

Analysis Report: Pedestrian-Involved Crashes in Michigan (2020-2024)



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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. In addition to the changes in roadway usage and exposure, there were also impacts on trends for crash and injury severities.¹

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. In 2021, the crash count increased from 2020 to 282,640 crashes (still 10.1% less than 2019), and from 2022 to 2024 has only varied slightly between 287,953 (2023) and 293,341 (2022). Despite the lower number 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), 1,123 in 2022, 1,095 in 2023, and 1,099 in 2024. In 2020 compared to 2019, 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 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 – a decrease from the 2020 fatality rate but still much higher than the 2011-2020 average rate (1.01). In 2022, vehicle miles traveled decreased slightly to 95.89 billion miles, and the fatality rate remained at 1.17. In 2023, vehicle miles traveled increased slightly to 98.29 billion miles, and the fatality rate decreased to 1.11. In 2024, vehicle miles traveled increased slightly to 99.39 billion miles, and the fatality rate remained at 1.11.

¹ Peterson, C. M., Leslie, A., Bowman, P. J., & Flannagan, C. A. C. (2024). Unpacking the COVID-19 roadway fatality paradox: an analysis of motor vehicle crashes in Michigan 2019-2022. *Traffic Injury Prevention*, 26(5), 548–556. <https://doi.org/10.1080/15389588.2024.2427264>

1.0 Executive Summary

This report provides an analysis of police-reported motor vehicle crashes involving pedestrians on public roadways in Michigan from 2020 through 2024. Key findings include:

- From 2020-2024, crashes involving pedestrians comprised 0.69% of all crashes but accounted for 16.7% of fatal crashes.
- The number of pedestrian-involved crashes has increased from 1,682 in 2020 (a low influenced by the COVID-19 pandemic) to 2,131 in 2024.
- From 2020-2024, the count of pedestrian fatalities reached a high of 183 in both 2021 and 2023.
- A total of 87.4% of pedestrian-involved crashes resulted in any level of injury or fatality (K, A, B, or C-level injuries), compared to 17.3% of motor-vehicle-only crashes.
- About 27.9% of all crash-involved pedestrians were killed or had suspected serious injuries (K or A-level injuries). This injury proportion was higher in older age groups of pedestrians age 65-74 (35.3%), pedestrians age 75-84 (40.4%), and pedestrians age 85 and over (49.3%).
- The proportion of pedestrian-involved crashes by month had a low in April (6.6%) and a high in October (11.4%).
- Friday was the most common day for pedestrian-involved crashes with 16.1% of the total.
- Dark lighting conditions were a factor in 43.0% of all pedestrian-involved crashes and 71.4% of fatal pedestrian-involved crashes.
- The top pedestrian action prior to crash in non-fatal crashes was crossing at an intersection (42.0%), while for pedestrians in fatal crashes it was crossing not at an intersection (30.0%).
- Impairment due to alcohol and/or drugs occurs more often in pedestrian-involved crashes (11.1%) than motor-vehicle-only crashes (3.7%). In pedestrian-involved crashes involving alcohol, 65.3% of the pedestrians and 29.5% of the motor-vehicle drivers were reported to have been drinking.

2.0 Introduction

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 Michigan State Police *UD-10 Traffic Crash Report Instruction Manual* defines a pedestrian as a:

- Person on foot
- Person on skis, skates, or roller blades
- Rider of a horse
- Horse and buggy (each occupant, including the driver, will be listed as a separate pedestrian unit)
- Non-motorized wheelchair

The report describes pedestrian-involved crashes in terms of severity, temporal patterns, and roadway and environmental variables. One section examines pedestrian and motor-vehicle driver attributes, including age, action prior to the crash, and hazardous actions committed by drivers. The incidence of alcohol and drugs in pedestrian-involved crashes is considered, by the pedestrians or motor vehicle drivers.

In this report, injury severity of people involved in crashes is frequently categorized according to the KABCO scale:

- K - Fatal Injury
- A - Suspected Serious Injury
- B - Suspected Minor Injury
- C - Possible Injury
- O - No Apparent Injury

Similarly, crashes are sometimes classified according to the most severe injury suffered by anyone involved in the crash. Again, the KABCO scale is used, but for O-level severity this refers to crashes with property damage only (PDO) instead of no injury or fatality.

3.0 Crash Trends and Injury Severity

3.1 Crash Counts and Proportions

Table 1 shows the counts of police-reported motor vehicle crashes involving pedestrians in Michigan over the past five years, both for all crashes and for those involving a fatality. The table also indicates the number of pedestrian fatalities each year. Between 2020 and 2024 there was a low of 156 fatalities in 2024 and a high of 183 in both 2021 and 2023. There is some evidence at the national level that more people were walking during the pandemic², suggesting a possible reason for the change in both crash and fatality counts for pedestrians in 2020 and 2021.

² Hunter, R. F., Garcia, L., de Sa, T. H., Zapata-Diomed, B., Millett, C., Woodcock, J., & Moro, E. (2021). Effect of COVID-19 response policies on walking behavior in US cities. *Nature communications*, 12(1), 1-9.

Table 1. Pedestrian-Involved Crashes

Year	Pedestrian-Involved Crashes	Pedestrian-Involved Fatal Crashes	Pedestrian Fatalities
2020	1,682	173	175
2021	1,790	182	183
2022	1,897	172	173
2023	2,114	179	183
2024	2,131	155	156
Total	9,614	861	870

Figure 1 shows the five-year trend for pedestrian-involved crash counts. Pedestrian-involved crashes increased each year from 2020 through 2024. The highest count for all pedestrian-involved crashes (2,131) occurred in 2024, and highest count of fatal pedestrian-involved crashes (182) occurred in 2021. The lowest number of all pedestrian-involved crashes (1,682) took place in 2020, while the low for fatal pedestrian-involved crashes (155) occurred in 2024.

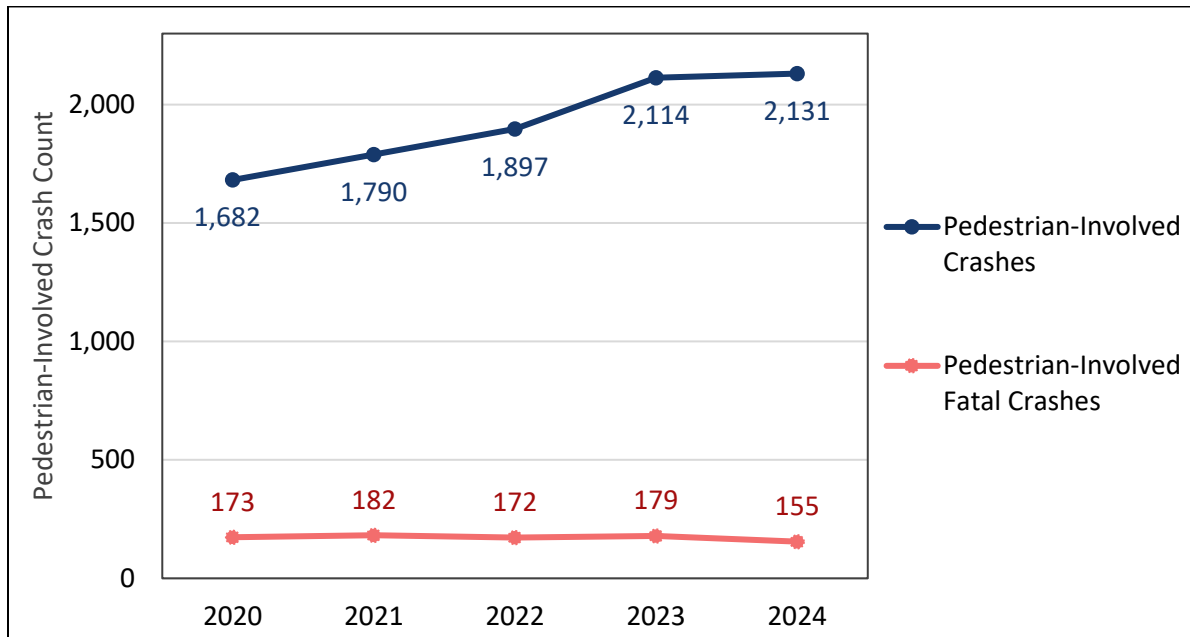


Figure 1 – Pedestrian-Involved Crash Counts by Year

Figure 2 shows the proportion of pedestrian-involved crashes for both all crashes and fatal crashes. The proportion of crashes that were pedestrian-involved had a low in 2021 of 0.63% and a high in 2024 of 0.74%. The proportion of fatal crashes that involved pedestrians reached a five-year high of 17.5% in 2023, but decreased to a five-year low of 15.3% in 2024. From 2020-2024, crashes involving pedestrians comprised 0.69% of all crashes but accounted for 16.7% of fatal crashes. This over-representation of pedestrians in fatal crashes highlights the vulnerability of pedestrians on roadways.

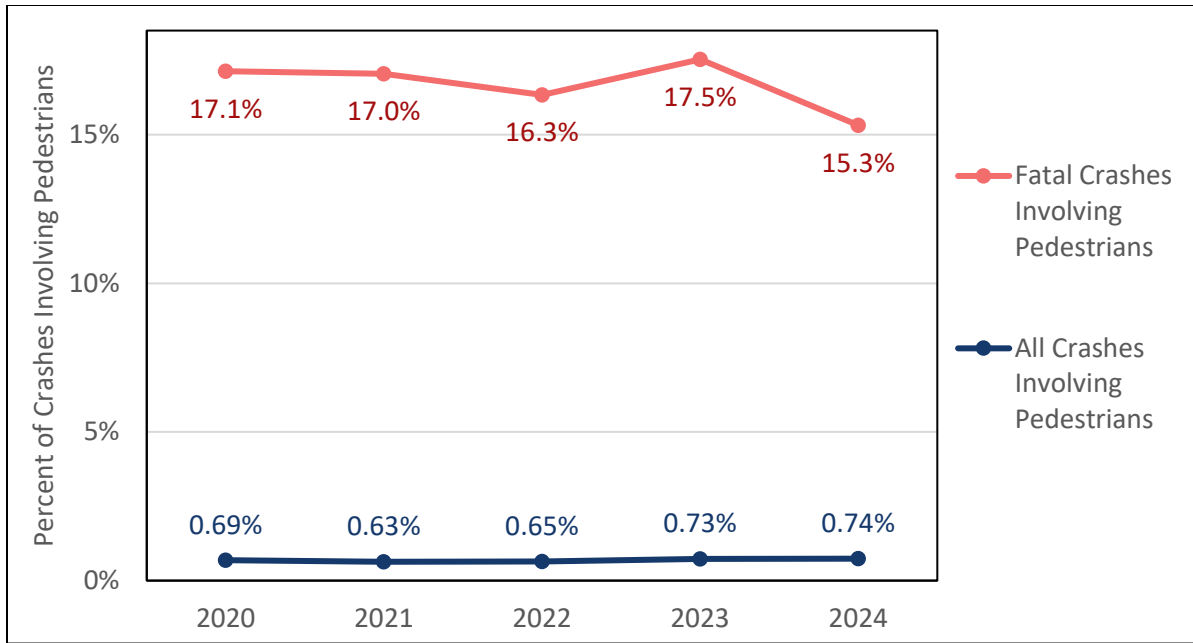


Figure 2 – Proportion of All Crashes and Fatal Crashes Involving Pedestrians by Year

3.2 Crash Rates

This section shows crash rates that account for the statewide exposure data of vehicle miles traveled (VMT) and population to provide a nuanced description of the pedestrian crash data trends. Focusing on these rates enhances comparisons of data across time periods that have variation in exposure like the decrease in highway usage during the COVID-19 pandemic and the shifting population counts in the state. In Figure 3, the pedestrian-involved crash rate is shown per 100 million VMT. Crash rates based on VMT had a low of 1.9 in 2021, a high of 2.2 in 2023, and a rate of 2.1 in 2024.

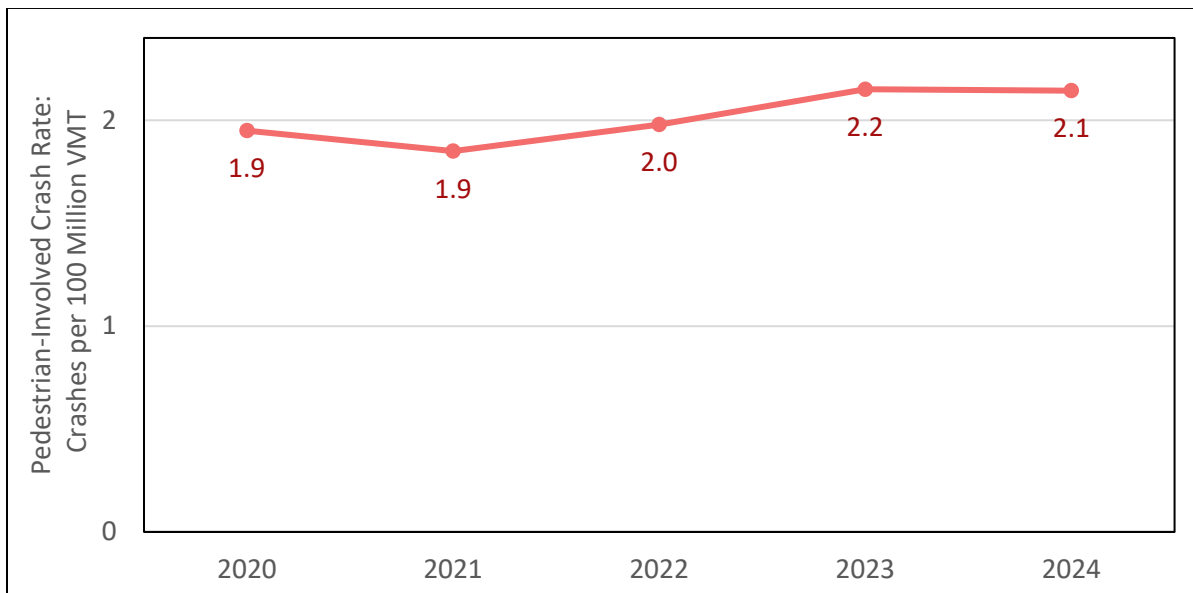


Figure 3 – Pedestrian-Involved Crash Rate by VMT and Year

Figure 4 displays the rate of pedestrians in crashes per 100,000 population in Michigan. The rate of pedestrians in crashes by population increased each year from a low of 17.7 in 2020 to a high of 22.5 in 2024.

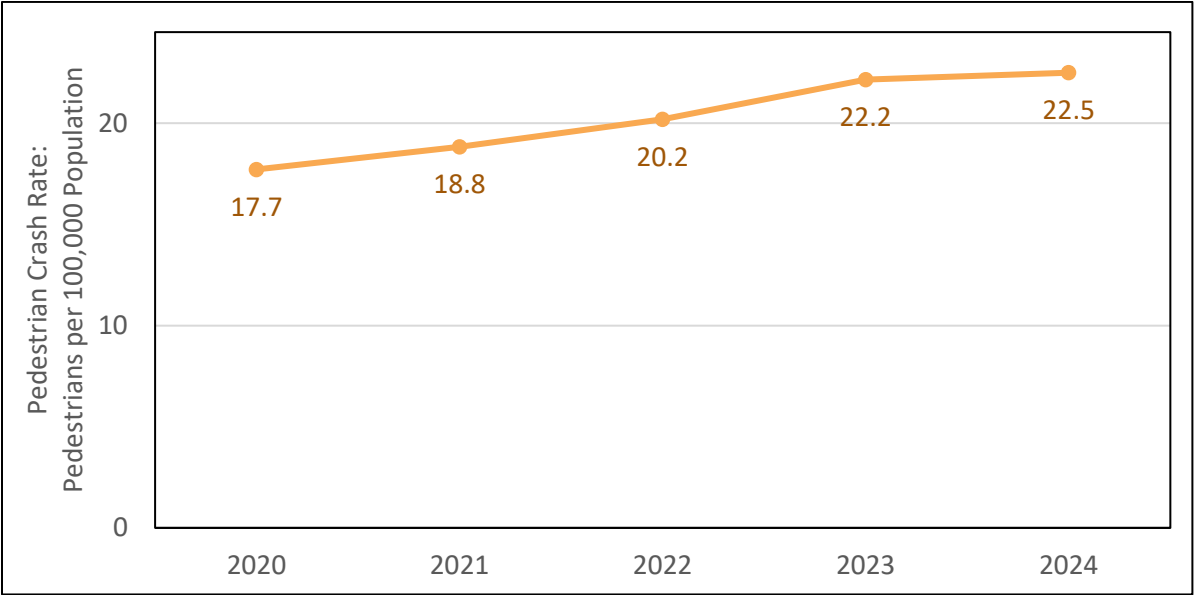


Figure 4 – Pedestrians Crash Rate by Population and Year

3.3 Crash Severity

Table 2 compares crash severities for crashes involving a pedestrian and crashes involving only motor vehicles, with all non-motorist crashes excluded. Of pedestrian-involved crashes, 9.0% involved a fatality and 19.6% involved a suspected serious injury. Only 12.6% of pedestrian-involved crashes were without injury, compared with 82.7% of crashes involving only motor vehicles.

Table 2. Crash Severity of Pedestrian-Involved and Motor-Vehicle-Only Crashes, 2020-2024

Crash Severity – Worst Injury in Crash	Pedestrian-Involved Crashes	Motor Vehicle Only Crashes
Fatal Injury (K)	9.0%	0.3%
Suspected Serious Injury (A)	19.6%	1.5%
Suspected Minor Injury (B)	30.6%	5.2%
Possible Injury (C)	28.2%	10.4%
No Injury - Property Damage Only (O)	12.6%	82.7%
Total	100.0%	100.0%

Figure 5 illustrates the difference in crash severity distributions between pedestrian-involved crashes and motor-vehicle-only crashes. Both crash types are categorized according to the worst injury in the crash—fatal, injury (suspected serious, suspected minor, or possible), or no injury - property damage only (PDO). Compared to crashes involving only motor vehicles, pedestrian-involved crashes more often result in death (9.0% vs. 0.3%) or injury (78.4% vs. 17.1%). These differences in police-reported crashes highlight the vulnerability of pedestrians compared with motor vehicle occupants.

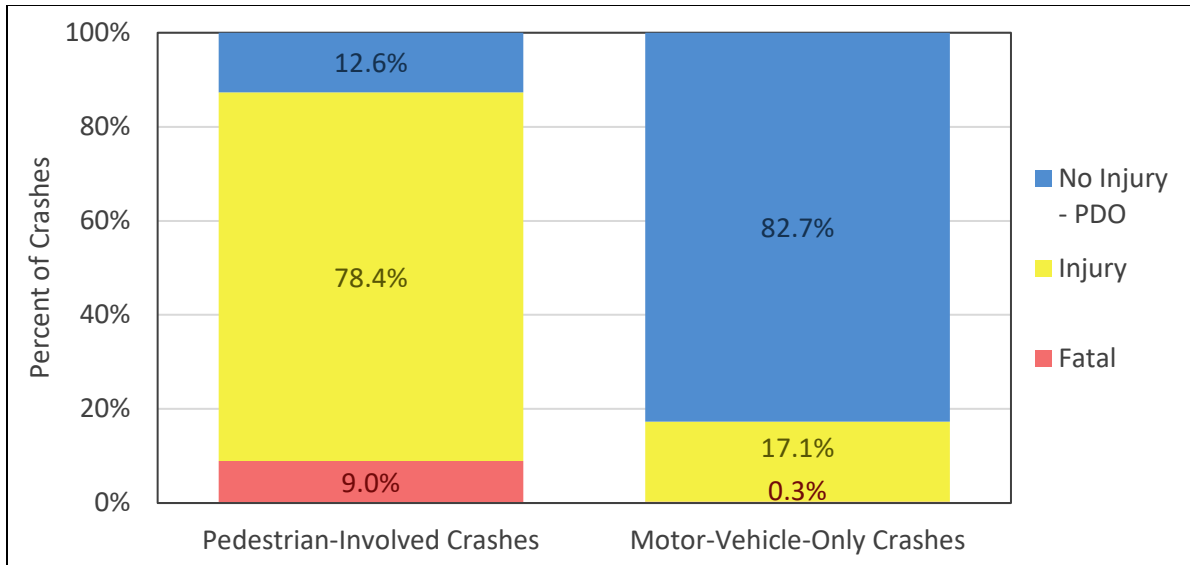


Figure 5 – Crash Severity of Pedestrian-Involved and Motor-Vehicle-Only Crashes, 2020-2024

4.0 Temporal Variables

4.1 Month of Year

Figure 6 shows the number of pedestrian-involved crashes across different months of the year. October was the peak month with 11.4% of the total, while April had the lowest percentage of pedestrian-involved crashes at 6.6%. One might expect the number of pedestrian-involved crashes to be the highest in the warmest months when more people are out walking; however, the high numbers of pedestrian-involved crashes taking place during colder months suggest that other factors may also be relevant. For example, while there are likely fewer pedestrians out in colder months, those months also have more hours of darkness. The risk of pedestrian-involved crashes is much greater in the dark, so this also probably contributes to the observed seasonal pattern.

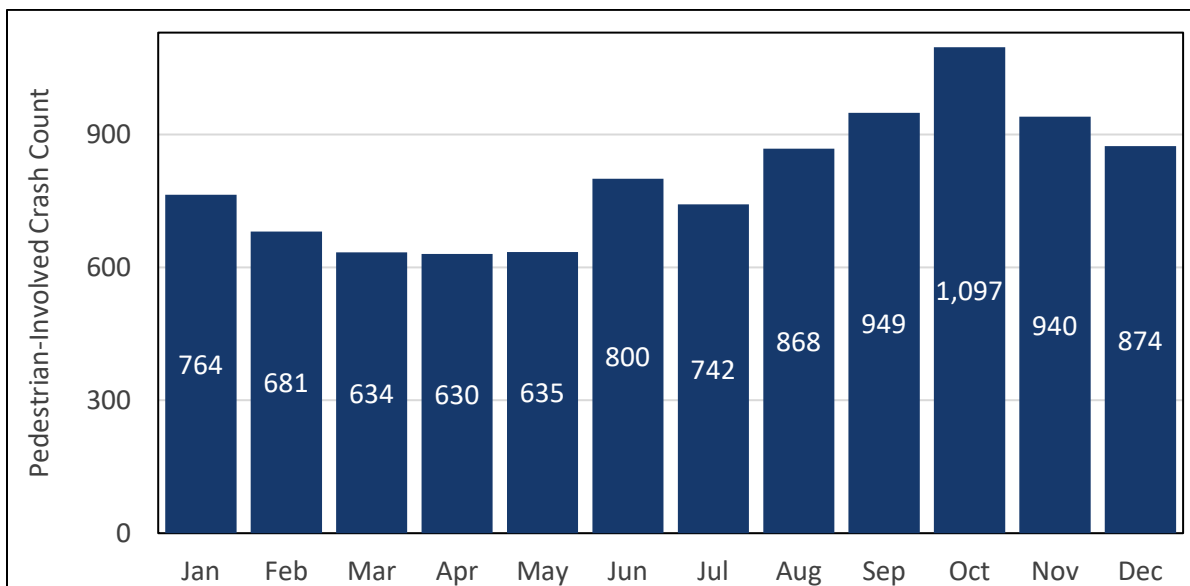


Figure 6 – Pedestrian-Involved Crashes by Month, 2020-2024

4.2 Day of Week

Figure 7 shows the number of pedestrian-involved crashes on each day of the week. The number of pedestrian-involved crashes steadily increased from Monday through Friday, with 16.1% taking place on Friday, the peak day of the week. About 24.3% of pedestrian-involved crashes occurred on weekends.

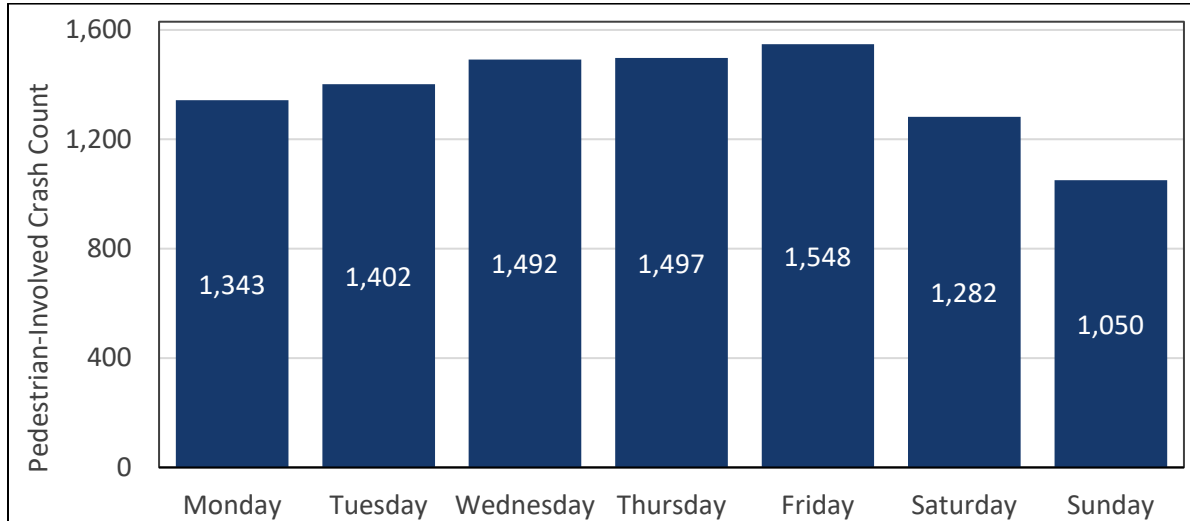


Figure 7 – Pedestrian-Involved Crashes by Day of Week, 2020-2024

4.3 Time of Day

Figure 8 shows the number of pedestrian-involved crashes across the hours of the day. Pedestrian-involved crashes were concentrated around the 6:00 p.m. hour (7.8%). High numbers of pedestrian-involved crashes persisted into the late evening hours. Across the first twelve hours of the day, a smaller peak of pedestrian-involved crashes occurred during the 7:00 a.m. hour, with 4.9% of all pedestrian-involved crashes. This likely corresponds to both more traffic during the morning rush hour and more pedestrians heading to school or work at that time.

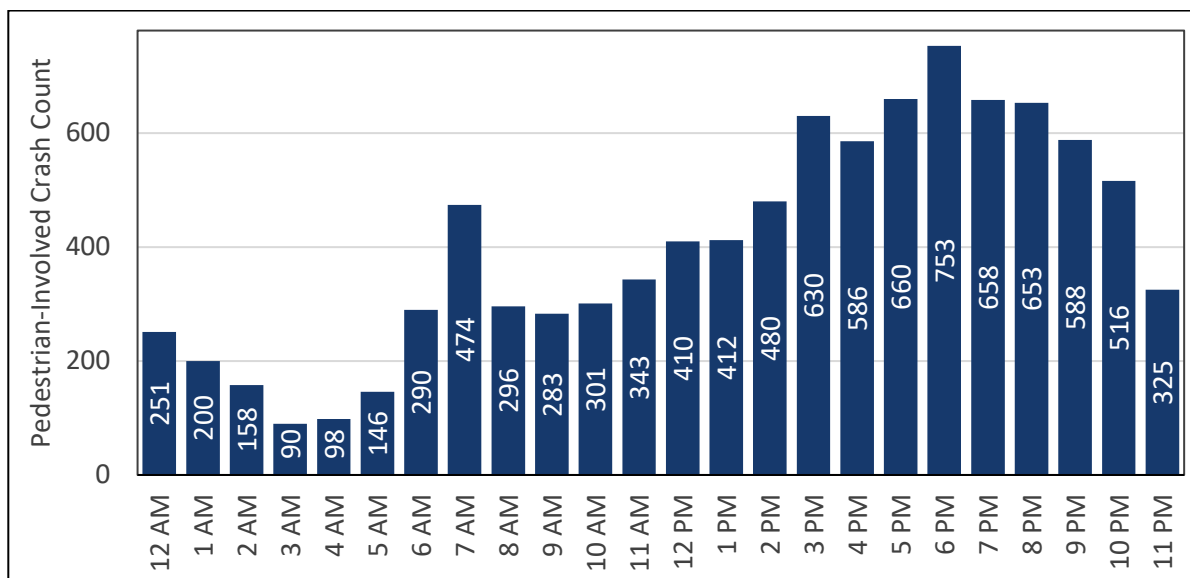


Figure 8 – Pedestrian-Involved Crashes by Time of Day, 2020-2024

Figure 9 shows pedestrians in crashes divided into two age groups, those 17 and younger and those 18 and older, excluding cases with unknown ages. The 17-and-under pedestrian group shows distinct peaks during the hours of 7:00 a.m. (147 crashes) and 3:00 p.m. (231 crashes), corresponding to the start and end of the school day. Pedestrians 18 and older involved in crashes show a small spike during the 7:00 a.m. hour (343 crashes), but are more concentrated in the later hours of the day, with a peak at 6 p.m. (659 crashes). About half (49.7%) of pedestrians 18 and older were involved in crashes between 4:00 p.m. and 11:59 p.m.

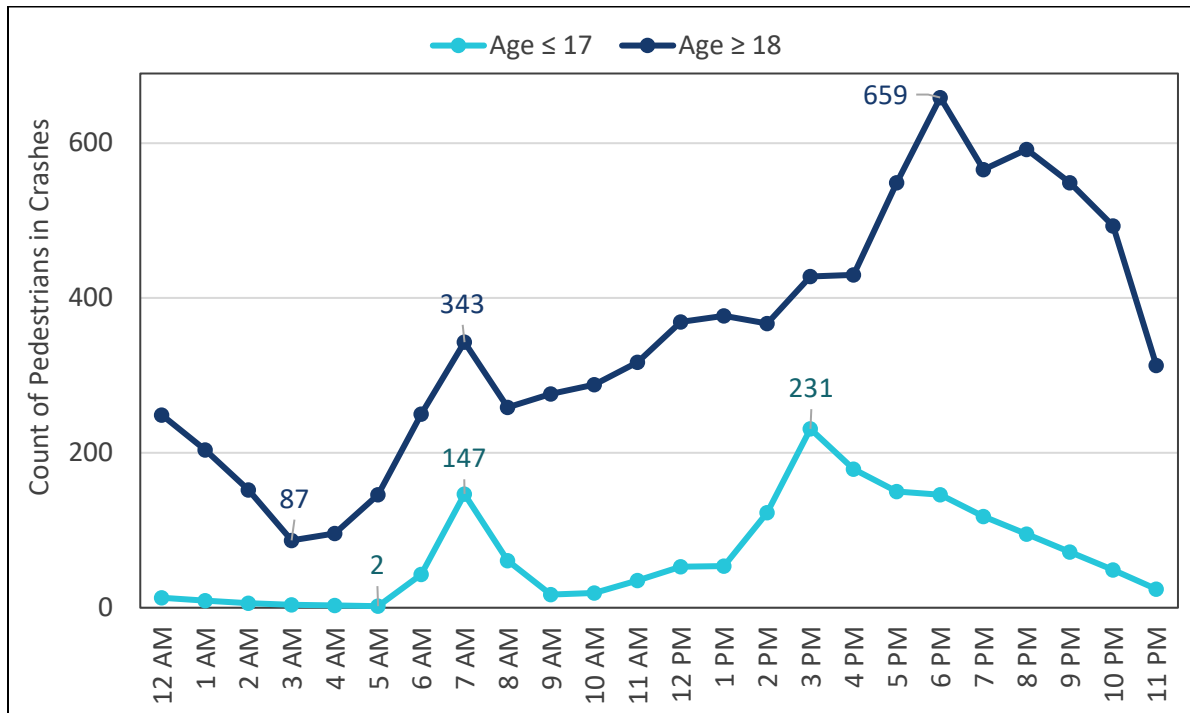


Figure 9 – Pedestrians in Crashes by Time of Day and Age Group, 2020-2024

5.0 External/Environmental Conditions

5.1 Light Conditions

Figure 10 shows crash counts by light condition for pedestrian-involved crashes. About 50.9% of pedestrian-involved crashes occurred in daylight conditions. A substantial proportion took place in dark-lighted (28.4%) and dark-unlighted (14.6%) conditions. In comparison, for crashes with no pedestrian involved, only 12.5% occurred in dark-lighted conditions and 19.2% in dark-unlighted conditions. While bicyclists who ride in the dark are required by state law to have a front white light and rear red reflector, no similar requirements exist for pedestrians. The generally low visibility of pedestrians at nighttime puts them at higher risk of crashes in dark conditions.

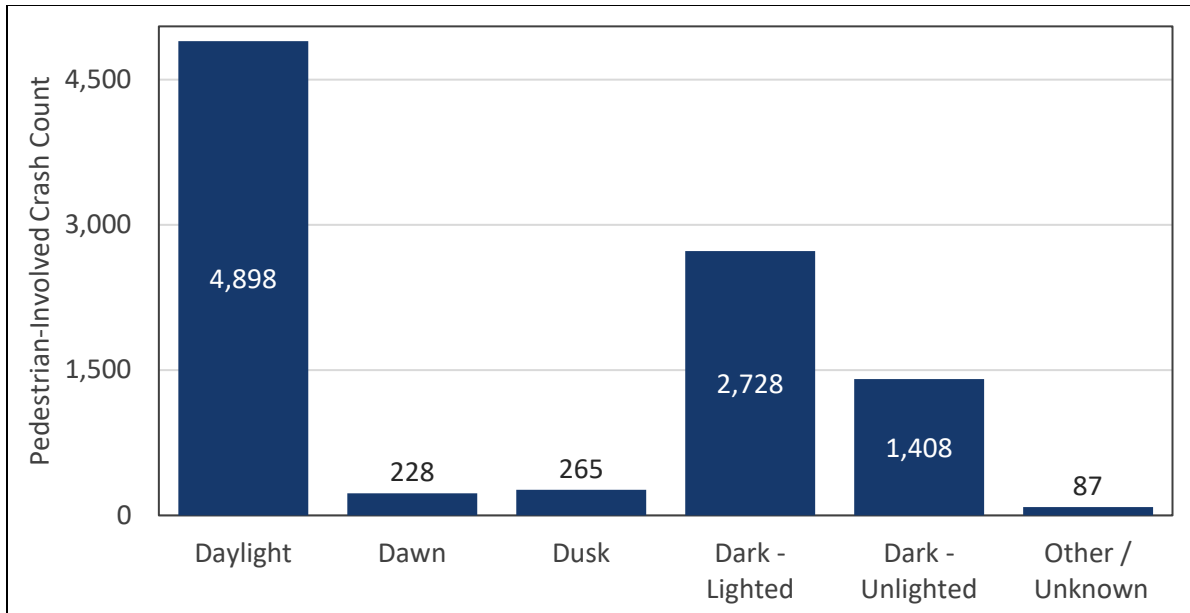


Figure 10 – Pedestrian-Involved Crashes by Light Condition, 2020-2024

Table 3 shows the number of pedestrian-involved crashes by light condition and severity. The column percentages show that the more severe the pedestrian crash, the greater the chance it took place under dark conditions. While only 36.3% of pedestrian-involved crashes with no injury occurred in either dark-lighted or dark-unlighted conditions, about 51.6% of suspected serious injury crashes and 71.4% of fatal pedestrian-involved crashes occurred in dark-lighted or dark-unlighted conditions. Conversely, 58.3% of the no-injury pedestrian-involved crashes occurred in daylight, compared with 42.8% of suspected serious injury crashes and only 22.8% of fatal pedestrian-involved crashes.

Table 3. Pedestrian-Involved Crashes by Light Condition and Crash Severity, 2020-2024

Lighting Conditions	Fatal (K)	Suspected Serious Injury (A)	Suspected Minor Injury (B)	Possible Injury (C)	No Injury (O)	Total
Daylight	196 22.8%	806 42.8%	1,614 54.9%	1,573 58.0%	709 58.3%	4,898 50.9%
Dawn	18 2.1%	44 2.3%	75 2.6%	62 2.3%	29 2.4%	228 2.4%
Dusk	29 3.4%	52 2.8%	88 3.0%	77 2.8%	19 1.6%	265 2.8%
Dark - Lighted	325 37.7%	624 33.1%	758 25.8%	693 25.5%	328 27.0%	2,728 28.4%
Dark - Unlighted	290 33.7%	348 18.5%	380 12.9%	276 10.2%	114 9.4%	1,408 14.6%
Other / Unknown	3 0.3%	10 0.5%	25 0.9%	32 1.2%	17 1.4%	87 0.9%
Total	861 100.0%	1,884 100.0%	2,940 100.0%	2,713 100.0%	1,216 100.0%	9,614 100.0%

The impact of lighting conditions on crash severity is also highlighted in Figure 11, which displays the crash severity percentages for the three most common lighting conditions (daylight, dark-lighted, and dark-unlighted). Dawn, dusk, other, and unknown light conditions are not shown in the figure as they account for only about 6.0% of all pedestrian-involved crashes. While 4.0% of daylight pedestrian-involved crashes included at least one fatality, 11.9% of crashes occurring in dark-lighted conditions included a fatality, and 20.6% of crashes occurring in dark-unlighted conditions included a fatality.

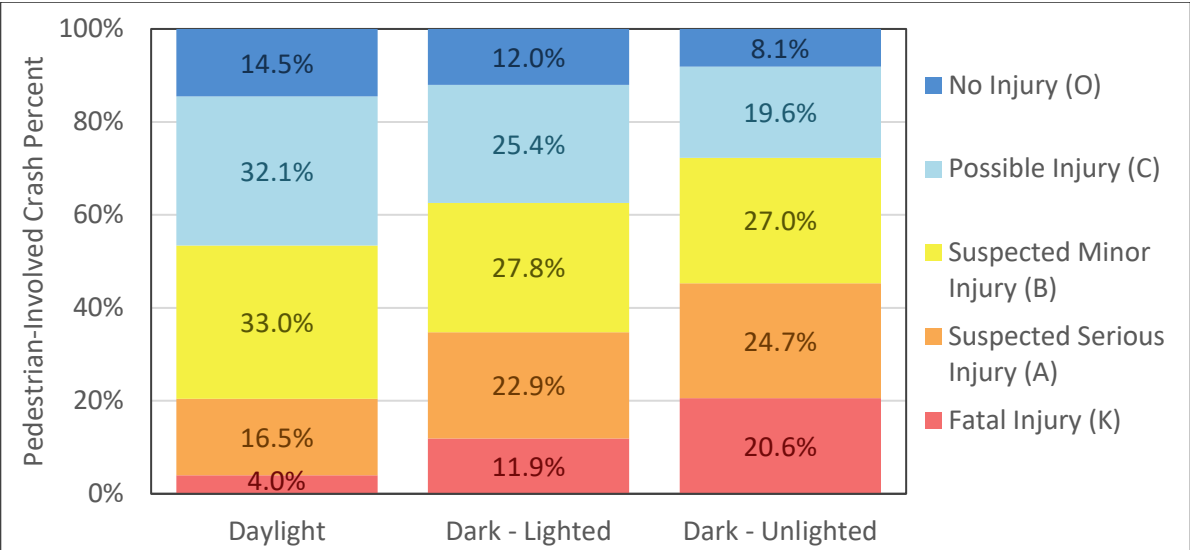


Figure 11 – Pedestrian-Involved Crashes by Crash Severity within Lighting Condition, 2020-2024

5.2 Weather Conditions

Figure 12 depicts weather conditions at the time of pedestrian-involved crashes. About 85.3% occurred in clear or cloudy conditions, 9.7% took place when it was raining, and 2.9% occurred in snow (which includes blowing snow). The “Other” category includes fog, severe crosswind, sleet/hail, blowing sand, and smoke. This weather-related crash pattern is likely related to exposure, with pedestrians less likely to be out during bad weather compared with favorable weather.

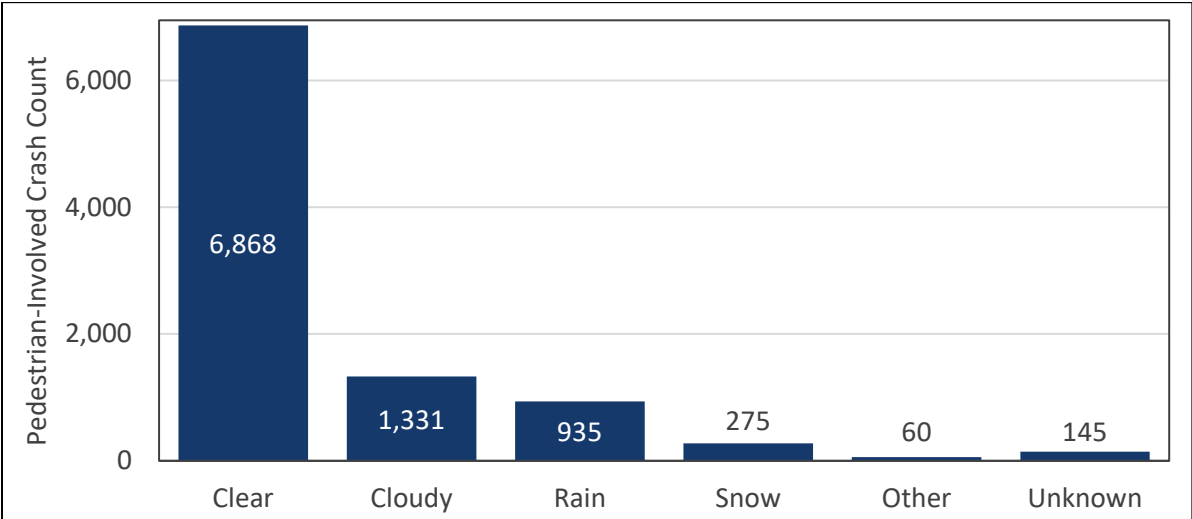


Figure 12 – Pedestrian-Involved Crashes by Weather Condition, 2020-2024

5.3 Speed Limit

To examine speed limit at the crash site, pedestrian-involved crashes were split into three groups according to levels of the KABCO scale of crash severity: fatal injury (K), all injuries (suspected serious - A, suspected minor - B, and possible - C), and no injury with property damage only (O). Figure 13 shows both the percentage and counts of these three groups of crashes according to posted speed limit ranges at the crash site. Crashes with an unknown speed limit, about 3.2% of the total, were excluded.

There are relatively few crashes involving pedestrians at posted speed limits of 15 mph or less (1.5%) and 60 mph or more (2.4%). Most crashes occur within 20-35 mph (62.6%) and 40-55 mph (33.4%) posted speed limits. For the O-level crashes, 48.3% occurred at posted speeds of 30 mph or less. In contrast, 45.3% of A/B/C-level crashes and just 18.2% of crashes involving a fatality took place at posted speeds of 30 mph or less. The percentage of fatalities rises with increases in posted speed limits: 2.8% of crashes at posted speeds of 25 mph or less involved a fatal injury, 12.1% of crashes at posted speeds of 30 mph or higher involved a fatality, and 22.9% of crashes involved a fatality at speeds of 50 mph or higher. In general, pedestrians are more likely to use roadways in the lower speed limit ranges, but, unsurprisingly, when pedestrian-involved crashes occur in higher speed limit zones they are much more likely to be severe.

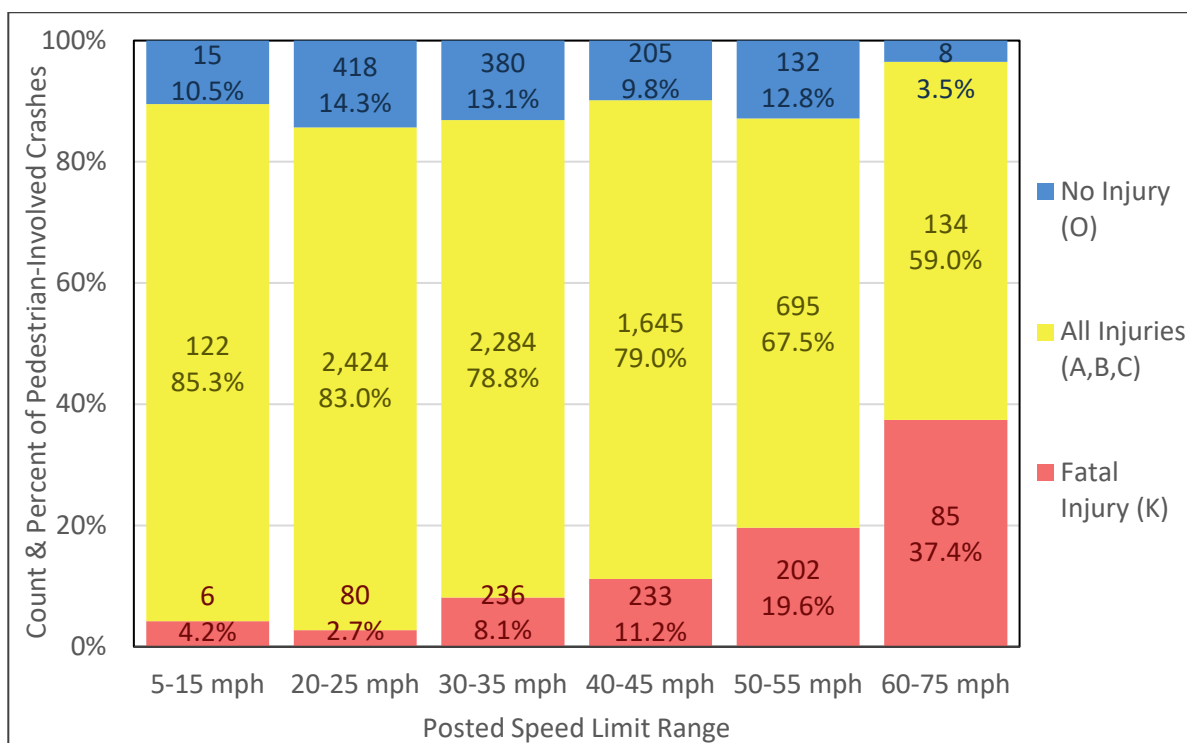


Figure 13 – Distribution of Pedestrian-Involved Crashes by Speed Limit at Crash Site, 2020-2024

5.4 Rural vs. Urban Areas

Pedestrian-involved crashes had a higher proportion of crashes in urban areas (89.5%) than crashes without pedestrians involved (66.3%) as shown in Figure 14. In addition, while only 0.2% of rural area crashes involved pedestrians, about 4.3 times that proportion (0.9%) of urban area crashes involved pedestrians.

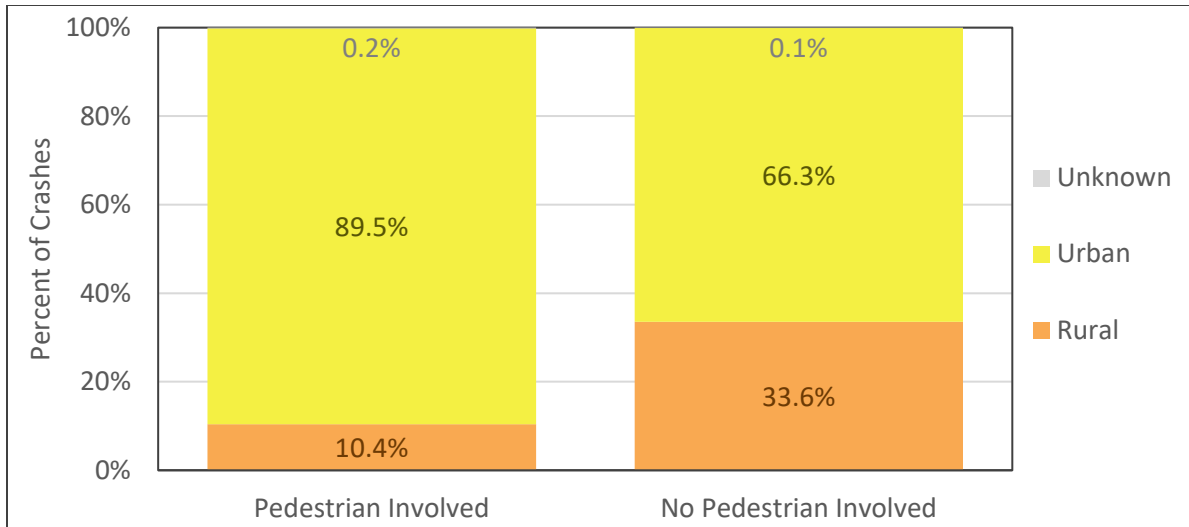


Figure 14 – Distribution of Rural and Urban Areas by Pedestrian Involvement in Crashes, 2020-2024

6.0 Pedestrian and Driver Elements

6.1 Pedestrian Age

From 2020-2024, 10,206 pedestrians were involved in crashes on Michigan roadways. Table 4 shows the age group distribution of these pedestrians. This age group distribution is similar to that of the overall Michigan state population, however, the proportion of pedestrians involved in crashes in age groups from 15-44 is higher than the overall state population proportions, and the proportion of pedestrians involved in crashes for ages 14 and younger and ages 45 and older is lower than the overall state population proportions. Age was unknown for 1.8% of pedestrians, but some of the pedestrians coded 0 on age (less than one year) may also be pedestrians of unknown age.

Table 4. Age Groups of Pedestrians Involved in Crashes, 2020-2024

Age Group	Pedestrians Involved in Crashes	Percent of All Pedestrians Involved in Crashes	Percent of Population (2020-2024 estimate)
0	24	0.2%	1.1%
1-8	397	3.9%	9.0%
9-14	678	6.6%	7.3%
15-20	1,145	11.2%	7.8%
21-24	750	7.3%	5.3%
25-34	1,752	17.2%	13.2%
35-44	1,432	14.0%	12.1%
45-54	1,267	12.4%	12.0%
55-64	1,325	13.0%	13.6%
65-74	880	8.6%	11.2%
75-84	302	3.0%	5.5%
85+	73	0.7%	1.9%
Unknown	181	1.8%	0.0%
Total	10,206	100.0%	100.0%

Table 5 shows the number and percent of pedestrians with fatal (K) or suspected serious (A) injuries out of all pedestrians involved in crashes by age group. An overall proportion of 27.9% of pedestrians involved in crashes had KA injuries. Pedestrian age groups 35 and older had a higher proportion of KA injuries than the overall proportion. There was a higher proportion of KA injuries especially in age groups 65 and older: 35.3% of pedestrians age 65-74, 40.4% of pedestrians age 75-84, and 49.3% of pedestrians 85 and older. In contrast, pedestrians age groups 20 and younger had a proportion of 19.4% with KA injuries.

Table 5. Age Groups and KA Injuries of Pedestrians Involved in Crashes, 2020-2024

Age Group	KA Injured Pedestrians	Pedestrians Involved in Crashes	Percent KA Injured Pedestrians within Age Group
0	2	24	8.3%
1-8	71	397	17.9%
9-14	132	678	19.5%
15-20	231	1,145	20.2%
21-24	177	750	23.6%
25-34	478	1,752	27.3%
35-44	463	1,432	32.3%
45-54	392	1,267	30.9%
55-64	421	1,325	31.8%
65-74	311	880	35.3%
75-84	122	302	40.4%
85+	36	73	49.3%
Unknown	8	181	4.4%
Total	2,844	10,206	27.9%

6.2 Driver Age

The count and percent of motor vehicle drivers in pedestrian-involved crashes by age group are shown in Table 6. Age was unknown for more than a quarter (27.8%) of drivers, and 81.7% of these unknown-age drivers were in hit-and-run pedestrian-involved crashes. Because age was unknown for such a large share of drivers, the fourth column from the left of Table 6 shows the age distribution based only on drivers in crashes with a known age. When age was known, about 18.2% of drivers in pedestrian-involved crashes were age 15-24, 64.6% were age 25-64, and 17.0% were age 65 and older.

The rightmost column of Table 6 shows the comparison proportions of motor vehicle drivers in crashes that do not involve pedestrians by the same age groups. When comparing the age group percentages, the proportion of drivers in age groups 45 and older is higher in pedestrian-involved crashes than in crashes that do not involve pedestrians. This higher pedestrian-involved crash proportion is most pronounced in age groups 65 and older that comprise 17.0% of pedestrian-involved crashes but only 12.4% of crashes that do not involve pedestrians.

Table 6. Age Groups of Drivers in Pedestrian-Involved Crashes, 2020-2024

Age Group	Pedestrian Involved			No Pedestrian Involved
	Driver Count	Percent of All Drivers	Percent of Drivers with Known Age	Percent of Drivers with Known Age
0-14	11	0.1%	0.1%	0.1%
15-20	708	6.8%	9.4%	11.3%
21-24	673	6.4%	8.9%	9.8%
25-34	1,519	14.5%	20.1%	21.6%
35-44	1,211	11.6%	16.0%	16.9%
45-54	1,130	10.8%	14.9%	14.6%
55-64	1,032	9.8%	13.6%	13.3%
65-74	771	7.4%	10.2%	8.1%
75-84	427	4.1%	5.6%	3.5%
85+	89	0.8%	1.2%	0.8%
Unknown	2,912	27.8%	--	--
Total	10,483	100.0%	100.0%	100.0%

6.3 Pedestrian Actions

Table 7 and Figure 15 compare the action of the pedestrian prior to the crash for pedestrians involved in fatal and non-fatal crashes. Table 7 shows distributions of known pedestrian actions prior to the crash and the percentages represent the pedestrian actions within all fatal or non-fatal crashes. The variable used has one set of code levels intended for drivers and cyclists and another set intended for pedestrians. A few pedestrians were coded with driver/cyclist actions, so these cases were excluded, and cases coded “other” and “unknown” were also excluded. Altogether about 8.8% of the pedestrians involved in crashes are omitted from Table 7 and Figure 15.

The most common action for pedestrians involved in fatal crashes was crossing not at an intersection (30.0%), followed by crossing at an intersection (16.0%), and in roadway walking with traffic (15.3%). In contrast, the most common action prior to crash for pedestrians in non-fatal crashes was crossing at an intersection, with 42.0% of the cases over the five-year period. This was followed by crossing not at an intersection (21.0%), in roadway other reason (10.0%), and in roadway walking with traffic (9.7%). The table illustrates the dangers for pedestrians crossing mid-block, walking with traffic as opposed to against it, and standing or laying in the roadway.

Table 7. Pedestrian Action Prior to Crash, 2020-2024

Pedestrian Action Prior to Crash	Fatal Crash Involvements	Non-Fatal Crash Involvements	Total Crash Involvements
Crossing at Intersection	140 16.0%	3,541 42.0%	3,681 39.6%
Crossing Not at Intersection	262 30.0%	1,767 21.0%	2,029 21.8%
Getting On/Off Vehicle	4 0.5%	74 0.9%	78 0.8%
In Roadway With Traffic	134 15.3%	820 9.7%	954 10.3%
In Roadway Against Traffic	24 2.7%	137 1.6%	161 1.7%
Standing/Lying in Roadway	113 12.9%	593 7.0%	706 7.6%
Pushing/Working on Vehicle	10 1.1%	64 0.8%	74 0.8%
Other Work in Roadway	8 0.9%	105 1.2%	113 1.2%
Playing in Roadway	2 0.2%	101 1.2%	103 1.1%
In Roadway Other Reason	97 11.1%	846 10.0%	943 10.1%
Not in Roadway	79 9.0%	386 4.6%	465 5.0%
Total	873 100.0%	8,434 100.0%	9,307 100.0%

Figure 15 focuses on four actions and shows the proportion of pedestrians involved in fatal vs. non-fatal crashes. The results highlight a lower proportion of fatal crashes when a pedestrian is crossing at an intersection (3.8% of crashes were fatal) compared to fatal crash proportions that are at least four times higher among the other three pedestrian action groups of: 1. crossing not at an intersection (12.9% of crashes were fatal), 2. seven actions grouped as within the roadway (12.7% of crashes were fatal, the seven grouped actions were: in roadway with traffic, in roadway against traffic, standing/lying in roadway, pushing/working on vehicle, other work in roadway, playing in roadway, and in roadway other reason), and 3. Pedestrian actions of not in roadway or other (15.3% of crashes were fatal).

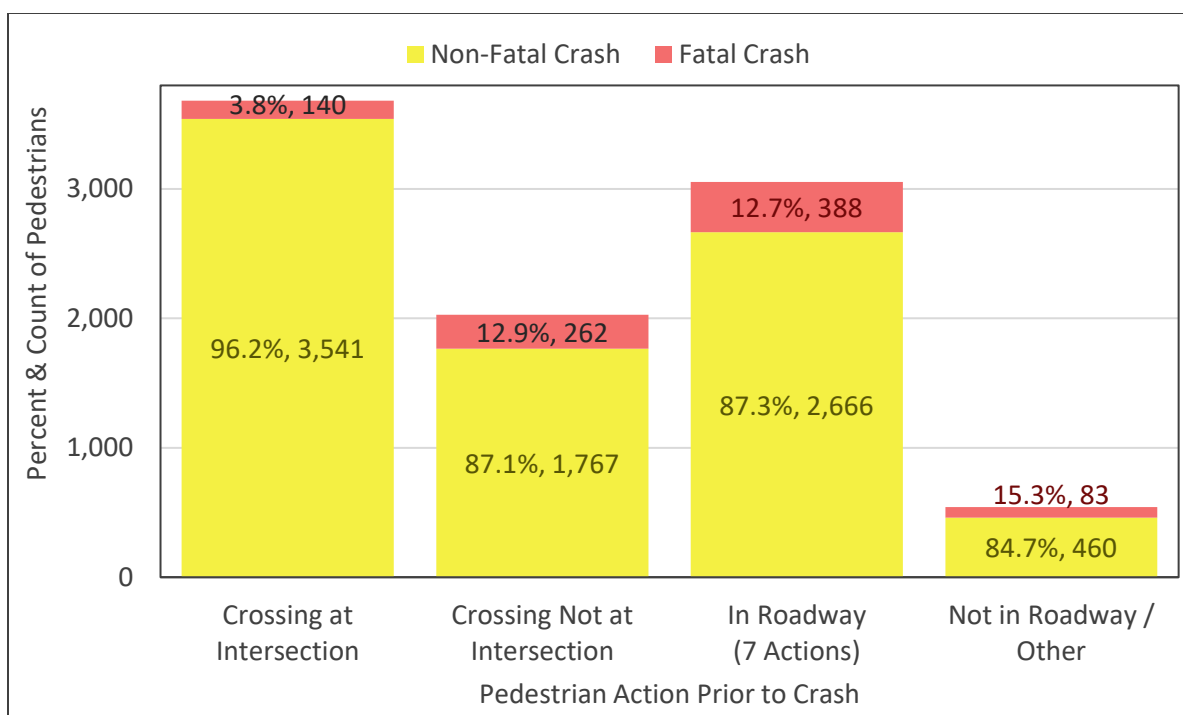


Figure 15 – Pedestrian Actions Prior to Crash in Pedestrian-Involved Crashes, 2020-2024

6.4 Driver Actions

Table 8 and Figure 14 show the action prior to the crash for motor-vehicle drivers in pedestrian-involved crashes. Driver actions that were unknown or that were coded as pedestrian actions are excluded from the table and chart (a total of 3.0%). The percentages in the table represent the driver actions for all fatal or non-fatal crashes. The most common driver action was simply going straight ahead, which represented 57.6% of vehicle involvements in all pedestrian-involved crashes. The next four most common driver actions were turning left (17.6%), turning right (7.9%), parked (4.1%), and backing (2.1%). It may seem counterintuitive that being parked was the fourth most common driver action in pedestrian-involved crashes, but there must be at least one other vehicle in motion in these crashes apart from the parked vehicle. A common scenario is a passing vehicle strikes both a pedestrian and a disabled vehicle on the side of the roadway. Typically, the pedestrian is associated with the disabled vehicle as a driver, passenger, police officer, tow-truck operator, etc.

Among fatal pedestrian-involved crashes, the most common driver action was going straight, with 75.6% of the fatal involvements, compared with just 55.6% of non-fatal involvements. The next two most common driver actions in fatal pedestrian-involved crashes were parked (7.0%) followed by turning left (3.7%). Again, pedestrian-involved crashes where one vehicle was stopped on the roadway involve at least one other moving vehicle in the crash. It is notable that turning left, the second-most common driver action overall in pedestrian-involved crashes, was represented in only 3.7% of driver involvements in fatal pedestrian-involved crashes, compared with 19.1% of involvements in non-fatal pedestrian-involved crashes.

Table 8. Driver Action Prior to Crash, 2020-2024

Driver Action Prior to Crash	Fatal Crash Involvements	Non-Fatal Crash Involvements	Total Crash Involvements
Going Straight Ahead	772 75.6%	5,086 55.6%	5,858 57.6%
Turning Left	38 3.7%	1,750 19.1%	1,788 17.6%
Turning Right	11 1.1%	788 8.6%	799 7.9%
Stopped on Roadway	24 2.4%	155 1.7%	179 1.8%
Involved in Prior Crash at Same Location	8 0.8%	17 0.2%	25 0.2%
Changing Lanes	14 1.4%	51 0.6%	65 0.6%
Backing	8 0.8%	208 2.3%	216 2.1%
Slowing/Stopping on Roadway	15 1.5%	172 1.9%	187 1.8%
Slowing/Stopping Other Area	3 0.3%	6 0.1%	9 0.1%
Starting Up on Roadway	8 0.8%	202 2.2%	210 2.1%
Starting Up in Other Area	0 0.0%	8 0.1%	8 0.1%
Entering Parking	1 0.1%	8 0.1%	9 0.1%
Leaving Parking	0 0.0%	36 0.4%	36 0.4%
Entering Roadway	4 0.4%	62 0.7%	66 0.6%
Leaving Roadway	7 0.7%	19 0.2%	26 0.3%
Making U-Turn	0 0.0%	13 0.1%	13 0.1%
Overtaking or Passing	8 0.8%	50 0.5%	58 0.6%
Avoiding Object	0 0.0%	7 0.1%	7 0.1%
Avoiding Pedestrian	16 1.6%	81 0.9%	97 1.0%
Avoiding Vehicle (front/back)	2 0.2%	34 0.4%	36 0.4%
Avoiding Vehicle (angle)	0 0.0%	7 0.1%	7 0.1%
Driverless Moving	4 0.4%	26 0.3%	30 0.3%
Parked	71 7.0%	346 3.8%	417 4.1%
Avoiding Animal	0 0.0%	1 0.0%	1 0.0%
Negotiating a Curve	7 0.7%	19 0.2%	26 0.3%
Total	1,021 100.0%	9,152 100.0%	10,173 100.0%

Figure 16 depicts how going straight ahead is the most frequent driver action in pedestrian-involved crashes. The percent of fatal crashes are highest while being parked (17.0%), going straight ahead (13.2%), and the actions grouped as “other” (11.1%). Actions with a lower percentage of fatal crashes are backing at 3.7%, turning left (2.1%), and turning right (1.4%).

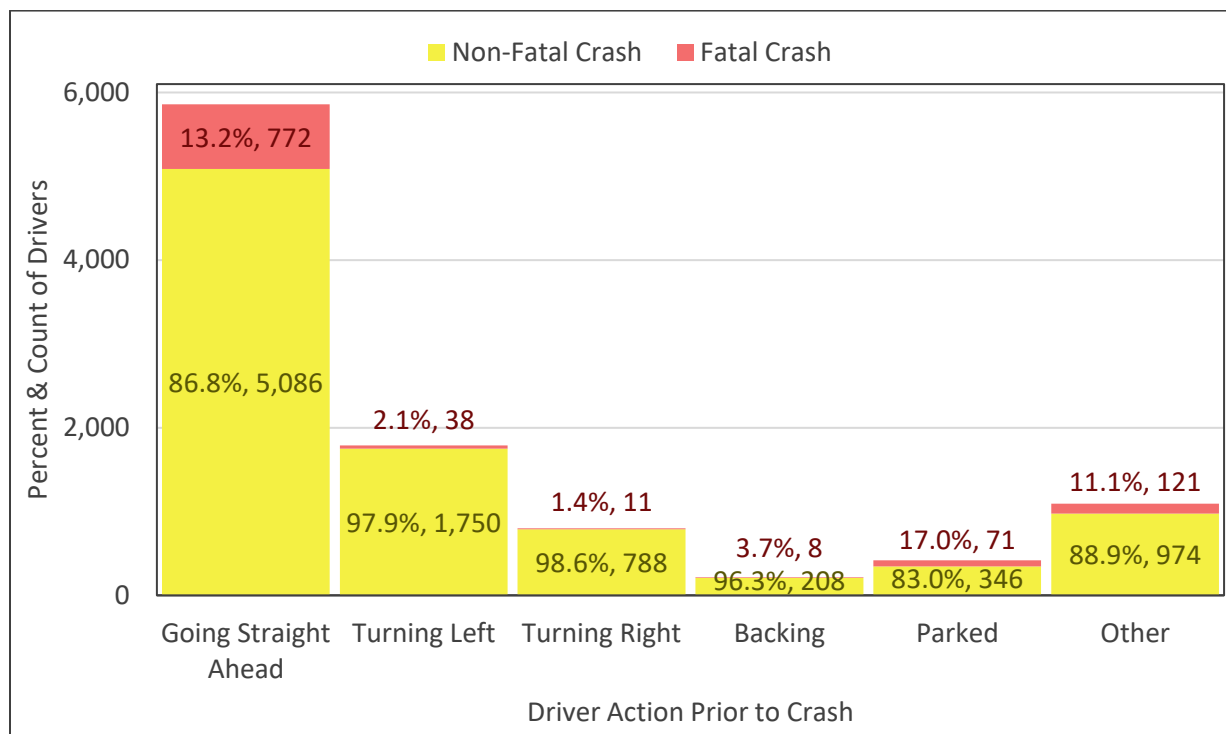


Figure 16 – Driver Actions Prior to Crash in Pedestrian-Involved Crashes, 2020-2024

Table 9 has counts and percentages of hazardous actions by motor-vehicle drivers in pedestrian-involved crashes for both fatal and non-fatal crashes. Hazardous action was unknown or missing for 19.3% of the driver involvements in pedestrian-involved crashes, and these are excluded from Table 9. When hazardous action for drivers was known, no hazardous action was recorded for 44.7% of driver involvements overall, 42.9% of non-fatal involvements, and 60.8% of fatal involvements. For non-fatal involvements, the most common hazardous actions recorded were failed to yield (28.0%), “other” (7.4%), careless/negligent driving (5.9%), and unable to stop in assured clear distance (5.7%). The most common hazardous actions indicated in fatal involvements were “other” (9.0%), careless/negligent driving (6.5%), failed to yield (6.2%), and speed too fast (5.9%).

Table 9. Hazardous Action, 2020-2024

Hazardous Action	Fatal Crash Involvements	Non-Fatal Crash Involvements	Total Crash Involvements
None	514 60.8%	3,267 42.9%	3,781 44.7%
Speed Too Fast	50 5.9%	181 2.4%	231 2.7%
Speed Too Slow	0 0.0%	0 0.0%	0 0.0%
Failed to Yield	52 6.2%	2,130 28.0%	2,182 25.8%
Disregard Traffic Control	10 1.2%	150 2.0%	160 1.9%
Drove Wrong Way	0 0.0%	6 0.1%	6 0.1%
Drove Left of Center	2 0.2%	11 0.1%	13 0.2%
Improper Passing	2 0.2%	33 0.4%	35 0.4%
Improper Lane Use	5 0.6%	85 1.1%	90 1.1%
Improper Turn	2 0.2%	46 0.6%	48 0.6%
Improper/No Signal	0 0.0%	5 0.1%	5 0.1%
Improper Backing	5 0.6%	107 1.4%	112 1.3%
Unable to Stop in Assured Clear Distance	39 4.6%	433 5.7%	472 5.6%
Other	76 9.0%	560 7.4%	636 7.5%
Reckless Driving	33 3.9%	145 1.9%	178 2.1%
Careless/Negligent Driving	55 6.5%	451 5.9%	506 6.0%
Total	845 100.0%	7,610 100.0%	8,455 100.0%

7.0 Impairment-Related Crashes

Table 10 compares impairment distributions for pedestrian-involved crashes and crashes involving only motor vehicles (no pedestrians or bicycles involved). Impairment status is based on what is reported by the police officer at the time of the crash. The crashes are categorized into those involving alcohol-only, involving drugs-only, involving both alcohol and drugs, and not involving alcohol or drugs. Pedestrian-involved crashes had higher levels of all three combinations of impairment compared with motor-vehicle-only crashes. About 7.6% of pedestrian-involved crashes involved alcohol only, 1.9% involved drugs only, and 1.6% involved both alcohol and drugs.

Table 10. Impairment Distributions for Pedestrian-Involved and Motor-Vehicle-Only Crashes, 2020-2024

Impairment	Pedestrian-Involved Crashes	Motor-Vehicle-Only Crashes
Alcohol Only	7.6%	2.7%
Drugs Only	1.9%	0.5%
Alcohol & Drugs	1.6%	0.5%
None	88.9%	96.3%
Total	100.0%	100.0%

In the five-year period from 2020 to 2024, there were 942 pedestrian-involved crashes involving alcohol. Figure 17 shows the drinking status for the pedestrians and motor vehicle drivers in those crashes (26 drivers with unknown alcohol use were excluded). Of the 989 pedestrians in these crashes, 646 (65.3%) were drinking, while 296 (29.5%) of the 1,002 drivers were drinking. In pedestrian-involved fatal crashes, 57.1% of pedestrians and 34.1% of drivers were drinking.

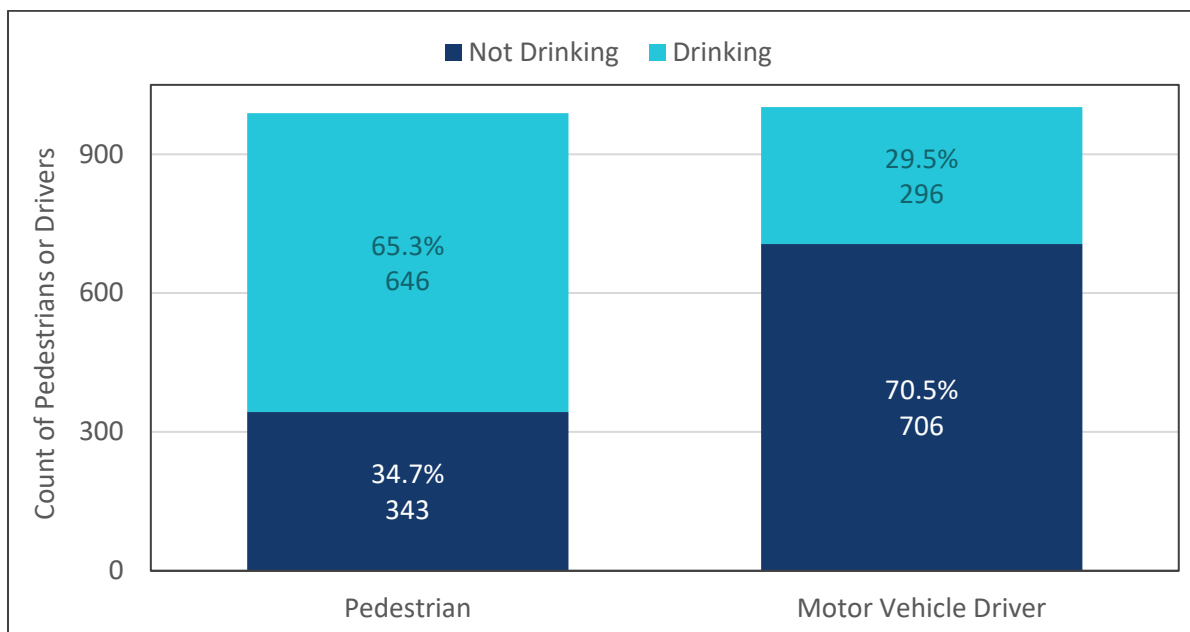


Figure 17 – Pedestrians and Drivers in Alcohol-Involved Pedestrian-Involved Crashes, 2020-2024

Figures 18 and 19 show day and time data for alcohol-involved pedestrian crashes, respectively. Figure 18 shows all pedestrian-involved crashes by day of the week according to whether the crash involved alcohol. Saturday had the highest number of pedestrian-involved crashes involving alcohol (179), followed by Friday (146) and Sunday (142). Pedestrian-involved crashes involving alcohol occurred more frequently on the weekends, with 14.0% on Saturday and 13.5% on Sunday while the proportion Monday through Friday was between 6.2% and 9.4%.

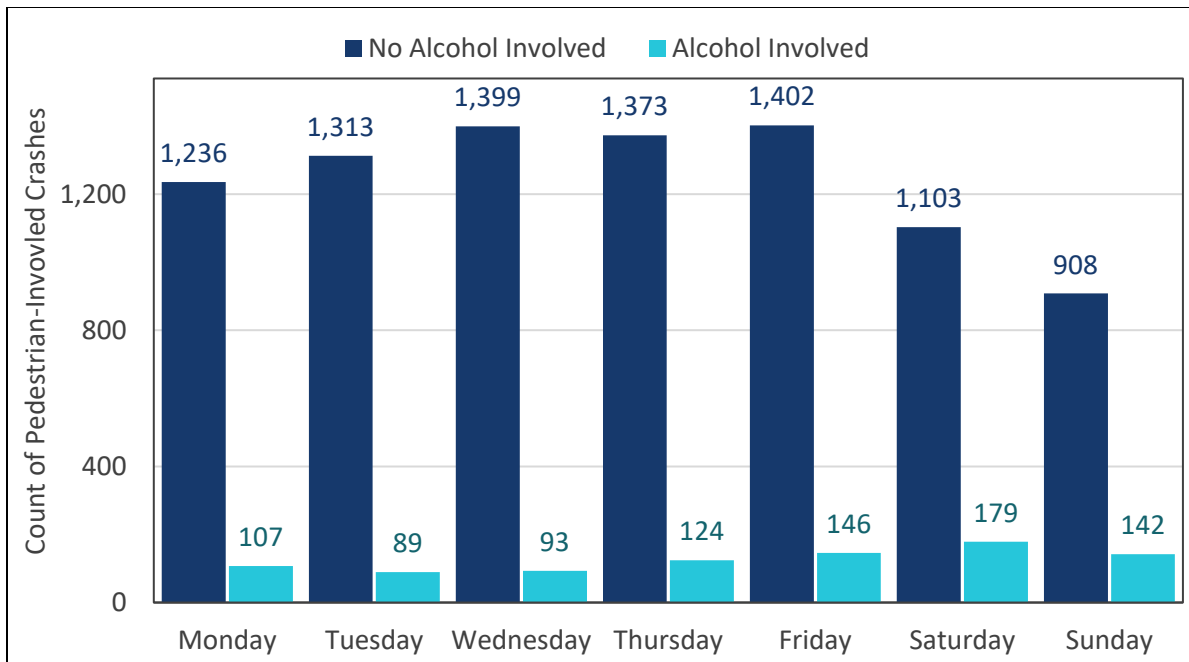


Figure 18 – Pedestrian-Involved Crashes by Day of Week and Alcohol Involvement, 2020-2024

Figure 19 depicts pedestrian-involved crashes by time of day, again split according to whether the crash involved alcohol. The count of pedestrian-involved crashes involving alcohol had a high of 103 at 9 p.m. and a low of 2 at 9 a.m. Late-night hours had the highest percentages of pedestrian-involved crashes also involving alcohol where either or both the pedestrian and the driver had been drinking - from 10 p.m. until 4 a.m., about 23.2% of pedestrian-involved crashes involved alcohol, with a high of 32.3% at 2 a.m. and a low of 0.7% at 9 a.m.

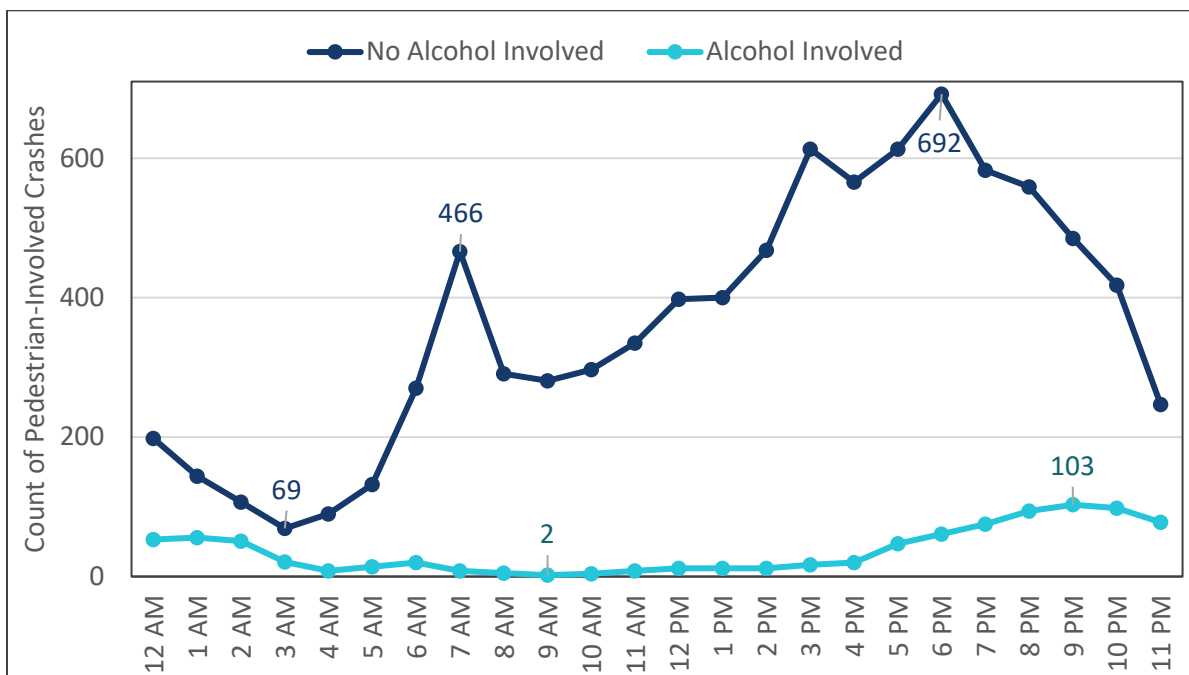


Figure 19 – Pedestrian-Involved Crashes by Time of Day and Alcohol Involvement, 2020-2024

8.0 Summary

From 2020-2024, crashes involving pedestrians comprised 0.69% of all crashes but accounted for 16.7% of fatal crashes. An average of 1,923 motor vehicle crashes per year involved a pedestrian. On average, 172 pedestrian-involved crashes involved at least one fatality each year. Incidence of death or injury in pedestrian-involved crashes is much higher than in crashes involving only motor vehicles. While only 17.3% of crashes involving just motor vehicles resulted in death or injury, 87.4% of pedestrian-involved crashes resulted in death or injury to at least one person, almost always a pedestrian.

Pedestrian-involved crashes most commonly occurred during daylight, although 51.6% of suspected serious injury crashes and 71.4% of fatal pedestrian-involved crashes took place under dark conditions. The proportion of pedestrian-involved crashes by month had a low in April (6.6%) and a high in October (11.4%). More pedestrian-involved crashes occurred on each of the weekday days than the weekend days with a high of 16.1% on Fridays. From 2:00 p.m. until 11:00 p.m. and at 7:00 a.m. were the times of day with the highest proportions of pedestrian-involved crashes.

About 89.5% of all pedestrian-involved crashes are in urban areas. The most common posted speed limit for pedestrian-involved crashes was 25 mph. At posted speed limits under 50 mph, 6.9% of pedestrian crashes were fatal, while at speed limits of 50+ mph, 22.9% of pedestrian crashes were fatal. Although no hazardous action was indicated for drivers in 44.7% of pedestrian-involved crashes with known actions, the most common hazardous action reported was failed to yield (25.8%).

A comparison of pedestrian actions prior to fatal and non-fatal crashes highlight a lower proportion of fatal crashes when a pedestrian is crossing at an intersection (3.8% of crashes were fatal) compared to fatal crash proportions that are at least four times higher among the other three pedestrian action groups of: crossing not at an intersection (12.9%), seven actions grouped as within the roadway (12.7%), and actions of not in roadway or other (15.3%). For drivers in pedestrian-involved crashes, the following driver actions had higher proportions of fatal crashes: going straight ahead (13.2%), parked (17.0%), and other (11.1%).

Impairment was a particular problem in pedestrian-involved crashes. Alcohol and/or drugs were a factor in 11.1% of pedestrian-involved crashes, compared with 3.7% of crashes involving only motor vehicles. In contrast to overall pedestrian-involved crashes, more alcohol-involved pedestrian crashes occurred on the weekends. For pedestrian-involved crashes that involved alcohol, alcohol use was reported for 65.3% of pedestrians and 29.5% of motor vehicle drivers.