

# **RICHLAND COUNTY TRANSPORTATION SAFETY PLAN**

July 2020

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# 1 EXECUTIVE SUMMARY

The Richland County Regional Planning Commission (RCRPC) is the metropolitan planning organization responsible for transportation planning and programming in Richland County. The planning area is in north central Ohio and home to approximately 125,000 residents who are spread across 28 cities, towns, and villages. Many residents choose this area because they appreciate the option to live in either an urban core or a rural atmosphere. In this region, it is common for residents and visitors alike to travel to and from locations in their vehicles. While bus services and bicycle and pedestrian amenities are available, the easiest and quickest route, is often in a car. With many people traveling by this mode, crashes can occur, impacting families, friendships, and the fabric of the region.

Between 2014 and 2018, approximately 3,536 transportation-related crashes occurred per year in Richland County. An average of 11 people lost their lives and 129 were seriously injured each year, during that five-year span. Severe crashes are preventable, but it takes an understanding of where and why they are occurring to diagnose the problems and present proven solutions.

The 2019 to 2023 *Richland County Transportation Safety Plan* presents solutions to the most challenging safety issues in the region, ensuring everyone can go about their daily lives, but also arrive home safely. Crash data were reviewed with stakeholders to understand:

- **Crash Trends**—How fatal and serious injury crashes have trended over the past five years. This also included a review of crashes by jurisdiction and by roadway type.
- **Safety Performance**—How fatal and serious injury crashes could be reduced and to what extent, through the implementation of proven solutions.
- **Crash Types**—What types of crashes (i.e., rear-end) are overrepresented in the region.
- **Contributing Factors**—What types of crash contributors (i.e., speed) are overrepresented in the region.
- **Locations**—The segments and intersections in the region that experience more crashes on average than other locations and could be reviewed further for safety improvements.

**VISION**  
Toward Zero Deaths. All transportation users should arrive safely at their destinations.

**GOAL**  
Reduce all crashes involving all road users by funding engineering, enforcement, education, and emergency response solutions.

**OBJECTIVE**  
Reduce fatalities and serious injuries by 5% per year.

Local transportation and safety stakeholders met twice to review the crash data and provide input into what is now the foundation of this plan. This document represents the best approach to lowering fatalities and serious injuries in the County, including:

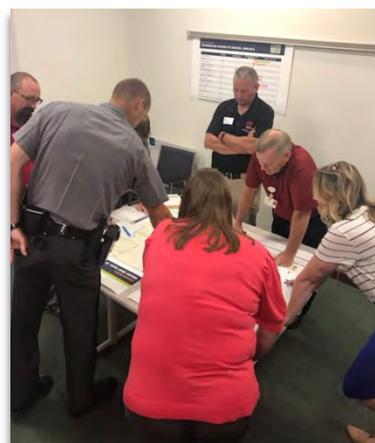
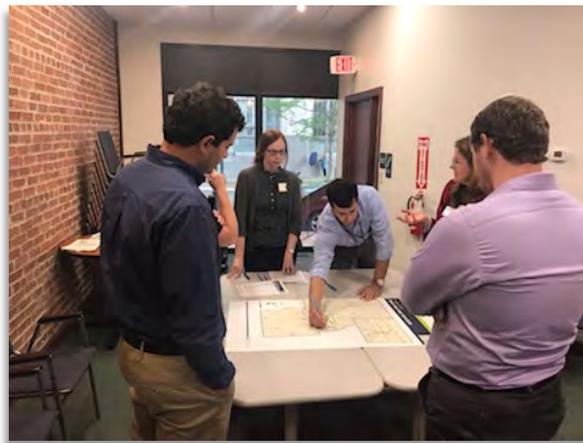
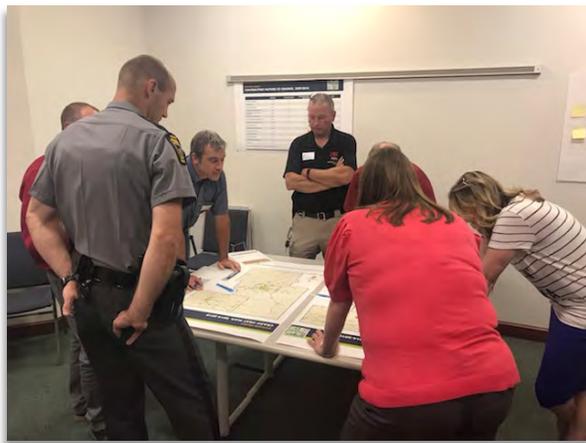
- **Vision, Goal and Objectives** providing a framework for identifying safety programs, projects and policies.
- Three emphasis areas, **Roadway Departure, Intersections, and Speed**, identifying the biggest safety challenges in the region.
- An **Action Plan**, identifying locations, outlining programmatic and project solutions and showing stakeholders where to focus their time and resources to make the most difference.



## 2 TRANSPORTATION SAFETY PARTNERS

Richland County has a wide range of transportation and safety stakeholders, working to reduce fatalities and serious injuries. Representatives from the following agencies and jurisdictions came together on two occasions to inform the contents of this plan. The goal will be ongoing coordination to implement the safety solutions in this plan and lower transportation-related fatalities and serious injuries.

- City of Mansfield Engineering Department.
- City of Mansfield Police Department.
- City of Ontario.
- Ohio Department of Transportation District 3.
- OhioHealth.
- Ohio State Police.
- Richland County Engineering Department.
- Richland County Regional Planning Commission.
- Richland Public Health.
- Superior Driving Academy.
- Village of Belville.
- Richland County Emergency Management.



# INTRODUCTION— Setting the Stage

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## SECTION CONTENT:

Transportation Safety Planning

Richland County Transportation Safety

Vision Goals and Objectives

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EVERY MOVE YOU MAKE

<b>TOWARD ZERO DEATHS</b>			

# 3 INTRODUCTION—SETTING THE STAGE

## TRANSPORTATION SAFETY PLANNING

Ohio has an average of 1,000 transportation-related fatalities every year. A national strategy called *Toward Zero Deaths*, driven and supported by transportation, enforcement, local Government, educators, health professionals, and emergency response associations, concludes that even if it is unclear when fatalities will reach zero, even one death on the transportation network is unacceptable. The Ohio Department of Transportation (ODOT) has adopted this strategy and is working toward solutions to ensure everyone is safe on Ohio’s transportation network.

One effective solution to achieve this vision is a local road safety plan. This type of plan empowers local and regional transportation agencies to organize stakeholders; review crash data to understand the unique safety challenges in their areas; and customize solutions, or countermeasures, that will be effective based on the local context.

The *Richland County Transportation Safety Plan* followed a similar approach to develop multidisciplinary safety solutions. The planning process focused on the fact that motor vehicle-related crashes can be prevented. In some instances, roadway features can be improved to limit the severity of crashes; in others, stopping people from engaging in unsafe behaviors is key. However, in most cases, it is both. To reduce crashes related to infrastructure and driver error, State, and local stakeholders identified proven strategies, actions, programs, and projects.



**A SOLUTION—ROAD SAFETY PLAN**

ODOT recognizes the need to address crash statistics and is encouraging the development of Regional Safety Plans to reduce them.

The Richland County Transportation Safety Plan provides a framework for identifying, analyzing and prioritizing roadway safety improvements.

Upon completion, local stakeholders will have a prioritized list of strategies and projects that will be eligible for ODOT safety funding.

Figure 1: Regional Transportation Safety Plan Process Graphic



## Introduction—Setting the Stage

### RICHLAND COUNTY TRANSPORTATION SAFETY

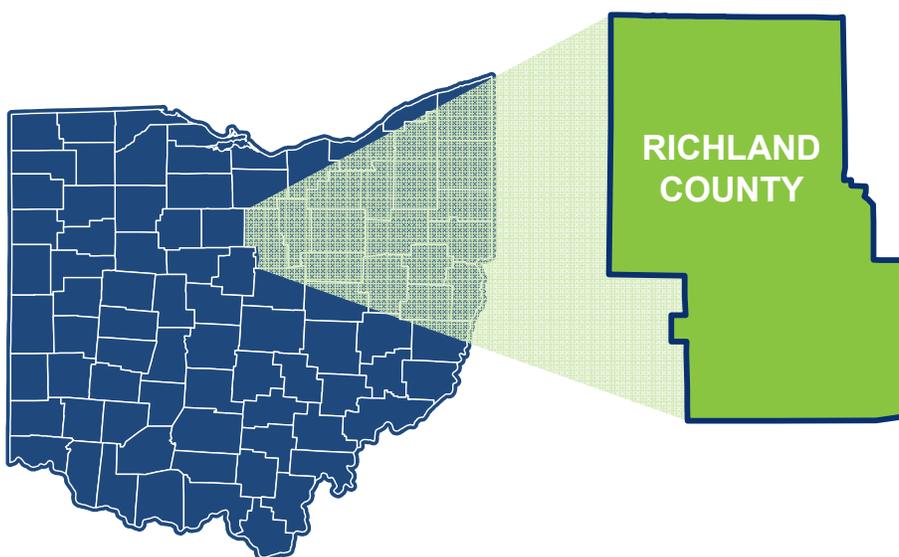
#### THE STUDY AREA

Richland County is located in north central Ohio with the County seat being in Mansfield. According to the Ohio County Profile on Richland County, the estimated 2018 population was 121,099 people which is a slight decline from the official population recorded by the 2010 United States Census of 124,475 people.

Richland County is largely rural and according to its Ohio County Profile, about 68 percent of the County is covered in farmland or forests. Approximately 13 percent of the County is developed. In addition to being the County seat, Mansfield is the largest place within Richland County by population with nearly 39 percent of Richland County residents living in this area.

Based on the Richland County Profile, there are approximately 1,314 miles of public roadways in the County with about 242 miles (18 percent) being State and U.S. routes. The study area for this safety plan is shown in Figure 2.

Figure 2: Richland County Planning Region Map



#### EXTERNAL FACTORS IMPACTING CRASHES

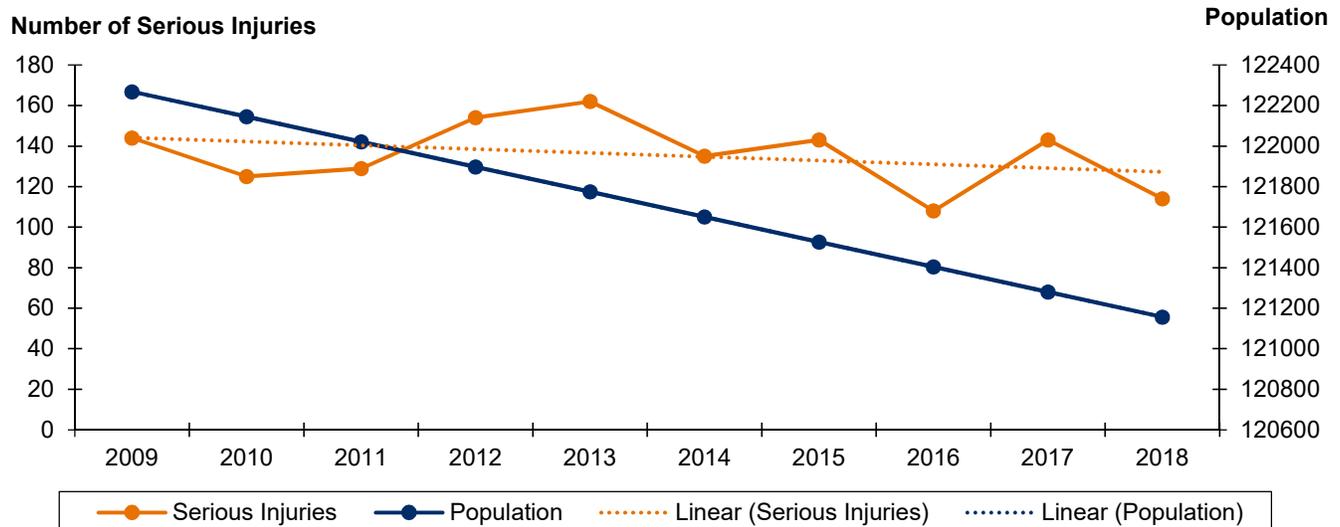
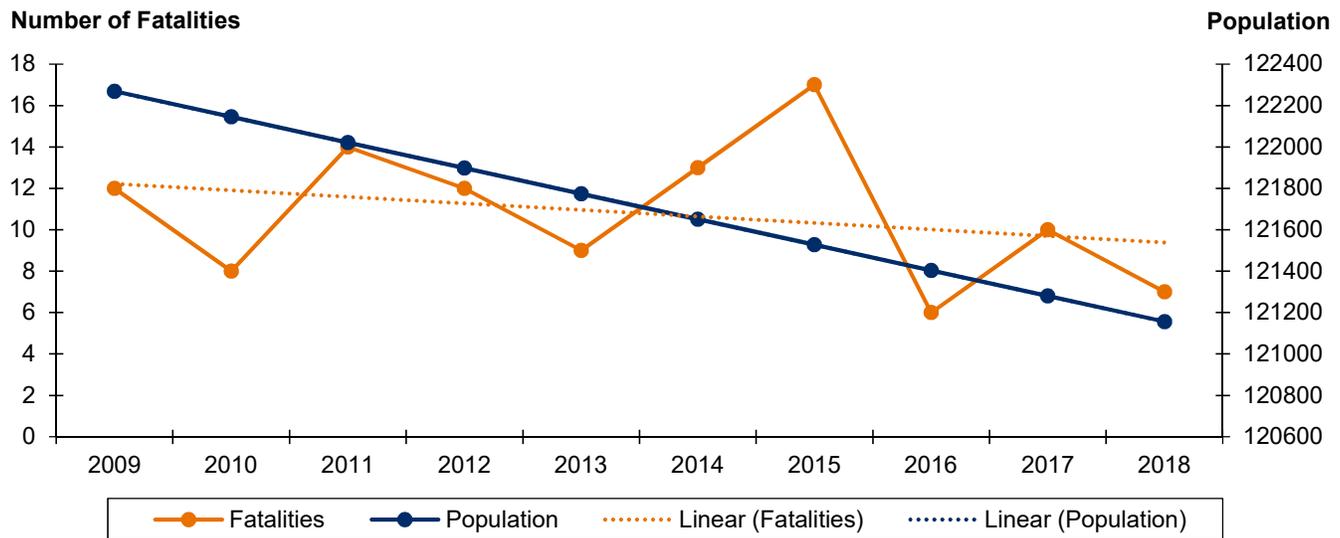
This planning effort primarily focused on crash trends to understand where and why crashes were occurring. However, additional safety insights can be gained by understanding how other factors play a role in transportation safety. Population and Vehicle Miles Traveled (VMT) trends also were reviewed to understand the impact on crash occurrences in the region.

##### *Population*

The overall population is decreasing in Richland County based on population estimates included in the Ohio County Profile. However, the rate at which the population is decreasing is faster than the decrease in fatalities and serious injuries in traffic crashes.

## Introduction—Setting the Stage

Figure 3: Fatalities and Serious Injuries and Population, 2009–2018



### Vehicle Miles Traveled

Population is a good estimation of the number of people living in the area, but it does not capture the full traffic picture which includes residents as well as visitors to the region. VMT is a factor calculated by multiplying the number of centerline roadway miles by the Average Daily Traffic volumes. This factor is independent of the region's population. It looks at the number of vehicles traveling on a specific roadway over a given year. Based on calculations provided by ODOT, the amount of vehicle miles traveled in the county is increasing, while the frequency of the fatalities and serious injuries are both decreasing at a relatively slow rate.

## Introduction—Setting the Stage

Figure 4: Fatalities and VMT, 2008–2017

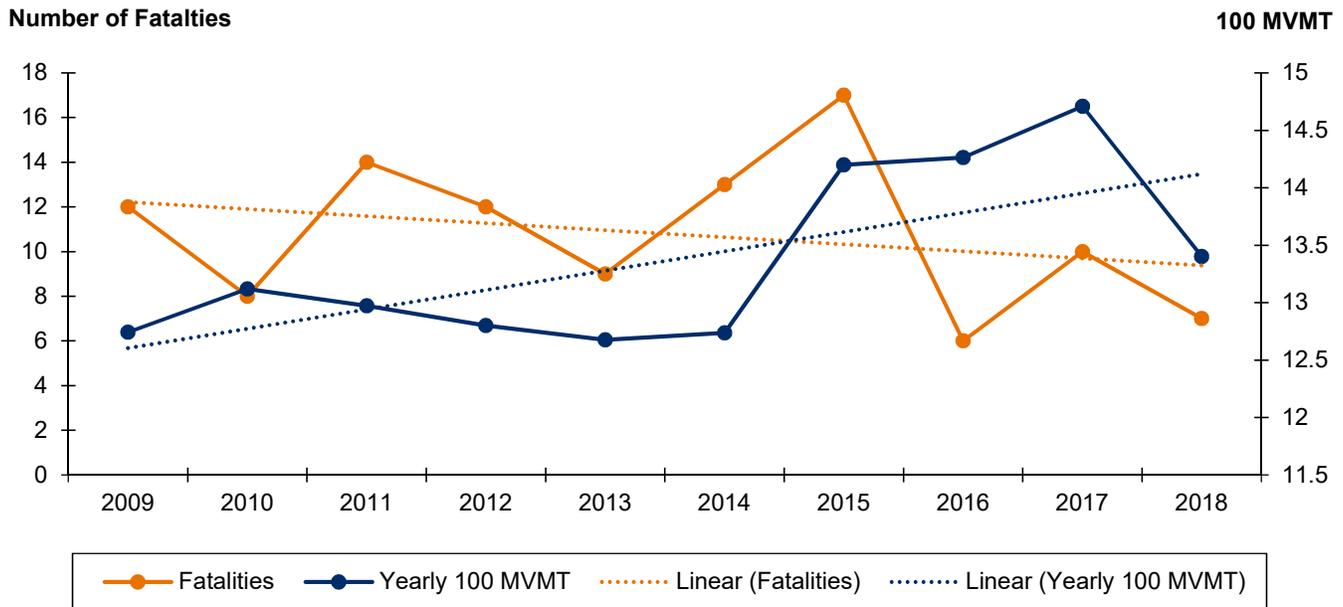
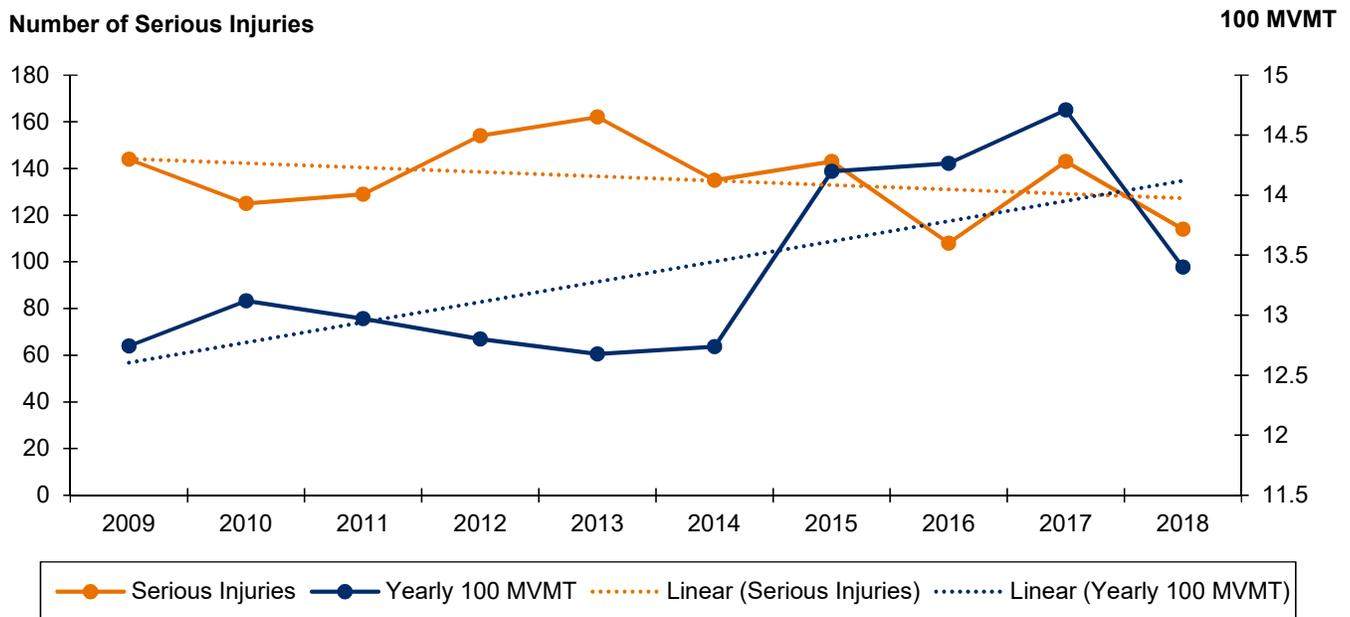


Figure 5: Serious Injuries and VMT, 2008–2017



## Introduction—Setting the Stage

### CURRENT SAFETY ACTIVITIES

Existing safety programs and projects in the County were another consideration during this planning process. The goal of this plan is to not replace current activities, but to build upon them and implement other proven strategies to reduce fatalities and serious injuries. The work of local transportation and safety stakeholders as well as existing crash analysis completed in the County by RCRPC and ODOT District 3 were reviewed during stakeholder meetings and incorporated into this plan.

### 3.1 VISION, GOAL AND OBJECTIVES

The County safety vision, goal and objective describe the safety aspirations over the next 20 years and what safety success looks like in the near term. Stakeholders were presented with examples of visions, goals and objectives from ODOT and other agencies, as well as local crash data, showing historical safety performance and future forecasts. The following were selected to define safety success for the County and were based on stakeholder input as well as the results of a forecasting analysis (shown in Figure 5, Figure 6, and Figure 7). This will help the County focus funding and resources to implement safety policies, programs and projects that will best achieve the identified safety goal and objectives.

#### Examples of the Current Safety Activities in the County

- *Enforcement emphasis at high crash intersections*
- *Construct roundabouts*
- *Convert 4-lane to 3-lane roads to slow speeds and improve turning movements*
- *Systemwide implementation of rumble strips*



#### VISION

Toward Zero Deaths. All transportation users should arrive safely at their destinations.



#### GOAL

Reduce all crashes involving all road users by funding engineering, enforcement, education, and emergency response solutions.



#### OBJECTIVE

Reduce fatalities and serious injuries by 5% per year.



## Introduction—Setting the Stage

Figure 6: Fatalities Forecast

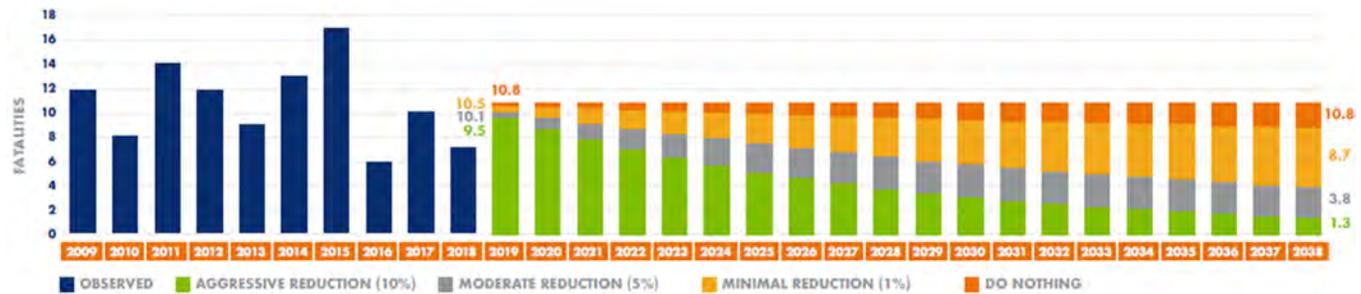
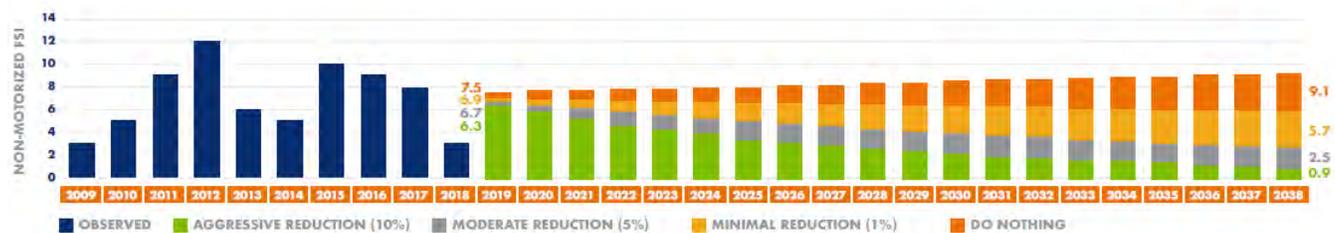


Figure 7: Serious Injuries Forecast



Figure 8: Nonmotorized Fatalities and Serious Injuries Forecast



# Existing Conditions— Understanding Safety Needs in the County

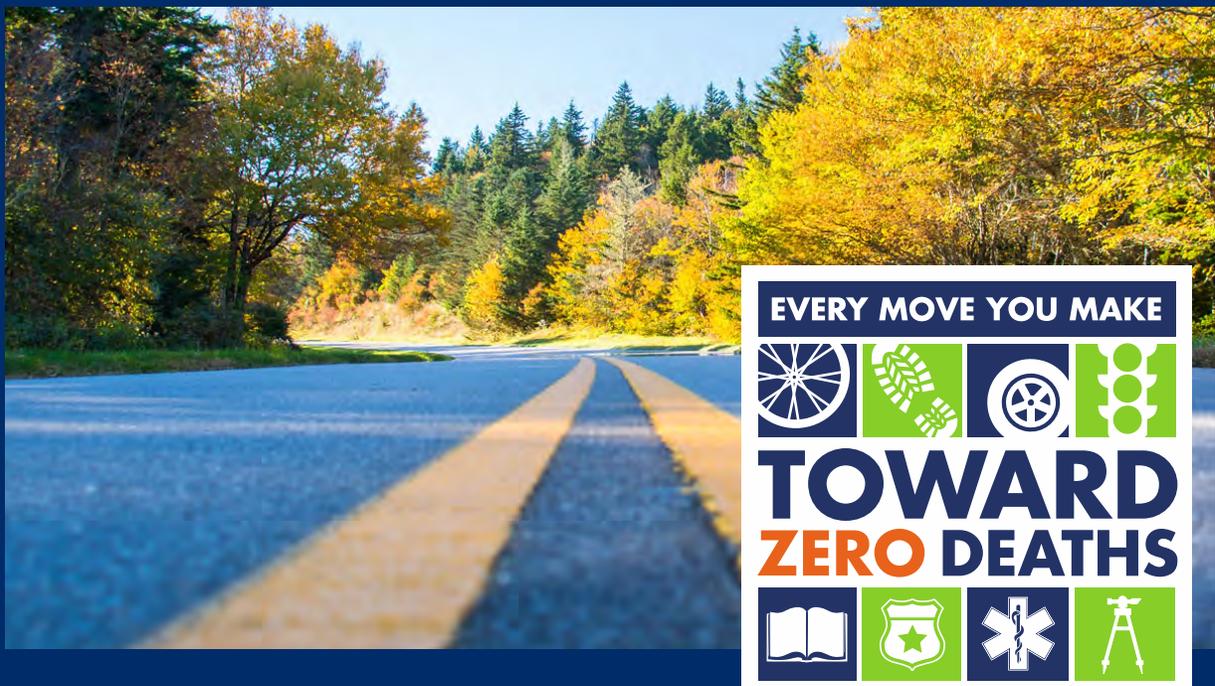
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## SECTION CONTENT:

Big Picture Crash Trends

Crash Types

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## 4 EXISTING CONDITIONS—UNDERSTANDING SAFETY NEEDS IN THE COUNTY

### THE BIG PICTURE

For the development of the Richland County Transportation Safety Plan, crash data from January 1, 2014 to December 31, 2018 for all crashes, on all public roads, were analyzed. The 5-year timeframe provided enough information to establish reliable trends and distinguish patterns. Data was provided by ODOT and analyzed to understand overall crash trends, severe crash trends, how crashes compared across jurisdictions and the types of roads on which crashes were occurring. This analysis demonstrates existing safety conditions and helps set the stage for why safety planning in the region is critical.

*“There are, on average, 3,536 crashes per year (9 per day) in Richland County.”*

### CRASH STATISTICS

Between 2014 and 2018, there were 17,681 crashes in the region with 49 (0.3 percent) resulting in a fatality and 4,253 (24 percent) resulting in injury. There are, on average, 3,536 crashes per year (9 per day) in the County which results in 10 fatal crashes and 851 injury crashes per year.

Figure 9: Crash Statistics, 2014–2018

### CRASH STATISTICS

YEAR	FATAL CRASHES	INJURY CRASHES	PROPERTY DAMAGE CRASHES	TOTAL CRASHES
2014	13	895	2,808	3,716
2015	13	880	2,823	3,716
2016	6	864	2,546	3,416
2017	10	838	2,664	3,512
2018	7	776	2,538	3,321
<b>5-YEAR TOTAL</b>	<b>49</b>	<b>4,253</b>	<b>13,379</b>	<b>17,681</b>
<b>ANNUAL AVERAGE</b>	<b>10</b>	<b>851</b>	<b>2,676</b>	<b>3,536</b>

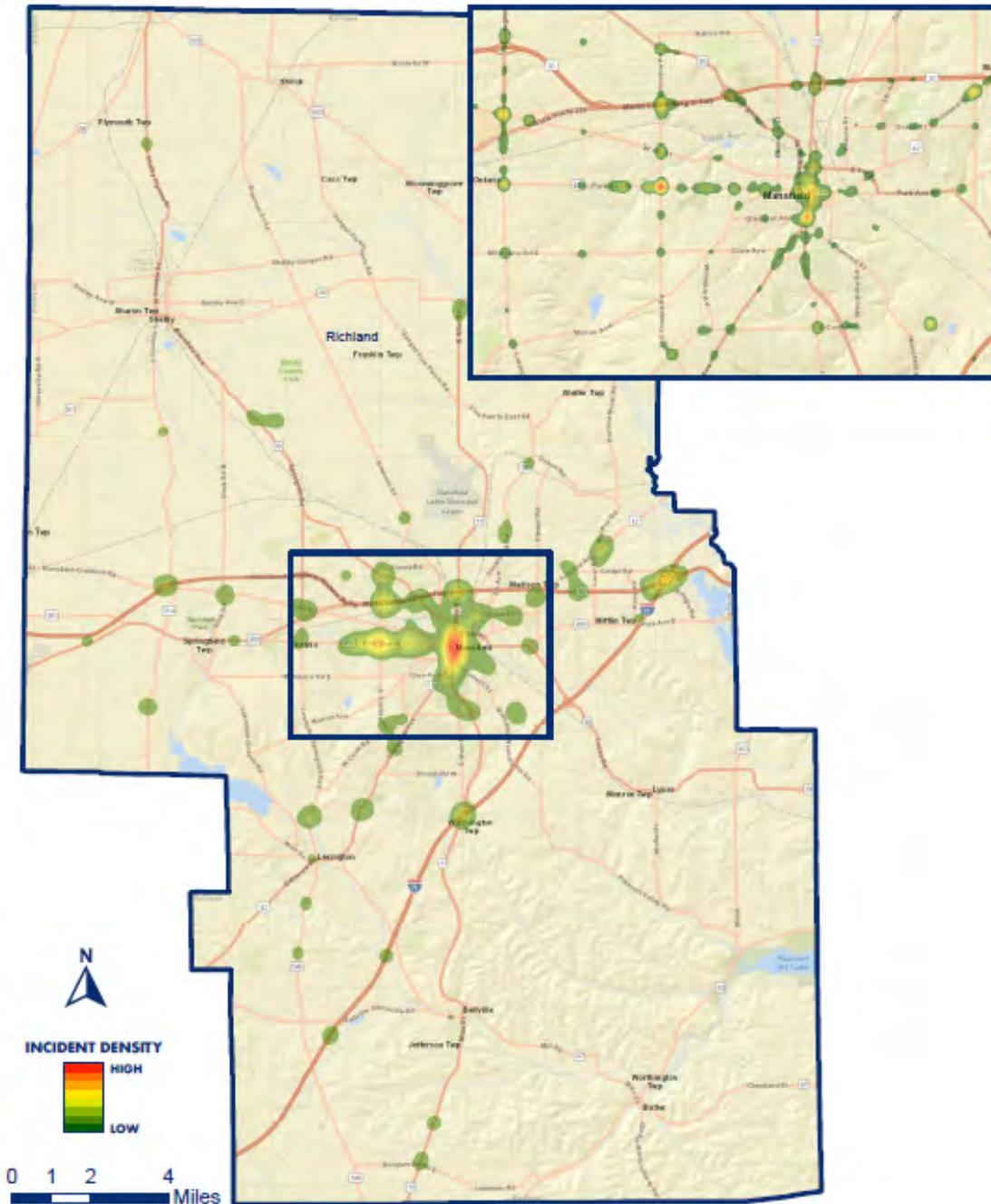
YEAR WITH THE HIGHEST VALUE FOR EACH RESPECTIVE COLUMN

## Existing Conditions—Understanding Safety Needs in the Region

### FATAL AND SERIOUS INJURY CRASH LOCATIONS

The serious crash types predominantly occur on the higher volume roads near and within the City of Mansfield, especially along U.S. 30 and SR 13 and Park Avenue.

Figure 10: Fatal and Serious Injury Crash Density Map, 2014–2018



## Existing Conditions—Understanding Safety Needs in the Region

### OCCUPANT STATISTICS

Of the 36,809 people involved in crashes in Richland County between 2014 and 2018, 53 were fatally injured and 643 were seriously injured. On average, crashes affect 7,363 people every year in Richland County with 11 of them being fatally injured and 129 seriously injured.

Figure 11: Occupant Statistics, 2014–2018

### OCCUPANT STATISTICS

YEAR	FATALITIES	SERIOUS INJURIES	MINOR INJURIES	NO INJURIES
2014	13	135	1,185	6,213
2015	17	143	1,203	6,329
2016	6	108	1,140	6,144
2017	10	143	1,061	6,267
2018	7	114	1,030	5,541
<b>5-YEAR TOTAL</b>	<b>53</b>	<b>643</b>	<b>5,619</b>	<b>30,494</b>
<b>ANNUAL AVERAGE</b>	<b>11</b>	<b>129</b>	<b>1,124</b>	<b>6,099</b>

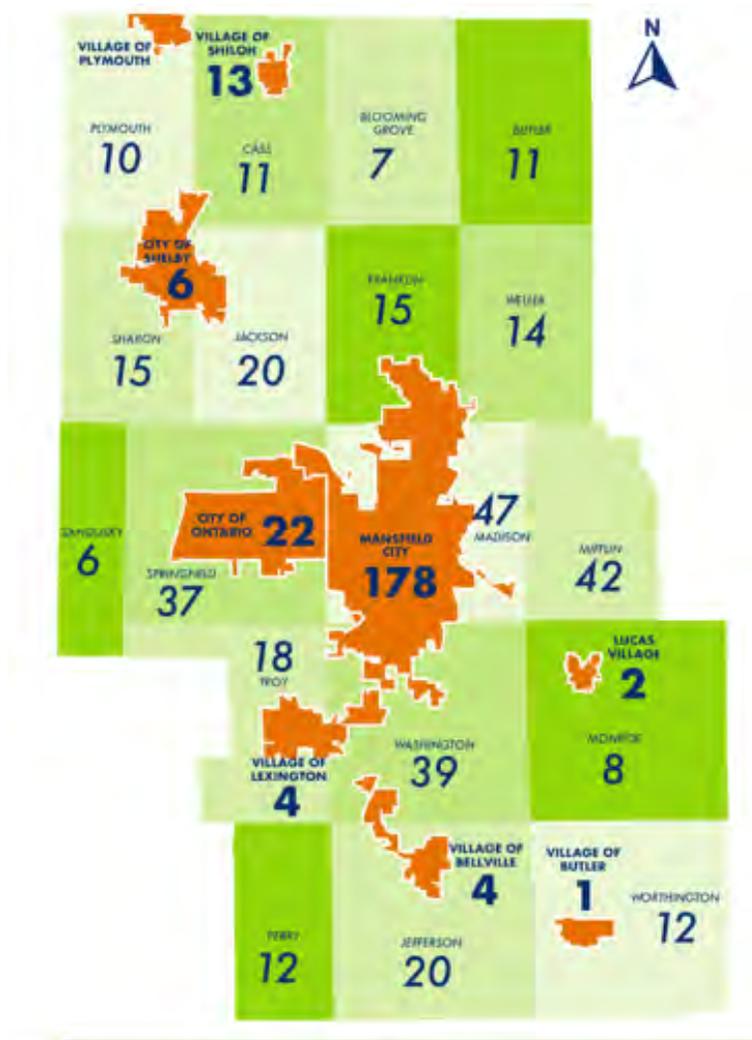
YEAR WITH THE HIGHEST VALUE FOR EACH RESPECTIVE COLUMN

### CRASHES BY JURISDICTION

Crashes occur in the more populated areas of the county, like the City of Mansfield, City of Ontario, Madison Township, Washington Township, and Springfield Township than in other, more rural areas of the Richland County. The purpose of this map is to demonstrate that crashes occur everywhere, and each jurisdiction can play a role in the solutions.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 12: Crashes by Richland County's Jurisdictions



### CRASHES BY MAINTAINING AUTHORITY

Over 70 percent of all crashes in the Richland County occur on non-State-maintained roadways. Because ODOT does not own, operate or maintain these roads, it is incumbent upon local jurisdictions to determine what and where the biggest safety issues lie and apply for funding to implement improvements. In some jurisdictions, like Mansfield, almost 98 percent of crashes occur on locally maintained roadways.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 13: Crashes by Jurisdiction and Maintaining Authority

	ALL ROADS			NON-STATE MAINTAINED ROADWAYS		
	FATAL INJURY	SERIOUS INJURY	GRAND TOTAL	FATAL INJURY	SERIOUS INJURY	GRAND TOTAL
BELLVILLE	0	4	206	0	4	204
BLOOMINGGROVE TOWNSHIP	1	6	98	0	1	28
BUTLER	0	1	18	0	1	18
BUTLER TOWNSHIP	1	10	85	1	4	44
CASS TOWNSHIP	2	9	168	1	7	121
CRESTLINE	0	0	1	0	0	1
FRANKLIN TOWNSHIP	1	14	251	0	3	106
JACKSON TOWNSHIP	2	18	386	0	9	196
JEFFERSON TOWNSHIP	1	19	368	0	8	155
LEXINGTON	2	2	378	2	2	370
LUCAS	0	2	33	0	2	33
MADISON TOWNSHIP	7	40	1,418	1	16	624
MANSFIELD	7	171	6,642	6	168	6,505
MIFFLIN TOWNSHIP	4	38	1,016	1	7	196
MONROE TOWNSHIP	0	8	302	0	5	150
ONTARIO	2	20	1,463	2	20	1,452
PERRY TOWNSHIP	1	11	507	0	1	40
PLYMOUTH	0	0	13	0	0	12
PLYMOUTH TOWNSHIP	3	7	190	0	3	56
SANDUSKY TOWNSHIP	0	6	172	0	3	73
SHARON TOWNSHIP	3	12	188	0	5	49
SHELBY	0	6	624	0	6	615
SHILOH	0	0	11	0	0	11
SPRINGFIELD TOWNSHIP	1	36	815	0	20	481
TROY TOWNSHIP	4	14	417	2	9	286
WASHINGTON TOWNSHIP	5	34	1,407	1	16	460
WELLER TOWNSHIP	1	13	264	0	4	60
WORTHINGTON TOWNSHIP	1	11	240	1	6	110
<b>GRAND TOTAL</b>	<b>49</b>	<b>313</b>	<b>17,681</b>	<b>18</b>	<b>330</b>	<b>12,456</b>

### CRASH STATISTICS BY MAINTAINING AUTHORITY

Twenty-nine percent of the total crashes in the region occur on State-maintained roadways, but they account for 37 percent of the total number of fatal and serious injury crashes. Approximately 51 percent of all crashes in Richland County are occurring on city-maintained roadways, but those crashes only account for 36 percent of all fatal and serious crashes in the county.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 14: Crash Statistics by Maintaining Authority

	FATAL INJURY	SERIOUS INJURY	VISIBLE INJURY	POSSIBLE INJURY	PDO/NO INJURY	GRAND TOTAL
CITY OR MUNICIPAL HIGHWAY AGENCY	24	401	1,665	2,537	14,308	18,935
STATE HIGHWAY AGENCY	55	375	1,290	738	8,055	10,513
COUNTY HIGHWAY AGENCY	10	182	640	287	3,060	4,179
TOWN OR TOWNSHIP HIGHWAY AGENCY	11	99	394	192	1,949	2,645
OTHER/UNCLASSIFIED	0	14	28	64	442	548
<b>GRAND TOTAL</b>	<b>100</b>	<b>1,071</b>	<b>4,017</b>	<b>3,818</b>	<b>27,814</b>	<b>36,820</b>

### 4.2 CRASH TYPES

Crash type (i.e., head-on, rear-end) analysis is a common method to categorize crashes, understand key concerns and identify countermeasure solutions. Categorizing crashes by type is important because each crash represents a problem that may be addressed through a specific engineering, enforcement, or behavioral countermeasures. The following outlines the analysis results for the specific crash types in the region.

*“Between 2008 and 2017, the most prevalent crash types were fixed-object, rear-end, animal, and angle.”*

#### REGIONAL CRASH TYPES

Between 2014 and 2018, the four most prevalent crash types were fixed-object, rear-end, animal and angle crashes. From 2014 to 2018, there were 3,949 fixed-object crashes and 4.4 percent of those crashes resulted in a fatality or serious injury. Approximately 27 percent of the reported pedestrian crashes and 18 percent of pedal-cycle crashes resulted in a fatality or serious injury. Both the total crash frequency and the percentage of fatal and serious injury crashes compared to the overall number of crashes can be used to identify applicable improvement strategies.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 15: Regional Crash Types, 2014–2018

	TOTAL CRASHES	FATAL INJURY	SERIOUS INJURY	FSI RATE
FIXED OBJECT	3,949	19	155	4.4%
REAR END	3,393	3	60	1.9%
ANIMAL	2,442	0	6	0.2%
ANGLE	1,980	9	100	5.5%
SIDESWIPE - PASSING	1,766	2	33	2.0%
LEFT TURN	1,024	0	35	3.4%
BACKING	756	0	1	0.1%
PARKED VEHICLE	494	0	8	1.6%
RIGHT TURN	397	0	4	1.0%
SIDESWIPE - MEETING	333	1	15	4.8%
HEAD ON	288	10	31	14.2%
OTHER OBJECT	264	0	1	0.4%
OTHER NON-COLLISION	220	0	5	2.3%
OVERTURNING	214	1	27	13.1%
PEDESTRIAN	93	4	21	26.9%
PEDALCYCLES	57	0	10	17.5%
UNKNOWN	6	0	0	0.0%
TRAIN	5	0	0	0.0%
<b>GRAND TOTAL</b>	<b>17,681</b>	<b>49</b>	<b>512</b>	

## Existing Conditions—Understanding Safety Needs in the Region

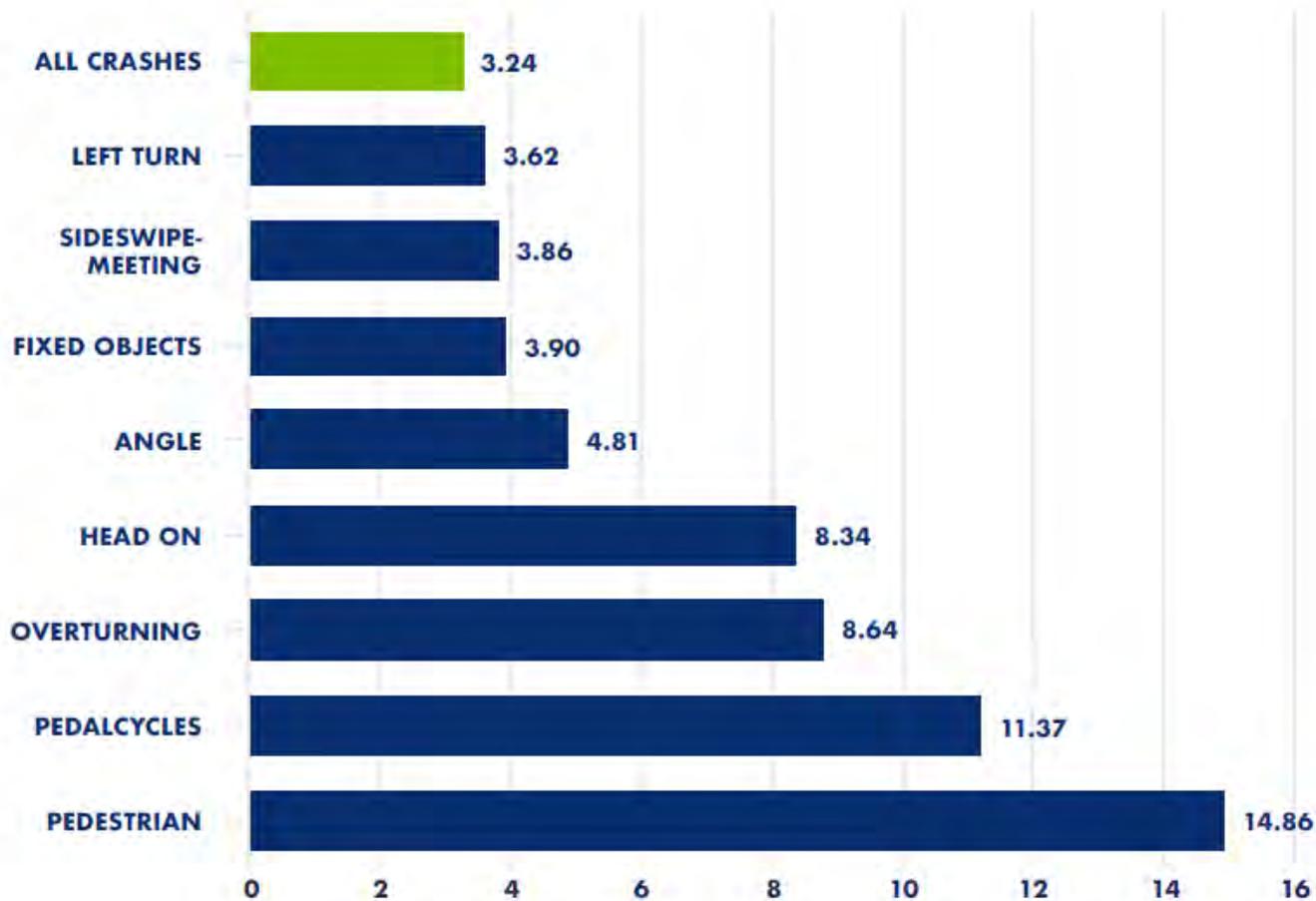
### EQUIVALENT PROPERTY DAMAGE-ONLY CRASHES

The equivalent property damage-only (EPDO) crash frequency calculates the relative severity of the crashes occurring at a specific location. This EPDO crash frequency relates all crashes in terms of a property damage-only (no injury) crash. To calculate the EPDO, the following equation was used with factors based on information provided in the ODOT Economic Crash Analysis Tool.

$$EPDO \text{ Crash Frequency} = (41.18 * \text{Fatal and Serious Injury Crashes} + 6.55 * \text{Visible Injury Crashes} + 4.44 * \text{Possible Injury Crashes} + \text{Property Damage Only Crashes}) / \text{Total number of crashes}$$

Pedestrian crashes have the highest EPDO value which indicates a crash type with high levels of serious injuries or fatalities.

Figure 16: EDPO for Crash Types, 2014–2018



## Existing Conditions—Understanding Safety Needs in the Region

### CRASH TYPES BY JURISDICTION

Fixed object crashes are mostly overrepresented in the more rural, less-developed areas of the county, such as Butler Township and Cass Township. Similarly, animal crashes are mostly overrepresented in rural areas like Jefferson Township and Monroe Township. Rear-end and angle crashes are generally overrepresented in more urban areas like Mansfield and Shelby.

Figure 17: Crash Types by Jurisdiction Table, 2014–2018

	FIXED OBJECT	REAR END	ANIMAL	ANGLE
BELLEVILLE	12%	23%	18%	8%
BLOOMINGGROVE TOWNSHIP	32%	8%	24%	8%
BUTLER	22%	6%	6%	22%
BUTLER TOWNSHIP	46%	4%	11%	9%
CASS TOWNSHIP	52%	4%	13%	9%
CRESTLINE	0%	0%	0%	0%
FRANKLIN TOWNSHIP	33%	7%	31%	9%
JACKSON TOWNSHIP	28%	10%	24%	13%
JEFFERSON TOWNSHIP	37%	4%	37%	4%
LEXINGTON	11%	30%	9%	17%
LUCAS	21%	21%	3%	0%
MADISON TOWNSHIP	24%	22%	11%	14%
MANSFIELD	14%	23%	4%	16%
MIFFLIN TOWNSHIP	39%	8%	20%	3%
MONROE TOWNSHIP	37%	3%	39%	4%
ONTARIO	9%	39%	9%	11%
PERRY TOWNSHIP	34%	9%	22%	1%
PLYMOUTH	15%	15%	54%	0%
PLYMOUTH TOWNSHIP	37%	5%	35%	7%
SANDUSKY TOWNSHIP	31%	5%	34%	5%
SHARON TOWNSHIP	51%	9%	13%	8%
SHELBY	11%	26%	3%	14%
SHILOH	9%	9%	0%	9%
SPRINGFIELD TOWNSHIP	32%	12%	25%	7%
TROY TOWNSHIP	29%	12%	32%	7%
WASHINGTON TOWNSHIP	29%	14%	26%	5%
WELLER TOWNSHIP	39%	6%	31%	7%
WORTHINGTON TOWNSHIP	41%	3%	30%	4%
COUNTYWIDE	22%	19%	14%	11%

■ ABOVE COUNTYWIDE AVERAGE   
 ■ BELOW COUNTYWIDE AVERAGE

### CRASH TYPES FOR SEVERE CRASHES BY MAINTAINING AUTHORITY

Nearly 38 percent of all severe crashes in the region occur on city-maintained roadways. Another 37 percent of severe crashes occurred on State-maintained facilities. Nearly 64 percent of the pedestrian crashes and 80 percent of the bicycle crashes occurred on city-maintained roadways. Severe fixed-object crashes and animal crashes are overrepresented on the State system versus the locally maintained roadways.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 18: Crash Types for Severe Crashes by Maintaining Authority, 2014–2018

	CITY OR MUNICIPAL HIGHWAY AGENCY	STATE HIGHWAY AGENCY	COUNTY HIGHWAY AGENCY	TOWN OR TOWNSHIP HIGHWAY AGENCY	OTHER/ UNCLASSIFIED	GRAND TOTAL
FIXED OBJECT	36	63	42	31	2	174
ANGLE	52	41	13	3	0	109
REAR END	30	28	3	1	1	63
HEAD ON	14	17	9	1	0	41
LEFT TURN	23	8	3	0	1	35
SIDESWIPE - PASSING	11	20	2	2	0	35
OVERTURNING	4	12	4	8	0	28
PEDESTRIAN	16	5	3	1	0	25
SIDESWIPE - MEETING	4	9	3	0	0	16
PEDALCYCLES	8	0	2	0	0	10
PARKED VEHICLE	8	0	0	0	0	8
ANIMAL	1	3	1	1	0	6
OTHER NON-COLLISION	3	1	1	0	0	5
RIGHT TURN	3	0	0	1	0	4
BACKING	0	1	0	0	0	1
OTHER OBJECT	0	1	0	0	0	1
<b>GRAND TOTAL</b>	<b>213</b>	<b>209</b>	<b>86</b>	<b>49</b>	<b>4</b>	<b>561</b>

### OVERREPRESENTED CRASH TYPES

A more in-depth analysis was performed on the overrepresented crash types in the region to understand more about the problem and identify solutions. For this analysis 10 years of crash data were analyzed for a more detailed analysis to better determine why these crash types are overrepresented.

#### FIXED OBJECT CRASHES

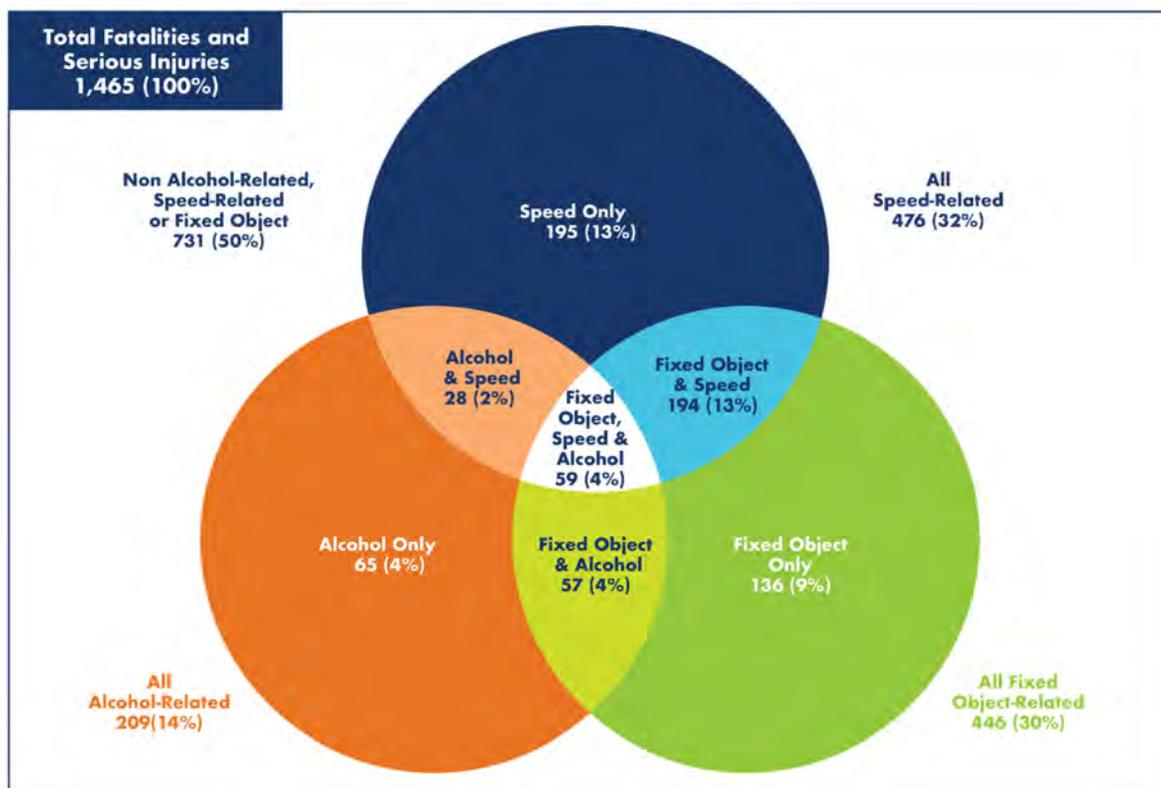
There were 8,224 fixed-object crashes between 2009 and 2018 with 35 crashes resulting in a fatality and 352 resulting in a serious injury. Fixed-object crashes occur when a vehicle leaves the roadway and collides with a stationary object such as a tree, utility pole, or ditch.

Speed, alcohol, striking a fixed-object, or a combination thereof contributed to 50 percent of all fatalities and serious injuries in Richland. In 21 percent of fatalities and serious injuries in Richland between 2009 and 2018, speed and/or alcohol were contributing factors in a fixed-object collision.

*“Speed, alcohol, striking a fixed object or a combination of the three contributed to 50 percent of all fatalities and serious injuries in the region.”*

## Existing Conditions—Understanding Safety Needs in the Region

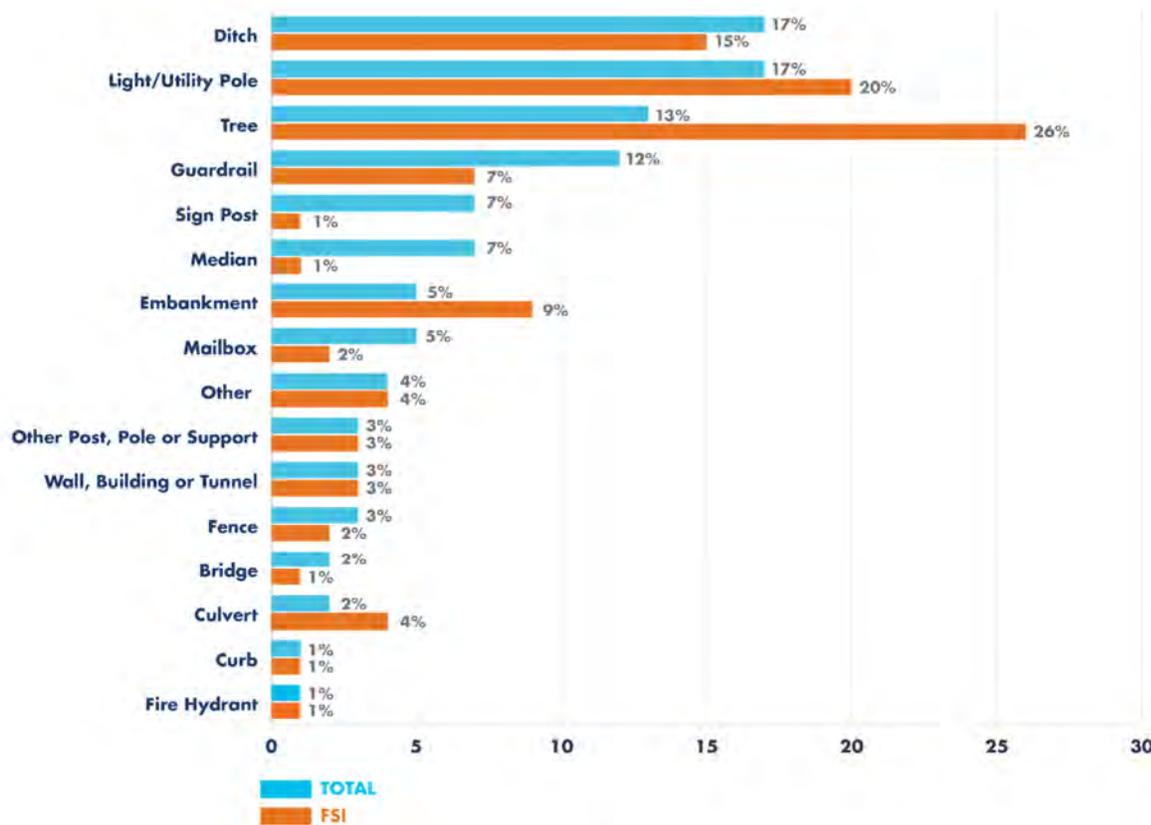
Figure 19: Fixed Object-Related Fatal and Serious Injury Crashes Primary Contributing Factors, 2009–2018



## Existing Conditions—Understanding Safety Needs in the Region

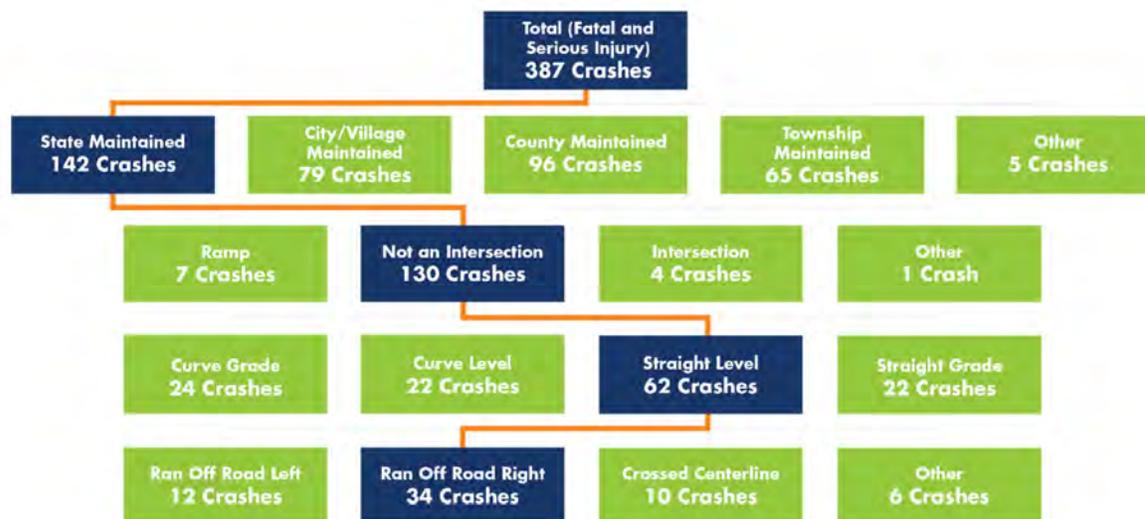
Ditches, utility poles, trees, and guardrails were the most commonly struck fixed objects. Trees were struck in 13 percent of all fixed-object crashes but in 26 percent of fatal and serious injury crashes.

Figure 20: Fixed Object-Related Fatal and Serious Injury Crashes by Object Struck, 2009–2018



Of the 1,387 fixed-object crashes that resulted in a fatality or serious injury, most occurred on State-maintained straight, level roadway segments not at intersections when the vehicle ran off the road to the right.

Figure 21: Fixed Object-Related Fatal and Serious Injury Crashes Crash Tree Diagram, 2009–2018

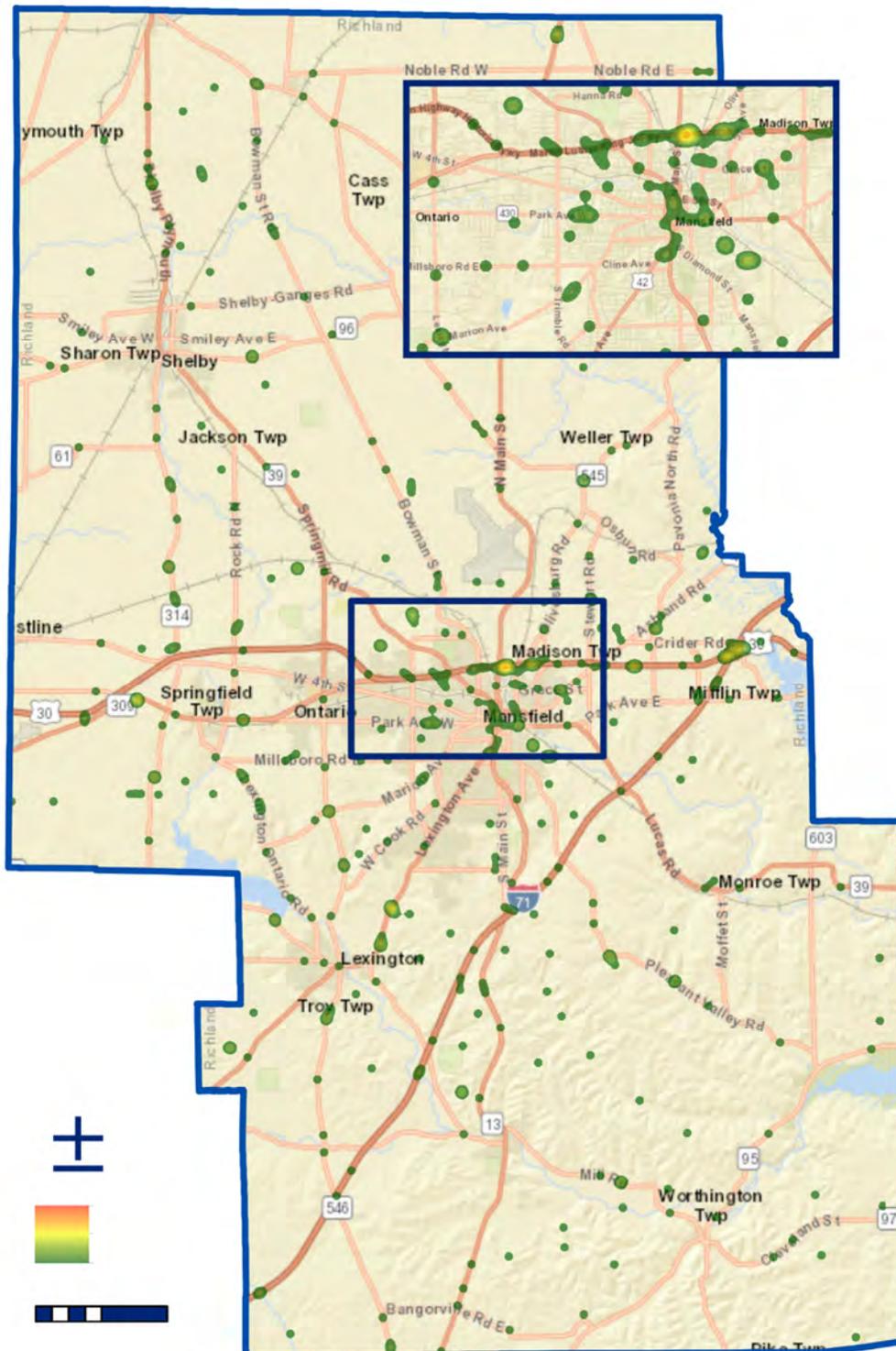


## Existing Conditions—Understanding Safety Needs in the Region

### FIXED OBJECT CRASH LOCATIONS

Fixed object crashes occurred throughout Richland County, but there are hot spots along I-71, Main Street, Plymouth-Springmill Road, U.S. 30, Hanley Road, and SR 13.

Figure 22: Fixed Object-Related Fatal and Serious Injury Crashes Heat Map, 2009–2018—Regionwide



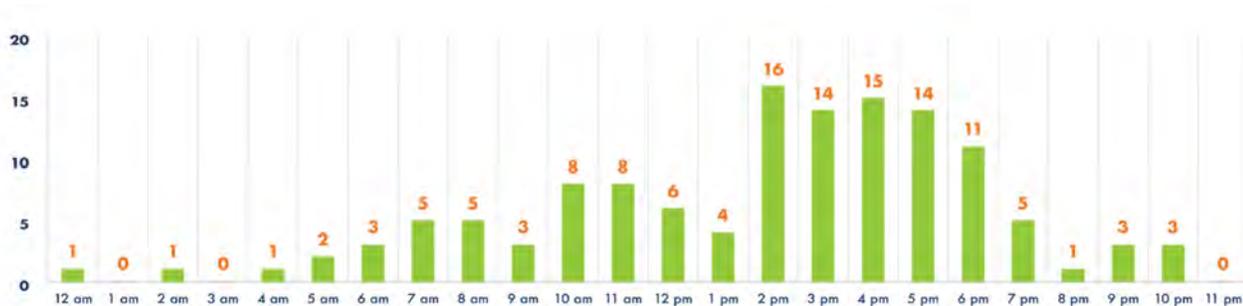
## Existing Conditions—Understanding Safety Needs in the Region

### REAR-END CRASHES

There were 7,084 rear-end crashes between 2009 and 2018 with six crashes resulting in a fatality and 123 resulting in a serious injury.

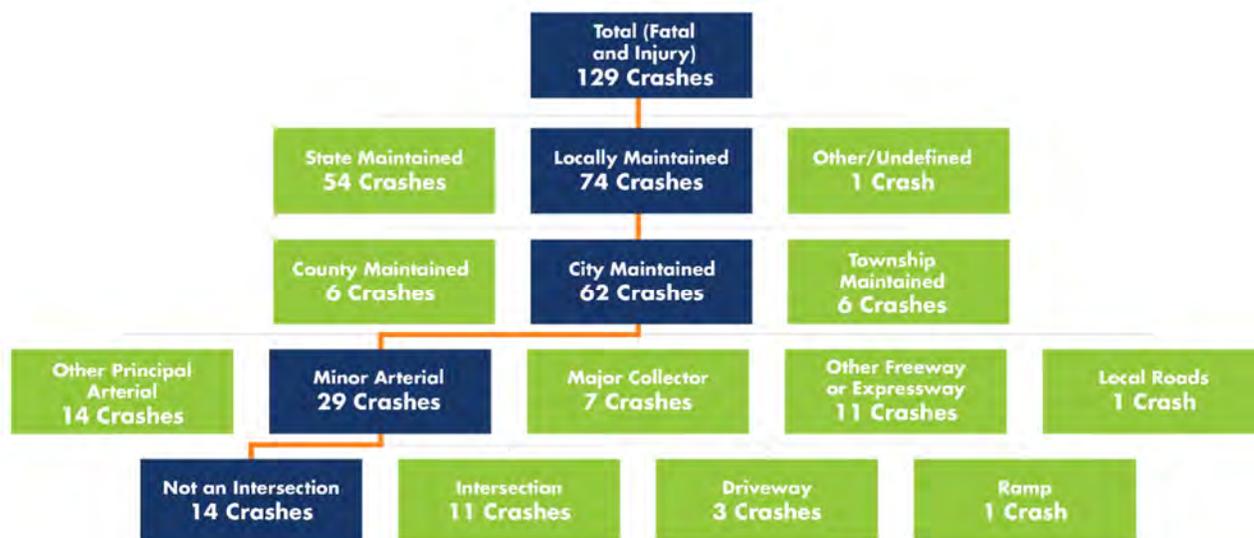
The frequency of fatal and injury rear-end crashes in Richland County spikes during peak periods of traffic volumes such as the morning peak period, lunch peak period, and afternoon/evening peak period. Severe rear-end crashes are less likely to occur in the late night or early morning hours.

Figure 23: Rear End-Related Fatal and Injury Crashes Time of Day, 2009–2018



In Richland County, fatal and injury rear-end crashes occur mostly on city maintained minor arterials. Furthermore, most of these rear-end crashes are not occurring at intersections which means they are likely happening at driveways along these routes where vehicles are slowing or stopping to turn into a driveway.

Figure 24: Rear End-Related Fatal and Injury Crashes Crash Tree Diagram, 2009–2018

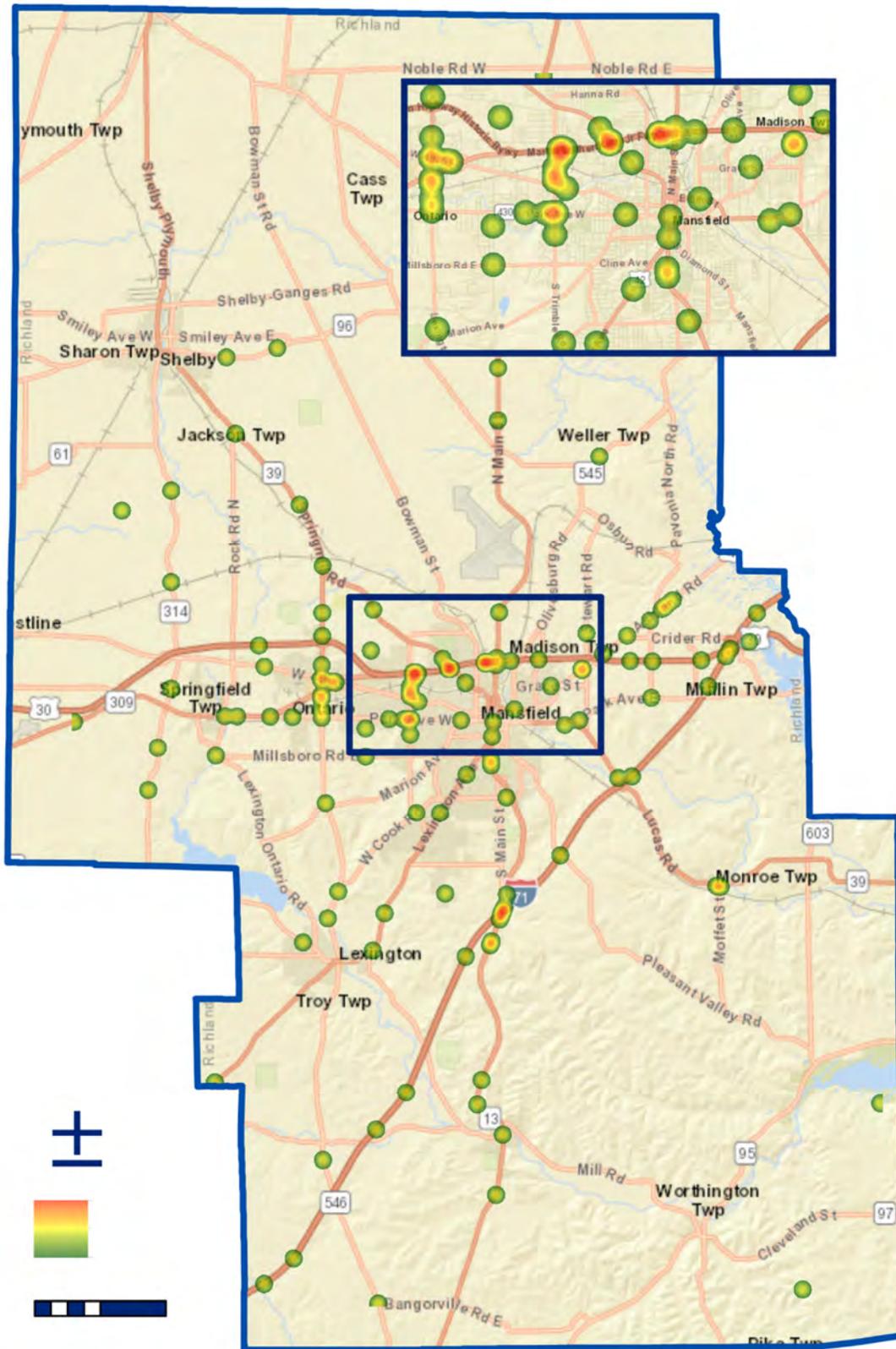


### REAR-END CRASH LOCATIONS

Most of the fatal and injury rear-end crashes occur along Lexington-Springmill Road, Trimble Road, Main Street, Park Avenue, and Lexington Avenue.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 25: Rear End-Related Fatal and Injury Crashes Heat Map, 2009–2018—Regionwide



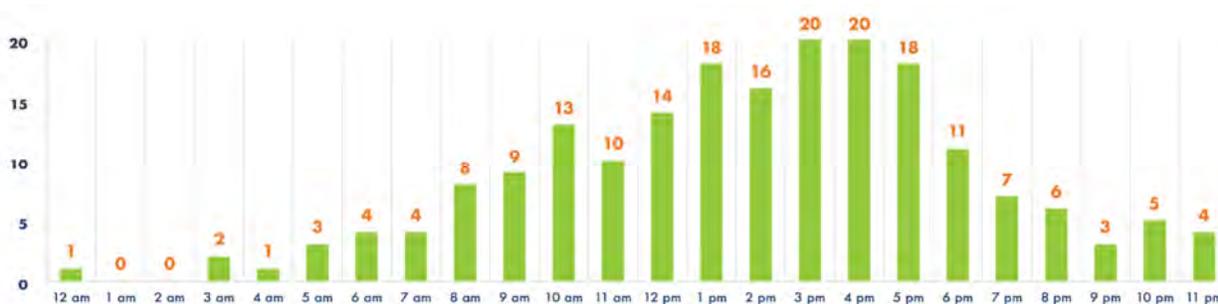
## Existing Conditions—Understanding Safety Needs in the Region

### ANGLE CRASHES

There were 3,643 crashes between 2009 and 2018 with 17 crashes resulting in a fatality and 180 resulting in a serious injury.

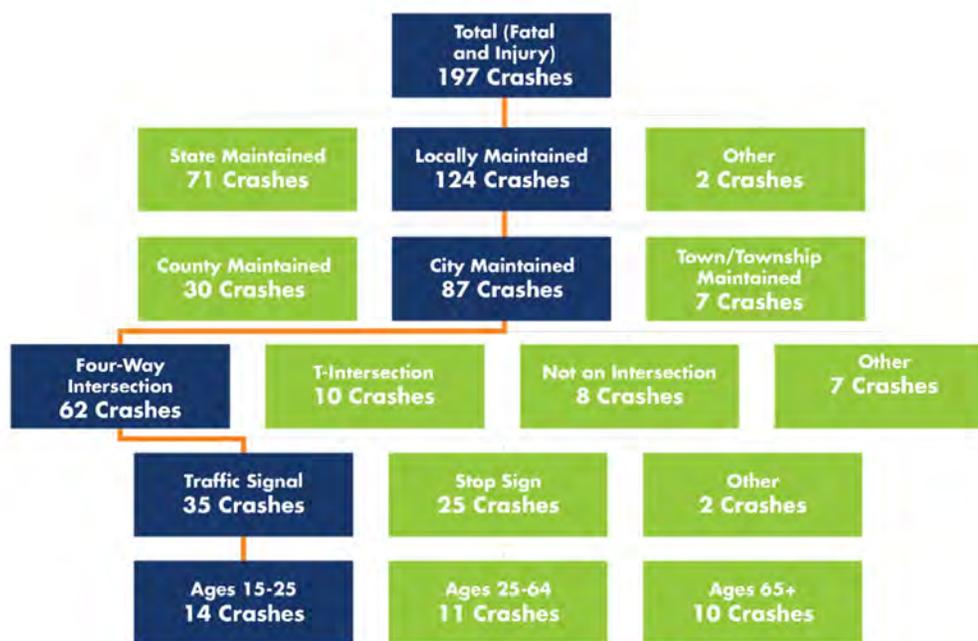
The frequency of angle crashes rises from 7:00 a.m. to 4:00 p.m. and then begins to decline in the evening and night hours. The majority of angle crashes occur between the hours of 1:00 p.m. and 5:00 p.m. This correlates with hours of peak traffic volumes in the region.

Figure 26: Angle Passing Fatal and Injury Crashes Time of Day Chart, 2009–2018



Most of the fatal and serious injury angle crashes occurred on city-maintained roadways, at four-way signalized intersections. Most often, young drivers between the ages of 15 and 25 were considered at fault in these crashes.

Figure 27: Angle Fatal and Injury Crashes Crash Tree Diagram, 2009–2018

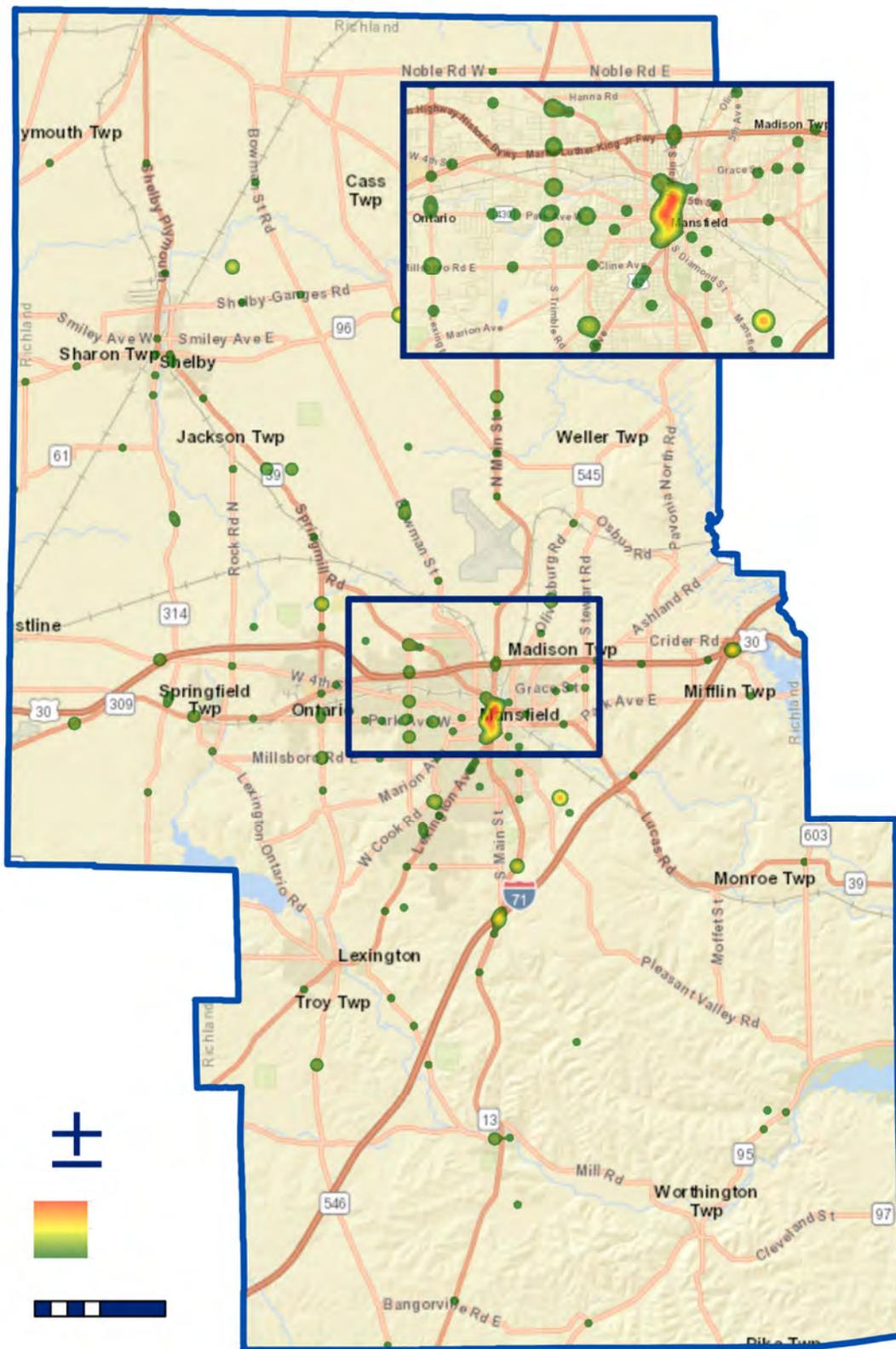


### ANGLE CRASH LOCATIONS

Angle crashes occurred throughout Richland County. Angle crashes resulting in fatalities and injuries occurred along Park Avenue, Main Street, Diamond Street, Trimble Road, Lexington-Springmill Road, Lexington Avenue and 4<sup>th</sup> Street.

## Existing Conditions—Understanding Safety Needs in the Region

Figure 28: Angle Fatal and Injury Crashes Heat Map, 2009–2018—Regionwide



# Emphasis Areas— Prioritized Focus Areas

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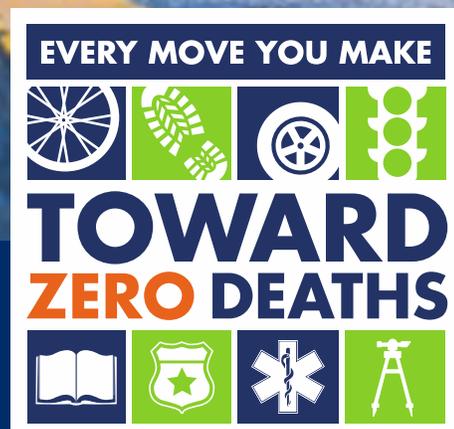
## SECTION CONTENT:

Roadway Departure

Speed

Intersections

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## 5 EMPHASIS AREAS—PRIORITIZED FOCUS AREAS

Several different factors contribute to, or can cause, a crash, such as impairment, speed, distraction, etc. At the statewide level, the Ohio Strategic Highway Safety Plan (SHSP) reviews a wide range of potential factors; identifies the top issues causing fatalities and serious injuries; and develops strategies and actions to address them. Agencies often refer to these primary contributing factors as emphasis areas, which means they receive additional “emphasis,” in the form of time and resources.

For Richland County, crash data for a 10-year timeframe (2009–2018), were evaluated to determine the top contributors to crashes, or the local emphasis areas.

	STATEWIDE	RICHLAND COUNTY	RICHLAND COUNTY - LOCAL ROADS ONLY
ROADWAY DEPARTURE	37.6%	47.6%	42.6%
INTERSECTION	36.6%	37.3%	43.1%
RAILROAD CROSSING	0.3%	0.0%	0.0%
ALCOHOL RELATED INVOLVEMENT	17.1%	14.3%	15.2%
RESTRAINTS NOT USED DRIVER/OCCUPANTS	19.3%	25.9%	24.5%
SPEED RELATED INVOLVEMENT	23.9%	32.5%	30.7%
YOUNG DRIVER INVOLVEMENT (15-25)	37.3%	41.7%	40.0%
OLDER DRIVER INVOLVEMENT (65+)	17.4%	18.2%	18.1%
DISTRACTED DRIVERS	2.8%	9.4%	9.2%
MOTORCYCLE DRIVER/PASSENGER	8.6%	11.7%	12.9%
PEDESTRIAN INVOLVEMENT	11.4%	3.7%	4.8%
BICYCLE INVOLVEMENT	6.4%	1.2%	1.8%
WORK ZONE RELATED	2.1%	0.8%	0.5%
DRUG RELATED INVOLVEMENT	1.6%	5.7%	5.4%
REAR END	7.4%	11.7%	11.2%

■ ABOVE STATEWIDE AVERAGE    ■ BELOW STATEWIDE AVERAGE

The 10 years of data

provide enough information for an in-depth analysis of these contributing factors so that strategies that mitigate crashes can be accurately identified.

Intersections, roadway departures, and speed contribute significantly to the safety challenges in the County. Young driver crashes also are high, but stakeholders felt that solutions to address these crashes could be done in coordination with the other three major emphasis areas.

Based on the results of the crash analysis, stakeholder input, feasibility to address the problem in the County and alignment or relationship to the Ohio SHSP, the following were prioritized for the region to help focus implementation efforts.



**ROADWAY  
DEPARTURE**



**SPEED**



**INTERSECTIONS**



# ROADWAY DEPARTURE



Between 2009 and 2018, 47 percent of the fatal and serious injury crashes in Richland County involved a vehicle exiting the roadway. On average, seven to eight people a year were fatally injured in a crash involving roadway departure and 66 to 67 people were seriously injured. Based on the historical trends, fatalities and serious injuries are slightly decreasing in Richland County.

Figure 30: Roadway Departure Fatal and Serious Injury Crashes Five-Year Rolling Average, 2009–2018



Factors contributing to fatalities and serious injuries involving roadway departure were unrestrained occupants, young driver involvement, speed, and impaired drivers. In 58 percent of fatalities involving roadway departure, the driver and/or occupants were unrestrained.

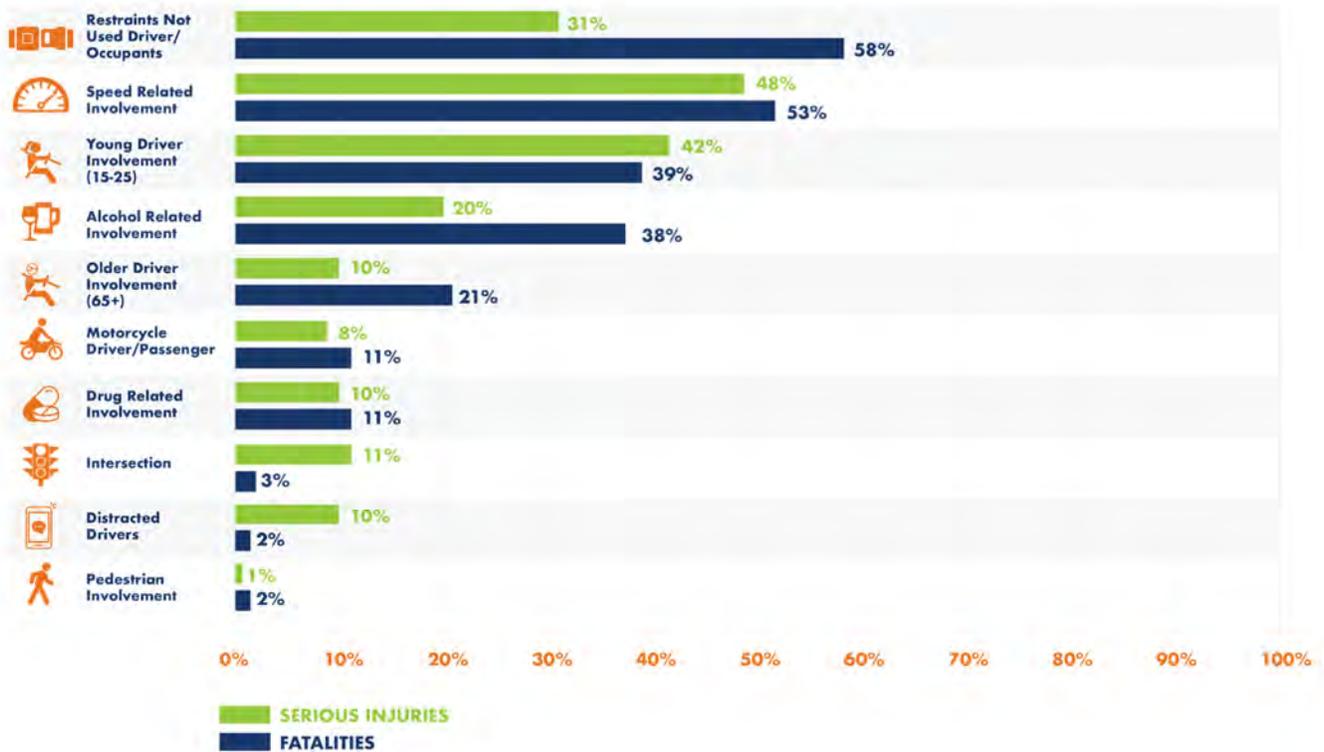




# ROADWAY DEPARTURE

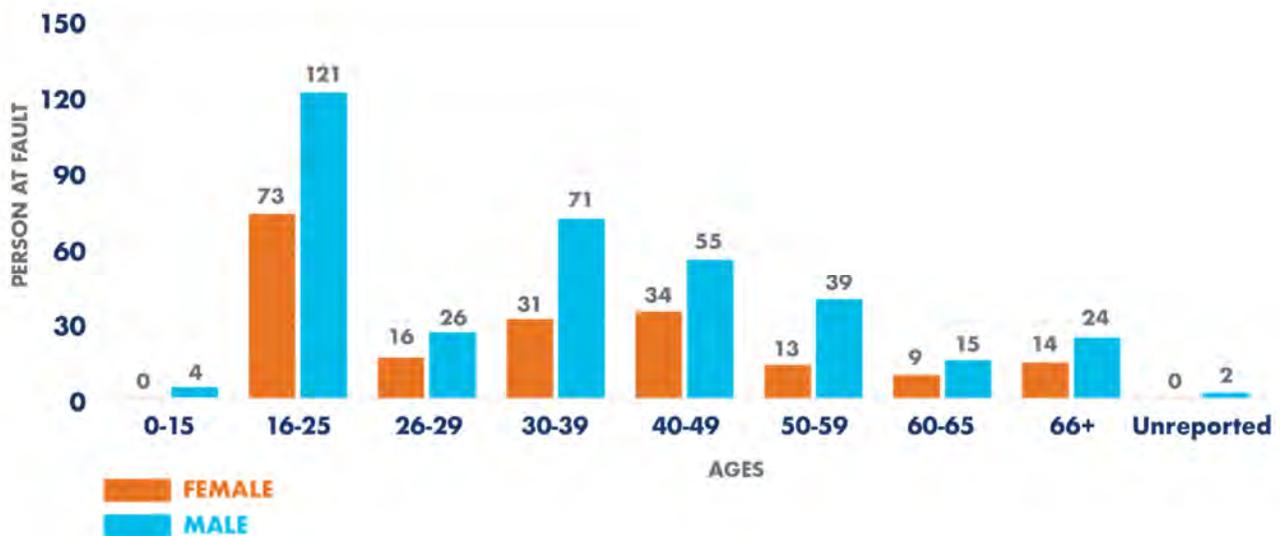


Figure 31: Roadway Departure Fatal and Serious Injury Crashes Overlaps, 2009–2018



**WHO?** The vast majority of at-fault drivers in roadway departure crashes resulting in a fatality or injury were between the ages of 16 and 25. Most often, at-fault drivers in roadway departure crashes were male.

Figure 32: Roadway Departure Fatal and Serious Injury Crashes Age/Gender, 2009–2018



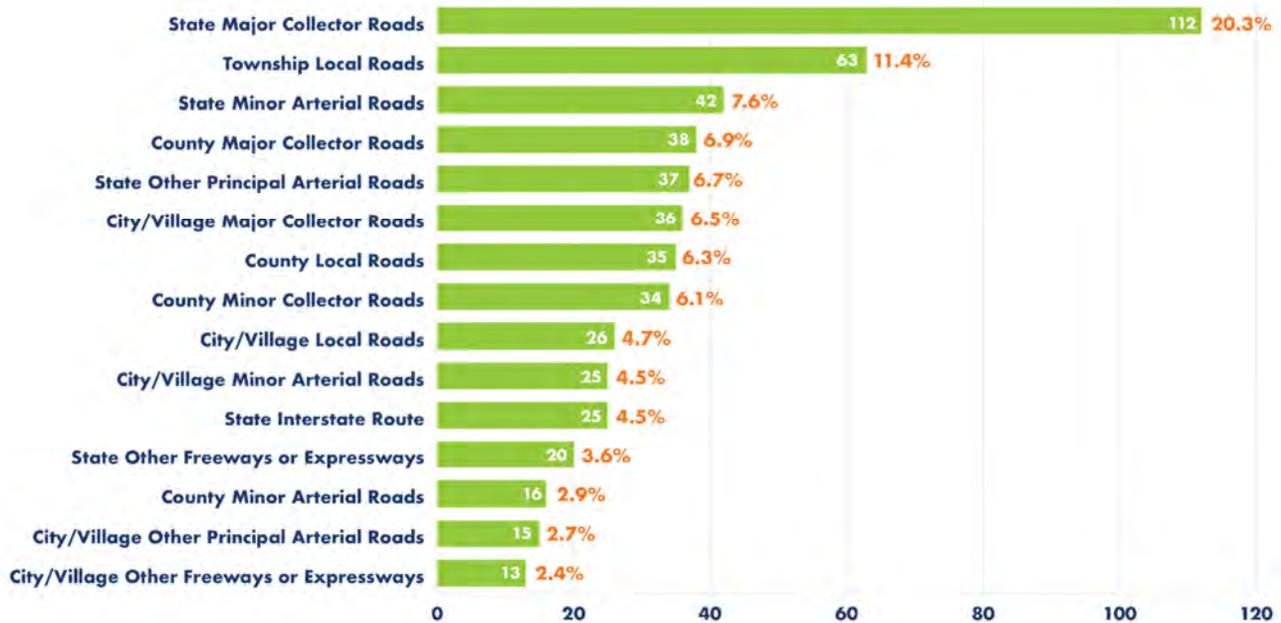


# ROADWAY DEPARTURE



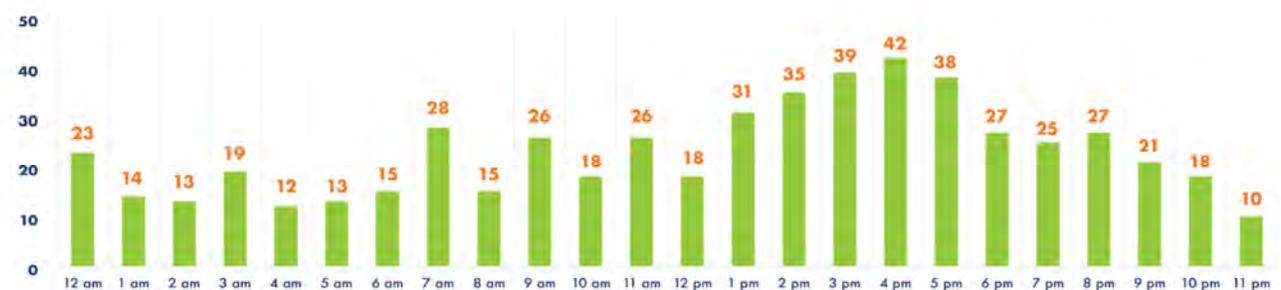
**WHERE?** Nearly 43 percent of roadway departure-related fatalities and serious injuries occurred on State-maintained facilities, with over 20 percent occurring on State Major Collector roads (i.e., SR 61, SR 95, SR 97, and SR 314). An additional 11.4 percent of fatal or serious injury crashes involving roadway departure occurred on local roads maintained by townships (i.e., Fleming Falls Road, Kings Corner Road, Mansfield Road, Noble Road, Peterson Road, Reed Road, Spayde Road, St. James Road, and Stoffer Road).

Figure 33: Roadway Departure Fatal and Serious Injury Crashes Roadway Functional Class, 2009–2018



**WHEN?** Fatal and serious injury crashes involving roadway departure occurred throughout the day with a peak occurring between 1:00 p.m. and 5:00 p.m. Fatal and serious injury crashes involving roadway departure occurred consistently throughout the week with a peak on Friday and Saturday.

Figure 34: Young Driver-Related Fatal and Serious Injury Crashes Time of Day, 2009–2018

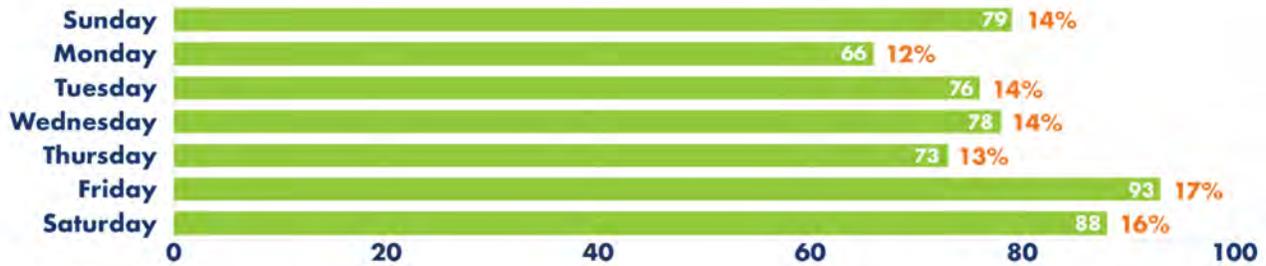




# ROADWAY DEPARTURE



Figure 35: Roadway Departure Fatal and Serious Injury Crashes Day of Week, 2009–2018



**WHY?** Nearly 67 percent of roadway departure-related fatal and serious injury crashes were fixed-object crashes. Together with head on collisions, these two crash types account for almost 78 percent of all fatal and serious injury crashes in Richland County involving roadway departure.

Figure 36: Roadway Departure Fatal and Serious Injury Crashes by Type, 2009–2018

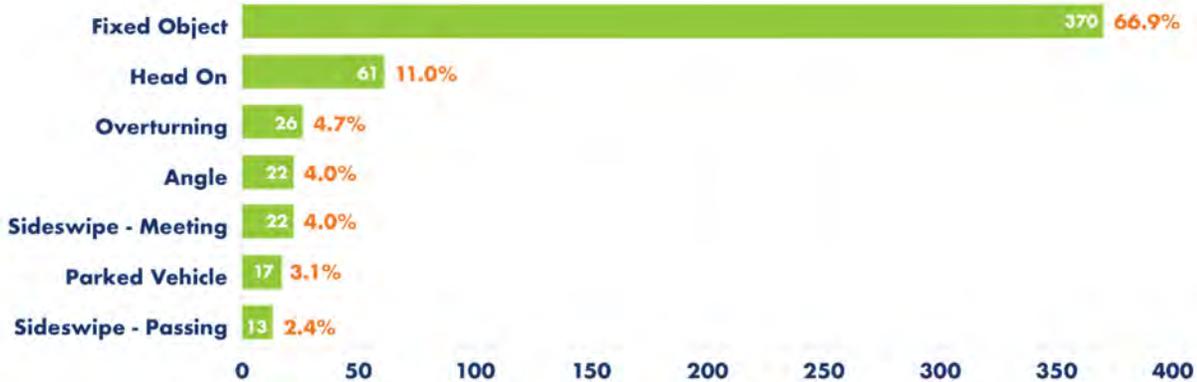


Figure 37: Roadway Departure Fatal and Serious Injury Crashes by Type, 2009–2018

CRASH TYPE	FATALITIES				SERIOUS INJURIES			
	Total Fatalities	Roadway Departure-Related	% Roadway Departure Related	% All Fatalities (Roadway Departure Related)	Total Injuries	Roadway Departure-Related	% Roadway Departure Related	% All Serious Injuries (Roadway Departure Related)
Fixed Object	39	38	97%	35%	407	391	96%	29%
Head On	23	18	78%	17%	148	98	66%	7%
Overturning	3	3	100%	3%	51	26	51%	2%
Sideswipe - Meeting	1	1	100%	1%	30	28	93%	2%
Angle	18	2	11%	2%	246	26	11%	2%
Parked Vehicle	3	3	100%	3%	21	20	95%	1%
Sideswipe - Passing	4	0	0%	0%	70	18	26%	1%
Left Turn	2	0	0%	0%	114	10	9%	1%
Pedestrian	7	1	14%	1%	47	4	9%	0%
<b>TOTAL (All Crash Types)</b>	<b>108</b>	<b>66</b>	<b>61%</b>	<b>61%</b>	<b>1,357</b>	<b>631</b>	<b>46%</b>	<b>46%</b>



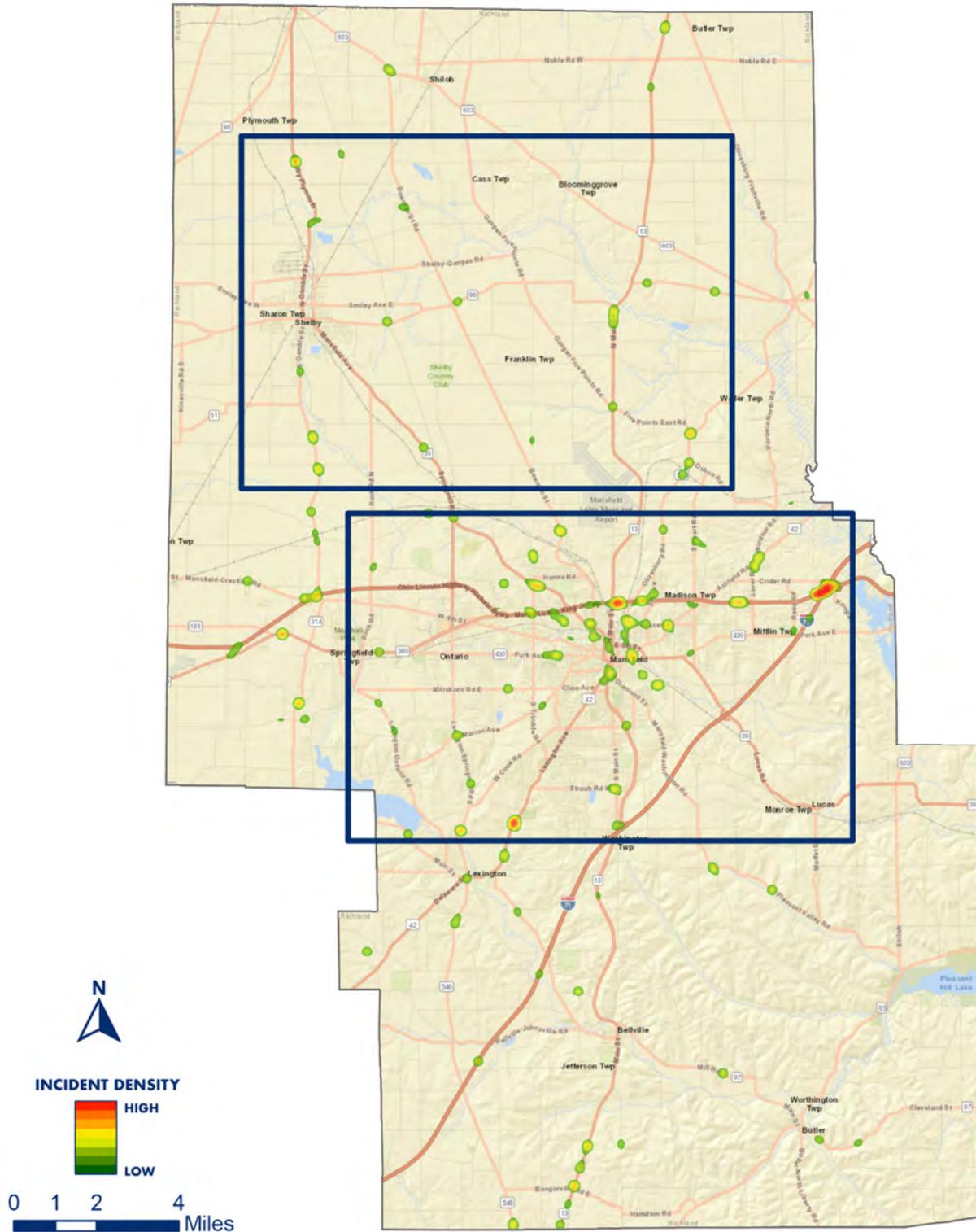


# ROADWAY DEPARTURE



Most of the roadway departure fatal and serious injury crashes occurred in or surrounding Mansfield. There were concentrations of crashes involving roadway departure crashes along U.S. 30, I-71, and Lexington Avenue.

Figure 38: Roadway Departure Fatal and Serious Injury Crashes Heat Map, 2009–2018—Regionwide

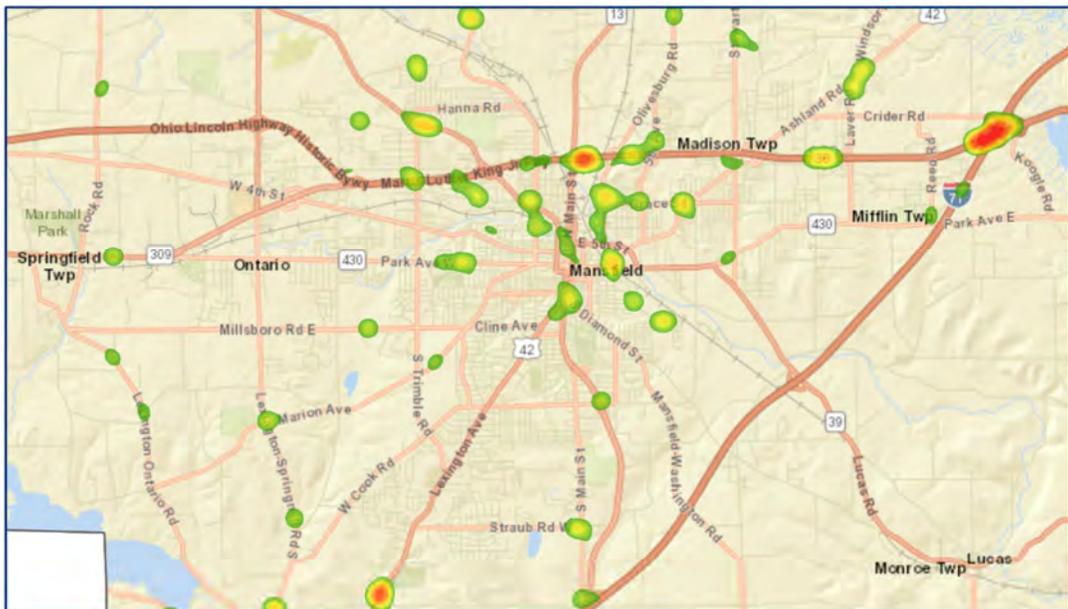
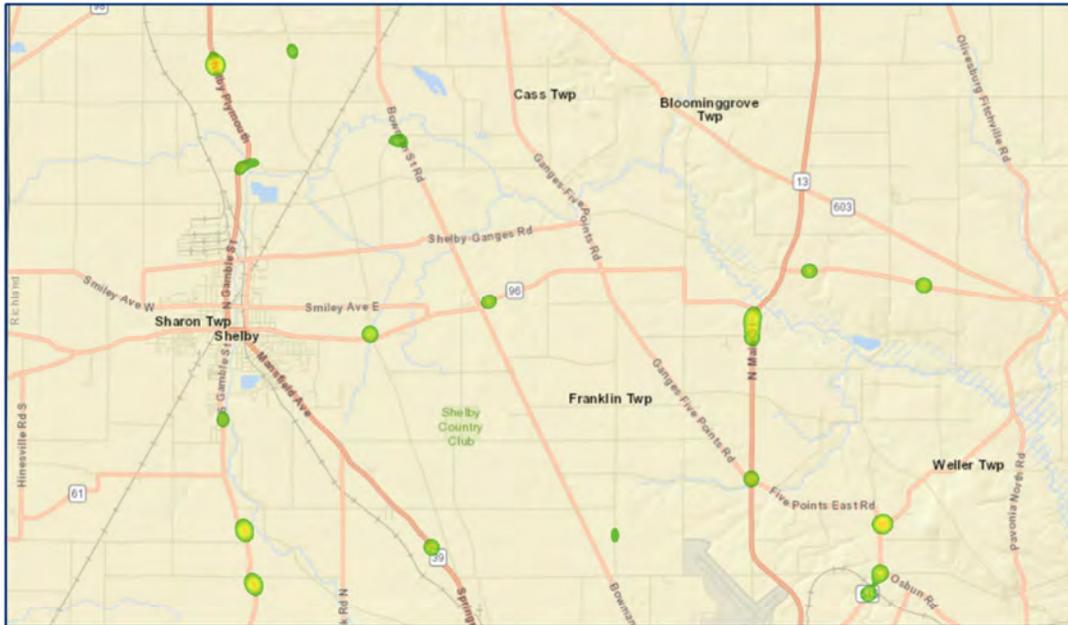




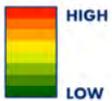
# ROADWAY DEPARTURE



Figure 39: Roadway Departure Fatal and Serious Injury Crashes Heat Map, 2009–2018—Focus Area



INCIDENT DENSITY



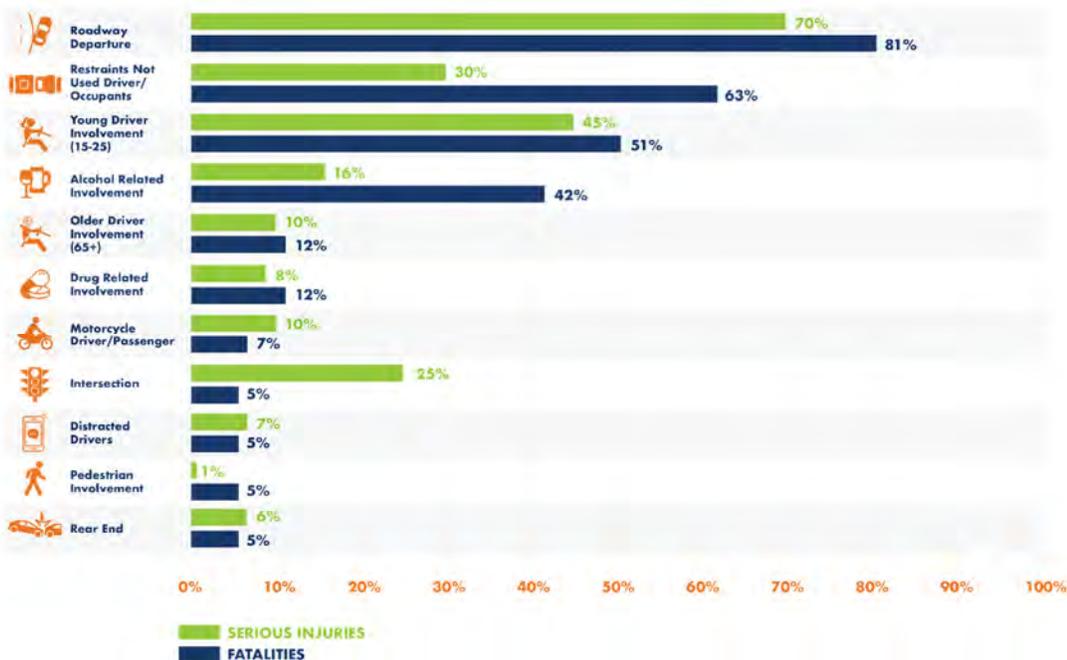
Between 2009 and 2018, crashes involving speeding contributed to nearly 33 percent of all fatal and serious injury crashes in Richland County. On average, four to five people were fatally injured, and 43 to 44 people were seriously injured each year in a crash involving speeding. Fortunately, based on historical data, both fatalities and serious injuries involving speeding are slightly decreasing.

Figure 40: Speed-Related Fatal and Serious Injury Crashes Five-Year Rolling Average, 2009–2018



Usually multiple factors contribute to a crash. Most commonly, fatalities involving speeding involved roadway departure, occupants not wearing a seat belt, alcohol, young driver involvement, or a combination thereof. Serious injury crashes involving speeding most often occurred with roadway departure and with young drivers involved.

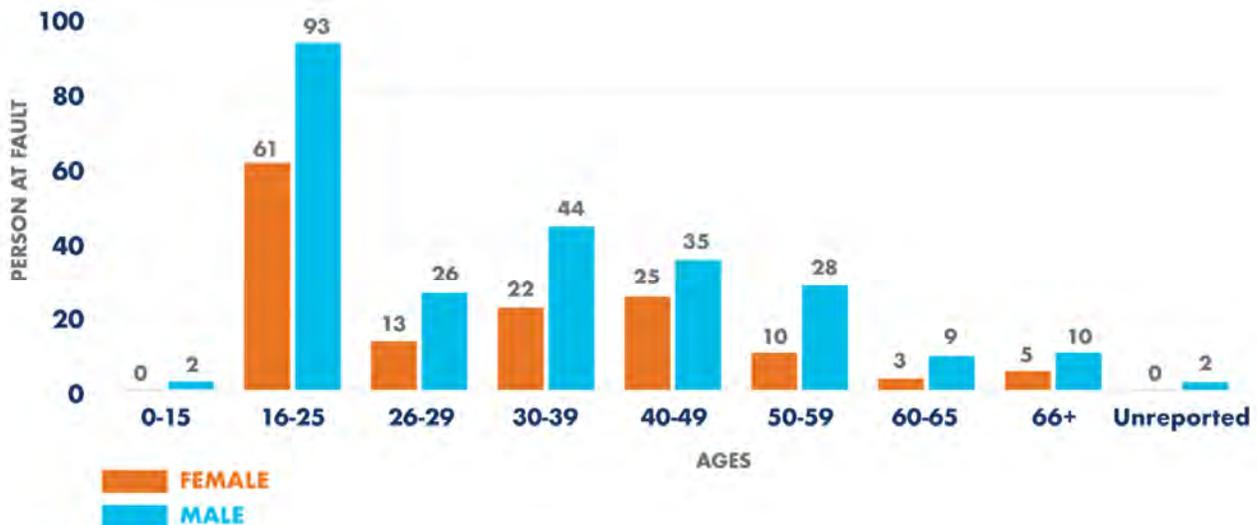
Figure 41: Speed-Related Fatal and Serious Injury Crashes Overlaps, 2009–2018





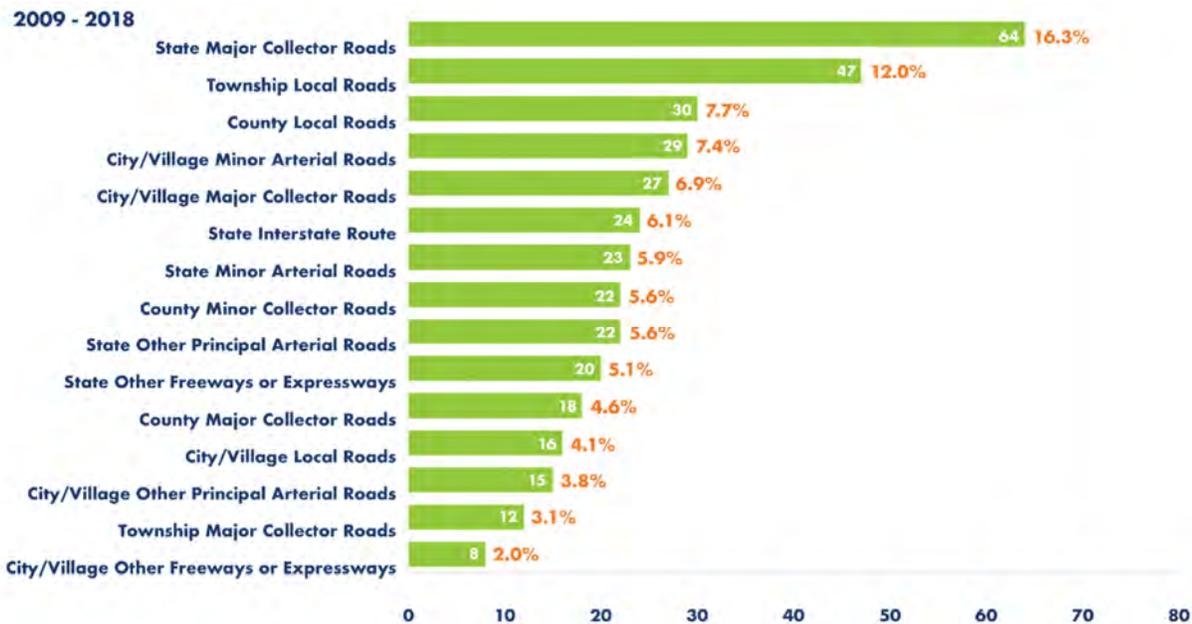
**WHO?** The majority of at-fault drivers in speed-related crashes resulting in a fatality or serious injury were male. Most of the drivers were between the ages of 16 and 25 years old.

Figure 42: Speed-Related Fatal and Injury Crashes Age/Gender, 2009–2018



**WHERE?** Over 39 percent of speed-related fatalities and serious injuries occurred on State-maintained facilities, with nearly 16 percent occurring on State-maintained Major Collector roads (i.e., SR 314, SR 61 and SR 545). An additional 12 percent of fatal or serious injury crashes involving speed occurred on local roads maintained by townships (i.e., Fleming Falls Road, Mansfield Road, Noble Road, Piper Road, and Spayde Road).

Figure 43: Speed-Related Fatal and Serious Injury Crashes Roadway Functional Class, 2009–2018



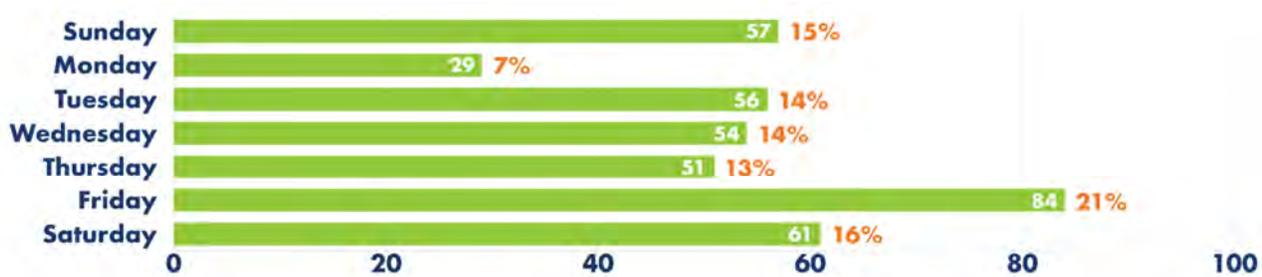


**WHEN?** The majority of fatal and injury crashes involving speed occurred throughout the day with a peak occurring between 2:00 p.m. and 5:00 p.m. correlating with the evening peak hour. 49 percent of speed-related fatal or injury crashes occurred on Thursday, Friday, and Saturday.

Figure 44: Speed-Related Fatal and Serious Injury Crashes Time Of Day, 2009–2018



Figure 45: Speed-Related Fatal and Serious Injury Crashes Day of Week, 2009–2018



**WHY?** Approximately 55 percent of speed-related fatal and injury crashes involved the vehicle leaving the roadway and striking a stationary object like a utility pole, tree, or mailbox. The next most common crash type was angle crashes, which accounted for almost 12 percent of speed-related fatal and injury crashes.

Figure 46: Speed-Related Fatal and Serious Injury Crashes by Type, 2009–2018

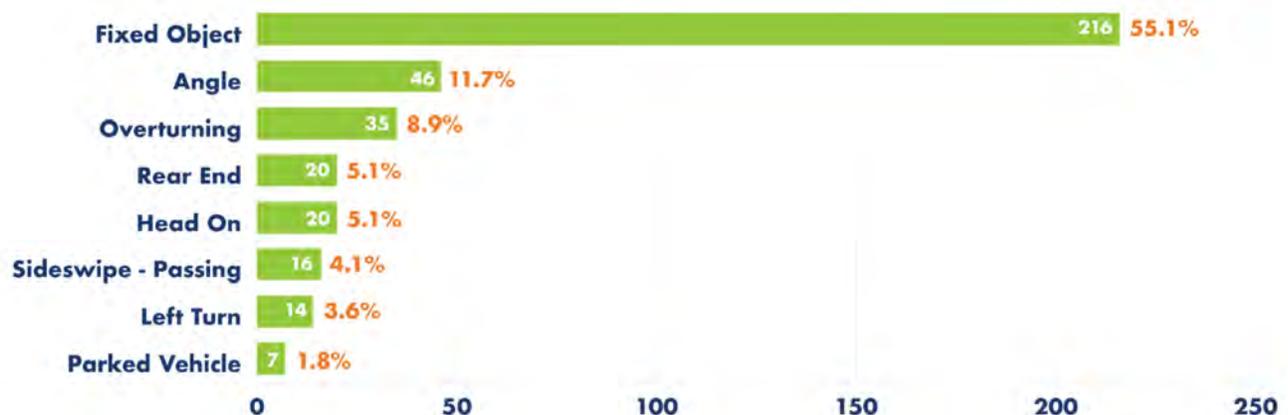


Figure 47: Speed-Related Fatal and Serious Injury Crashes by Type, 2009–2018

CRASH TYPE	FATALITIES				SERIOUS INJURIES			
	Total Fatalities	Speed-Related	% Speed Related	% All Fatalities (Speed Related)	Total Injuries	Speed-Related	% Speed Related	% All Serious Injuries (Speed Related)
Fixed Object	39	24	62%	22%	407	229	56%	17%
Angle	18	3	17%	3%	246	57	23%	4%
Overtaking	3	3	100%	3%	51	37	73%	3%
Head On	23	5	22%	5%	148	27	18%	2%
Rear End	6	2	33%	2%	166	25	15%	2%
Sideswipe - Passing	4	1	25%	1%	70	19	27%	1%
Left Turn	2	1	50%	1%	114	14	12%	1%
Parked Vehicle	3	1	33%	1%	21	10	48%	1%
Pedestrian	7	2	29%	2%	47	4	9%	0%
Sideswipe - Meeting	1	1	100%	1%	30	5	17%	0%
<b>TOTAL (All Crash Types)</b>	<b>108</b>	<b>43</b>	<b>40%</b>	<b>40%</b>	<b>1,357</b>	<b>433</b>	<b>32%</b>	<b>32%</b>

Speed-related fatal and serious injury crashes occurred throughout Richland County. There were concentrations of crashes involving distraction along U.S. 30, Main Street, Ashland Road, and Grace Street in and surrounding Mansfield.

Figure 48: Speed-Related Fatal and Serious Injury Crashes Heat Map, 2009–2018—Regionwide

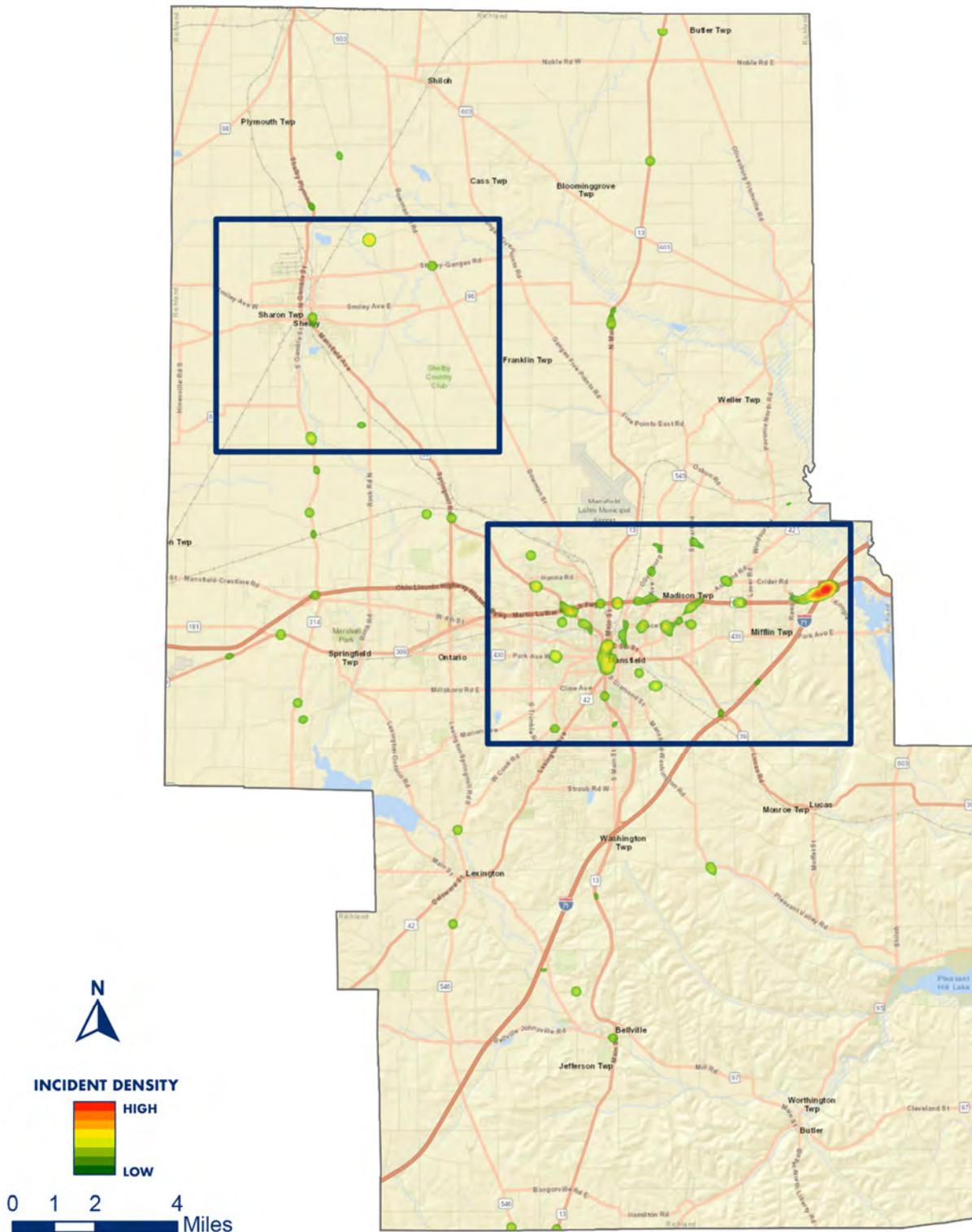
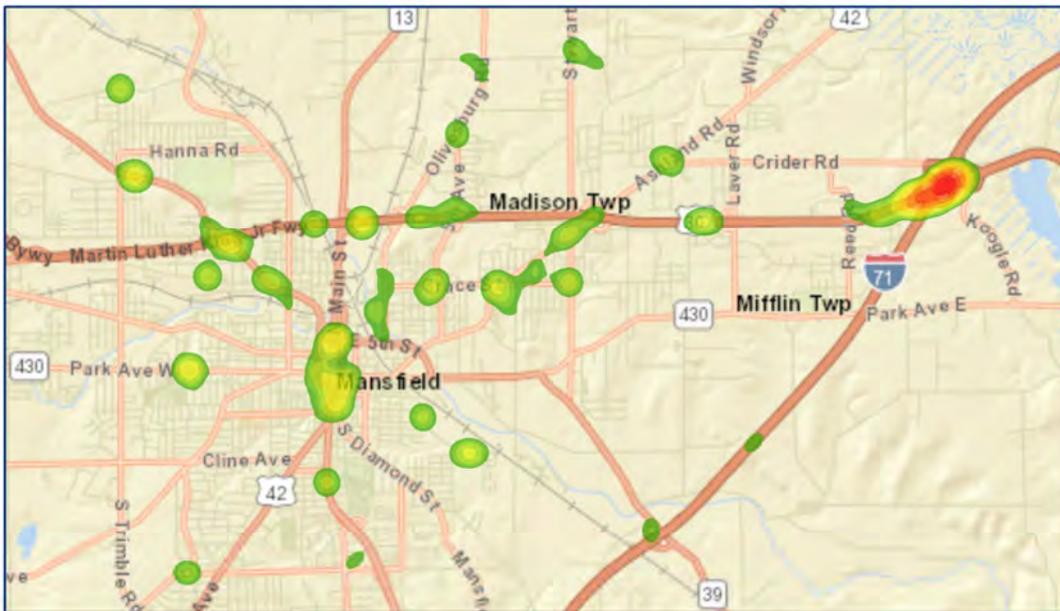
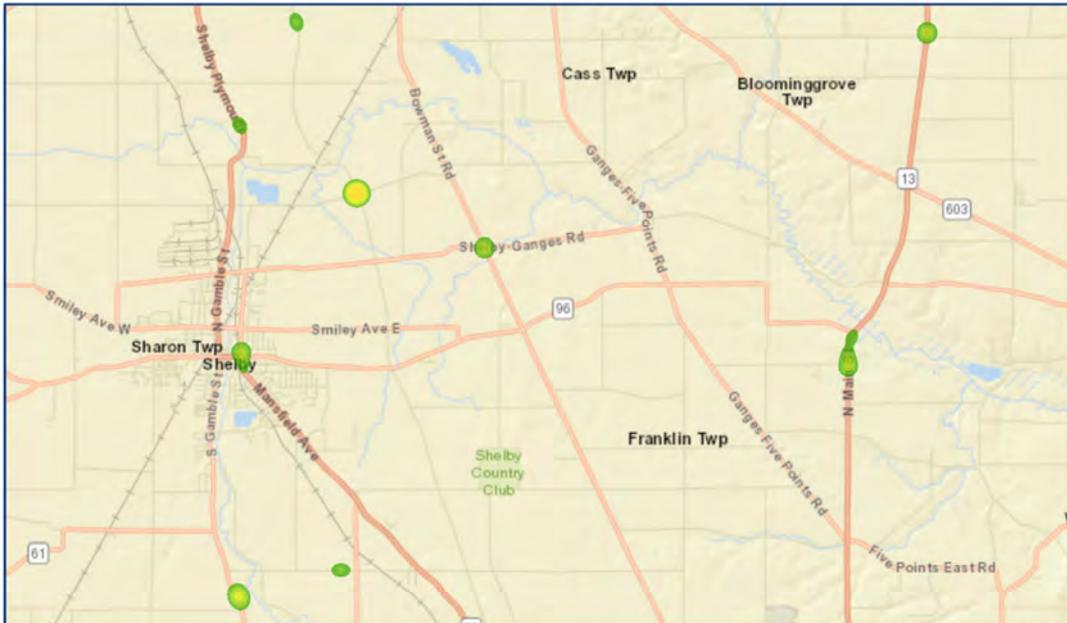


Figure 49: Speed-Related Fatal and Serious Injury Crashes Heat Map, 2009–2018—Focus Area



INCIDENT DENSITY





# INTERSECTIONS



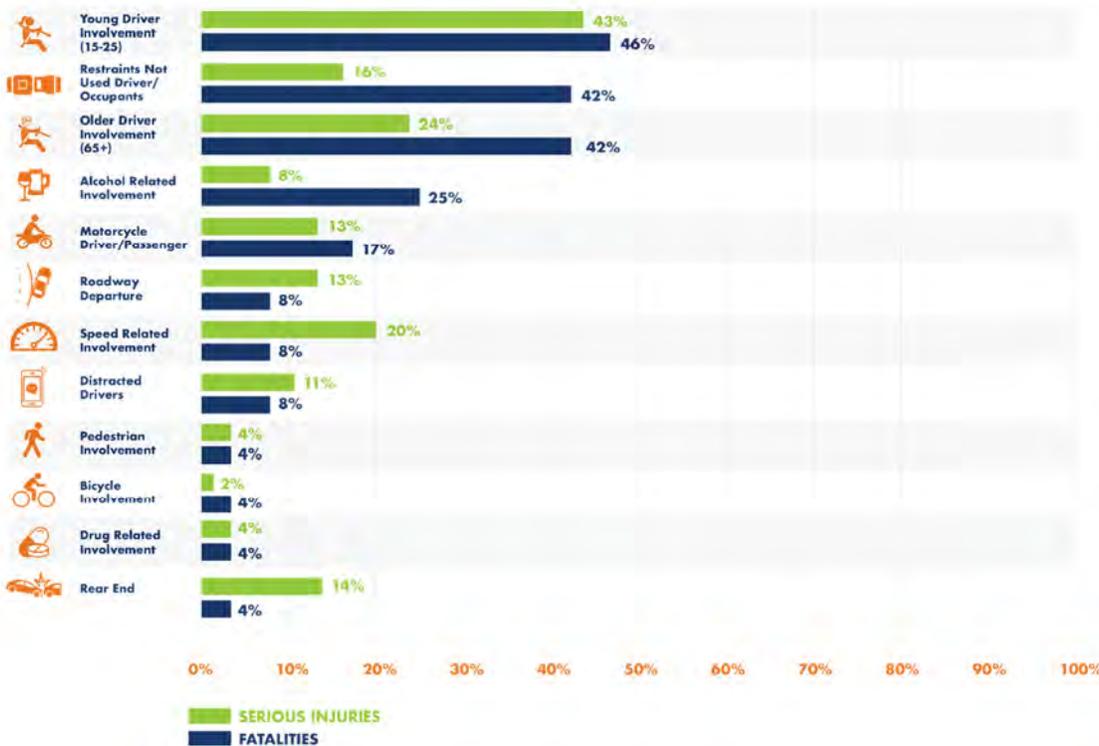
Between 2009 and 2018, crashes at intersections contributed to 37 percent of all fatal and serious injury crashes in Richland County. On average, two to three people were fatally injured, and 52 to 53 people were seriously injured each year in a crash at an intersection. Based on historical data, the frequency of fatal crashes is decreasing, while the serious injury crashes at intersections are increasing every year in Richland County.

Figure 50: Intersection-Related Fatal and Serious Injury Crashes Five-Year Rolling Average, 2009–2018



Usually multiple factors contribute to a crash. Most commonly, unbelted occupants, alcohol, and young or older driver involvement contribute to fatalities at intersection crashes in Richland County. Young drivers are involved in 46 percent of fatalities and 43 percent of serious injuries at intersections.

Figure 51: Intersection-Related Fatal and Serious Injury Crashes Overlaps, 2009–2018



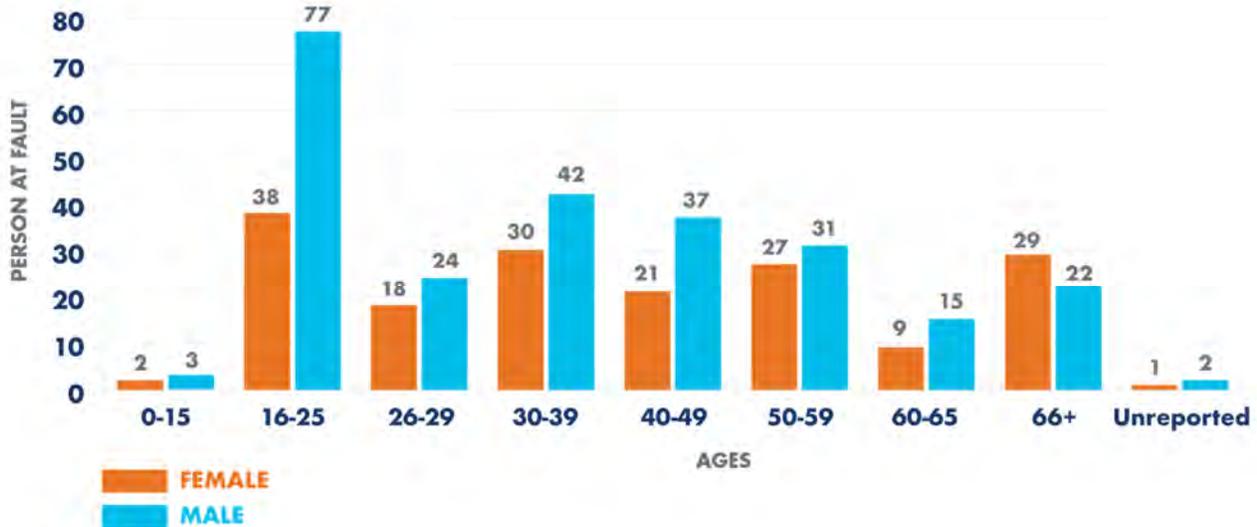


# INTERSECTIONS



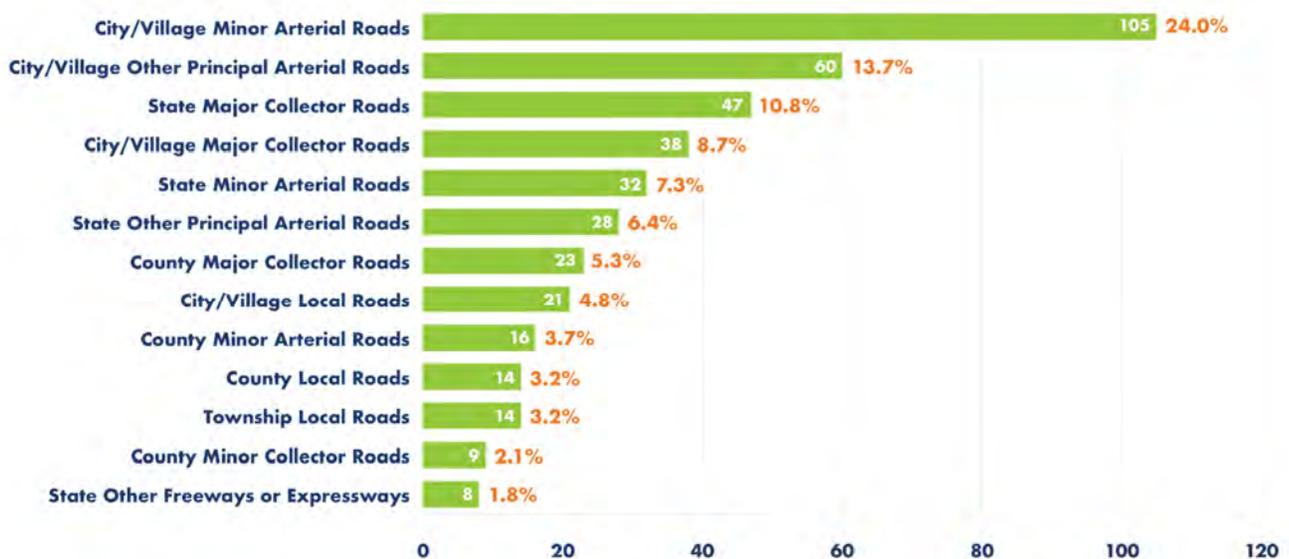
**WHO?** The vast majority of at-fault drivers in intersection-related crashes were young drivers between the ages of 16 and 25. In general, males were most cited for contributing to intersection crashes.

Figure 52: Intersection-Related Fatal and Serious Injury Crashes Age/Gender, 2009–2018



**WHERE?** Over 51 percent of fatal and injury intersection crashes occurred on city/village-maintained facilities. Another 25 percent of these crashes happened on State-maintained roadways. 24 percent of fatal and injury intersection-related crashes in Richland County occur on Minor Arterial roads maintained by cities or villages (i.e., Cook Road, Lexington Road, Park Avenue, and Trimble Road). Another nearly 14 percent of intersection-related crashes occurred on city/village-maintained Other Principal Arterials Roads (i.e., Diamond Street, Lexington Avenue, and Main Street in Mansfield).

Figure 53: Intersection-Related Fatal and Serious Injury Crashes Roadway Functional Class, 2009–2018





# INTERSECTIONS



**WHEN?** Intersection crashes generally correlated with the hours of peak traffic volumes, starting with the peak in the morning and rising until around 4:00 p.m. Nineteen percent of intersection fatal and injury crashes occurred on Friday with the fewest crashes occurring on Sundays and Mondays.

Figure 54: Intersection-Related Fatal and Serious Injury Crashes Time of Day, 2009–2018

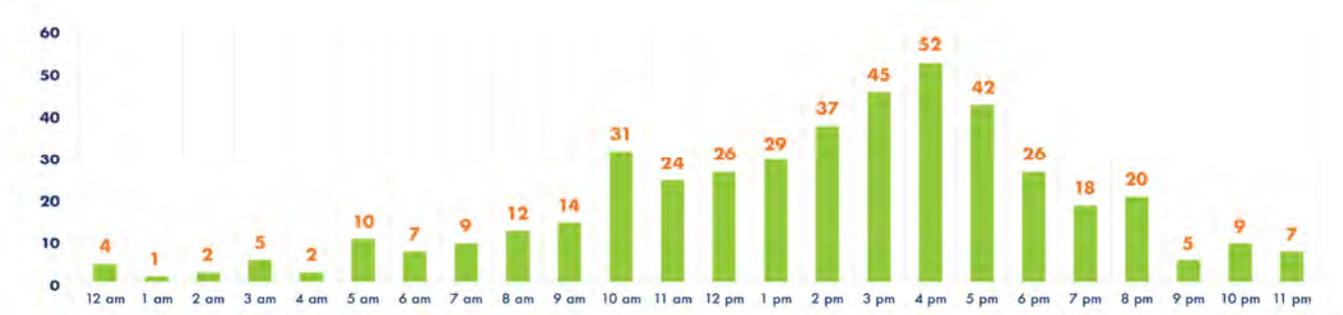
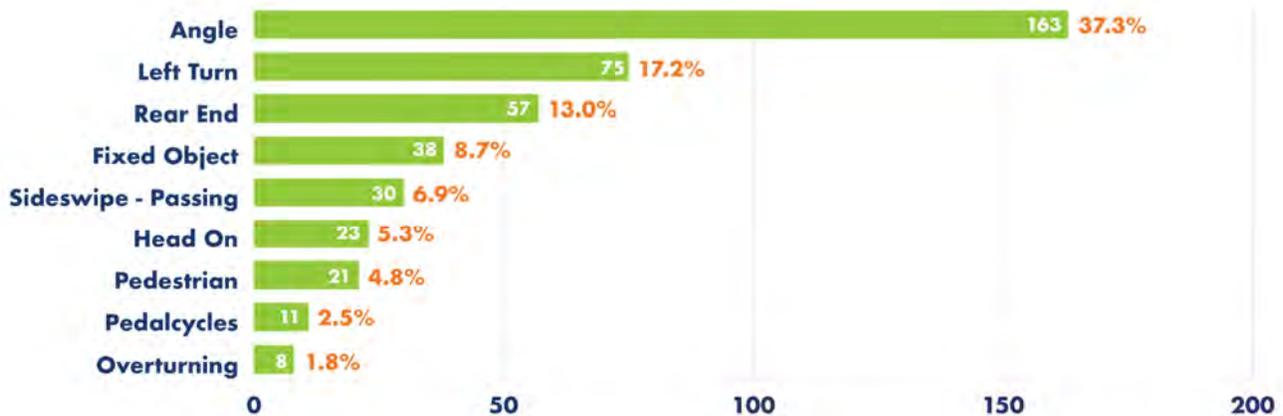


Figure 55: Intersection-Related Fatal and Serious Injury Crashes Day of Week, 2009–2018



**WHY?** Nearly 37 percent of fatal and injury crashes at intersections in Richland County were angle collisions. Angle crashes, left-turn crashes, and rear-end crashes accounted for nearly 68 percent of all fatal and injury crashes at intersections in Richland County. These crash types are typical at intersections nationwide.

Figure 56: Intersection-Related Fatal and Serious Injury Crashes by Type Chart, 2009–2018





# INTERSECTIONS



Figure 57: Intersection-Related Fatal and Serious Injury Crashes by Type Chart, 2009–2018

CRASH TYPE	FATALITIES				SERIOUS INJURIES			
	Total Fatalities	Intersection-Related	% Intersection Related	% All Fatalities (Intersection Related)	Total Injuries	Intersection-Related	% Intersection Related	% All Serious Injuries (Intersection Related)
Angle	18	14	78%	13%	246	210	85%	15%
Fixed Object	39	2	5%	2%	407	39	10%	3%
Left Turn	2	2	100%	2%	114	81	71%	6%
Sideswipe - Passing	4	2	50%	2%	70	37	53%	3%
Rear End	6	1	17%	1%	166	72	43%	5%
Pedestrian	7	1	14%	1%	47	20	43%	1%
Pedalcycles	2	1	50%	1%	15	10	67%	1%
Head On	23	1	4%	1%	148	31	21%	2%
<b>TOTAL (All Crash Types)</b>	<b>108</b>	<b>24</b>	<b>22%</b>	<b>22%</b>	<b>1,357</b>	<b>522</b>	<b>38%</b>	<b>38%</b>

Fatal and serious injury crashes at intersections occurred mostly in the Mansfield area. A concentration of intersection crashes occurred along Main Street, Park Avenue, Lexington-Springmill Road, Trimble Road, and Ashland Road in Mansfield. Several other intersection crashes occurred along SR 13 in Franklin Township.

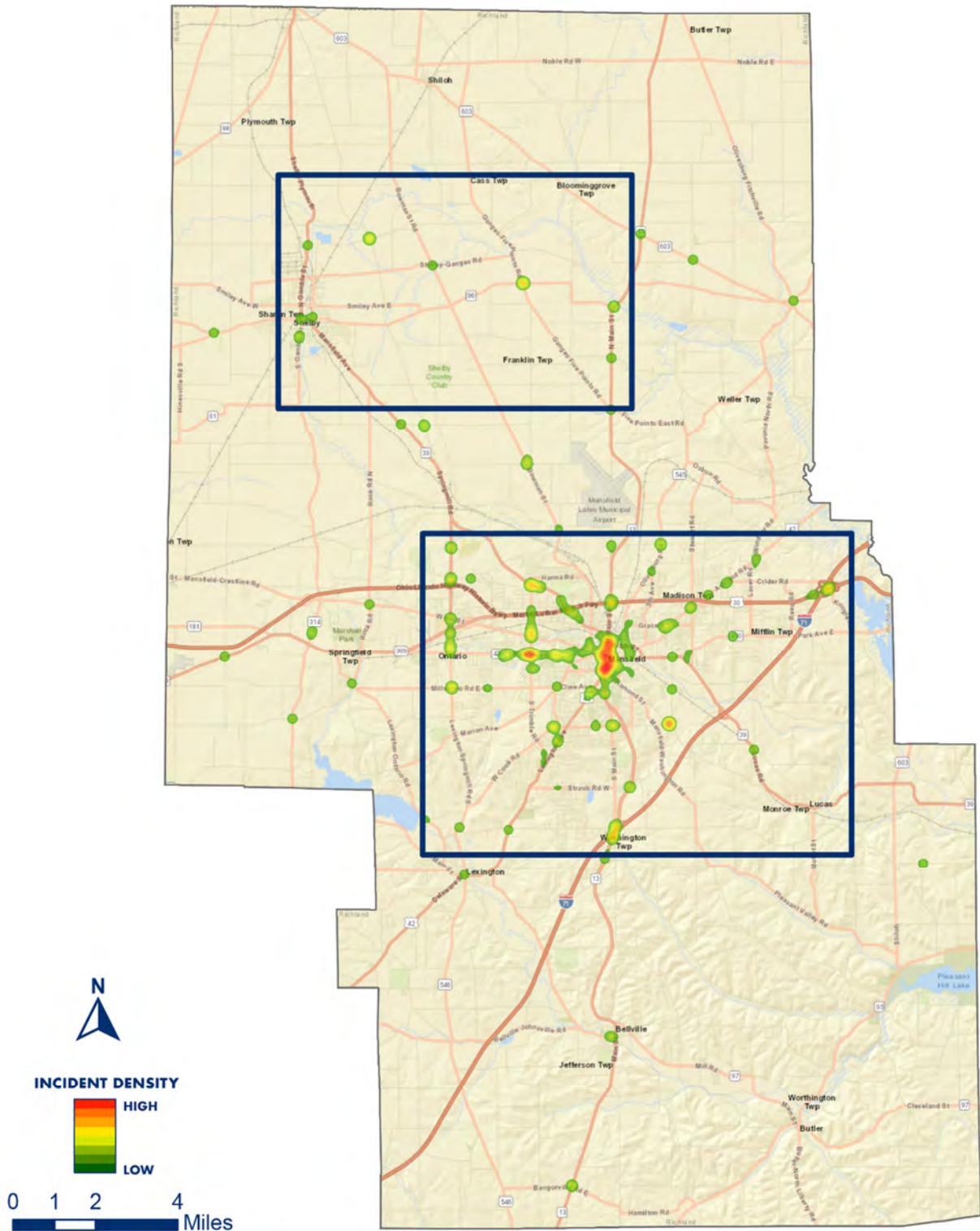




# INTERSECTIONS



Figure 58: Intersection-Related Fatal and Serious Injury Crashes Heat Map, 2009–2018—Regionwide

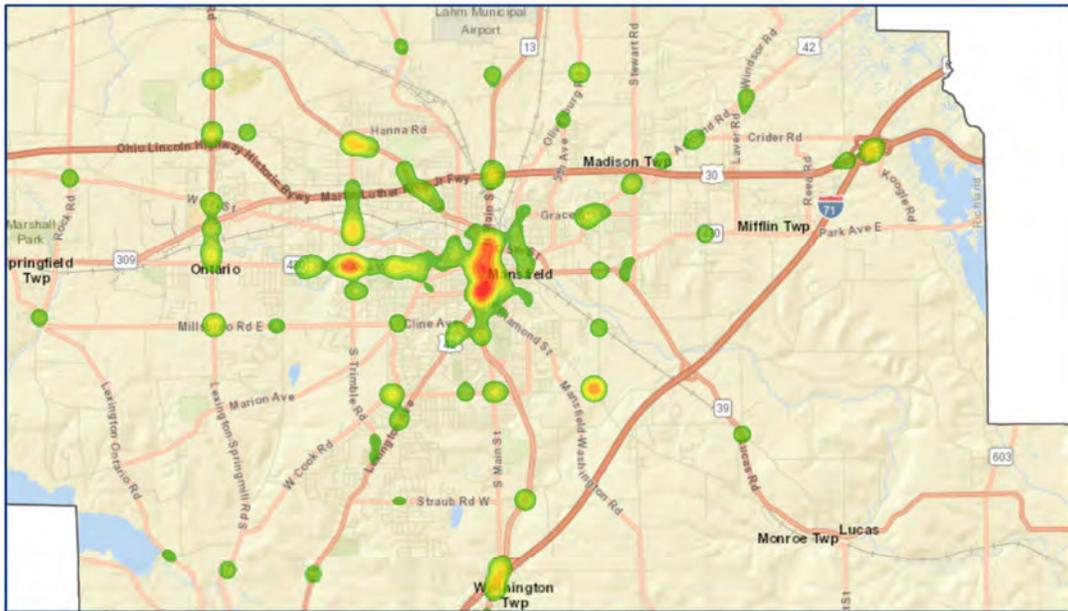
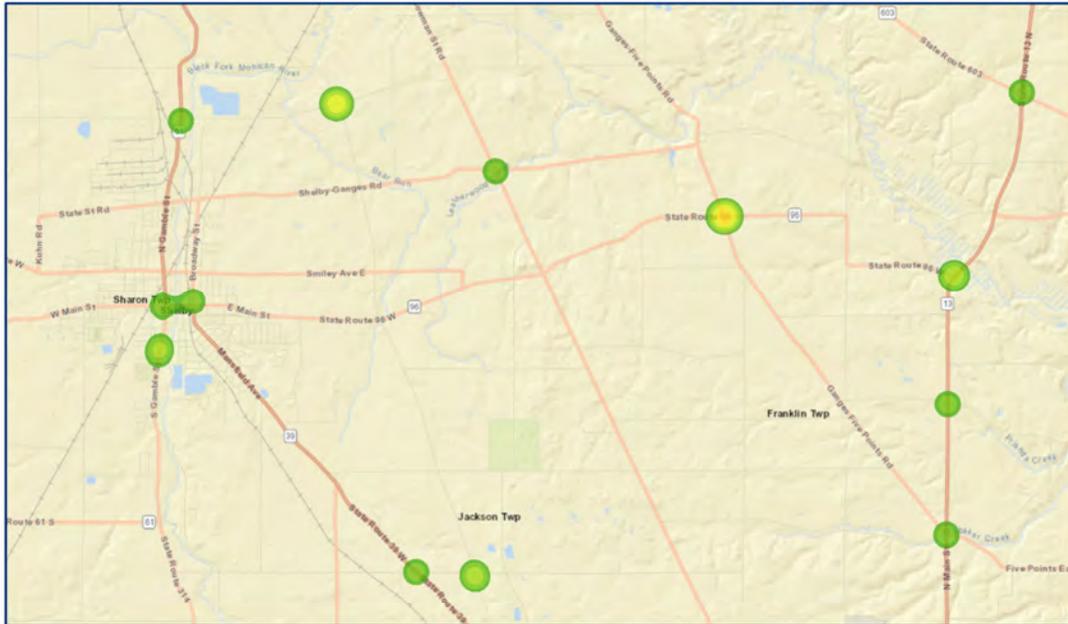




# INTERSECTIONS



Figure 59: Intersection-Related Fatal and Serious Injury Crashes Heat Map, 2009–2018—Focus Area



INCIDENT DENSITY



# Implementation and Action Plan— Creating a Safer System

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## SECTION CONTENT:

Roadway Departure

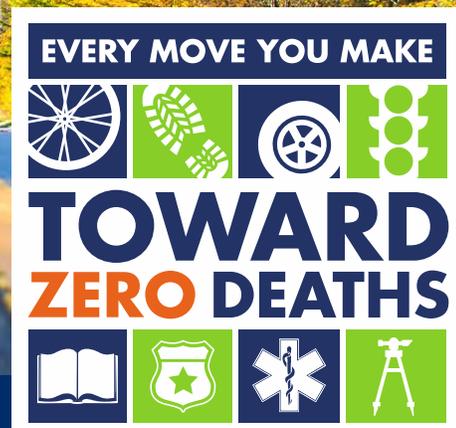
Speed

Intersections

Priority Locations

Priority Segments

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## 6 IMPLEMENTATION AND ACTION PLAN— CREATING A SAFER SYSTEM

The *Richland County Transportation Safety Action Plan* outlines the specific strategies and actions to address the most critical safety concerns in the county—roadway departures, speed, and intersections. It also identifies the corridors, intersections and road segments that could benefit from safety improvements. The *Action Plan* recognizes the most effective approaches to help transportation and safety stakeholders make progress toward the vision of “Toward Zero Deaths. All transportation users should arrive safely at their destinations.” The *Action Plan* was informed by the results of data analysis, proven strategies to lower fatalities and serious injuries and stakeholder input. The goal is to implement this plan over the next five years, while evaluating annually whether the identified programs, projects and policies are helping to achieve performance goals. The *Action Plan* identifies a combination of enforcement, education, engineering, and data strategies to best address safety needs.

<p><b>ROADWAY DEPARTURE</b></p>	<p>Implementation of these strategies and actions will ensure safety projects are implemented to lower fatalities and serious injuries from vehicles departing the roadway and that the public and others are educated about the causes of run off the road crashes.</p>
<p><b>SPEED</b></p>	<p>Implementation of these strategies and actions will ensure the public and stakeholders are educated about the consequences of speeding, that current laws are enforced to the extent possible, and infrastructure improvements are in place to keep drivers on the road.</p>
<p><b>INTERSECTIONS</b></p>	<p>Implementation of these strategies and actions will ensure safety projects are implemented to lower fatalities and serious injuries at intersections and that the public and others are educated about intersection safety.</p>
<p><b>LOCATIONS</b></p>	<p>Implementation of safety projects along corridors or at specific segments and intersections will minimize the chances of fatalities or serious injuries occurring.</p>



## INFRASTRUCTURE STRATEGIES



**Strategy 1:** Implement proven countermeasures to reduce roadway departure crashes in the region.

Leaders	Description	Performance Measure
ODOT/ Local Engineers	Continue to improve pavement markings to make them more visible during nighttime and adverse weather conditions.	Section/miles of roads with pavement marking enhancements
ODOT/ Local Engineers	Perform a systemic curve assessment along locally maintained roads to ensure that appropriate curve signing is installed throughout the county.	Assessment study conducted and # of new curve signing installed
ODOT/ Local Engineers	Enforcement of county-wide policy application regarding the implementation of SafetyEdge (pavement edge treatment) when roadways are resurfaced.	% of roadway sections where SafetyEdge is implemented

## EDUCATIONAL STRATEGIES



**Strategy 1:** Utilize existing and new education efforts to curb roadway departure crashes.

Leaders	Description	Performance Measure
Safe Communities/ Law Enforcement	Provide education on the effects of speed and impaired driving (both of which contribute significantly to roadway departure crashes) to students and parents.	# of presentations made # of individuals receiving the information or materials

## ENFORCEMENT STRATEGIES



**Strategy 1:** Enforce roadway departure safety policies.

Leaders	Description	Performance Measure
ODOT/ Law Enforcement	Utilize the heat map information on roadway departure crashes to prioritize specific locations for snow and ice removals, to mitigate the roadway departure crashes.	Heat map information shared and used



## INFRASTRUCTURE STRATEGIES



**Strategy 1:** Implement engineering countermeasures to prevent speed related fatalities and serious injuries.

Leaders	Description	Performance Measure
ODOT/ Local Engineers	Continue to systemically install low-cost roadway improvements such as rumble strips, wider shoulders, and clear zones on target speed corridors.	# of corridors with new safety features
ODOT/ Local Engineers	Perform additional review of signal timing and clearance intervals at intersections where angle crashes are overrepresented.	# of review and angle crash reduction
ODOT/ Local Engineers	Install speed display boxes or trailers at known high-speed locations to reduce speeding crash incidents.	# of new speed display boxes installed
ODOT/ Local Engineers	Place speed limit signs to roads where it lacks or if the signs are too far apart.	# of new speed limit signs placed
ODOT/ Local Engineers	Convert one lane roads (particularly coming into/out of downtown) to two lanes.	Section/miles of one lane roads converted into two lanes
ODOT/Local Engineers	Perform speed studies at high-crash locations and reduce speed limits as necessary.	# of studies performed and # of speed limit reductions

## COORDINATION STRATEGIES



**Strategy 1:** Nurture and expand coordination activities to reduce speed crashes.

Leaders	Description	Performance Measure
Insurance agency	Coordinate with insurance agencies to provide incentives to young drivers to drive carefully.	Insurance partners identified Incentives provided

## EDUCATIONAL STRATEGIES



**Strategy 1:** Expand outreach related to education on speed crashes.

Leaders	Description	Performance Measure
ODOT/ Local Engineers	Educate the public at community events, through social media and in the schools on the dangers of speeding.	# of events/social media posts
ODOT	Educate high schoolers on the dangers of speeding.	Education materials developed and distribution strategy implemented



# ENFORCEMENT STRATEGIES

**Strategy 1:** Expand enforcement of speeding laws.

Leaders	Description	Performance Measure
Law Enforcement	Emphasize enforcement around the times of day when speeding is problematic.	Enforcement efforts focused on problematic times of day # of agencies focusing their enforcement

**Strategy 2:** Expand enforcement of speeding laws.

Leaders	Description	Performance Measure
Law Enforcement	Continue to conduct high visibility enforcement efforts.	# of high visibility enforcement efforts # of agencies participating



# INTERSECTIONS



## INFRASTRUCTURE STRATEGIES

**Strategy 1:** Implement proven countermeasures to reduce intersection crashes in the region.

Leaders	Description	Performance Measure
ODOT/ Local Engineers	Continue to identify locations and implement roundabouts where appropriate.	# of roundabouts installed
ODOT/ Local Engineers	Advance access management solutions to address intersection-related crashes occurring along corridors.	# of low-cost countermeasures installed
ODOT/ Local Engineers	Systematically implement pedestrian countdown timers and other low-cost countermeasures (such as high-visibility crosswalk markings) at signalized intersections.	# of intersections with low-cost countermeasures installed
ODOT/ Local Engineers	Systematically implement signal improvements at intersections to include signal heads and backplates.	# of signal heads and backplates installed
ODOT/Richland County/Local Engineers	Perform additional evaluation on high-crash locations to identify intersections that would make good candidates for ODOT’s highway safety program funding.	# of additional intersections identified

**Strategy 2:** Utilize technology solutions to reduce intersection crashes.

Leaders	Description	Performance Measure
Local jurisdiction	Implement advanced technology at intersections, such as video detection, signal optimization, and signal coordination along high-crash corridors, to improve intersection functionality.	# of intersections improved with advanced technology

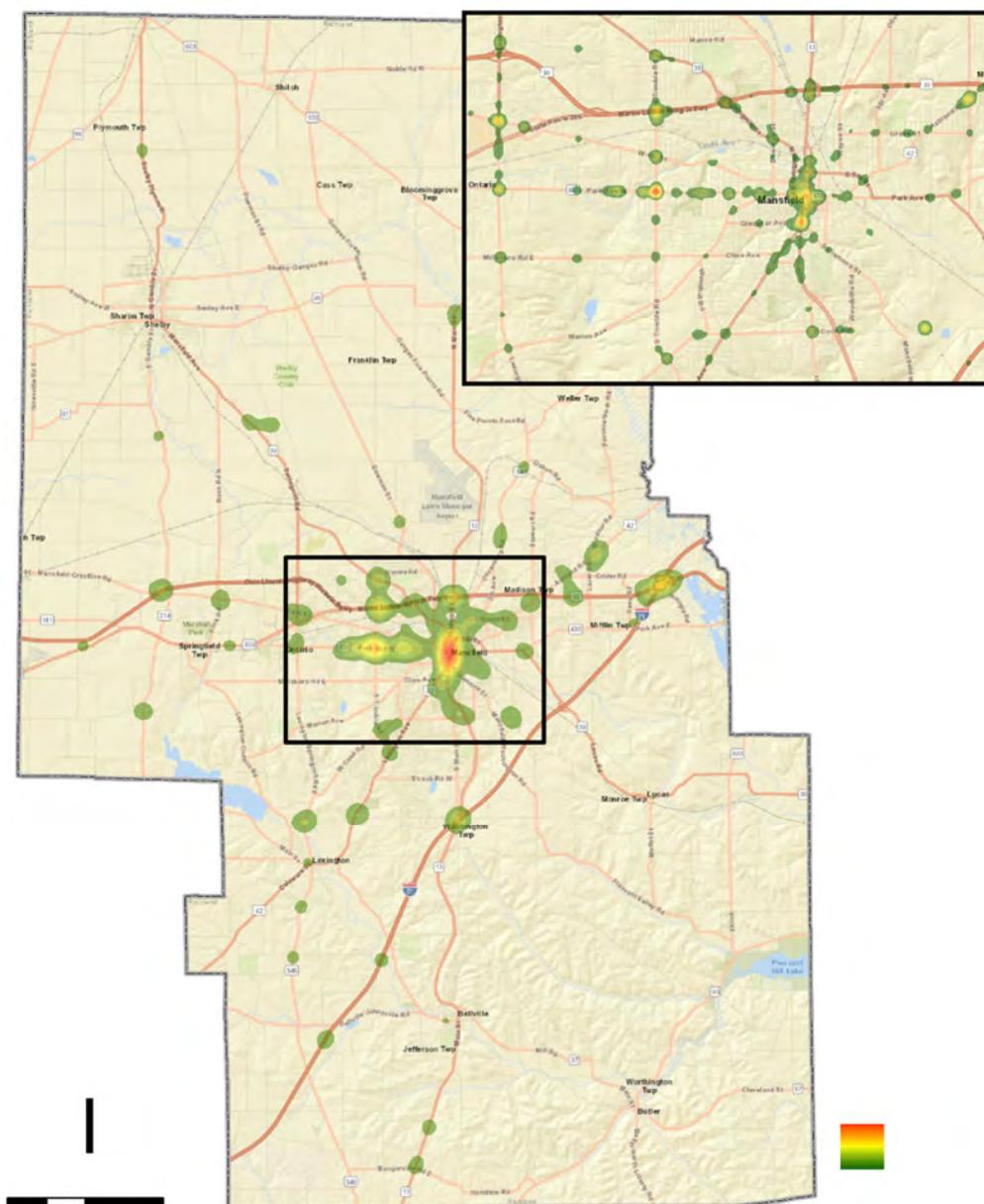


The factors contributing to crashes are overrepresented along certain corridors and more specifically at a number of segments and intersections. Using a combination of crash analysis and stakeholder input, the *Action Plan* identifies areas within the region that could be studied further to identify countermeasures to mitigate crashes.

## 6.1 CORRIDOR HEAT MAPS

Using data for crashes occurring between 2014 and 2018, the severe crashes were plotted on maps to understand the bigger picture crash story. These maps were used at stakeholder meetings to show what corridors were experiencing severe crashes related to the identified emphasis areas and most prominent crash types. The information was helpful to determine what was occurring at those locations and whether any of the overrepresented locations appeared to be incorrect or missing. The heat maps, shown in Figure 60 also are another tool to help regional stakeholders identify and confirm priority segments and intersections.

Figure 60: Richland County Fatal and Serious Injury Crashes—Regionwide



## 6.2 PRIORITY LOCATIONS

In addition to the heat maps, RCRPC completed a *Crash Analysis Report (2015 to 2017)*. This report identified priority intersections that may need closer analysis. The analysis process and prioritization methodology are provided in detail in the report. In general, the intersections were ranked based on crash frequencies, crash rate, potential safety application points, and the Potential for Safety Improvement (PSI). Local road segments were not prioritized as part of this report. Because re-ranking these locations with an additional year of data would not likely change the results of this list, the locations listed in the tables below include crash data between 2015 and 2017. Information regarding overrepresented crash types and emphasis area overlap based on the analysis detailed in previous chapters has been provided to supplement the information included in the original *Crash Analysis Report*.

In addition to the RCRPC ranking process, ODOT publishes a list of location that is prioritize by need for safety improvement. A table summarizing all three of these prioritization methods (local ranking by RCRPC, ranking by ODOT, and locations identified by stakeholders) is provided below.

The combined lists can help regional stakeholders pinpoint locations where additional field investigations or data analysis could be completed to understand specific site improvements, or risk factors and systemic solutions. In addition to showing the location rank, additional fields, including severe crash hotspot, crash type hotspot, and emphasis area overlap have been added. These shed further light on each location, showing stakeholders a fuller picture of what is happening at each location to further think through priorities, but also plan for infrastructure and behavioral solutions in tandem.



# PRIORITY LOCATIONS



## 6.3 SEGMENTS

Table 1: Top Crash Segments in Richland County

Name of Location	Local Rank	State Rank	Stakeholder Hotspot	Maintaining Authority	# Total Crashes	Severe Crash Hotspot	Crash Type Hotspot	Emphasis Area Overlap
I-71 (MP 7.13–MP 7.14)	–	7	–	ODOT	5	–	–	D
I-71 (MP 6.95–MP 7.05)	–	36	–	ODOT	9	–	–	S, D
SR-61 (MP 10.09–MP 10.19)	–	64	–	ODOT	7	–	F	S, D
I-71 (MP 3.66–MP 3.76)	–	72	–	ODOT	9	–	F	D
I-71 (MP 4.06–MP 4.16)	–	90	–	ODOT	8	YES	F	S, D
Lexington Ontario Road between Rock Road and Millsboro West Road	–	–	YES	Richland County	–	YES	R, A, F	I, D
Park Avenue in front of West Park Shopping Center (Alpine Drive to Grasmere Ave)	–	–	YES	City of Mansfield	–	YES	R, A	I, S, D
Lexington-Springmill Road between U.S. 30 and Park Avenue	–	–	YES	City of Mansfield	–	YES	R, A, F	I, S, D
Curve near Main Street (SR 13) and SR 96	–	–	YES	ODOT	–	YES	A, F	S, D
Ashland Road (U.S. 42) between Stewart Road and Windsor Road	–	–	YES	ODOT	–	YES	R, A, F	I, S, D

I—Intersection, S—Speed, D—Roadway Departure, R—Rear-End, A—Angle, F—Fixed Object





# PRIORITY LOCATIONS



## 6.4 INTERSECTIONS

Table 2: Top Crash Intersections in Richland County Region

Name of Location	Local Rank	State Rank	Stakeholder Hotspot	Maintaining Authority	# Total Crashes	Severe Crash Hotspot	Crash Type Hotspot	Emphasis Area Overlap
Park Ave W & Trimble Rd	1	344	YES	City of Mansfield	65	YES	R, A	I, S, D
Lexington Springmill Rd & W 4 <sup>th</sup> St	2	–	–	City of Ontario	55	YES	R	I
Park Ave W & Main St	3	–	–	City of Mansfield	27	YES	R, A, F	I, S, D
Park Ave & Lexington Springmill Rd	4	440	YES	City of Ontario	41	YES	R, A	I, S
U.S. RT 42 & Stewart Rd	5	84	YES	ODOT	40	YES	R, A	I, S, D
Mansfield Lucas Rd & Cook Rd	6	–	–	Richland County	19	YES	A	I
Park Ave E & Diamond St	7	–	–	City of Mansfield	30	YES	R, A, F	I, S, D
Lexington Springmill Rd & Walker Lake Rd	8	–	–	City of Ontario	61	–	R	I
Main St & 4th St	9	–	–	City of Mansfield	26	YES	R, A, F	I, S, D
4th St & Mulberry St	10	–	–	City of Mansfield	15	YES	R, A, F	I, S, D
Main St & Glessner Ave	11	–	–	City of Mansfield	26	YES	R, A, F	I, S, D
4th St & Trimble Rd	12	–	YES	City of Mansfield	53	–	R, A	I, S
Trimble Rd & Millsboro Rd	13	–	–	City of Mansfield	30	–	–	–
Lexington Ave & Cook Rd	14	–	–	City of Mansfield	43	–	–	S
U.S. 30 WB Ramps & Lincoln Highway	15	–	–	Richland County	15	YES	A	S, D
Trimble Rd & U.S. RT 30 WB Ramps	16	–	–	City of Mansfield	34	YES	R, A, F	I, S, D
Park Ave W & Sherman Ave	17	–	–	City of Mansfield	19	YES	R	I, S, D





# PRIORITY LOCATIONS



Name of Location	Local Rank	State Rank	Stakeholder Hotspot	Maintaining Authority	# Total Crashes	Severe Crash Hotspot	Crash Type Hotspot	Emphasis Area Overlap
S Main St & Straub Rd W	18	–	–	Richland County	10	–	–	D
S Main St & Cook Rd	19	–	–	City of Mansfield	39	YES	R	I, S
ST RT 309 & Lexington Springmill Rd	20	–	–	City of Ontario	25	–	R, A, F	I, D
Trimble Rd & McPherson St	21	–	–	City of Mansfield	26	YES	R, A, F	I, S, D
Main St & Castor Rd	22	172	–	City of Lexington	31	–	–	D
Stewart Rd & Grace St	23	–	YES	Madison Township	28	–	A	S
Home Rd & Millsboro Rd	24	–	YES	Richland County/ City of Mansfield	21	–	R	I, S, D
Park Ave W & Bowman St & Marion Ave	25	–	–	City of Mansfield	26	–	–	I, S
SR 314 & Millsboro West Road	–	–	YES	ODOT	–	YES	R, A, F	I, S, D
Main Street & Lexington Avenue	–	–	YES	City of Mansfield	–	–	R, A, F	–
Ganges—Five Points Road & SR 96	–	–	YES	ODOT	–	YES	A	I
Bowman Street & SR 96	–	–	YES	Richland County	–	YES	–	D
I-71 interchange with U.S. 30	–	–	YES	ODOT	–	YES	–	I, S, D
Park Avenue & Stewart Rd	–	–	YES	City of Mansfield	–	–	R	I, S, D
Marion Avenue & Home Road	–	–	YES	Richland County	–	–	–	S
Lexington Avenue (SR 42) & Hanley Road	–	–	YES	ODOT	–	YES	R, A, F	I, D
SR 13 & Possum Run Rd (Walmart)	–	–	YES	ODOT	–	YES	R, A	I, S, D

I—Intersection, S—Speed, D—Roadway Departure, R—Rear-End, A—Angle, F—Fixed Object

