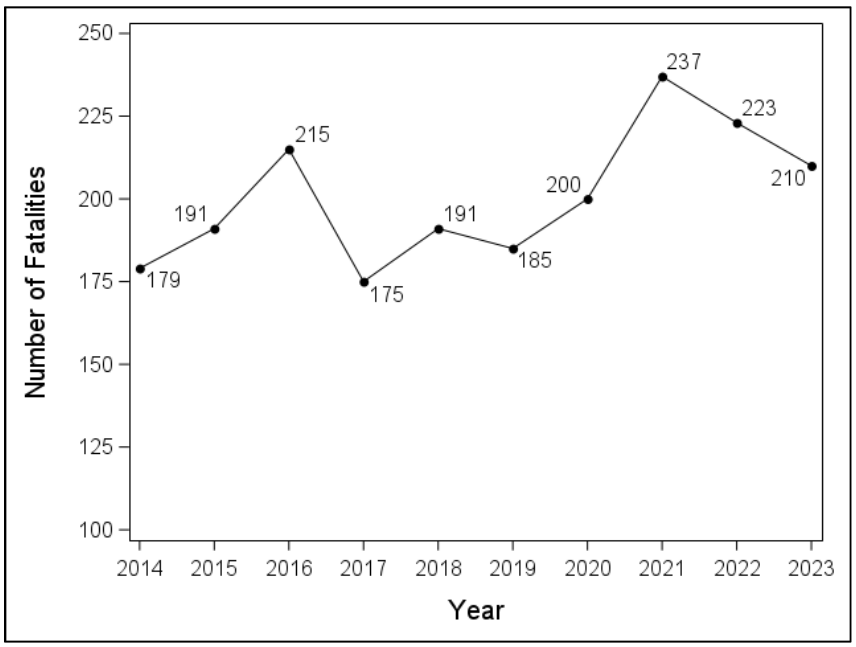

Figure 9 – Fatalities in Speed-Involved Crashes

3.4 Alcohol-Involved Crashes

Figure 10 shows the number of fatalities in alcohol-involved crashes from 2014 through 2023. Over the last 10 years, the highest fatality count in alcohol-involved crashes occurred in 2017 with 359, though 2021 was just under that count with 357. The lowest number of alcohol-involved fatalities was 236 in 2014. There were 297 alcohol-involved fatalities in 2023, a 7.7% decrease from 2022. In 2023, 27.1% of all fatalities in crashes involved alcohol. During the 10-year period, about 30% of all fatalities stemmed from alcohol-involved crashes.

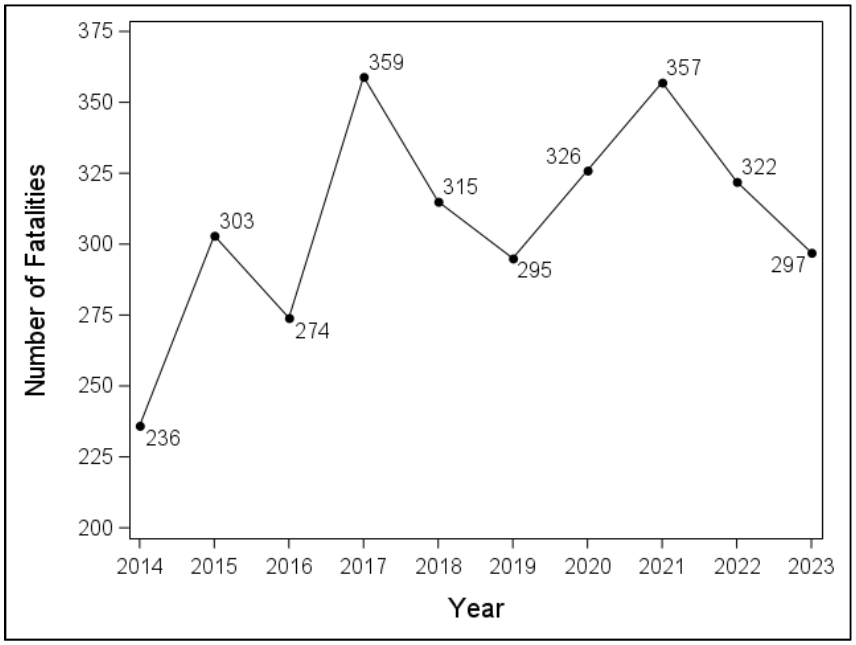

Figure 10 – Fatalities in Alcohol-Involved Crashes

Figure 11 depicts 10-year trends for fatalities in alcohol-involved crashes according to two specific young drinking driver age groups. In 2023, there were 20 fatalities involving drinking drivers age 15 to 20, which was a 31.0% decrease from the highest fatality count of 29 in 2021. Alternatively, in 2021, fatalities in crashes involving at least one drinking driver age 21 to 24 had the lowest count over the same period at 30. The 2023 count of alcohol-involved fatalities was slightly higher than the 10-year low at 33, a 17.5% decrease from the 2022 count of 40. During that same 10-year period, alcohol-involved crash fatalities with drinking drivers age 21 to 24 generally decreased from a high of 54 in 2014.

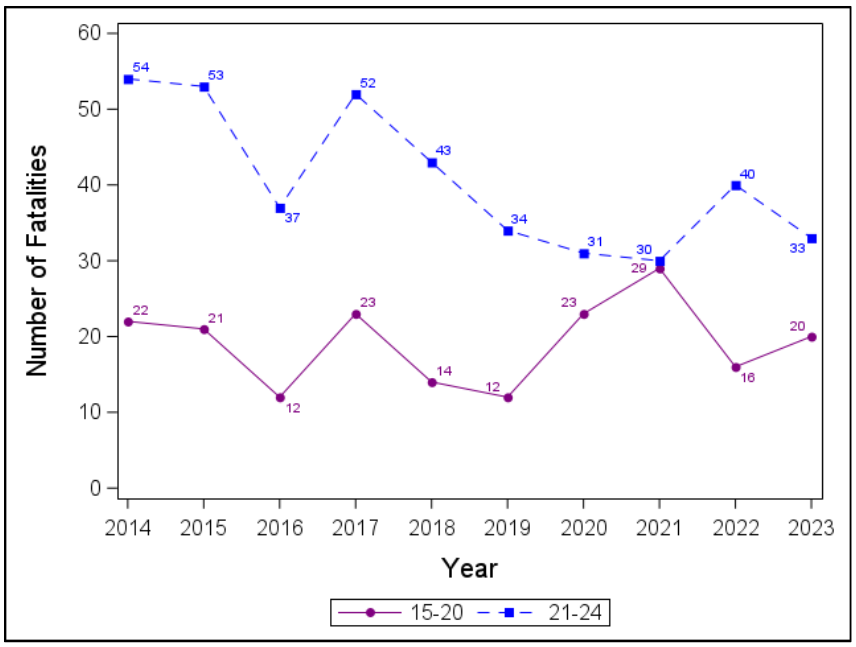

Figure 11 – Fatalities in Alcohol-Involved Crashes by Driver Age

3.5 Drug-Involved Crashes

Figure 12 shows the reported number of fatalities in drug-involved crashes over the 10-year period. The count of fatalities in drug-involved crashes increased over the 10-year period. The drug-involved fatality count was 256 in 2023, an increase from 249 in 2022 (2.8%). The 10-year high occurred in 2021 at 275 fatalities. Drugs were involved in 23.4% of crash fatalities in 2023. The jump from 179 fatalities in 2015 to 239 fatalities in 2016 partially reflects more thorough testing and data collection of driver drug use in Michigan crashes in that year and all subsequent years. Overall, from 2014 to 2023, there was a 70.7% increase in drug-involved fatalities.

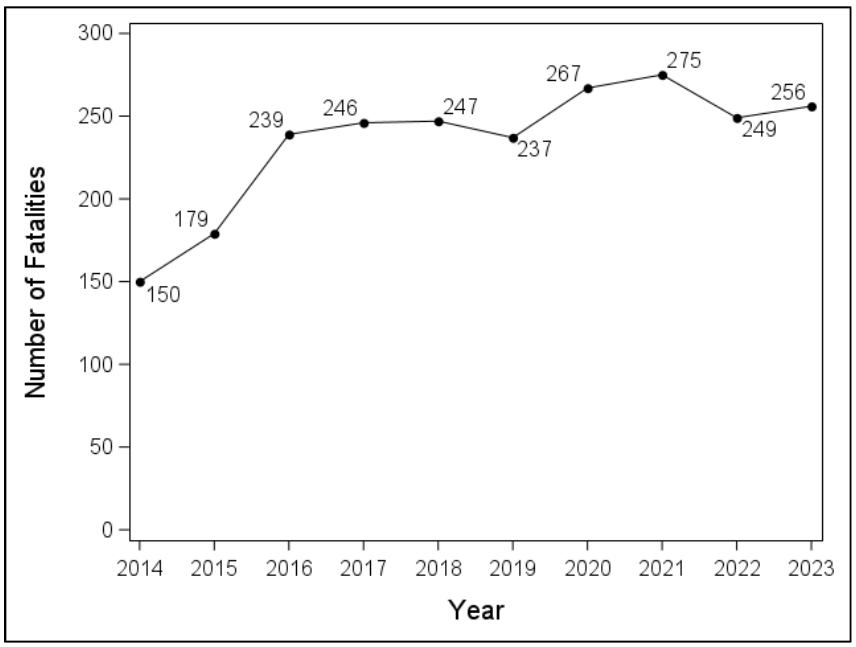

Figure 12 – Fatalities in Drug-Involved Crashes

3.6 Pedestrian Fatalities

The number of all pedestrian fatalities and the subset of drinking pedestrian fatalities are both displayed in Figure 13. Over the past 10 years, pedestrian fatalities peaked in both 2021 and 2023 with 183 each. The 2023 count was an increase of 5.8% from the fatality count of 173 in 2022. Before a slight increase in 2019, the number of pedestrian fatalities declined each year from a high of 170 in 2015 to 145 in 2018. Of the 183 pedestrians killed in 2023, 24, or 13.1%, of the pedestrians killed had been drinking, which was the 10-year low. For comparison, 2022 percentage of killed drinking pedestrians out of all killed pedestrians was 19.7%.

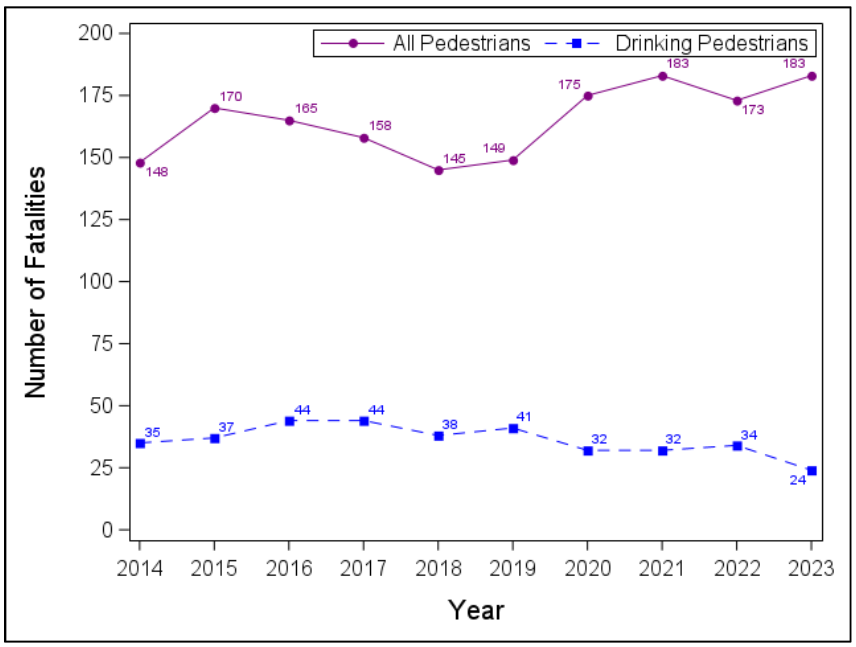

Figure 13 – Pedestrian and Drinking Pedestrian Fatalities in Crashes

3.7 Bicyclist Fatalities

Figure 14 shows the total bicyclist fatalities and the subset of drinking bicyclist fatalities on the same graph. The number of bicyclist fatalities has shown variation from a high of 38 (i.e., 2016 and 2020) to a low of 21 in multiple years over the past 10 years from 2014 through 2023. The small number of bicyclist fatalities makes some of the year-to-year fluctuations seem more substantial. In 2023 the number of bicyclist fatalities was 24, a 33.3% decrease from the 2022 fatality count of 36. The number of killed bicyclists who had been drinking has been relatively low each year, with a high of six in 2015. Four of the 24 (16.7%) bicyclists who were killed in 2023 had been drinking at the time of the crash.

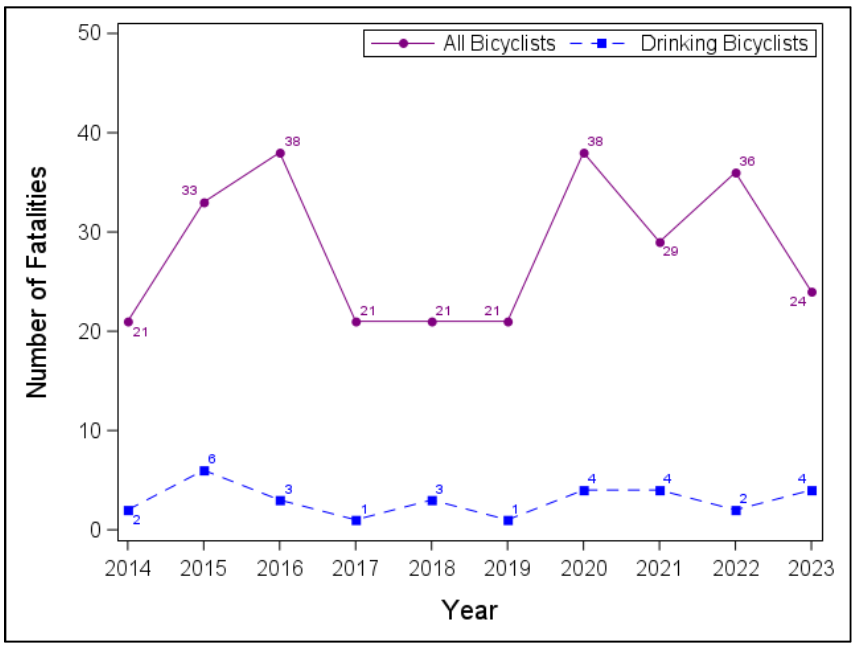

Figure 14 – Bicyclist and Drinking Bicyclist Fatalities in Crashes

3.8 Motorcyclists in Crashes

Figure 15 shows the number of motorcyclist fatalities from 2014 through 2023 and the upward trend over that time. The count of 165 motorcyclists killed in crashes in 2023 was down 4.6% from the 10-year high of 173 in 2022. The lowest fatality count during this timeframe occurred in 2014 with 107 fatalities. Over the 10-year period from 2014 to 2023, motorcyclist fatalities increased 54.2%.

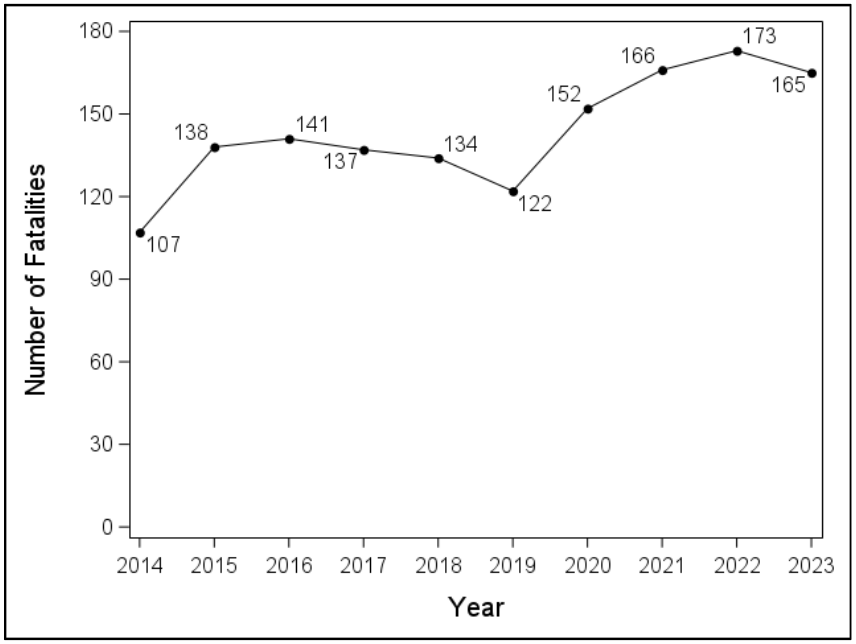

Figure 15 – Motorcyclist Fatalities in Crashes

3.9 Helmet Use among Motorcyclist Fatalities

Figure 16 shows the number of fatally injured motorcyclists per year by their helmet use at the time of the crash. The Michigan law mandating helmet use was repealed in April 2012, changing the law to a partial helmet requirement. Unknown or unavailable helmet use among fatalities were excluded from the graph.

Data from 2011 (not shown) indicate the vast majority of motorcyclists who were killed in crashes were wearing a helmet (89.9%), which is not surprising because helmets were legally required at the time. In the last 10 years, the split between helmeted and unhelmeted riders has been much more even, with 47.6% of the motorcyclists killed helmeted, 44.5% unhelmeted, and 7.9% with unknown helmet use. During the period from 2014 to 2023, the number of motorcyclists not wearing helmets who were killed in crashes exceed the number who were helmeted and killed in 2016 and 2022. In 2023, there were 75 fatally injured motorcyclists who were helmeted (45.5%), 72 who were not helmeted (43.6%), and 18 with helmet use unknown or unavailable (10.9%).

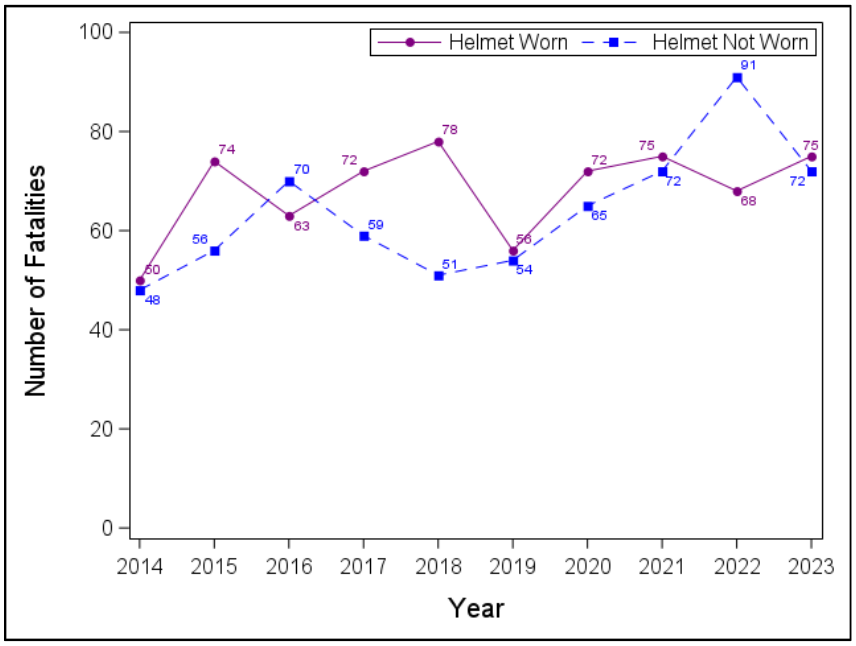

Figure 16 – Motorcyclist Fatalities in Crashes by Helmet Use

Data used to generate the chart are shown in Table 3. For the purposes of this table, unknown helmet use, no belts available, and unknown restraint use were combined.

Table 3. Motorcyclists Killed in Crashes by Helmet Use

Helmet Use Among Motorcyclist Fatalities				
Year	Helmet Worn	Helmet Not Worn	Helmet Use Unknown or Unavailable	Total
2014	50 (46.7%)	48 (44.9%)	9 (8.4%)	107 (100.0%)
2015	74 (53.6%)	56 (40.6%)	8 (5.8%)	138 (100.0%)
2016	63 (44.7%)	70 (49.6%)	8 (5.7%)	141 (100.0%)
2017	72 (52.6%)	59 (43.1%)	6 (4.4%)	137 (100.0%)
2018	78 (58.2%)	51 (38.1%)	5 (3.7%)	134 (100.0%)
2019	56 (45.9%)	54 (44.3%)	12 (9.8%)	122 (100.0%)
2020	72 (47.4%)	65 (42.8%)	15 (9.9%)	152 (100.0%)
2021	75 (45.2%)	72 (43.4%)	19 (11.4%)	166 (100.0%)
2022	68 (39.3%)	91 (52.6%)	14 (8.1%)	173 (100.0%)
2023	75 (45.5%)	72 (43.6%)	18 (10.9%)	173 (100.0%)
Total	**683 (47.6%)**	**638 (44.5%)**	**114 (7.9%)**	**1,435 (100.0%)**

3.10 Highway Classification

Figure 17 shows fatal crashes over the 10-year period in Michigan by highway classification. In 2023, 231 fatal crashes took place on Michigan routes, 103 took place on Interstates, and 93 occurred on US routes. The number of fatal crashes on Michigan routes decreased by 6.1% from 246 in 2022, the number of fatal crashes on Interstates increased 19.8% from 86 in 2022, and the number of fatal crashes on US routes decreased 4.1% from 97 in 2022.

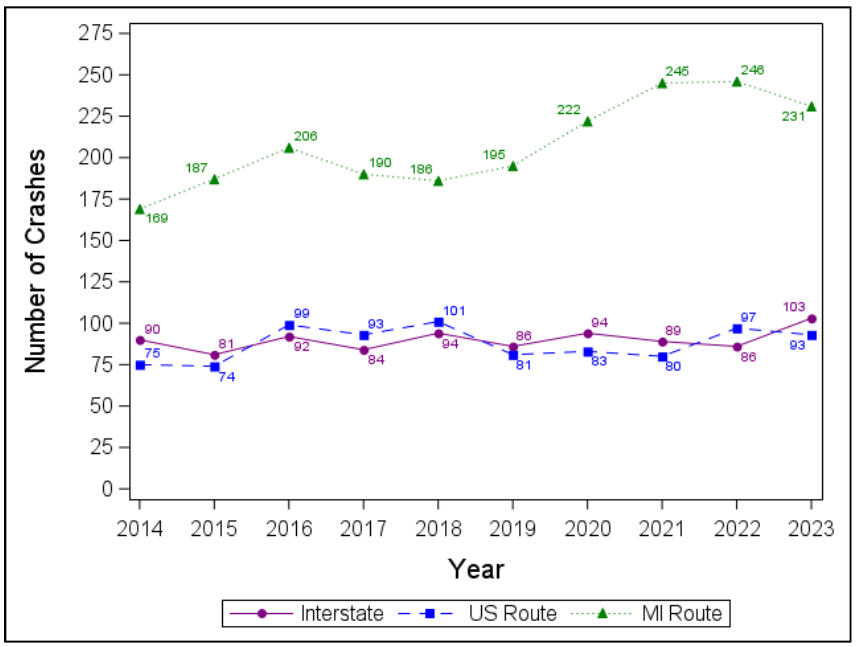

Figure 17 – Fatal Crashes by Highway Classification

Table 4 shows the fatality trends over the past 10 years for all classes of highways in Michigan. Interstate and U.S. route fatal crashes were steady over the 10-year period from 2014 to 2023, with a slight increase for Interstate routes from 100 in 2022 to 115 in 2023 (15.0%). MI route fatal crashes increased from 2018 through 2022 (27.8%). In 2023, there was a slight decrease from 262 fatalities in 2022 to 249 in 2023 (5.0%). During the 10-year period, fatalities in the category of "county road, city street, or unknown," used to define local roads, increased 24.0%. Overall, the majority of fatalities occurred in the "county road, city street, or unknown" category (57.3%), followed by Michigan routes (21.7%), Interstate routes (9.7%), and U.S. routes (9.3%).

Table 4. Fatalities in Crashes by Highway Classification

Fatalities by Highway Class											
Highway Class	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total Fatalities
Interstate Route	98	95	104	96	101	92	108	95	100	115	1,004
U.S. Route	84	76	109	111	116	88	91	87	103	100	965
Michigan Route	186	199	222	207	205	221	234	260	262	249	2,245
Interstate Business Loop or Spur	8	9	15	16	13	14	8	9	13	12	117
U.S. Business Route	6	4	3	2	2	4	4	6	8	7	46
Michigan Business Route	0	0	0	0	0	1	0	0	1	0	2
Connector	0	1	1	0	3	1	1	2	3	1	13
Service Drive	2	1	0	0	0	0	0	0	0	0	3
County Road, City Street, or Unknown	492	578	610	596	533	564	636	667	631	610	5,917
Uncoded and Errors	0	0	0	0	1	0	1	5	2	1	10
Total Fatalities	**876**	**963**	**1,064**	**1,028**	**974**	**985**	**1,083**	**1,131**	**1,123**	**1,095**	**10,322**

3.11 Winter Road Conditions

Figure 18 depicts fatal crashes that occurred under winter weather road conditions – ice (solid purple line), snow (dashed blue line), or slush (dotted green line). The counts are presented according to winter season – October 1 of one calendar year through April 30 of the following calendar year. Each winter season is labeled using the corresponding years on the x-axis in the figure.

More fatal crashes occurred under icy or snowy road conditions than slushy conditions each year. Over the 10-year period, the peak number of fatal winter weather road condition crashes occurred in the winter of 2013-2014 with 97, and the lowest count was during the winter of 2019-2020 with 44. Of the 59 fatal crashes during the winter of 2022-2023, 26 occurred on icy roads, 22 on snowy roads, and 11 on slushy roads. Variability in weather produces high seasonal variation in winter weather fatal crashes.

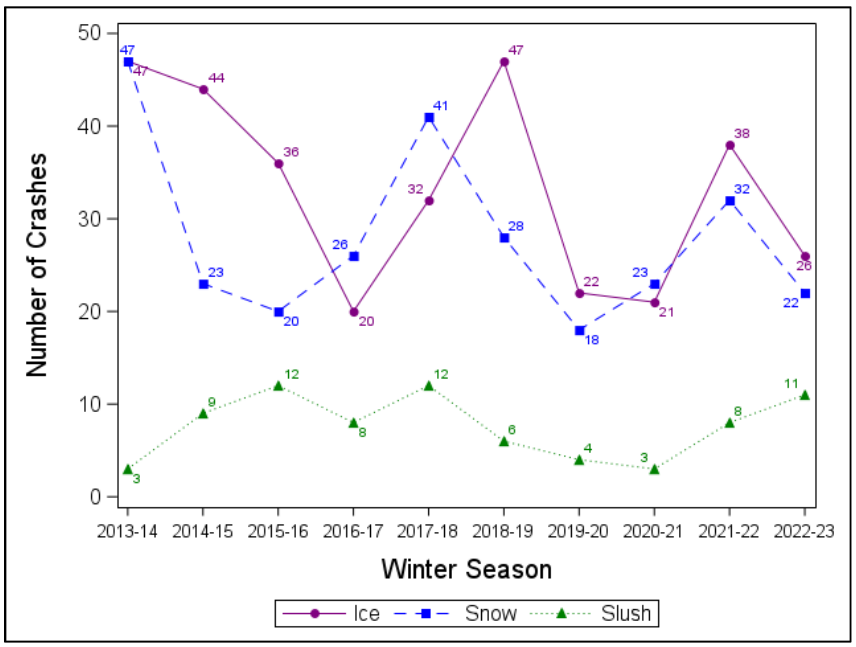

Figure 18 – Winter Season Fatal Crashes by Selected Roadway Conditions

3.12 Hit-and-Run

Michigan fatal hit-and-run crashes are shown in Figure 19. Over the last 10 years, the number of fatal hit-and-run crashes increased from a low of 52 in 2017 to a high of 95 in 2021, representing an 82.7% increase. There was a large increase from 54 fatal hit-and-run crashes in 2019 to 85 fatal hit-and-run crashes in 2020 (57.4%), and in 2021 another increase to 95 (11.8%). In 2022, fatal hit-and-run crashes decreased for the first time in three years to 86 (-9.5%), followed by another decrease to 63 (-26.7%) in 2023.

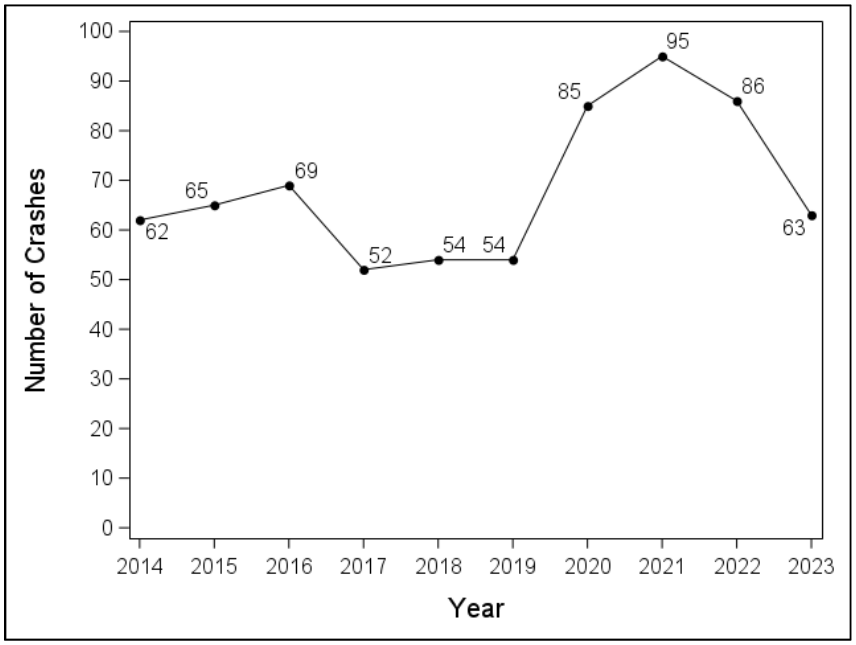

Figure 19 – Fatal Hit-and-Run Crashes

3.13 Deer

Figure 20 displays fatal motor vehicle crashes involving deer. While traffic crashes involving deer are relatively common in Michigan—58,806 such crashes occurred in 2023—they are rarely fatal. The number of deer crashes resulting in at least one fatality ranged from a low of five in 2020 to a high of 19 in 2023, increasing each year over that 4-year period. The count of 19 fatal deer crashes in 2023 was a 72.7% increase from the 2022 count of 11. Of all motor vehicles involved in fatal deer crashes from 2014 to 2023, more than half were motorcycles (79 out of 133, or 59.4%).

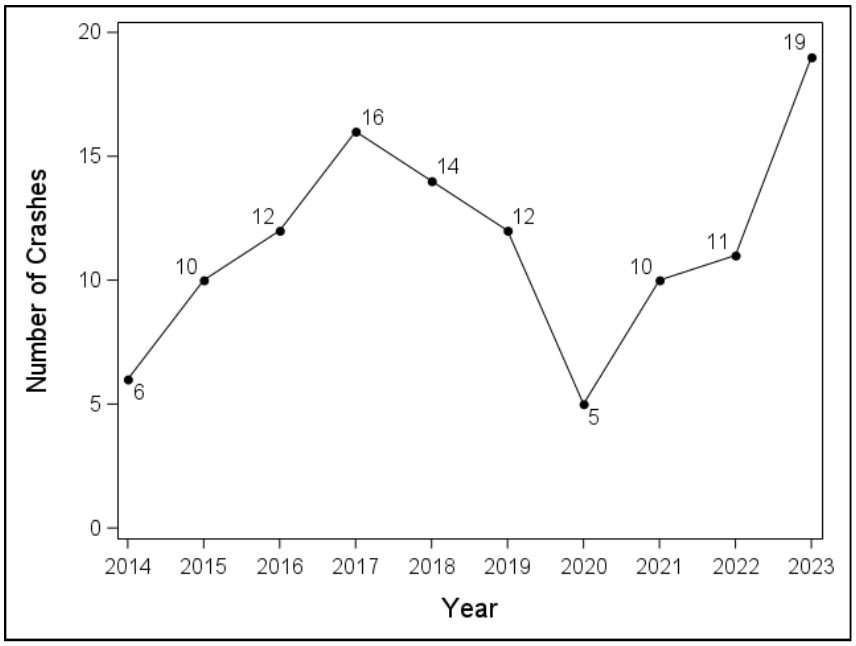

Figure 20 – Fatal Crashes Involving Deer

3.14 Heavy Trucks/Buses

Figure 21 shows fatal crashes with a heavy truck or bus involved. Over the past 10 years, the highest number of fatal crashes involving a heavy truck or bus occurred in 2016 with 104, and the low was in 2020 with 77. There were 93 fatal crashes involving a heavy truck or bus in 2023, which was a 3.1% decrease from 96 fatal crashes in 2022.

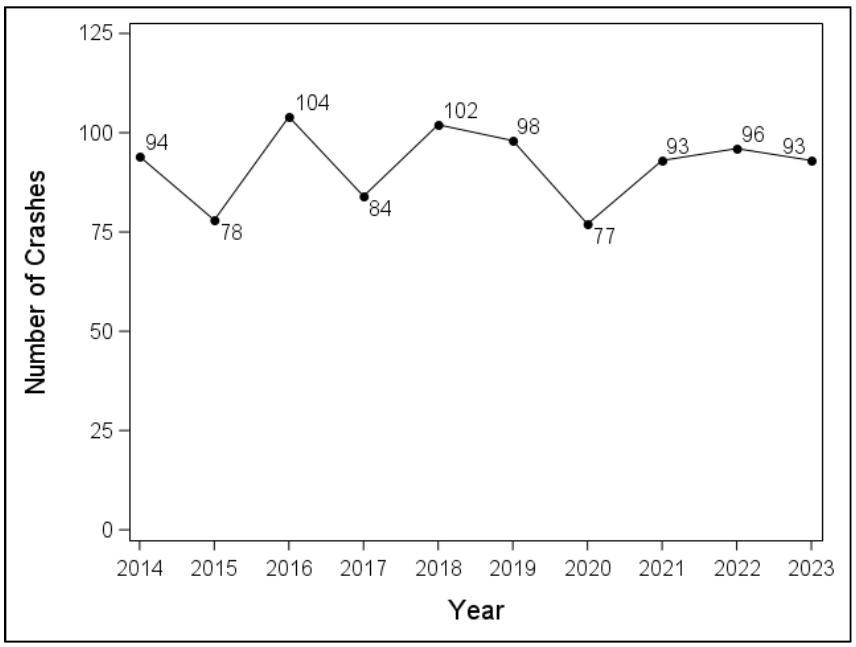

Figure 21 – Fatal Crashes Involving Heavy Trucks or Buses

3.15 Saturdays

Fatality counts for crashes occurring on Saturdays is shown in Figure 22. Over the past 10 years, more roadway fatalities have occurred on Saturdays than any other day of the week, with 17.6% of the total fatality count. For comparison, Friday and Sunday account for 15.5% and 15.7% of all fatalities during the 10-year period, respectively. Monday through Thursday accounted for an average of 12.8% of all fatalities. From 2014 to 2023, the peak number of Saturday fatalities occurred in 2022 with 202, and the low was in 2018 with 159. The number of Saturday fatalities increased each subsequent year since 2018, until a decrease to 177 fatalities in 2023. That count reflected a decrease of 12.4% from the 202 Saturday fatalities in 2022.

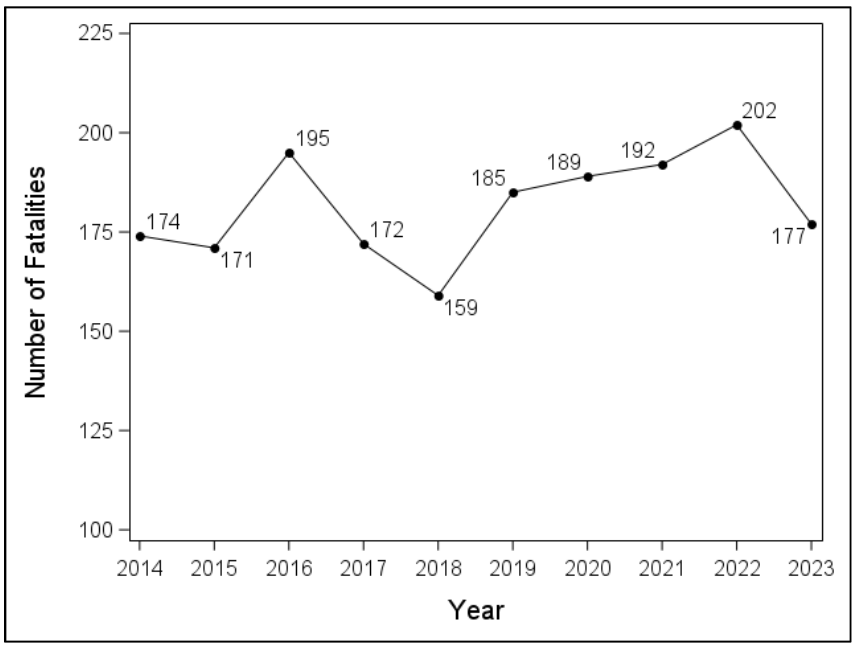

Figure 22 – Fatalities in Crashes on Saturdays

Figure 23 shows fatalities in alcohol-involved crashes on Saturdays. From 2014 through 2023, alcohol-involved fatalities accounted for 38.9% of the total fatalities that occurred on Saturdays over the past 10 years, compared to the overall rate of 29.9%. The lowest number of alcohol-involved fatalities over the past 10 years was in 2018 with 59, but that count increased by 45.8% to 86 fatalities in 2019, which was the highest number over the last 10 years. There were 82 fatalities on Saturdays in alcohol-involved crashes in 2021, which decreased to 68 fatalities in 2022 (17.1%). In 2023, the count decreased again to 62 (8.8%). Out of all Saturday crash fatalities in 2023, 35.0% involved alcohol. Sunday was the day of the week with the highest share of fatalities involving alcohol in 2023 with 40.0%. Weekdays accounted for an average of 24.9% alcohol-involved fatalities out of all fatalities.

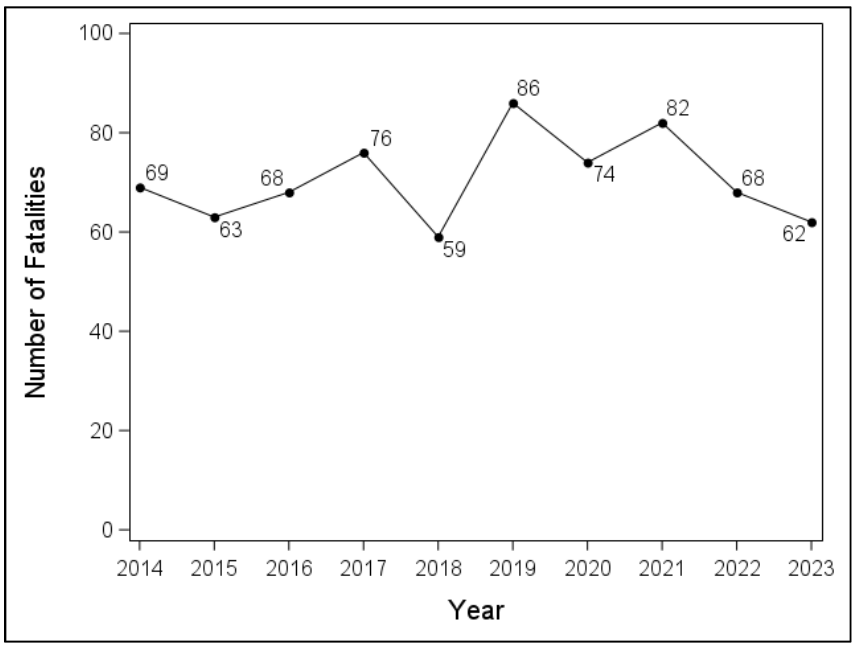

Figure 23 – Fatalities in Alcohol-Involved Crashes on Saturdays

4.0 Summary

Data from 1940 to 2023 show that traffic crashes peaked in 1996 with 435,477 and have decreased in subsequent years. Michigan traffic fatalities in peaked in 1969 with 2,487, but have declined 56.0% to 1,095 in 2023. Fatalities in crashes with each of the young driver age groups (15-17, 18-20, and 21-24) increased from 2022 to 2023. Fatalities in crashes with older drivers age 60-64 and 75-84 decreased from 2022 to 2023, but fatalities in crashes with drivers age 65-74 and 85+ increased.

In 2023, 98.4% of all crash-involved motor vehicle occupants were belted and 1.6% were unbelted. There were 223 unbelted fatalities in 2023, an 8.6% decrease from 244 in 2022. There were 342 belted fatalities in 2023, which was an increase of 1.8% from 336 belted fatalities in 2022. Speeding was involved in 19.0% of fatal crashes and 7.4% of all crashes. In 2023, the speed-related fatality count of 210 was a 5.8% decrease from the 2022 count of 223. Alcohol was involved in the crash in an average of 77 (38.3%) of these speed-related fatalities each year. About 26.6% of all fatal crashes were alcohol-involved, compared with 3.1% of total crashes. A total of 297 people died in alcohol-involved crashes and 256 people died in drug-involved crashes in 2023. There was an overlap of 108 people who were killed in crashes involving both alcohol and drugs.

From 2014 to 2023, pedestrian fatalities reached a 10-year high in both 2021 and 2023 at 183 fatalities. The bicyclist fatality peak of 38 fatalities occurred in both 2016 and 2020, with 24 bicyclist fatalities in 2023. The motorcyclist fatality peak occurred in 2022 at 173 fatalities and decreased 4.6% to 165 in 2023. Helmet use among motorcyclist fatalities has varied each year, with unhelmeted motorcyclist fatalities surpassing helmeted fatalities in 2016 and 2022. Among the motorcyclist fatalities in 2023, there were 75 helmeted (45.5%), 72 unhelmeted (43.6%), and 18 with unknown helmet use (10.9%).

Over the 10-year period from 2014 to 2023, the majority of fatalities in crashes occurred in the “county road, city street, or unknown” category (57.3%) used for local roads, followed by Michigan routes (21.7%), Interstate routes (9.7%), and U.S. routes (9.3%). Fatal winter weather road condition crashes with ice, snow, or slush from October 1 of one calendar year to April 30 of the following had a high in the winter of

2013-2014 with 97 and a low during the winter of 2019-2020 with 44. Fatal hit-and-run crashes peaked in 2021 at 95, while fatal deer crashes peaked in 2023 at 19. Heavy truck or bus fatal crashes reached a high of 104 in 2016. Weekends experienced the highest fatality counts. From 2014 through 2023, more roadway fatalities occurred on Saturdays than any other day of the week, with 17.6% of the total fatality count.

5.0 Supplemental Data Tables

Table 5 on the following page shows other summary statistics about fatal crashes. The first row of the table indicates the number of all fatal crashes each year from 2019 through 2023, the percent change in the counts from one year to the next, and the percent change from 2019 to 2023. Cells indicating an increase are shaded red, and cells representing a decrease are shaded blue. The subsequent rows of the table are subsets of the entire fatal crash population, such as fatal crashes involving alcohol, fatal crashes resulting from a head-on collision, or fatal crashes taking place on wet roads. Table 6 has similar statistics, but at the person-level for fatalities instead of at the crash-level.

Table 5. Number of Fatal Crashes and Percent Change 2019-2023

Fatal Crashes by Category	2019	2020	2021	2022	2023	2019-2020 Percent Change	2020-2021 Percent Change	2021-2022 Percent Change	2022-2023 Percent Change	2019-2023 Percent Change
All Fatal Crashes	902	1,010	1,068	1,053	1,021	12.0%	5.7%	-1.4%	-3.0%	13.2%
Alcohol-Involved	266	303	336	301	272	13.9%	10.9%	-10.4%	-9.6%	2.3%
Drug-Involved	214	250	259	229	230	16.8%	3.6%	-11.6%	0.4%	7.5%
Motorcycle-Involved	116	150	166	168	164	29.3%	10.7%	1.2%	-2.4%	41.4%
Pedestrian-Involved	143	173	182	172	179	21.0%	5.2%	-5.5%	4.1%	25.2%
Bicyclist-Involved	21	37	29	35	24	76.2%	-21.6%	20.7%	-31.4%	14.3%
Heavy Truck- or Bus-Involved	98	77	93	96	93	-21.4%	20.8%	3.2%	-3.1%	-5.1%
Deer	12	5	10	11	19	-58.3%	100.0%	10.0%	72.7%	58.3%
Hit-and-Run	54	85	95	86	63	57.4%	11.8%	-9.5%	-26.7%	16.7%
Head-on Crashes	114	105	122	104	120	-7.9%	16.2%	-14.8%	15.4%	5.3%
Construction/ Maintenance Zone	14	11	18	22	21	-21.4%	63.6%	22.2%	-4.5%	50.0%
Farm Equipment-Involved	5	5	5	4	3	0.0%	0.0%	-20.0%	-25.0%	-40.0%
Lane Departure - Multiple Vehicle	109	108	117	108	120	-0.9%	8.3%	-7.7%	11.1%	10.1%
Lane Departure - Parked Vehicle	11	9	9	8	10	-18.2%	0.0%	-11.1%	25.0%	-9.1%
Saturday/Sunday	295	327	360	352	331	10.8%	10.1%	-2.2%	-6.0%	12.2%
US Route	81	83	80	97	93	2.5%	-3.6%	21.3%	-4.1%	14.8%
Interstate Route	86	94	89	86	103	9.3%	-5.3%	-3.4%	19.8%	19.8%
County Road, City Street, or Unknown	521	597	634	597	573	14.6%	6.2%	-5.8%	-4.0%	10.0%
Winter Season (year represents season end)	81	44	47	78	59	-45.7%	6.8%	66.0%	-24.4%	-27.2%

Table 6. Number of Fatalities and Percent Change 2019-2023

Fatalities by Category	2019	2020	2021	2022	2023	2019-2020 Percent Change	2020-2021 Percent Change	2021-2022 Percent Change	2022-2023 Percent Change	2019-2023 Percent Change
All Fatalities	985	1,083	1,131	1,123	1,095	9.9%	4.4%	-0.7%	-2.5%	11.2%
Alcohol-Involved	295	326	357	322	297	10.5%	9.5%	-9.8%	-7.8%	0.7%
Drug-Involved	237	267	275	249	256	12.7%	3.0%	-9.5%	2.8%	8.0%
Motorcyclist Fatalities	122	152	166	176	165	24.6%	9.2%	6.0%	-6.3%	35.2%
Pedestrian Fatalities	149	175	183	174	183	17.4%	4.6%	-4.9%	5.2%	22.8%
Bicyclist Fatalities	21	38	29	36	24	81.0%	-23.7%	24.1%	-33.3%	14.3%
Heavy Truck- or Bus-Involved	106	78	103	105	103	-26.4%	32.1%	1.9%	-1.9%	-2.8%
Deer	12	5	10	11	19	-58.3%	100.0%	10.0%	72.7%	58.3%
Hit-and-Run	57	91	98	88	64	59.6%	7.7%	-10.2%	-27.3%	12.3%
Head-on Crash	138	121	140	131	146	-12.3%	15.7%	-6.4%	11.5%	5.8%
Construction/ Maintenance Zone	15	14	18	23	24	-6.7%	28.6%	27.8%	4.3%	60.0%
Farm Equipment-Involved	6	5	5	4	3	-16.7%	0.0%	-20.0%	-25.0%	-50.0%
Lane Departure - Multiple Vehicle	132	126	132	132	146	-4.5%	4.8%	0.0%	10.6%	10.6%
Lane Departure - Parked Vehicle	11	9	9	8	11	-18.2%	0.0%	-11.1%	37.5%	0.0%
Saturday/Sunday	329	348	383	379	358	5.8%	10.1%	-1.0%	-5.5%	8.8%
US Route	88	91	87	103	100	3.4%	-4.4%	18.4%	-2.9%	13.6%
Interstate Route	92	108	95	100	115	17.4%	-12.0%	5.3%	15.0%	25.0%
County Road, City Street, or Unknown	564	636	667	631	610	12.8%	4.9%	-5.4%	-3.3%	8.2%
Winter Season (year represents season end)	87	51	50	85	63	-29.0%	4.5%	56.5%	-25.9%	-27.6%