

Overall Crash Facts

Between the years 2007 and 2009, a total of 116,266 crashes involving 310,714 people occurred in MORPC's transportation planning area. During this time frame, there were 285 fatal crashes, in which 310 people lost their lives. 42,981 were injured.

The total annual number of crashes decreased by 11 percent from 2007 to 2009, while the number of injury crashes decreased by 12 percent and the number of fatal crashes decreased by 1 percent. The total numbers are reported in Table 1.

Table 1: Reported Crashes by Severity

Year	Fatal	Injury	PDO	Private Property	Total
2007	91	10485	28,943	1,660	41,179
2008	104	9,763	26,998	1,616	38,481
2009	90	9,277	26,117	1,122	36,606
Total	285	29,525	82,058	4,398	116,266
Average	95	9,842	27,353	1,466	38,755

Source: MORPC Crash Data 2007-2009

PDO: Property Damage Only

Approximately 1 out of 4 crashes resulted in one or more injuries. However, nearly 3 out of 4 crashes that involved a pedestrian, a bicyclist or a motorcyclist resulted in some type of injury (see Table 2). These statistics show that the injury risk in a crash is higher for more vulnerable road users.

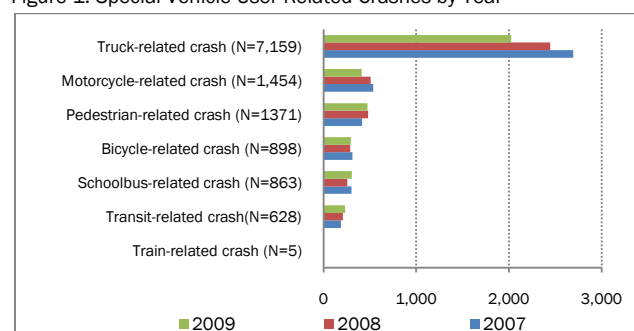
Table 2: Reported Crashes by Type of Unit and Severity

2007-2009	Number	% of all Crashes by Type of Unit	% that resulted in injuries
Pedestrians	1,371	1.2%	81.4%
Bicycles	898	0.8%	79.7%
Motorcycles	1,454	1.3%	76.1%
Transit buses	628	0.5%	20.2%
Trucks	7,159	6.2%	19.8%
School buses	863	0.7%	16.5%
All Crashes	116,266	100%	37.4%

Source: MORPC Crash Data 2007-2009

Figure 1 shows, that while crashes overall decreased over the three-year period, motorcycle and transit crashes increased.

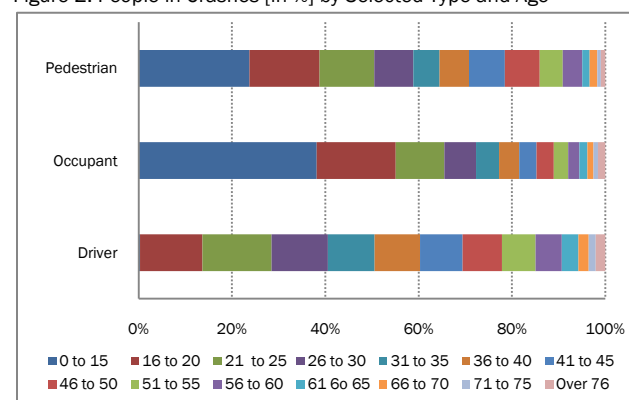
Figure 1: Special Vehicle User-Related Crashes by Year



Source: MORPC Crash Data 2007-2009; N=12,378

40 percent of the drivers involved in crashes were between the ages of 16 and 30 years (see Figure 2). 49 percent of the drivers were male, 38 percent female, and for 12 percent the gender was not reported.

Figure 2: People in Crashes [in %] by Selected Type and Age

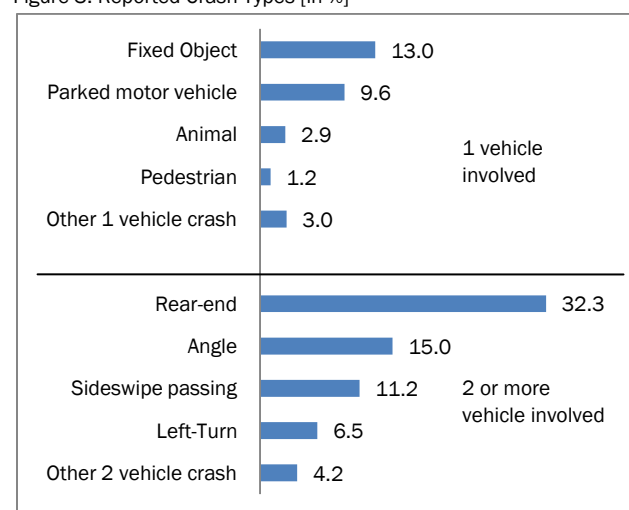


Source: MORPC Crash Data 2007-2009; N=276,100

The majority of crashes involved a passenger car¹ (75 percent), 3 percent involved a truck, and 1 percent involved bicyclists or pedestrians.

The most common type of reported crashes were rear-end, followed by angle, fixed object, sideswipe passing and parked vehicle crashes (see Figure 3).

Figure 3: Reported Crash Types [in %]

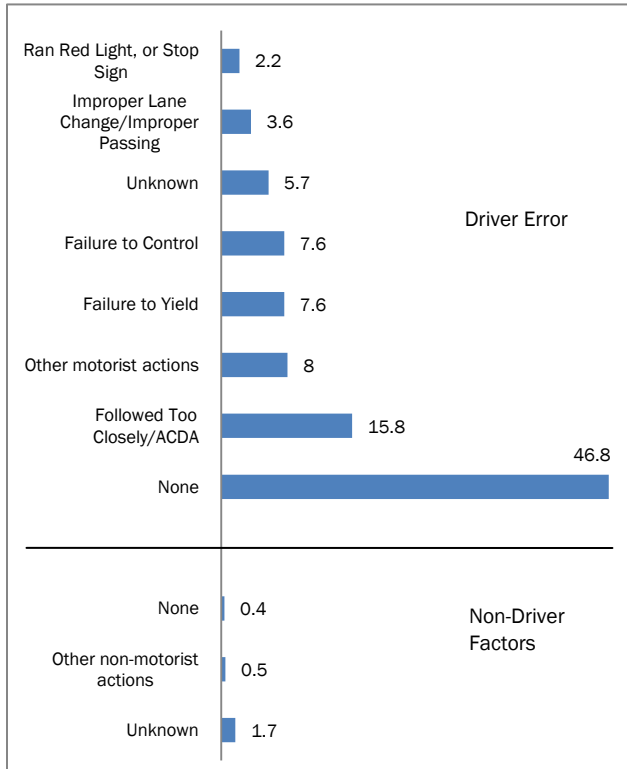


Source: MORPC Crash Data 2007-2009; N=116,266

¹ Passenger car includes Mid size, Full size, Minivan, SUV, Pickup, and Van.

As Figure 4 shows, “following too closely,” “failure to yield,” and “failure to control” were the three most commonly reported factors contributing to crashes. Related to non-motorists’ actions, “improper crossing,” “darting,” or “failure to yield right-of-way” were reported most frequently.

Figure 4: Reported Crashes by Probable Cause [in %]

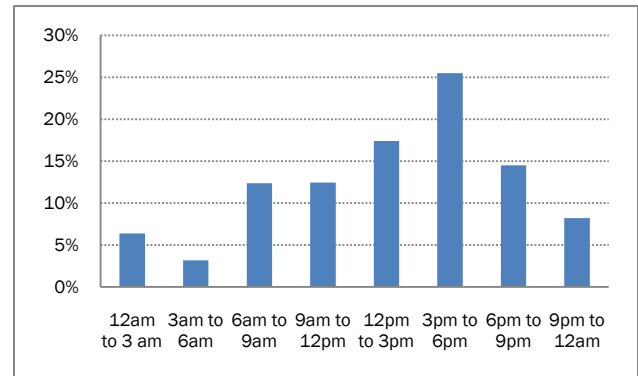


Source: MORPC Crash Data 2007-2009; N=225,154

It is important to note that the reported contributing crash factors are often subjective and therefore need to be read with caution. The reporting is limited to the officer’s ability to fully understand the reasons behind the crash and to rely on the honesty of the crash participants. They are therefore referred to as “probable cause.”

The majority of reported crashes occurred during the afternoon and early evening hours, between 12 p.m. and 9 p.m. (see Figure 5).

Figure 5: Reported Crashes by Time of Day [in %]



Source: MORPC Crash Data 2007-2009; N=116,266

CRASH LOCATIONS Years 2007 - 2009

Legend

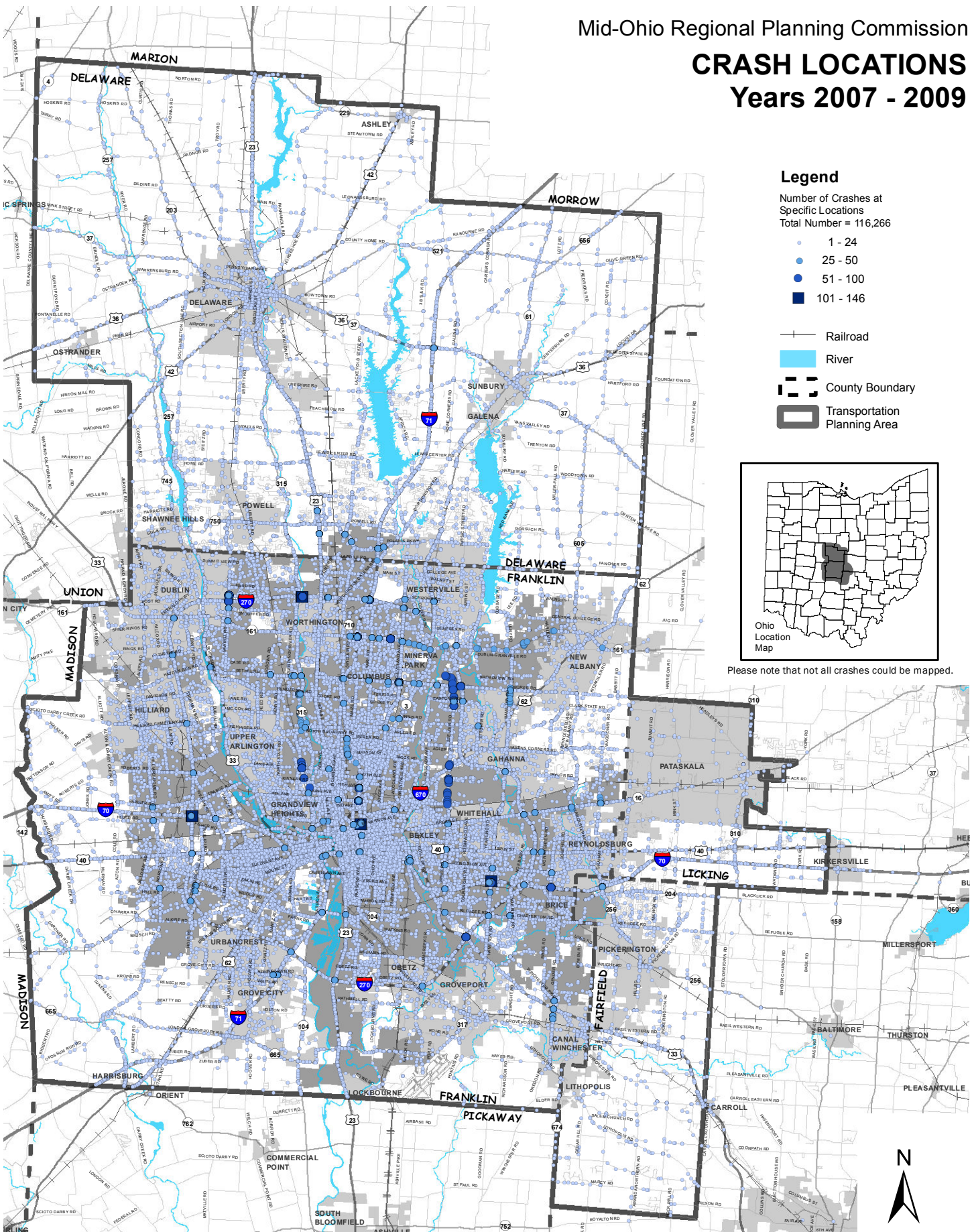
Number of Crashes at
Specific Locations
Total Number = 116,266

- 1 - 24
- 25 - 50
- 51 - 100
- 101 - 146

- Railroad
- River
- County Boundary
- Transportation Planning Area



Please note that not all crashes could be mapped.



Fatal Crashes

The three-year period shows a total of 285 fatal crashes in MORPC's transportation planning area, resulting in 310 fatalities. A total of 15 percent (45) of these fatalities were pedestrians, 66 percent (203) were drivers, and 20 percent (62) were passengers. Over 70 percent of all people involved in fatal crashes were male. While the number of fatal crashes increased by 14 percent from the years 2007 to 2008, it decreased by 14 percent from 2008 to 2009.

The majority of fatal crashes we reported to have occurred on county roads (57.9 percent), followed by rural interstate roads (21.1 percent), and rural state highways (16.5 percent).

The table below illustrates that most fatal crashes occurred in or with passenger motor vehicles. Pedestrians and motorcyclists were also significantly represented in fatal crashes.

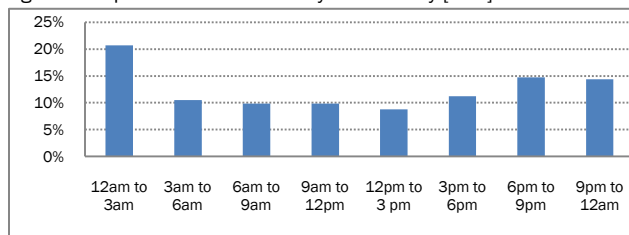
Table 1: Number of Units Involved in Fatal Crashes by Type of Unit

2007-2009	Number of Units/Fatal Crashes	Number of Units	Percent Fatal
Passenger car related	377	205,085	0.2%
Pedestrian related	49	1,421	3.4%
Motorcycle related	39	1,478	2.6%
Bicycle related	8	903	0.9%
Transit related	0	631	0.0%
Truck related	35	7,522	0.5%
School bus related	3	871	0.3%
Other Modes	11	7,243	0.2%
Total	522	225,154	0.2%

Source: MORPC Crash Data 2007-2009

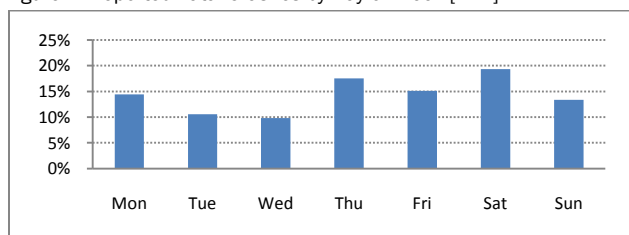
Figure 1 shows that the majority of fatal crashes (61 percent) occurred during early evening hours and the night between 3 p.m. and 3 a.m. 52 percent of all fatal crashes occurred on Thursdays, Fridays, and Saturdays (see Figure 2).

Figure 1: Reported Fatal Crashes by Time of Day [in %]



Source: MORPC Crash Data 2007-2009; N=285

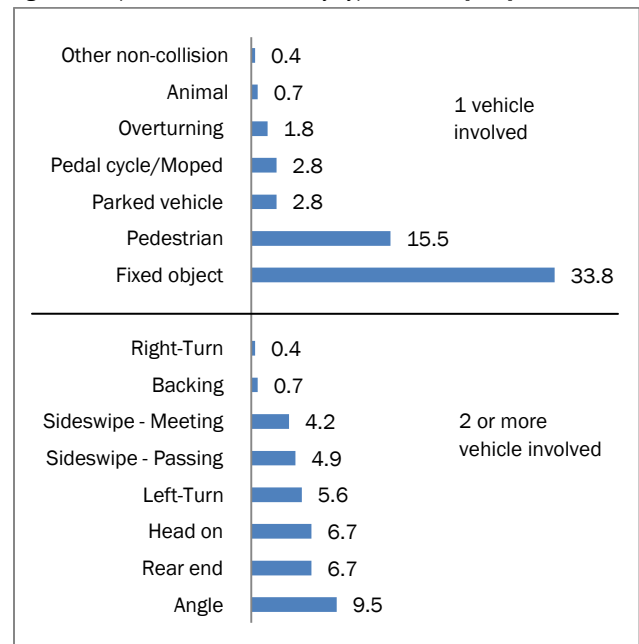
Figure 2: Reported Fatal Crashes by Day of Week [in %]



Source: MORPC Crash Data 2007-2009; N=285

The most frequent crash types were fixed-object crashes (34 percent), followed by crashes involving a vehicle and a pedestrian (16 percent) and angle crashes (10 percent) (see Figure 3). Of those crashes where the probable contributing factor was reported, "failure to control," "operating vehicle in reckless manner," "failure to yield," and "improper lane change" were the most common ones.

Figure 3: Reported Fatal Crashes by Type of Crash [in %]



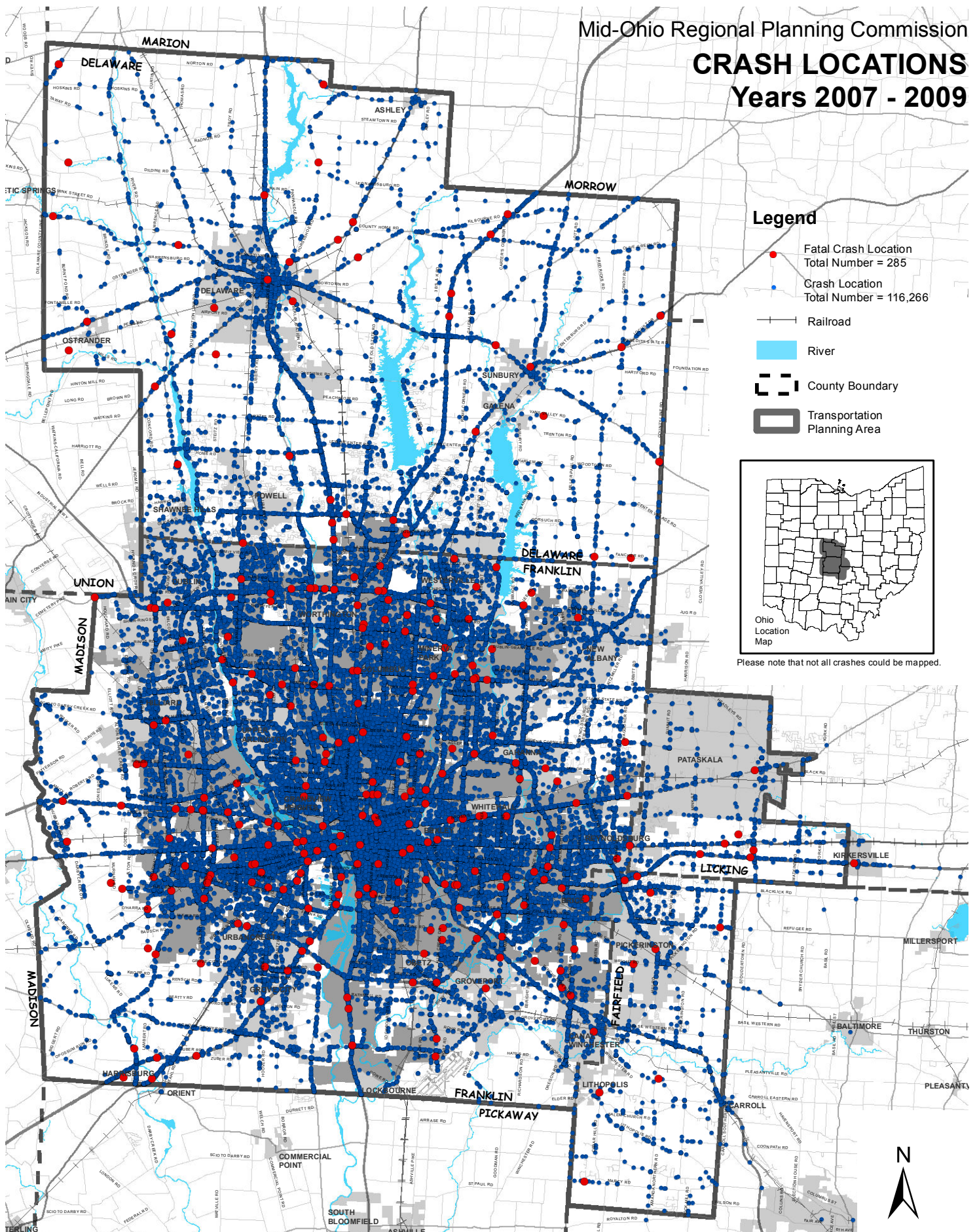
Source: MORPC Crash Data 2007-2009; N=285

17 percent of the 285 fatal crashes reportedly involved alcohol and/or drugs. Speeding was reported in 9 percent of units involved in fatal crashes, meaning that the actual speed was determined to be above speed limit. Potentially, more of these crashes could be the result of speed but were not reported as such.

Of the 203 fatally injured vehicle drivers, 43 percent were not wearing safety belts; of the 62 occupants killed, 42 percent were unbuckled. In addition, 36 percent of the fatally injured drivers and 29 percent of the occupants were at least partially ejected in the crash.

CRASH LOCATIONS

Years 2007 - 2009

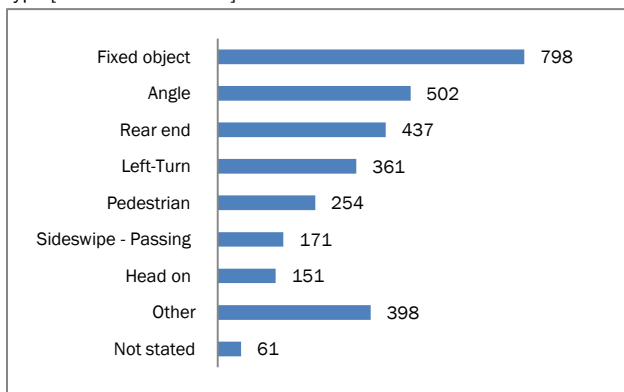


Serious Crash Types

More than 41 percent of all fatal and incapacitating injuries over the 3-year period occurred in fixed-object or angle crashes. Fixed-object crashes tend to occur more frequently during winter months and under dry road conditions. Angle crashes most often take place at intersections and during the day. A significant decrease in angle crashes was observed during the 3-year period.

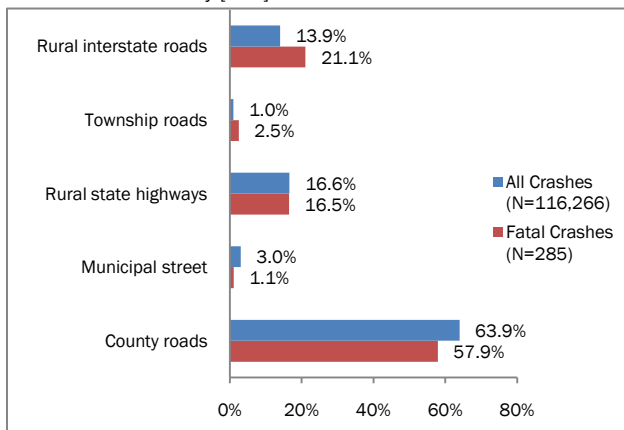
According to MORPC's crash data analysis, over 10 percent of all fatal injuries (N=310) as well as incapacitating injuries (N=2,825) occurred in a fixed-object or angle crash. Many incapacitating injuries were also caused in rear-end crashes, and pedestrian crashes often resulted in fatal injuries (see Figure 1).

Figure 1: Reported Fatal and Incapacitating Injury Crashes by Crash Type [Number of Crashes]



Source: MORPC Crash Data 2007-2009; N=3,135

Figure 2: All Reported Crashes and Fatal Crashes in Comparison by Jurisdiction of Roadway [in %]



Source: MORPC Crash Data 2007-2009

County roads were the most common location for crashes. Interstate roads and township roads had a higher percentage of fatal crashes than total crashes (See Figure 2).

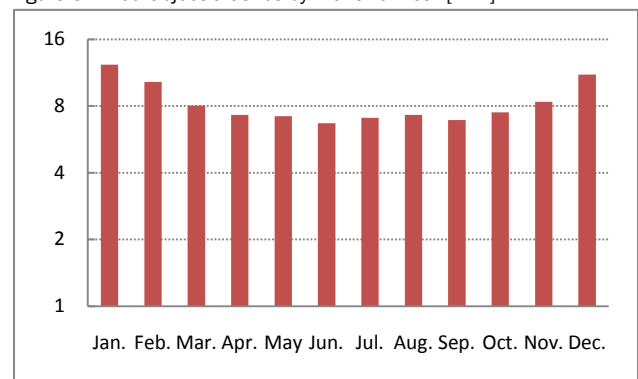
The following statistics will provide more detailed information on fixed-object and angle crashes, as well as intersection crashes.

Fixed-Object Crashes

During the 3-year period, a total of 15,134 fixed-object crashes occurred in MORPC's transportation planning area, resulting in 96 fatal and 4,476 injury crashes.

Of the fixed-object crashes, 50 percent occurred during early evening hours and the night (6 p.m. to 3 a.m.) and about 41 percent under wet road conditions (including rain, snow, and ice).

Figure 3: Fixed-Object Crashes by Month of Year [in %]



Source: MORPC Crash Data 2007-2009; N=15,134

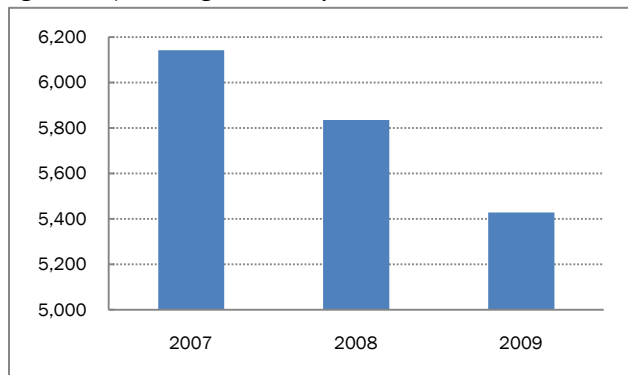
Figure 3 shows that fixed-object crashes were more common during the winter months when inclement weather increases the likelihood of dangerous road conditions.

Angle Crashes

A total of 17,405 of the crashes within the 3-year period were recorded as angle crashes. Of these crashes, 27 were fatal and 5,347 involved injuries.

Three-fourths occurred from 6 a.m. to 6 p.m. and in dry road conditions. As expected, the majority of these crashes (87 percent) were at intersections or intersection-related. The transportation planning area experienced a decrease in angle crashes of more than 12 percent from 2007 to 2009 (see Figure 4).

Figure 4: Reported Angle Crashes by Year



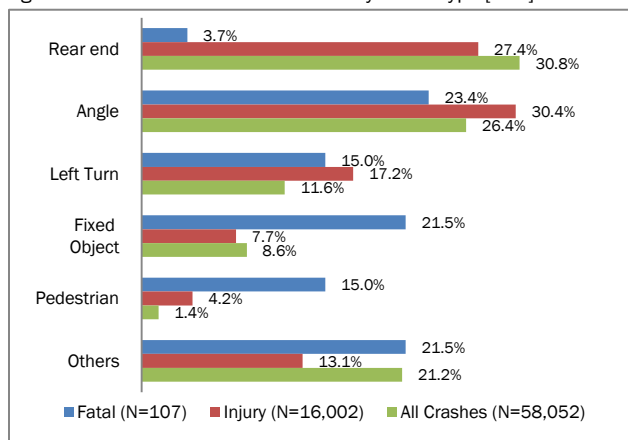
Source: MORPC Crash Data 2007-2009; N=17,405

The top two probable causes for reported angle crashes were failure to yield (25 percent) and running a red light (12 percent).

Intersection Crashes

When analyzing the crash data based on the variable field "Type of Intersection," a total of 58,171 (50 percent) were labeled as non-intersection crashes. Based on these statistics, nearly 30 percent of all fatal crashes and 46 percent of all injury crashes did occur at an intersection. However, even crashes that did not occur directly at an intersection could still be intersection-related.

Figure 5: Intersection-Related Crashes by Crash Type [in %]



Source: MORPC Crash Data 2007-2009

Figure 5 illustrates that angle and fixed-object crashes at intersections were often the cause for fatalities, while rear-end and angle crashes were the overall most frequent crash types at intersections.

Red Light Running

Columbus currently has a total of 10 existing and 8 planned red-light camera locations (see Map 1). Early studies have shown a drastic decrease in red light running since the deployment of the cameras, also reducing the number of crashes at these locations.

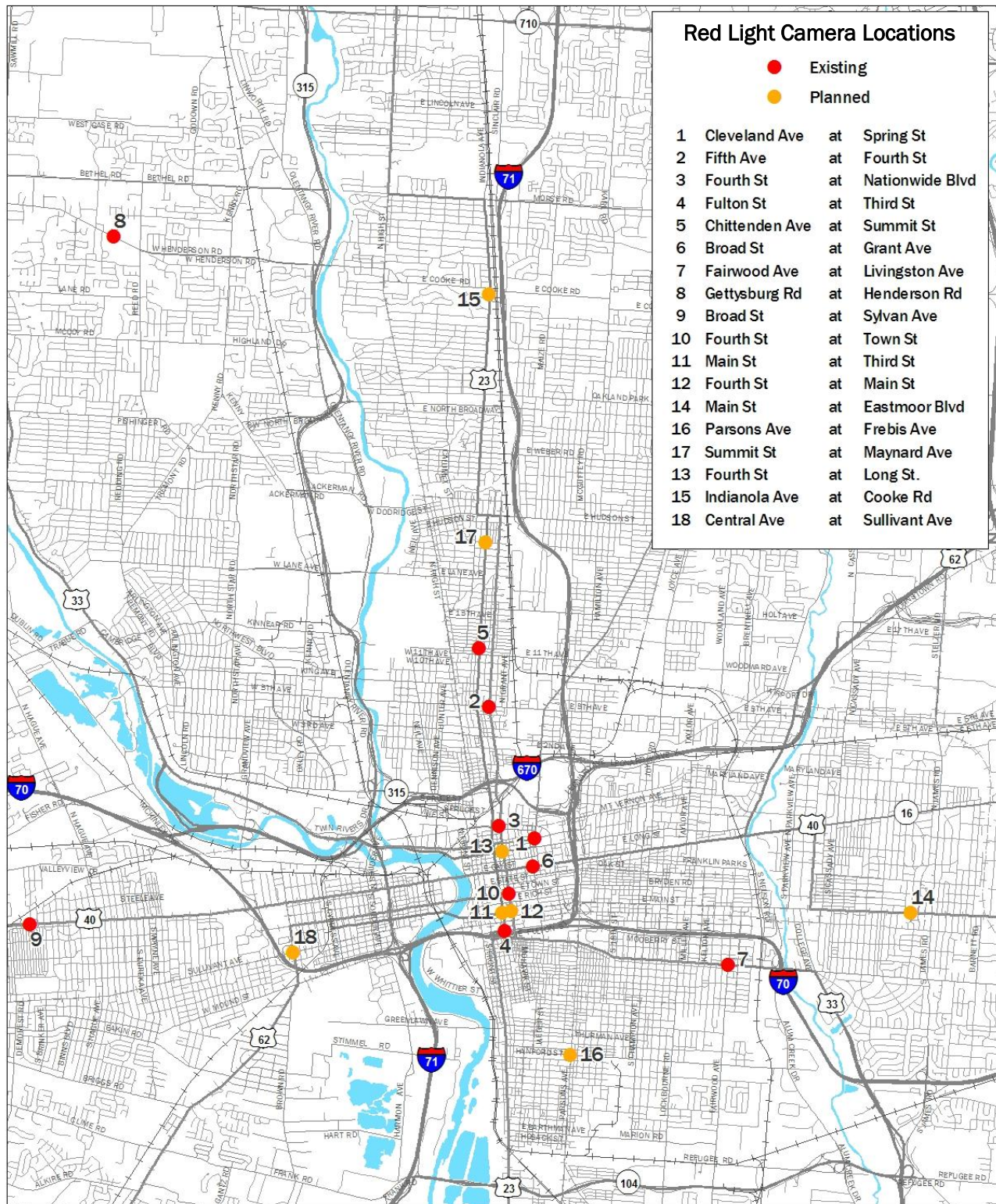
Roundabouts

Roundabouts are one of the most effective intersection control treatments available with the added benefit of calming traffic. They limit vehicle speeds to approximately 20 mph and can control vehicle speeds on four streets simultaneously. Roundabouts typically reduce crashes by 40 – 60 percent, reduce injury by 35 – 80 percent and almost completely eliminate incapacitating injury and fatal crashes².

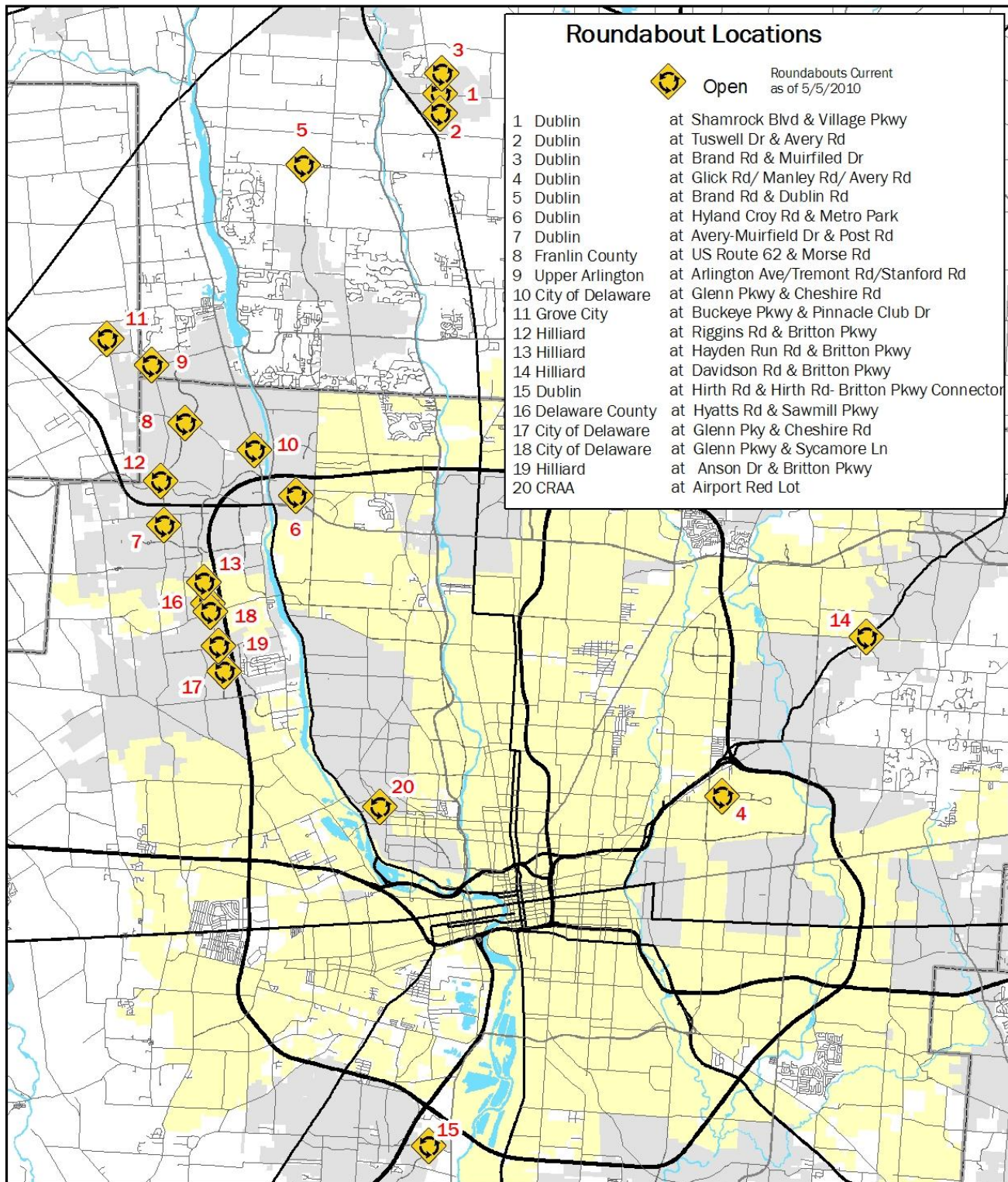
MORPC's transportation planning area has a total of 20 roundabouts that are open.

² <http://www.dublin.oh.us/engineering/roundabout/index.php>

Map 1: Red Light Camera Locations in Columbus, OH (April 2010)



Map 2: Roundabouts in the MORPC Planning Area (May 2010)



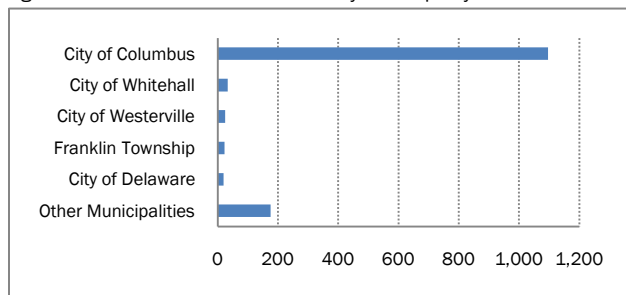
Pedestrians

Between the years of 2007 and 2009, a total of 1,371 pedestrian-related crashes were reported in the MORPC planning area, with a total of 48 pedestrians killed. Even though pedestrian-related crashes make up only 1 percent of all crashes, they represent 17 percent of all fatal crashes.

With approximately 83 percent of all non-motorist crashes resulting in some type of injury, pedestrians and bicyclists are especially vulnerable transportation users. These statistics emphasize the importance of both motorist and non-motorist education on traffic laws, as well as the need to increase visibility of non-motorists on the roadways.

Figure 1 shows that the majority of all pedestrian-related crashes in the 3-year period occurred within the City of Columbus (80 percent).

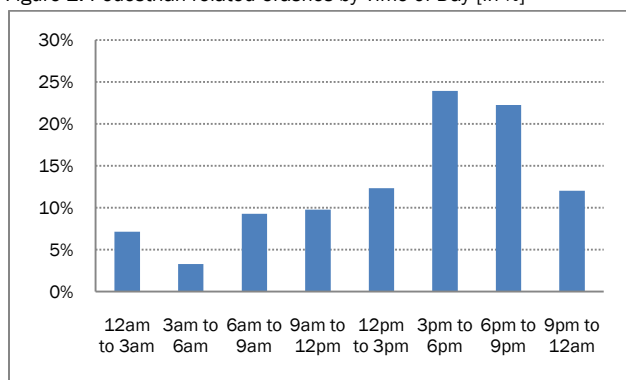
Figure 1: Pedestrian-related Crashes by Municipality



Source: MORPC Crash Data 2007-2009; N=1,371

Figure 2 shows that pedestrian-related crashes are most common between the hours of 3 p.m. and 9 p.m.

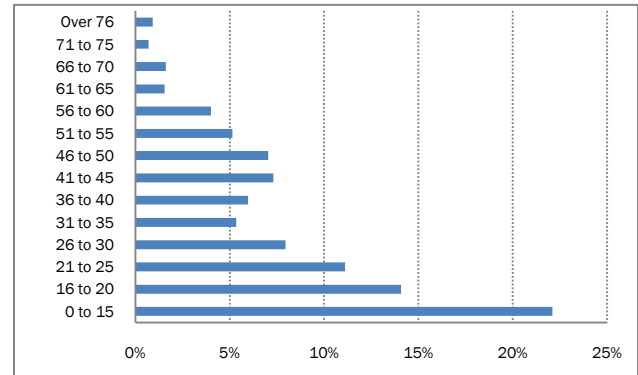
Figure 2: Pedestrian-related Crashes by Time of Day [in %]



Source: MORPC Crash Data 2007-2009; N=1,371

Figure 3 shows the age distribution of pedestrians involved in crashes with motor vehicles. 22 percent of all reported pedestrian crashes involved children under the age of 15. Over 33 percent of the crashes involved teenagers and young adults between the ages of 16 and 30.

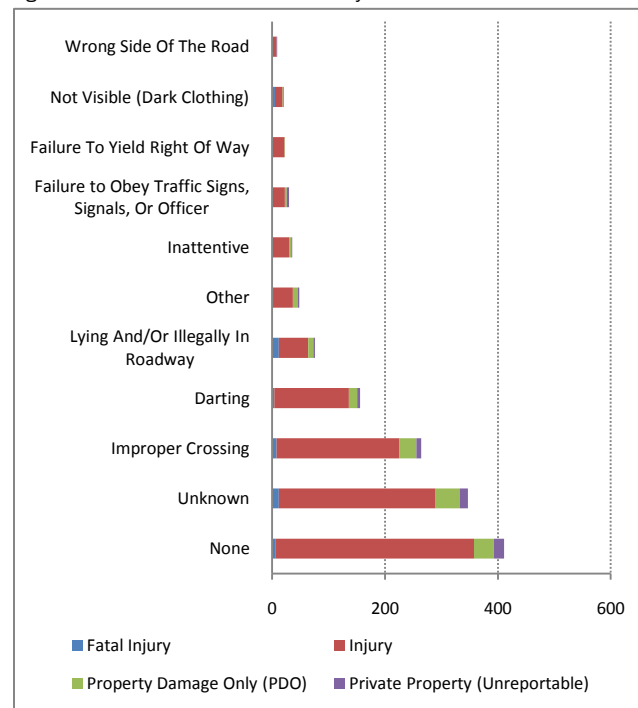
Figure 3: Pedestrians Involved in Crashes by Age [in %]



Source: MORPC Crash Data 2007-2009; N=1,348

“Improper crossing” was reportedly the most common known cause for pedestrian fatalities, followed by “darting” (see Figure 4).

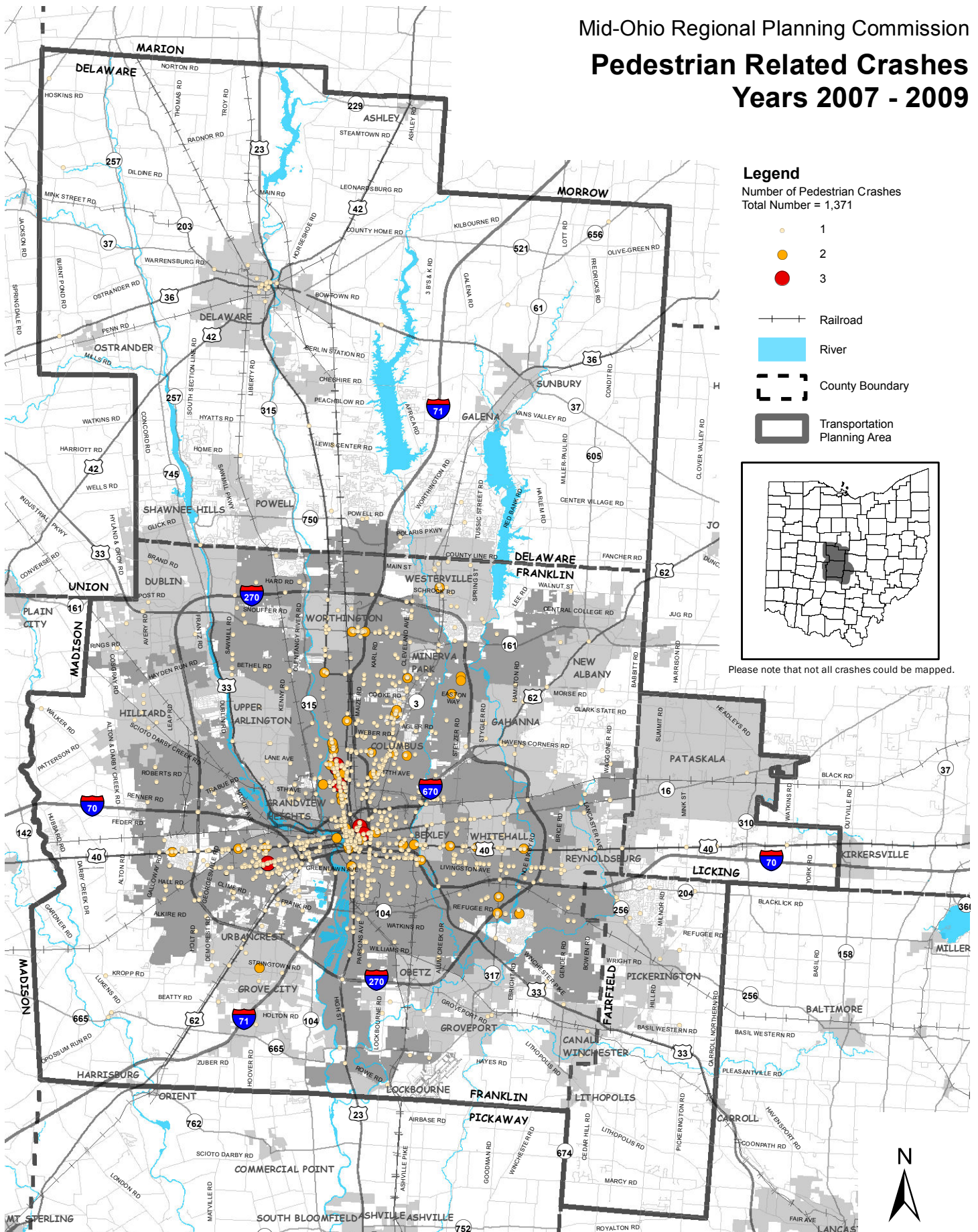
Figure 4: Pedestrian-related Crashes by Probable Cause



Source: MORPC Crash Data 2007-2009; N=1,421

40 out of 47 pedestrian-related fatal crashes within the 3-year period occurred in urban areas (85 percent), on the roadway (85 percent), at non-intersection locations (64 percent), in normal weather conditions (87 percent), and during the night (68 percent).

Pedestrian Related Crashes Years 2007 - 2009



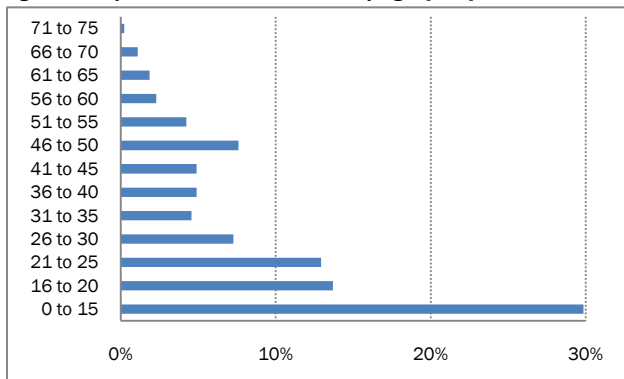
Bicyclists

Within the regional transportation planning area, a total of 898 bicycle-related crashes, involving 921 bicyclists, occurred during the years 2007 and 2009. While most bicycle-related crashes resulted in some type of injury (81 percent), only 8 of those crashes were fatal.

With approximately 83 percent of all non-motorist crashes resulting in some type of injury, pedestrians and bicyclists are especially vulnerable transportation users. These statistics emphasize the importance of both motorist and non-motorist education on traffic laws, as well as the need to increase visibility of non-motorists on the roadways.

Similar to pedestrian-related crashes, the majority of bicyclists involved in crashes were either 15 years or younger (30 percent) or between 16 and 30 years (36 percent) (see Figure 1).

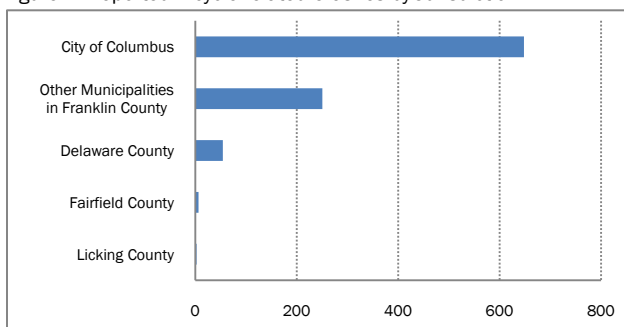
Figure 1: Bicyclists Involved in Crashes by Age [in %]



Source: MORPC Crash Data 2007-2009; N=878

As Figure 2 illustrates, most of the bicycle-related crashes in the 3-year period occurred within the City of Columbus (72 percent).

Figure 2: Reported Bicycle-related Crashes by Jurisdiction

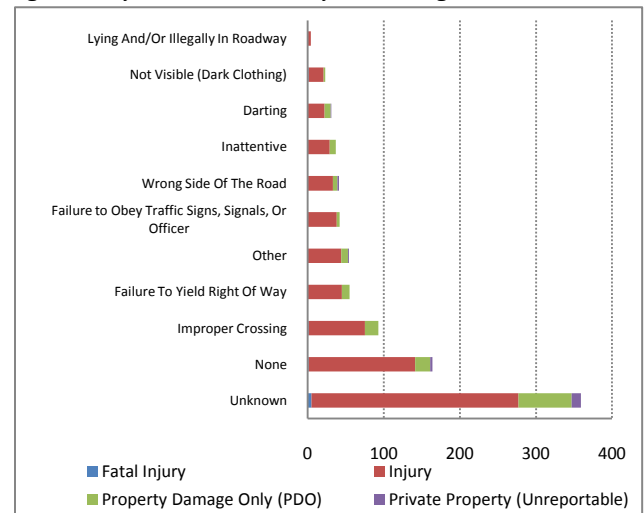


Source: MORPC Crash Data 2007-2009; N=898

The majority of all reported bike crashes (68 percent) occurred in the summer months between May and September. Further, 91 percent of these crashes took place during normal weather conditions. Over two-thirds were intersection-related.

When analyzing contributing factors for bicycle crashes, and particularly injury and fatal crashes, "improper crossing" and "failure to yield right-of-way" were the most common factors (see Figure 3). Again, these statistics need to be read with caution since the contributing factors are subject to the field officer's judgment and the person involved in the crash.

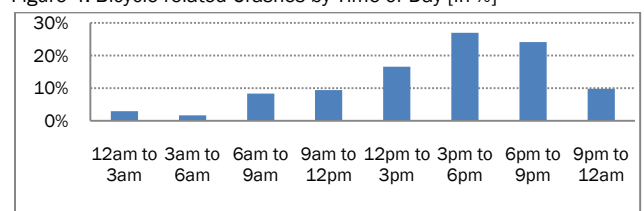
Figure 3: Bicycle-related Crashes by Contributing Factors



Source: MORPC Crash Data 2007-2009; N=903

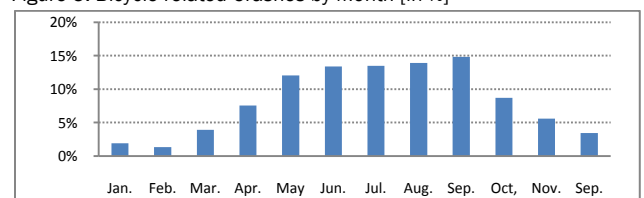
51 percent of bicycle-related crashes occurred between 3 p.m. and 9 p.m., and the highest number of crashes occurred between May and August (see Figure 4 and Figure 5).

Figure 4: Bicycle-related Crashes by Time of Day [in %]



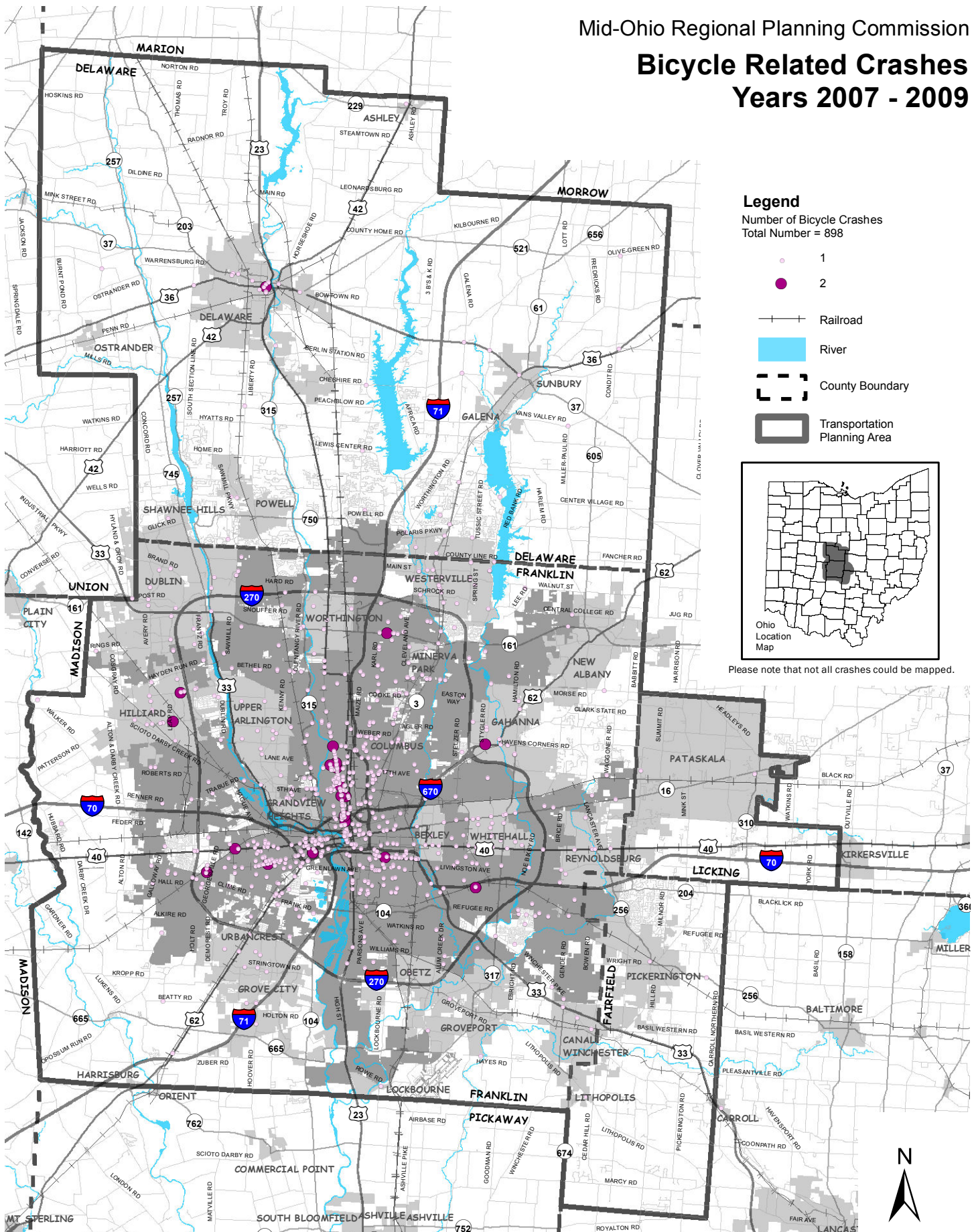
Source: MORPC Crash Data 2007-2009; N=898

Figure 5: Bicycle-related Crashes by Month [in %]



Source: MORPC Crash Data 2007-2009; N=898

Bicycle Related Crashes Years 2007 - 2009



Motorcyclists

For the years 2007 to 2009, the MORPC transportation planning area showed a total of 1,454 reported motorcycle crashes involving 1,620 motorcyclists. While the number of crashes increased by 5 percent between the years 2007 and 2008, it decreased by 19 percent from 2008 to 2009.

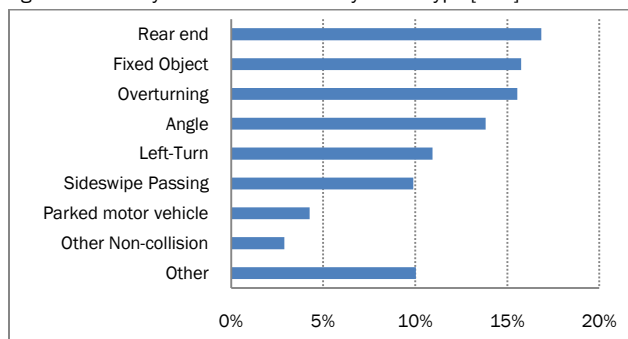
Similar to non-motorized transportation users, motorcyclists are significantly vulnerable, with 76 percent of crashes resulting in some type of injury, and 3 percent fatal, with a total of 39 fatalities. The high number of motorcycle fatalities reflects the inherently greater risk associated with high speeds and lack of body protection and safety features compared to motor vehicles.

Although helmet usage is proven to be effective in preventing serious brain damage and fatal injuries, many motorcyclists do not wear helmets. Over 50% of motorcyclists killed in crashes (22 out of 39 fatalities in MORPC's area) were not wearing helmets.

24 percent of the fatally injured motorcyclists were recorded as having been under the influence of alcohol or drugs.

As Figure 1 illustrates, the top 5 reported crash types in motorcycle-related crashes were rear-end, fixed-object, overturning, angle, and left-turn.

Figure 1: Motorcycle-related Crashes by Crash Type [in %]

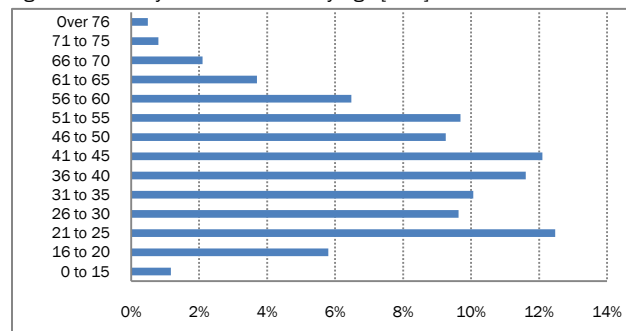


Source: MORPC Crash Data 2007-2009; N=1,454

Nearly 90 percent of all motorcycle-related crashes occurred during the warmer months from April through October, and under dry road conditions. Over half of these crashes happened during the day and nearly half were non-intersection-related.

Nearly 28 percent of all reported motorcycle crashes involved young drivers between the ages of 16 and 30, and over 50 percent involved adults aged 31 to 55 (see Figure 2).

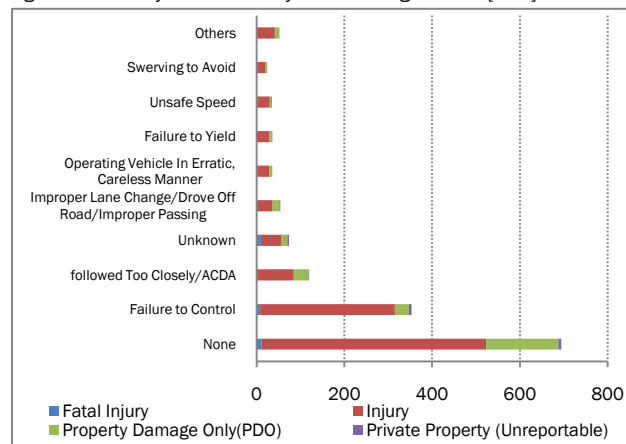
Figure 2: Motorcyclists in Crashes by Age [in %]



Source: MORPC Crash Data 2007-2009; N=1,545

As Figure 3 illustrates, those factors that most commonly were reported to contribute to the crash were “failure to control” and “followed too closely.”

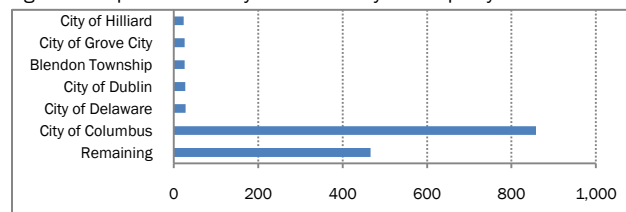
Figure 3: Motorcycle Crashes by Contributing Factors [in %]



Source: MORPC Crash Data 2007-2009; N=1,478

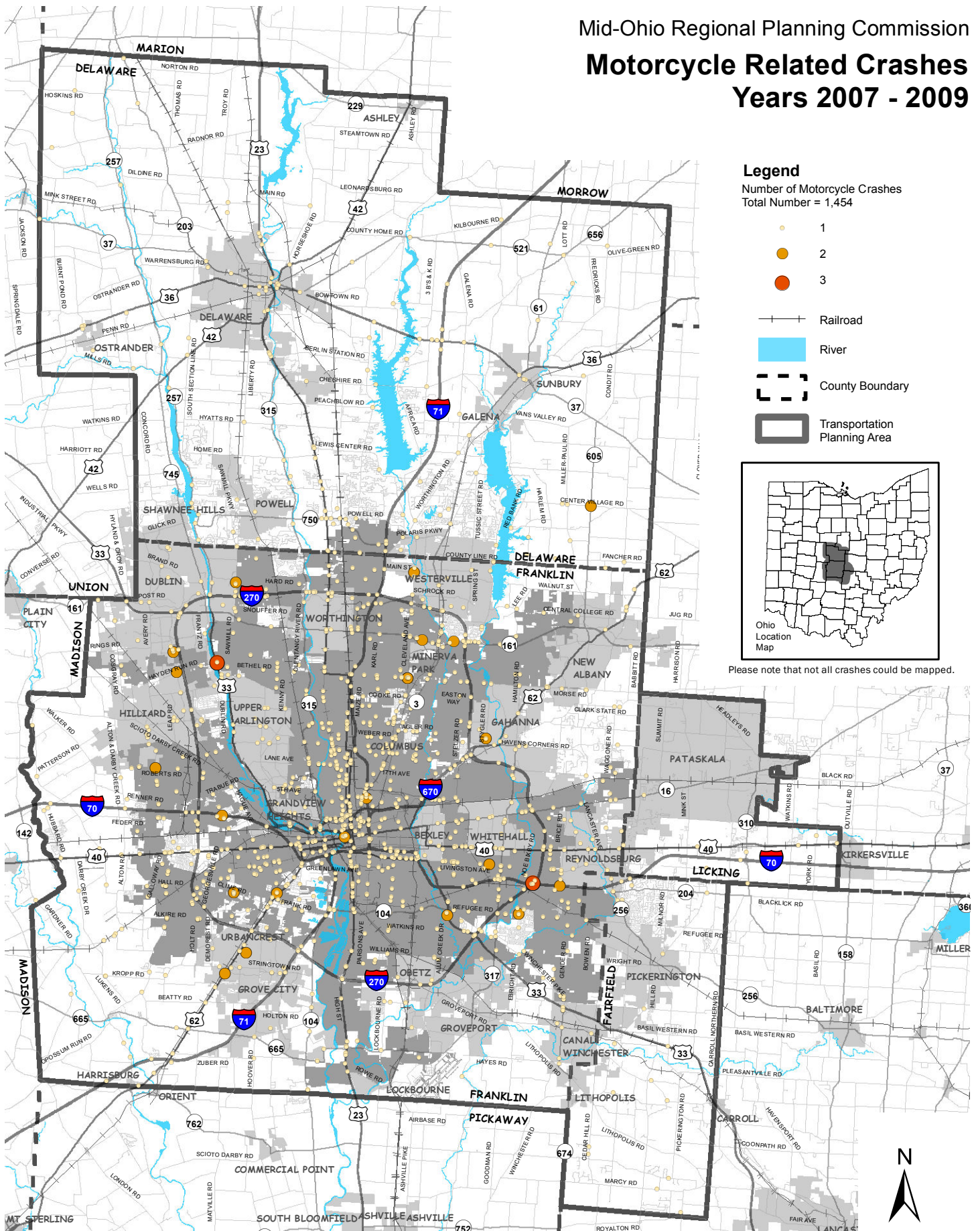
The majority of reported motorcycle crashes occurred within Columbus, followed by Delaware, Dublin, Blendon Township, and Grove City. As Figure 4 illustrates, most of the motorcycle-related crashes in the 3-year period occurred within Columbus (59 percent).

Figure 4: Reported Motorcycle Crashes by Municipality



Source: MORPC Crash Data 2007-2009; N=1,454

Motorcycle Related Crashes Years 2007 - 2009



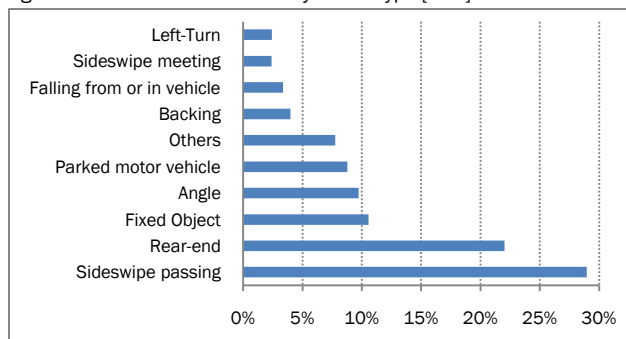
Truck Drivers

During the time frame of 2007 to 2009, a total of 7,159 crashes related to trucks were reported within MORPC's transportation planning area. These crashes involved 8,737 people. Most of the crashes (78 percent) resulted in property damage only (PDO). A total of 34 of the truck-related crashes ended fatal and 1,491 in some type of injury. Although most truck-related crashes did not end in an injury, the type of injury tends to be more severe if it involves a person other than the truck driver or truck passenger.

Within MORPC's transportation planning area, about 3 percent of crashes involving trucks were reported as work zone-related.

Rear-ending, sideswipe-passing, and fixed object were reported crash types for over 60 percent of truck-related crashes combined (see Figure 1).

Figure 1: Truck-related Crashes by Crash Type [in %]

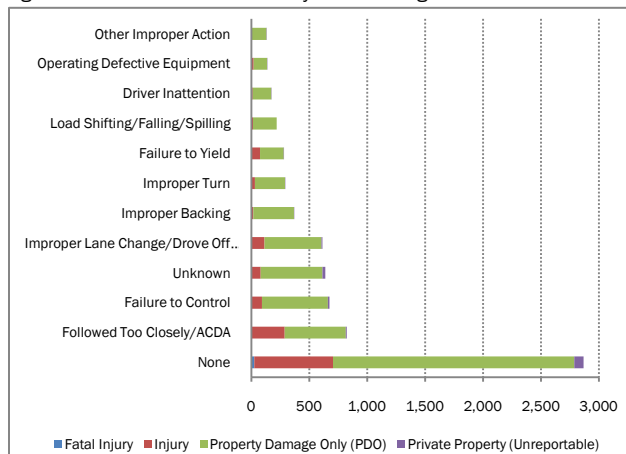


Source: MORPC Crash Data 2007-2009; N=7,154

Truck-related crashes decreased by 25 percent slightly over the three years examined.

In general, "following too closely," "failure to control," "improper lane change," and "improperly backing up," were the most commonly reported contributing factors to a truck-related crash (see Figure 2). Due to the large size of the vehicle and the challenges of maneuvering, backing up a truck can cause great difficulties.

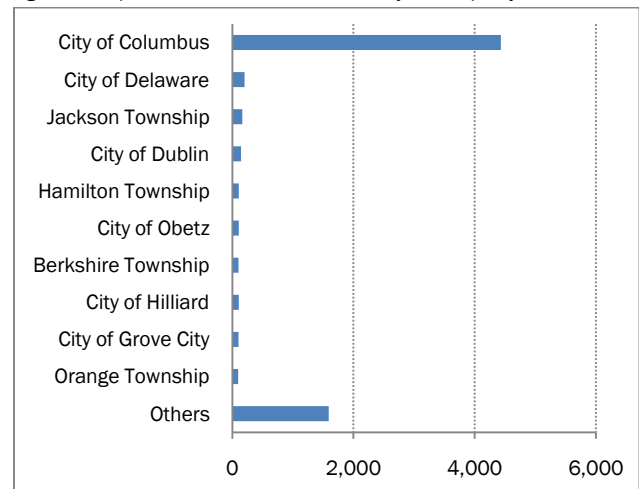
Figure 2: Truck-related Crashes by Contributing Factors



Source: MORPC Crash Data 2007-2009; N=7,522

As with all crashes, the majority of reported truck crashes occurred in Columbus, followed by Delaware City, Jackson Township, Dublin, and Hamilton Township (see Figure 3).

Figure 3: Reported Truck-related Crashes by Municipality

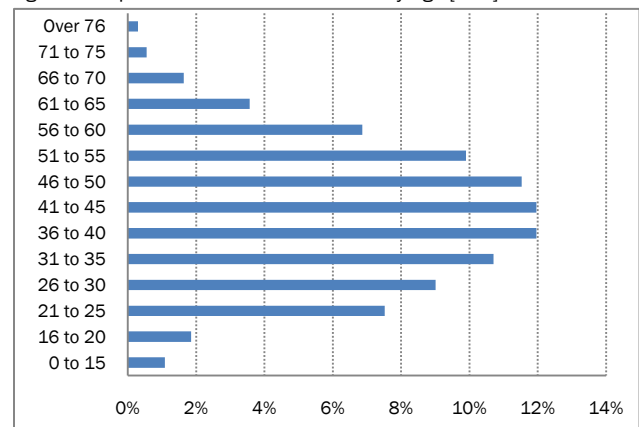


Source: MORPC Crash Data 2007-2009; N=7,158

The majority of reported truck crashes occurred during normal weather conditions (83 percent), during the daytime (81 percent), and at non-intersection locations (53 percent).

Figure 4 illustrates that the vast majority of people (5,476) involved in reported truck crashes are adults between the ages of 21 and 55 years.

Figure 4: Reported Truck-related Crashes by Age [in %]

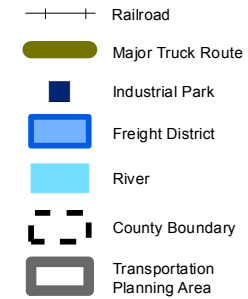


Source: MORPC Crash Data 2007-2009; N=7,727

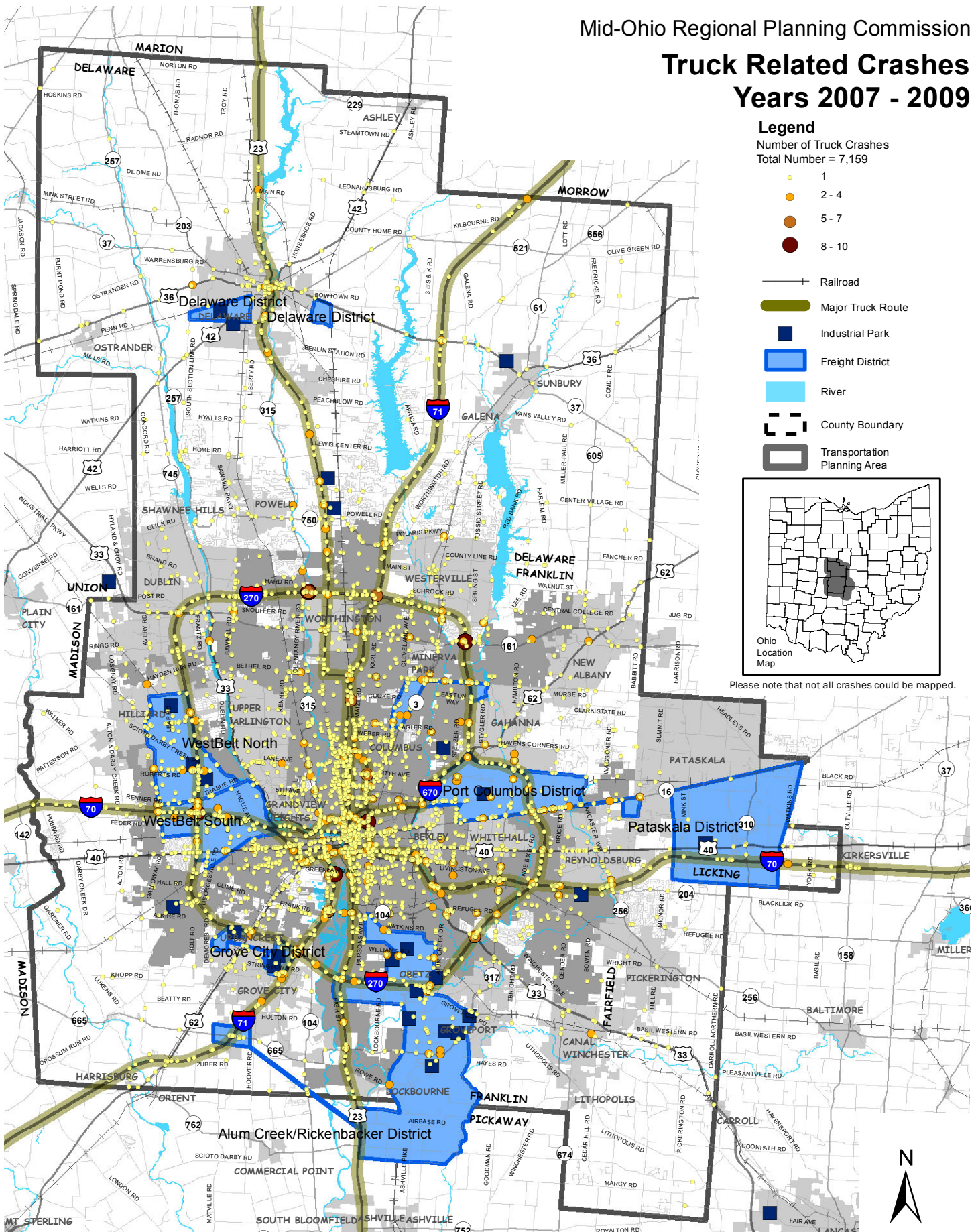
Truck Related Crashes Years 2007 - 2009

Legend

Number of Truck Crashes
Total Number = 7,159



Please note that not all crashes could be mapped.



Public Transit

Less than 1 percent of all crashes that occurred between 2007 and 2009 were transit-related. However, over the 3 year time period, there was a 25 percent increase in transit-related crashes. Over half of the transit-related crashes in 2007-2009 occurred at intersections, and more than one third were due to sideswipe passing errors.

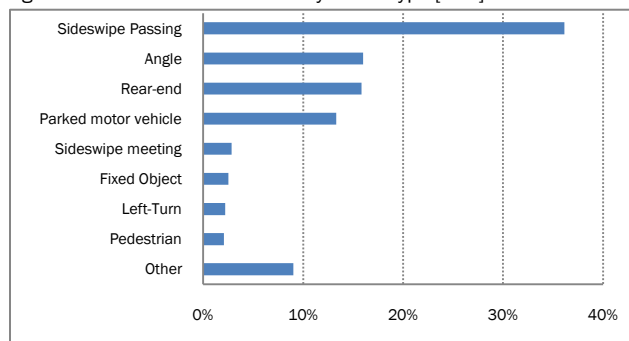
For MORPC's transportation planning area, two main transit authorities exist: The Central Ohio Transit Authority (COTA) located in Columbus and serving Franklin County, and the Delaware Area Transit Agency (DATA) serving Delaware County.³ Both are required to submit records of all transit incidents annually to the NTD.

A total of 628 transit-related crashes occurred between the years 2007 and 2009, involving 1,268 units, and resulting in 271 injuries.

Transit-related crashes increased over the 3-year period by 25 percent. Only 2 percent of crashes involved pedestrians; 91 percent involved other vehicles.

Figure 1 illustrates that more than one-third of these crashes occurred due to sideswipe passing errors, followed by rear-end, parked-vehicle crashes, and angle.

Figure 1: Transit-related Crashes by Crash Type [in %]

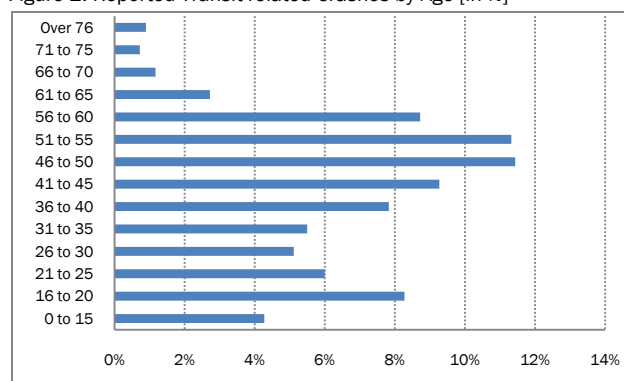


Source: MORPC Crash Data 2007-2009; N=631

Over 50 percent of all crashes involving transit occurred at intersections. Over 82 percent of transit crashes took place during the daytime and 75 percent were during dry road conditions. The number of crashes seemed balanced throughout the months.

Figure 2 shows that the age distribution was fairly even for people involved in transit-related crashes. The highest number of crashes occurred within the age group of 41 to 60 years (41 percent).

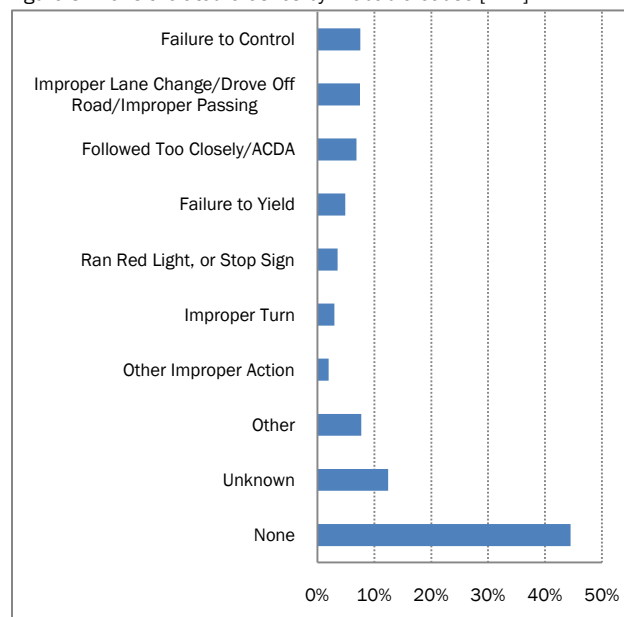
Figure 2: Reported Transit-related Crashes by Age [in %]



Source: MORPC Crash Data 2007-2009; N=2,238

For the majority of transit-related crashes, no specific probable cause was reported. In the cases where a cause was listed, "failure to control" and "improper lane change" were the most prevalent contributing factors (see Figure 3).

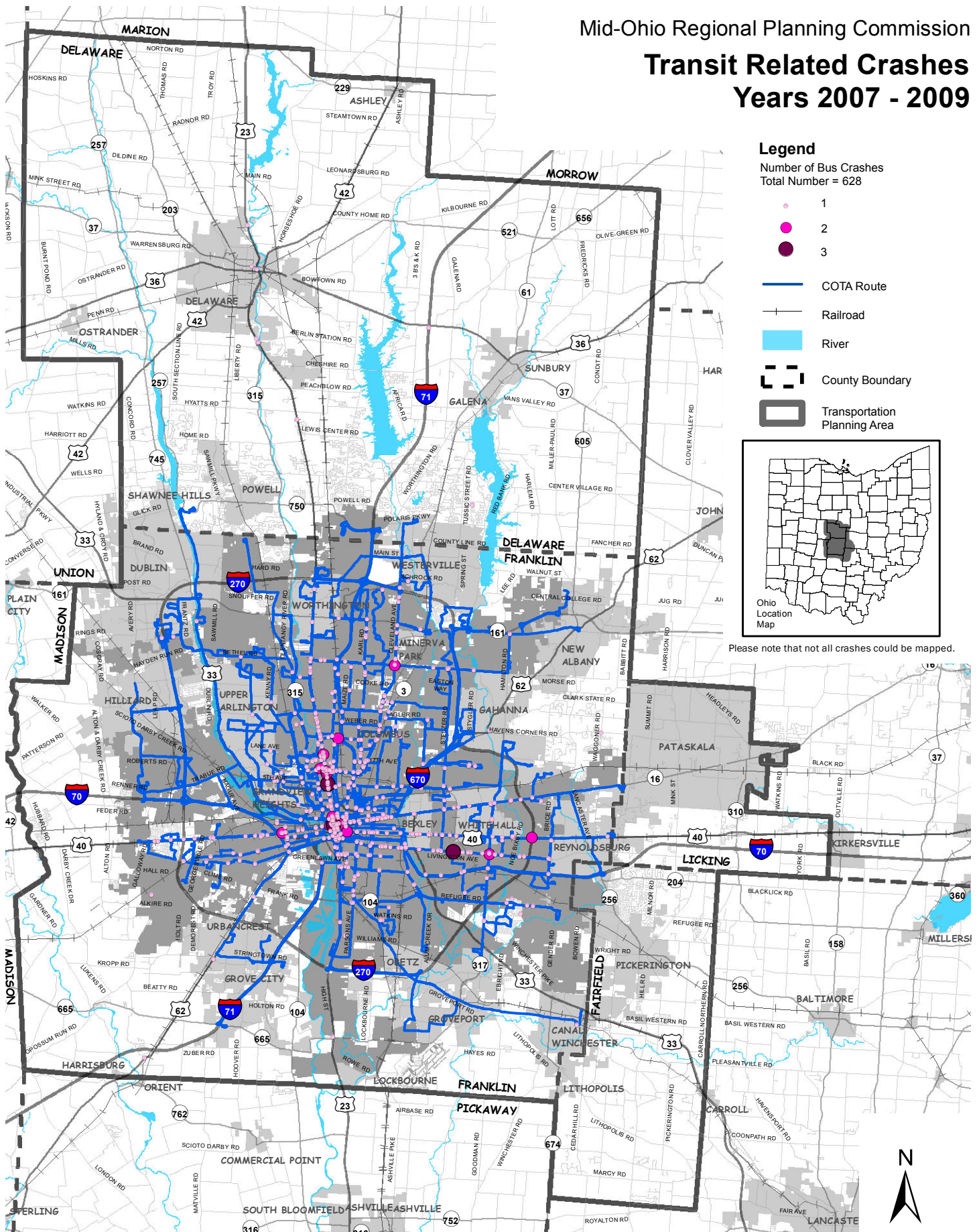
Figure 3: Transit-related Crashes by Probable Cause [in %]



Source: MORPC Crash Data 2007-2009; N=1,268

³ In addition, the Licking County Transit Board (<http://www.lcounty.com/lctb/>) provides demand-response transit service to rural parts of Licking County, and the Lancaster Public Transit System (<http://www.ci.lancaster.oh.us/dept/transit/>) serves Fairfield County. The National Transit Database (NTD) program maintains a listing of transit authorities at the state and local level (<http://www.ntdprogram.gov/ntdprogram/links.htm>).

Transit Related Crashes Years 2007 - 2009



Rear-end and Work Zone Crashes

Rear-end and work zone related crashes are assumed to be primarily congestion-related. Rear end crashes are also the third most common crash type in serious injury crashes and the primary crash type for work zone related crashes.

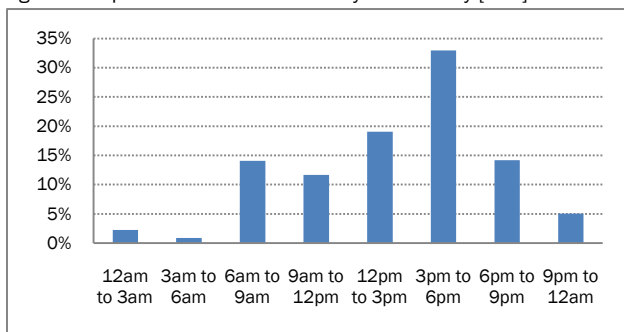
Rear-end Crashes

Over one-third of all crashes that occurred during the years 2007 to 2009 were rear-end crashes. Of these 37,537 crashes, 19 ended fatally and 10,106 in injuries.

Over the 3-year period, the number of rear-end crashes decreased by nearly 10 percent. Overall, over 75 percent of all rear-end crashes took place during the day and during dry road conditions. Only 2 percent were work zone-related, but 51 percent were intersection-related.

Figure 1 illustrates that the majority of reported crashes occurred during early morning hours and the afternoon, with a 33 percent peak between 3 p.m. and 6 p.m.

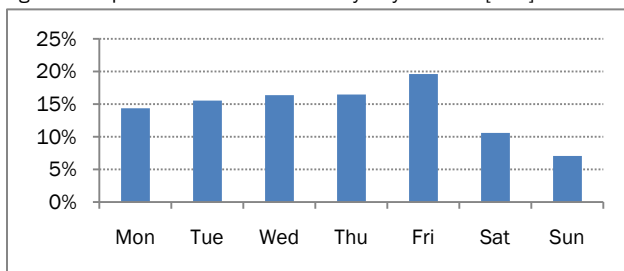
Figure 1: Reported Rear-end Crashes by Time of Day [in %]



Source: MORPC Crash Data 2007-2009; N=37,537

The majority (over 80 percent) of rear-end crashes occurred in urban areas and during the work week.

Figure 2: Reported Rear-end Crashes by Day of Week [in %]



Source: MORPC Crash Data 2007-2009; N=37,537

As one would expect, the primary contributing factor to these crashes was “following too closely” (over 40 percent).

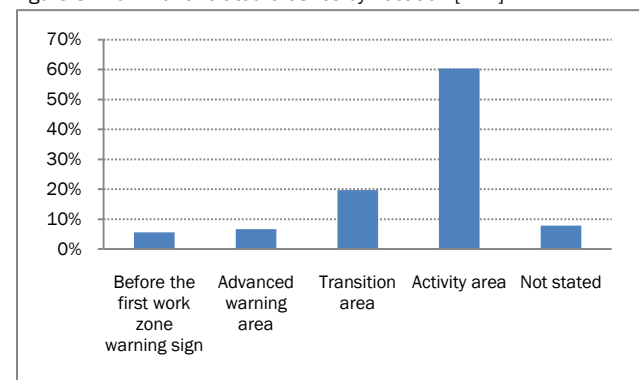
Work Zone Crashes

Within MORPC’s transportation planning area, there were 1,665 work zone related crashes during the 3-year period. One-fourth of these crashes ended in some type of injury, and 3 were fatal.

Although work zone related crashes accounted for only 1 percent of all crashes, they experienced a drastic decrease of more than 32 percent from 682 crashes in 2007 to 462 crashes in 2009.

Figure 3 illustrates that the majority of work zone related crashes occurred within the activity area, followed by the transition area and the advanced warning area.

Figure 3: Work Zone-related Crashes by Location [in %]



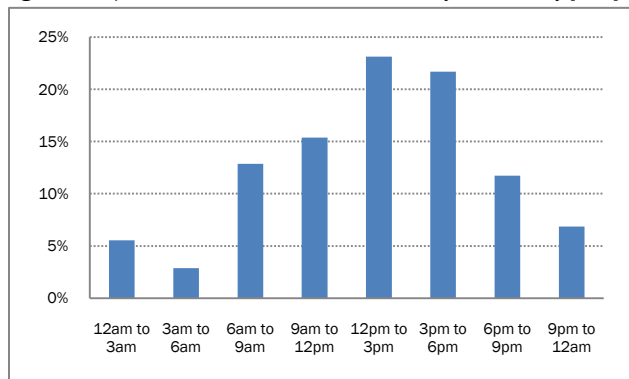
Source: MORPC Crash Data 2007-2009; N=1,662

Lane closure (37 percent) was the primary type of work zone where the crash occurred, followed by on shoulder or on median work (26 percent) and lane shift (17 percent).

In regard to time of day, the majority of work zone-related crashes occurred during the day between 6 a.m. and 6 p.m. (see Figure 4).

As stated above, most work zone-related crashes occurred during the daytime but also during dry road conditions (81 percent). Over 45 percent of the crashes were intersection-related.

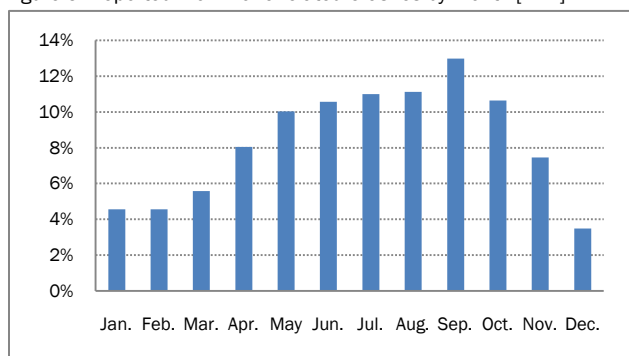
Figure 4: Reported Work Zone-Related Crashes by Time of Day [in %]



Source: MORPC Crash Data 2007-2009; N=1,665

Similar to rear-end crashes, most work zone-related crashes (81 percent) occurred during the work week. 56 percent of work zone related crashes took place in the summer months between May and September (see Figure 5).

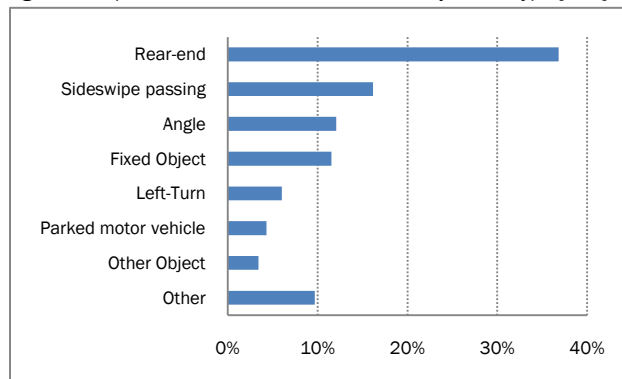
Figure 5: Reported Work Zone-related Crashes by Month [in %]



Source: MORPC Crash Data 2007-2009; N=1,665

Figure 6 illustrates that rear-end crashes were the most common crash type in work zones. These are followed by sideswipe passing, angle, fixed object, and left-turn.

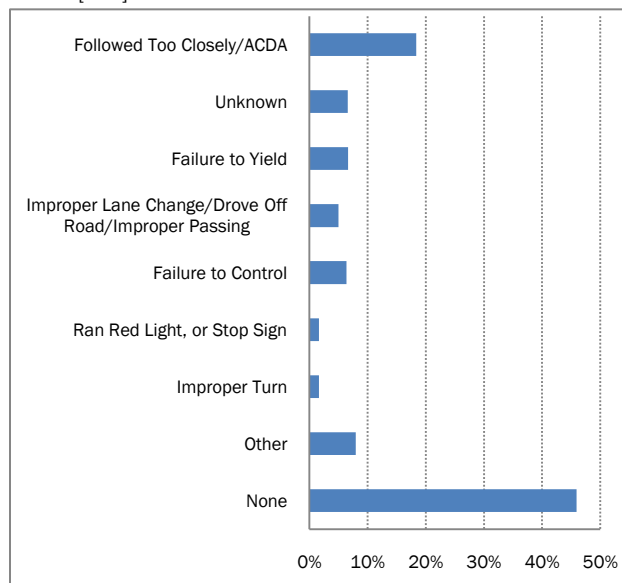
Figure 6: Reported Work Zone-related Crashes by Crash Type [in %]



Source: MORPC Crash Data 2007-2009; N=1,665

As Figure 7 illustrates, “following too closely” was by far the most common factor that contributed to the crash. Other contributing factors were failure to yield, improper lane change, and failure to control.

Figure 7: Reported Work Zone-related Crashes by Contributing Factors [in %]



Source: MORPC Crash Data 2007-2009; N=3,248

Driver Behavior Trends

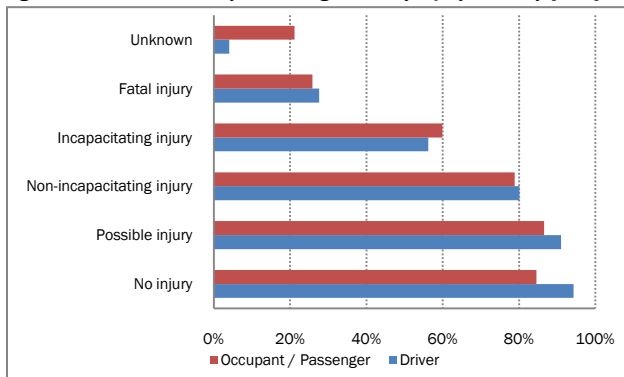
Unsafe driving behaviors can be categorized either as behaviors that mainly impact the individual (such as seatbelt or motorcycle helmet usage) and those that most often impact others (such as drunk, distracted, or aggressive driving).

Seat Belt Usage

The use of safety belts tends to reduce the severity of injury. While 91 percent of people who escaped crashes with no injury were wearing safety belts, only 23 percent of people who died in crashes were wearing safety belts. The lack of restraint usage also seems to positively correlate with the number of partially or fully ejected people. While 5 percent of ejected people died, less than 1 percent of non-ejected people died.

In the MORPC transportation planning area, more than 80 percent of the motorists involved in crashes were properly restrained. However, the more serious the injury, the less likely it is that safety belts were used (see Figure 1). In practical terms, this means that wearing a seat belt reduces the likelihood of serious injury or death if a crash occurs.

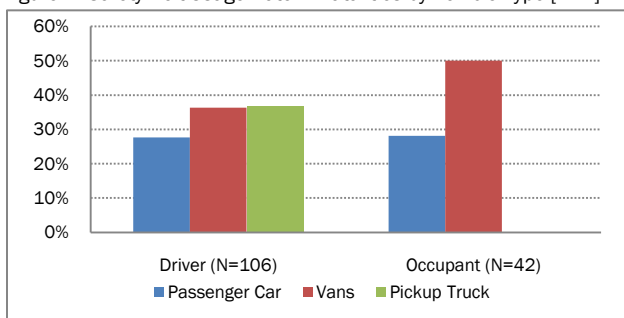
Figure 1: Motorists' Safety Belt Usage Rate by Injury Severity [in %]



Source: MORPC Crash Data 2007-2009; N=249,671

Of the various crash types, pickup truck occupants seem to show the lowest restraint usage (see Figure 2).

Figure 2: Safety Belt Usage Rate in Fatalities by Vehicle Type [in %]



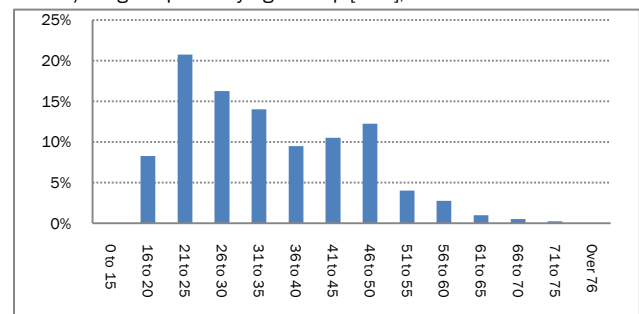
Source: MORPC Crash Data 2007-2009

33 percent of the fatally injured drivers and 31 percent of the fatally injured occupants were partially or totally ejected in the crash.

Impaired Driving

Within MORPC's transportation planning area, 27 percent of all drivers involved in fatal crashes were suspected to be under the influence of alcohol or other drugs. Since crash reports only record suspected use and not the results of tests, the true number is likely to be even greater. The majority of impaired drivers with incapacitating or fatal injuries were between the ages of 21 and 40, and there is another peak between the ages of 46 and 50 (see Figure 3). Overall, more than four times as many men were suspected to be impaired during a crash as were women.

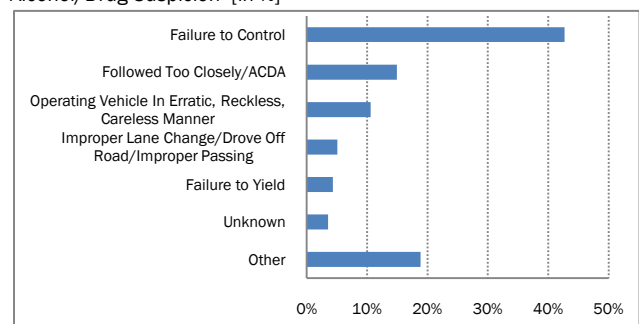
Figure 3: Drivers with Incapacitating and Fatal Injuries and Alcohol/Drug Suspicion by Age Group [in %], MORPC area



Source: MORPC Crash Data 2007-2009; N=400

The main factors that contributed to the crashes were "failure to control" (43 percent), followed by "following too closely" and "operating vehicle in careless manner" (see Figure 4).

Figure 4: Contributing Factors in Crashes Involving Persons with Alcohol/Drug Suspicion [in %]



Source: MORPC Crash Data 2007-2009; N=5,325

In Ohio, 0.08d/gL Blood Alcohol Concentration (BAC) is the legal driving limit.

Speeding / Aggressive Driving

Within the MORPC transportation planning area, a total of 7,309 crashes were speeding-related. As such, speeding contributed to 3 percent of all crashes and to 9 percent of all fatal crashes. A crash was considered speeding-related if the vehicle speed at the time of the crash was reported greater than the speed limit. Unsafe and excessive speed was reported as a contributing factor in 1,319 cases. These statistics account for less than 1 percent of all contributing factors. However, it can be assumed that speed was also involved in other aggressive driving behaviors that contributed to crashes, such as operating vehicle in a reckless manner, failure to control, following too closely, or driving off the road. Combined, these four contributing factors were reported for 29 percent of all crashes.

Distracted Driving/Cell phone use

Unfortunately, no information is available on distracted driving for MORPC's transportation planning area since OH-1 crash reports do not record this information and studies have not been conducted in the area. A new OH-1 report that is being introduced in 2012 will contain fields to provide this type of information.

As of January 2011, there are 30 states that ban text messaging while driving, 8 states that ban talking on a handheld cell phone while driving, and 28 states that ban cell phone use by novice drivers.⁴ Ohio does not fall into any of these categories. However, the legislature is considering such a law for the state, and many communities in Central Ohio already have or are in the process of passing such legislation.

The U.S. Department of Transportation's National Automotive Sampling System (NASS) estimates that in 2008, distracted driving was involved in 21 percent of injury crashes and 16 percent of traffic fatalities.⁵

There are a variety of crash factors such as "failure to yield" or "following too closely" that could be closely related to inattentive driving.

Young Drivers

In the MORPC transportation planning area, a total of 25,622 drivers between the ages of 16 and 20 years were involved in traffic crashes. Of these drivers, 53 percent were male and 47 percent were female.

Although 11 percent (33) of all fatalities occurred within this age group, the majority of young driver crashes (83 percent) did not result in any injury.

55 percent of crashes involving young drivers occurred in clear weather, 72 percent during dry conditions, and 68 percent during daytime. Nearly 40 percent of the crashes happened at an intersection. The main contributing factors included "Following too closely" (25 percent), "Failure to yield" (12 percent), and "Failure to control" (12 percent). The majority of people involved in these crashes were not reported as alcohol or drug impaired.

Often, the young driver was at fault for the crash, demonstrating the need for improved driver education and training.

Older Population (>65 Years)

In MORPC's transportation planning area, a total of 14,301 people aged over 65 were involved in crashes during the years 2007 to 2009, resulting in 2,426 injuries and 36 fatalities.

→ Nearly 78 percent of the older population involved in crashes were drivers, accounting for almost 5 percent of all drivers.

59 percent of these crashes occurred in clear weather, 78 percent during dry conditions, and 83 percent during daytime. 44 percent of the crashes happened at an intersection. The main crash types included rear-end (36 percent), angle (23 percent), sideswipe passing (13 percent), and left turn crashes (10 percent). "Failure to yield" (13 percent) and "Following too closely" (12 percent) were reported as the primary causes for these crashes. The majority of people involved in these crashes were not reported as alcohol or drug impaired.

⁴ Governor's Highway Safety Association, "Cell Phone and Texting Laws."

http://www.ghsa.org/html/stateinfo/laws/cellphone_laws.html

⁵ U.S.D.O.T., "Statistics and Facts About Distracted Driving."

<http://www.distractiion.gov/stats-and-facts/#did>