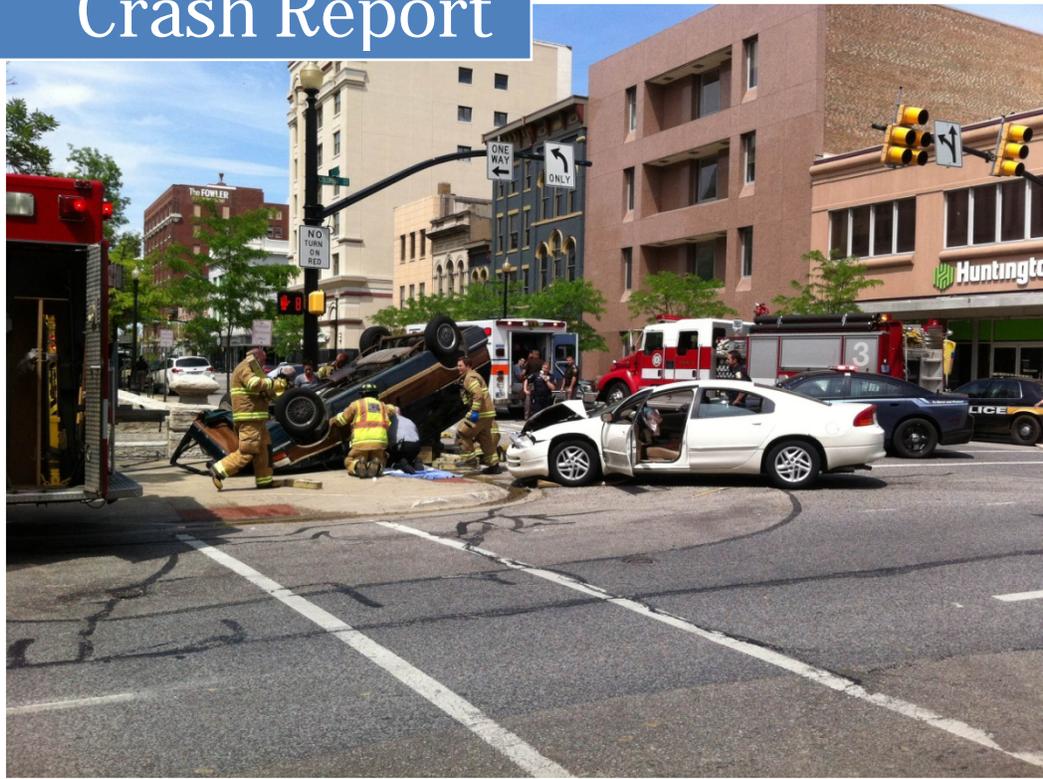


Tippecanoe County Vehicle Crash Report



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Prepared by the Metropolitan Planning Organization Staff in cooperation with Tippecanoe County, Lafayette, West Lafayette, Battle Ground, Dayton, Clarks Hill, Indiana Department of Transportation, Federal Highway Administration and the Federal Transit Administration.

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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 2013 through and including 2015.

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.

Curve Crash- A crash that occurs on a segment of road with a horizontal curve.

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 highway improved, designed, or ordinarily used for vehicular travel. The roadway does not include unpaved areas, 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 traffic. This includes the sidewalk.

Vehicle – Is any vehicle, 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 large number of crashes, the task of identifying specific factors that contribute to the cause of a crash can be very complex. The process of identifying contributing factors is also complicated by the seemingly random nature of vehicle crashes. 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. The 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 on public streets (local and 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 submitted by the police departments of Lafayette, West Lafayette, Purdue, Dayton, Battleground, the Tippecanoe County Sheriff, the Department of Natural Resources, and the Indiana State Police. The ARIES database contains general information about crashes, but in many cases, individual crash reports were reviewed in detail to get more information. This data required some quality control because it did not always match with the officer's crash report. This chapter gives a general overview of crashes in 2015.

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 and Figure 1 show that the majority of crashes can be categorized as "property damage only." More details on injury and fatal crashes are given in Chapter 5.

Table 1: Crash Severity

Severity of Crash	Crashes	Percentage of Total Crashes	Total Injured Persons	Total Fatalities
Property Damage Only	4814	83.1%	0	0
Personal Injury	965	16.7%	1282	0
Fatality	14	0.2%	9	18
Total	5793	100.0%	1291	18

Figure 1: Percentage of Crashes by Crash Severity

Figures 2 and 3 show the locations of crashes in 2015 in Tippecanoe County.

Figure 2: Tippecanoe County Crashes

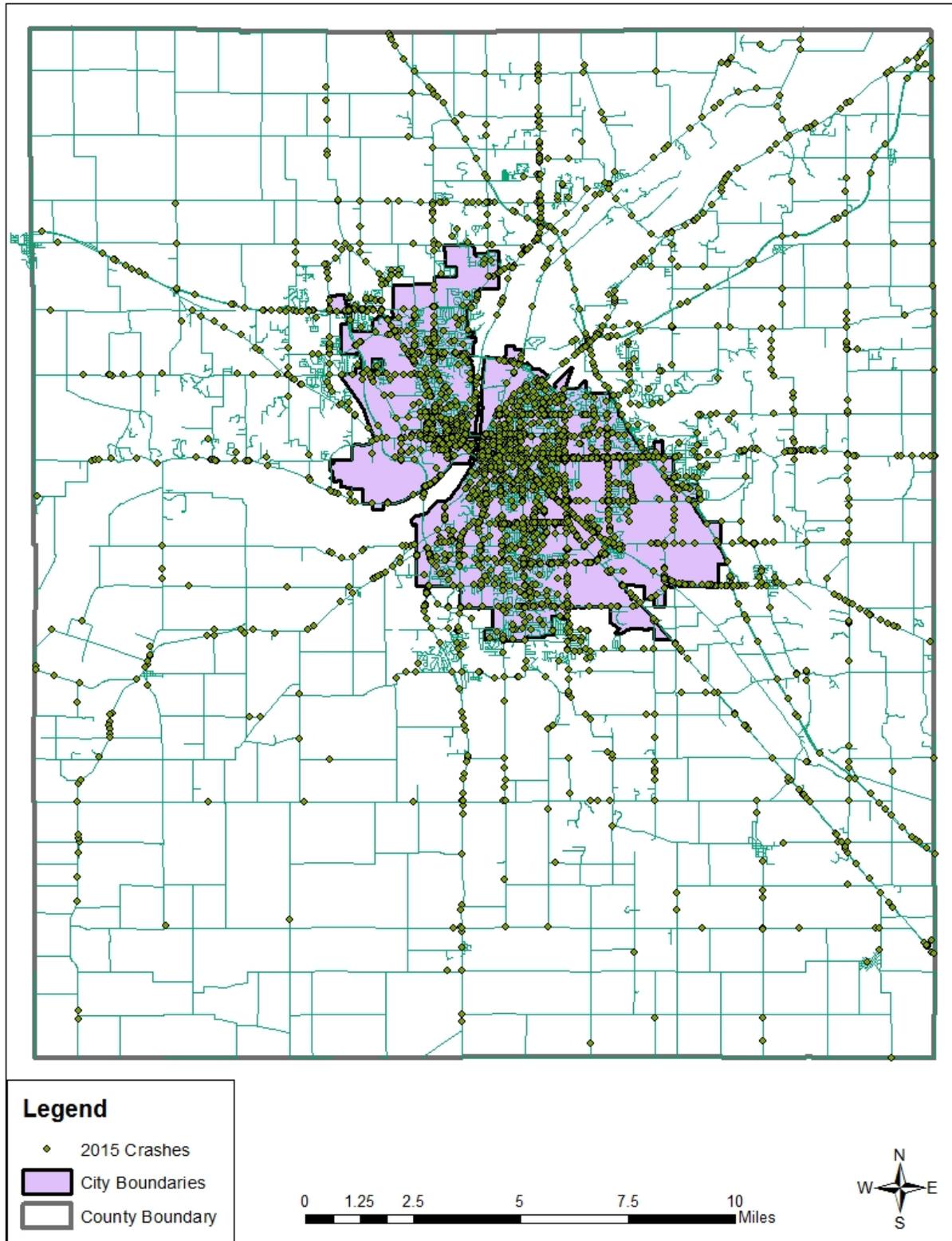


Figure 3: Lafayette and West Lafayette Crashes

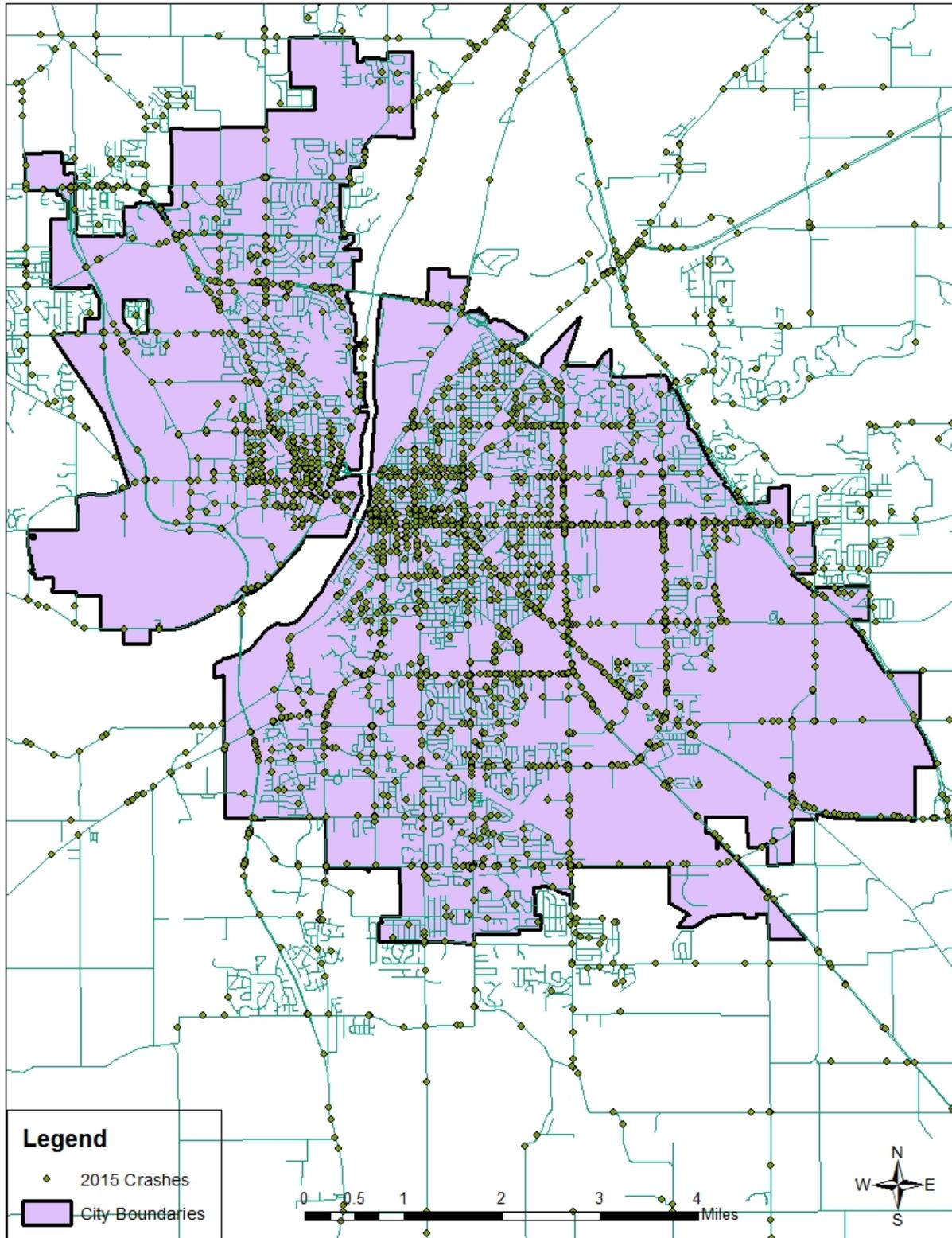


Table 2 shows that the Fairfield and Wabash townships had the most crashes in 2015.

Table 2: Crashes by Township

Township	Number of Crashes
Fairfield	2993
Wabash	1275
Wea	548
Tippecanoe	327
Sheffield	190
Perry	129
Washington	81
Lauramie	76
Shelby	57
Union	41
Wayne	39
Randolph	25
Jackson	12
Total	5793

In ARIES, each crash is assigned to the closest city or town. Table 3 shows that Lafayette had the most crashes.

Table 3: Crashes by City/Town

City/Town	Crashes
Battle Ground	82
Clarks Hill	20
Dayton	74
Lafayette	4179
Otterbein	6
Shadeland	5
West Lafayette	1423
Unlisted	4
Total	5793

Crashes occurred at various locations throughout Tippecanoe County. Some occurred in the middle of an intersection, some in the approach to an intersection, and others far away from the influence of an intersection. Crashes can be put into three categories based on their distance from an intersection: 0-100 feet from the intersection, 0-250 feet from an intersection, and mid-block.

Both the 0-100 feet from intersection and 0-250 feet from intersection categories include crashes that took place inside of the intersection.

Table 4 shows the intersections with the highest number of crashes within 100 feet of that intersection.

Table 4: Crashes 0-100 Feet from Intersection

Rank	Intersection	Crashes 0-100 Feet from Intersection
1	Creasy Lane and South Street	72
2	Interstate 65 and South Street	60
3	Sagamore Parkway and South Street	50
4	Sagamore Parkway and Salisbury Street	43
5	Creasy Lane and State Road 38	39
6	Farington Ave and South Street	38
7	Sagamore Parkway and Union Street	36
8	Creasy Lane and McCarty Lane	33
9	River Road and State Street	30
10	Old US 231 and Teal Road	29
11	Eastland Drive and South Street	28
T12	Farabee Drive and South Street	27
T12	Interstate 65 and State Road 43	27
T12	18th Street and Teal Road	27
15	Greenbush Street and Teal Road	26
16	Sagamore Parkway and State Road 38	25
T17	Sagamore Parkway and US 231	24
T17	Main Street and McCarty Lane	24
T19	Old State Road 25 and State Road 25	23
T19	McCarty Lane and Sagamore Parkway	23
T19	Century Place and South Street	23
T22	Concord Road and Veterans Memorial Parkway	22
T22	Sagamore Parkway and Schuyler Avenue	22
T24	Cumberland Avenue and Sagamore Parkway	21
T24	Northwestern Avenue and Yeager Road	21
26	Sagamore Parkway and Soldiers Home Road	20
T27	Shenandoah Drive and South Street	19

Rank	Intersection	Crashes 0-100 Feet from Intersection
T27	Earl Avenue and Main Street	19
T29	State Road 38 and Veterans Memorial Parkway	18
T29	Brady Lane and Concord Road	18
T29	US 231 and Veterans Memorial Parkway	18
T29	River Road and US 231	18
T29	Northwestern Avenue and Stadium Avenue	18
T34	Park East Boulevard and South Street	17
T34	Kossuth Street and Main Street	17
T34	Earl Avenue and South Street	17
T34	Creasy Lane and Fortune Drive	17
T34	18th St and Brady Lane	17
T39	Sagamore Parkway and Yeager Road	16
T39	18th Street and South Street	16
T39	Maple Point Drive and State Road 38	16
T39	State Road 28 and US 52	16
T43	9th Street and Salem Street	15
T43	Creasy Lane and Sagamore Parkway	15
T43	Nighthawk Drive and Sagamore Parkway	15
T43	Teal Road and US 231	15
T43	Sagamore Parkway and Teal Road	15
T43	Northwestern Avenue and Wiggins Street	15
T49	9th Street and Union Street	14
T49	Cumberland Avenue and US 231	14
T49	State Street and Tapawingo Drive	14
T49	Kossuth Street and Sagamore Parkway	14
T49	Chauncey Avenue and State Street	14
T49	Roebuck Drive and State Street	14
T49	Shenandoah Drive and South Street	14

Rank	Intersection	Crashes 0-100 Feet from Intersection
T49	River Road and Wiggins Street	14
T49	US 52 and Veterans Memorial Parkway	14

Table 5 shows the intersections with the highest number of crashes within 250 feet of that intersection.

Table 5: Crashes 0-250 Feet from Intersection

Rank	Intersection	Crashes 0-250 Feet from Intersection
1	Creasy Lane and South Street	88
2	Interstate 65 and South Street	60
3	Sagamore Parkway and South Street	59
4	Sagamore Parkway and Salisbury Street	47
5	Creasy Lane and State Road 38	45
6	Creasy Lane and McCarty Lane	42
7	Sagamore Parkway and Union Street	41
8	Farington Ave and South Street	40
9	Eastland Drive and South Street	34
10	Greenbush Street and Sagamore Parkway	33
11	River Road and State Street	30
12	Old US 231 and Teal Road	29
T13	McCarty Lane and Sagamore Parkway	27
T13	Farabee Drive and South Street	27
T13	Interstate 65 and State Road 43	27
T13	18th Street and Teal Road	27
17	Sagamore Parkway and State Road 38	26
18	Main Street and McCarty Lane	25
T19	Old State Road 25 and State Road 25	24
T19	Sagamore Parkway and US 231	24
T19	Earl Avenue and Main Street	24

Rank	Intersection	Crashes 0-250 Feet from Intersection
T19	Century Place and South Street	24
T23	Concord Road and Veterans Memorial Parkway	23
T23	Sagamore Parkway and Schuyler Avenue	23
T23	Cumberland Avenue and Sagamore Parkway	23
T26	State Road 38 and Veterans Memorial Parkway	22
T26	Earl Avenue and South Street	22
T28	US 231 and Veterans Memorial Parkway	21
T28	Northwestern Avenue and Yeager Road	21
T30	Brady Lane and Concord Road	20
T30	Sagamore Parkway and Soldiers Home Road	20
T30	Shenandoah Drive and South Street	20
T30	18th St and Brady Lane	20
T34	Park East Boulevard and South Street	19
T34	River Road and US 231	19
T34	Northwestern Avenue and Stadium Avenue	19
T37	Kossuth Street and Main Street	18
T37	Sagamore Parkway and Teal Road	18
T39	Sagamore Parkway and Yeager Road	17
T39	18th Street and South Street	17
T39	Creasy Lane and Fortune Drive	17
T42	Creasy Lane and Sagamore Parkway	16
T42	Nighthawk Drive and Sagamore Parkway	16
T42	State Street and Tapawingo Drive	16
T42	Maple Point Drive and State Road 38	16
T42	State Road 28 and US 52	16
T47	9th Street and Salem Street	15
T47	Teal Road and US 231	15
T47	Northwestern Avenue and Wiggins Street	15

Rank	Intersection	Crashes 0-250 Feet from Intersection
T50	9th Street and Union Street	14
T50	Cumberland Avenue and US 231	14
T50	Creasy Lane and Union Street	14
T50	Kossuth Street and Sagamore Parkway	14
T50	Chauncey Avenue and State Street	14
T50	Roebuck Drive and State Street	14
T50	Creasy Lane and Greenbush Street	14
T50	River Road and Wiggins Street	14
T50	US 52 and Veterans Memorial Parkway	14

Twelve intersections had more than one fatality or incapacitating injury. Table 6 gives a summary of fatalities and incapacitating injuries at those locations. More details on fatalities and incapacitating injuries are included in Chapter 5.

Table 6: Intersections with Multiple Fatalities/Incapacitating Injuries

Intersection	Fatalities	Incapacitating Injuries
State Road 26 and S 900 E	1	2
Brady Lane and Sagamore Parkway	0	3
State Road 38 and Creasy Lane	0	3
Old State Road 25 and State Road 25	0	2
18th Street and Schuyler Avenue	1	1
Haggerty Lane and S 500 E	1	1
State Street and US 231	0	2
Cumberland Avenue and US 231	0	2
McCarty Lane and State Road 26	0	2
Covington Street and Essex Street	0	2
16th St and Kossuth Street	0	2
E 100 S and S 900 E	0	2

In each crash report, officers can specify up to two “Driver”, one “Vehicle”, and one “Environmental” contributing circumstance for each vehicle. One of the contributing circumstances must be listed as the primary contributing circumstance (also called the “primary factor”) for the crash. Table 7 shows that “Following too closely” and “Failure to Yield Right of Way” were the most common primary factors in crashes.

Table 7: Primary Factors in Crashes

Primary Factor	Crashes
Following Too Closely	1303
Failure To Yield Right Of Way	979
Ran Off Road Right	455
Speed Too Fast For Weather Conditions	440
Animal/Object In Roadway	343
Improper Lane Usage	329
Unsafe Speed	320
Other (Driver) - Explain In Narrative	302
Unsafe Backing	261
Disregard Signal/Reg Sign	259
Improper Turning	214
Left Of Center	96
Roadway Surface Condition	88
Improper Passing	79
Overcorrecting/Oversteering	55
Unsafe Lane Movement	55
Driver Distracted - Explain In Narrative	52
Driver Asleep Or Fatigued	37
Pedestrian Action	19
Tire Failure Or Defective	17
Driver Illness	13
Other (Environmental)	13
Brake Failure Or Defective	12

Primary Factor	Crashes
Other (Vehicle) - Explain In Narrative	9
Insecure/Leaky Load	8
Obstruction Not Marked	8
Wrong Way On One Way	8
Cell Phone Usage	5
Steering Failure	4
View Obstructed	3
Severe Crosswinds	2
Accelerator Failure Or Defective	1
Engine Failure Or Defective	1
Headlight Defective Or Not On	1
Oversize/Overweight Load	1
Tow Hitch Failure	1
Total	5793

In this report, the term “fault” refers to the party who had the legal responsibility for causing a crash. Determining fault can be difficult because there are often complex circumstances that affect pedestrian, bicyclist, and vehicle behavior. This data is also not usually available from a vehicle owner’s private insurance provider, so it was approximated for this report using the primary factor information from ARIES. Each of the primary factors was sorted into one of four categories: Driver Error, Environmental Factors, Vehicular Factors, and Miscellaneous Factors. Table 8 shows which primary factors were grouped into these categories.

Table 8: Primary Factor Categories

Primary Factor Category	Primary Factor
Driver Error	Following Too Closely
Driver Error	Failure To Yield Right Of Way
Driver Error	Ran Off Road Right
Driver Error	Improper Lane Usage
Driver Error	Speed Too Fast For Weather Conditions
Driver Error	Unsafe Backing
Driver Error	Disregard Signal/Regulatory Sign
Driver Error	Unsafe Speed
Driver Error	Improper Turning
Driver Error	Left Of Center
Driver Error	Driver Distracted - Explain In Narrative
Driver Error	Improper Passing
Driver Error	Unsafe Lane Movement
Driver Error	Overcorrecting/Oversteering
Driver Error	Driver Asleep Or Fatigued
Driver Error	Cell Phone Usage
Driver Error	Wrong Way On One Way
Environmental Factors	Animal/Object In Roadway
Environmental Factors	Roadway Surface Condition
Environmental Factors	Other (Environmental) - Explain In Narrative
Environmental Factors	Holes/Ruts In Surface
Environmental Factors	Obstruction Not Marked
Environmental Factors	Severe Crosswinds
Environmental Factors	View Obstructed
Miscellaneous Factors	Other (Driver) - Explain In Narrative
Miscellaneous Factors	Pedestrian Action
Miscellaneous Factors	Driver Illness

Primary Factor Category	Primary Factor
Miscellaneous Factors	Other Telematics In Use
Miscellaneous Factors	Unknown
Vehicular Factors	Brake Failure Or Defective
Vehicular Factors	Tire Failure Or Defective
Vehicular Factors	Insecure/Leaky Load
Vehicular Factors	Other (Vehicle) - Explain In Narrative
Vehicular Factors	Steering Failure
Vehicular Factors	Engine Failure Or Defective
Vehicular Factors	Oversize/Overweight Load
Vehicular Factors	Tow Hitch Failure
Vehicular Factors	Accelerator Failure Or Defective
Vehicular Factors	Headlight Defective Or Not On

Table 9 and Figure 4 show that driver error was the primary factor category that was most common in 2014 crashes.

Table 9: Summary of Crashes by Primary Factor Categories

Primary Factor Category	Crashes
Driver Error	4947
Environmental Factors	457
Vehicular Factors	55
Miscellaneous Factors	334
Total	5793

Figure 4: Percentage of Crashes by Primary Factor Category

The manner of collision (also referred to as crash type in this report), is a description of the way a collision between vehicles or objects occurs. Table 10 shows that rear end crashes were the most common crash type.

Table 10: Crashes by Crash Type

Crash Type	Crashes
Rear End	1910
Right Angle	832
Ran Off Road	817
Same Direction Sideswipe	712
Left Turn	274
Collision With Deer	266
Backing Crash	238
Other - Explain In Narrative	231
Head On Between Two Motor Vehicles	161
Opposite Direction Sideswipe	94
Right Turn	64
Unknown	53
Non-Collision	40
Collision With Object In Road	39
Collision With Animal Other	28
Left/Right Turn	21
Rear To Rear	12
Head On	1
Total	5793

Chapter 2: Age and Gender

Different age groups and genders may behave differently when using the road. These behavioral differences may affect how, when, and where crashes occur. This chapter analyzes trends in the age and gender of crash participants.

Table 11 shows that 16-24 year-old drivers were most likely to be involved in crashes.

Table 11: Crashes by Age and Gender

	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Male	61	1575	1152	823	778	611	454	5454
Female	46	1357	935	599	582	453	361	4333
Total	107	2932	2087	1422	1360	1064	815	9787

In a crash, there are several different types of participants that can be categorized as follows: drivers, injured persons, pedalcyclists, or pedestrians. Table 12 gives a summary (by age) of participants in crashes. In this table, “Injured Person” refers to a passenger in one of the vehicles that sustained an injury. It does not apply to a driver, pedestrian, or pedalcyclist that was injured.

Table 12: Crash Participants by Age

	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Driver	24	2809	2022	1393	1324	1031	710	9313
Injured Person	87	90	55	26	32	28	24	342
Pedalcyclist	8	16	4	3	4	4	1	40
Pedestrian	4	17	6	4	1	1	3	36
Total	123	2932	2087	1426	1361	1064	738	9731

Table 13 shows that following too closely was the primary cause of crashes for almost every age group.

Table 13: Primary Factors by Age of Driver

Primary Factor	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Following Too Closely	3	811	579	408	407	276	210	2694
Failure To Yield Right Of Way	1	554	427	255	246	197	219	1899
Speed Too Fast For Weather Conditions	2	250	158	102	77	65	28	682
Unsafe Speed	2	170	123	82	83	56	32	548
Disregard Signal/Reg Sign	0	119	103	74	65	69	62	492
Improper Lane Usage	1	126	87	77	61	60	36	448
Ran Off Road Right	2	145	113	46	41	29	19	395
Other (Driver) - Explain In Narrative	2	122	72	49	61	48	38	392
Animal/Object In Roadway	1	64	75	74	72	46	17	349
Improper Turning	0	99	69	46	49	48	32	343
Unsafe Backing	1	85	56	57	38	43	43	323
Left Of Center	1	41	28	21	23	12	8	134
Improper Passing	0	30	23	18	16	18	15	120
Roadway Surface Condition	0	48	23	17	7	10	3	108
Unsafe Lane Movement	8	21	19	16	21	10	7	102
Driver Distracted - Explain In Narrative	0	28	19	10	17	14	6	94
Overcorrecting/Oversteering	0	27	13	3	10	9	1	63
Driver Asleep Or Fatigued	0	19	10	6	3	3	3	44
Tire Failure Or Defective	0	7	3	5	5	2	1	23
Pedestrian Action	0	10	2	4	2	0	0	18
Other (Environmental) - Explain In Narr	0	4	3	2	6	0	0	15
Insecure/Leaky Load	0	2	2	5	0	3	3	15
Driver Illness	0	2	1	3	2	3	3	14
Brake Failure Or Defective	0	6	2	2	1	3	0	14

Primary Factor	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Wrong Way On One Way	0	3	4	1	4	0	0	12
Other (Vehicle) - Explain In Narrative	0	3	2	3	1	1	0	10
Cell Phone Usage	0	5	1	2	2	0	0	10
Obstruction Not Marked	0	0	2	2	2	2	0	8
View Obstructed	0	2	3	0	1	1	0	7
Steering Failure	0	3	0	1	0	0	0	4
Severe Crosswinds	0	0	0	1	0	1	0	2
Headlight Defective Or Not On	0	2	0	0	0	0	0	2
Oversize/Overweight Load	0	0	0	0	1	1	0	2
Accelerator Failure Or Defective	0	1	0	0	0	0	0	1
Engine Failure Or Defective	0	0	0	1	0	0	0	1
Tow Hitch Failure	0	0	0	0	0	1	0	1
Total	24	2809	2022	1393	1324	1031	786	9389

Table 14 shows that following too closely was the most common primary cause of crashes for both genders.

Table 14: Primary Factors by Gender

Primary Factor	Male	Female	Total
Following Too Closely	1432	1260	2692
Failure To Yield Right Of Way	1039	859	1898
Speed Too Fast For Weather Conditions	381	299	680
Unsafe Speed	327	219	546
Disregard Signal/Reg Sign	288	204	492
Improper Lane Usage	258	190	448
Ran Off Road Right	258	136	394
Other (Driver) - Explain In Narrative	230	160	390
Animal/Object In Roadway	199	149	348
Improper Turning	168	175	343
Unsafe Backing	188	134	322
Left Of Center	91	42	133
Improper Passing	75	45	120
Roadway Surface Condition	51	57	108
Unsafe Lane Movement	71	23	94
Driver Distracted - Explain In Narrative	46	48	94
Overcorrecting/Oversteering	32	31	63
Driver Asleep Or Fatigued	26	18	44
Tire Failure Or Defective	15	8	23
Pedestrian Action	10	8	18
Other (Environmental) - Explain In Narr	9	6	15
Insecure/Leaky Load	13	1	14
Driver Illness	7	7	14
Brake Failure Or Defective	9	5	14
Wrong Way On One Way	8	4	12
Other (Vehicle) - Explain In Narrative	6	4	10
Cell Phone Usage	3	7	10
Obstruction Not Marked	5	3	8

Primary Factor	Male	Female	Total
View Obstructed	6	1	7
Steering Failure	3	1	4
Severe Crosswinds	2	0	2
Headlight Defective Or Not On	1	1	2
Oversize/Overweight Load	2	0	2
Accelerator Failure Or Defective	1	0	1
Engine Failure Or Defective	0	1	1
Tow Hitch Failure	1	0	1
Total	5261	4106	9367

Table 15 shows that rear end crashes were the most common crash type for every age group.

Table 15: Crash Type by Age

Crash Type	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Rear End	8	1185	808	579	589	427	278	3874
Right Angle	0	452	370	217	208	181	178	1606
Same Direction Sideswipe	12	297	235	171	153	144	113	1125
Ran Off Road	2	317	206	87	72	57	33	774
Left Turn	0	162	109	83	73	40	57	524
Backing Crash	1	73	51	52	38	42	41	298
Collision With Deer	0	50	54	58	58	34	12	266
Head On Between Two Motor Vehicles	0	77	64	41	28	23	16	249
Other - Explain In Narrative	1	75	40	33	42	23	22	236
Opposite Direction Sideswipe	0	42	22	16	22	20	7	129
Right Turn	0	33	19	17	8	17	15	109
Collision With Object In Road	0	8	10	9	9	5	5	46
Non-Collision	0	9	10	7	6	4	2	38
Left/Right Turn	0	17	2	6	7	3	1	36
Collision With Animal Other	0	3	5	8	4	5	3	28
Rear To Rear	0	9	6	4	3	3	1	26
Total	24	2809	2011	1388	1320	1028	784	9364

Figure 5 shows that rear end crashes were the most common crash type for both genders.

Figure 5: Crashes by Gender and Type

Figure 6 shows that males were the drivers in 56% of crashes.

Figure 6: Drivers in Crashes by Gender

Figure 7 shows the number of passengers injured in crashes. More female passengers were injured than male passengers.

Figure 7: Injured Passengers by Gender

Chapter 3: Time of Crashes

Drivers often behave differently at different times of the year, week, or day. These behavioral changes can be due to weather, increased/decreased level of distraction, fatigue, or several other factors. This chapter analyzes trends in the times when crashes occurred.

Figure 8 shows that the highest number of crashes occurred in January.

Figure 8: Crashes by Month

Figure 9 shows crashes by month for the three most common crash types (rear end, right angle, and ran off road).

Figure 9: 3 Most Common Crash Types by Month

Figure 10 and Table 16 show that Friday had the highest number of crashes.

Figure 10: Crashes by Day of the Week

Table 16: Crash Percentages by Day of the Week

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
Crashes	847	827	820	816	1002	765	716	5793
Percentage	14.6%	14.3%	14.2%	14.1%	17.3%	13.2%	12.4%	100.0%

Figure 11 shows crashes by day of the week for the three most common crash types.

Figure 11: 3 Most Common Crash Types by Day of the Week

Figure 12 shows that the majority of crashes occurred during the daylight hours (from 7 a.m. to 7 p.m.).

Figure 12: Crashes by Time of Day

Figure 13 shows crashes by time of day for the three most common crash types.

Figure 13: 3 Most Common Crash Types by Time of Day

Chapter 4: Weather and Road Conditions

Weather and road conditions can contribute to crashes. Decreased visibility, slick pavement, and other weather/road factors increase the chances for crashes. This chapter analyzes trends in crashes with different weather and pavement conditions.

Table 17 shows that the highest number of crashes occurred when weather conditions were clear. A large number of crashes also occurred when weather conditions were cloudy. Figures 14 and 15 show the location of crashes in clear weather conditions.

Table 17: Crashes by Weather Conditions

Weather Conditions	Crashes
Blowing Sand/Soil/Snow	28
Clear	3495
Cloudy	1178
Fog/Smoke/Smog	31
Rain	629
Severe Cross Wind	6
Sleet/Hail/Freezing Rain	101
Snow	321
Unknown	4
Total	5793

Figure 14: Tippecanoe County Crashes in Clear Weather Conditions

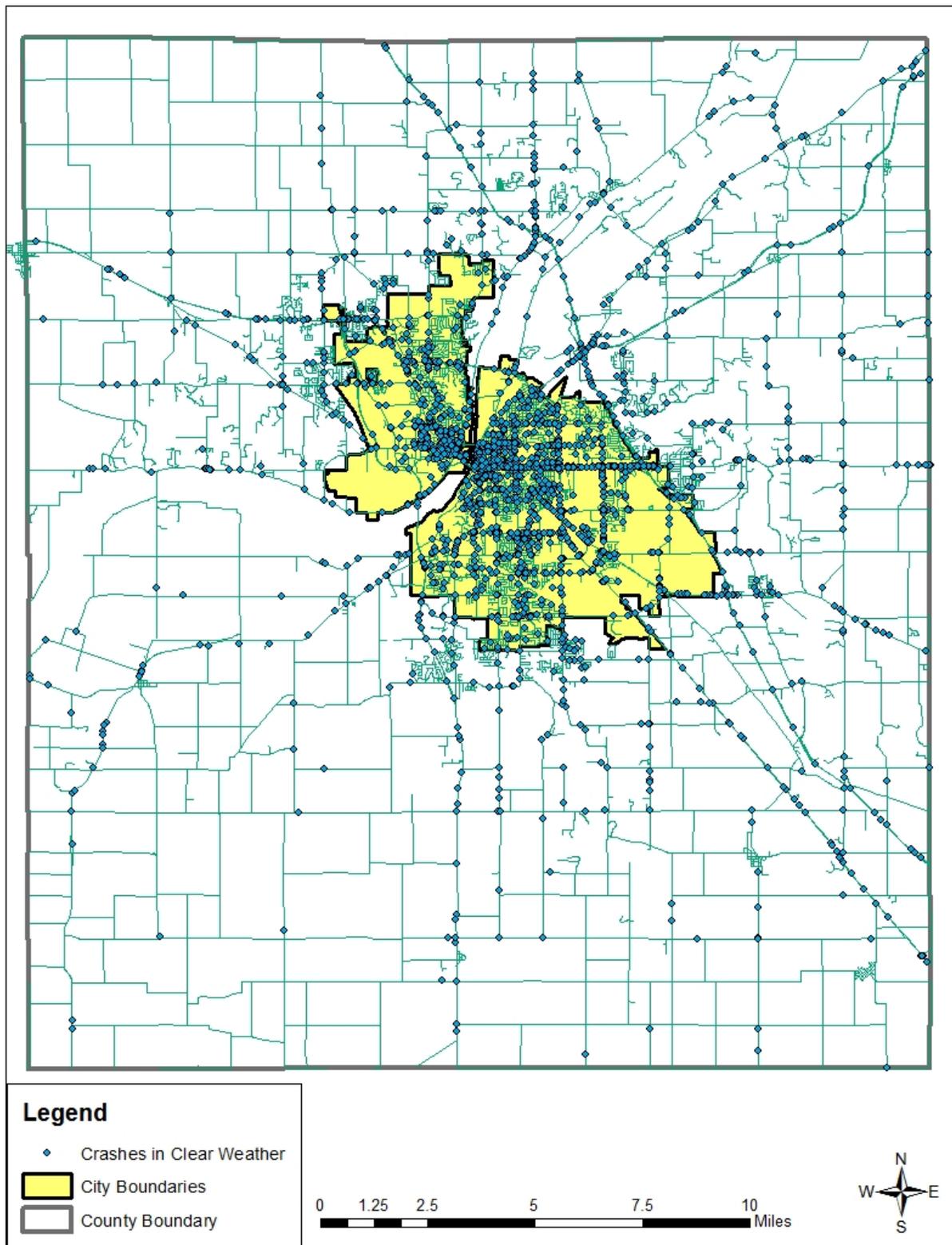
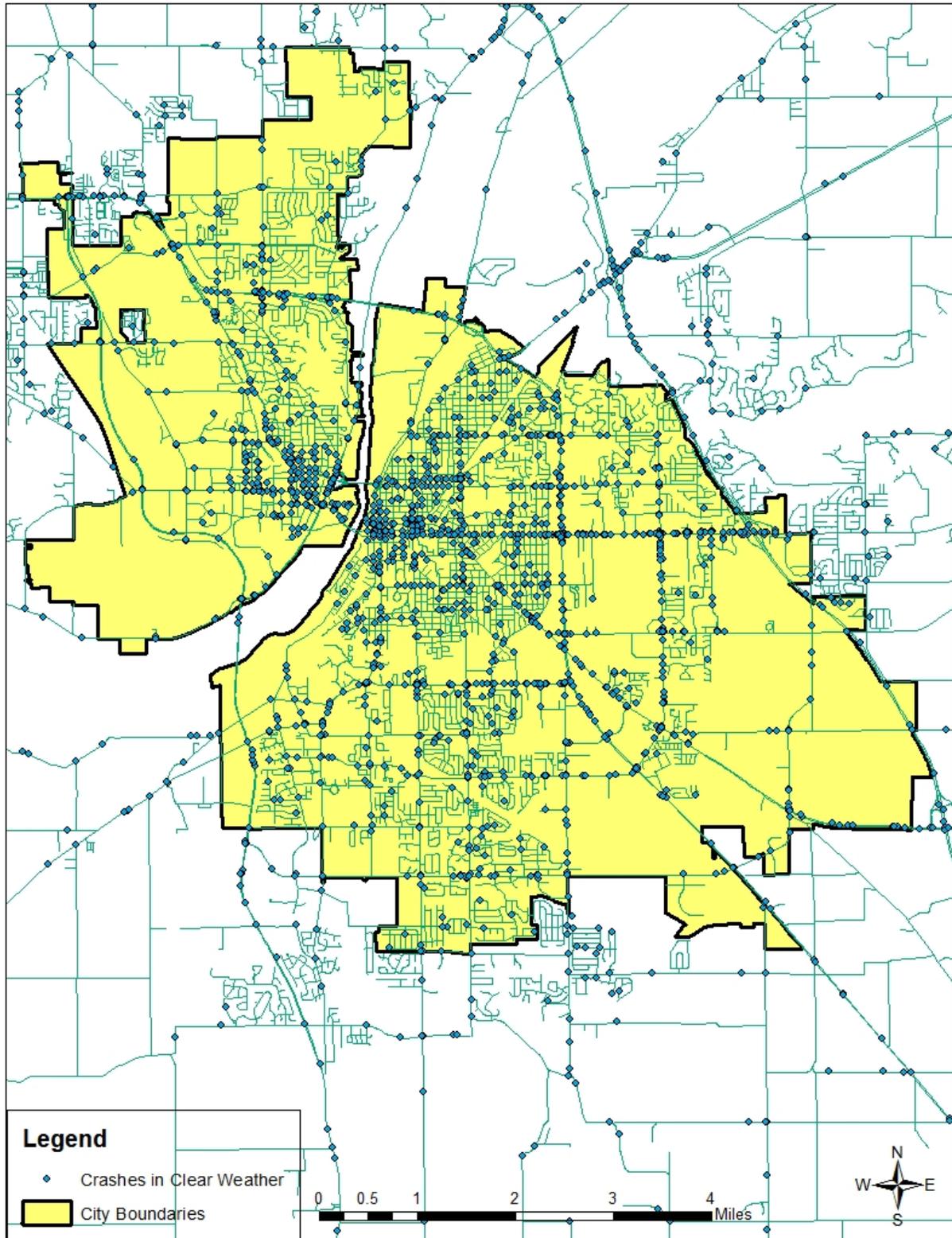


Figure 15: Lafayette and West Lafayette Crashes in Clear Weather



Figures 16 and 17 show the location of winter weather crashes (where the road surface had snow, ice, or slush on it).

Figure 16: Tippecanoe County Winter Weather Crashes

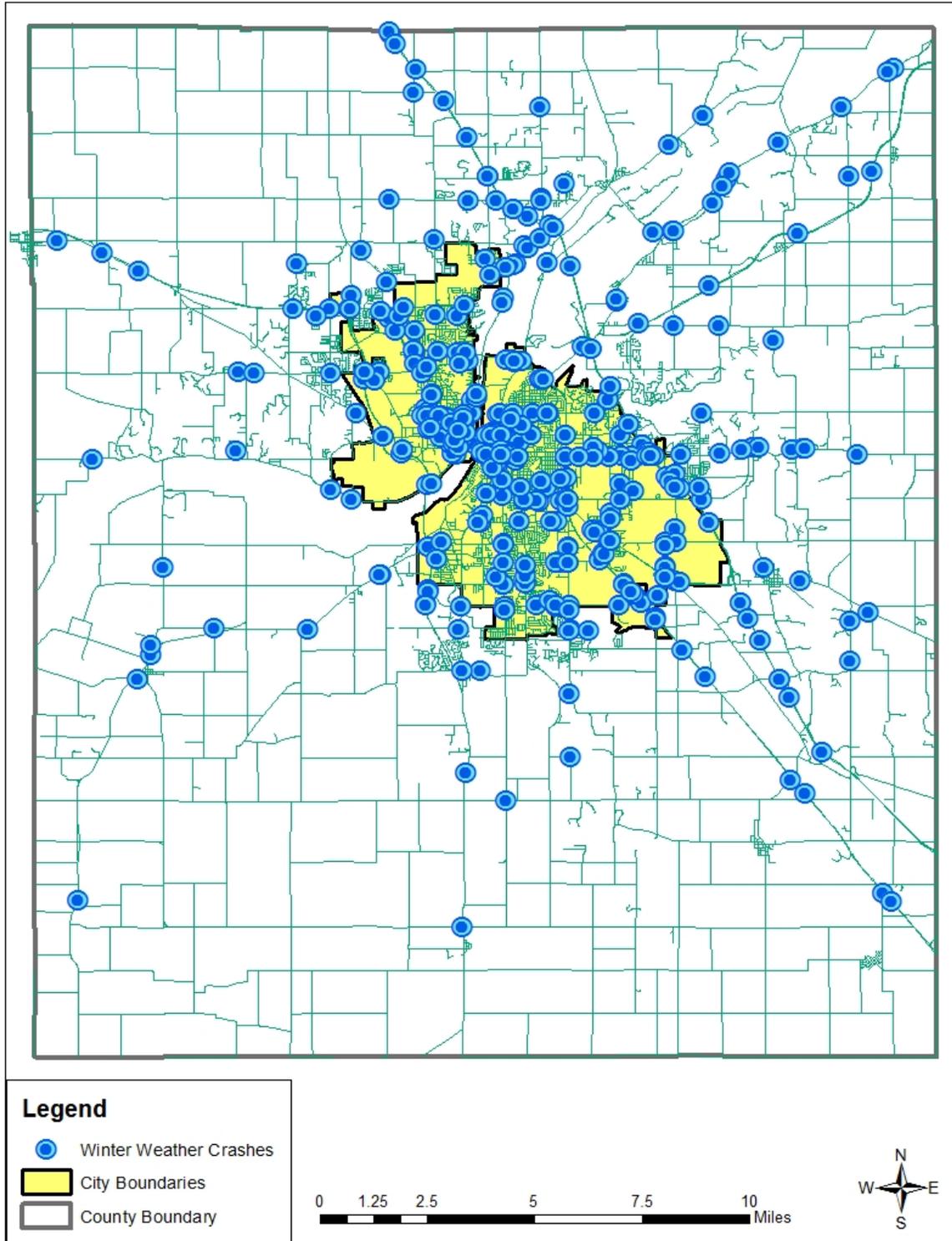


Figure 17: Lafayette and West Lafayette Winter Weather Crashes

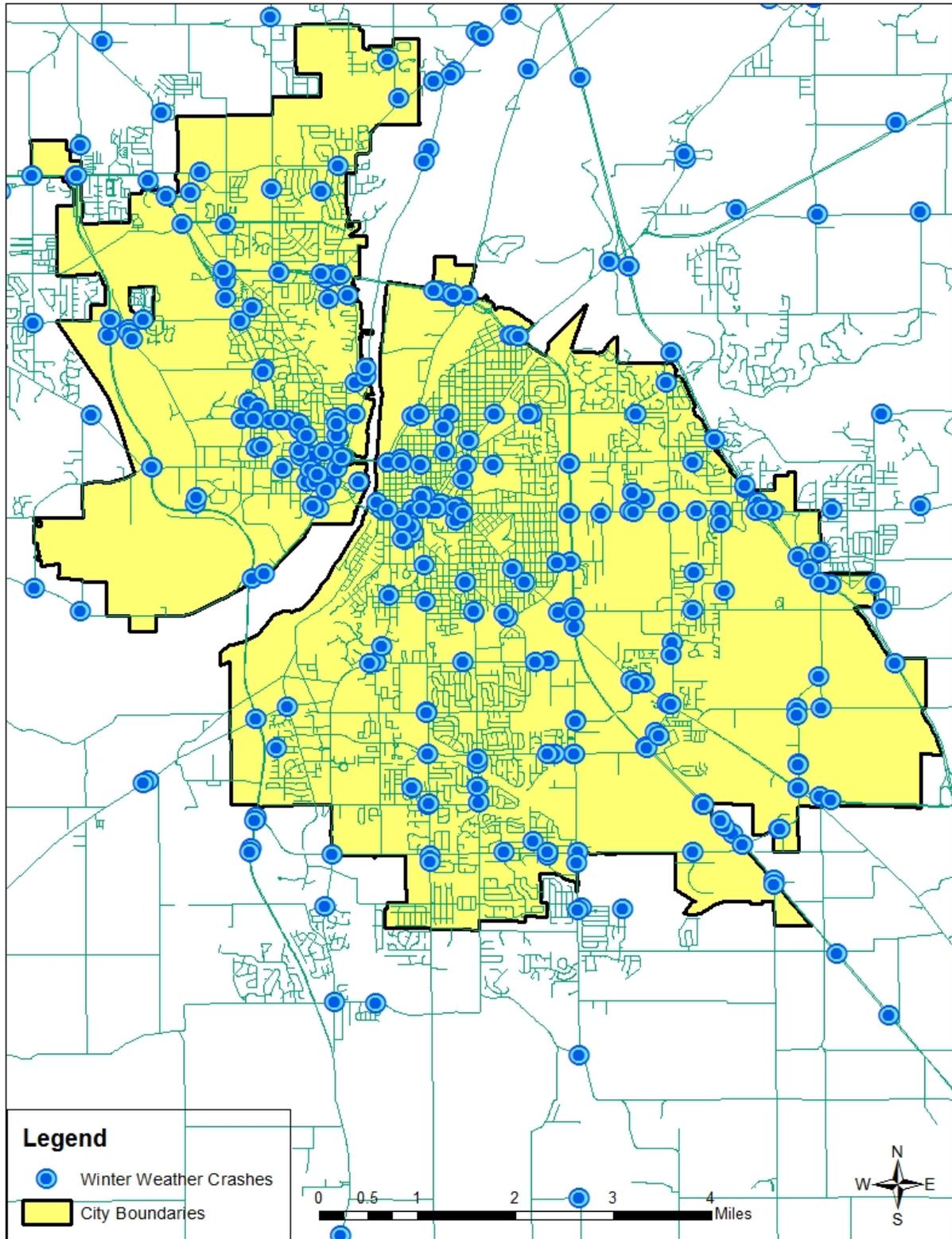


Table 18 shows that the majority of crashes occurred when pavement was dry.

Table 18: Crashes by Road Surface Condition

Road Surface Conditions	Crashes
Dry	4020
Wet	1060
Snow/Slush	352
Ice	327
Loose Material On Road	13
Water (Standing Or Moving)	12
Muddy	5
Unknown	4
Total	5793

Table 19 shows that the majority of crashes occurred when there was daylight.

Table 19: Crashes by Amount of Sunlight

Light Condition	Crashes
Dark (Lighted)	890
Dark (Not Lighted)	684
Dawn/Dusk	292
Daylight	3885
Unknown	42
Total	5793

Chapter 5: Injuries and Fatalities

Although the majority of crashes only cause property damage, some crashes result in injury or fatality for a driver or passenger. Crashes with injuries or fatalities are much more costly to those involved than property damage crashes are. 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.

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 severity of the injury at the scene of the crash. This estimate does not have the same accuracy as medical records would. However, it is very difficult to obtain medical records to verify the severity of an injury in a crash after the crash has happened. Therefore, the officer's estimate is used in this report.

Table 20 shows data about injury and fatality crashes in Tippecanoe County.

Table 20: Injury and Fatality Crashes

Crash Statistic	Number
Injury Crashes	971
Number of Injuries	1291
Fatality Crashes	14
Number of Fatalities	18

Table 21 shows that failure to yield right of way was the biggest cause of injuries.

Table 21: Injuries by Primary Factor

Primary Factor	Injuries
Failure To Yield Right Of Way	339
Following Too Closely	234
Disregard Signal/Reg Sign	129
Ran Off Road Right	121
Unsafe Speed	102
Speed Too Fast For Weather Conditions	83
Other (Driver) - Explain In Narrative	60
Left Of Center	46
Improper Lane Usage	32
Improper Turning	22
Animal/Object In Roadway	17
Overcorrecting/Oversteering	16
Pedestrian Action	16
Roadway Surface Condition	14
Driver Asleep Or Fatigued	14
Driver Distracted - Explain In Narrative	10
Driver Illness	8
Unsafe Lane Movement	7
Unsafe Backing	4
Improper Passing	4
Wrong Way On One Way	3
Headlight Defective Or Not On	3
Brake Failure Or Defective	2
Other (Vehicle) - Explain In Narrative	2
Tire Failure Or Defective	1
Insecure/Leaky Load	1
View Obstructed	1
Total	1291

Table 22 shows that rear end crashes caused the highest number of injuries.

Table 22: Injuries by Crash Type

Crash Type	Injuries
Rear End	381
Right Angle	358
Ran Off Road	208
Head On Between Two Motor Vehicles	108
Left Turn	88
Other - Explain In Narrative	46
Same Direction Sideswipe	38
Right Turn	15
Non-Collision	15
Collision With Deer	8
Opposite Direction Sideswipe	7
Unknown	6
Left/Right Turn	5
Backing Crash	2
Collision With Animal Other	2
Rear To Rear	2
Collision With Object In Road	1
Head On	1
Total	1291

Table 23 shows that August had the highest number of injuries.

Table 23: Injuries by Month

Month	Injuries
Jan	96
Feb	80
Mar	75
Apr	80
May	143
Jun	105
Jul	133
Aug	148
Sep	122
Oct	126
Nov	93
Dec	90
Total	1291

Figure 18 shows that the highest number of injuries occurred between 4 and 5 p.m.

Figure 18: Injuries by Time of Day

Figure 19 shows that Friday had the highest number of injuries.

Figure 19: Injuries by Day of the Week

Table 24 shows that most of the injuries were to those 44 years old or younger.

Table 24: Injuries by Age and Gender

	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Male	55	179	140	83	83	53	46	639
Female	45	192	129	70	91	71	63	661
Total	100	371	269	153	174	124	109	1300

Table 25 shows that most of the injuries suffered in crashes were categorized as non-incapacitating. Crashes with fatal or incapacitating injuries are considered very severe. In 2015, there were 126 of these crashes.

Table 25: Severity of Injuries in Crashes

Injury Type	Injuries
Fatal	18
Incapacitating	108
Non-Incapacitating	1160
Possible	14
Refused Treatment	23
None	8483
Unknown	3
Total	9809

Figure 20 shows the locations of incapacitating injuries in the county.

Figure 20: Tippecanoe County Incapacitating Injuries

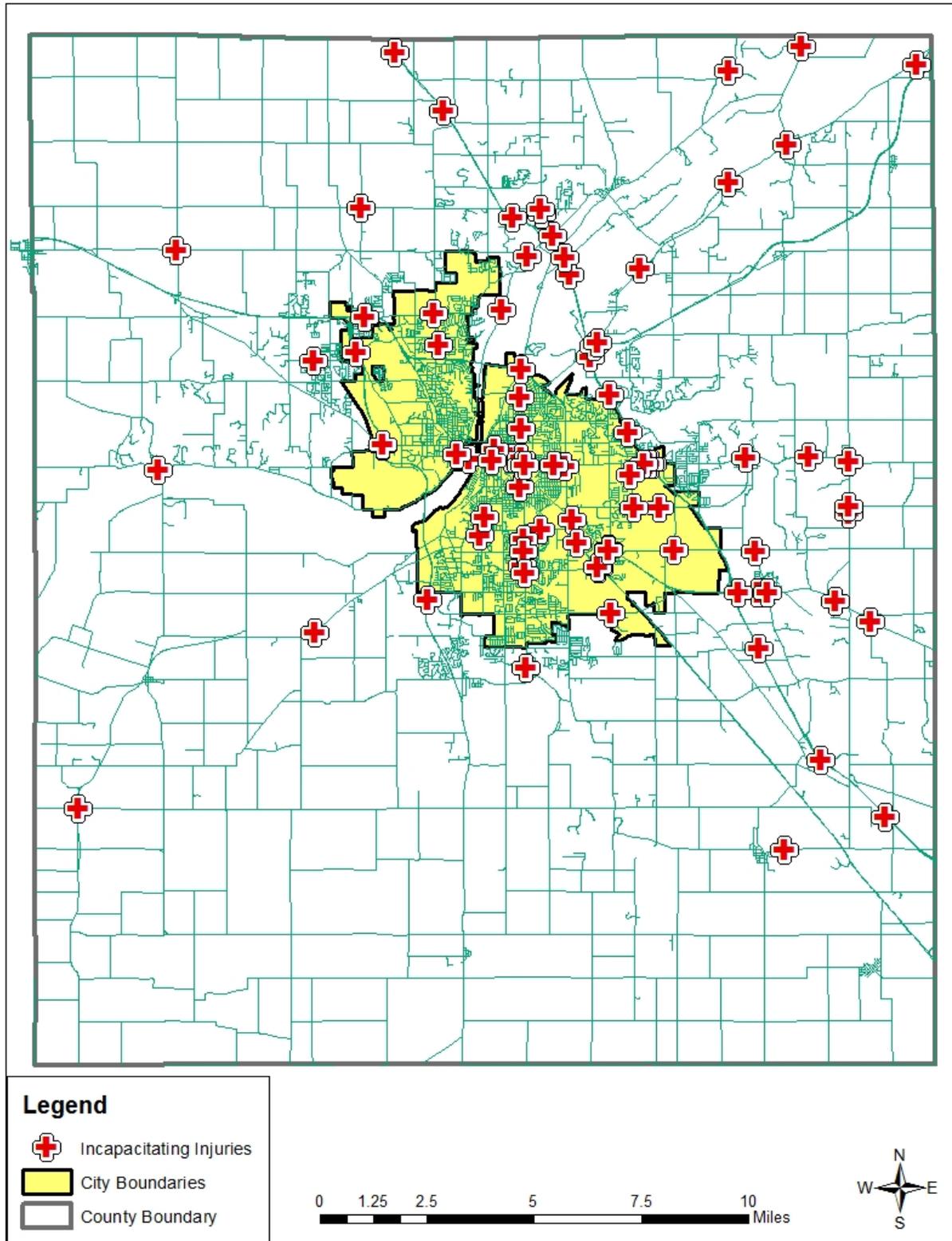


Table 26 shows that running off the road led to the highest number of incapacitating injuries.

Table 26: Incapacitating Injuries by Primary Factor

Primary Factor	Incapacitating Injuries
Ran Off Road Right	22
Failure To Yield Right Of Way	17
Unsafe Speed	14
Disregard Signal/Reg Sign	11
Following Too Closely	10
Speed Too Fast For Weather Conditions	6
Other (Driver) - Explain In Narrative	5
Improper Turning	5
Left Of Center	5
Unsafe Lane Movement	5
Pedestrian Action	3
Improper Lane Usage	2
Animal/Object In Roadway	1
Unsafe Backing	1
Driver Illness	1
Total	108

Table 27 shows that run off the road crashes caused the highest number of incapacitating injuries, followed closely by right angle crashes.

Table 27: Incapacitating Injuries by Crash Type

Crash Type	Incapacitating Injuries
Ran Off Road	35
Right Angle	26
Rear End	20
Head On Between Two Motor Vehicles	11
Other - Explain In Narrative	5
Same Direction Sideswipe	4
Non-Collision	3
Left Turn	2
Collision With Object In Road	1
Unknown	1
Total	108

Table 28 shows that younger people were more likely to suffer incapacitating injuries than older people were.

Table 28: Incapacitating Injuries by Age and Gender

	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Male	3	19	17	8	13	2	4	66
Female	4	12	9	3	7	4	3	42
Total	7	31	26	11	20	6	7	108

Figure 21 shows that males were more likely to suffer incapacitating injuries than females.

Figure 21: Incapacitating Injuries by Gender

Table 29 shows that May had the most incapacitating injuries and Figure 22 shows that most occurred on Monday.

Table 29: Incapacitating Injuries by Month

Month	Incapacitating Injuries
January	9
February	7
March	7
April	6
May	14
June	12
July	12
August	12
September	5
October	10
November	9
December	5
Total	108

Figure 22: Incapacitating Injuries by Day of the Week

Table 30 shows that the highest number of incapacitating injuries occurred between 3 and 4 p.m.

Table 30: Incapacitating Injuries by Time of Day

Time of Day	Incapacitating Injuries
Midnight - 1 am	5
1:00-2:00	1
2:00-3:00	3
3:00-4:00	5
4:00-5:00	4
5:00-6:00	4
6:00-7:00	1
7:00-8:00	2
8:00-9:00	4
9:00-10:00	2
10:00-11:00	4
11:00- Noon	6
Noon - 1 pm	4
1:00-2:00	6
2:00-3:00	3
3:00-4:00	12
4:00-5:00	8
5:00-6:00	4
6:00-7:00	4
7:00-8:00	5
8:00-9:00	4
9:00-10:00	6
10:00-11:00	10
11:00-12:00	1
Total	108

Fatalities, and injuries that result in fatalities, are the most severe consequences that come from crashes. Figure 23 shows that fatality crashes were spread all throughout the county. Figure 24 shows the locations of fatal crashes in Lafayette and West Lafayette.

Figure 23: Tippecanoe County Fatality Crashes

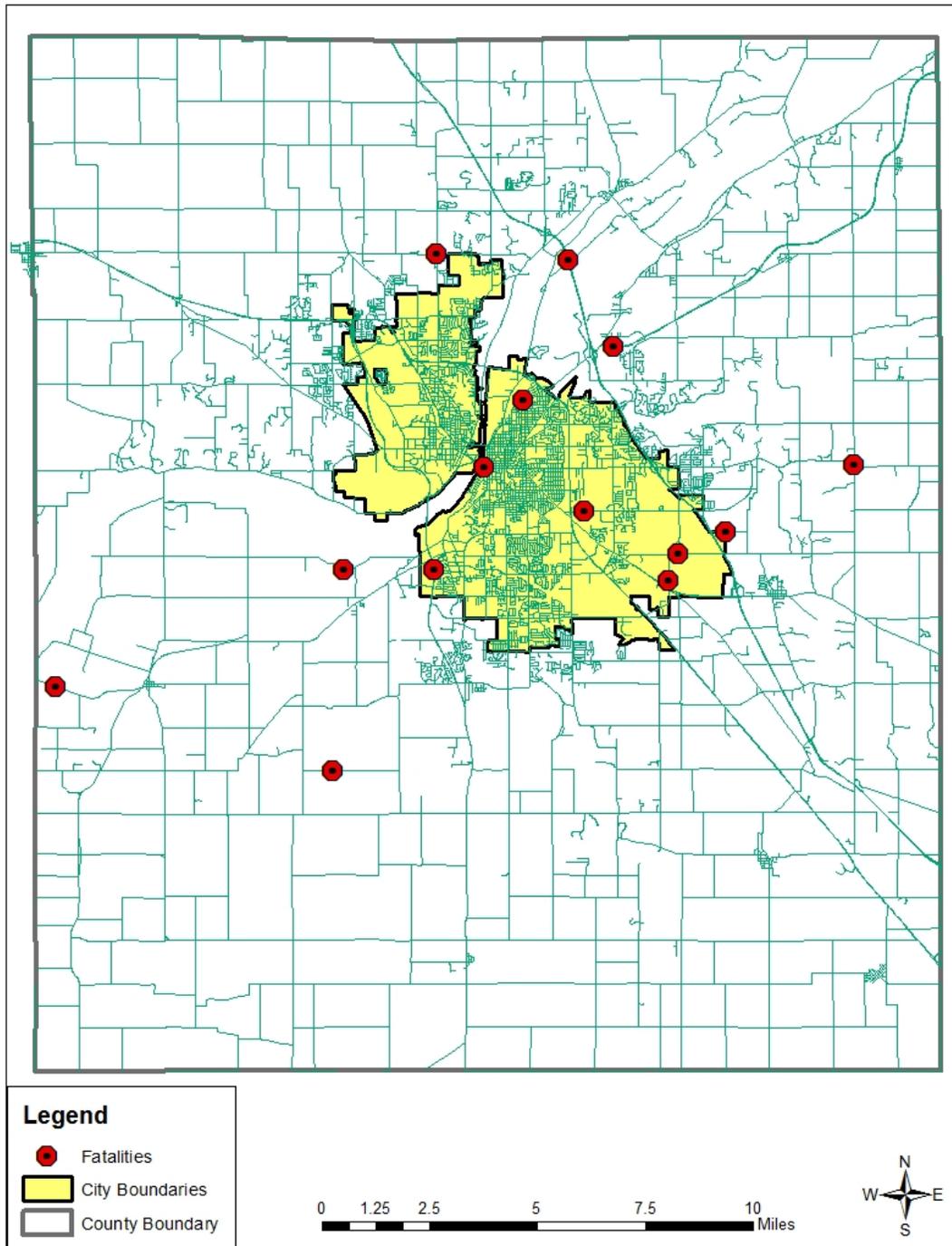


Figure 24: Lafayette and West Lafayette Fatality Crashes

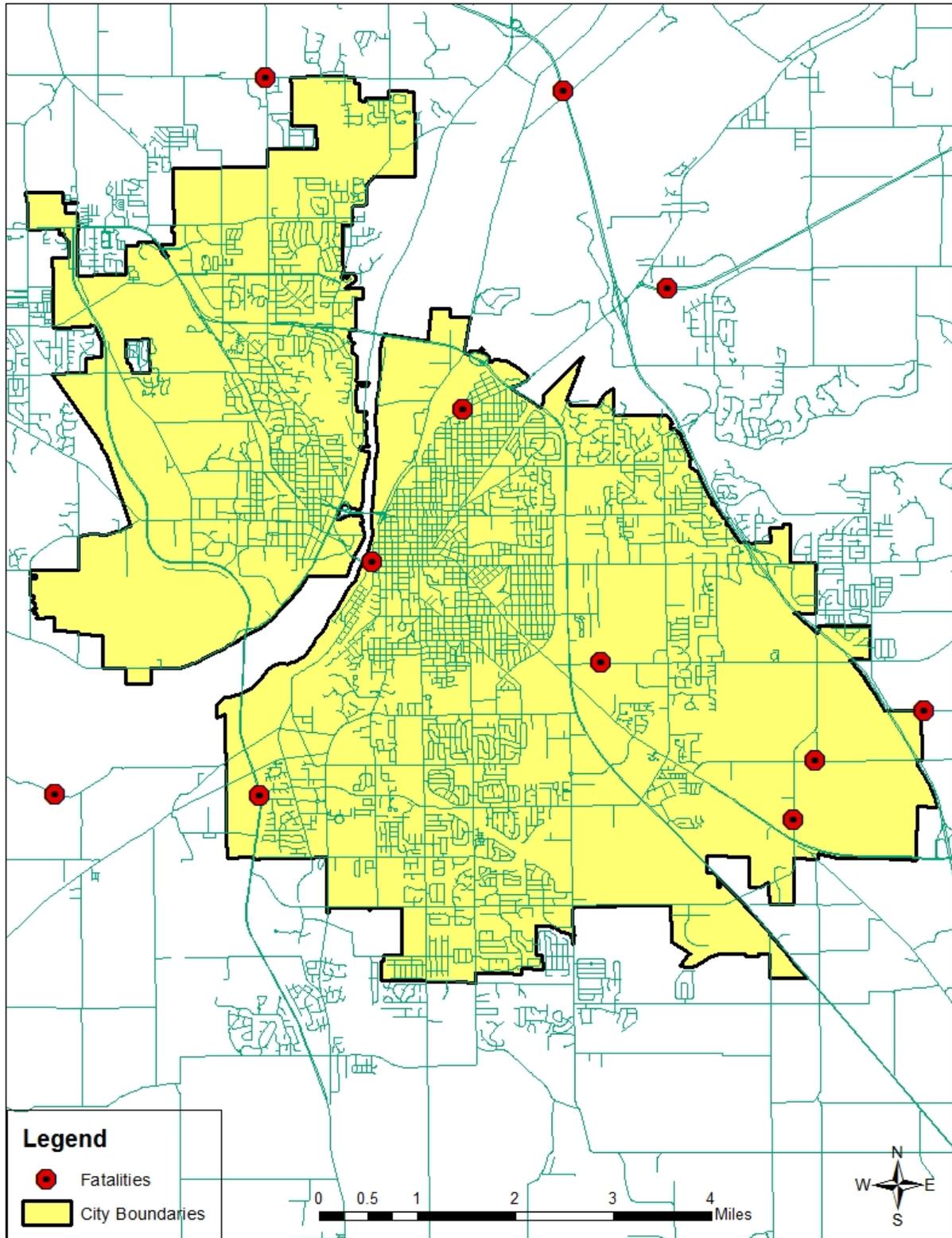


Table 31 shows that the most common primary factor contributing to fatalities was unsafe speed.

Table 31: Fatalities by Primary Factor

Primary Factor	Fatalities
Unsafe Speed	7
Disregard Signal/Reg Sign	3
Ran Off Road Right	3
Failure To Yield Right Of Way	2
Left Of Center	1
Animal/Object In Roadway	1
Pedestrian Action	1
Total	18

Table 32 shows that running off the road, right angle, and rear end crashes were the most common types of crashes resulting in fatalities in 2015.

Table 32: Fatalities by Crash Type

Crash Type	Fatalities
Rear End	5
Right Angle	5
Ran Off Road	5
Head On Between Two Motor Vehicles	2
Collision With Animal Other	1
Total	18

Table 33 shows the number per age group of people killed in crashes.

Table 33: Fatalities by Age

	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Male	2	3	3	2	0	2	1	13
Female	0	1	1	0	2	0	1	5
Total	2	4	4	2	2	2	2	18

Figure 25 shows that more males were more likely to die in crashes than females.

Figure 25: Fatalities by Gender

Table 34 shows that July had the most fatalities.

Table 34: Fatalities by Month

Month	Fatalities
Jan	1
Feb	0
Mar	0
Apr	0
May	1
Jun	3
Jul	9
Aug	2
Sep	0
Oct	0
Nov	1
Dec	1
Total	18

Figure 26 shows that Thursday had the highest number of fatalities.

Figure 26: Fatalities by Day of the Week

Figure 27 shows that the highest number of fatalities occurred between 11 p.m. and midnight.

Figure 27: Fatalities by Time of Day

Chapter 6: Drug and Alcohol Involvement in Crashes

When drivers operate a vehicle in an impaired state, it hinders their ability to safely use the road. Not only does this endanger the driver, but also others around them. Some drivers operating in an impaired state may not end up in a crash, but they increase their risk of being involved in a crash when they drive impaired. This chapter analyzes factors that may contribute to drug and alcohol crashes.

In 2015, there were at least 148 drivers under the influence of alcohol and 4 drivers under the influence of drugs involved in crashes in Tippecanoe County. It should be noted that for some of the data used, test results were listed as “pending” for alcohol or drug use.

Tables 35 and 36 show information on alcohol and drug crashes.

Table 35: Drug and Alcohol Crash Statistics

OWI/Drug Crash Data	Statistic
Drivers in Crashes Operating Under the Influence of Alcohol	148
Percentage of Drivers in Crashes Operating Under the Influence of Alcohol	1.51%
Maximum Recorded Blood Alcohol Content in a Crash	0.45
Drivers in Crashes Operating Under the Influence of Drugs	4
Percentage of Drivers in Crashes Operating Under the Influence of Drugs	0.04%

Table 36: Drug and Alcohol Crash Data

Statistic	Alcohol	Drugs
Fatality or Incapacitating Injury	6	1
Injury	25	0
Motorcycle Crashes	8	0
Bicycle Crashes	0	0
Pedestrian Crashes	1	0

Figure 28 shows the location of alcohol related crashes and Figure 29 shows the location of drug crashes.

Figure 28: Tippecanoe County Alcohol Crashes

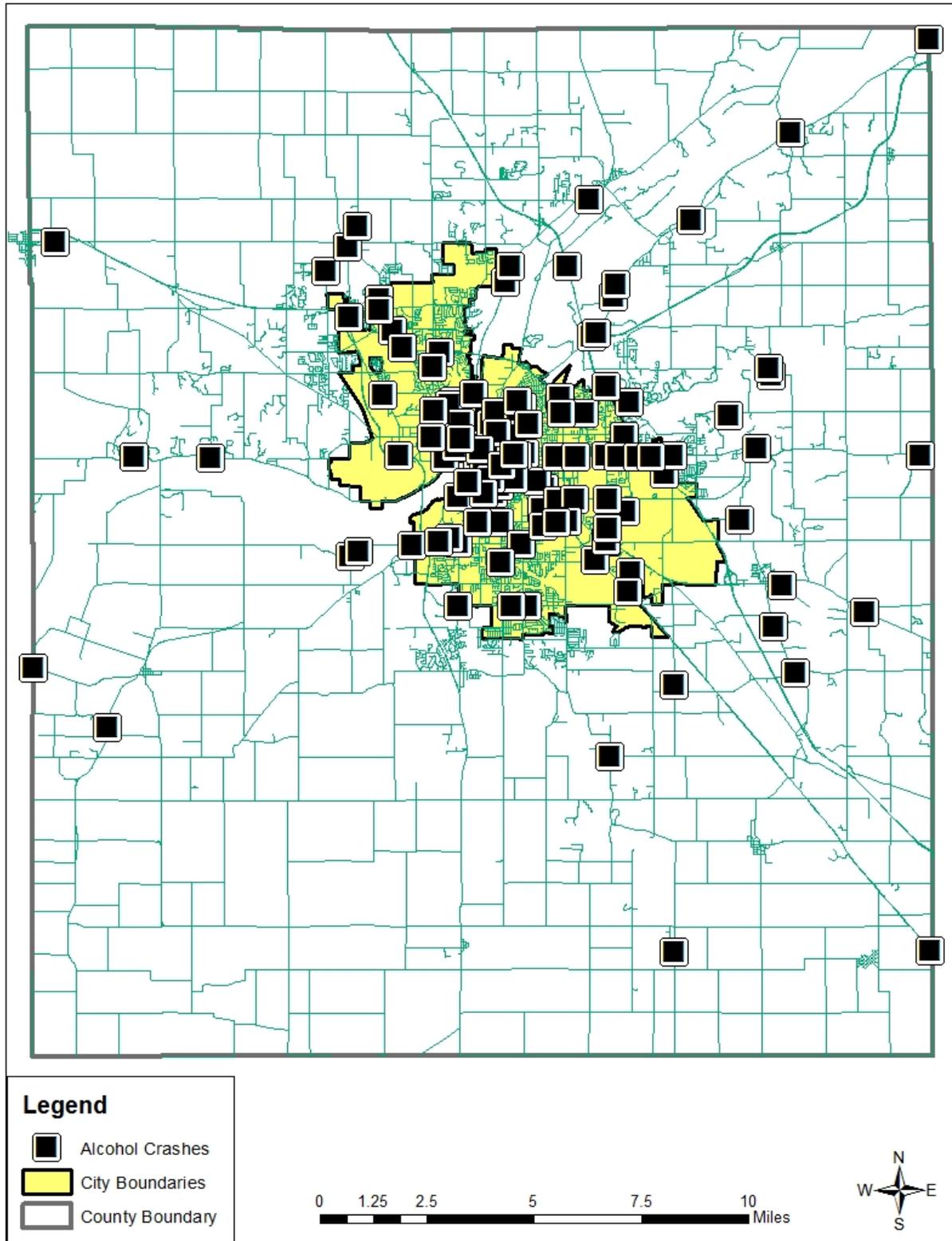


Figure 29: Tippecanoe County Drug Crashes

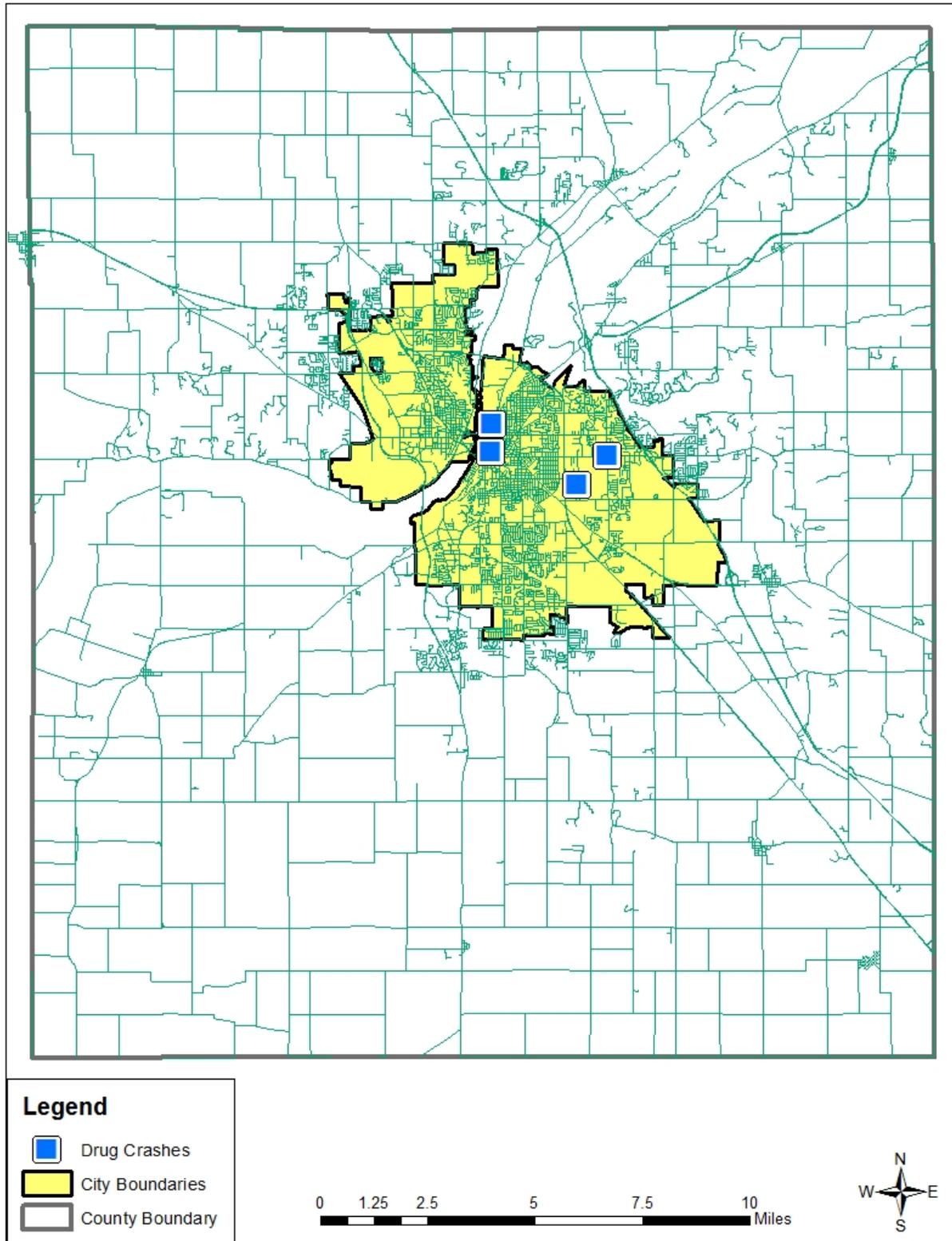


Table 37 shows that run off the road crashes were the most common type when alcohol or drugs were involved.

Table 37: Crash Types for Drug and Alcohol Crashes

Crash Type	Alcohol Crashes	Drug Crashes	Total
Ran Off Road	70	1	71
Rear End	22	1	23
Same Direction Sideswipe	12	0	12
Right Angle	10	0	10
Unknown	8	1	9
Head On Between Two Motor Vehicles	7	1	8
Other - Explain In Narrative	7	0	7
Backing Crash	3	0	3
Non-Collision	3	0	3
Left Turn	2	0	2
Opposite Direction Sideswipe	2	0	2
Right Turn	1	0	1
Collision With Object In Road	1	0	1
Total	148	4	152

Figure 30 shows that November had the highest number of alcohol crashes.

Figure 30: Drug and Alcohol Crashes by Month

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

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

Figure 32 shows that the highest number of alcohol and drug crashes occurred in the early morning hours.

Figure 32: Drug and Alcohol Crashes by Time of Day

Figure 33 shows that males were more likely to be the drivers in alcohol crashes.

Figure 33: Drivers in Drug and Alcohol Crashes by Gender

Table 38 shows that people under the age of 34 were most likely to be involved in an alcohol or drug crash.

Table 38: Drug and Alcohol Crashes by Age and Gender

	<16	16-24	25-34	35-44	45-54	55-64	65+	Total
Male	0	42	34	17	15	6	2	116
Female	0	5	12	5	9	4	0	35
Total	0	47	46	22	24	10	2	151

Chapter 7: Curve Crashes

There are a variety of reasons why crashes may occur on curves. Poor pavement conditions, distracted driving, or the presence of drugs or alcohol are a few of these reasons. This chapter analyzes trends in curve crashes.

Table 39 shows that the majority of crashes occur on segments of roadway that are straight or level; however, crashes that occur on curves can often be dangerous. Table 40 shows that crashes on curves made up 9.5% of the total crashes. Crashes on curves made up about 9% of injuries, but 14.1% of incapacitating injuries.

Table 39: Crashes by Road Curvature

Road Curvature	Crashes
Curve/Grade	155
Curve/Hillcrest	25
Curve/Level	327
Non-Roadway Crash	4
Straight/Grade	537
Straight/Hillcrest	109
Straight/Level	4633
Unknown	3
Total	5793

Table 40: Curve Crash Severity

	Number of Crashes	Percentage of All Crashes
Curve Crashes	507	8.75%
Injuries From Curve Crashes	116	10.00%
Incapacitating Injuries From Curve Crashes	19	17.59%
Fatalities From Curve Crashes	5	27.78%

Figures 34 and 35 show the locations of curve crashes.

Figure 34: Tippecanoe County Curve Crashes

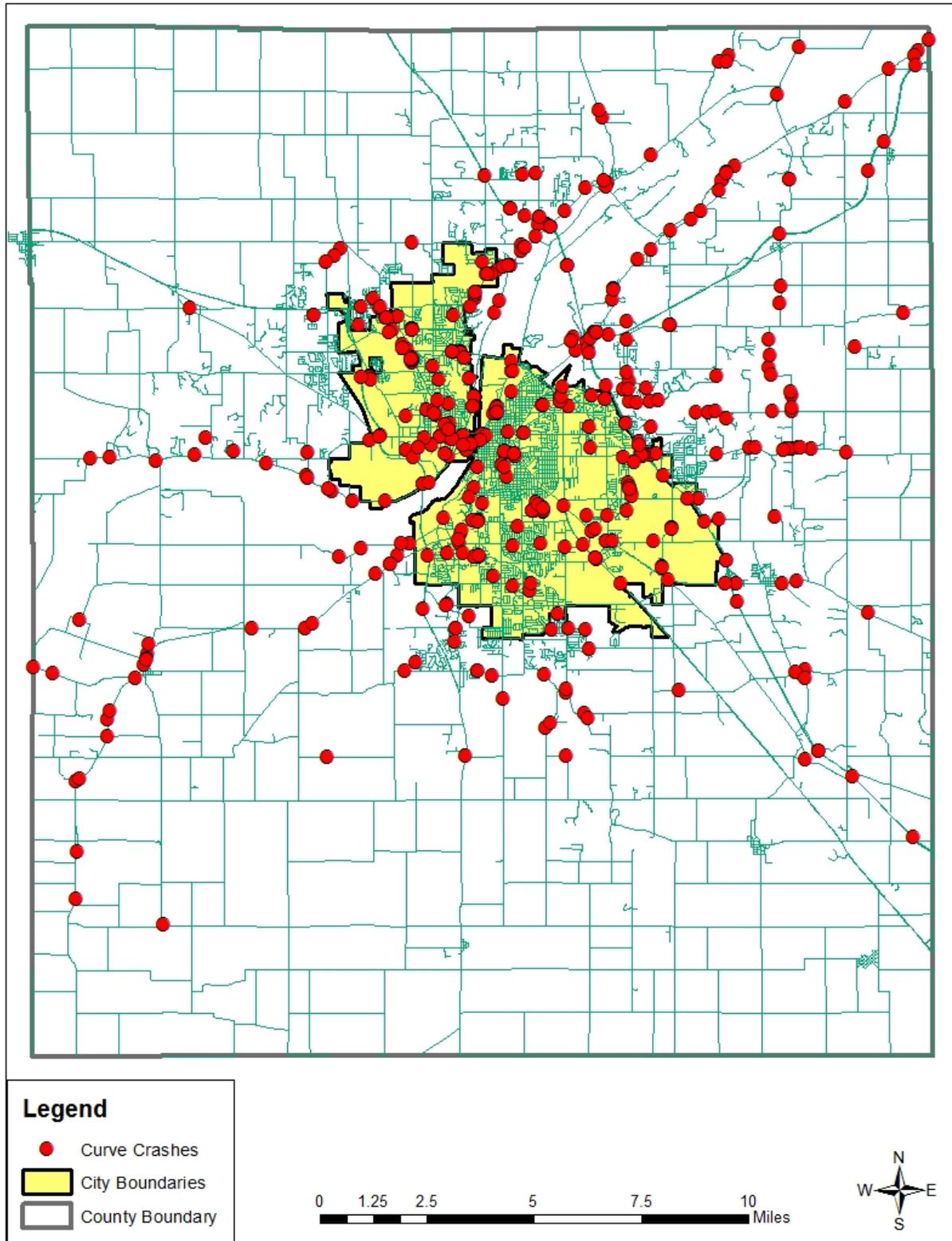


Figure 35: Lafayette and West Lafayette Curve Crashes

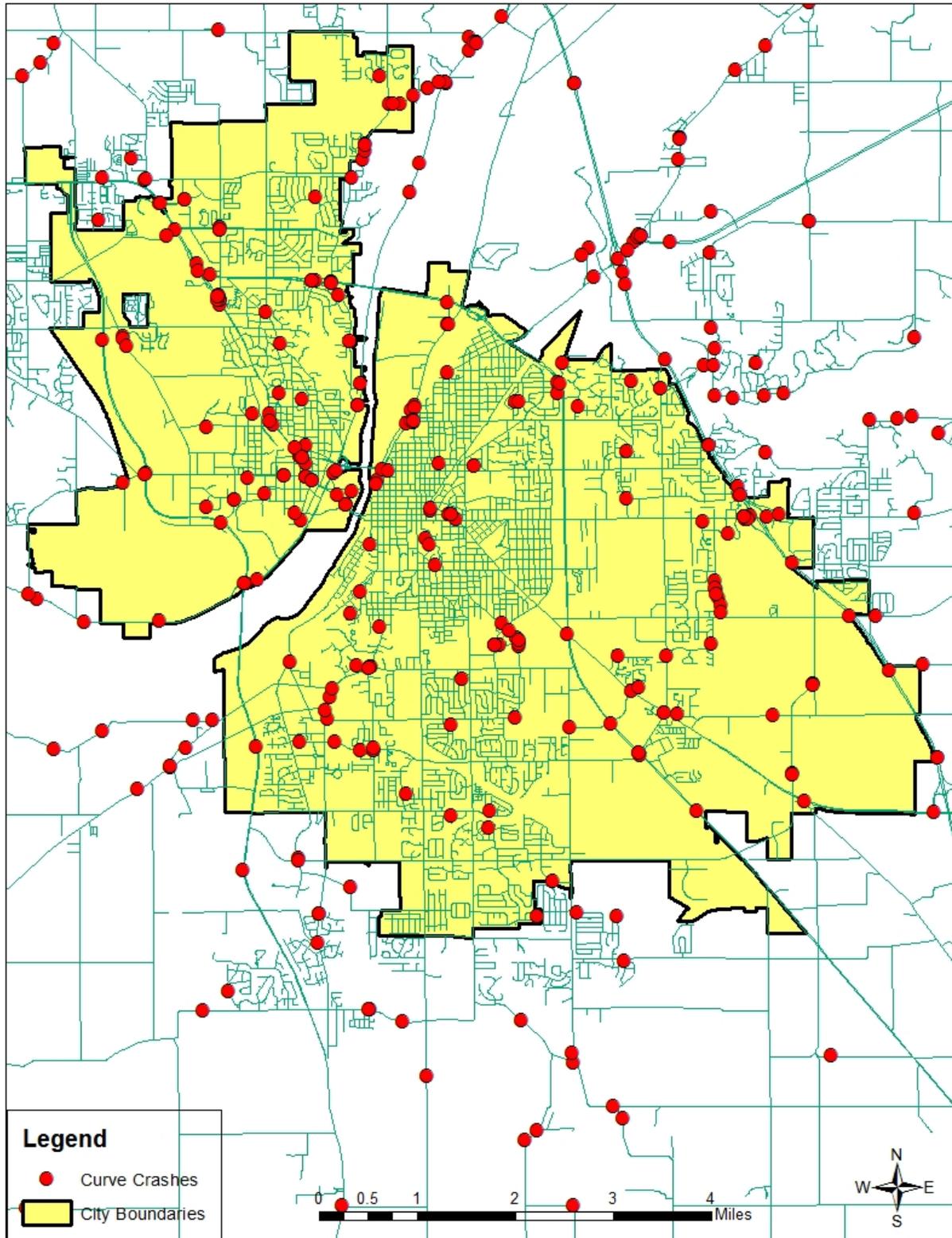


Table 41 shows that running off the road was the most common primary factor in curve crashes.

Table 41: Primary Factors for Curve Crashes

Primary Factor	Crashes
Ran Off Road Right	104
Speed Too Fast For Weather Conditions	81
Following Too Closely	62
Failure To Yield Right Of Way	48
Unsafe Speed	38
Animal/Object In Roadway	25
Left Of Center	25
Other (Driver) - Explain In Narrative	24
Roadway Surface Condition	21
Improper Lane Usage	17
Improper Turning	12
Unsafe Backing	9
Overcorrecting/Oversteering	7
Unsafe Lane Movement	7
Driver Asleep Or Fatigued	7
Other (Environmental) - Explain In Narr	5
Driver Distracted - Explain In Narrative	3
Disregard Signal/Reg Sign	2
Improper Passing	2
Brake Failure Or Defective	2
Pedestrian Action	1
Tire Failure Or Defective	1
Driver Illness	1
Wrong Way On One Way	1
Steering Failure	1
Severe Crosswinds	1
Total	507

Table 42 shows that run off the road crashes were the most common crash type for curve crashes.

Table 42: Crash Type for Curve Crashes

Manner of Crash	Crashes
Ran Off Road	201
Rear End	88
Same Direction Sideswipe	58
Right Angle	35
Other - Explain In Narrative	28
Head On Between Two Motor Vehicles	22
Collision With Deer	20
Opposite Direction Sideswipe	20
Unknown	9
Backing Crash	8
Left Turn	5
Non-Collision	5
Collision With Object In Road	4
Collision With Animal Other	1
Left/Right Turn	1
Rear To Rear	1
Right Turn	1
Total	507

Figure 36 shows that the highest number of curve crashes occurred in January.

Figure 36: Curve Crashes by Month

Figure 37 shows that the highest number of curve crashes occurred on Sunday.

Figure 37: Curve Crashes by Day of the Week

Figure 38 shows that the highest number of curve crashes occurred between 5 and 7 p.m.

Figure 38: Curve Crashes by Time of Day

Table 43 shows that the majority of curve crashes occur when weather conditions are clear.

Table 43: Curve Crashes by Weather Conditions

Weather Conditions	Crashes
CLEAR	281
CLOUDY	91
RAIN	64
SNOW	49
SLEET/HAIL/FREEZING RAIN	13
BLOWING SAND/SOIL/SNOW	5
SEVERE CROSS WIND	3
UNKNOWN	1
TOTAL	507

Figure 39 shows that the majority of curve crashes occur when the road is dry.

Figure 39: Curve Crashes by Road Surface Condition

Chapter 8: Motorcycle Crashes

In 2015, there were 94 crashes involving motorcycles or mopeds. Of those crashes, 58 had at least one injury and 5 had a fatality. There were 64 injuries and 5 fatalities total in those crashes. This chapter further analyzes trends in this data.

Table 44 shows how 2015 motorcycle crash data compares to data from 2013 and 2014.

Table 44: Motorcycle Crash Injuries and Fatalities

MOTORCYCLE CRASH STATISTIC	2015	2014	2013
CRASHES WITH INJURIES	58	92	108
NUMBER OF INJURIES	64	109	132
CRASHES WITH FATALITIES	5	1	4
NUMBER OF FATALITIES	5	1	4

Most of the motorcycle crashes in 2015 occurred within the city limits of Lafayette or West Lafayette. There were no areas outside of the city limits where crashes were concentrated (Figures 40 and 41).

Figure 40: Tippecanoe County Motorcycle Crashes

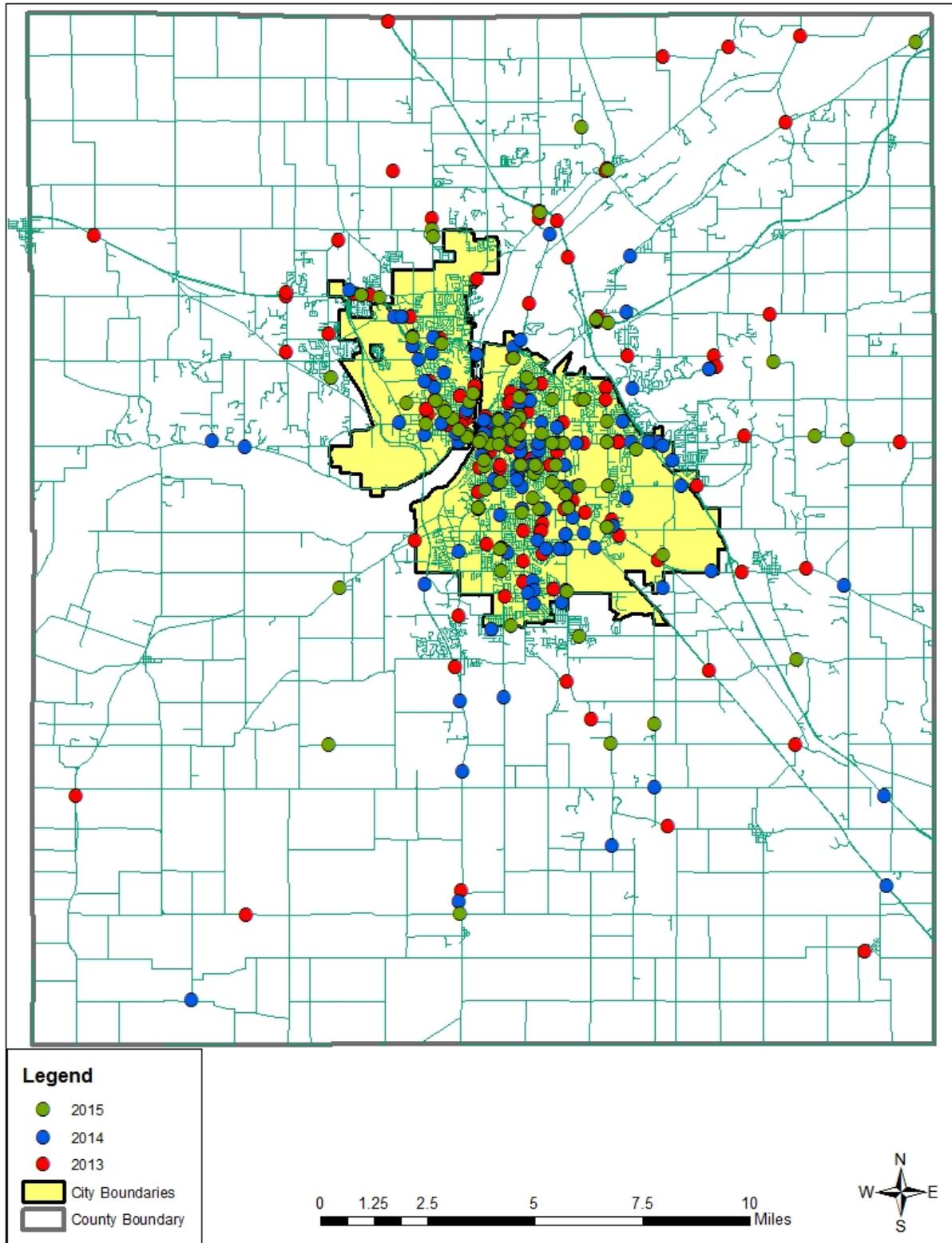
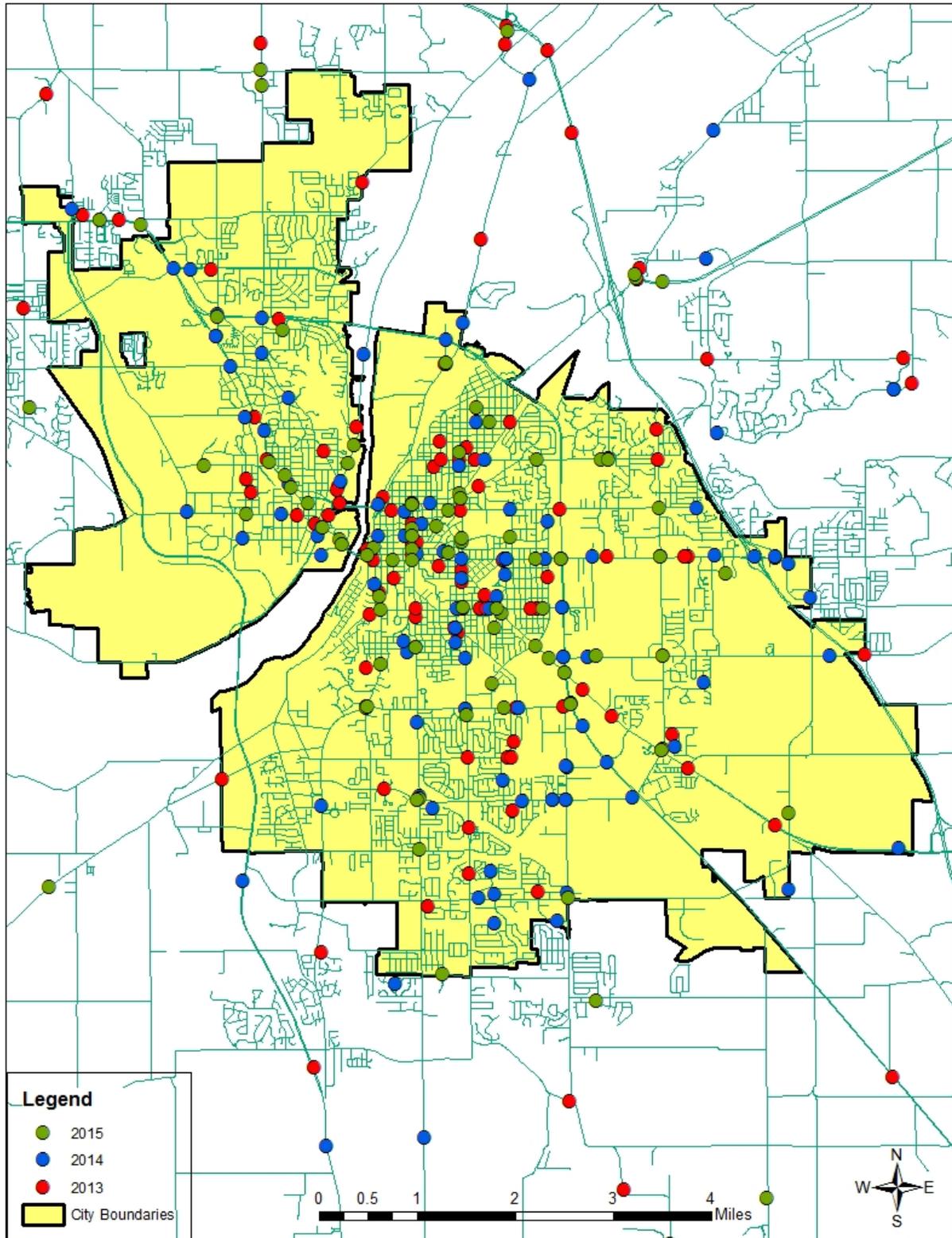


Figure 41: Lafayette and West Lafayette Motorcycle Crashes



Single vehicle crashes were the most common type of motorcycle crashes. Table 45 shows that in 2015 “rear end” and “right angle” were the two most common types. There were a total of 30 motorcycle crashes in 2015, 52 motorcycle crashes in 2014, and 61 motorcycle crashes in 2013 that did not involve another vehicle.

Table 45: Crash Types for Motorcycle Crashes

CRASH TYPE	2015	2014	2013	Total
REAR END	26	22	15	63
NON-COLLISION	7	27	27	61
RIGHT ANGLE	14	17	16	47
RAN OFF ROAD	10	8	19	37
OTHER - EXPLAIN IN NARRATIVE	13	12	7	32
LEFT TURN	5	7	19	31
SAME DIRECTION SIDESWIPE	4	11	10	25
OPPOSITE DIRECTION SIDESWIPE	2	8	5	15
HEAD ON	0	3	9	12
RIGHT TURN	2	5	3	10
HEAD ON BETWEEN TWO MOTOR VEHICLES	6	4	0	10
BACKING CRASH	2	1	3	6
LEFT/RIGHT TURN	1	0	0	1
REAR TO REAR	0	0	1	1
COLLISION WITH DEER	1	0	0	1
COLLISION WITH ANIMAL OTHER	1	0	0	1
Total	94	125	134	353

Figure 42 shows that the months of June, July, August, and September had the highest number of motorcycle crashes, and January and February had the lowest.

Figure 42: Motorcycle Crashes by Month

Table 46 shows that Wednesday had the highest number of motorcycle crashes, but crashes were relatively high every day of the week.

Table 46: Motorcycle Crashes by Day of Week

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	TOTAL
2015	11	9	19	9	12	20	14	94
2014	16	18	21	18	21	18	13	125
2013	14	11	23	22	25	24	15	134
Total	41	38	63	49	58	62	42	353

Figure 43 shows that the highest number of crashes (38) occurred from 5-6 p.m.

Figure 43: Motorcycle Crashes by Time of Day

Chapter 9: Bicycle Crashes

In 2015, there were 36 crashes involving bicyclists that occurred on public right of way (crashes on private property are removed from this analysis). Of those crashes, 28 had at least one injury. There were 29 total injuries in those crashes. This chapter further analyzes bicycle crashes in 2015.

Table 47 compares bicycle crash statistics from 2013 to 2015.

Table 47: Bicycle Crash Injuries and Fatalities

BICYCLE CRASH STATISTIC	2015	2014	2013	TOTAL
CRASHES WITH INJURIES	28	23	43	94
NUMBER OF INJURIES	29	25	43	97
CRASHES WITH FATALITIES	0	0	1	1
NUMBER OF FATALITIES	0	0	1	1

Figures 44 and 45 show the locations of bicycle crashes.

Figure 44: Tippecanoe County Bicycle Crashes

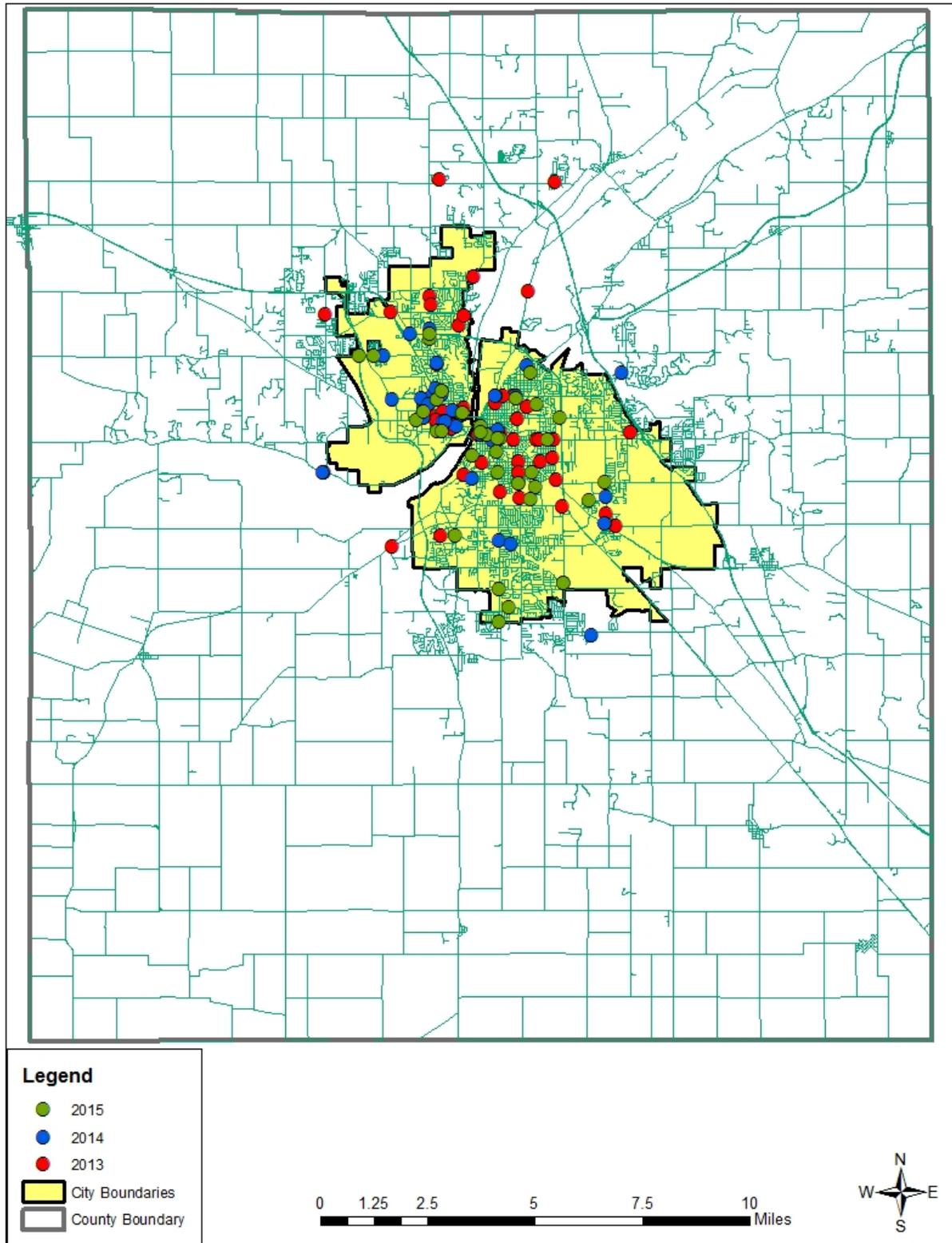


Figure 45: Lafayette and West Lafayette Bicycle Crashes

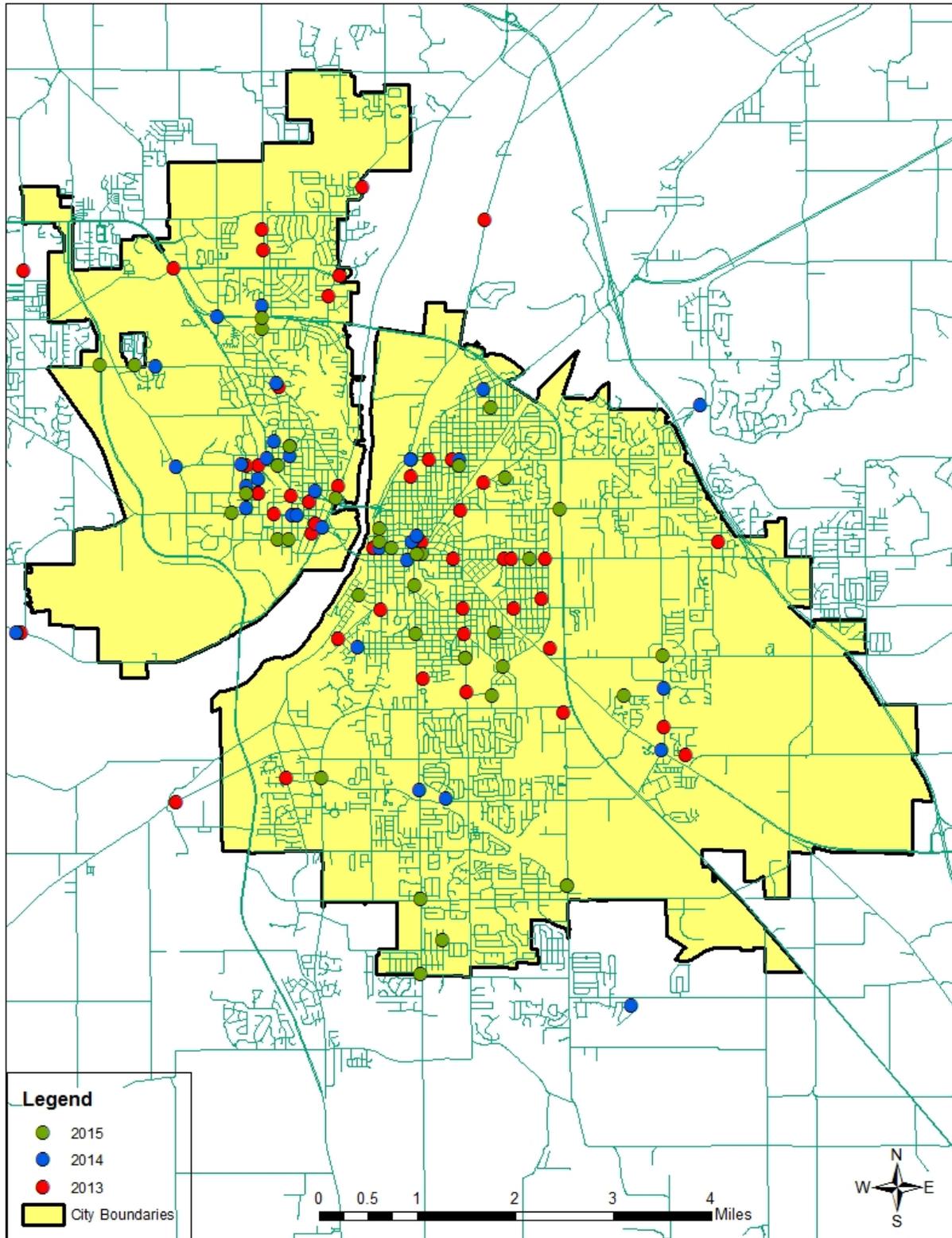


Table 48 shows that right angle crashes were the most common type of bicycle crashes.

Table 48: Crash Types for Bicycle Crashes

Crash Type	2015	2014	2013	Total
Right Angle	21	23	26	72
Left Turn	2	1	6	11
Right Turn	2	2	3	10
Same Direction Sideswipe	3	2	2	9
Rear End	4	1	4	8
Head On	0	0	5	7
Other - Explain In Narrative	1	3	2	6
Opposite Direction Sideswipe	0	3	1	5
Ran Off Road	0	1	0	1
Head On Between Two Motor Vehicles	1	1	0	1
Left/Right Turn	1	0	0	1
Backing Crash	1	0	0	0
Total	36	37	49	131

Table 49 shows that September had the highest number of bicycle crashes.

Table 49: Bicycle Crashes by Month

	2015	2014	2013	Total
January	0	1	0	1
February	0	0	2	2
March	1	0	2	3
April	2	1	4	7
May	2	3	7	12
June	5	2	2	9
July	8	3	4	15
August	5	7	3	15
September	5	11	7	23
October	7	4	11	22
November	1	2	5	8
December	0	3	2	5
Total	36	37	49	122

Table 50 shows that Monday through Thursday had the highest number of bicycle crashes.

Table 50: Bicycle Crashes by Day of the Week

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
2015	5	5	8	7	4	5	2	36
2014	9	7	3	6	6	3	3	37
2013	8	7	10	7	7	5	5	49
Total	22	19	21	20	17	13	10	122

Figure 46 shows the peak period for bicycle crashes occurred between 4 and 8 p.m.

Figure 46: Bicycle Crashes by Time of Day

Chapter 10: Pedestrian Crashes

In 2015, there were 24 crashes involving pedestrians. Of those crashes, 23 had at least one injury and 1 had at least one fatality. There were 24 injuries and 1 fatality in those crashes. This chapter further analyzes pedestrian crashes.

Table 51 compares pedestrian crash statistics from 2013 to 2015.

Table 51: Pedestrian Injuries and Fatalities

PEDESTRIAN CRASH STATISTIC	2015	2014	2013	TOTAL
CRASHES WITH INJURIES	23	36	43	102
NUMBER OF INJURIES	24	37	49	110
CRASHES WITH FATALITIES	1	1	3	5
NUMBER OF FATALITIES	1	1	4	6

Most of the pedestrian crashes in 2015 occurred within the city limits of Lafayette or West Lafayette. There were no areas outside of the city limits where crashes were concentrated. Figures 47 and 48 show the locations of these crashes.

Figure 47: Tippecanoe County Pedestrian Crashes

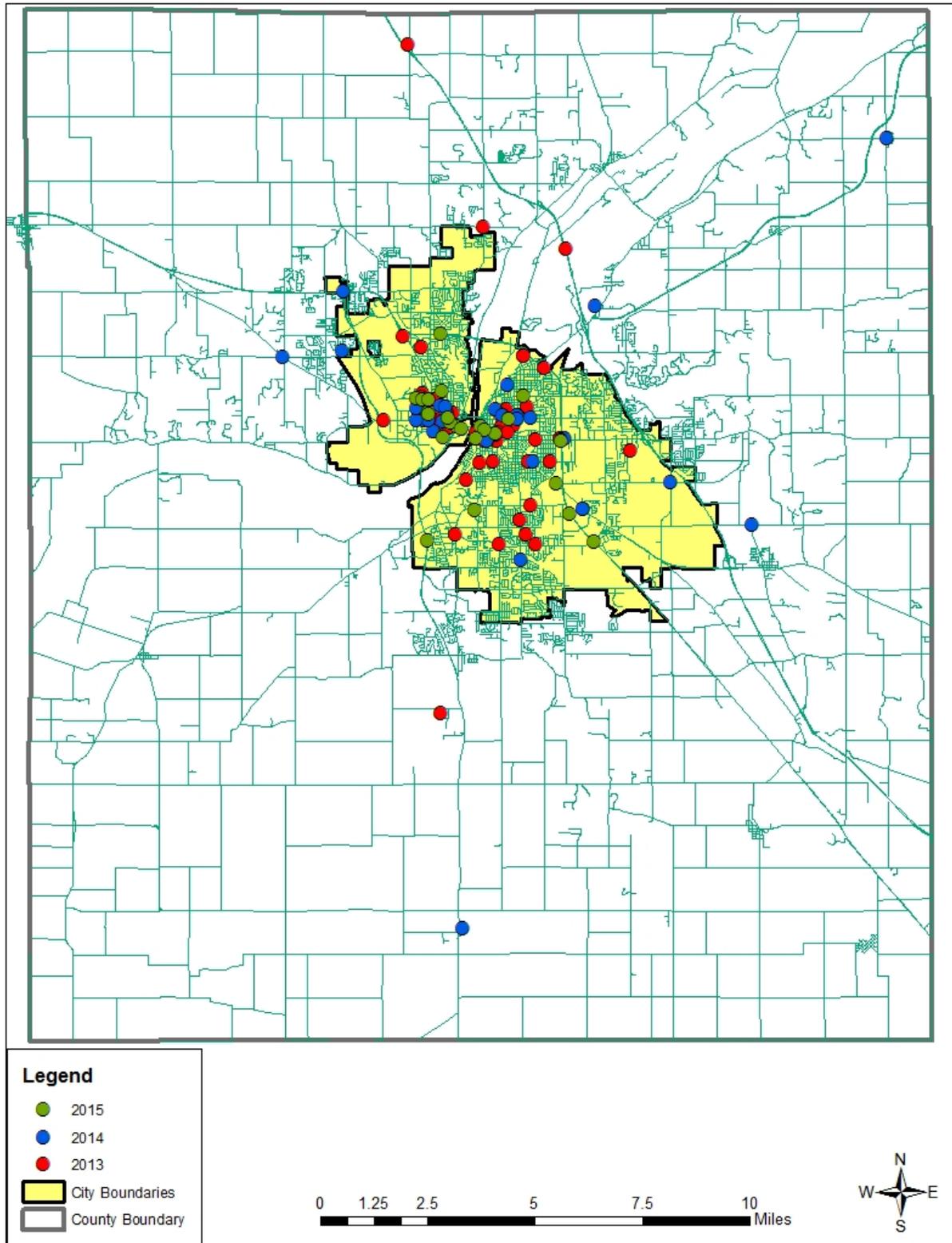


Figure 48: Lafayette and West Lafayette Pedestrian Crashes

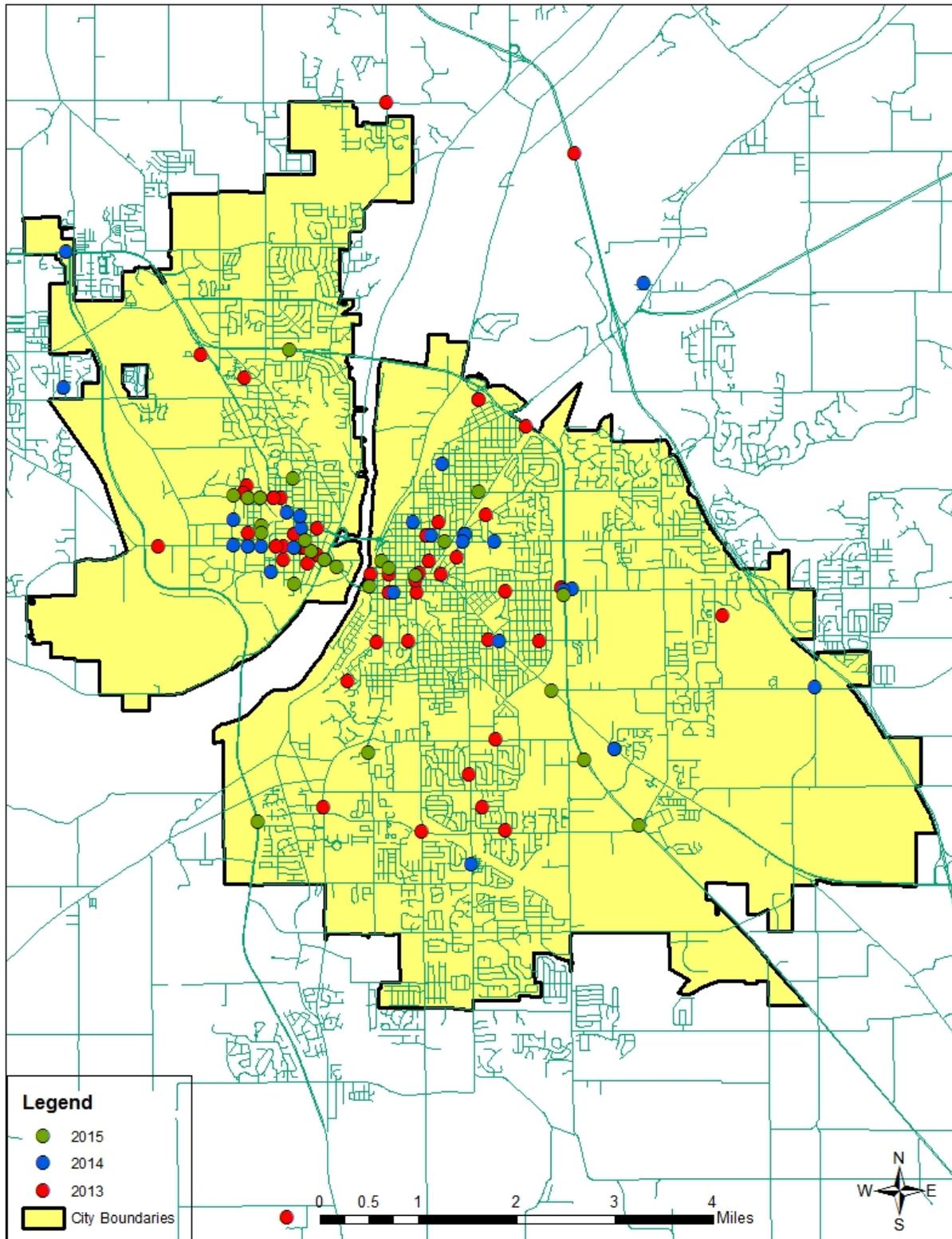


Table 52 shows that “Left Turn” was the most common type of pedestrian crash.

Table 52: Crash Types for Pedestrian Crashes

Crash Type	2015	2014	2013	Total
Left Turn	6	10	12	28
Other - Explain In Narrative	3	6	11	20
Head On	0	5	11	16
Same Direction Sideswipe	0	7	4	11
Right Angle	2	3	4	9
Head On Between Two Motor Vehicles	6	3	0	9
Non-Collision	1	2	2	5
Backing Crash	0	4	0	4
Rear End	1	1	1	3
Left/Right Turn	1	0	2	3
Right Turn	2	0	0	2
Ran Off Road	1	0	1	2
Unknown	1	0	0	1
Total	24	41	48	113

Table 53 shows that November had the highest number of pedestrian crashes.

Table 53: Pedestrian Crashes by Month

	2015	2014	2013	TOTAL
JAN	1	4	5	10
FEB	1	5	3	9
MAR	3	2	2	7
APR	0	3	9	12
MAY	3	2	4	9
JUN	1	2	1	4
JUL	1	3	4	8
AUG	1	3	3	7
SEP	5	2	4	11
OCT	3	2	3	8
NOV	3	8	6	17
DEC	2	5	4	11
TOTAL	24	41	48	113

Table 54 shows that Wednesday and Friday had the highest number of pedestrian crashes.

Table 54: Pedestrian Crashes by Day of the Week

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total
2015	3	2	5	4	5	2	3	24
2014	4	6	6	10	9	2	4	41
2013	9	3	12	8	9	3	4	48
Total	16	11	23	22	23	7	11	113

Figure 49 shows that the highest number of pedestrian crashes occurred from 7-8 a.m.

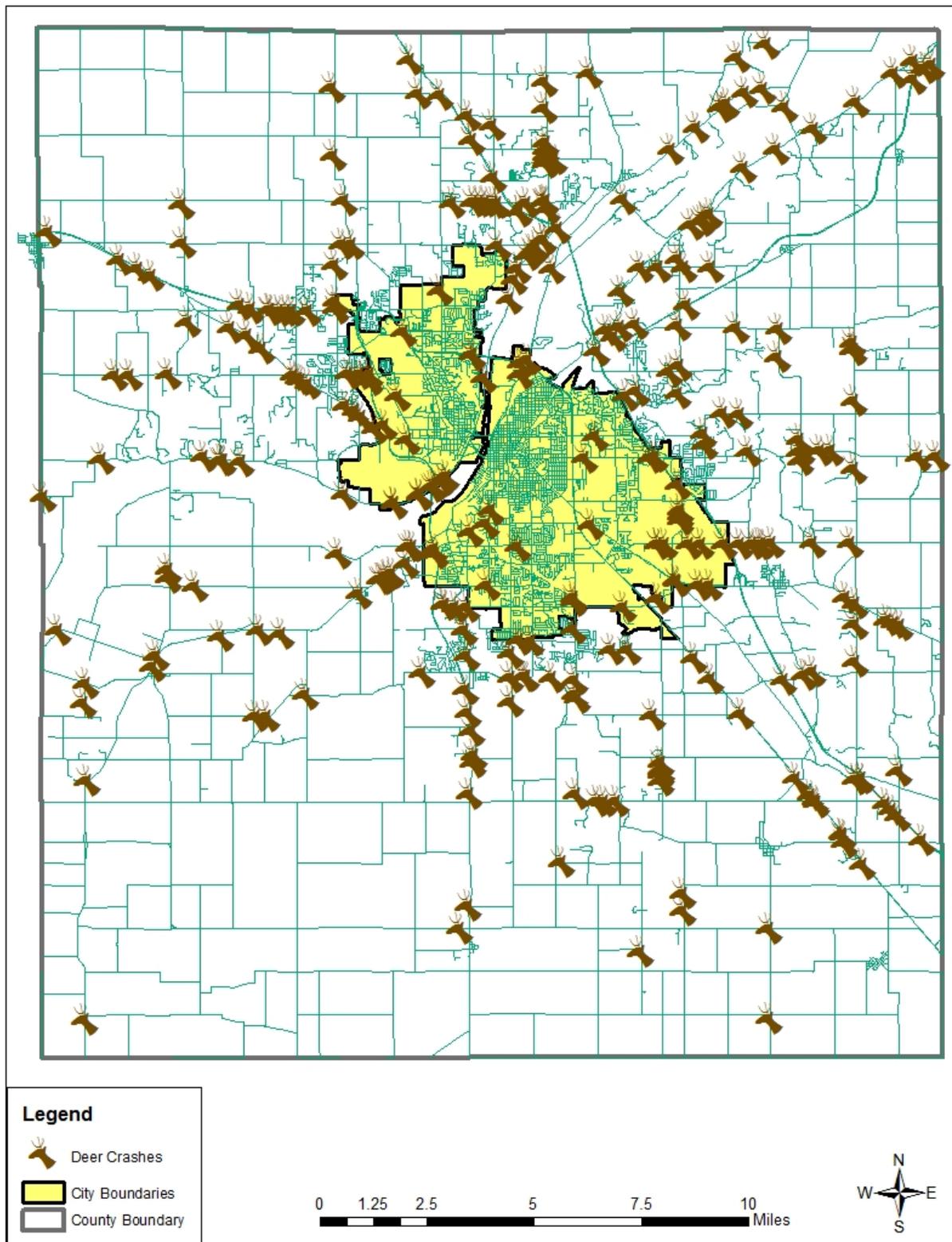
Figure 49: Pedestrian Crashes by Time of Day

Chapter 11: Other Crash Types and Factors

There were several other crash types and a few additional factors to analyze in 2015 crashes. These crash types and factors are not as prevalent as other crash types and factors. Therefore, the analysis for these crash types and factors is not as in-depth as some of the previous analysis in this report. However, these crash types and factors are still important to consider, so this chapter analyzes them.

Figure 50 shows that deer crashes are distributed throughout Tippecanoe County.

Figure 50: Tippecanoe County Deer Crashes



Figures 51 and 52 show that most hit and run crashes occur inside the city limits of Lafayette and West Lafayette.

Figure 51: Tippecanoe County Hit and Run Crashes

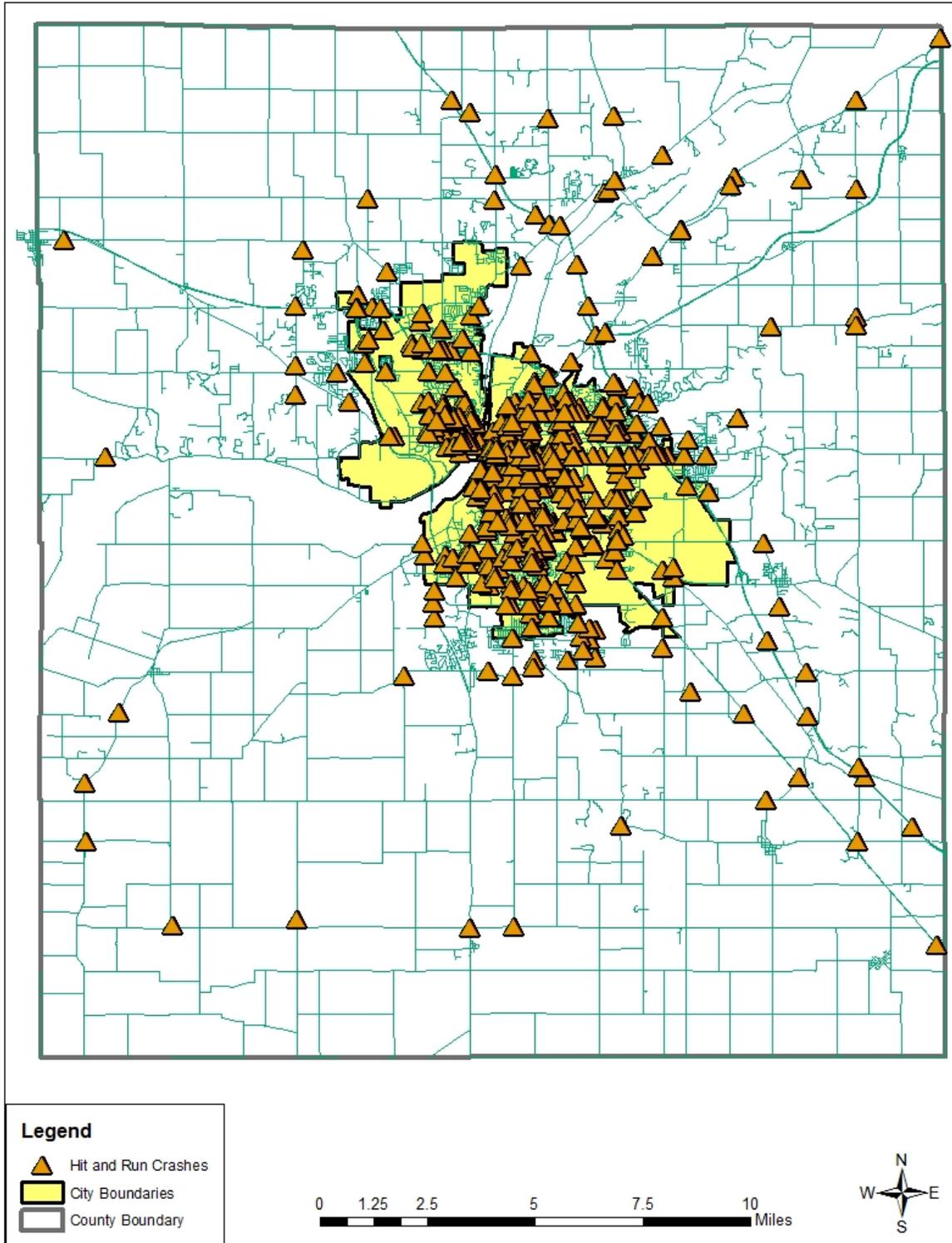


Figure 52: Lafayette and West Lafayette Hit and Run Crashes

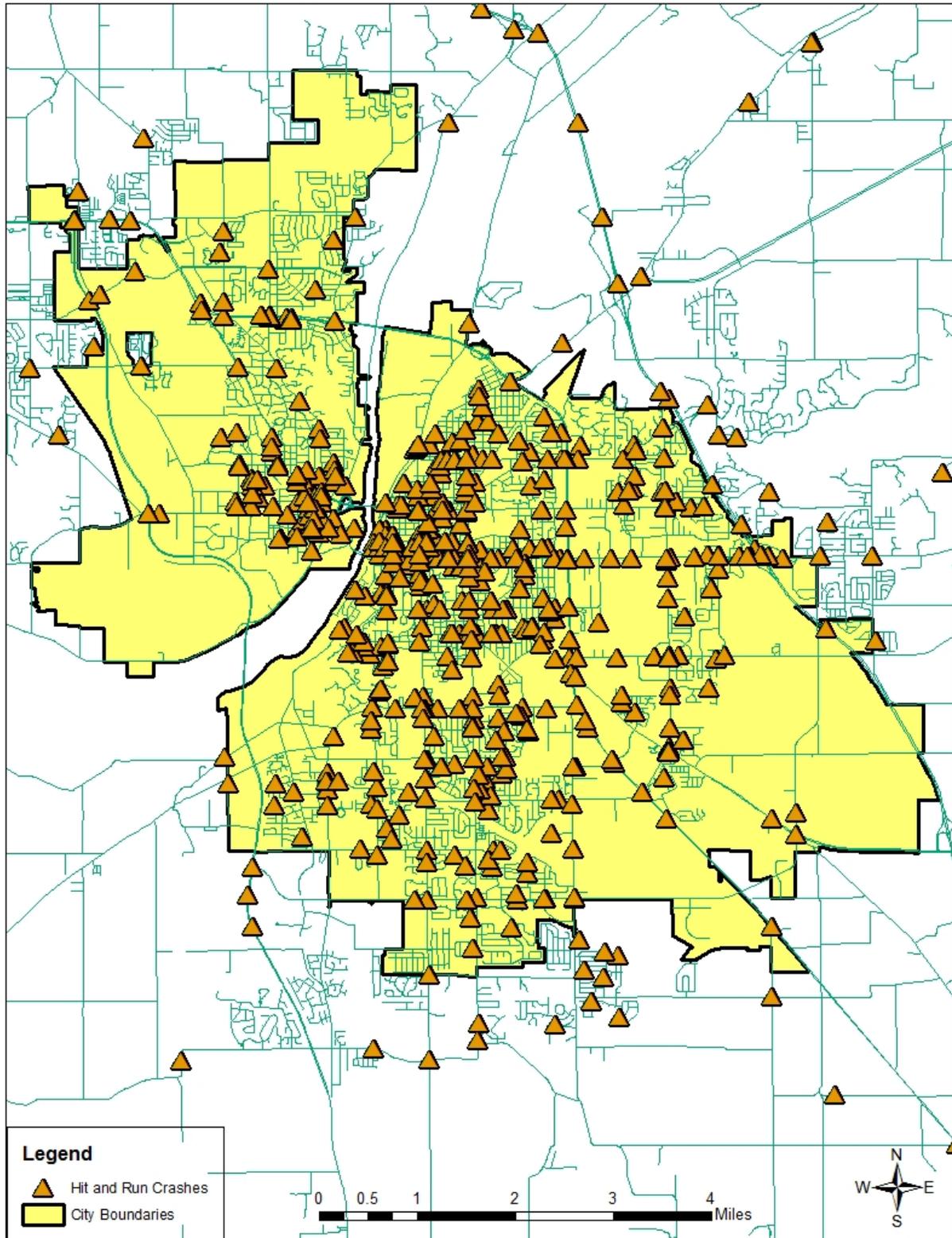


Table 55 shows that most of the crashes in 2015 involved two vehicles.

Table 55: Summary of Number of Vehicles Involved in Crashes

Number of Vehicles Involved	Crashes
1	1502
2	3974
3	274
4	37
5	3
6	1
7	1
8	1
Total	5793

Although crashes with two vehicles were the most common type, the amount of single vehicle crashes was also significant. Single vehicle crashes can happen for a variety of reasons. Some of those reasons include driver confusion or unfamiliarity with a segment of road. If a road has dangerous or non-intuitive geometry, it may lead to a high number of crashes. Figures 53 and 54 show the locations of single vehicle crashes in 2015.

Figure 53: Tippecanoe County Single Vehicle Crashes

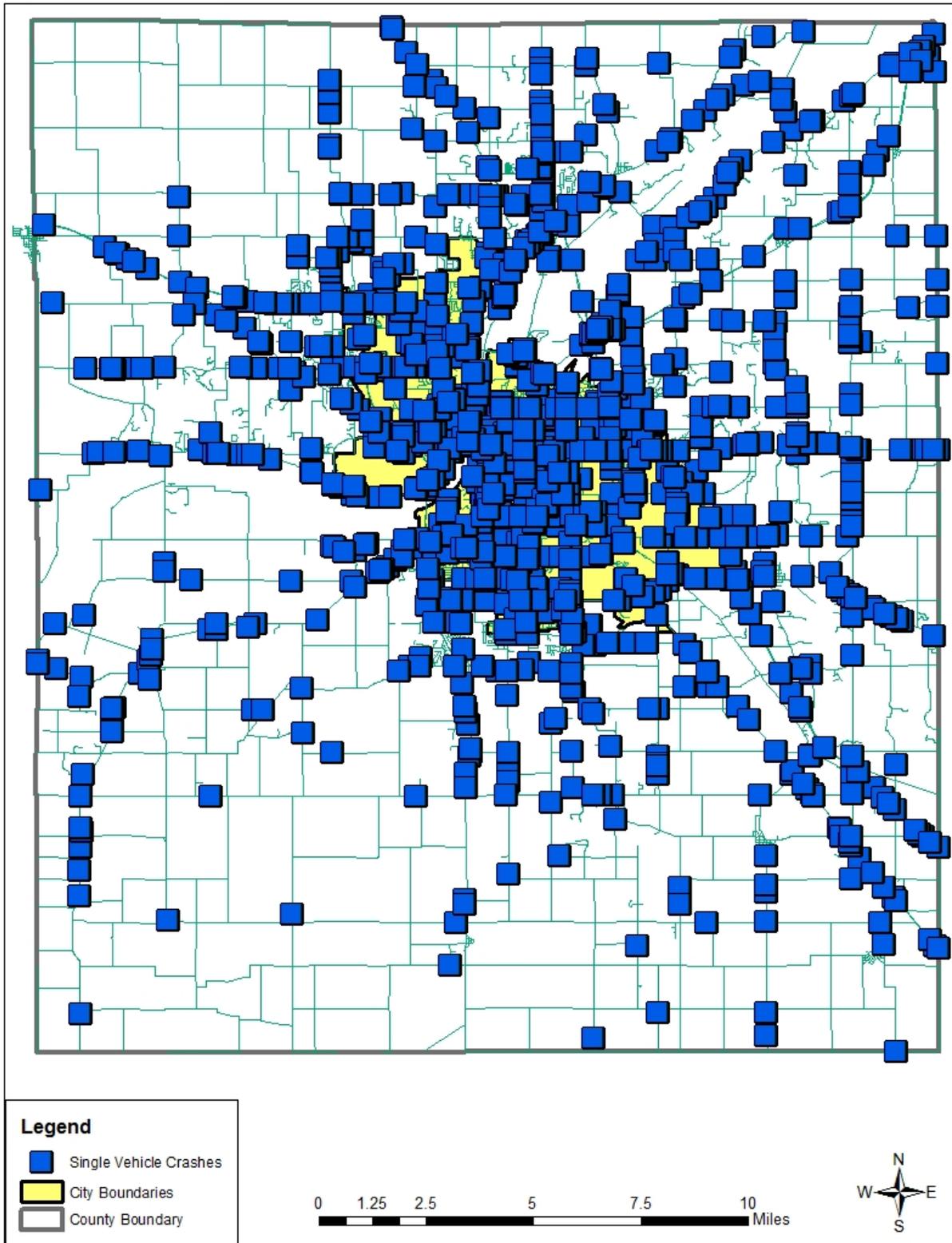


Figure 54: Lafayette and West Lafayette Single Vehicle Crashes

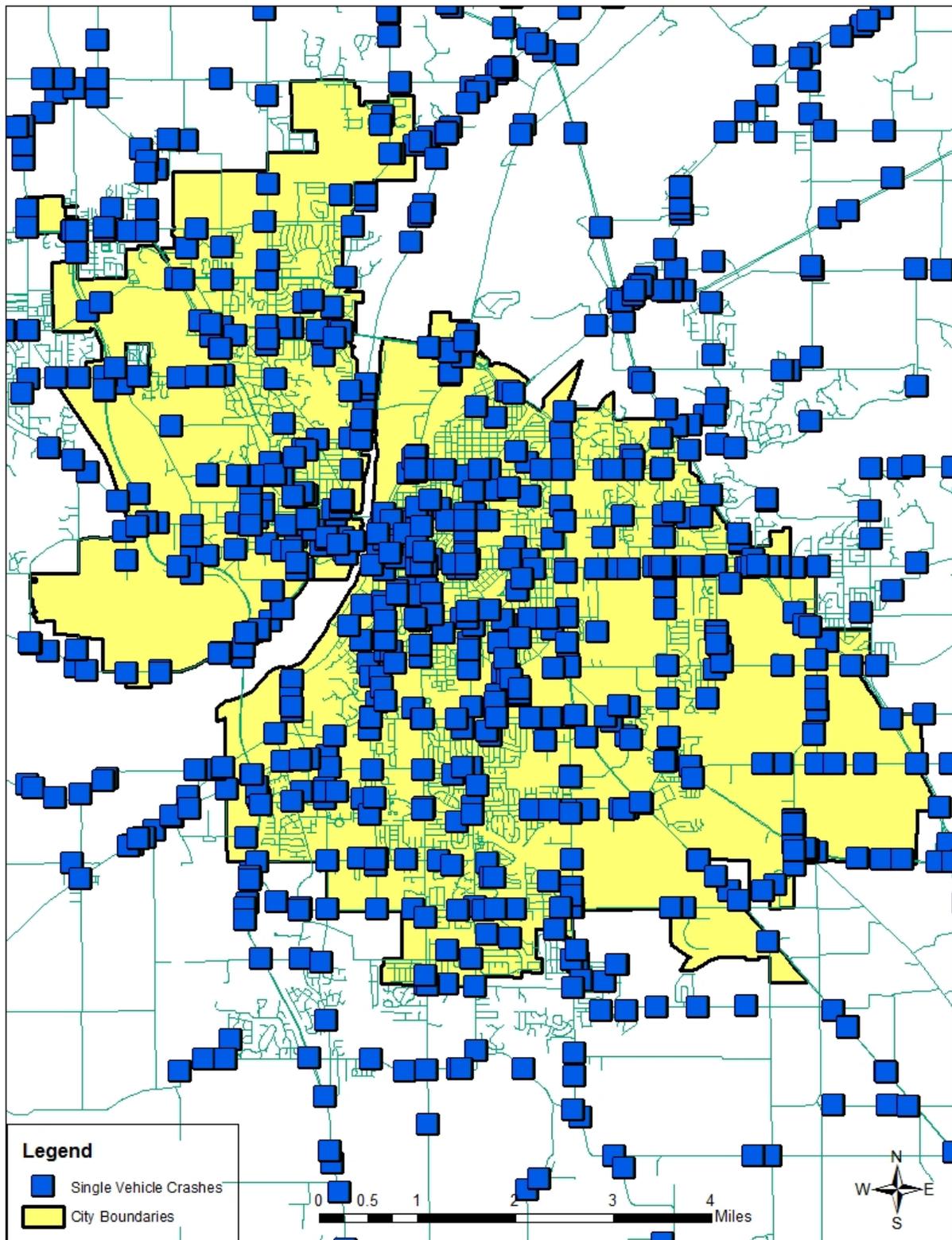


Table 56 shows that the majority of crashes occur on roads with an asphalt surface.

Table 56: Crashes by Road Surface

Road Surface	Crashes
Asphalt	5035
Concrete	719
Gravel	22
Other	14
Unknown	3
Total	5793

Table 57 shows that aside from Indiana, Illinois had the highest number of licensed drivers involved in crashes in Tippecanoe County.

Table 57: Crashes by Driver's State of Residence

State	Drivers
AL	6
AR	1
AZ	5
CA	11
CO	4
CT	1
FL	24
GA	17
HI	1
IA	4
IL	231
IN	8770
KS	5
KY	39
LA	3
MA	2
MD	6
ME	1
MI	32
MN	9
MO	9
MS	4
NC	10
NH	1
NJ	4

State	Drivers
NM	2
NY	10
OH	53
OK	1
PA	6
PR	1
SC	6
SD	1
TN	17
TX	21
UT	1
VA	4
VT	1
WA	3
WI	29
WV	1

Recommendations

Based on the analysis in this report, the following safety improvement measures are recommended:

1. Review findings with local Technical Transportation Committee and Local Public Agencies to develop safety improvement projects.
2. Identify locations where constructing sidewalks and/or trails may improve connectivity and give non-motorized road users a more continuous route on which to safely travel.
3. Evaluate signage and pavement markings in high crash locations.
4. Evaluate signalization/intersection control at high crash intersections.
5. Continue to evaluate crashes in future years to look at trends in crashes. These trends can continue to inform future safety decisions.