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Glossary

Analysis Period- The calendar years for which data was queried, studied, and analyzed while this report was being produced. For this report, the analysis period is calendar year 2017.

ARIES – Automated Reporting Information Exchange System developed and maintained by the Indiana State Police. ARIES provides officer's an electronic way to complete and submit the Indiana Officer's Standard Crash Report form. The system also allows authorized individuals access to the Indiana State Police crash records database. ARIES was formerly known as the Vehicle Crash Record System (VCRS).

Bicycle – Indiana Code IC 9-13-2-14, "Bicycle" means any foot-propelled vehicle, irrespective of the number of wheels in contact with the ground.

Fatal Injury Crash- A crash that results in death for one or more of the vehicle(s) occupants or non-motorists. Other occupants or non-motorists may be injured in additional to the fatality.

Motorcycle- Indiana Code IC 9-13-2-108, "Motorcycle" means a motor vehicle with motive power that has a seat or saddle for the use of the rider, is designed to travel on not more than three wheels in contact with the ground, and satisfies the operational and equipment specifications described in 49 CFR 571 and IC 9-19.

Pedestrian- Any person afoot. This includes persons walking bicycles, riding skateboards, rollerblading and using other forms of non-motorized/non-pedaled forms of transportation.

Personal Injury Crash- A crash where at least one of the vehicle occupants or non-motorists were injured, but not fatally. Non-Fatal Injuries are classified as incapacitating, non-incapacitating, or probable.

Property Damage Only Crash (PDO)- A crash in which a vehicle or property is damaged and the occupant or non-motorist is not injured. A crash is required by law to be reported if the amount of the damage is $750 or more.

Roadway – That portion of a street, road, or highway within the right-of-way lines that is improved, designed, or ordinarily used for vehicular travel. The roadway does not include paved sidewalks or shared use paths.

Street, Road or Highway – The entire width between the right-of-way lines of every way or place open to the use of the public for purposes of vehicular travel. This includes the sidewalk.

Vehicle – Any device in, upon, or by which a person is transported upon a road, whether it be an automobile, truck, motorcycle, moped, scooter, or bicycle.

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Chapter 1: Introduction

Every year, thousands of vehicle crashes occur in Tippecanoe County. Given the number of crashes and their seemingly random nature, the task of identifying specific factors that contribute to the cause of a crash can be very complex. A single crash can have several variables that cause it to occur. Extracting those variables from a crash report is not an exact science, but some trends can be extracted and analyzed.

The objective of this report is to analyze crashes in Tippecanoe County and identify any area-wide trends and hazardous intersections. Problem areas can then receive follow-up analysis to identify specific problems. The analysis in this report includes all *Personal Injury*, *Fatal,* and *Property Damage* crashes that occurred in 2017 on public streets, local as well as state maintained. Crashes that occurred in alleys, parking lots, parking garages, loading docks, and other private property were not analyzed.

The data for this report came from the Indiana State Police (ISP) Automated Reporting Information Exchange System (ARIES) database of crash reports, which contains general information about crashes. In many cases, individual crash reports were reviewed to obtain more detailed information. The data required some quality control, because it did not always match the officer's crash report. The most common quality control involved correcting the ARIES location data to match the officer's crash report.

Table 1: Crash Severity

Severity of Crash	Crashes	Percentage of Total Crashes	Total Injured Persons	Total Fatalities
Property Damage Only	4613	82.2%	0	0
Personal Injury	977	17.4%	1318	0
Fatality	19	0.3%	23	23
Total	5609	100.0%	1341	23

This chapter gives a general overview of crashes that occurred in 2017. Crashes are classified according to severity as *Property Damage Only* (damage only to vehicles and objects), *Personal Injury* (one or more persons injured), and *Fatality* (one or more fatalities). Table 1 shows the severity of all crashes in Tippecanoe County, and we can identify that the majority of crashes are categorized as "property damage only." More details on injury and fatal

crashes are given in Chapter 4. Figures 1 and 2 on the following pages show the locations of all types of crashes in Tippecanoe County in 2017.

Figure 1: Tippecanoe County Crashes

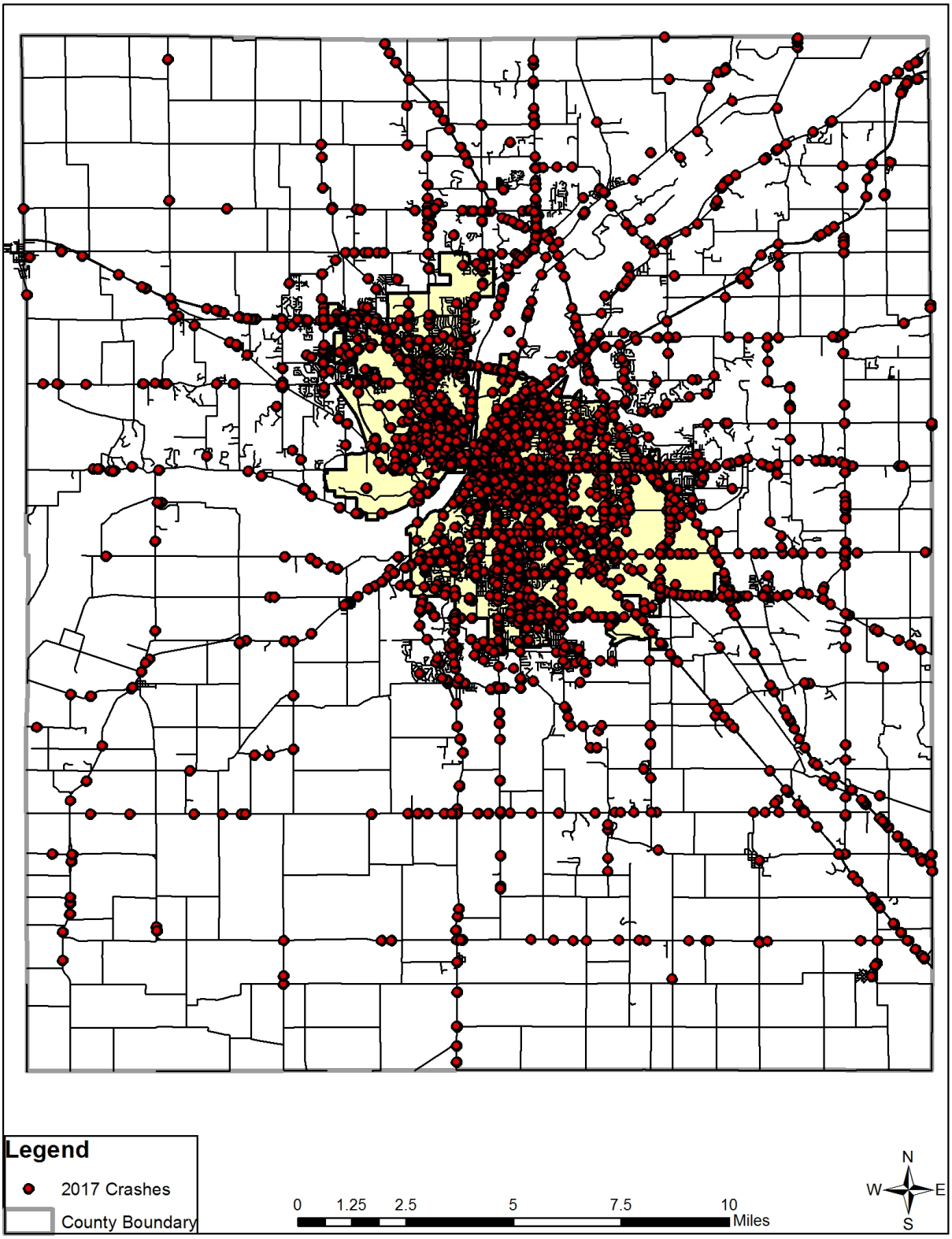
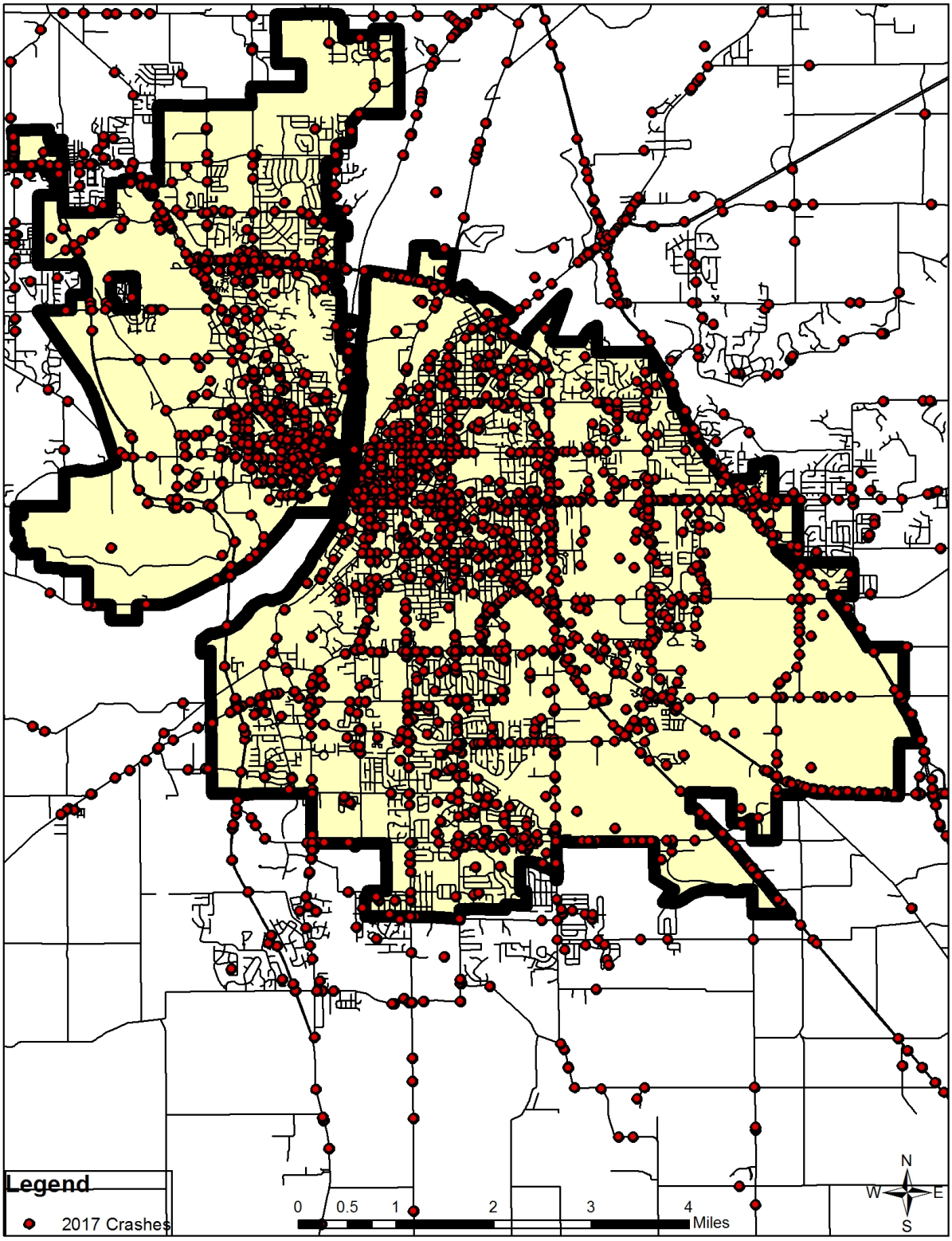


Figure 2: Lafayette and West Lafayette Crashes



Mapping crash data shows that some crashes occurred in the middle of an intersection, some in the approach to an intersection, and others far away from the influence of an intersection. To determine which crashes may have

been influenced by the traffic operations of an intersection, crashes were split into three categories: crashes within 250 feet of an intersection, including crashes that occurred within the intersection itself, and crashes over 250 feet from an intersection. This report considers crashes within 250 feet of an intersection to be potentially influenced by that intersection. So, crashes that occurred over 250 feet from an intersection are not considered in the intersection analysis. Tables 2 and 3 show the intersections in Tippecanoe County where crashes occurred.

Table 2: Crashes 0-100 Feet from Intersection

Rank	Intersection	Crashes Within 100 Feet of Intersection
1	Creasy Ln and South St	75
2	River Rd and Tapawingo Dr	73
3	Interstate 65 and South St	65
4	Interstate 65 and State Road 43	45
T5	Sagamore Pky and South St	38
T5	Fairington Ave and South St	38
7	Creasy Ln and State Road 38	34
8	Interstate 65 and State Road 38	31
9	Creasy Ln and McCarty Ln	29
T10	Earl Ave and South St	28
T10	Brady Ln and Concord Rd	28
T12	Earl Ave and Main St	26
T12	18th St and Teal Rd	26
T12	Main Street and McCarty Ln	26
T15	US 52 and Veterans Memorial Pky	25
T15	Northwestern Ave and Stadium Ave	25
17	Old State Road 25 and State Road 25	23
T18	Sagamore Pky and State Road 38	22
T18	4th St and Teal Rd	22
T18	Sagamore Pky and Teal Rd	22
T18	Park East Blvd and South St	22
T18	River Rd and US 231	22
T23	Cumberland Ave and Sagamore Pky	21
T23	Concord Rd and Veterans Memorial Pky	21
T23	Farabee Dr and South St	21
T23	Nighthawk Dr and Sagamore Pky	21
T23	River Rd and State St	21
T28	Sagamore Pky and Salisbury St	20
T28	18th St and South St	20
T28	Teal Rd and US 231	20

Table 3: Crashes 0-250 Feet from Intersection

Rank	Intersection	Crashes Within 250 Feet of Intersection
1	Creasy Ln and South St	81
2	River Rd and Tapawingo Dr	73
3	Interstate 65 and South St	66
4	Sagamore Pky and South St	46
5	Interstate 65 and State Road 43	45
6	Fairington Ave and South St	40
T7	Creasy Ln and McCarty Ln	36
T7	Creasy Ln and State Road 38	36
9	Interstate 65 and State Road 38	32
T10	Earl Ave and Main St	31
T10	Earl Ave and South St	31
11	Brady Ln and Concord Rd	30
12	18th St and Teal Rd	29
13	US 52 and Veterans Memorial Pky	28
T14	Main Street and McCarty Ln	27
T14	Northwestern Ave and Stadium Ave	27
16	Sagamore Pky and Salisbury St	26
17	Sagamore Pky and State Road 38	24
T18	4th St and Teal Rd	23
T18	Cumberland Ave and Sagamore Pky	23
T18	Old State Road 25 and State Road 25	23
T18	Sagamore Pky and Teal Rd	23
T22	18th St and South St	22
T22	Concord Rd and Veterans Memorial Pky	22
T22	Eastland Dr and South St	22
T22	Farabee Dr and South St	22
T22	Park East Blvd and South St	22
T22	River Rd and US 231	22
T28	Nighthawk Dr and Sagamore Pky	21
T28	River Rd and State St	21
T28	Teal Rd and US 231	21

In each crash report, officers provide several pieces of data about the crash, including some of the factors that led to a crash. These factors are called “contributing circumstances.” Officers can specify up to two “Driver(s)”, one “Vehicle”, and one “Environmental” contributing circumstance for each vehicle involved in the crash. One of the contributing circumstances must be listed as the primary contributing circumstance (also called the “primary factor”) for the crash. Table 3 shows that “Following Too Closely,” “Failure to Yield Right of Way,” and “Unsafe Speed” were the most common primary factors in crashes.

Table 4: Primary Factors in Crashes

Primary Factor	Number of Crashes
Following Too Closely	1112
Failure To Yield Right Of Way	1024
Unsafe Speed	563
Ran Off Road Right	439
Animal/Object In Roadway	338
Improper Lane Usage	330
Other (Driver) - Explain In Narrative	309
Disregard Signal/Reg Sign	284
Unsafe Backing	224
Improper Turning	211
Speed Too Fast For Weather Conditions	201
Improper Passing	91
Unsafe Lane Movement	91
Left Of Center	90
Overcorrecting/Oversteering	55
Driver Distracted - Explain In Narrative	48
Roadway Surface Condition	34
Brake Failure Or Defective	23
Driver Asleep Or Fatigued	23
Other (Environmental) - Explain In Narr	18
Tire Failure Or Defective	18
Pedestrian Action	15
Other (Vehicle) - Explain In Narrative	10
Driver Illness	9
Steering Failure	9
Cell Phone Usage	8
Insecure/Leaky Load	7
Wrong Way On One Way	7
Obstruction Not Marked	6
Tow Hitch Failure	5
Holes/Ruts In Surface	2
Severe Crosswinds	2
Accelerator Failure Or Defective	1
Engine Failure Or Defective	1
View Obstructed	1
Total	5609

The manner of collision, also referred to as crash type, is a description of the way a collision between vehicles or objects occurs. Table 4 shows that "Rear End," "Right Angle," and "Same Direction Sideswipe," were the most common crash types. More detail about crash type trends is available in Chapter 2.

Table 5: Crashes by Crash Type

Crash Type	Number of Crashes
Rear End	1869
Right Angle	786
Same Direction Sideswipe	768
Ran Off Road	695
Other - Explain In Narrative	299
Left Turn	281
Collision With Deer	268
Backing Crash	185
Head On Between Two Motor Vehicles	138
Opposite Direction Sideswipe	92
Right Turn	69
Unknown	50
Non-Collision	38
Collision With Object In Road	33
Left/Right Turn	17
Collision With Animal Other	13
Rear To Rear	8
Total	5609

Chapter 2: Time of Crashes

Figure 3: Crashes by Month

Drivers often behave differently at different times of the year, week, or day. These behavioral cha Figure 3 shows that the highest number of crashes can be due to weather, increased/decreased le occurred in December distraction, fatigue, or other factors. This chapt analyzes trends in the times when crashes occu Figure 4 shows crashes by month for the three most common crash types.

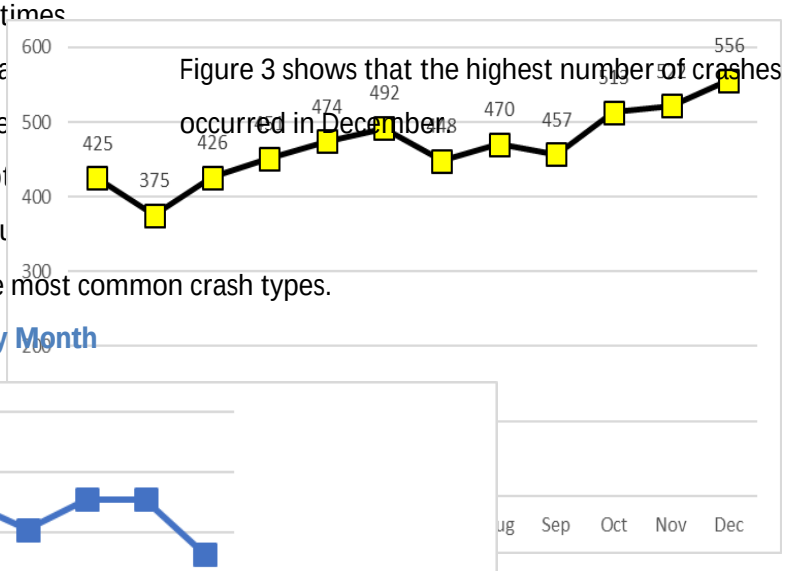


Figure 4: Three Most Common Crash Types by Month

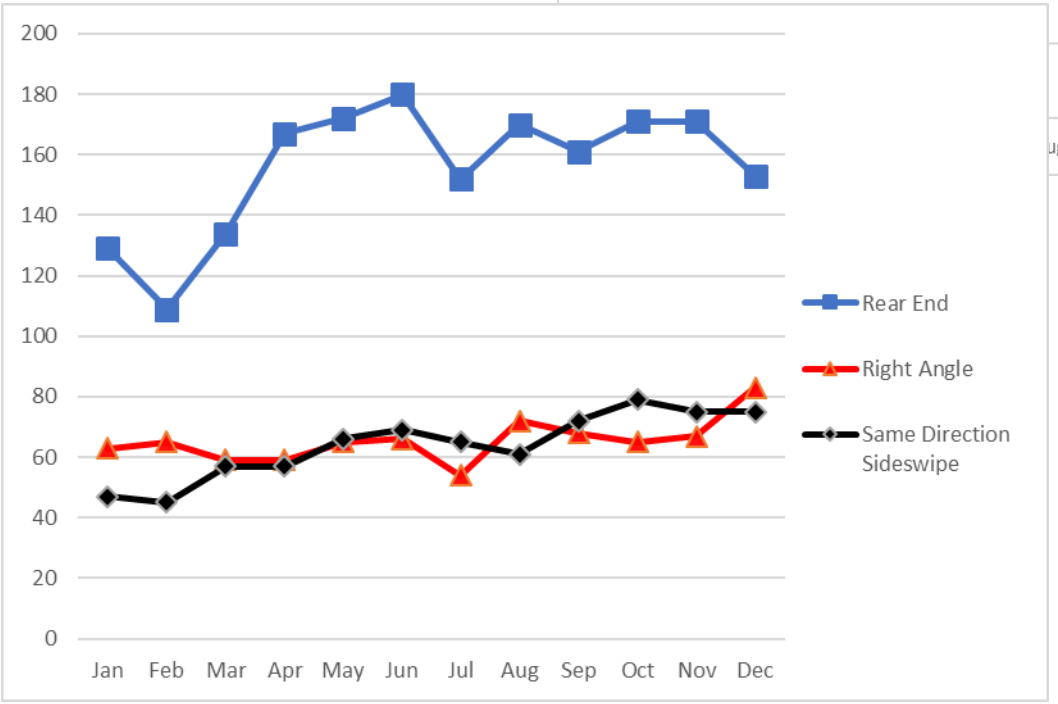


Figure 5 shows that Friday had the highest number of crashes.

Figure 5: Crashes by Day of the Week

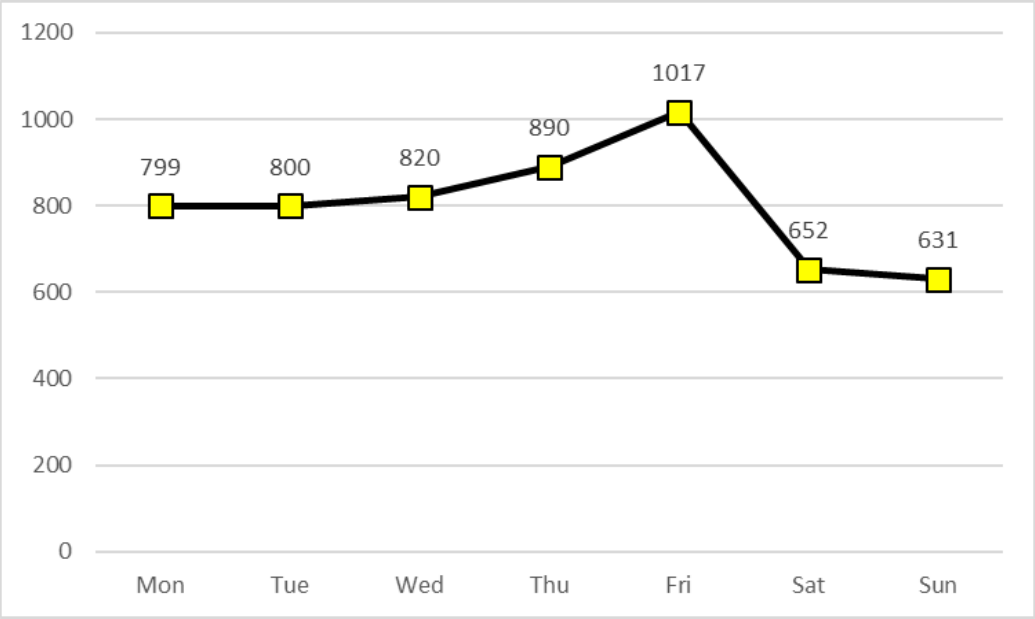


Figure 6 shows crashes by day of the week for the three most common crash types.

Figure 6: Three Most Common Crash Types by Day of the Week

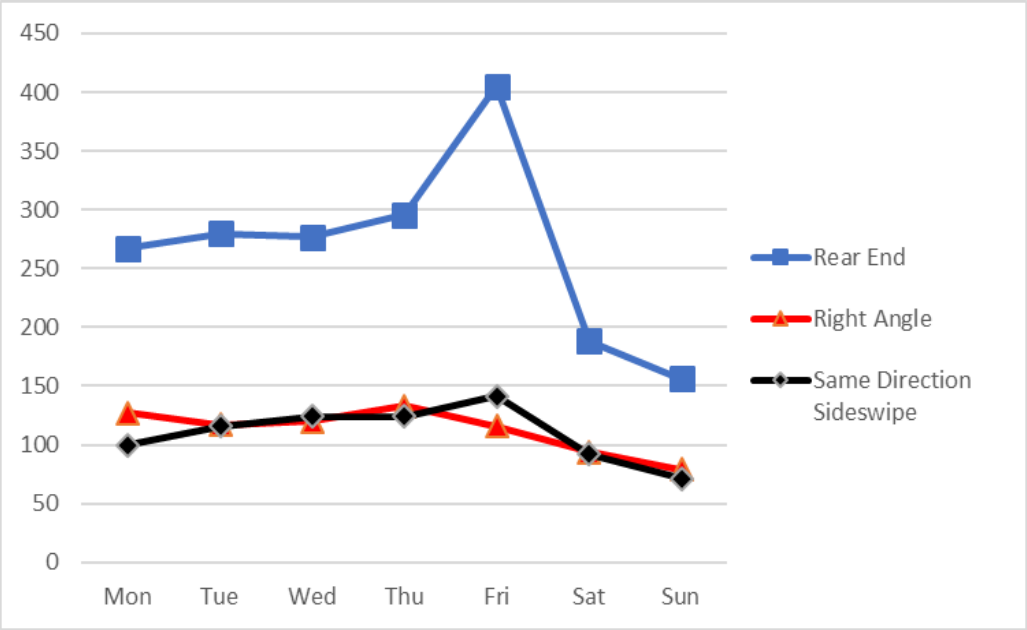


Figure 7 shows that there is a distinct peak period for crashes in the afternoon/evening (from 3 p.m. to 6 p.m.).

Figure 7: Crashes by Time of Day

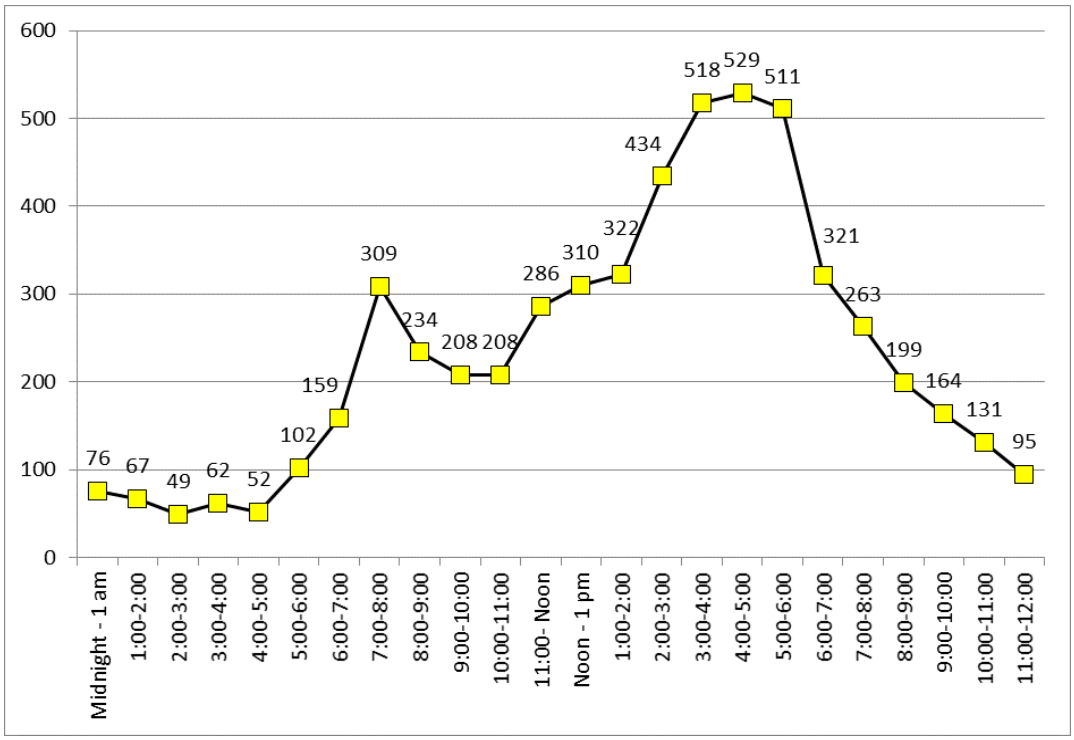
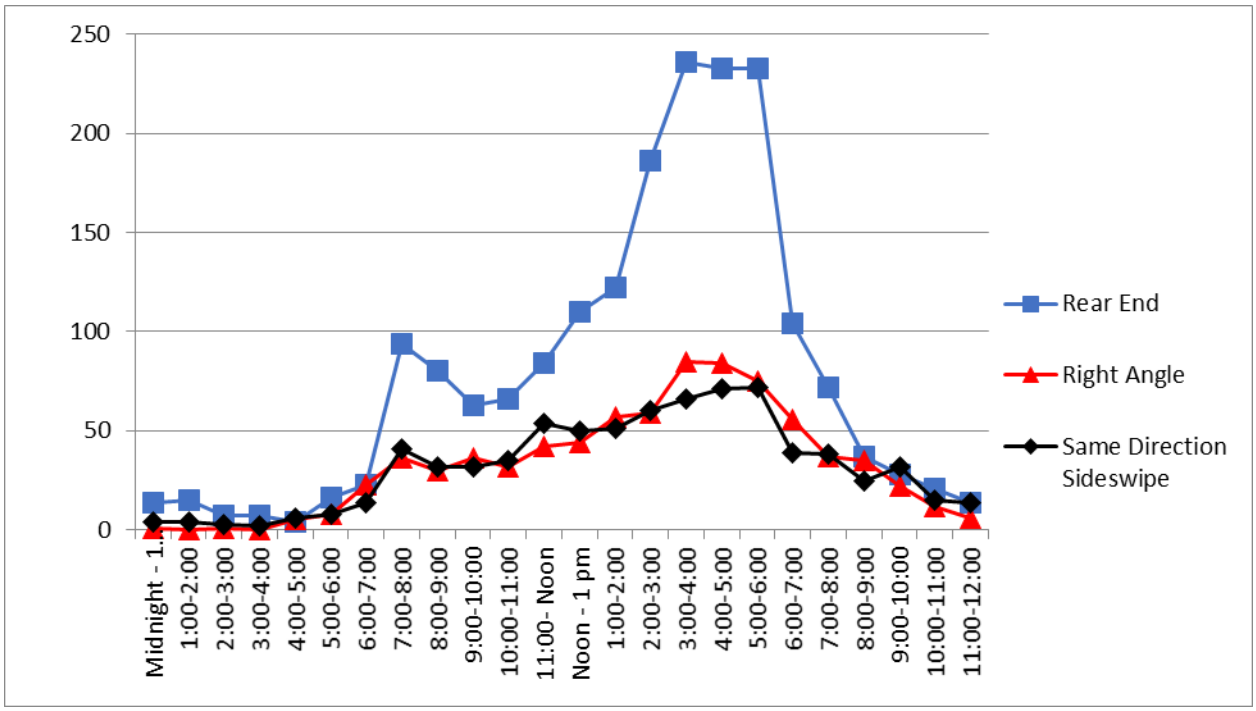


Figure 8 shows crashes by time of day for the three most common crash types.

Figure 8: Three Most Common Crash Types by Time of Day



Chapter 3: Weather and Road Conditions

This chapter analyzes trends in crashes with different weather and pavement conditions. We know that decreased visibility, slick pavement, and other weather/road factors can lead to crashes, especially during the winter months. However, Table 6 shows that the majority of all crashes still occurred when weather conditions were clear. Figures 9 and 10 show the location of crashes in clear weather conditions.

Table 6: Crashes by Weather Conditions

Weather Conditions	Crashes
Clear	3649
Cloudy	988
Rain	717
Snow	197
Sleet/Hail/Freezing Rain	17
Blowing Sand/Soil/Snow	15
Unknown	10
Fog/Smoke/Smog	8
Severe Cross Wind	8
Total	5609

Figure 9: Tippecanoe County Crashes in Clear Weather Conditions

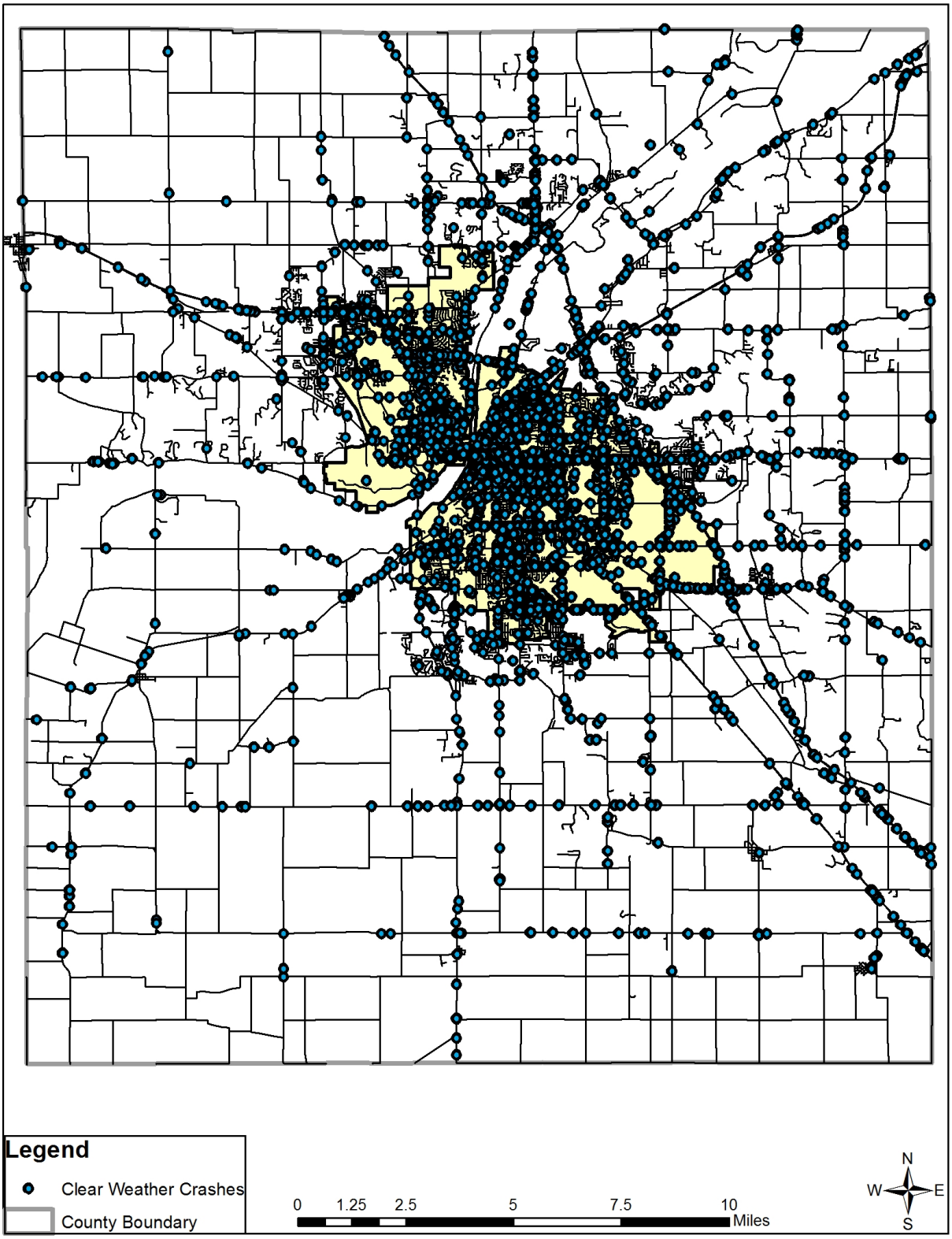
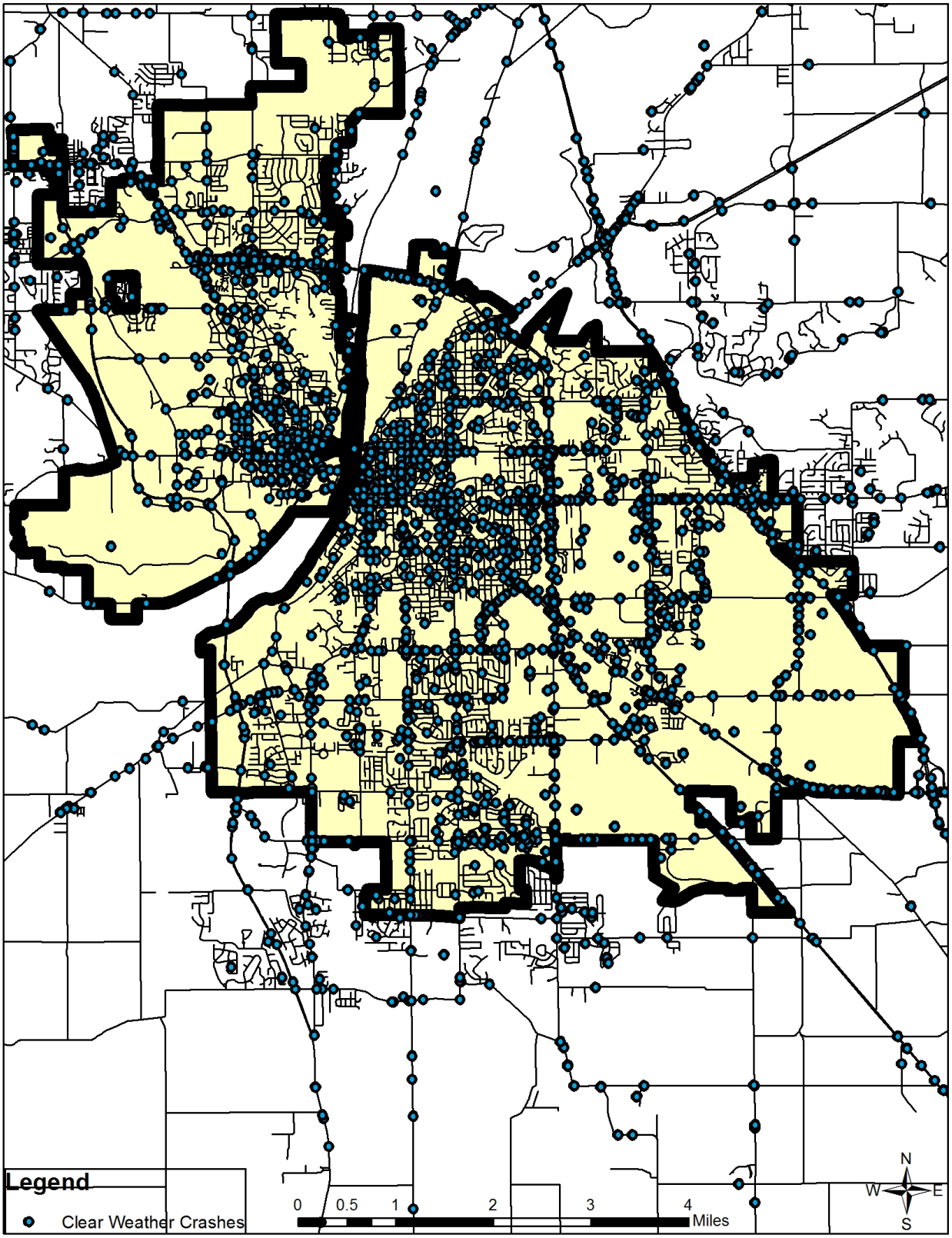


Figure 10: Lafayette and West Lafayette Crashes in Clear Weather Conditions



Figures 11 and 12 show the location of winter weather crashes (where the reporting officer stated that the weather condition included snow, ice, or slush).

Figure 11: Tippecanoe County Winter Weather Crashes

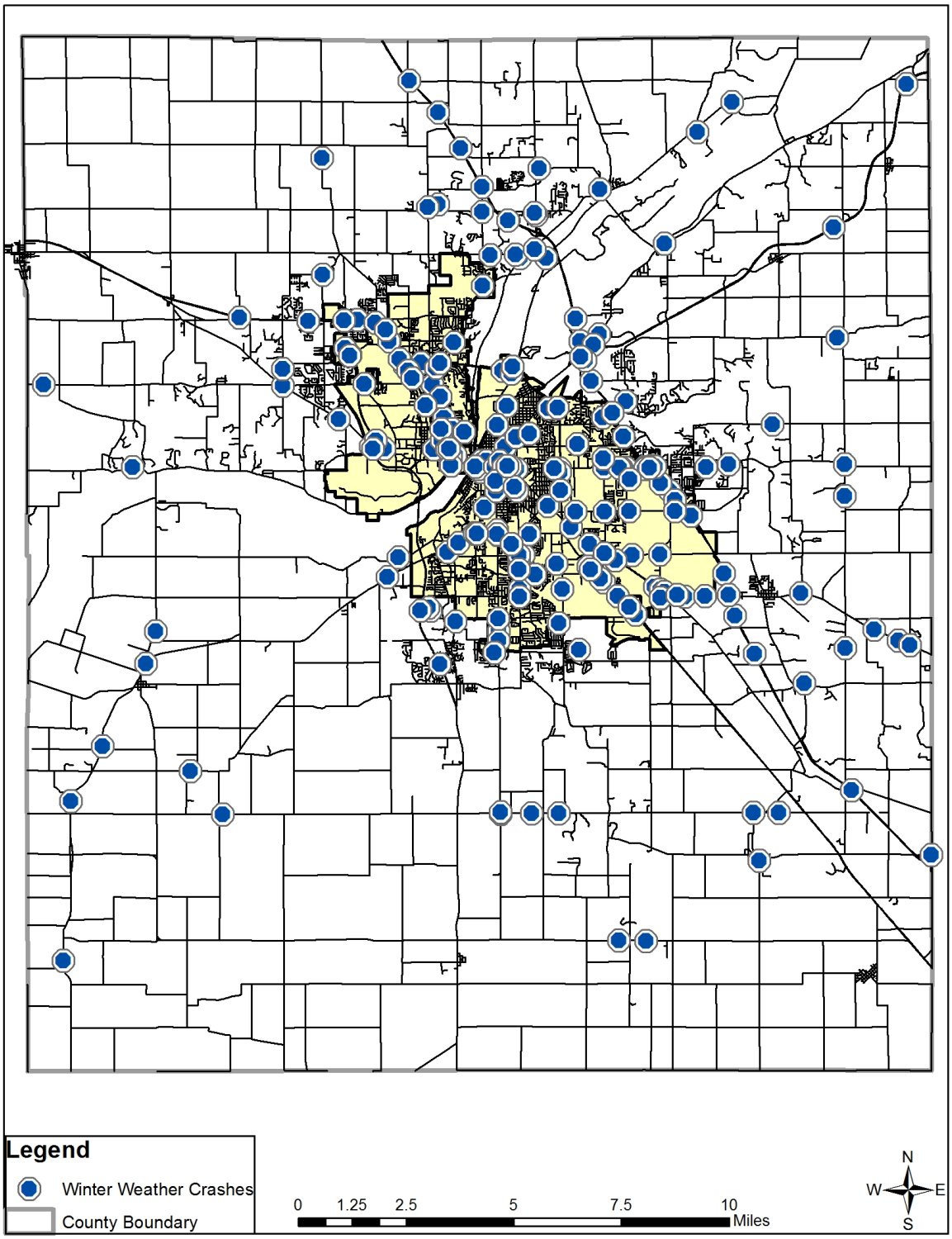


Figure 12: Lafayette and West Lafayette Winter Weather Crashes

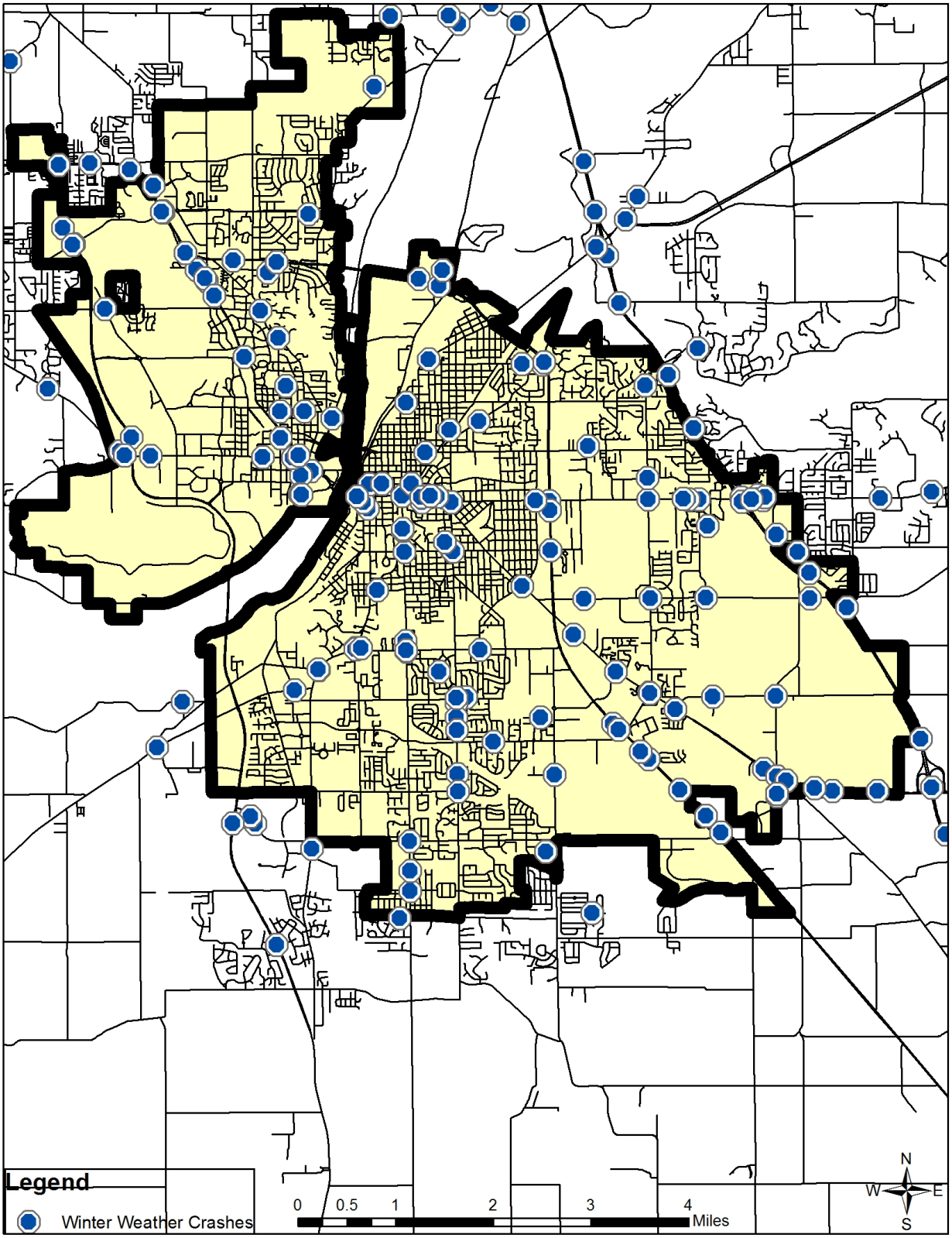


Table 7 shows that most of the crashes occurred when pavement was dry.

Table 7: Crashes by Road Surface Condition

Road Surface Conditions	Crashes
Dry	4226
Wet	1054
Snow/Slush	187
Ice	108
Loose Material On Road	15
Water (Standing Or Moving)	9
Unknown	8
Muddy	2
Total	5609

Table 8 shows that most of the crashes occurred during daylight hours.

Table 8: Crashes by Amount of Sunlight

Light Conditions	Crashes
Daylight	3859
Dark (Lighted)	723
Dark (Not Lighted)	674
Dawn/Dusk	306
Unknown	47
Total	5609

Chapter 4: Injuries and Fatalities

Although most crashes only cause property damage, some crashes result in injury or fatality of a driver or passenger. Crashes with injuries or fatalities are much costlier to those involved than property damage crashes. The costs of a severe injury or fatality include high medical costs, lost income, and emotional distress. This chapter analyzes trends in crashes with at least one injury or fatality.

Table 9: Injury and Fatality Crash Statistics

Crash Statistic	Number
Injury Crashes	188
Number of Injuries	264
Fatality Crashes	13
Number of Fatalities	14

Injuries suffered range in severity. Some injuries are as minor as temporary pain, others are as major as paralysis. In ARIES, injuries are classified in two categories: non-incapacitating and incapacitating. This information is not always 100% reliable. The responding officer marks down an estimate of the category of the injury severity at the scene of the crash. This estimate does not have the same accuracy as medical records would, however, and because it is very difficult to obtain medical records to verify the severity of an injury in a crash after it has happened, the officer's estimate is used in this report. It should be noted that in 2014, Indiana changed how officers report incapacitating injuries. Prior to 2014, officers were required to make a subjective determination of the severity of the injury. Starting in 2014, any time that a driver, passenger, pedestrian, or bicyclist must be transported from the scene of the crash for medical treatment, this is defined as an incapacitating injury. So, if this data is compared to data prior to 2014 that factor should be considered.

Table 9 shows data about injury and fatality crashes in Tippecanoe County, while Table 10 shows that failure to yield right of way was the biggest cause of injuries.

Table 10: Injuries by Primary Factor

Primary Factor	Injuries
Failure To Yield Right Of Way	379
Following Too Closely	224
Ran Off Road Right	154
Unsafe Speed	148
Disregard Signal/Reg Sign	146
Speed Too Fast For Weather Conditions	40
Improper Lane Usage	38
Other (Driver) - Explain In Narrative	38
Improper Turning	32
Left Of Center	32
Overcorrecting/Oversteering	21
Unsafe Lane Movement	16
Animal/Object In Roadway	13
Driver Distracted - Explain In Narrative	13
Pedestrian Action	9
Roadway Surface Condition	5
Driver Asleep Or Fatigued	4
Driver Illness	4
Steering Failure	4
Tow Hitch Failure	4
Other (Environmental) - Explain In Narr	3
Accelerator Failure Or Defective	2
Brake Failure Or Defective	2
Improper Passing	2
Other (Vehicle) - Explain In Narrative	2
Tire Failure Or Defective	2
Unsafe Backing	2
Wrong Way On One Way	2
Total	1341

Table 11 shows that rear end crashes caused the highest number of injuries.

Table 11: Injuries by Crash Type

Crash Type	Injuries
Rear End	422
Right Angle	370
Ran Off Road	196
Left Turn	108
Head On Between Two Motor Vehicles	94
Other - Explain In Narrative	48
Same Direction Sideswipe	46
Non-Collision	19
Opposite Direction Sideswipe	13
Right Turn	11
Collision With Deer	5
Backing Crash	3
Collision With Object In Road	3
Left/Right Turn	3
Total	1341

Table 12 shows that September had the highest number of injuries.

Table 12: Injuries by Month

Month	Injuries
Jan	92
Feb	82
Mar	89
Apr	124
May	126
Jun	113
Jul	118
Aug	121
Sep	127
Oct	115
Nov	117
Dec	117
Total	1341

Figure 13 shows that the highest number of injuries occurred between 5 and 6 p.m.

Figure 13: Injuries by Time of Day

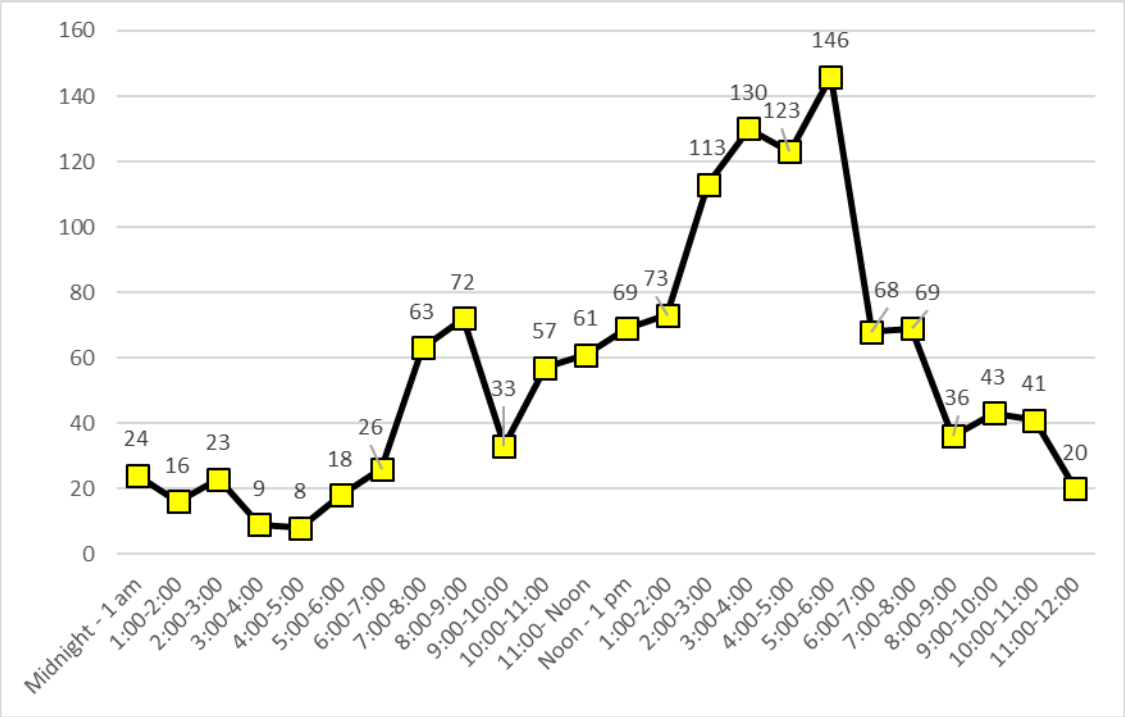
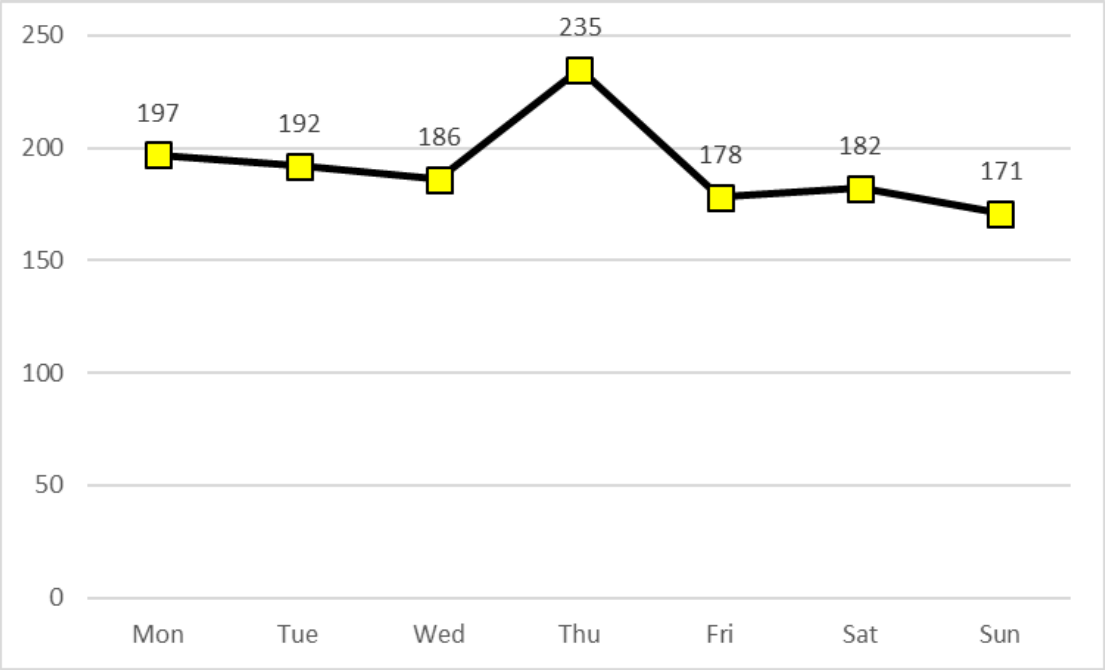


Figure 14 shows that Thursday had the highest number of injuries.

Figure 14: Injuries by Day of the Week



Fatalities (and injuries that lead to fatalities) are the most severe consequence of crashes. Figures 15 and 16 show the locations of fatal crashes in Tippecanoe County.

Figure 15: Tippecanoe County Fatality Crashes

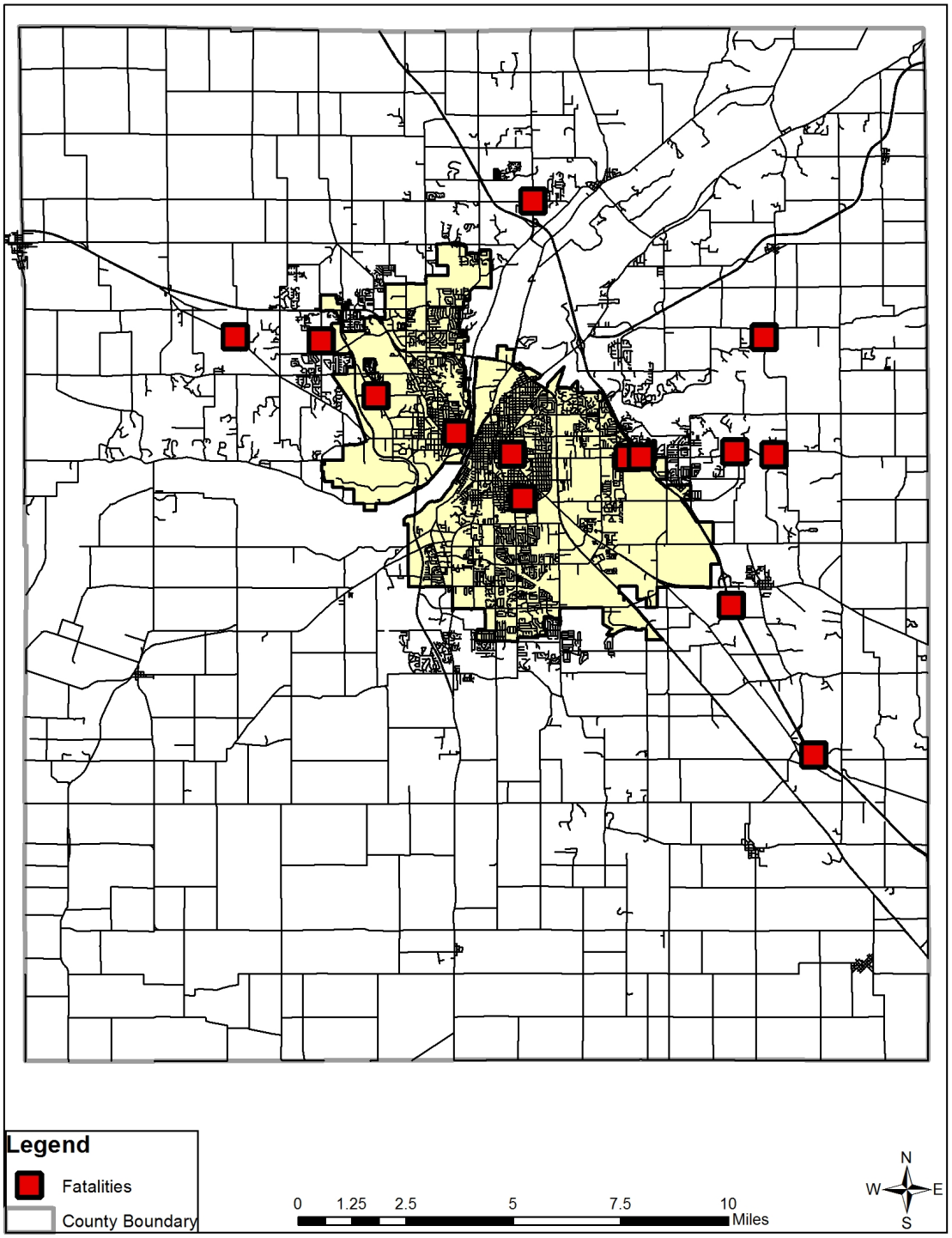
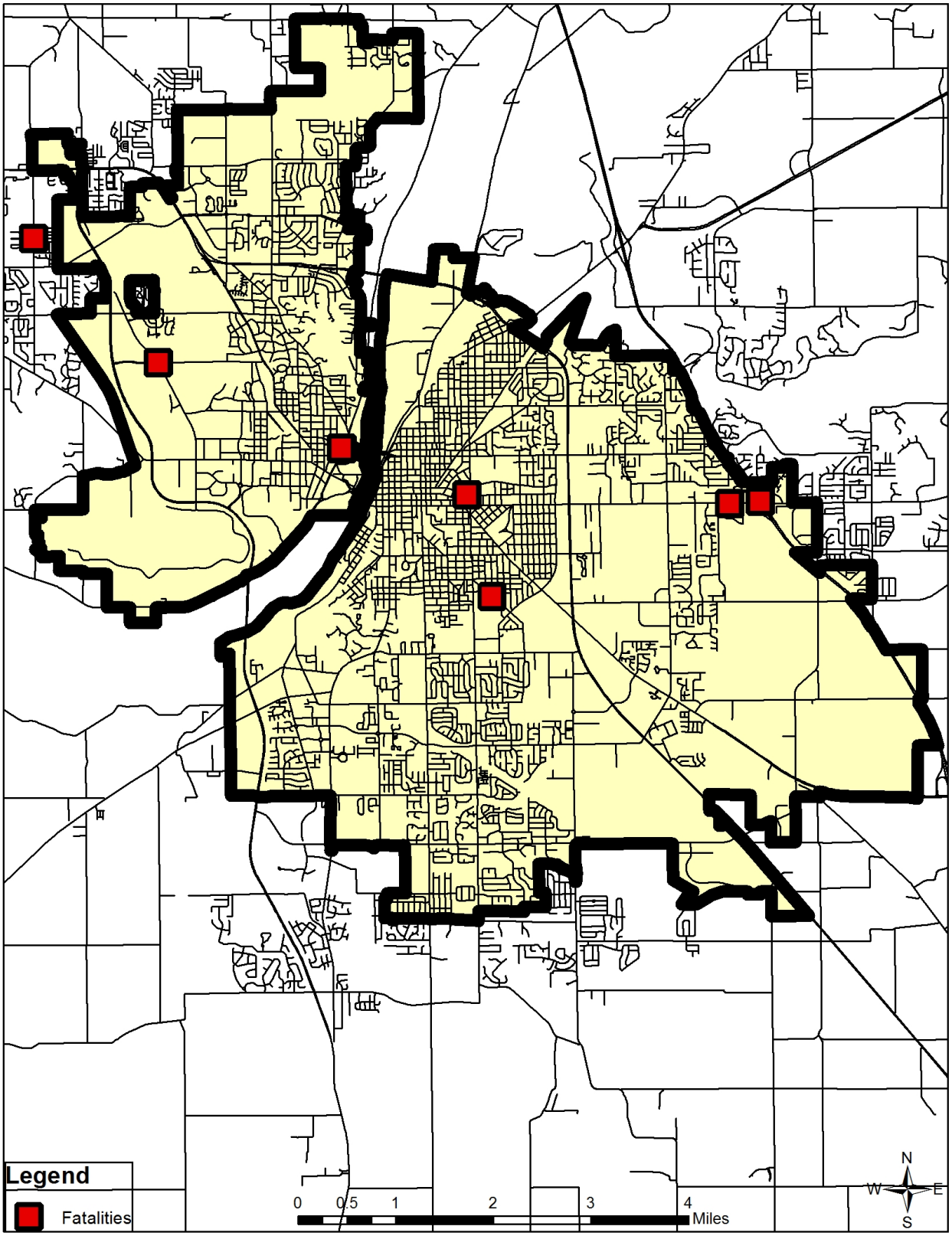


Figure 16: Lafayette and West Lafayette Fatality Crashes



Tables 13 and 14 show that the most common primary factor in fatal crashes in 2017 was running off the road right, followed by disregarding signal/reg sign. The most common crash type was running off road, followed by right angle crashes.

Table 13: Fatalities by Primary Factor

Primary Factor	Fatalities
Ran Off Road Right	7
Disregard Signal/Reg Sign	4
Pedestrian Action	3
Driver Distracted - Explain In Narrative	2
Failure To Yield Right Of Way	2
Following Too Closely	1
Left Of Center	1
Other (Driver) - Explain In Narrative	1
Tow Hitch Failure	1
Unsafe Speed	1
Total	23

Table 14: Fatalities by Crash Type

Crash Type	Fatalities
Ran Off Road	7
Right Angle	5
Head On Between Two Motor Vehicles	5
Rear End	3
Other - Explain In Narrative	3
Total	23

Table 15 shows that the most fatal crashes in Tippecanoe occurred in March.

Table 15: Fatalities by Month

Month	Fatalities
Jan	0
Feb	1
Mar	5
Apr	0
May	2
Jun	3
Jul	3
Aug	3
Sep	0
Oct	4
Nov	0
Dec	2
Total	23

Figure 17 shows that Saturdays had the highest number of fatalities.

Figure 17: Fatalities by Day of the Week

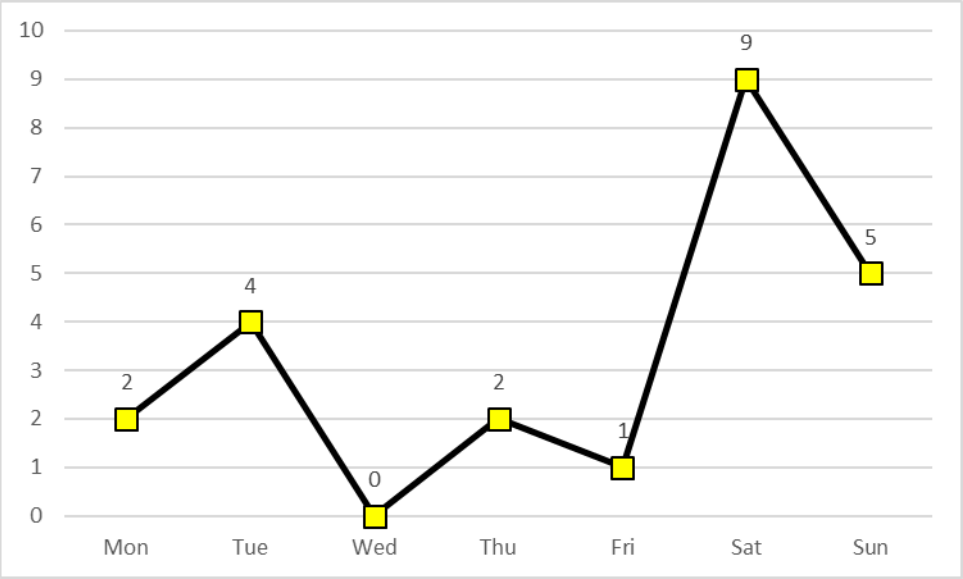
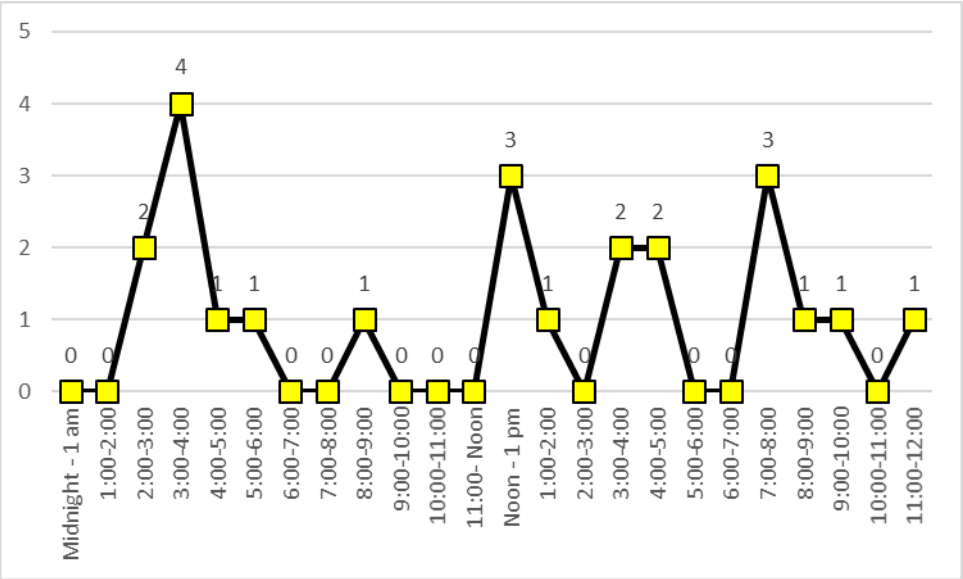


Figure 18 shows that the highest number of fatalities occurred between 2 and 3 a.m.

Figure 18: Fatalities by Time of Day



Chapter 5: Motorcycle Crashes

In 2017, there were 77 crashes involving motorcycles, scooters, or mopeds. Of those crashes, 57 had at least 1 injury, with 64 total injuries, and 3 fatalities. This chapter further analyzes trends in this data.

Table 16 shows trends in injuries and fatalities in motorcycle crashes from 2015 through 2017.

Table 16: Motorcycle Crash Injuries and Fatalities

Motorcycle Crash Statistic	2017	2016	2015
Crashes with Injuries	57	45	58
Number of Injuries	64	51	64
Crashes with Fatalities	3	0	5
Number of Fatalities	3	0	5

Figures 19 and 20 show the locations of motorcycle crashes in Tippecanoe County.

Figure 19: Tippecanoe County Motorcycle Crashes

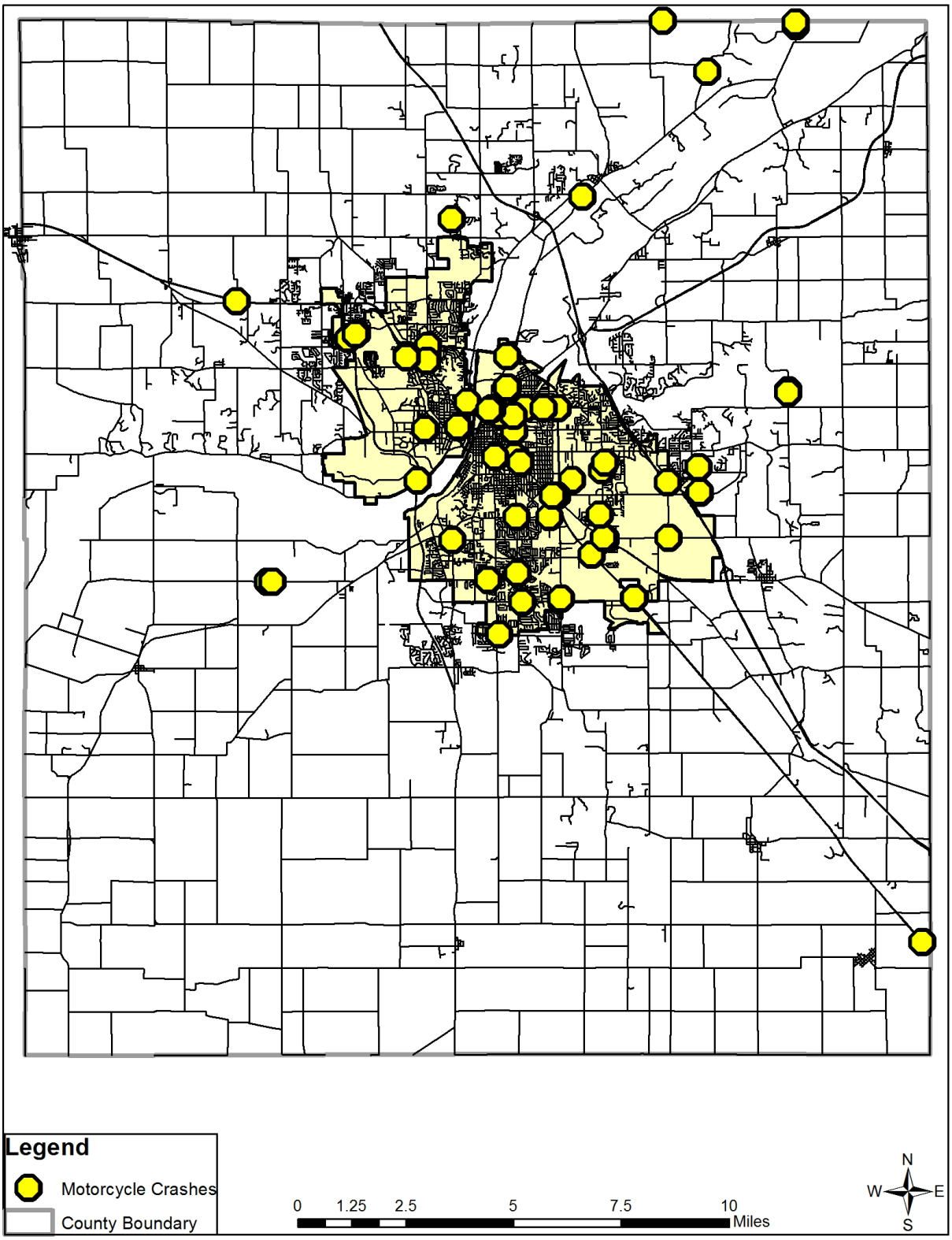


Figure 20: Lafayette and West Lafayette Motorcycle Crashes

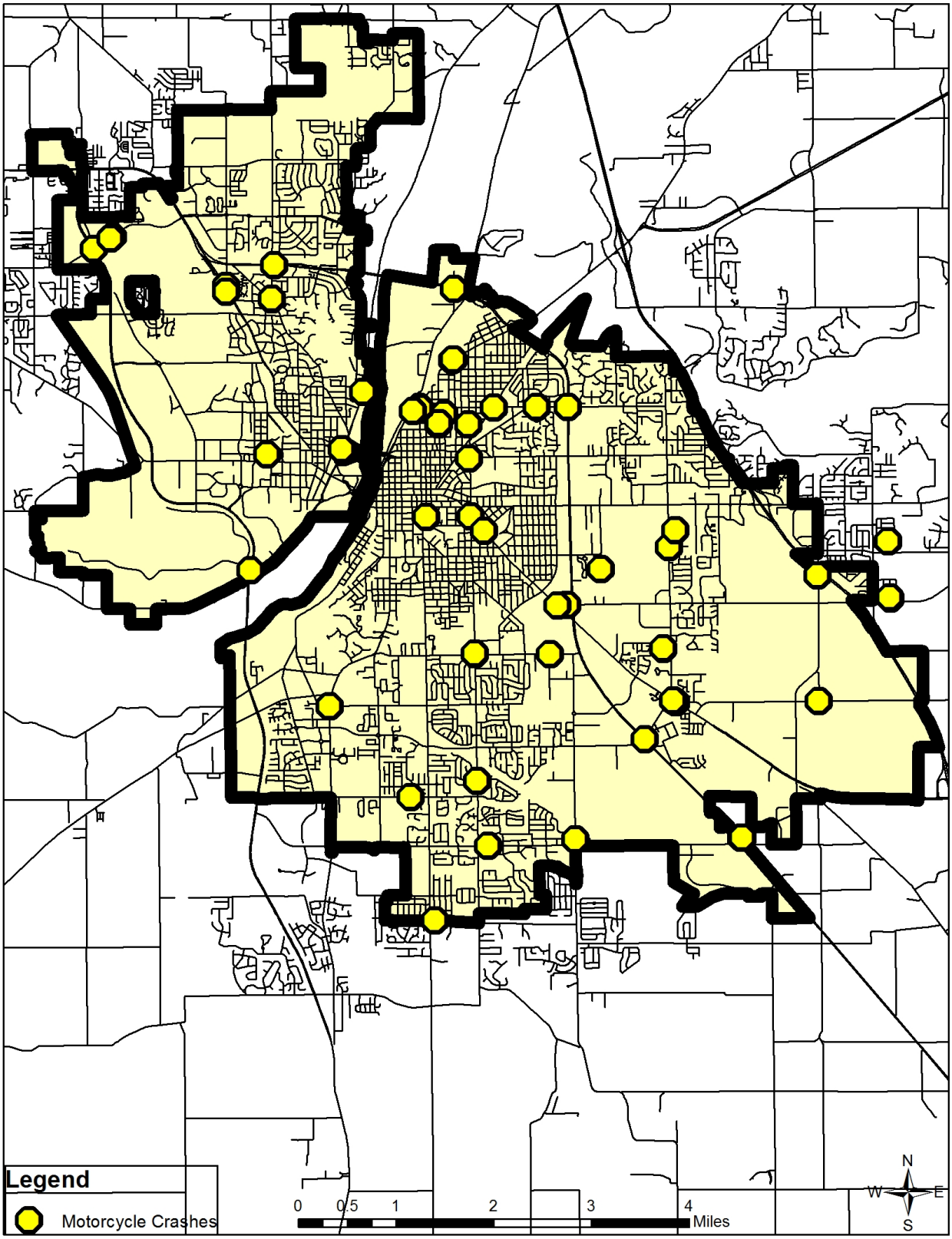


Table 17 shows that rear end and right-angle crashes were the most common crash type for motorcycles.

Table 17: Crash Types for Motorcycle Crashes

Crash Type	2017 Crashes
Rear End	13
Other - Explain In Narrative	13
Right Angle	12
Non-Collision	11
Ran Off Road	9
Left Turn	6
Head On Between Two Motor Vehicles	4
Same Direction Sideswipe	3
Collision With Deer	2
Backing Crash	2
Opposite Direction Sideswipe	2
Total	77

Figure 21 shows that the summer months of May through July had the highest number of motorcycle crashes.

Figure 21: Motorcycle Crashes by Month

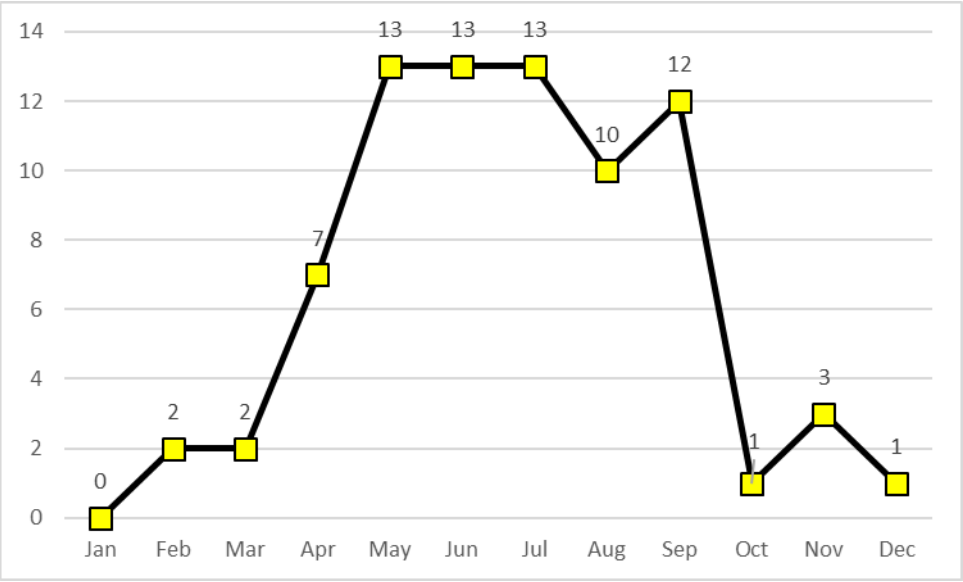


Figure 22 shows that Friday and Saturday had the highest number of motorcycle crashes.

Figure 22: Motorcycle Crashes by Day of the Week

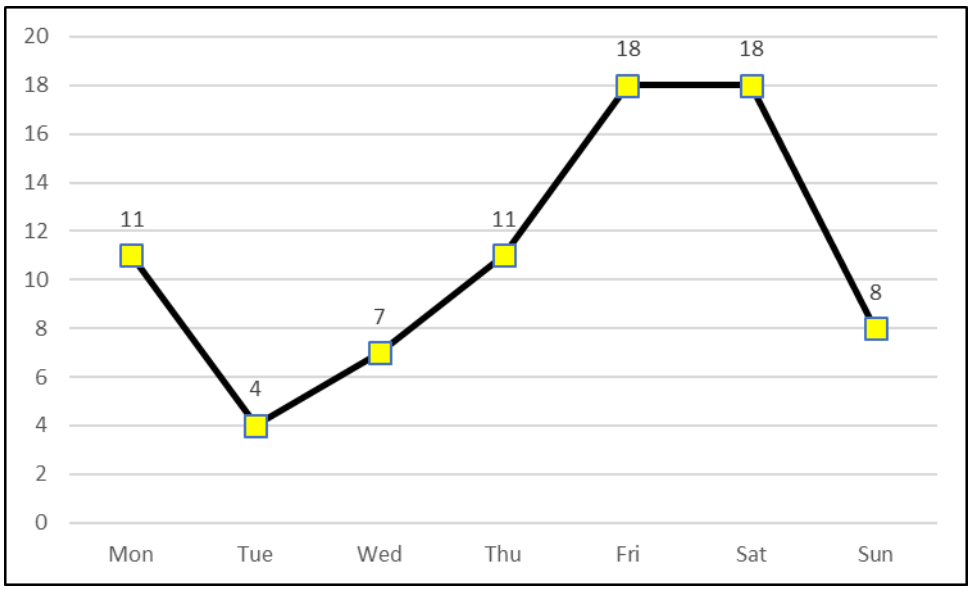
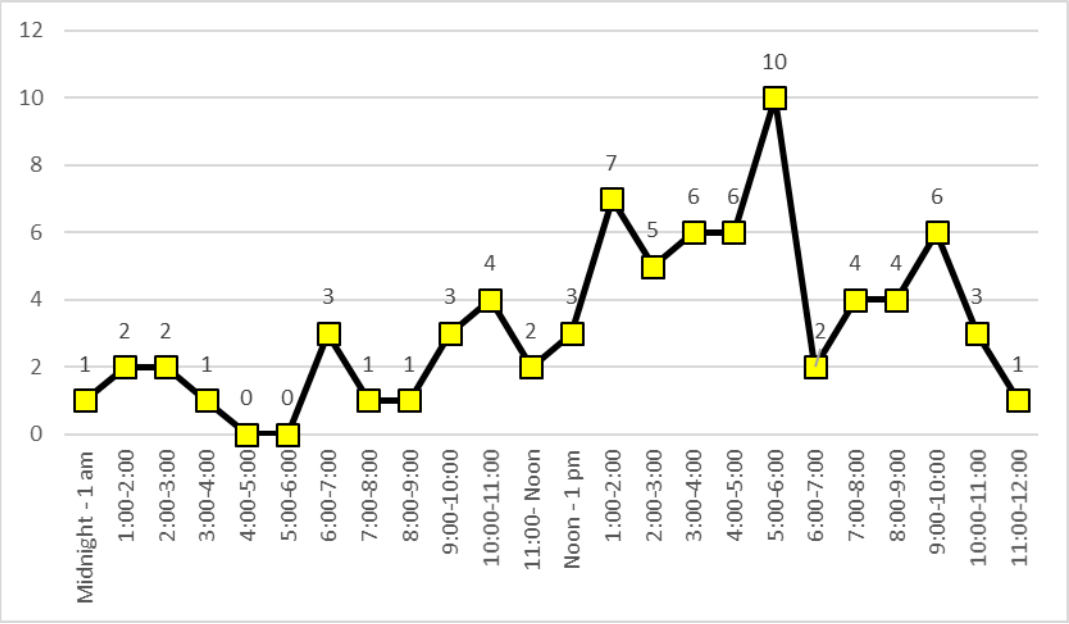


Figure 23 shows that the highest number of crashes occurred from 5 to 6 p.m.

Figure 23: Motorcycle Crashes by Time of Day



Chapter 6: Bicycle Crashes

In 2017, there were 40 crashes involving bicycles. Of those crashes, 33 had at least 1 injury, with 33 total injuries. This chapter further analyzes trends in this data.

Table 18 shows trends in injuries and fatalities in bicycle crashes from 2015 through 2017.

Table 18: Bicycle Crash Injuries and Fatalities

Bicycle Crash Statistic	2017	2016	2015
Crashes with Injuries	33	25	28
Number of Injuries	33	25	29
Crashes with Fatalities	0	0	0
Number of Fatalities	0	0	0

Figures 24 and 25 show the locations of bicycle crashes in Tippecanoe County.

Figure 24: Tippecanoe County Bicycle Crashes

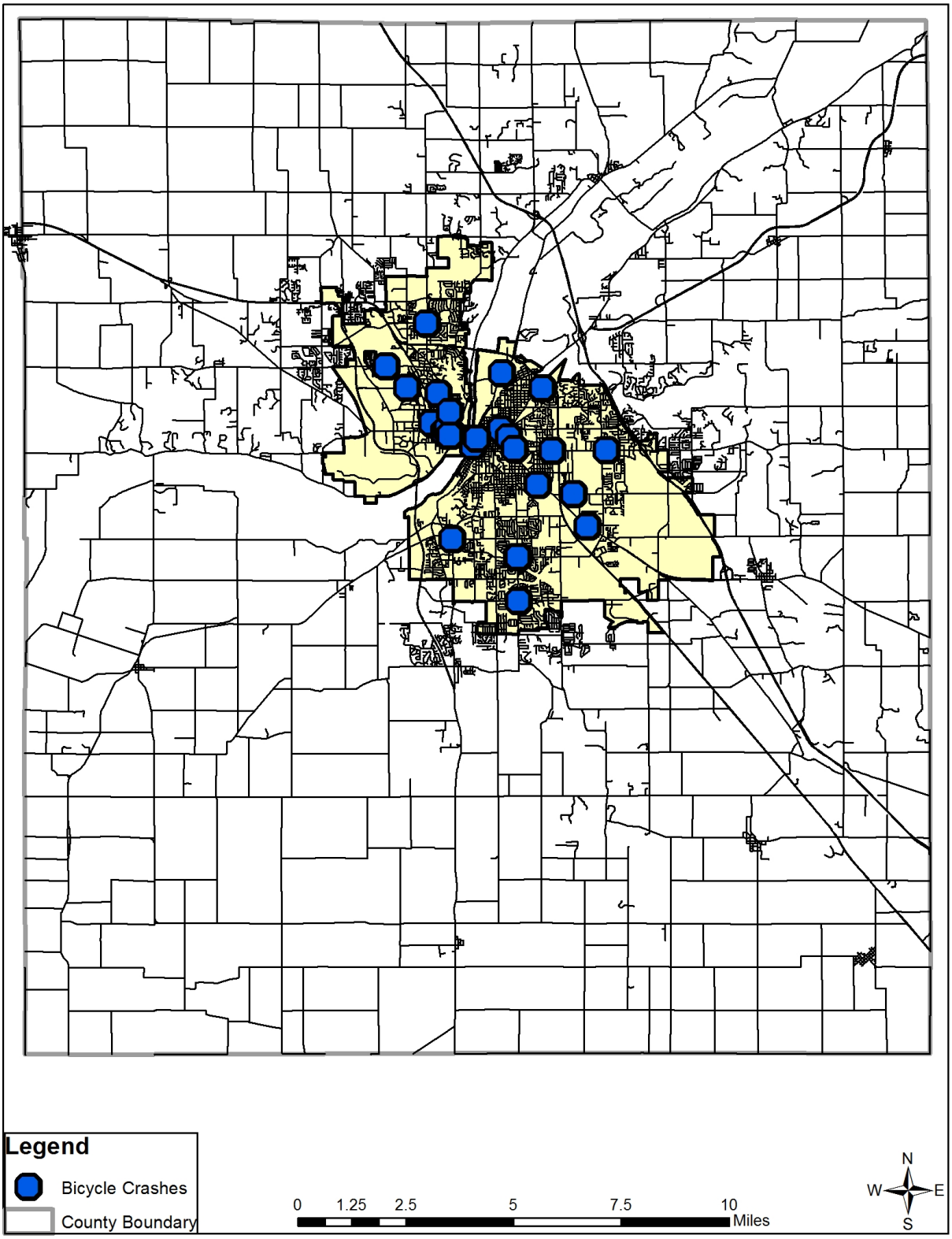


Figure 25: Lafayette and West Lafayette Bicycle Crashes

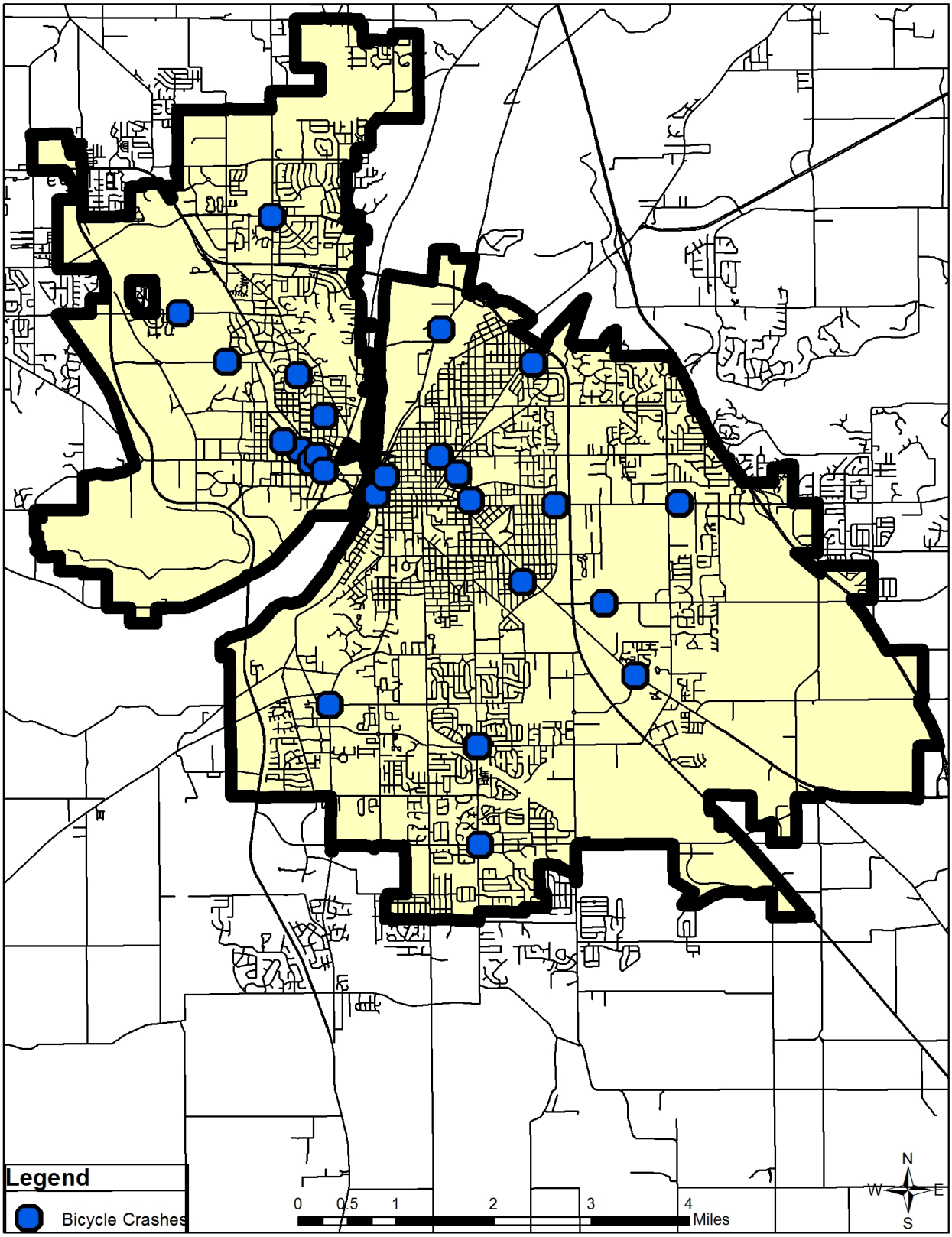


Table 19 shows that August had the highest number of bicycle crashes (17) from 2015 through 2017, while Table 20 shows that the most crashes happened on Wednesday and Thursday, which saw 12 crashes each day from 2015 through 2017.

Table 19: Bicycle Crashes by Month

	2017	2016	2015
Jan	0	1	0
Feb	2	2	0
Mar	1	0	1
Apr	2	3	2
May	3	4	2
Jun	3	4	5
Jul	2	3	8
Aug	10	2	5
Sep	6	5	5
Oct	6	4	7
Nov	2	4	1
Dec	3	1	0
Total	40	33	36

Table 20: Bicycle Crashes by Day of the Week

	2017	2016	2015	Total
Mon	2	6	5	11
Tue	9	3	5	8
Wed	10	4	8	12
Thurs	8	5	7	12
Fri	5	7	4	11
Sat	2	5	5	10
Sun	4	3	2	5
Total	40	33	36	109

Figure 26 and Table 21, on the following page, show that the highest number of bicycle crashes (12) occurred from 7 to 8 p.m. between 2015 through 2017.

Figure 26: Bicycle Crashes by time of day (2015-2017)

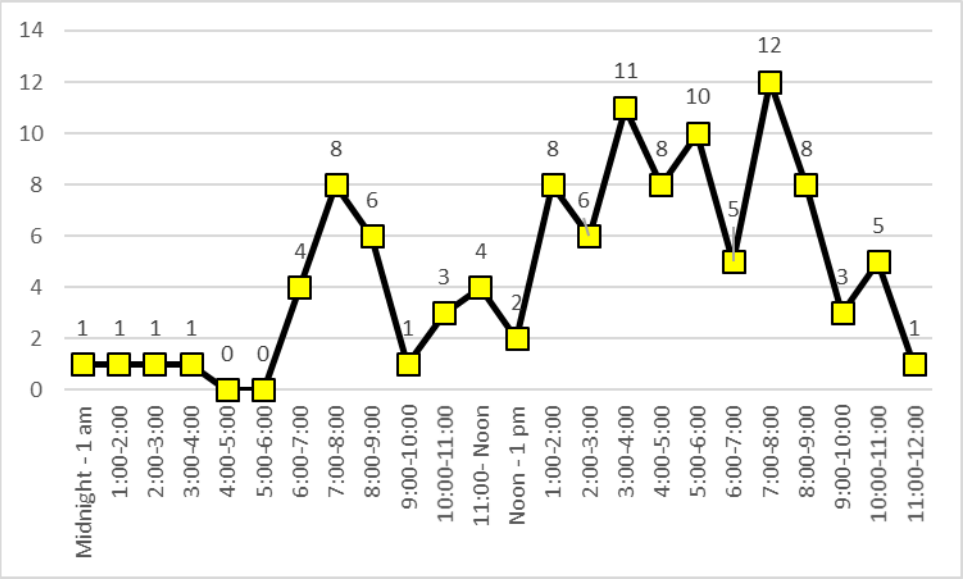


Table 21: Bicycle Crashes by Time of Day

Time of Day	2017	2016	2015	Total
Midnight - 1 am	0	1	0	1
1:00-2:00	0	1	0	1
2:00-3:00	0	1	0	1
3:00-4:00	0	0	1	1
4:00-5:00	0	0	0	0
5:00-6:00	0	0	0	0
6:00-7:00	2	0	2	4
7:00-8:00	1	4	3	8
8:00-9:00	3	0	3	6
9:00-10:00	0	1	0	1
10:00-11:00	2	0	1	3
11:00- Noon	3	1	0	4
Noon - 1 pm	1	0	1	2
1:00-2:00	1	6	1	8
2:00-3:00	2	2	2	6
3:00-4:00	2	4	5	11
4:00-5:00	3	3	2	8
5:00-6:00	3	2	5	10
6:00-7:00	1	1	3	5
7:00-8:00	7	0	5	12
8:00-9:00	4	3	1	8
9:00-10:00	2	1	0	3
10:00-11:00	2	2	1	5
11:00-12:00	1	0	0	1
Total	40	33	36	109

Chapter 7: Pedestrian Crashes

In 2017, there were 34 crashes involving pedestrians. Of those crashes, 25 had at least 1 injury, with 27 total injuries, and 4 fatalities. This chapter further analyzes trends in this data.

Table 22 shows trends in injuries and fatalities in pedestrian crashes from 2015 through 2017.

Table 22: Pedestrian Crash Injuries and Fatalities

Pedestrian Crash Statistic	2017	2016	2015	Total
Crashes With Injuries	25	30	23	78
Number Of Injuries	27	32	24	83
Crashes With Fatalities	4	0	1	5
Number Of Fatalities	4	0	1	5

Figures 27 and 28 show the locations of pedestrian crashes in Tippecanoe County.

Figure 27: Tippecanoe County Pedestrian Crashes

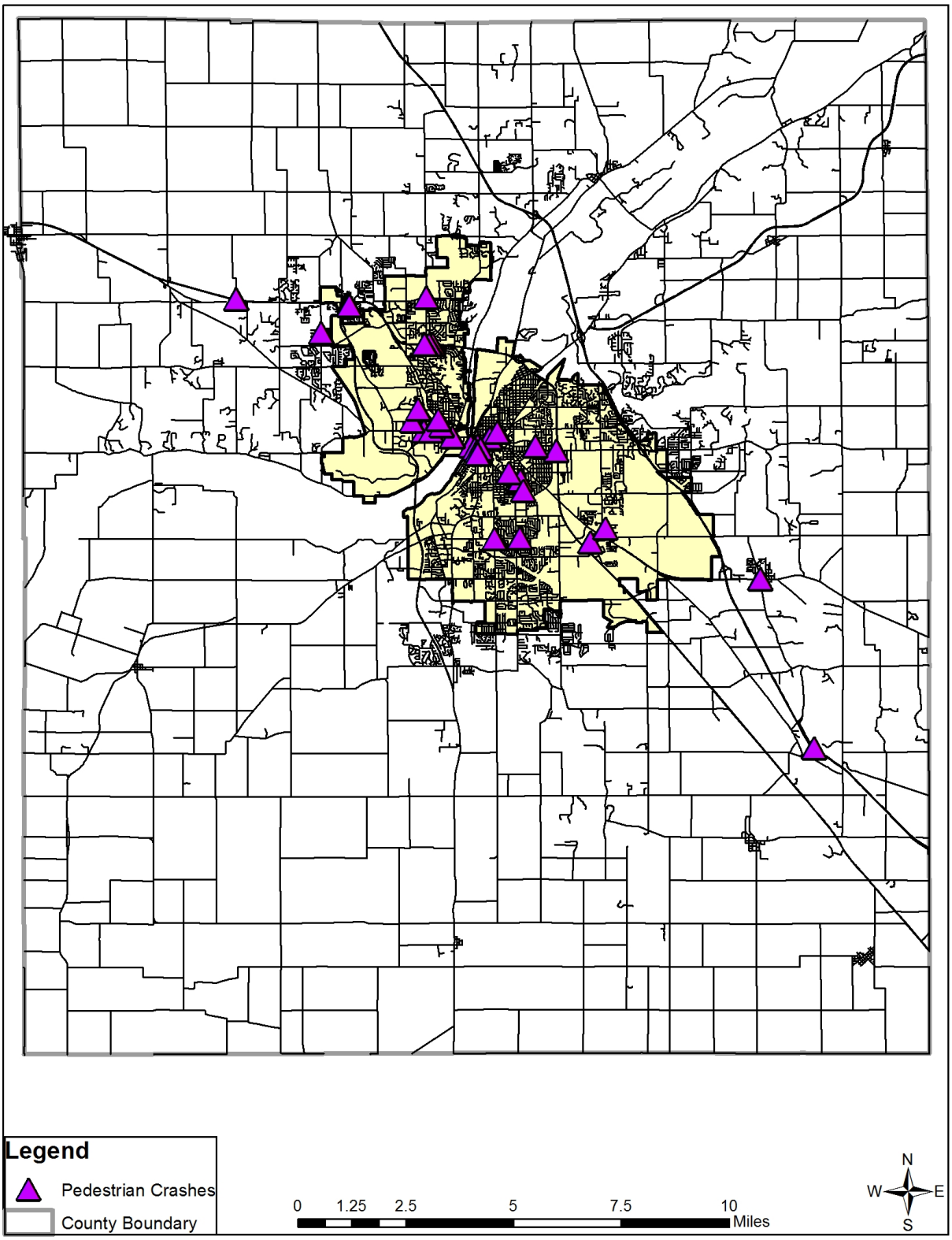


Figure 28: Lafayette and West Lafayette Pedestrian Crashes

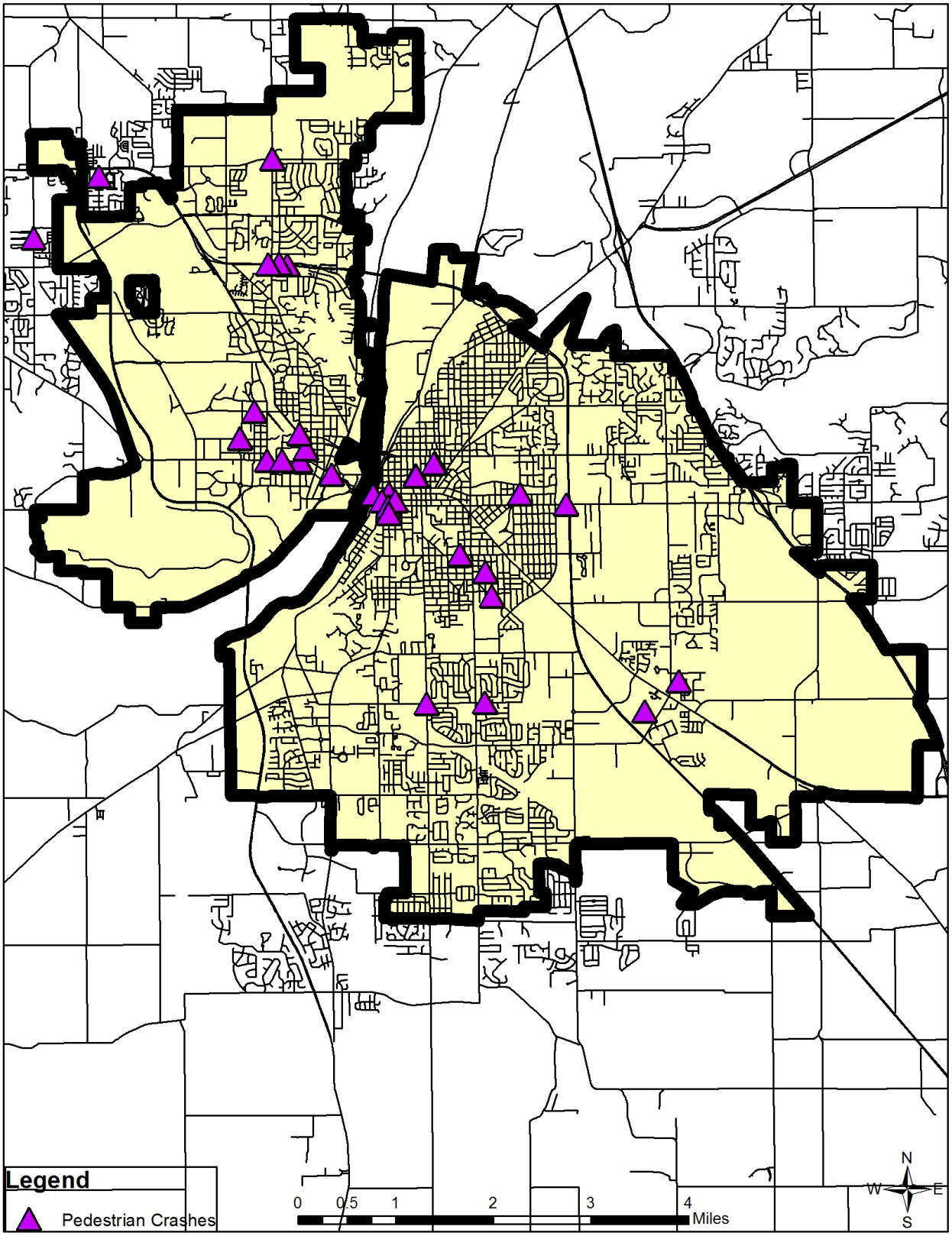


Table 23 shows that Head on Crashes were the most common type for pedestrian crashes. Per Tables 24 and 25, we learn that September and Thursdays were the month and day with the highest occurrence.

Table 23: Pedestrian Crash Injuries and Fatalities

Crash Type	2017	2016	2015	Total
Left Turn	5	7	6	18
Other - Explain In Narrative	6	8	3	17
Head On Between Two Motor Vehicles	11	7	6	24
Right Angle	5	5	2	12
Same Direction Sideswipe	3	0	0	3
Head On	0	0	0	0
Backing Crash	0	0	0	0
Right Turn	2	2	2	6
Non-Collision	0	0	1	1
Rear End	2	1	1	4
Left/Right Turn	0	1	1	2
Unknown	0	1	1	2
Ran Off Road	0	0	1	1
Total	34	32	24	90

Table 24: Pedestrian Crashes by Month

	2017	2016	2015	Total
Jan	4	6	1	11
Feb	2	1	1	4
Mar	3	2	3	8
Apr	1	1	0	2
May	3	1	3	7
Jun	1	2	1	4
Jul	3	1	1	5
Aug	4	2	1	7
Sep	3	5	5	13
Oct	4	5	3	12
Nov	3	4	3	10
Dec	3	2	2	7
Total	34	32	24	90

Table 25: Pedestrian Crashes by Day of Week

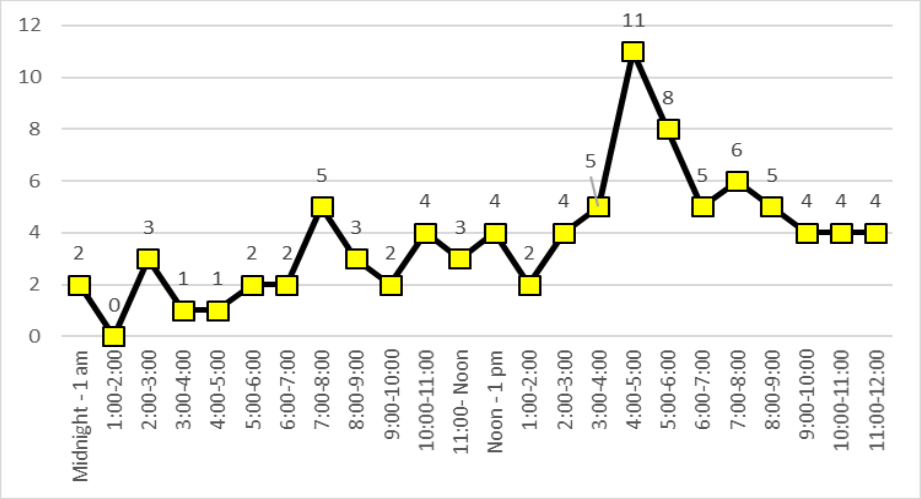
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
2017	4	4	4	6	7	7	2	34
2016	6	2	6	8	4	5	1	32
2015	3	2	5	4	5	2	3	24
TOTAL	9	4	11	12	9	7	4	56

Table 26 and Figure 29 show that the highest number of pedestrian crashes occurred between 4 and 5 p.m.

Table 26: Pedestrian Crashes by Time of Day

Time of Day	2017	2016	2015	Total
Midnight - 1 am	1	0	1	2
1:00-2:00	0	0	0	0
2:00-3:00	1	1	1	3
3:00-4:00	0	1	0	1
4:00-5:00	0	1	0	1
5:00-6:00	1	1	0	2
6:00-7:00	2	0	0	2
7:00-8:00	2	2	1	5
8:00-9:00	2	0	1	3
9:00-10:00	0	0	2	2
10:00-11:00	1	1	2	4
11:00- Noon	1	1	1	3
Noon - 1 pm	1	2	1	4
1:00-2:00	1	0	1	2
2:00-3:00	0	1	3	4
3:00-4:00	1	3	1	5
4:00-5:00	5	3	3	11
5:00-6:00	2	5	1	8
6:00-7:00	1	3	1	5
7:00-8:00	2	4	0	6
8:00-9:00	3	0	2	5
9:00-10:00	3	0	1	4
10:00-11:00	1	2	1	4
11:00-12:00	3	1	0	4
Total	34	32	24	90

Figure 29: Pedestrian Crashes by time of day (2015-2017)



Chapter 8: Alcohol and Drug Crashes

When drivers have their abilities impaired by a substance, they are more likely to be involved in crashes. If an officer suspects that a driver was under the influence of a substance when involved in a crash, that officer can require a toxicology test. The data available for the results of these tests seems to be incomplete. There are some test results that are labeled as "pending," so it is possible that the numbers in this section are lower than the actual numbers would be with fully complete results. This chapter analyzes trends in these types of crashes.

Tables 27 and 28 give a summary of information about crashes where drivers were under the influence of some substance.

Table 27: Alcohol and Drug Crash Overview

OWI/Drug Crash Data	Statistic
Drivers in Crashes Operating Under the Influence of Alcohol	118
Percentage of Drivers in Crashes Operating Under the Influence of Alcohol	1.06%
Maximum Recorded Blood Alcohol Content	0.39
Drivers in Crashes Operating Under the Influence of Drugs	58
Percentage of Drivers in Crashes Operating Under the Influence of Drugs	0.52%

Table 28: Alcohol and Drug Crash Statistics

Statistic	Alcohol	Drug
Fatalities	4	8
Incapacitating Injuries	2	5
Motorcycle Crashes	2	4
Bicycle Crashes	1	1

Pedestrian Crashes	2	0

Tables 29 and 30 show that running off the road was the most common crash type and the most common primary factor for drug and alcohol crashes.

Table 29: Crash Types for Alcohol and Drug Crashes

Crash Type	Participants Under Influence of Alcohol	Participants Under Influence of Drugs	Total
Head On Between Two Motor Vehicles	8	3	11
Left Turn	1	1	2
Non-Collision	0	1	1
Opposite Direction Sideswipe	1	0	1
Other - Explain In Narrative	4	7	11
Ran Off Road	54	17	71
Rear End	17	10	27
Right Angle	10	6	16
Right Turn	2	0	2
Same Direction Sideswipe	5	2	7
Total	102	47	149

Table 30: Primary Factors for Alcohol and Drug Crashes

Primary Factor	Participants Under Influence of Alcohol	Participants Under Influence of Drugs	Total
Cell Phone Usage	0	1	1
Disregard Signal/Reg Sign	9	5	14
Driver Asleep Or Fatigued	1	0	1
Driver Distracted - Explain In Narrative	0	1	1
Failure To Yield Right Of Way	4	3	7
Following Too Closely	9	4	13
Improper Lane Usage	6	5	11
Improper Passing	1	1	2
Improper Turning	4	1	5
Left Of Center	6	4	10
Other (Driver) - Explain In Narrative	4	0	4
Overcorrecting/Oversteering	3	0	3
Pedestrian Action	2	0	2
Ran Off Road Right	40	15	55
Speed Too Fast For Weather Conditions	1	0	1
Steering Failure	0	1	1
Tire Failure Or Defective	1	0	1
Unsafe Backing	1	0	1
Unsafe Speed	10	6	16
Total	102	47	149

Figure 30 shows that August had the highest number of alcohol crashes, while July and November had the highest number of drug crashes.

Figure 30: Alcohol and Drug Crashes by Month

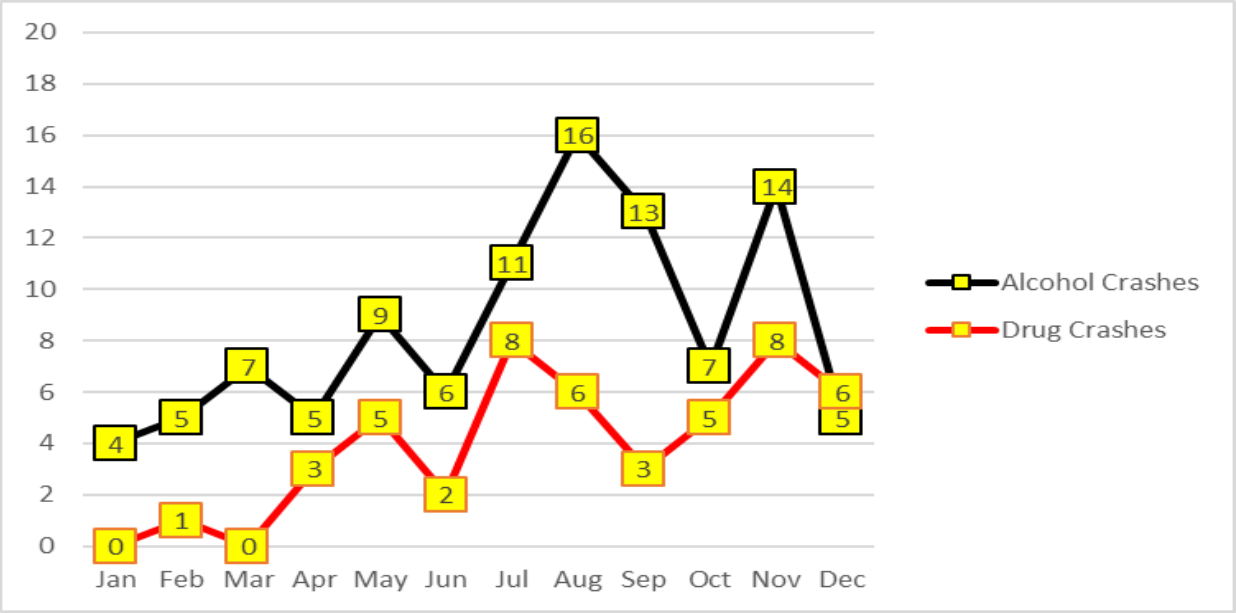


Figure 31 shows that Sunday had the highest number of both drug and alcohol crashes.

Figure 31: Alcohol and Drug Crashes by Day of the Week

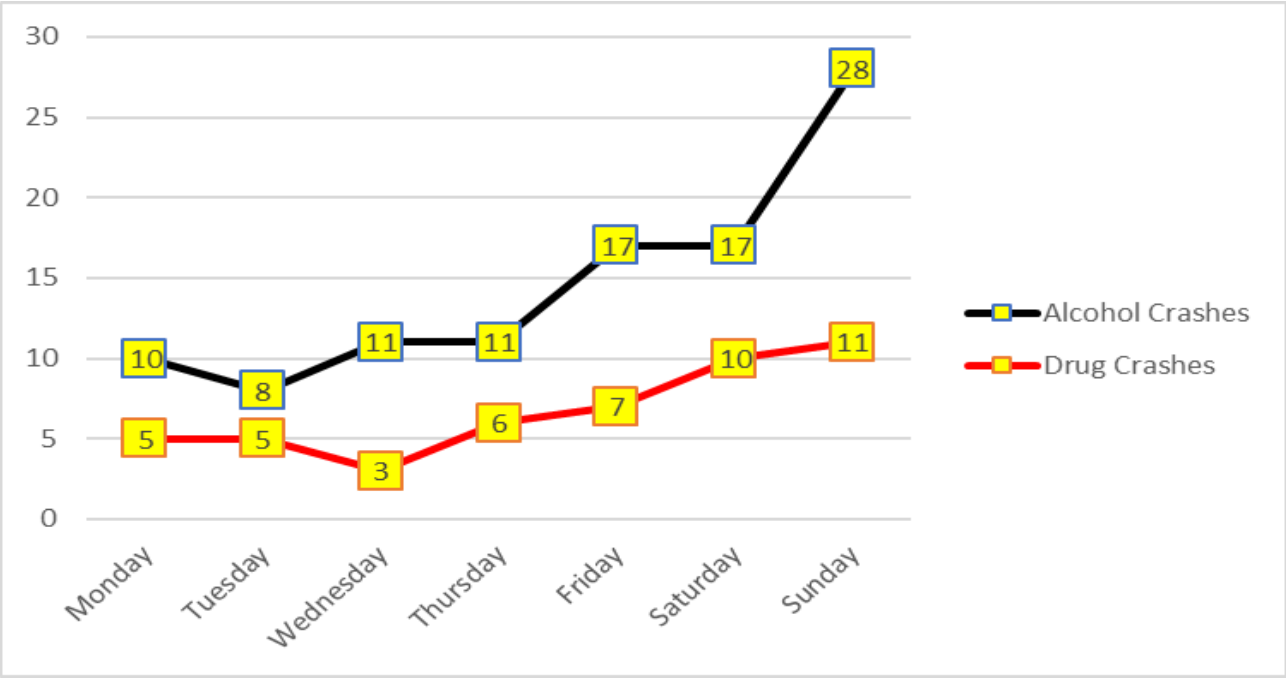


Figure 32 shows that the highest number of alcohol crashes occurred from 3 to 4 a.m.

Figure 32: Alcohol Crashes by Time of Day

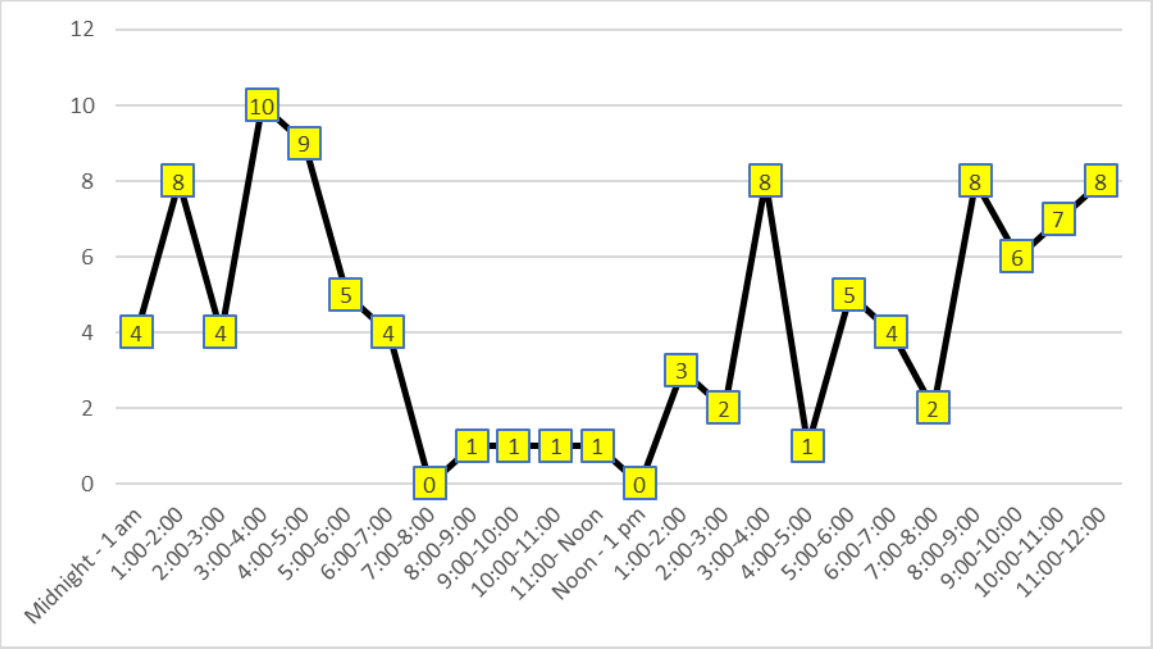
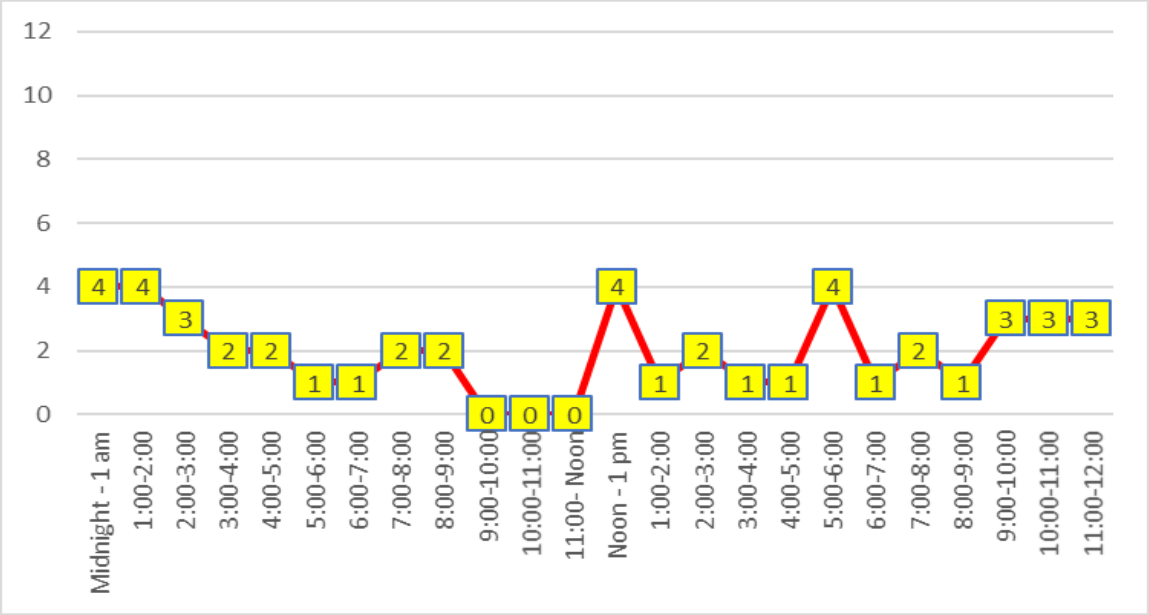


Figure 33 shows that there were several times of day where the number of drug crashes were at their highest (4 crashes). These times are midnight to 1 a.m., 1 to 2 a.m., noon to 1 p.m., and 5 to 6 p.m.

Figure 33: Drug Crashes by Time of Day



Chapter 9: Other Crashes

There are a few other crash types that do not warrant their own dedicated chapter, but still have some value to analyze as the number of crashes were significant. Those are analyzed further in this chapter.

Table 31 shows crash data for deer crashes and crashes in areas with construction.

Table 31: Injury and Fatality Data for Miscellaneous Crash Types

Crash Type	Crashes	Fatalities	Injuries
Deer Crashes	318	0	9
Construction Crashes	437	3	77

Figure 34 shows the location of deer crashes in Tippecanoe County.

Figure 34: Tippecanoe County Deer Crashes

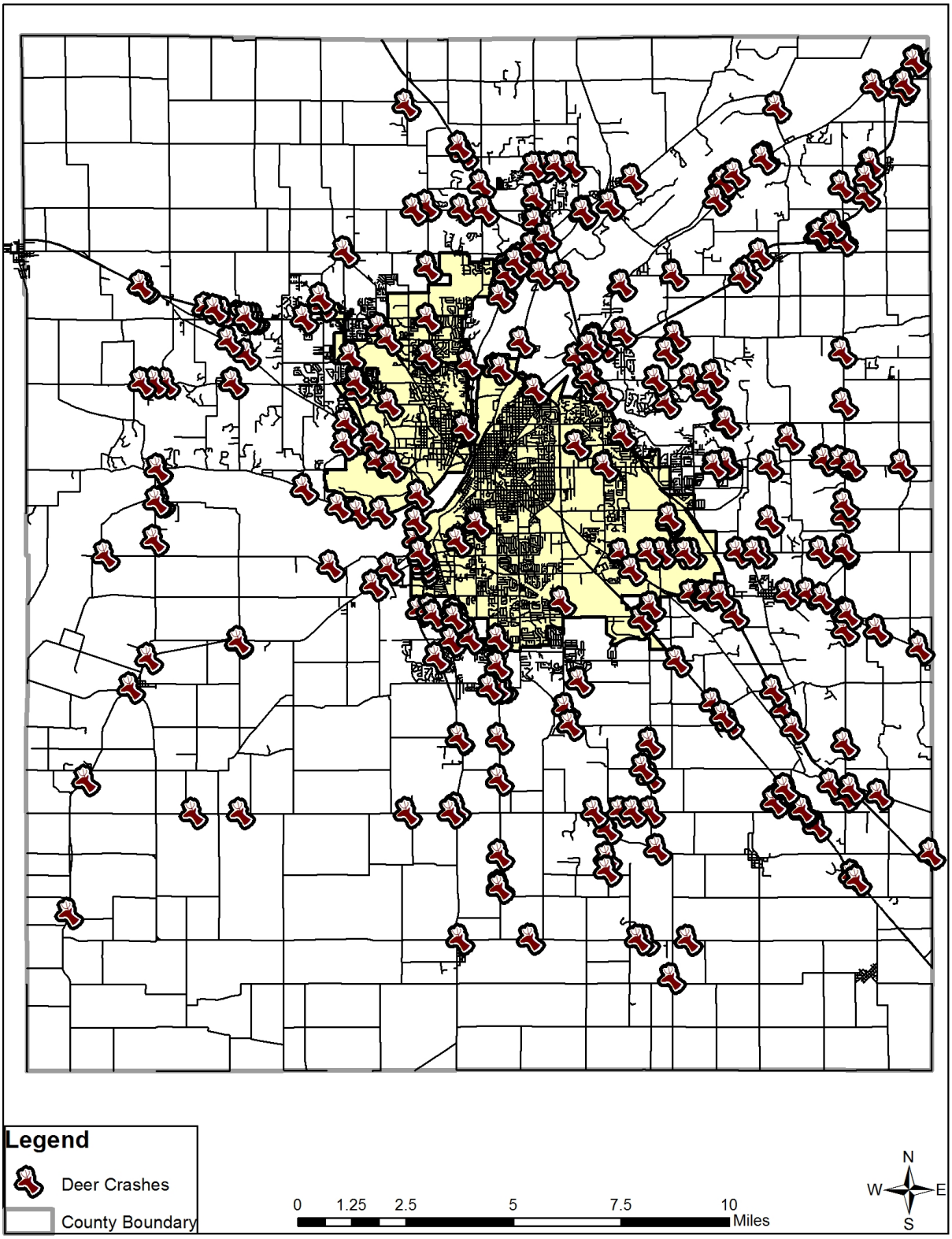


Figure 35 shows the location of crashes in areas where construction was happening.

Figure 35: Construction Crashes

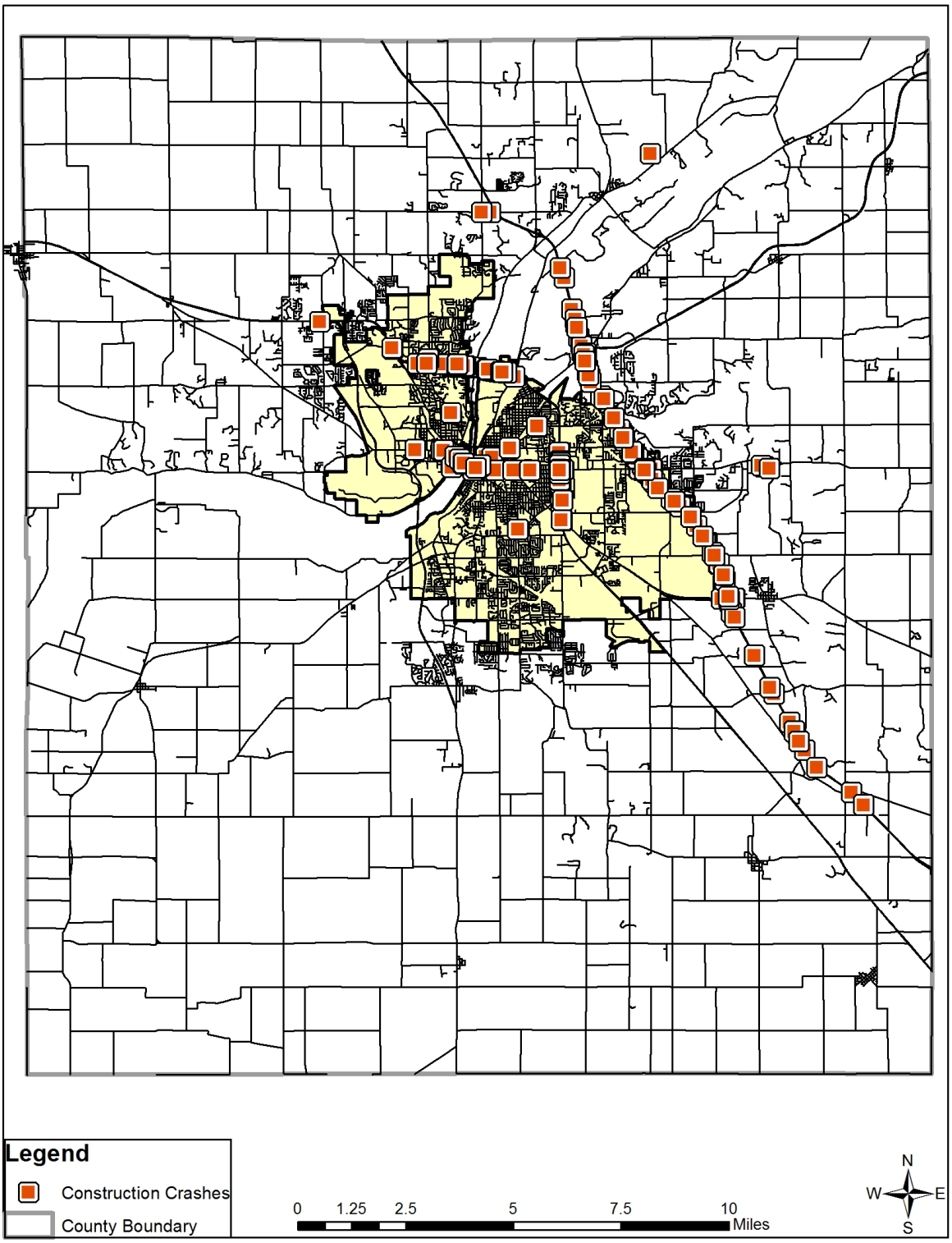


Table 32 shows that most crashes involved 2 vehicles, however there were also a large number of crashes that only involved 1 vehicle.

Table 32: Number of Vehicles Involved in Crashes

Number of Vehicles Involved	Crashes
1	1400
2	3937
3	230
4	29
5	5
6	5
7	2
8	0
9	1
Total	5609

Table 33 shows that most crashes occurred on asphalt road surfaces.

Table 33: Crashes by Road Surface Type

Road Surface	Crashes
Asphalt	4974
Concrete	609
Gravel	15
Other - Explain In Narrative	11
Total	5609

Using this type of data, it is possible to identify causes of crashes and locations where they occur with higher frequency. With this information, it is possible to plan, design, and retrofit safer roadways that encourage safer driver interaction with their environment, as well as other drivers.

The end goal of this report is to provide a tool for increasing safety of travelers by decreasing crashes causing injury and fatalities. How this data is used to increase safety is up to local public agencies and elected officials. High crash intersections and road corridors can be assessed in the future and appropriate safety projects, law enforcement activities, and driver education can be planned to help reduce the chances of injuries and fatalities in those areas.