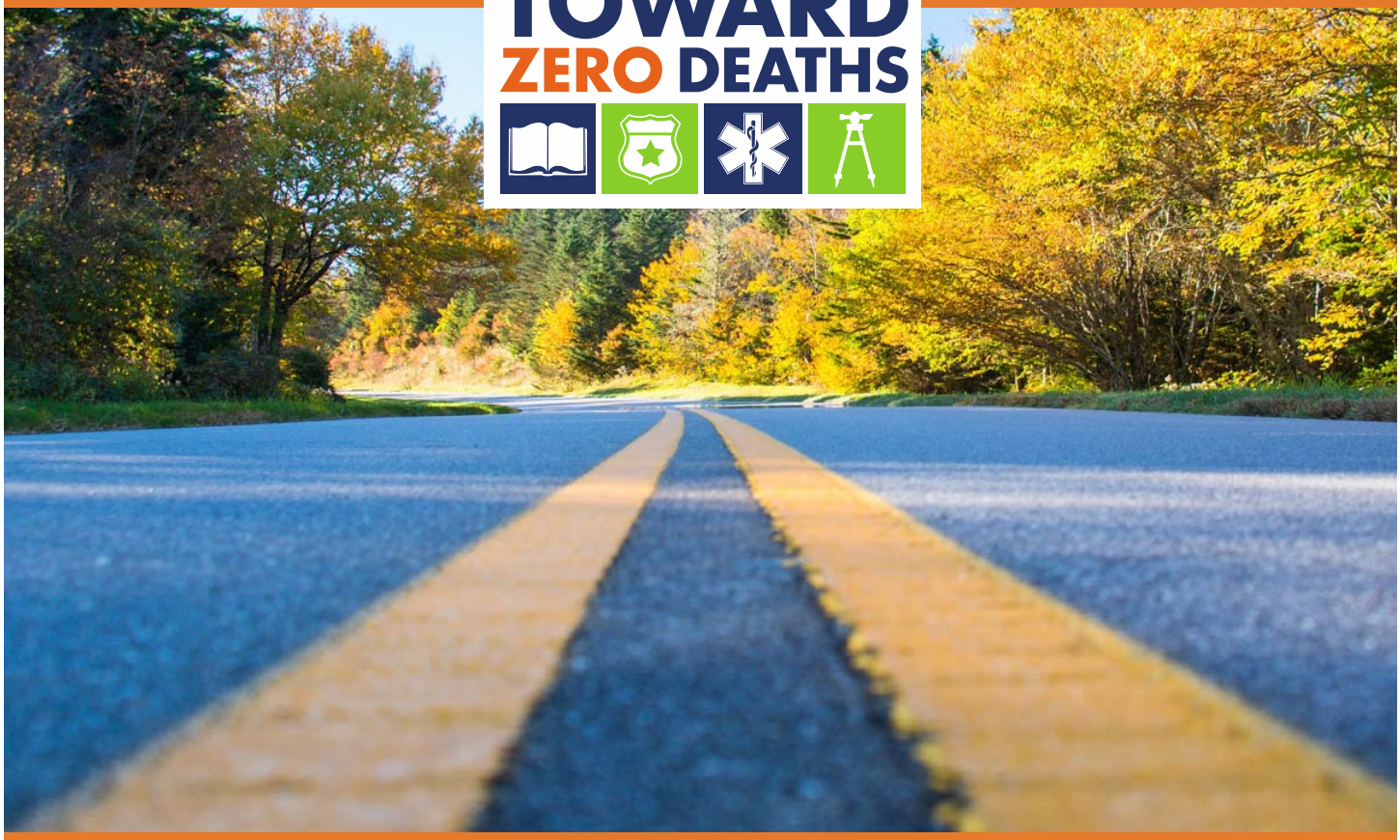
EVERY MOVE YOU MAKE

TOWARD ZERO DEATHS



Erie Regional Planning Commission

Road Safety Plan

April 2020

TABLE OF CONTENTS:

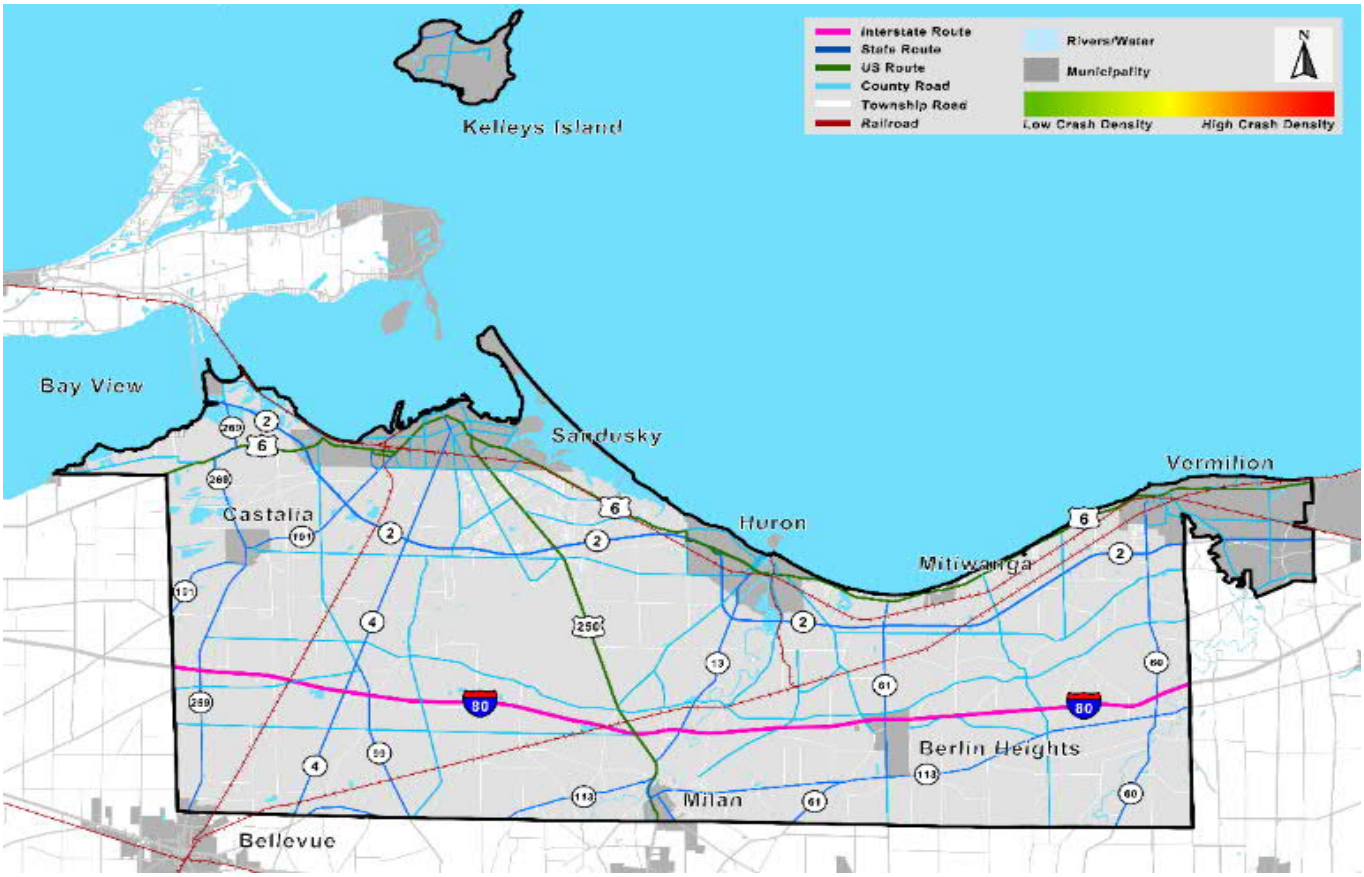
TABLE OF CONTENTS: **1**
1 EXECUTIVE SUMMARY **2**
2 TRANSPORTATION SAFETY PARTNERS **4**
3 INTRODUCTION – SETTING THE STAGE **6**
3.1 Transportation Safety Planning 6
3.2 Erie region Transportation Safety 7
3.3 Vision, Goal and Objectives 9
4 EXISTING CONDITIONS – UNDERSTANDING SAFETY NEEDS IN THE ERIE REGION **11**
4.1 The Big Picture 11
4.2 Crash Types 15
5 EMPHASIS AREAS **25**
6 IMPLEMENTATION & ACTION PLAN – CREATING A SAFER SYSTEM **47**
6.1 Priority Intersections 53
6.2 Priority Segments 56
7 RECOMMENDED EARLY ACTION PROJECTS **61**

1 EXECUTIVE SUMMARY

ODOT recognizes the need to address fatal and serious injury crashes and is encouraging the development of Regional Safety Plans to reduce them. The Erie Metropolitan Regional Planning Commission (ERPC) Road Safety Plan provides a framework for identifying, analyzing and prioritizing road safety improvements. This plan provides stakeholders with a prioritized list of high crash locations along with mitigating strategies and projects that will be eligible for ODOT safety funding.

The area encompassed by the ERPC Metropolitan Planning Organization (MPO) planning area is located in north central Ohio and home to approximately 75,000 residents who live within nine 9 municipalities within the 255 square mile area. For the purpose of this study, the ERPC MPO planning area, which includes all of Erie County and the Lorain County portion of the City of Vermillion, is referred to as the "Erie region". The study area also includes Cedar Point, the Lake Erie shoreline and islands, which are significant tourist destination. Although transit, bicycle, and pedestrian infrastructure are modal options within the Erie region, motor vehicle travel is the most common travel mode.

The study included a 9-year analysis period (2009 through 2017) based on available crash data. During that period, 2,401 transportation-related injury crashes were reported. Annual average data reflects 267 crashes with 9 fatalities, 99 serious injuries and 29 non-serious injuries. Motor vehicle crashes are often preventable. Crash mitigation requires an understanding of crash locations, types and contributing factors to understand why crashes occur and to identify strategies to reduce crashes and crash potential.



Erie Region Map (ERPC Planning Area)

The *ERPC Road Safety Plan* analyzed crash data to understand crash patterns, trends and contributing factors, focusing on fatal and serious injury (FSI) crashes. The analysis results were used to identify mitigation strategies, potential treatments and solutions to address the highest priority safety issues in the region based on crash frequency and severity. Crash data were reviewed with stakeholders to understand:

- **Crash Trends** – Trends in fatal and serious injury crashes over the past 9 years, including a review of crashes by jurisdiction and by roadway type
- **Crash Types** – Types of crashes that are over-represented (i.e., rear end, roadway departure, etc.)
- **Crash Locations** – Segments and intersections in the region that experience more crashes on average than other locations; these locations could be investigated further for safety improvements.
- **Contributing Factors** – Types of crash contributors that are over-represented in the region (i.e., alcohol impairment, age, speed, etc.)
- **Safety Performance** – Treatment(s) and extent of mitigation measures for fatal and serious injury crashes through the implementation of proven solutions for the identified crash types

Local transportation and safety stakeholders met twice to review the crash data and provide input into the foundation of the plan. This plan analyzes crash data; it identifies mitigation measures, treatments and strategies; and it recommends countermeasures to address the highest priority crash locations within the Erie region. Plan components include:

- The plan's **Vision, Goal and Objectives** provide a framework for identifying safety programs, projects and policies.
- Four emphasis areas, **Intersections, Roadway Departures, Distracted Driving, and Speeding** were identified as the most significant traffic safety-related challenges in the region.
- The **Action Plan** identifies high priority intersection and corridor locations that, if mitigated, would make a significant impact on road safety in the region. The *Action Plan* outlines programmatic and project solutions, showing ERPC stakeholders where to focus their time and resources to make the most significant difference in improving road safety.

2 TRANSPORTATION SAFETY PARTNERS

Development of this plan is intended to help stakeholders within the Erie region to understand crash patterns associated with fatal and serious injury crashes, and identify projects, programs and policies to improve transportation safety by mitigating crashes and contributing factors that result in fatalities and serious injuries. The Erie region includes a wide range of transportation and safety stakeholders who are working to reduce fatalities and serious injuries resulting from motor vehicle crashes. Numerous stakeholders were invited to participate in the plan development process. The organizations, agencies and jurisdictions listed below actively participated; representatives came together on two occasions to review crash data and analysis results to provide local perspective which informed the contents of this plan. This group intends to maintain ongoing coordination to implement the safety solutions and strategies identified in this plan to mitigate transportation-related fatal and serious injury crashes.

- Erie Regional Planning Commission (ERPC)
- Erie County Engineer's Office
- Erie County Sheriff's Office
- City of Huron
- City of Sandusky
- City of Vermilion
- Edison Local Schools
- Milan Township
- Village of Milan
- Ohio Department of Transportation, Central Office
- Ohio Department of Transportation, District 3
- Ohio State Highway Patrol
- Ohio Turnpike and Infrastructure Commission
- North Central EMS
- Perkins Police Department
- Perkins Township
- Vermilion Police Department
- Sandusky Police Department

Additional organizations were invited to the workshops and solicited for feedback on the action plan:

- Board of Erie County Commissioners
- City of Sandusky Community Development
- Erie County Department of Environmental Services
- Erie County Economic Development Corporation
- Erie County Health Department
- Erie County Safe Communities
- Erie Metroparks
- Erie Soil & Water
- Federal Highway Administration
- Huron Local Schools
- Margaretta Township
- Milan Police Department
- Ohio Department of Public Service
- Sandusky City Schools
- Sandusky Transit Administrator
- Serving Our Seniors

INTRODUCTION

Setting the Stage

SECTION CONTENT:

Transportation Safety Planning

ERPC Road Safety

Vision Goals & Objectives

3 INTRODUCTION – SETTING THE STAGE

3.1 TRANSPORTATION SAFETY PLANNING

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

One effective means to achieve this vision is development of local road safety plans (LRSP). 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 identify and implement customized solutions and countermeasures that will be effective based on the local context.

A SOLUTION – ROAD SAFETY PLAN

ODOT recognizes the need to address fatal and serious injury crashes and is encouraging the development of Regional Safety Plans to reduce them.

The ERPC Road Safety Plan provides a framework for identifying, analyzing and prioritizing road safety improvements. This plan provides stakeholders with a prioritized list of high crash locations along with mitigating strategies and projects that will be eligible for ODOT safety funding.

The *ERPC Road Safety Plan* followed a similar approach to develop multi-disciplinary safety solutions. The planning process focused on the understanding that, in most cases, motor vehicle-related crashes can be prevented. For example, improved roadway features can limit crash severity and in others, stopping people from engaging in unsafe behaviors is key. However, in most cases, it is a combination of both factors. Additional factors influencing potential for motor vehicle safety and crash outcomes are improvements in vehicle smart technologies and safety equipment and improvements in medical treatment. This plan identifies proven strategies, actions, programs and projects to reduce crashes related to infrastructure and driver error, focusing on mitigating fatal and serious injury (FSI) crashes.

3.2 ERIE REGION TRANSPORTATION SAFETY

THE STUDY AREA

The Erie region is located in north central Ohio, bordering the shores of Lake Erie, as illustrated in Figure 1. According to the *Ohio County Profile on Erie County* which is researched and published by the Ohio Development Services Agency, the estimated population of Erie County was 74,615 in 2018. This represents a decline from the official population of 77,079 as recorded by the 2010 United States Census. Of the reported census population, 22 percent was under the age of 18 and 18 percent was over the age of 65.

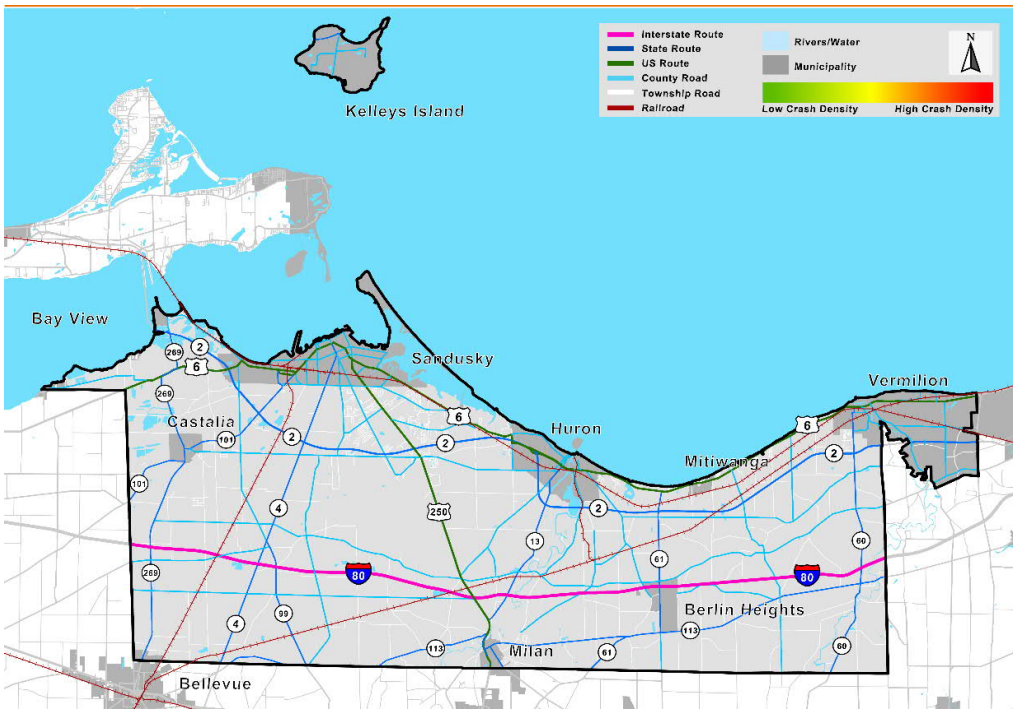
According to the Ohio County Profile for Erie County, less than 17 percent is developed and nearly 81 percent is farmland or natural setting. Significant concentrations of population within the study area are Sandusky (population 24,714) Perkins Township (population 11,728) and Vermilion (population 10,437). The City of Vermillion lies within both Erie and Lorain Counties (Population: 4,635 Erie Co., 5,903 Lorain Co.) Although the Erie region is mostly rural, it includes the significant tourist destinations within and near the City of Sandusky, such as Cedar Point, lakefront attractions, and other destinations which draw significant tourist traffic to the area.

Based on the Ohio County Profile for the Erie region, the Erie region includes approximately 870 miles of public roadways. Nearly 158 miles are state and US routes, 267 miles are township roads, 140 miles are county roads, and 215 are municipal roads. The plan analyzed the entire network of public roads to understand crash patterns, including the locations, severity, types and contributing factors for reported crashes in the Erie region.

EXTERNAL FACTORS IMPACTING CRASHES

This plan focuses on analysis of crash trends to understand the location and cause of reported crashes, particularly fatal and serious injury crashes. Additional safety insights can be gained by understanding how other factors play a role in transportation safety. Population and Vehicle Miles Traveled (VMT) trends were reviewed to better understand the Erie region crash data.

Figure 1: Erie Region Map (ERPC MPO Planning Area)



Population and Fatal and Serious Injury Crashes

Based on population estimates included in the Ohio County Profile, the overall population in the Erie region is decreasing. As shown in Figures 2 and 3, fatal crashes are on a generally upward trend while serious injury crashes are on a downward trend similar to the decreasing population.

Figure 2: Fatalities from Crashes and Population within the Erie Region, 2009–2017

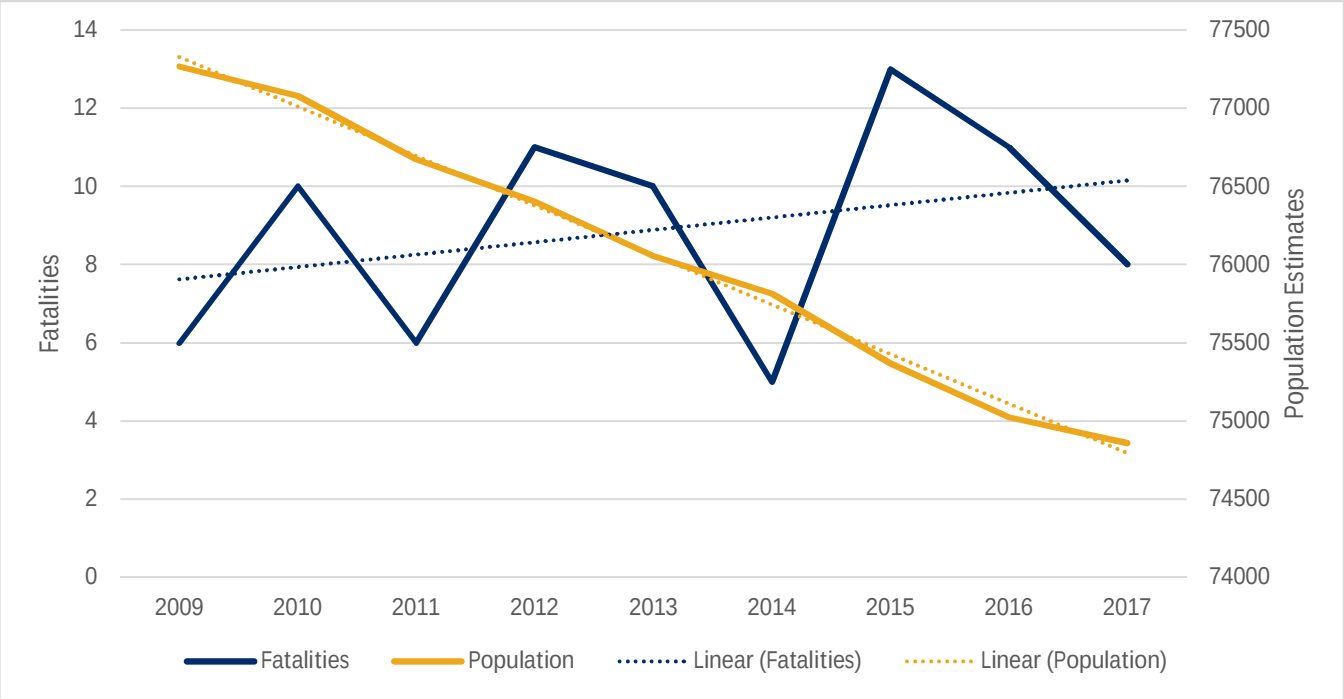
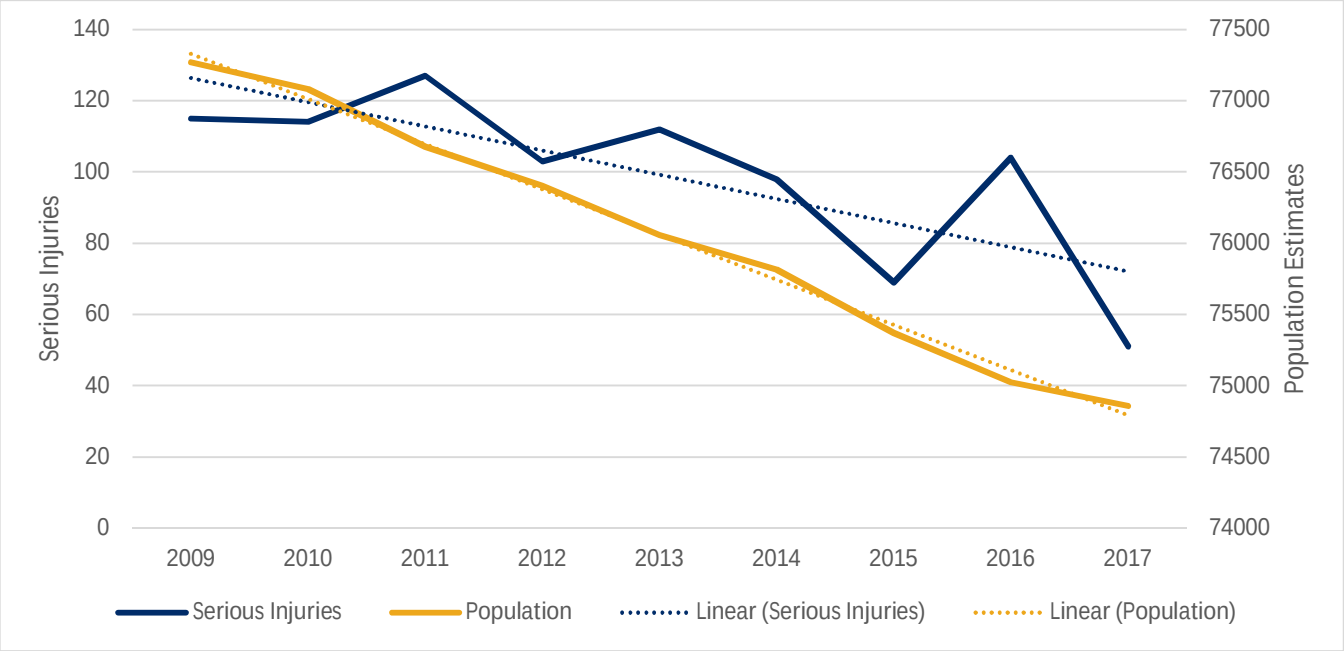


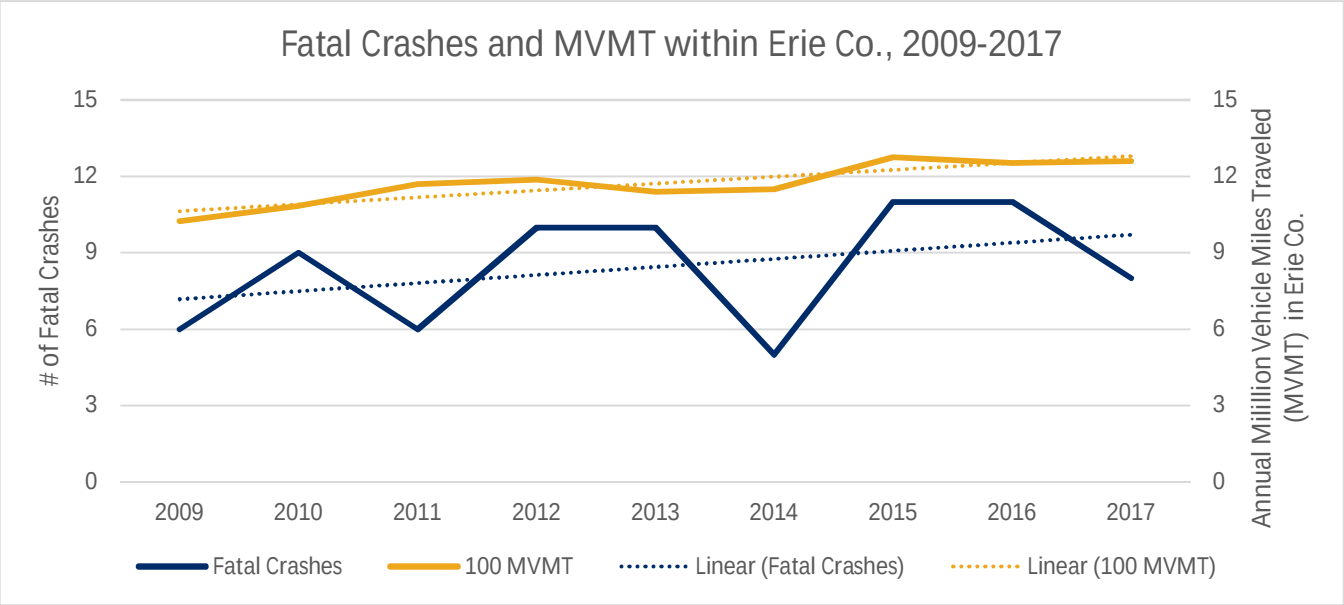
Figure 3: Serious Injuries from Crashes and Population within the Erie Region, 2009–2017



Vehicle Miles Traveled

Although the Erie region's population provides a reasonable estimation of the concentration of people living in an area, it does not fully capture vehicle travel patterns, which include visitors to the area as well as residents. This is notable in the Erie region with its popular tourist destinations. Vehicle Miles Traveled (VMT) presents a clearer indication of regional travel patterns. VMT reflects the number of vehicles traveling on identified roadways within a specified year, independent of the ERPC population. VMT is calculated by multiplying the number of roadway centerline miles by the Average Daily Traffic (ADT) volumes. Based on calculations provided by ODOT, VMT in the Erie region demonstrates an upward trend during the analysis period.

Figure 4: Fatal Crashes and VMT within the Erie Region, 2009–2017



CURRENT SAFETY ACTIVITIES

Existing safety programs and projects in the region were considered during the planning process. The plan is intended to build upon, not replace, current activities by implementing additional proven strategies to reduce fatal and serious injury crashes. The results of this analyses were reviewed and discussed during stakeholder meetings and incorporated into the plan.

3.3 VISION, GOAL AND OBJECTIVES

The Erie region safety vision, goal and objective describe the safety aspirations for the next 25 years and what safety success looks like in the near term, as reflected by the five-year planning horizon for this study. In developing the specific vision, goals and objectives for this plan, stakeholders were presented with examples from ODOT and other agencies as well as local crash data, showing historical safety performance and future forecasts. One of the main objectives of the ERPC is to improve the safety of the existing transportation system through the study of traffic crash data to identify safety improvements. ERPC supports ODOT's statewide safety target of one percent annual reduction across all five performance measures. The five safety performance measures established are 1) Number of fatalities, 2) Number of serious injuries, 3) Fatality rate, 4) Serious injury rate, and 5) Number of non-motorized fatalities and serious injuries. The elements covered in following sections present a framework that will help the Erie region focus funding and resources to implement safety policies, programs and projects that will best achieve the identified safety targets, goal, and objectives.

Existing Conditions

Understanding Safety Needs in the Erie Region

SECTION CONTENT

The Big Picture

Crash Types

4 EXISTING CONDITIONS – UNDERSTANDING SAFETY NEEDS IN THE ERIE REGION

4.1 THE BIG PICTURE

Crashes reported on Erie region roads during the 2009-2017 analysis period were evaluated. This nine-year period provided sufficient information to establish trends and distinguish patterns within the data. The crash data provided by ODOT were analyzed to understand overall crash trends, fatal and serious injury crash trends, how crashes compared across jurisdictions and the types of roads on which crashes occur. The analysis results identify safety conditions, setting the stage for safety planning in the Erie region.

There are 2,401 crashes per year in the Erie region (roughly seven per day). Annual crashes include an average of eight fatal crashes, 99 serious injury crashes and 549 injury crashes.

CRASH STATISTICS

During the analysis period, 21,611 crashes were reported in the Erie region; 76 crashes (0.35 percent) resulted in 80 fatalities and 4,938 crashes (23 percent) resulted in 893 serious injuries. Crash data indicate that on average, there are 2,401 crashes per year in the Erie region (roughly seven per day). Annual crashes include an average of eight fatal crashes, 99 serious injury crashes and 549 injury crashes.

Figure 5: Crash Statistics, 2009–2017

Year	Crash Statistics			
	Fatal	Injury	PDO[1]	Total
2009	6	560	1,764	2,330
2010	9	550	1,893	2,452
2011	6	601	1,948	2,555
2012	10	516	1,715	2,241
2013	10	538	1,629	2,177
2014	5	587	2,007	2,599
2015	11	510	1,952	2,473
2016	11	538	1,874	2,423
2017	8	538	1,815	2,361
9-Year Total	76	4,938	16,597	21,611
Annual Average	8	549	1,844	2,401

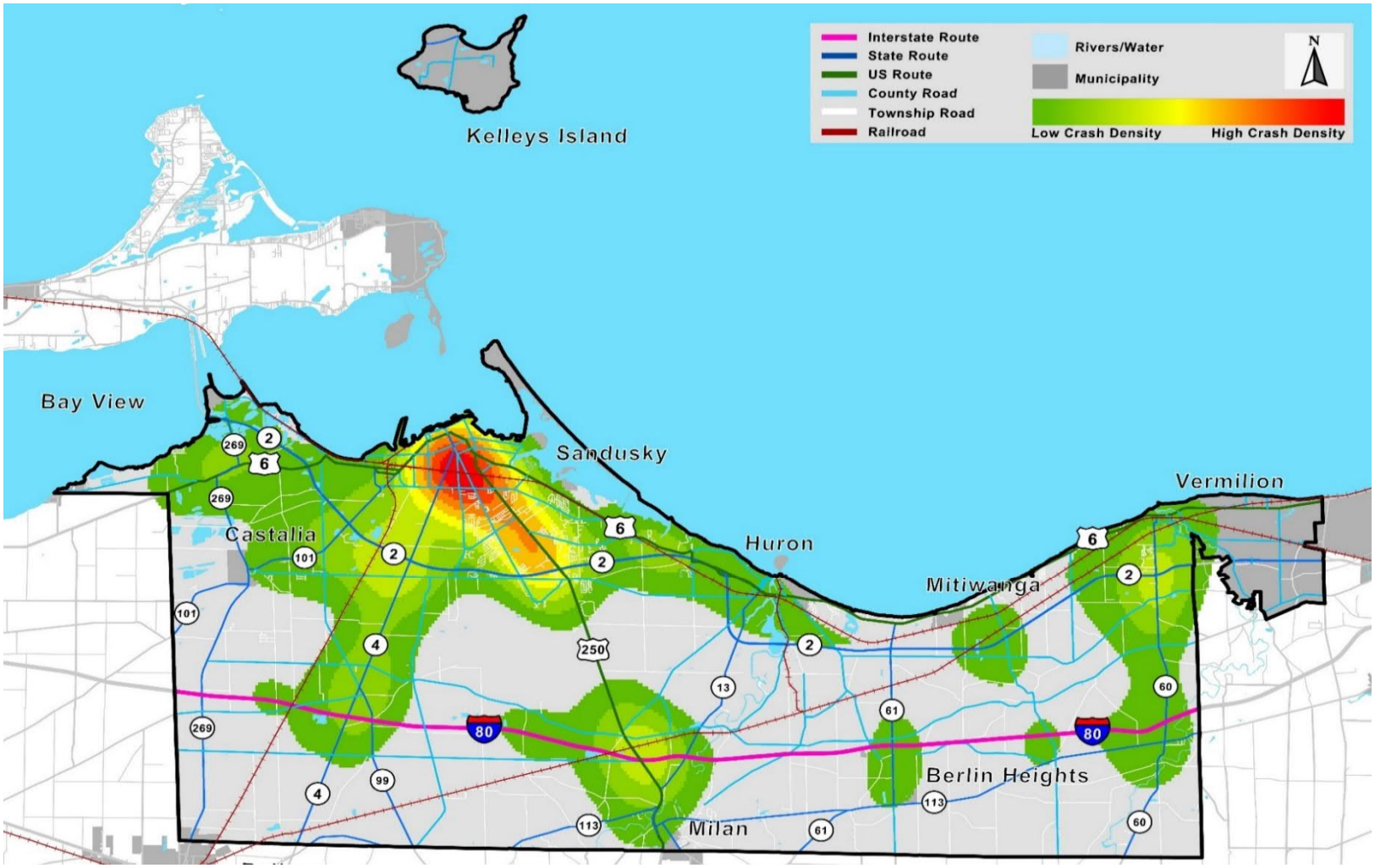
[1] 'PDO' crashes are Property Damage Only; damage to property (i.e., vehicle damage with no injuries to occupants)

Note: Green highlight indicates peaks in analysis period.

FATAL AND SERIOUS INJURY (FSI) CRASH LOCATIONS

Crashes resulting in fatalities and/or serious injuries (FSI crashes) occur predominantly on the higher volume roads, generally located near and within the City of Sandusky and the greater Sandusky area, with notable crash trends along US 250, US 6, SR 4 and SR 60.

Figure 6: Heat Map of Fatal and Serious Injury Crashes, 2009–2017



OCCUPANT STATISTICS

Of the 7,349 people reported as injured and possibly injured in crashes in the Erie region during the analysis period, 80 died and 893 were seriously injured. Annual average data indicate crashes potentially injure nearly 817 people every year in the Erie region, with nine fatalities and 99 seriously injured.

Figure 7: Occupant Statistics, 2009–2017

Year	Crash Statistics				Occupant Statistics					
	Fatal	Injury	PDO[1]	Total	Fatal	Serious Injury	Minor Injury	Possible Injury	Total Injury	No Injury
2009	6	560	1764	2330	6	115	357	395	873	4250
2010	9	550	1893	2452	10	114	318	348	790	4514
2011	6	601	1948	2555	6	127	381	394	908	4735
2012	10	516	1715	2241	11	103	355	311	780	4086
2013	10	538	1629	2177	10	112	272	357	751	4005
2014	5	587	2007	2599	5	98	353	429	885	4831
2015	11	510	1952	2473	13	69	303	372	757	4409
2016	11	538	1874	2423	11	104	317	366	798	4429
2017	8	538	1815	2361	8	51	310	438	807	4155
9-Year Total	76	4,938	16,597	21,611	80	893	2,966	3,410	7,349	39,414
Annual Average	8	549	1844	2401	9	99	330	379	817	4,379

[1] 'PDO' crashes are Property Damage Only; damage to property (i.e., vehicle damage with no injuries to occupants)
Note: Green highlight indicates peaks in analysis period.

CRASH STATISTICS BY MAINTAINING AUTHORITY

Although 48 percent of reported crashes in the Erie region occur on state-maintained roadways, 52 percent of FSI crashes occurred on state-maintained roadways. In contrast, approximately 33 percent of reported crashes in the Erie region occurred on city-maintained roadways with 21 percent of FSI crashes.

Figure 8: Crash Statistics by Roadway Maintaining Authority, 2009-2017

Maintaining Authority	Fatal Injury	Serious Injury	Visible Injury	Possible Injury	No Injury	Total
City/Village Road	8	150	540	818	5,516	7,032
County Road	18	108	261	281	1,774	2,442
Other/Private Road	0	9	19	21	302	351
State Road	30	303	837	776	5,949	7,895
Interstate Tollway	11	49	308	173	2,000	2,541
Township Road	9	56	133	96	1,056	1,350
Total	76	675	2,098	2,165	16,597	21,611

CRASHES BY MAINTAINING AUTHORITY

Nearly two-thirds of reported crashes in the Erie region occurred on non-state-maintained roadways. As such, it is incumbent upon local jurisdictions to prioritize locations, apply for funding, and develop plans to implement mitigation measures to have a positive impact on reducing FSI crashes. The figure below breaks the fatal, serious, and total amount of crashes down by jurisdiction. The total number of crashes includes non-fatal and serious crashes. Crashes are also categorized by all, non-state maintained, and county-maintained to illustrate the number of crashes occurring on locally-maintained roads compared to state- and county- maintained roads.

Figure 9: Crashes by Jurisdiction and Roadway Maintaining Authority, 2009-2017

Jurisdiction	All Crashes			Non-State Maintained Roadways[1]			County-Maintained Roadways		
	Fatal Injury	Serious Injury	Total	Fatal Injury	Serious Injury	Total	Fatal Injury	Serious Injury	Total
Bay View	0	0	14	0	0	14	0	0	0
Bellevue	0	1	3	0	1	3	0	0	0
Berlin Heights	2	4	194	0	1	66	0	0	0
Berlin Twp	5	30	724	3	10	259	2	3	139
Castalia	0	4	113	0	4	113	0	0	0
Florence Twp	5	39	1069	0	8	165	0	3	69
Groton Twp	6	47	1091	1	14	197	1	9	150
Huron	2	17	432	2	17	432	0	0	0
Huron Twp	4	36	1315	0	7	291	0	6	130
Kelleys Island	0	3	31	0	3	31	0	0	0
Margaretta Twp	11	85	1490	5	27	380	4	13	183
Milan	0	4	175	0	4	175	0	0	0
Milan Twp	8	53	1659	3	14	370	0	7	187
Norwalk Twp	0	0	1	0	0	1	0	0	1
Oxford Twp	3	32	1000	1	16	174	1	14	121
Perkins Twp	16	131	4731	11	51	1791	8	40	1297
Sandusky	4	102	5463	4	102	5463	0	0	0
Vermilion	2	22	952	2	22	952	0	0	0
Vermilion Twp	8	65	1154	3	22	298	2	13	165

[1] *'Non-State Maintained Roads' are roads maintained by counties and local jurisdictions (cities, villages, and townships).*

4.2 CRASH TYPES

Crash types reflect the basic nature of the crash, such as fixed object, head-on, rear end, left turn, and angle crashes. Crash type analysis is a common method of categorizing crashes to understand key issues and subsequently identify crash mitigation countermeasures.

REGIONAL CRASH TYPES

Based upon input from the stakeholder group meetings, the study focused on the most prevalent crash types. The four most prevalent crash types that occurred during the analysis period were rear end, fixed object, animal and sideswipe-passing crashes with just over 4,800 rear end crashes; only 2.3 percent of these most prevalent crash types resulted in a fatality or serious injury. By comparison, although there are fewer pedestrian crashes, more than 25 percent of reported pedestrian crashes resulted in a fatality or serious injury. As such, pedestrian crashes are studied along with the most prevalent crash types. The total crash frequency and the percentage of FSI crashes can be compared to total crashes to identify appropriate crash mitigation strategies.

The four most prevalent crash types that occurred during the analysis period rear end, fixed object, animal and sideswipe-passing crashes.

Figure 10: Region-Wide Crash Types, 2009–2017

	Total Crashes	Fatal Crashes	Serious Injury Crashes	FSI Rate
Rear End	4808	7	104	2.3%
Fixed Object	4212	24	205	5.4%
Animal	2703	2	13	0.6%
Sideswipe-Passing	2194	1	36	1.7%
Angle	1536	10	83	6.1%
Left Turn	1501	6	68	4.9%
Backing	1133	0	4	0.4%
Parked Vehicle	1016	1	18	1.9%
Other Object	553	1	2	0.5%
Other Non-Collision	463	0	5	1.1%
Right Turn	439	0	6	1.4%
Head On	305	5	37	13.8%
Overturning	217	6	39	20.7%
Sideswipe-Meeting	184	6	5	6.0%
Pedestrian	145	5	32	25.5%
Pedalcycles	135	0	15	11.1%
Unknown	57	0	3	5.3%
Train	10	2	0	20.0%

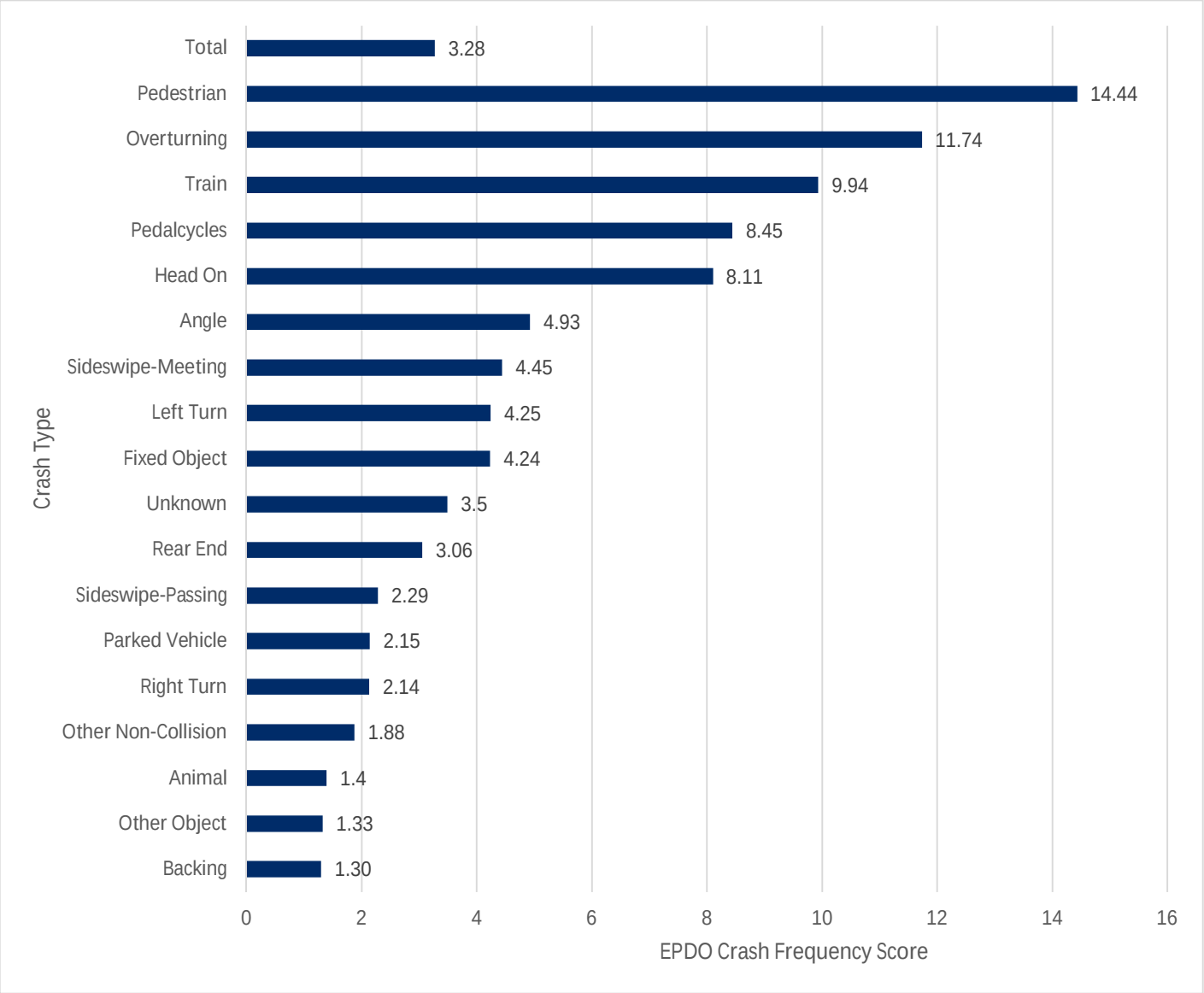
Note: Green highlight indicates peaks in analysis period.

EQUIVALENT PROPERTY DAMAGE ONLY CRASHES

Equivalent property damage only (EPDO) crash frequency reflects the relative severity of the crashes within the study area. EPDO crash frequency normalizes the data, providing another means of informing prioritization of crash locations. It also provides an estimate of economic effect that a fatal or injury crash has on society. The EPDO Crash Frequency Equation was applied to the data using information provided in the ODOT Economic Crash Analysis Tool (ECAT). High EPDO values indicate crash types with high levels of fatalities and/or serious injuries, like pedestrian crashes. This information helped informed decision-making by the stakeholder group.

EPDO Crash Frequency = (41.18 x Fatal and Serious Injury Crashes + 6.55 x Visible Injury Crashes + 4.44 x Possible Injury Crashes + Property Damage Only Crashes) / Total number of crashes

Figure 12: EDPO for Crash Types, 2009–2017



CRASH TYPES BY JURISDICTION

The table below provides an assessment of the four most prevalent over-represented crash types by community. Crash type percentages are based on number of crashes for each crash type within each community as compared to total crashes within the community.

Figure 13: Over-Represented Crash Types by Jurisdiction, 2009–2017

	Rear End	Fixed Object	Animal	Sideswipe Passing
Bay View	0%	36%	7%	7%
Bellevue	0%	33%	0%	0%
Berlin Heights	9%	33%	13%	13%
Berlin Township	5%	31%	40%	3%
Castalia	19%	26%	7%	3%
Florence Township	7%	35%	24%	14%
Groton Township	17%	25%	19%	11%
Huron	18%	20%	5%	9%
Huron Township	20%	22%	24%	8%
Kelleys Island	13%	16%	3%	10%
Margaretta Township	12%	37%	17%	7%
Milan	22%	16%	6%	7%
Milan Township	12%	27%	26%	11%
Norwalk Township	0%	0%	100%	0%
Oxford Township	9%	43%	12%	16%
Perkins Township	47%	10%	4%	9%
Sandusky	20%	9%	1%	12%
Vermilion	21%	16%	16%	10%
Vermilion Township	10%	26%	33%	6%

CRASH TYPES FOR FSI CRASHES BY MAINTAINING AUTHORITY

Crash data indicate that roughly half of FSI crashes occur on state-maintained roadways. In comparison, the majority bicycle and pedestrian crashes occur on non-state-maintained roadways, with 87 percent of bicycle crashes (pedacycles) and 73 percent of pedestrian crashes.

Figure 14: Crash Types for FSI Crashes by Maintaining Authority, 2009–2017

	State	County	Municipal	Township	Total
Fixed Object	116	45	28	40	229
Angle	46	18	25	4	93
Rear End	74	12	21	4	111
Overturning	21	12	4	8	45
Head On	22	6	10	4	42
Left Turn	45	11	13	5	74
Sideswipe-Passing	29	4	3	1	37
Pedestrian	10	5	18	4	37
Animal	9	3	1	2	15
Pedalcycles	2	2	11	0	15
Sideswipe-Meeting	6	2	3	0	11
Other Non-Collision	2	1	2	0	5
Right Turn	4	1	1	0	6
Parked Vehicle	4	1	13	1	19
Backing	0	2	2	0	4
Unknown	1	0	1	1	3
Other Object	2	0	1	0	3
Train	0	1	1	0	2
TOTAL	393	126	158	74	751

Note: Green highlight indicates peaks in analysis period.

4.2.1 Over-Represented Crash Types

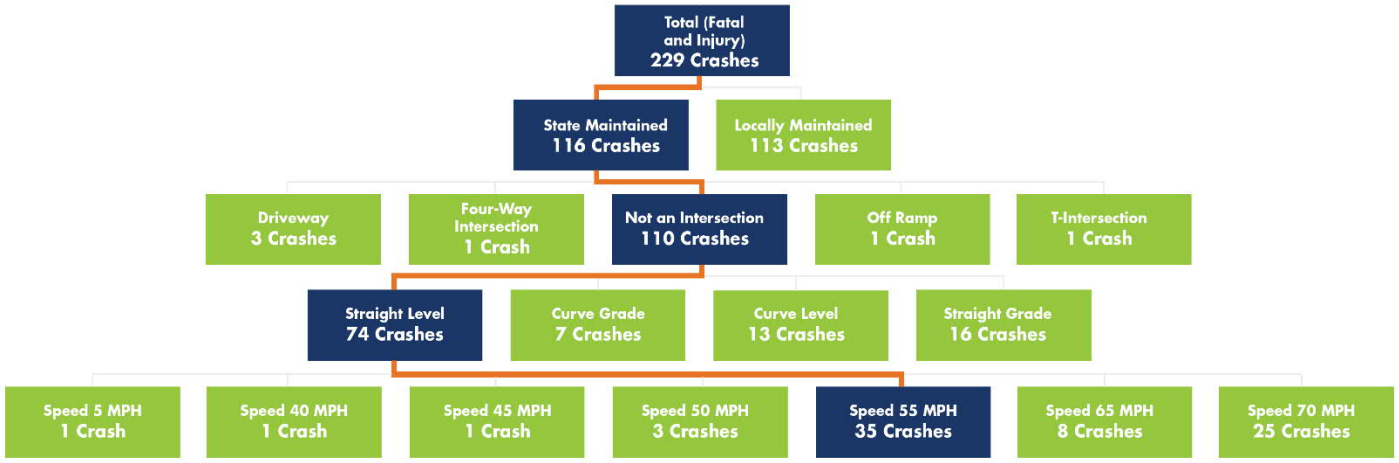
The most prevalent FSI crash types that occurred in the Erie region during the analysis period are fixed object, rear end and angle crashes. In-depth analysis was performed for these crash types to enable focusing on treatments, measures and methods to mitigate FSI crashes.

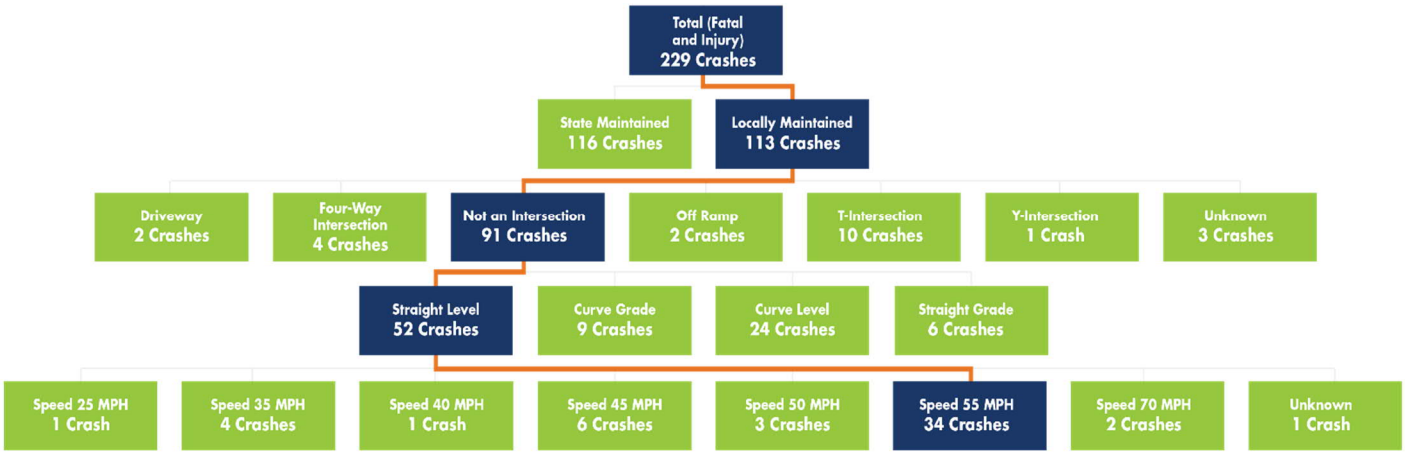
FIXED OBJECT CRASHES

Fixed object crashes occur when a vehicle leaves the roadway and collides with a stationary object such as a tree, utility pole, mailbox or other permanent feature along the roadway. There were 4,212 fixed object crashes reported during the analysis period; these crashes resulted in 24 fatalities and 205 serious injuries. The speeds shown in the crash tree diagrams are the stated speed from the OH-1 Crash Reports.

Fixed object crashes account for over 27% of FSI crashes in the Erie region.

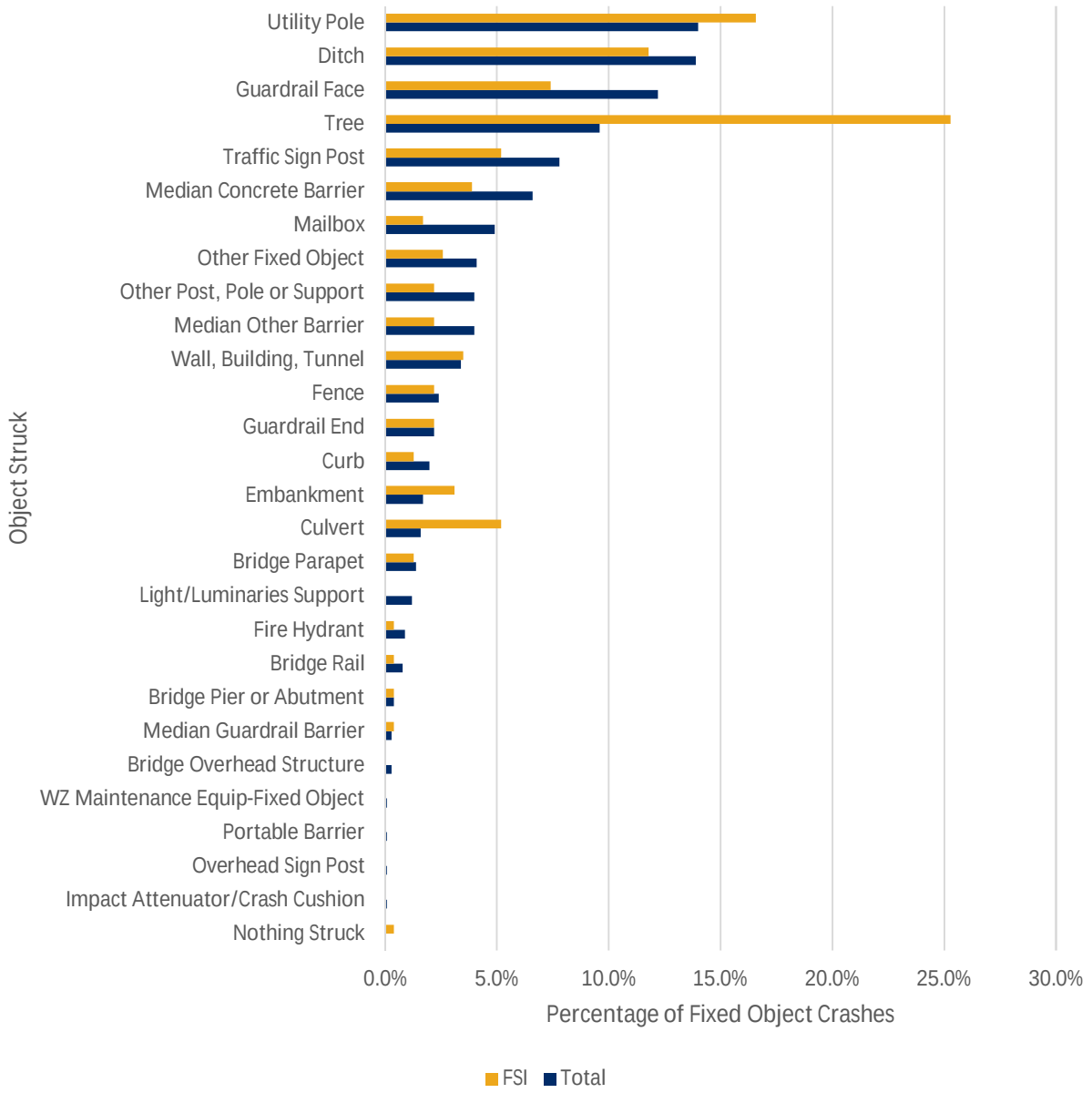
Figure 15: Crash Tree Diagrams of Fixed Object-Related FSI Crashes, 2009–2017





The crash tree diagrams in Figure 15 show that about half of fixed object crashes occur on state-maintained roads. Crash data reflect the majority of crashes on both State and locally maintained roads occurred on straight, level roadway segments. Crash data shown in Figure 16 indicate that utility poles, trees, ditches and guardrail faces were the most commonly types struck fixed objects. Although trees were struck in 9 percent of fixed object crashes, they represent 25 percent of FSI crashes. Some fixed objects are designed roadway features that are intended to improve roadway safety. It is likely that crashes into these fixed objects likely involve other contributing factors like speed, driver age, impairment, and/or distracted drivers, the most common contributing factors identified within the study's analyses. The roadway design features include guardrail face, median concrete barrier, median other barrier, guardrail end, curb, bridge parapet, bridge rail, median guardrail barrier, portable barrier and impact attenuator/crash cushion.

Figure 16: Object Struck in Fixed Object-Related FSI Crashes, 2009–2017

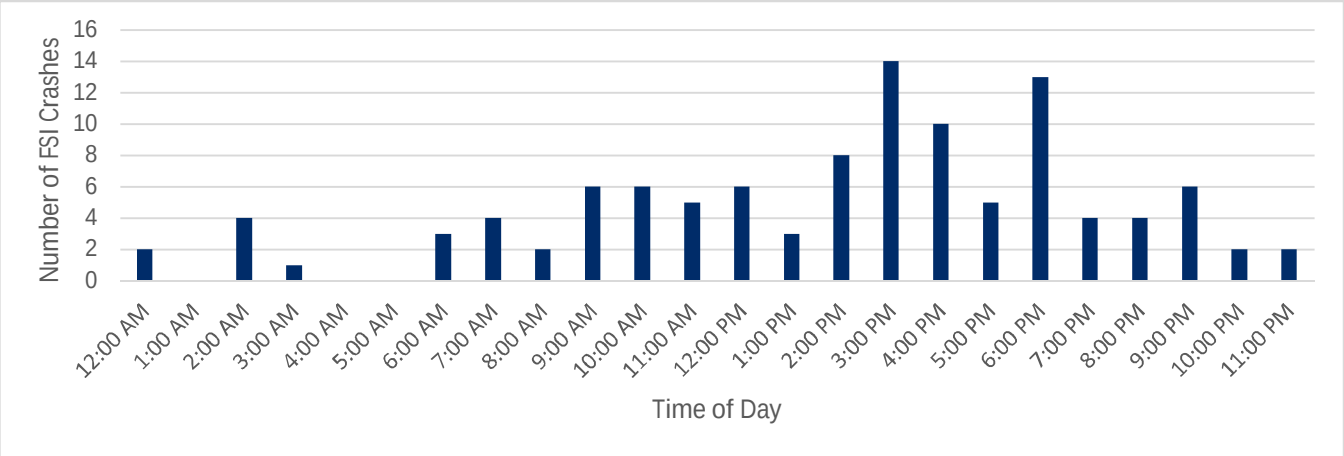


"Nothing Struck" indicates data not reported.

REAR END CRASHES

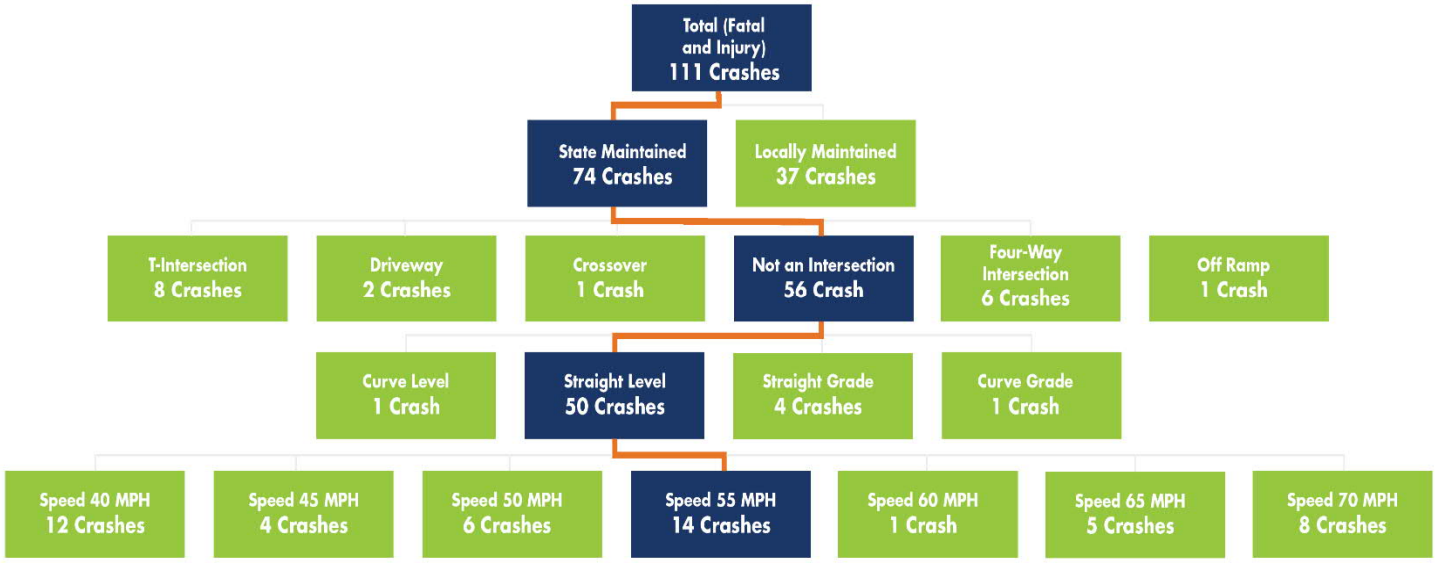
During the analysis period, 4,808 rear end crashes were reported, resulting in seven fatalities and 104 serious injuries. Peaks in FSI rear end crashes occurred during peak traffic volumes, particularly the afternoon/evening peak. Furthermore, FSI rear end crashes were less likely to occur late at night through early morning hours.

Figure 17: Time of Day for Rear End FSI Crashes, 2009–2017



Two-thirds of FSI rear end crashes occur on state-maintained roads, predominantly on principal arterials. Most rear end crashes did not occur at intersections. Based on typical driver behaviors and roadway characteristics, non-intersection rear end crashes are likely related to unanticipated slowing traffic which could be caused by turning vehicles or downstream congestion.

Figure 18: Tree Diagram of Rear End FSI Crashes, 2009–2017



ANGLE CRASHES

There were 710 reported injuries associated with angle crashes and of these, 10 were fatalities and 83 were serious injuries. FSI angle crashes happened throughout the day, peaking in the afternoon/evening between the hours of 3:00 PM and 7:00 PM. The crash tree diagram in Figure 20 shows that roughly half of FSI angle crashes on locally-maintained roads occurred at stop-controlled, four-legged intersections involving young drivers (ages 16-25). Crashes on state-maintained roads exhibit similar crash factors.

Figure 19: Time of Day for FSI Angle Crashes, 2009–2017

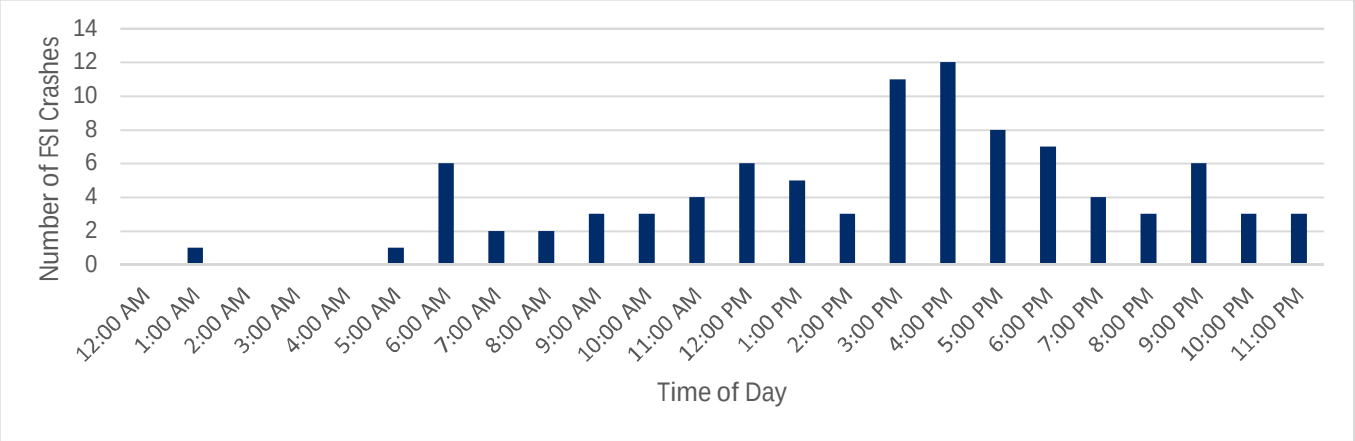
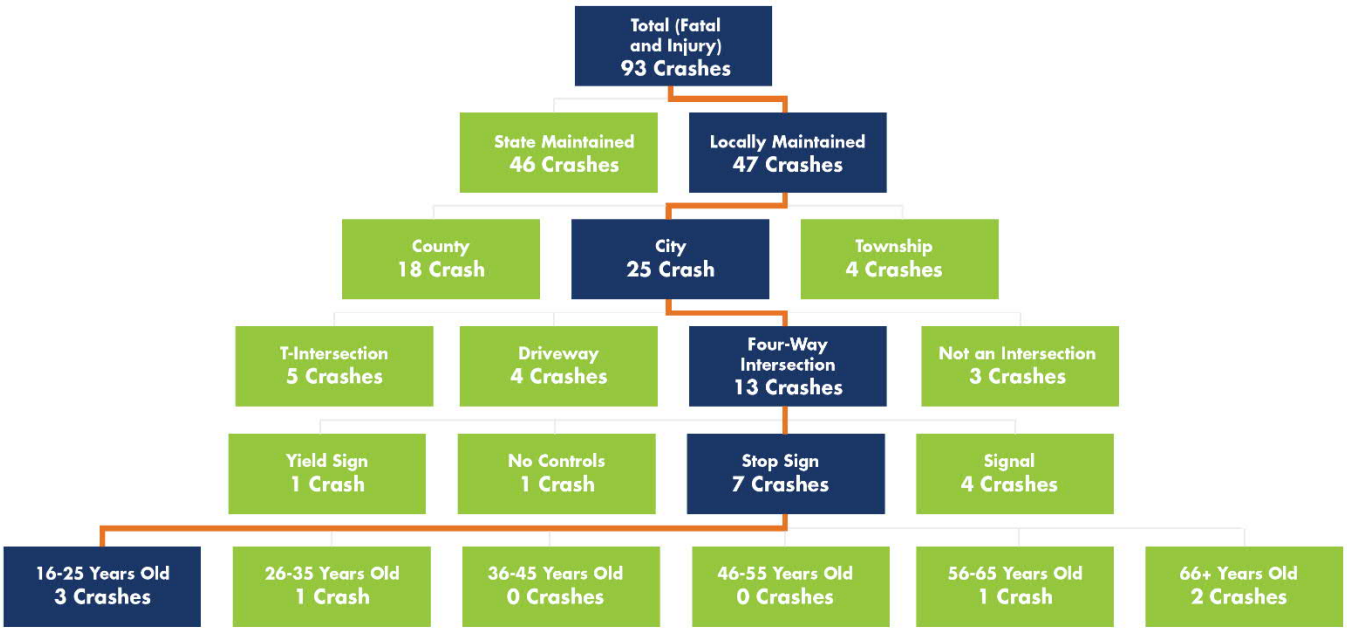
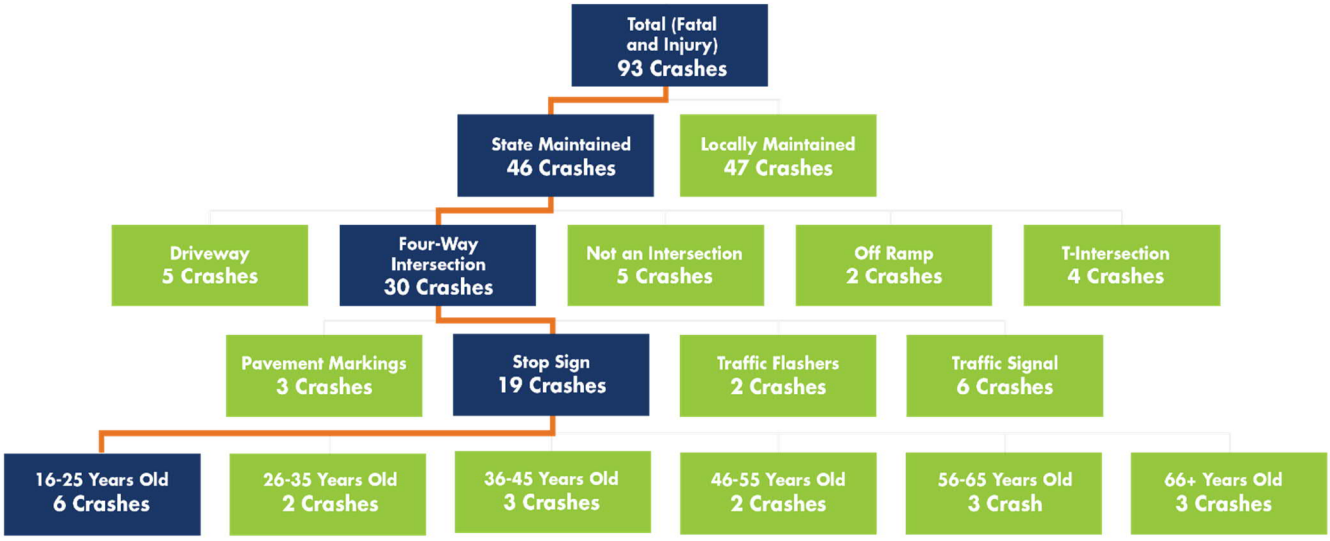


Figure 20: Tree Diagram of Angle FSI Crashes, 2009–2017





Emphasis Areas

Prioritized Focus Areas

SECTION CONTENT

Intersections

Roadway Departures

Distracted Driving

Speeding

5 EMPHASIS AREAS

Several different factors may cause or contribute to a motor vehicle crash, such as driver impairment, vehicles speed, distracted driver, roadway geometrics, etc. At the statewide level, the Ohio Strategic Highway Safety Plan (SHSP) identifies a range of potential factors as primary contributors to FSI crashes. The Ohio SHSP has developed strategies and actions to address these factors. Agencies often refer to these primary contributing factors as emphasis areas, which means they receive additional "emphasis," in the form of time and resources. Figure 21 lists the ODOT emphasis areas and the percent of related crashes where they are factors at the state, county and municipal levels.

Figure 21: Contributing Factors by Roadway Maintenance Authority for FSI Crashes, 2009–2017

Contributing Factors	State	County	Municipal
Roadway Departure	37.6%	47.5%	47.5%
Young Driver	36.9%	35.2%	35.5%
Intersection	36.7%	32.0%	34.4%
Speed-Related	24.0%	21.0%	19.6%
Unrestrained Occupants	18.9%	21.0%	24.3%
Older Driver	18.4%	18.0%	16.2%
Alcohol-Related	16.5%	20.1%	26.8%
Rear End	12.4%	14.8%	10.3%
Motorcycle	10.9%	17.7%	19.6%
Drug-Related	8.1%	7.3%	9.5%
Pedestrian	6.6%	4.9%	7.5%
Distracted Driver	6.4%	5.1%	4.2%
Railroad Crossing	0.3%	0.3%	0.6%
Bicycle	2.0%	2.0%	3.6%

Crash data were analyzed to assess the most frequent emphasis areas that contribute to crashes in the Erie region. The emphasis areas for further analysis were identified based on the results of the crash analysis results, stakeholder input, feasibility to address the crash factors in the region and alignment or relationship to the Ohio SHSP. The emphasis areas listed below were identified by the stakeholder committee for focused implementation efforts for the Erie region.

1. ***Intersections***
2. ***Roadway Departures***
3. ***Distracted Driving***
4. ***Speeding***

INTERSECTIONS

During the analysis period, 5,888 intersection crashes were reported. These crashes contributed to 32 percent of FSI crashes in the Erie region. Contributing factors in intersection crashes may involve obscured lines of sight, signalization, vehicle speed and road geometry. Figure 22 shows the 5-year rolling averages of fatal and serious injury crashes, including future projections. Fatal crashes are projected to increase while serious injury crashes are projected to decrease. Figure 23 indicates that older drivers (age 65+) were the most common factor in intersection crashes resulting in fatalities and younger drivers (age 16-25) were the most common factor in intersection crashes resulting in serious injuries.

Figure 22: 5-Year Rolling Average of Intersection-Related FSI Crashes, 2009–2017

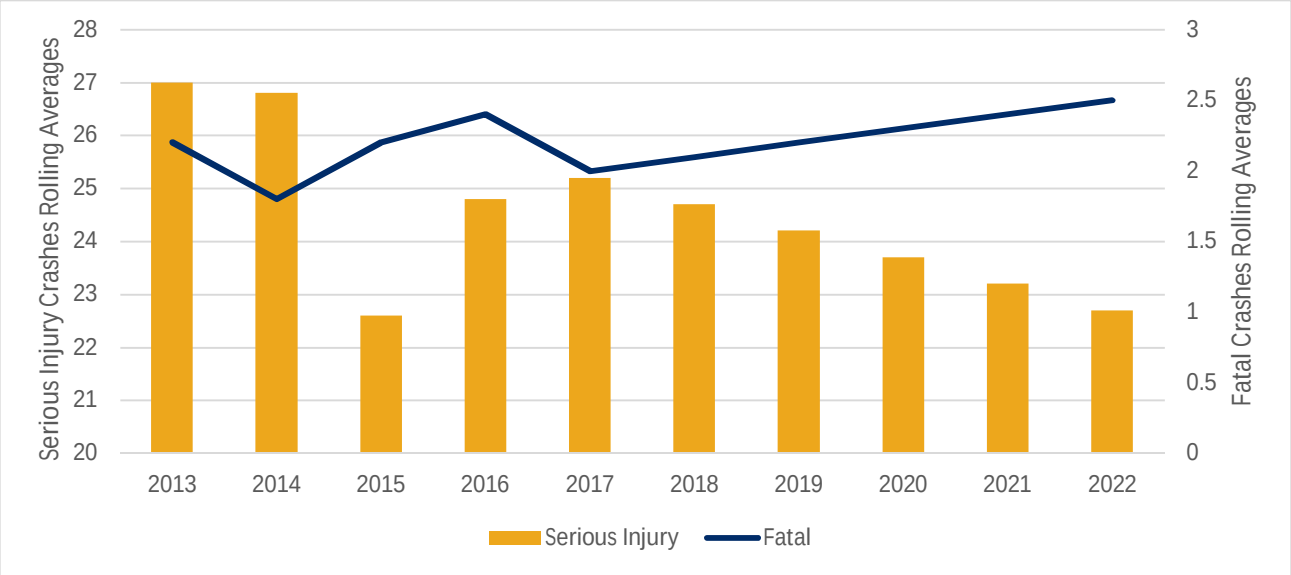
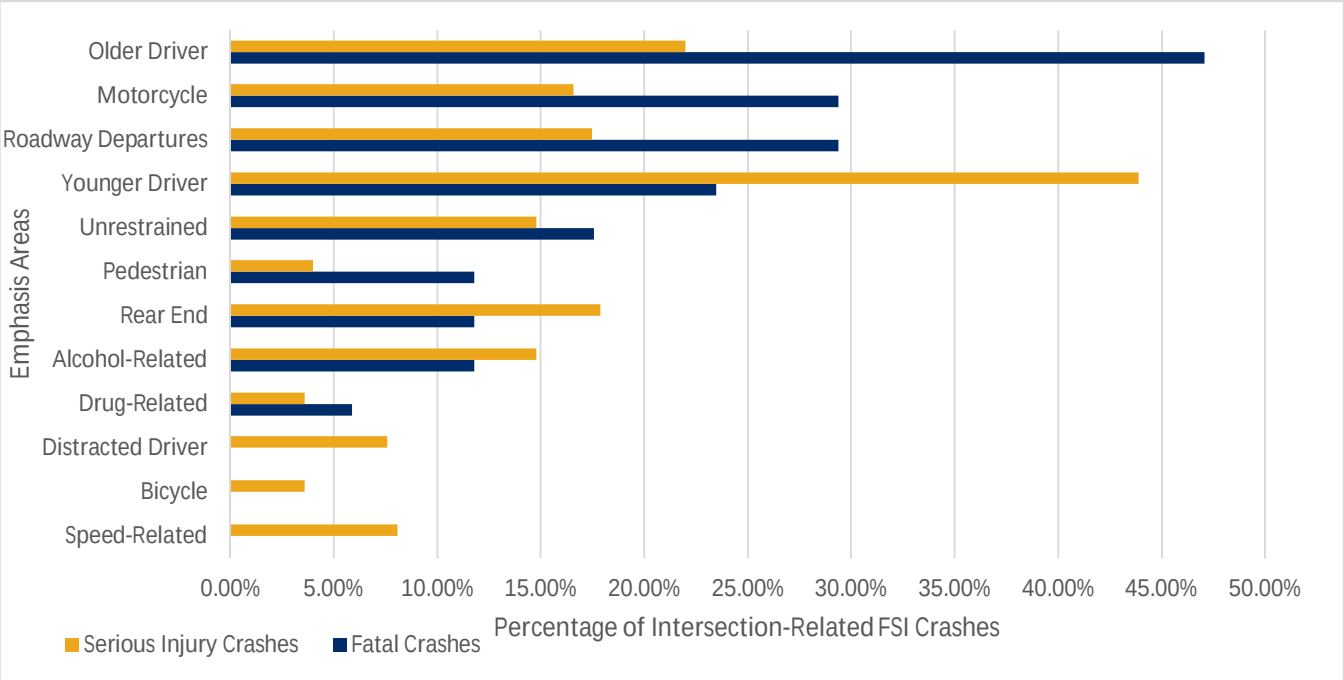
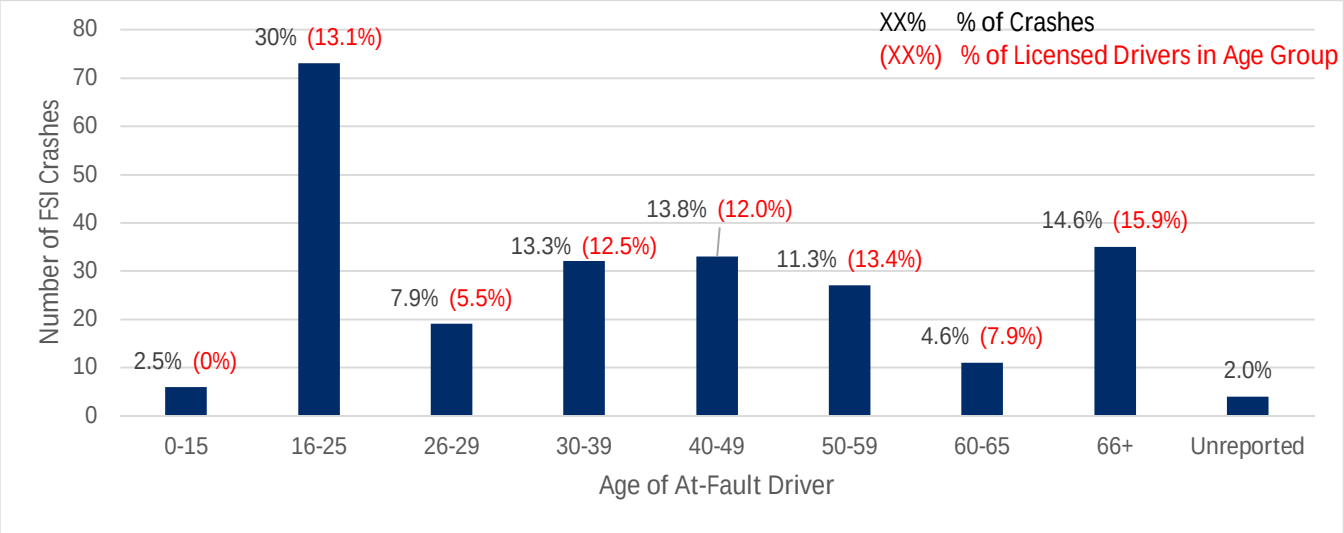


Figure 23: Intersection-Related FSI Crashes and Emphasis Area Overlaps, 2009–2017



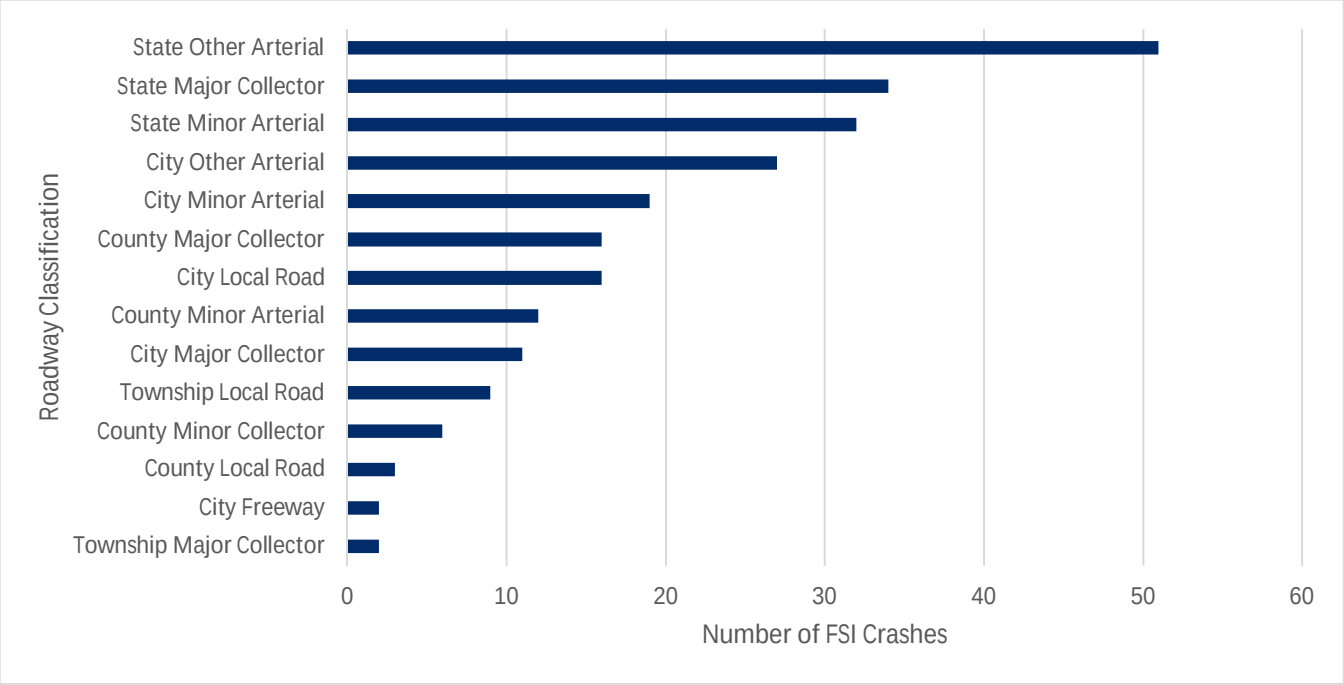
WHO? As reflected by the information in Figure 24, younger drivers (ages 16 to 25) are over-represented in intersection crashes. This trend reflects lack of driver experience, characteristic riskier behaviors and risk tolerance.

Figure 24: Age of At-Fault Driver of Intersection-Related FSI Crashes, 2009–2017



WHERE? Nearly 50 percent of FSI intersection crashes occurred at intersections on state-maintained facilities. Of those crashes, more than 21 percent involved state-maintained arterials (i.e., US-6, US-250, SR-4, etc.). More than 31 percent of FSI crashes at intersections occurred on roads maintained by cities or villages. Figure 25 illustrates the number of crashes by roadway functional class.

Figure 25: Intersection-Related FSI Crashes by Roadway Classification and Jurisdiction, 2009–2017



WHEN? FSI intersection crashes happen throughout the day with peaks that corresponds to school dismissal and the end of the business day. Comparison of daily crash trends indicates fairly consistent numbers of crashes throughout the week. Annual crash data show more than 16 percent of FSI intersection crashes occurred in June, the end of the school year. The fewest FSI intersection crashes occurred in January and February.

Figure 26: Time of Day of Intersection-Related FSI Crashes, 2009–2017

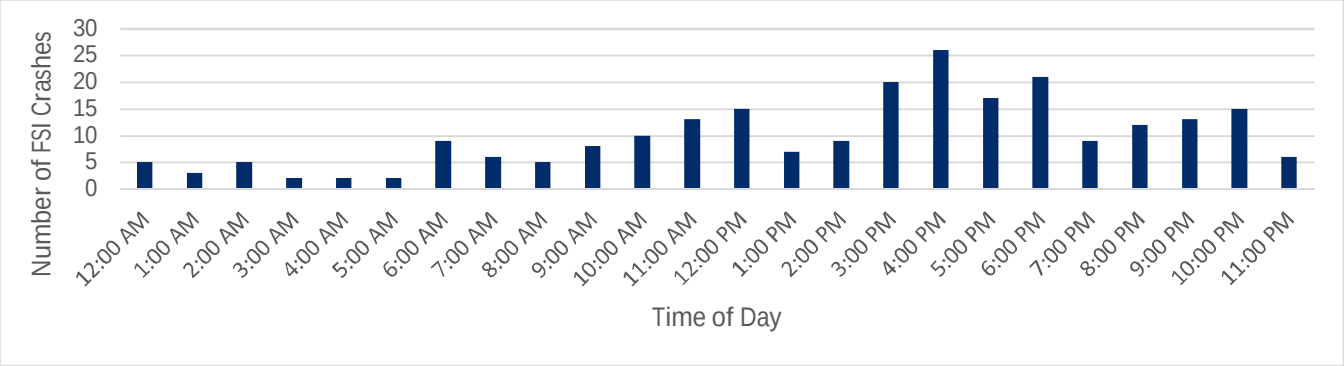


Figure 27: Day of Week of Intersection-Related FSI Crashes, 2009–2017

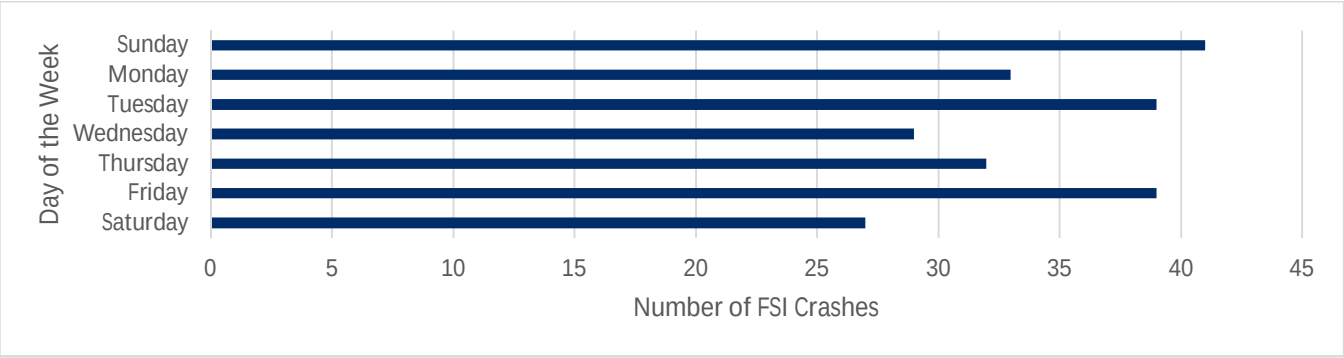
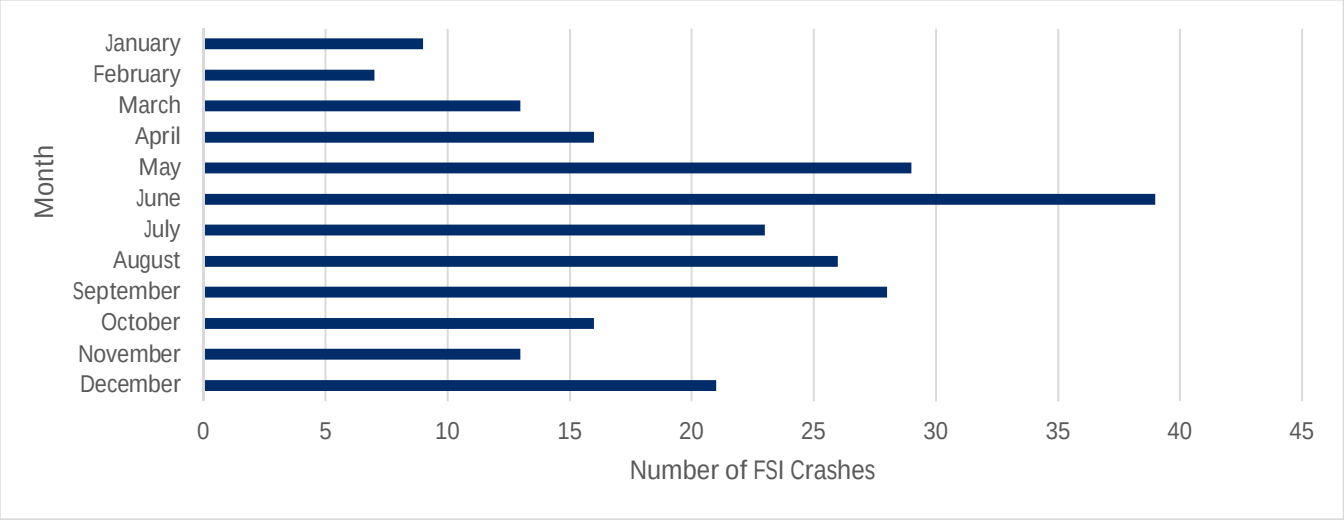
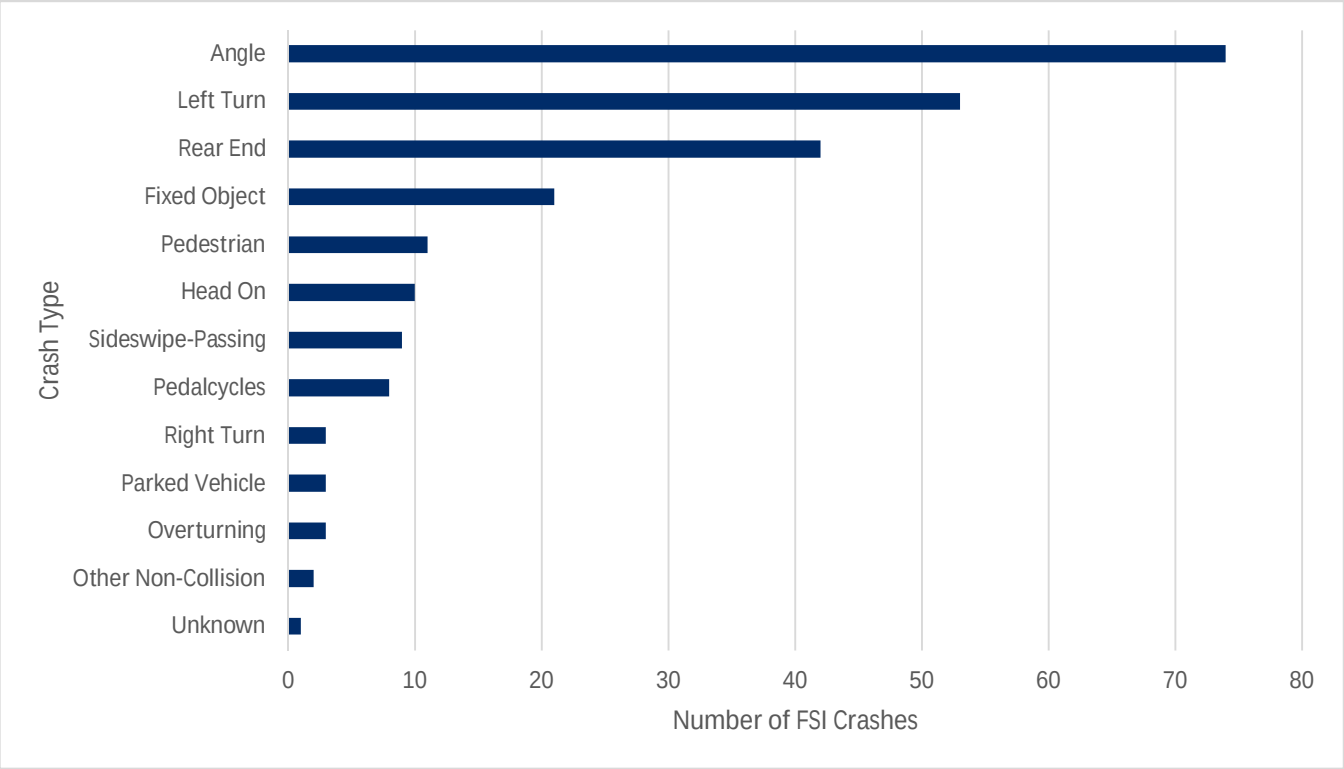


Figure 28: Month of Year of Intersection-Related FSI Crashes, 2009-2017



WHAT? Figure 29 illustrates the number of intersection-related crashes by crash type. Predominant FSI crash types are angle, left turn and rear end crashes. Assessment of the age of drivers involved in these types of crashes shows an over-representation of older drivers (65+); older drivers are involved in 28 percent of angle crashes at intersections and 34 percent of left turn crashes at intersections.

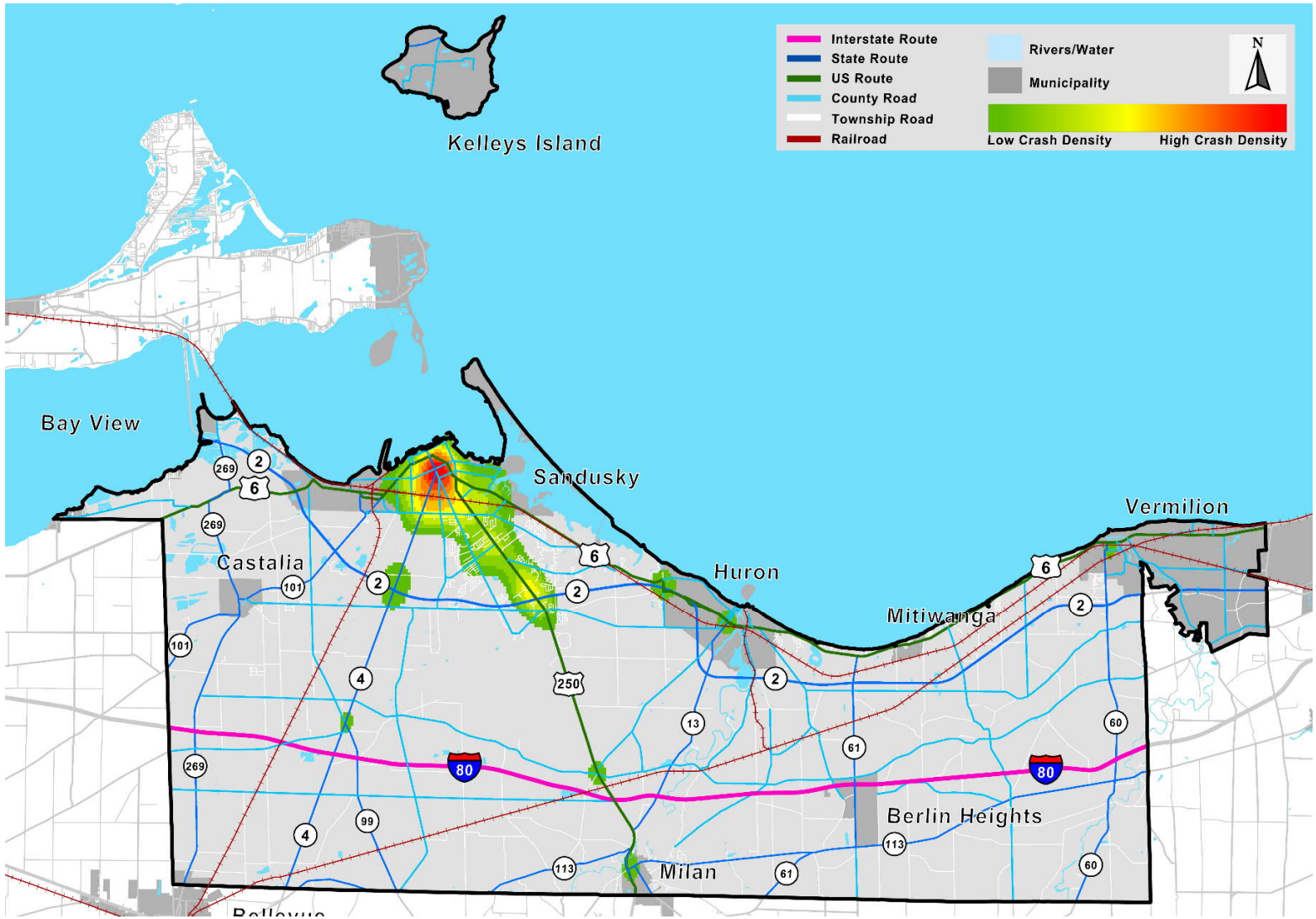
Figure 29: Type of Intersection-Related FSI Crashes, 2009–2017



INTERSECTIONS

The greatest concentration of FSI intersection crashes is located in or near Sandusky, with additional concentrations of intersection crashes along US-250 and SR-6. The crash data generally corresponds to traffic volumes within the Erie region.

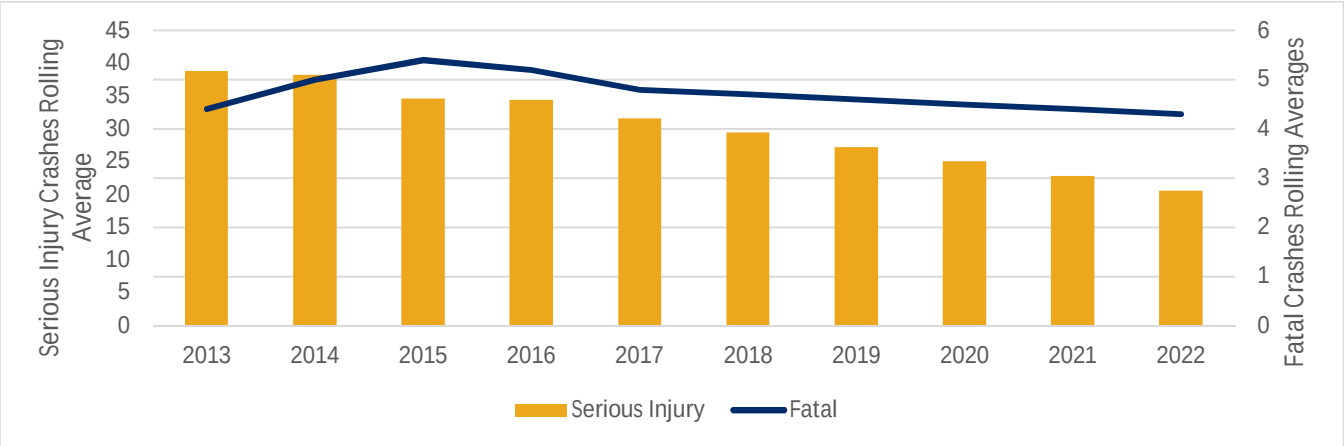
Figure 30: Heat Map of Intersection-Related FSI Crashes, 2009–2017



ROADWAY DEPARTURES

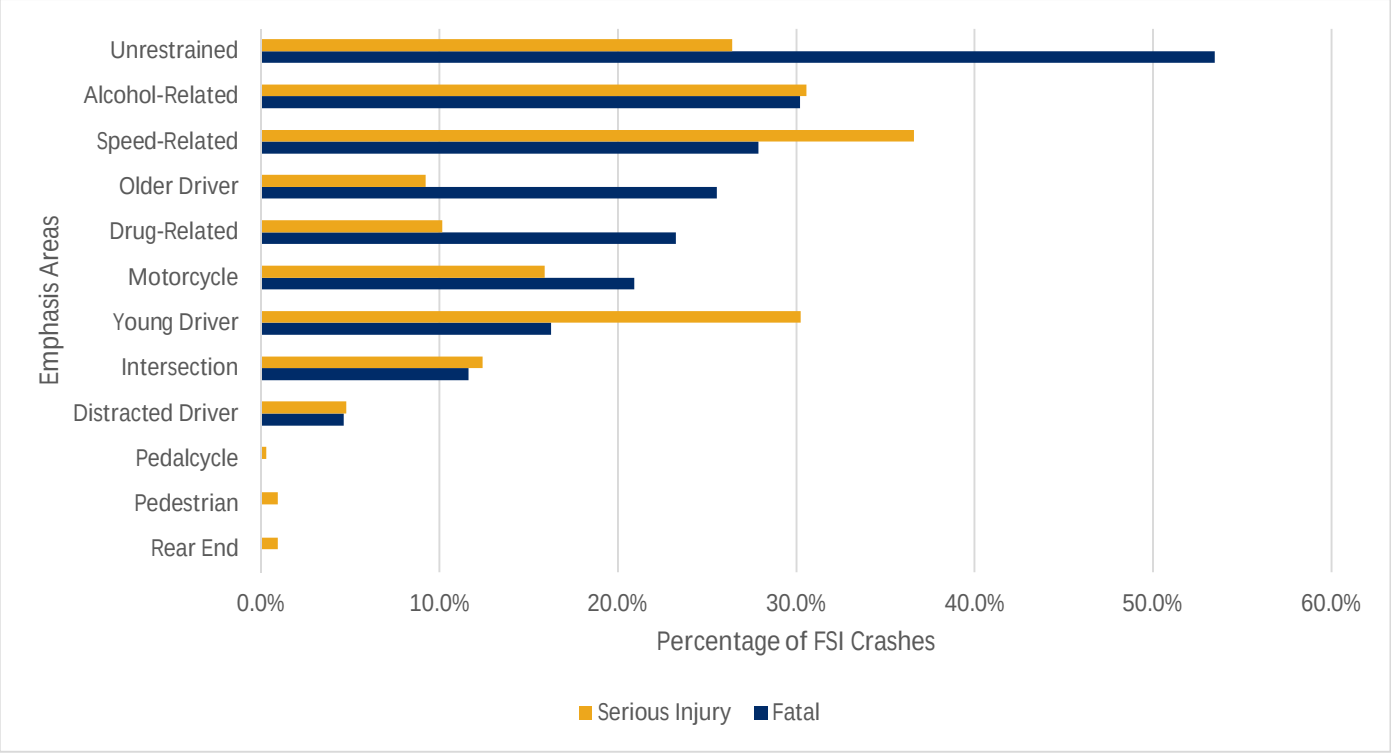
With a total of 357 crashes during the analysis period, roadway departure crashes contributed to 47 percent of FSI crashes in the Erie region. Based on historic data and five-year rolling projections as shown in Figure 31, fatal and serious injuries from roadway departure crashes are trending downward.

Figure 31: 5-Year Rolling Average of Roadway Departure FSI Crashes, 2009–2017



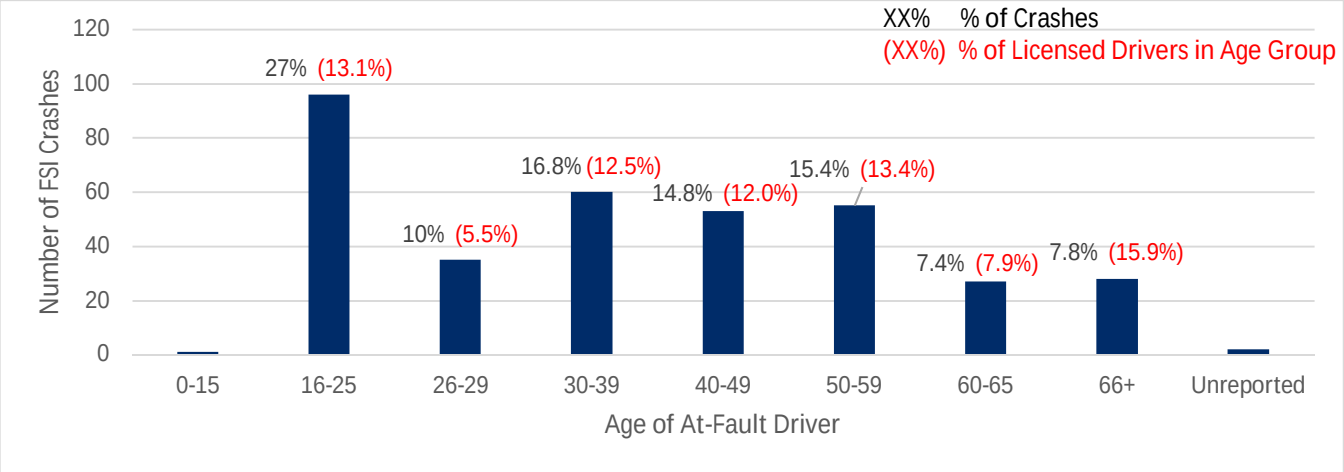
Multiple factors may contribute to roadway departure crashes. Some contributing factors can influence the likelihood of crashes while others can influence the severity of crashes. For example, the emphasis areas of young driver and alcohol, were found to be contributing factors in roadway departure crashes, may influence crash potential. Whereas lack of seat belt use and speed, also found to be contributing factors in roadway departure crashes, may influence crash severity. Furthermore, lack of seat belt use is the most significant contributing factor in roadway departure crashes resulting in fatalities.

Figure 32: Roadway Departure FSI Crashes and Emphasis Area Overlaps, 2009–2017



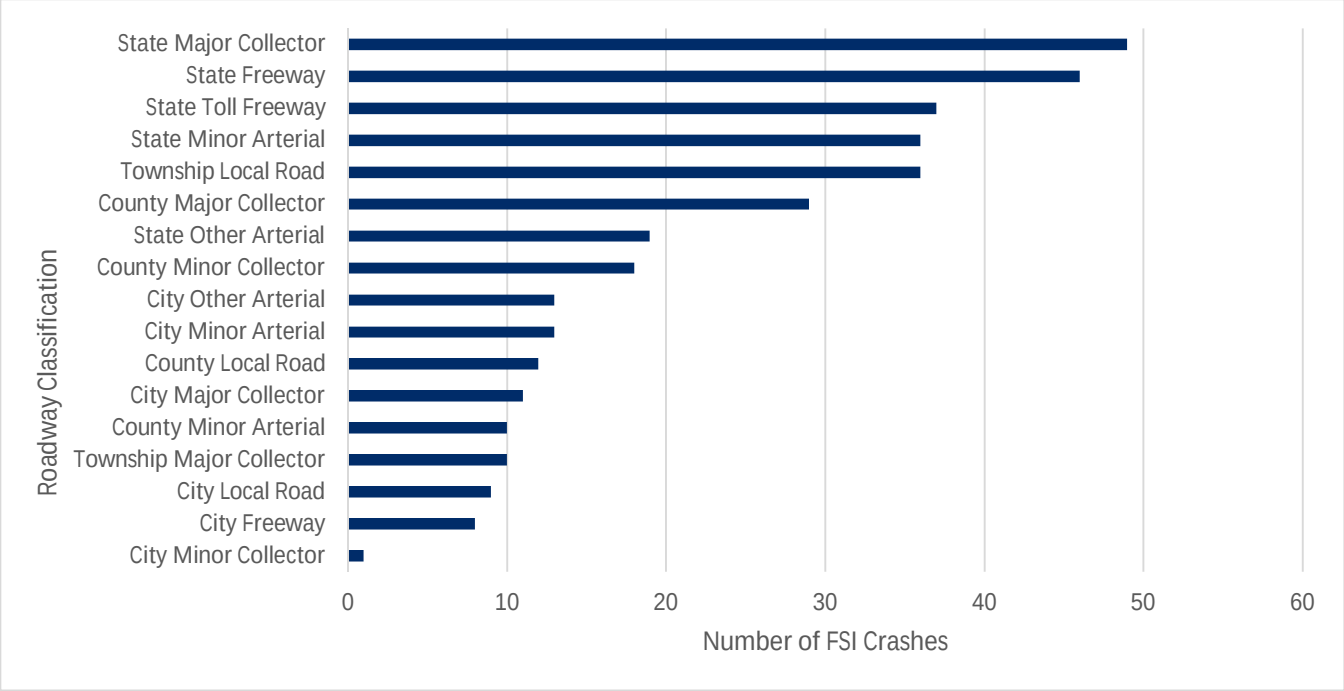
WHO? More younger drivers (ages 16 to 25) were cited as being at-fault in roadway departure crashes than any other identified age group, as illustrated in Figure 33.

Figure 33: Age of At-Fault Driver of Roadway Departure FSI Crashes, 2009–2017



WHERE? Figure 34 illustrates the number of roadway departure crashes by roadway classification. More than 47 percent of roadway departure FSI crashes occurred on state-maintained roadways with 13 percent of roadway departure FSI crashes occurring on state-maintained major collector roads. In comparison, 10 percent of roadway departure FSI crashes occurred on local roads maintained by townships.

Figure 34: Roadway Departure FSI Crashes by Roadway Classification and Jurisdiction, 2009–2017



WHEN? Roadway departure crashes occur throughout the day, peaking in the 7:00 AM hour and throughout the extended period between 3:00 PM (after school) and late night/early morning. More FSI roadway departure crashes occur on weekends than weekdays. Monthly crash trends show somewhat consistent crash frequency throughout the year, with annual peaks in May and July.

Figure 35: Time of Day of Roadway Departure FSI Crashes, 2009–2017

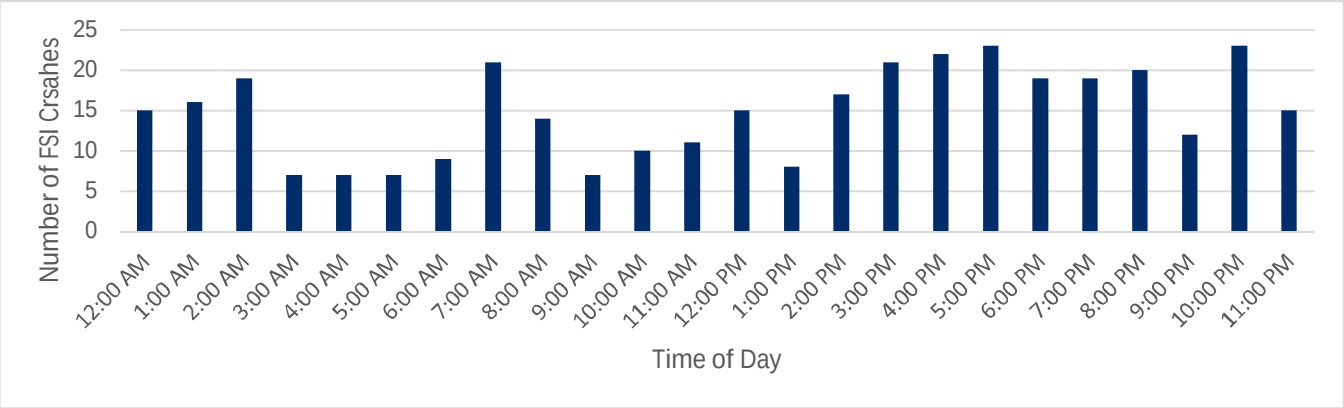


Figure 36: Day of Week of Roadway Departure FSI Crashes, 2009–2017

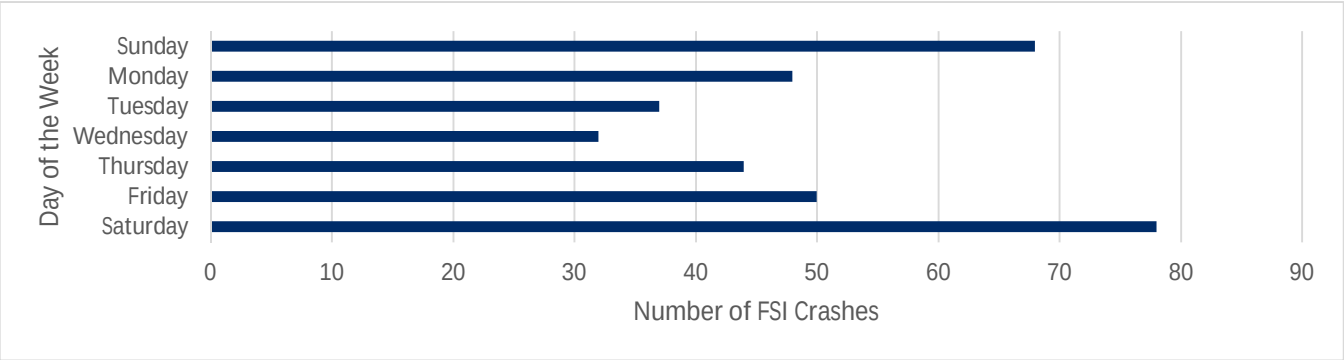
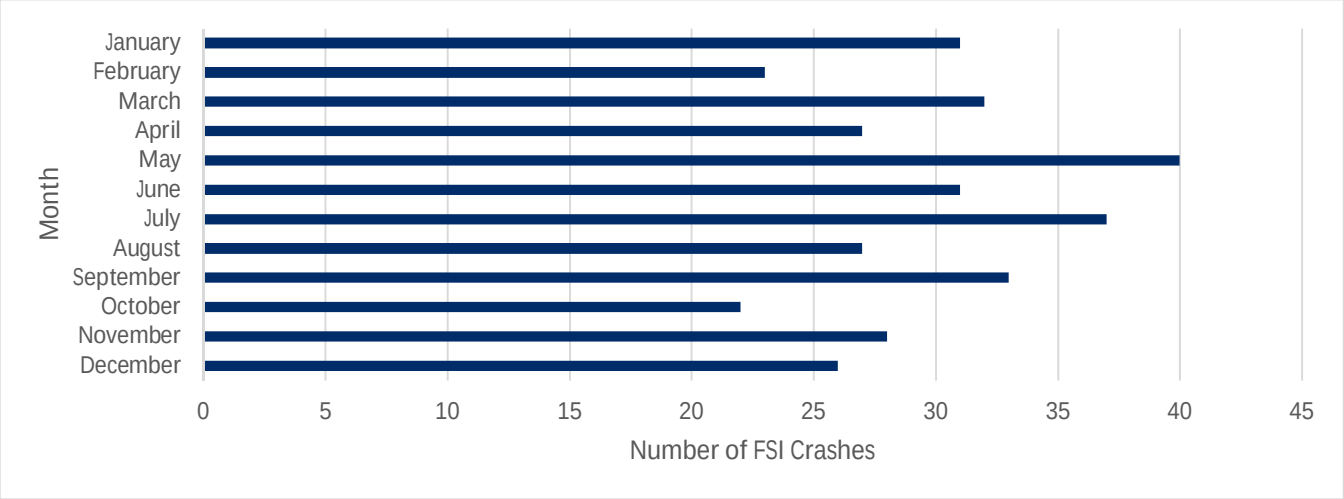


Figure 37: Month of Year of Roadway Departure FSI Crashes, 2009–2017



WHAT? Figure 38 illustrates the number of FSI roadway departure crashes by crash type. The vast majority of FSI roadway departure crashes were fixed object crashes. Overturning represents about 10 percent of FSI roadway departure crashes These two crash types account for more than 70 percent of FSI roadway departure crashes in the Erie region.

Figure 38: Type of Roadway Departure FSI Crashes, 2009–2017

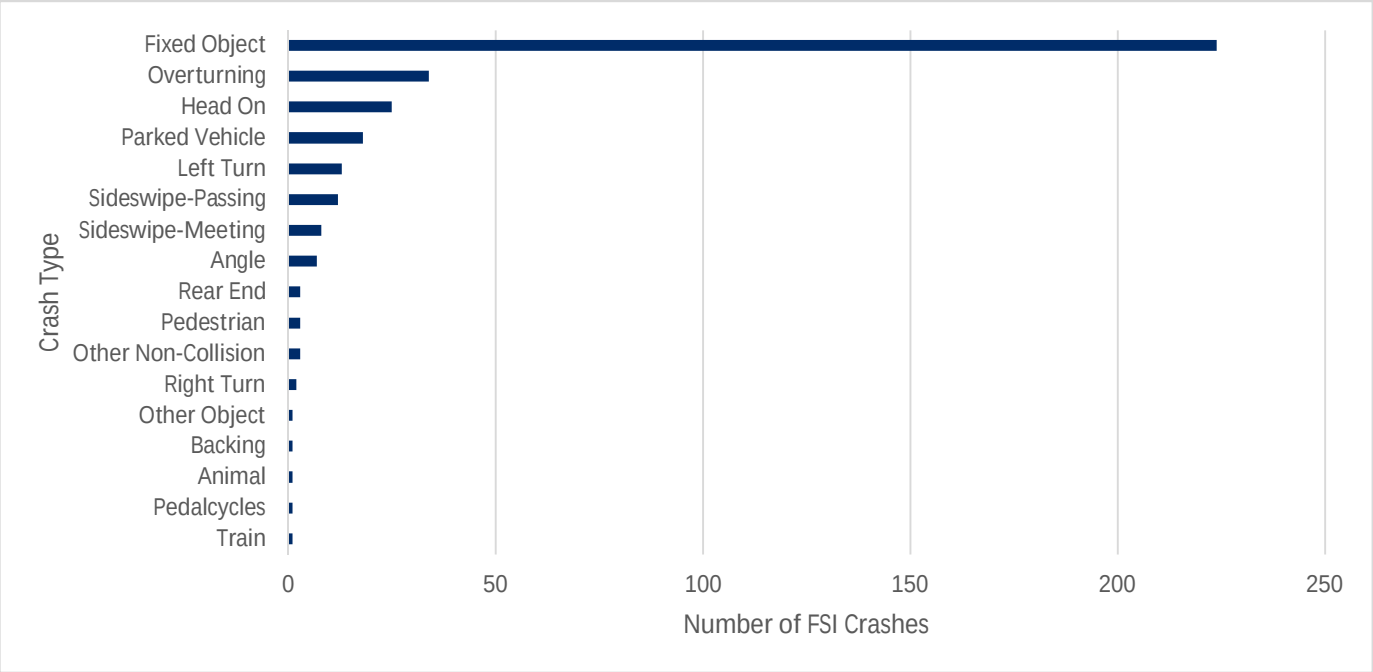
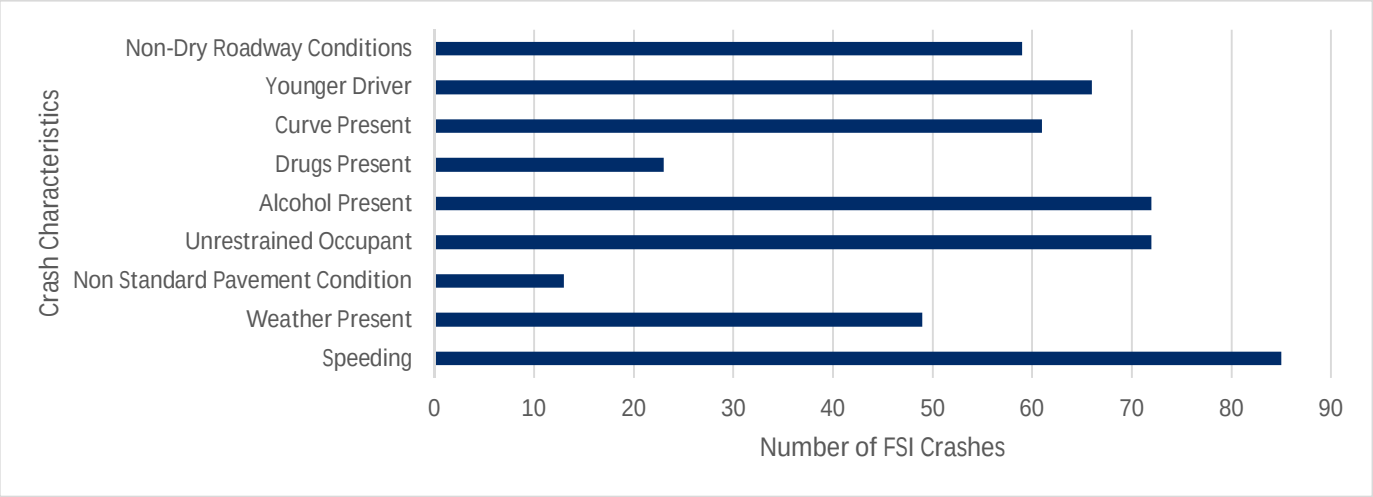


Figure 39 provides crash characteristics (contributing factors) for fixed object, roadway departure FSI crashes. Some crashes are associated with multiple crash characteristics.

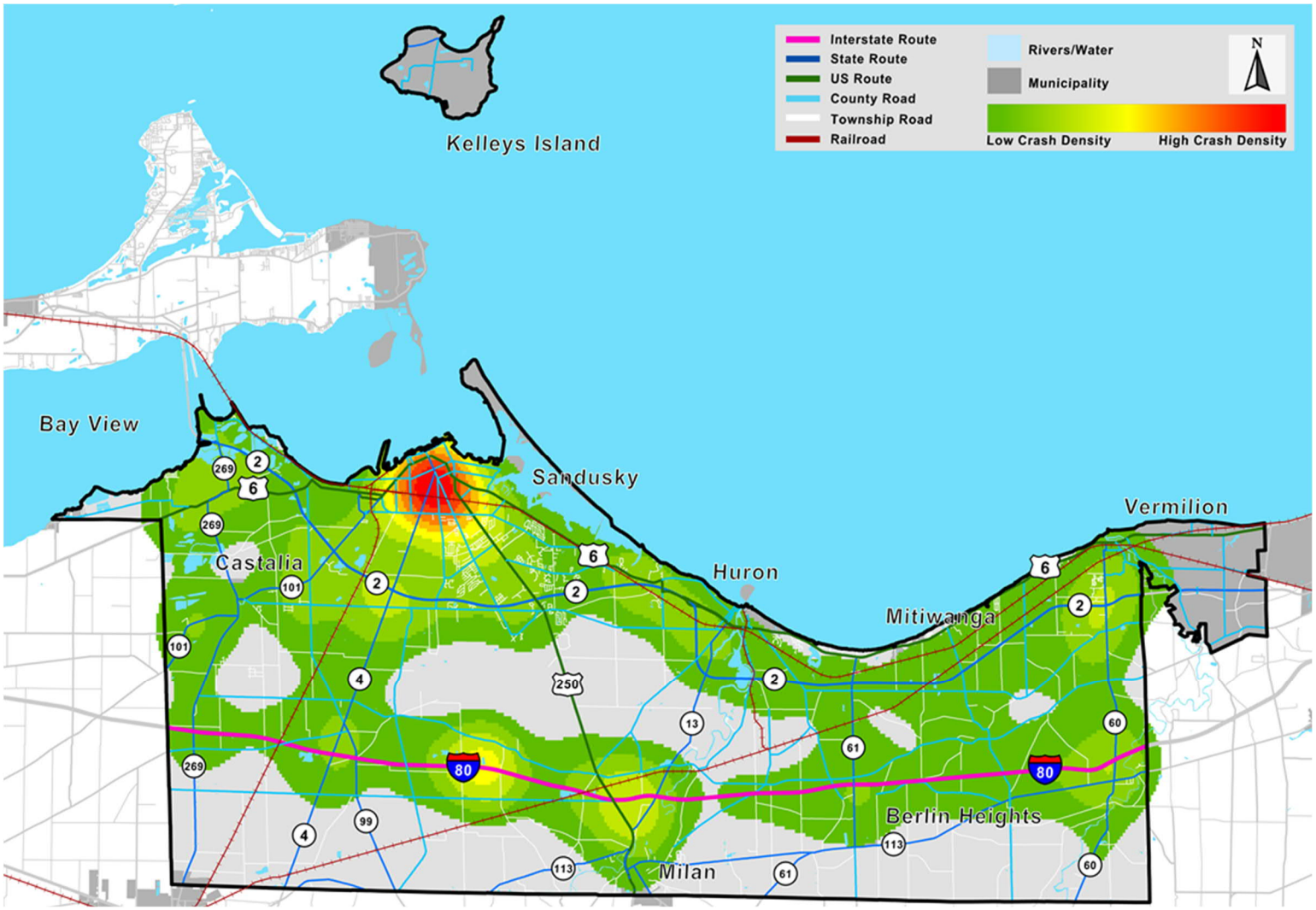
Figure 39: Fixed Object, Roadway Departure FSI Crash Characteristics, 2009–2017



ROADWAY DEPARTURES

The greatest concentration of FSI roadway departure crashes is located in or near Sandusky, with additional concentrations of crashes along the Ohio Turnpike (I-80) and other US and State Routes.

Figure 40: Heat Map of Roadway Departure FSI Crashes, 2009–2017



DISTRACTED DRIVING

Crash data indicate that distracted driving was a factor in five percent of FSI crashes. Based on input from ERPC stakeholders (including law enforcement) along with an understanding of human behavior, the expectation is that distracted driving is under-reported on crash reports. The data reflected in the five-year rolling average reflects an increasing trend in fatalities and serious injury crashes where distracted driving is a contributing factor. Without intervention, this trend is expected to continue in the future.

Figure 41: 5-Year Rolling Average of Distracted Driving-Related FSI Crashes, 2009–2017

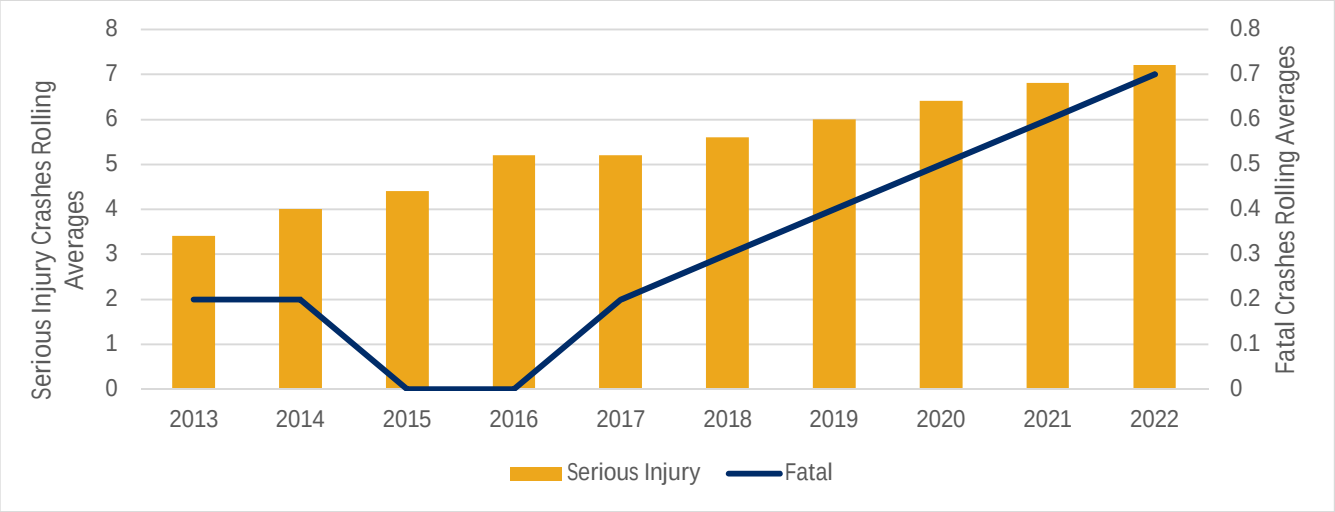
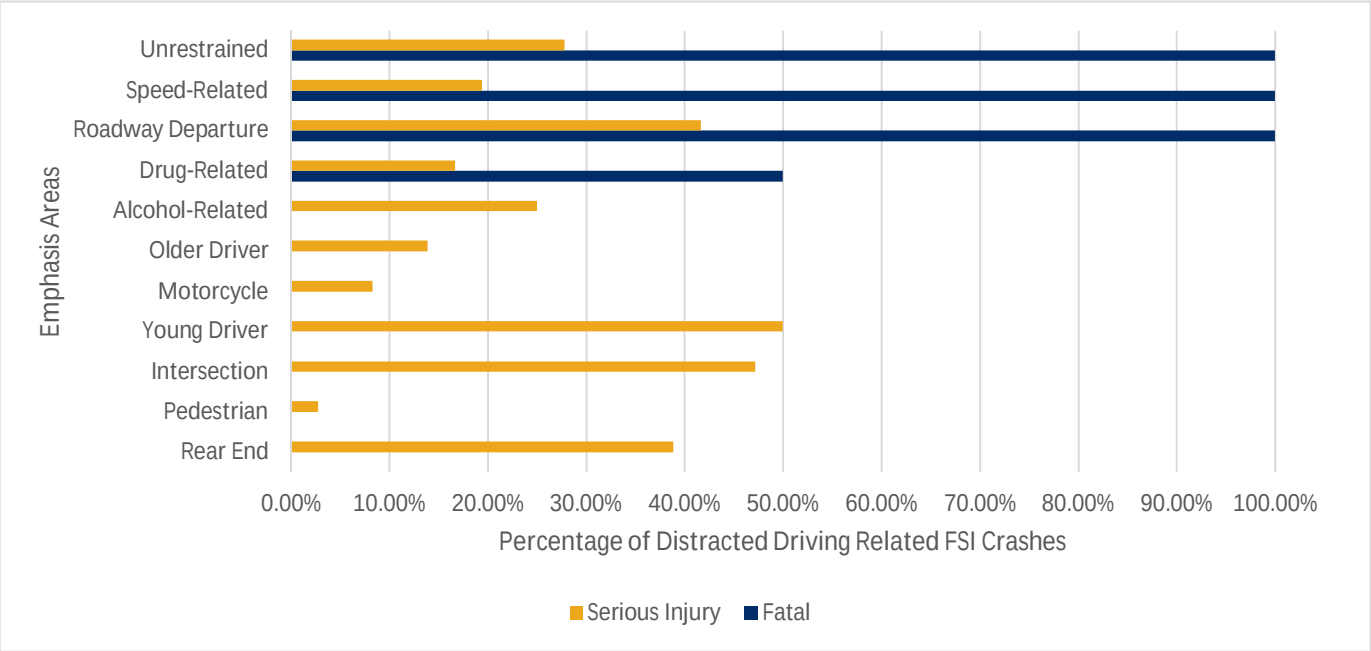


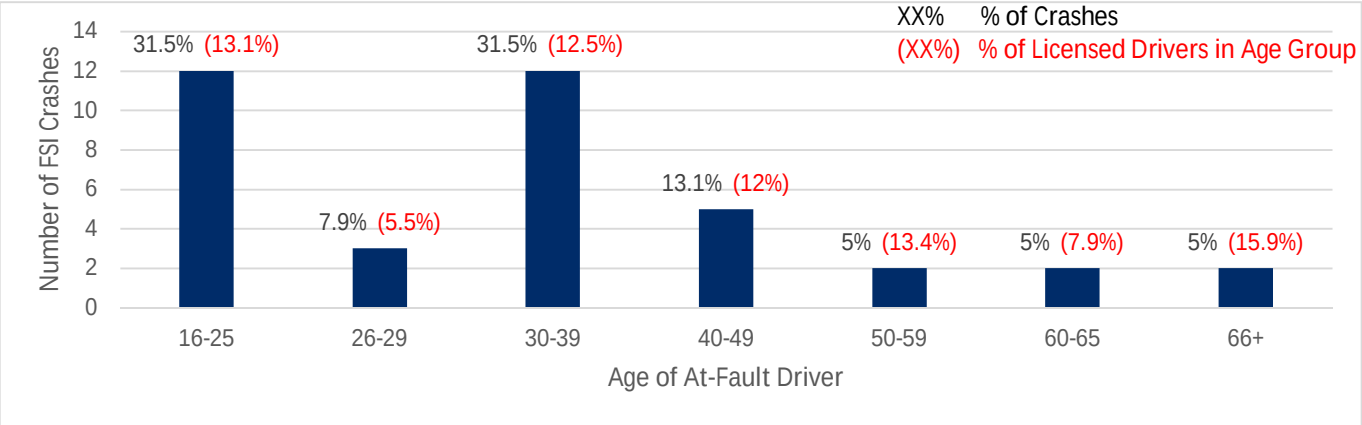
Figure 42 shows that the most predominant emphasis areas that are factors in or characteristics of fatal crashes associated with distracted driving are unrestrained (lack of seatbelt use), speed-related and roadway departure. These three emphasis areas are associated with all distracted-driving related fatal crashes. Drug-related was a contributing factor in half of the distracted-driving related fatal crashes. The most predominant emphasis areas recorded as factors in or characteristics of serious injury crashes associated with distracted driving are roadway departure, young driver, intersection and rear end – contributing factors in 40 to 50 percent of these crashes.

Figure 42: Distracted Driving-Related FSI Crashes and Emphasis Area Overlaps, 2009–2017



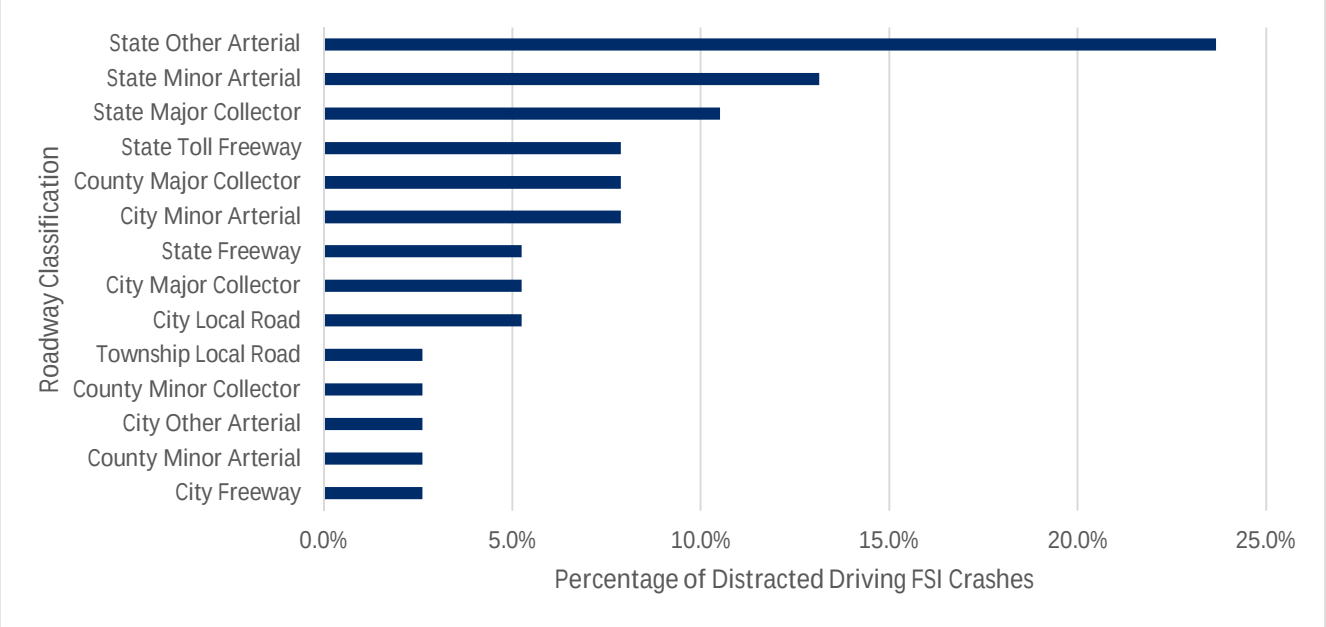
WHO? More drivers cited as being at-fault in distracted driving-related crashes were ages 16 to 25 and drivers ages 30-39 than other age groups.

Figure 43: Age of At-Fault Driver of Distracted Driving-Related FSI Crashes, 2009–2017



WHERE? More than 55 percent of FSI distracted driving-related crashes occurred on state-maintained facilities and with more than 36 percent were on state-maintained arterial roads (i.e., US-6, US-250, SR-4, etc.).

Figure 44: Distracted Driving-Related FSI Crashes by Roadway Classification and Jurisdiction, 2009–2017



WHEN? FSI distracted driving crashes show a peak between 3:00 PM and 5:00 PM. FSI distracted driving crashes are most frequent on Friday, Saturday, and Sunday. These types of crashes are significantly over-represented in the month of May.

Figure 45: Time of Day of Distracted Driving-Related FSI Crashes, 2009–2017

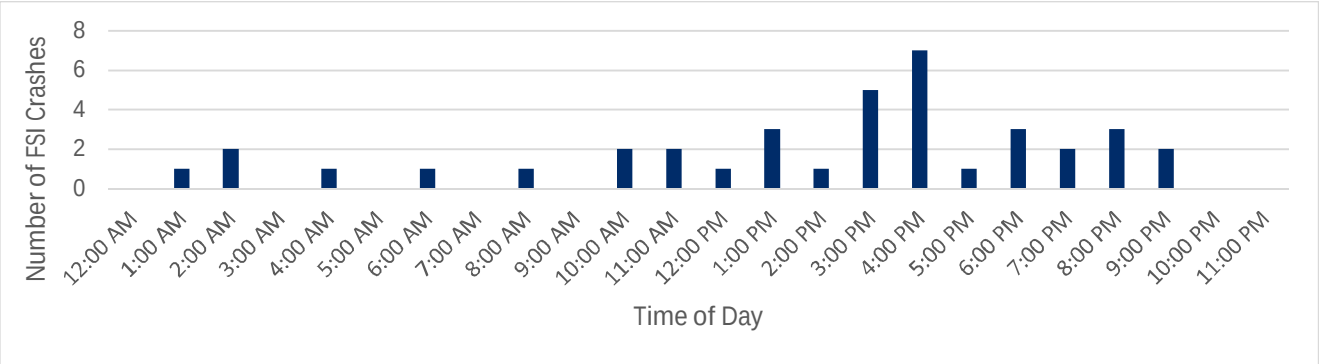


Figure 46: Day of Week of Distracted Driving-Related FSI Crashes, 2009–2017

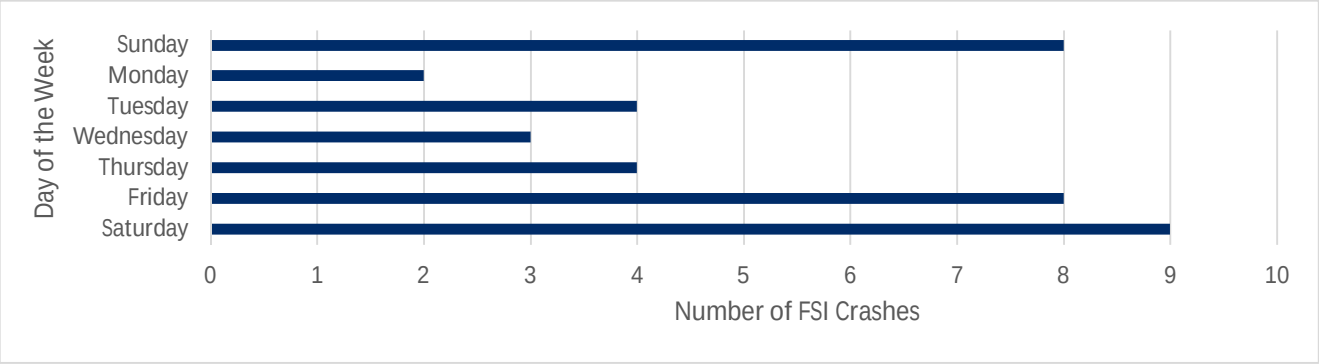
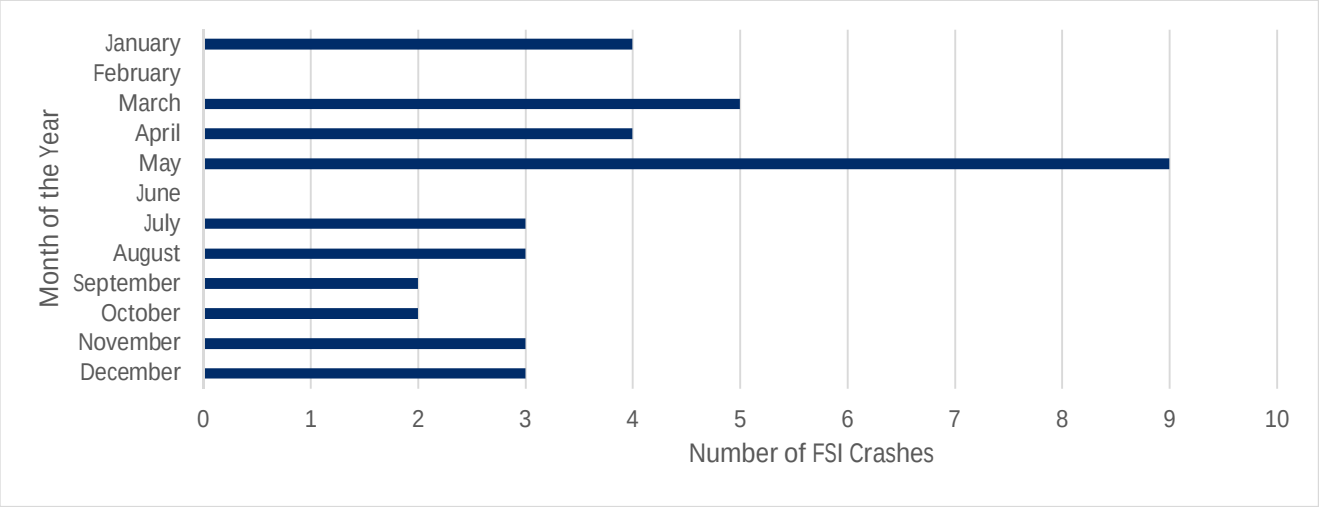
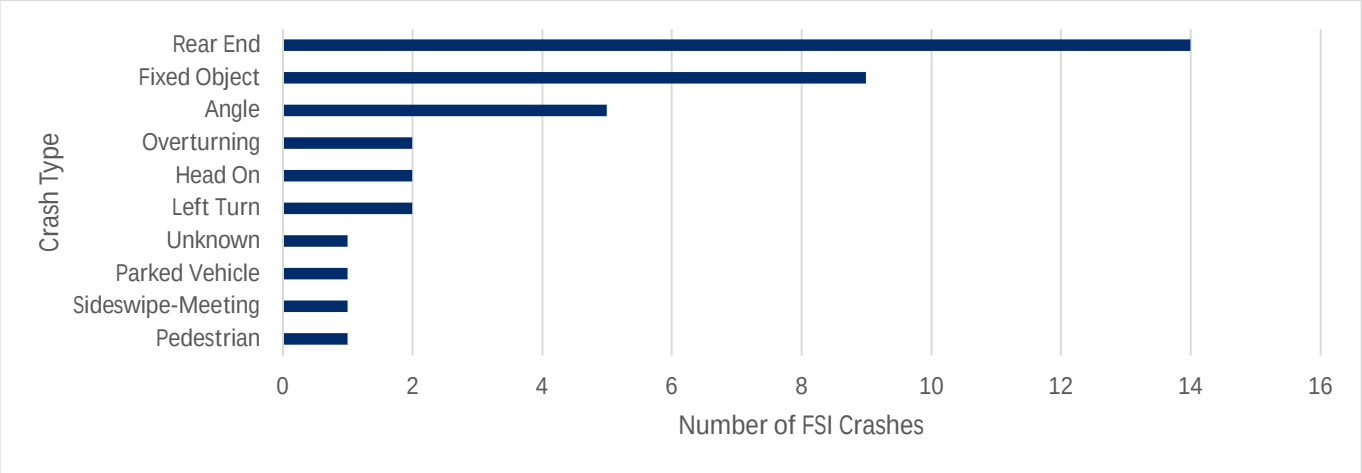


Figure 47: Month of Year of Distracted Driving-Related FSI Crashes, 2009–2017



WHAT? Figure 48 illustrates the number of FSI distracted driving crashes by crash type. Rear end crash is the most frequent crash type for FSI distracted driving-related crashes, followed by fixed object and angle crashes. These three crash types account for almost three-quarters of FSI distracted driving-related crashes in the Erie region. As mentioned, input from the ERPC stakeholders (including law enforcement) along with an understanding of human behavior reflect an expectation that distracted driving is under-reported on crash reports. This means the data shown in Figure 48 is expected to reflect the under-reporting and crash trends for crashes involving distracted drivers, however, the actual data associated with types of distracted-driving related crashes may or may not align with the trends shown.

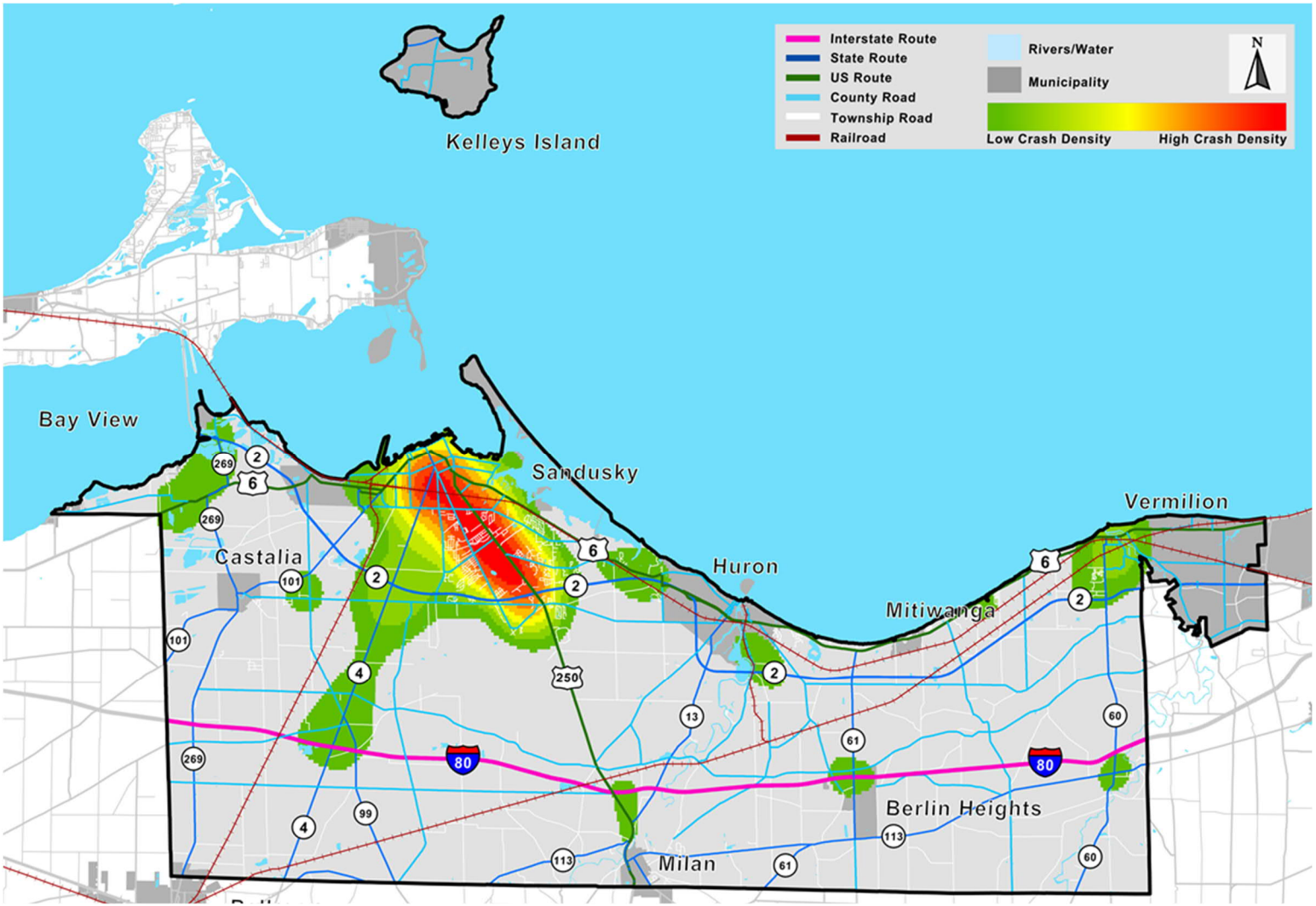
Figure 48: Type of Distracted Driving-Related FSI Crashes, 2009–2017



DISTRACTED DRIVING

Most distracted FSI crashes occurred in or around greater Sandusky with hot spots extending along US-250 and SR-4.

Figure 49: Heat Map of Distracted Driving-Related FSI Crashes, 2009–2017



SPEEDING

Speed was a contributor factor in 21 percent of FSI crashes. Speed-related crash data reflected as five-year rolling averages shows a relatively consistent number of fatal crashes and a slightly decreasing trend in serious injury crashes. When speed is a factor in a crash, there are other crash characteristics and factors, as shown in Figure 51. The most common other characteristic (emphasis area) in speed-related FSI crashes is roadway departure; other common characteristics are lack of seat belt use, alcohol-related and young drivers.

Figure 50: 5-Year Rolling Average of Speed-Related FSI Crashes, 2009–2017

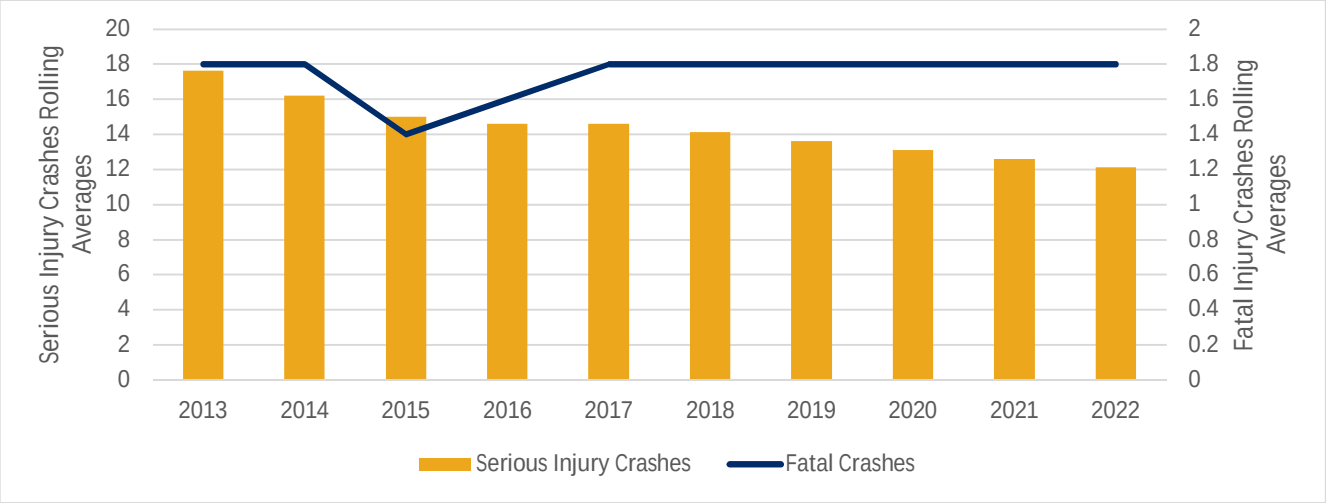
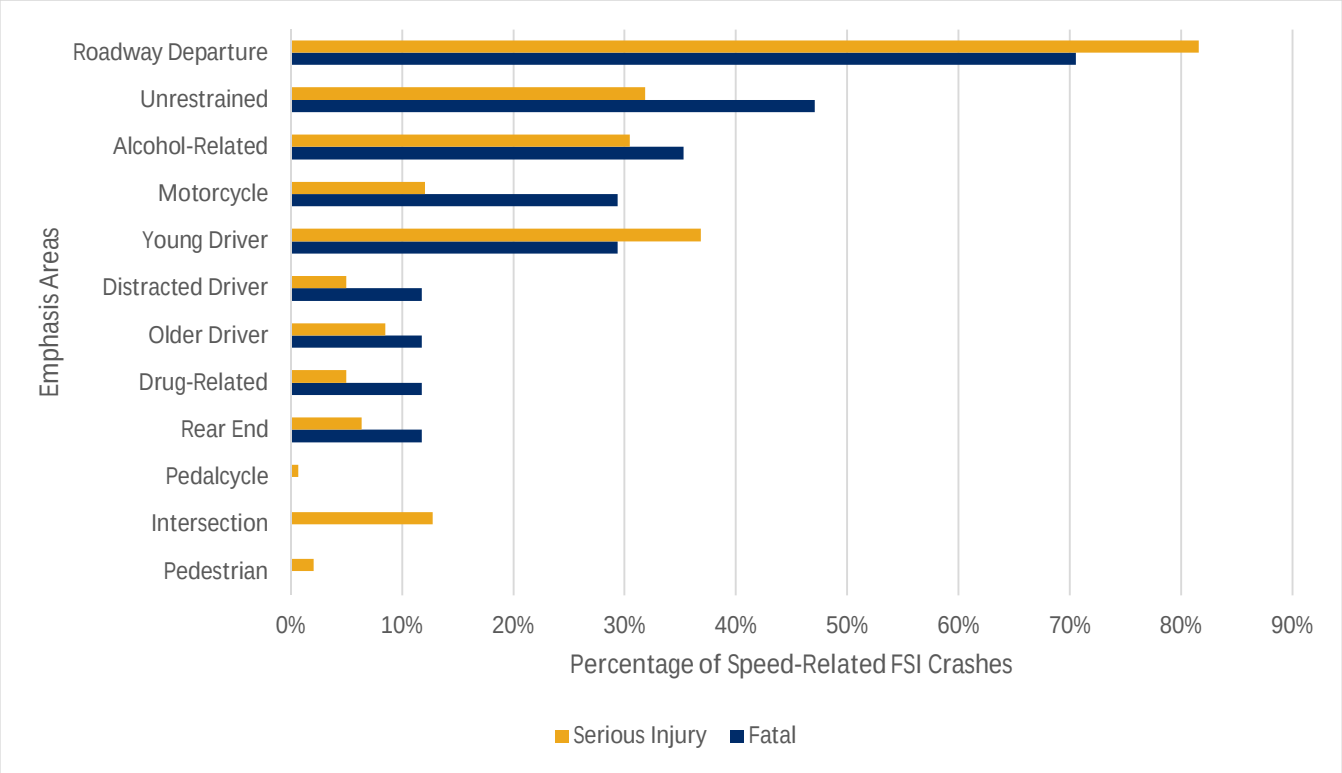
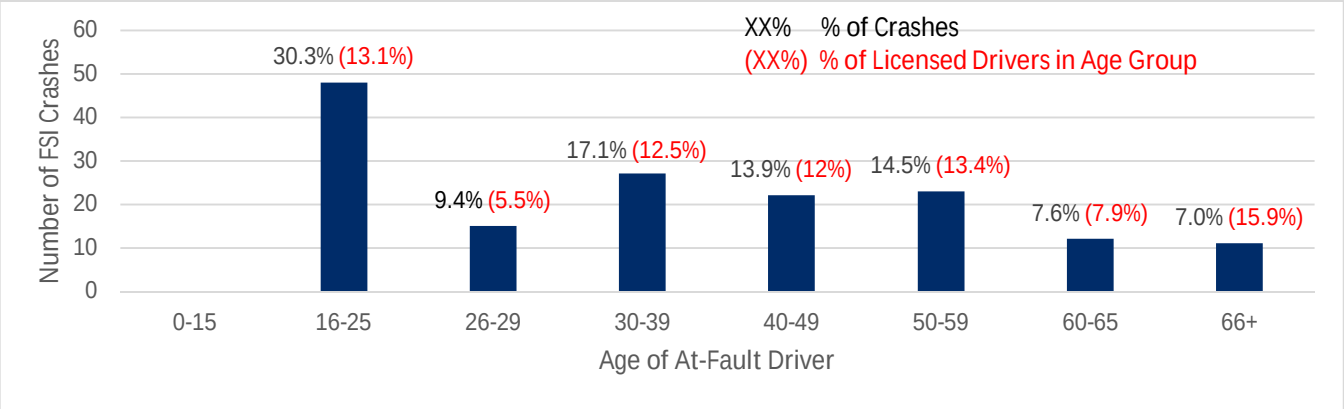


Figure 51: Speed-Related FSI Crashes and Emphasis Area Overlaps, 2009–2017



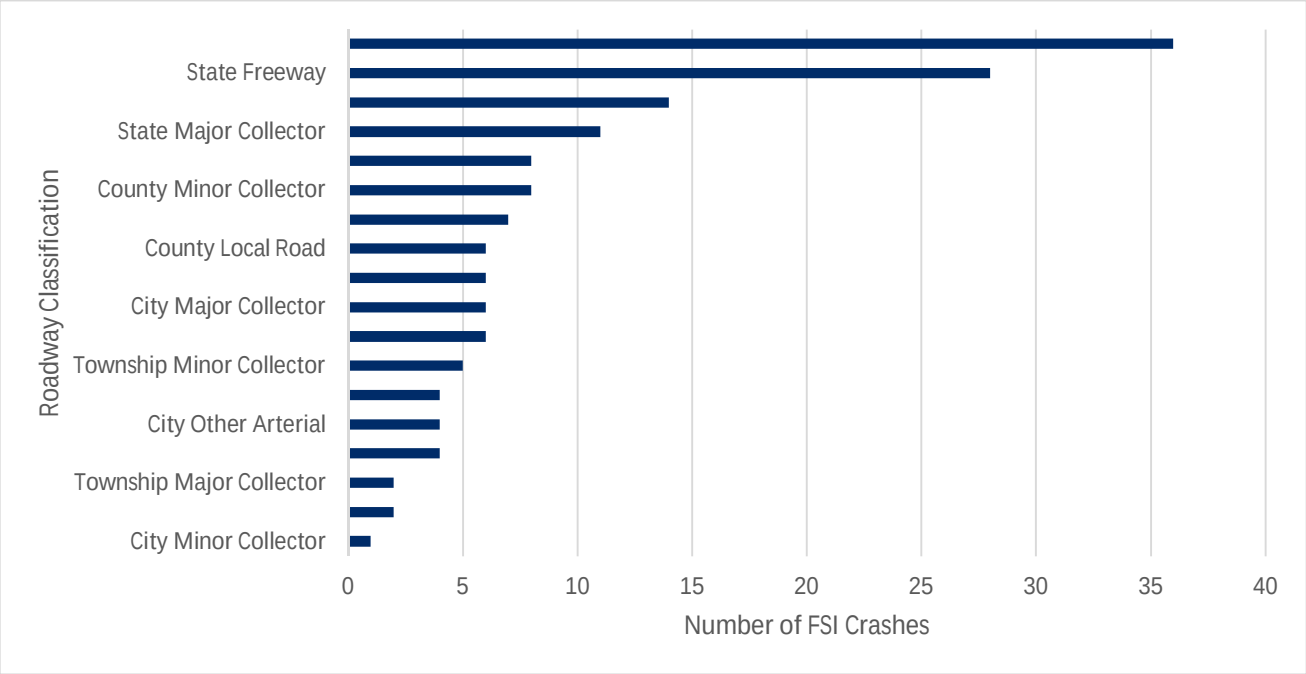
WHO? Young drivers (ages 16-25) are over-represented in FSI speed-related crashes.

Figure 52: Age of At-Fault Driver of Speed-Related FSI Crashes, 2009–2017



WHERE? Figure 52 illustrates the number of speed-related FSI crashes by roadway classification and jurisdiction. More than 55 percent of FSI speed-related crashes occurred on state-maintained roadways; about 17 percent occurred on state-maintained freeways and seven percent occur on state-maintained major collector roads. Approximately 16 percent of FSI speed-related crashes occurred on city-maintained roads.

Figure 53: Speed-Related FSI Crashes by Roadway Classification and Jurisdiction, 2009–2017



WHEN? FSI speed-related crashes occur throughout the day with no distinct peaks, although they are less likely to occur during early morning hours (3:00 AM-7:00 AM). These crashes happen more often on Saturdays and Sundays than other days of the week. Crash frequency is consistent throughout the year, with notable peaks in the months of January, March and July.

Figure 54: Time of Day of Speed-Related FSI Crashes, 2009–2017

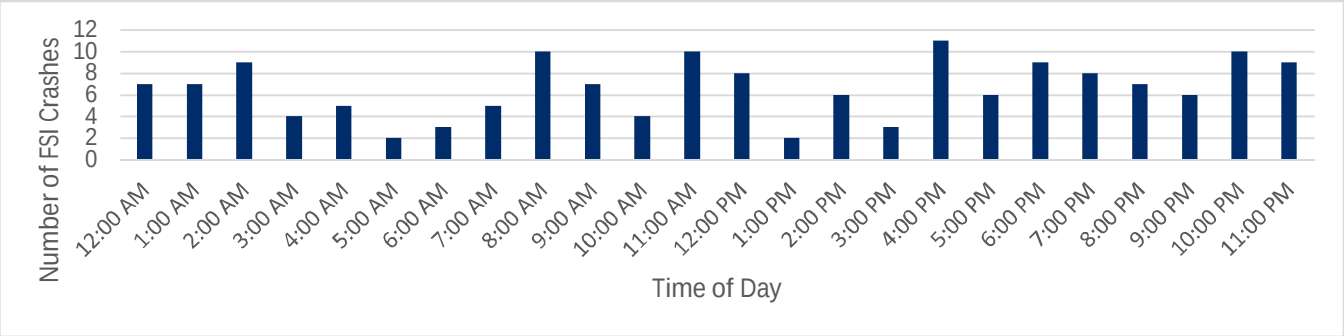


Figure 55: Day of Week of Speed-Related FSI Crashes, 2009–2017

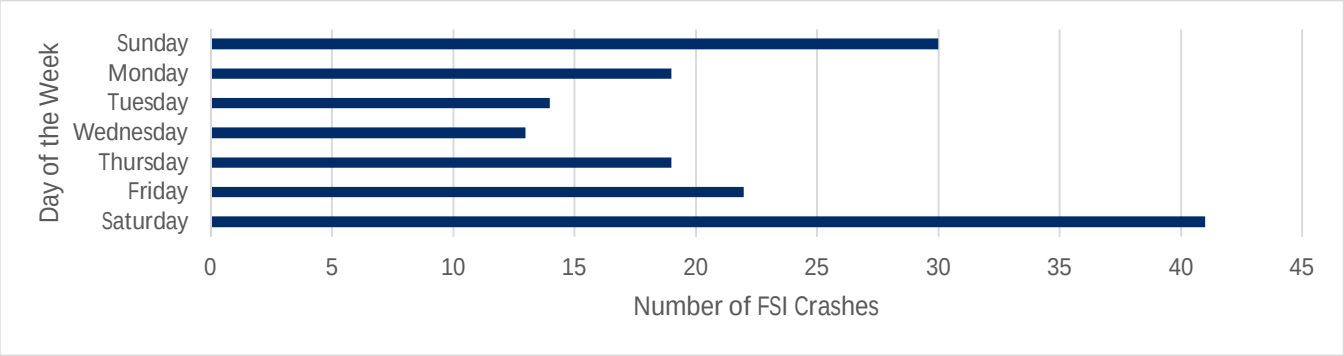
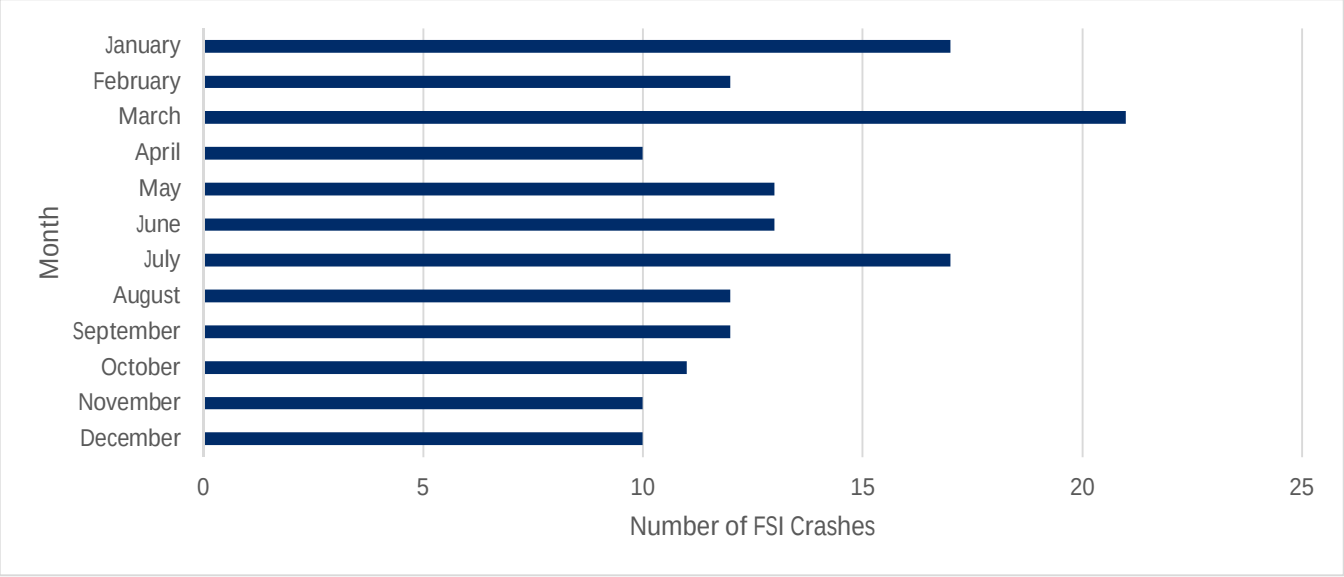
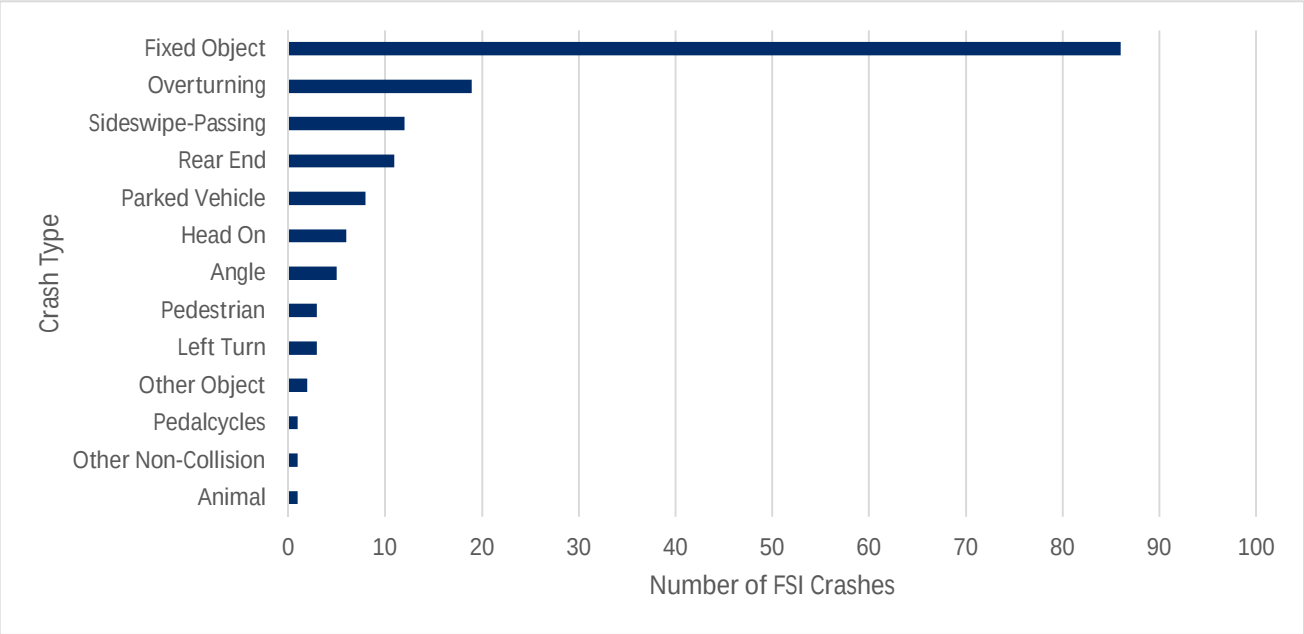


Figure 56: Month of Year of Speed-Related FSI Crashes, 2009–2017



WHAT? Figure 57 illustrates the number of speed-related FSI crashes by crash type. 55 percent of FSI speed-related crashes were fixed object crashes. Together with overturning, these two crash types account for 67 percent of all FSI speed-related crashes in the Erie region.

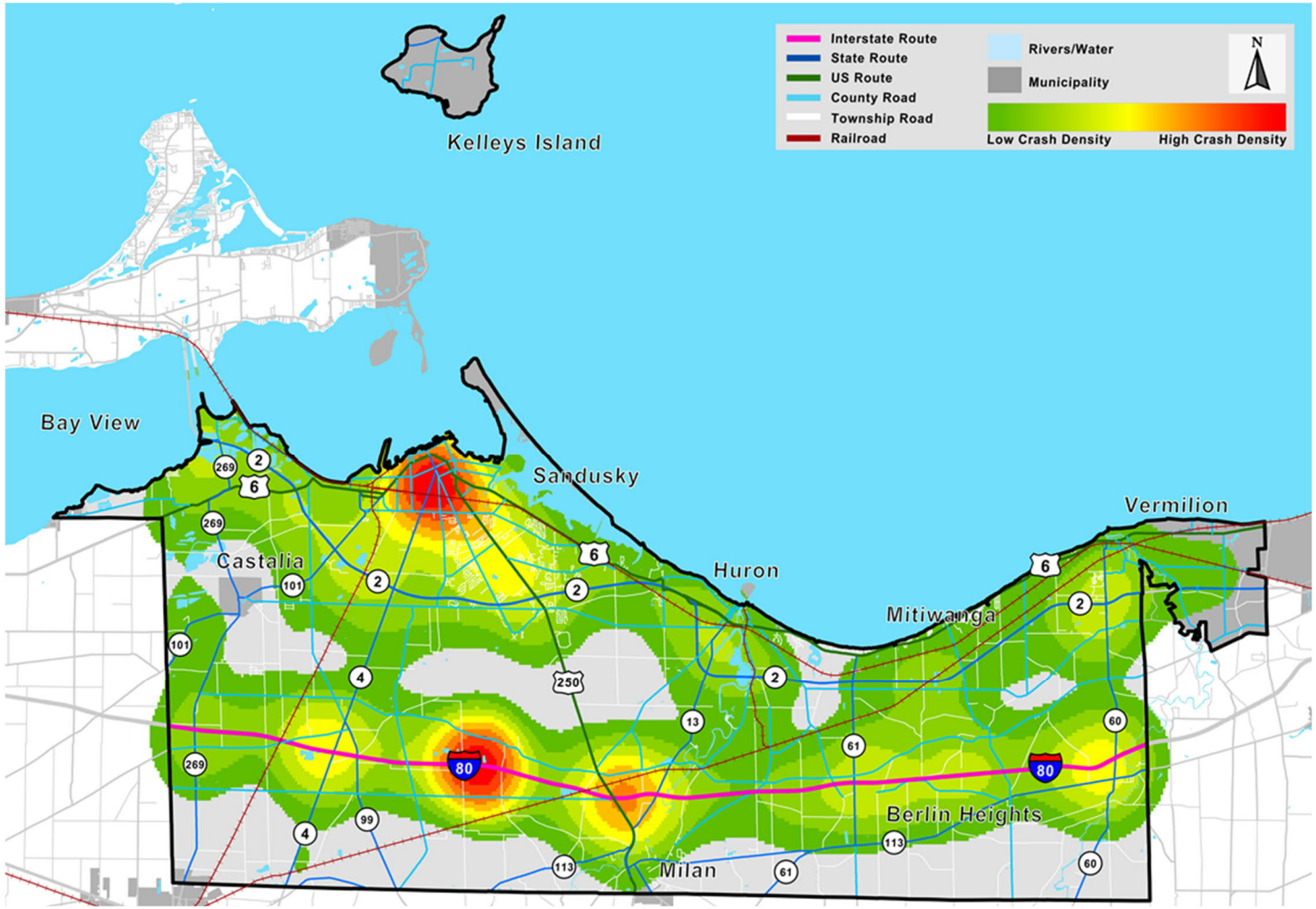
Figure 57: Speed-Related FSI Crash Types, 2009–2017



SPEEDING

Figure 58 shows that speed-related FSI crashes tend to occur on roads with higher speed limits (the Ohio Turnpike) and in the greater Sandusky area. Hot spots occur at 5 distinct areas along the Ohio Turnpike with gaps in between, so factors speed/speed limit is likely not the sole factor. Two locations are turnpike interchanges; turnpike staff noted that crashes at those locations, although recorded as crashes on the turnpike, are actually crashes at toll plazas that are effectively mis-reported because “toll plaza” is not an option on the OH-1. The most significant turnpike crash location is in the vicinity of milepost 114, an area that is difficult to explain with no apparent causal factors that turnpike staff has been troubleshooting in an effort to mitigate the crashes.

Figure 58: Heat Map of Speed-Related FSI Crashes, 2009–2017



Implementation & Action Plan

Creating a Safer System

SECTION CONTENT

Intersections

Roadway Departures

Distracted Driving

Speeding

Priority Intersections

Priority Segments

6 IMPLEMENTATION & ACTION PLAN – CREATING A SAFER SYSTEM

The *ERPC Road Safety Plan* evaluates regional data for reported crashes during the nine-year analysis period of January 2009 through December 2017. Based on the crash data and analyses documented in previous sections and with input from the stakeholder committee, this section outlines specific strategies and actions to mitigate FSI crashes associated with the four priority emphasis areas for the region: intersection crashes, roadway departure crashes, distracting driving, and speeding. The plan identifies the corridors, intersections and road segments that would benefit from safety improvements and mitigating measures intended to result in a measurable positive impact on road safety in the Erie region. The *Action Plan* identifies effective approaches to help transportation and safety stakeholders make progress toward the vision of a safer Erie region transportation network. Development of the *Action Plan* was informed by the data analyses and stakeholder input, together with proven strategies to reduce fatality and serious injury crashes focusing on the four priority emphasis areas. The plan identifies a combination of enforcement, education, engineering and data strategies to best address safety needs. The overarching plan goal is to implement the recommendations over the next five years, coupled with annual evaluations to assess the identified programs, projects and policies, their performance and the associated progress toward achieving performance goals.

INTERSECTIONS	**Ensure safety projects are implemented to reduce fatalities and serious injuries at intersections and that the public and others are educated about intersection safety.**
ROADWAY DEPARTURE	**Ensure safety projects are implemented to reduce roadway departure fatalities and serious injuries and that the public and others are educated about roadway safety.**
DISTRACTED DRIVING	**Ensure the public and stakeholders are educated about distracted driving; employers are promoting safety in the workplace; and education and enforcement campaigns are effectively utilized.**
SPEEDING	**Ensure the public, stakeholders and vendors are educated about the consequences of speeding and education and enforcement campaigns are effectively utilized.**
LOCATIONS	**Safety projects along corridors or at specific segments and intersections will minimize the occurrences of fatalities or serious injuries occurring.**

INFRASTRUCTURE STRATEGIES AND ACTIONS

Strategy 1: Implement proven and/or low-cost systematic and systemic safety measures and improvements to reduce intersection crashes.

Timeline: Ongoing

Leaders	Description	Performance Measure
ODOT and Jurisdiction Engineers	From the list of high crash locations, identified skewed intersections that could be benefit from realignment.	Additional Safety Studies completed
ODOT and Consultant Team	Further prioritize the intersection list with an emphasis on which locations/corridors would benefit from systemic, low-cost improvements.	Number of systemic improvements implemented
ODOT	Coordinate with local jurisdictions to implement eligible low-cost countermeasures that could be incorporated into construction projects.	List created and shared with local jurisdictions Number of projects that incorporate safety countermeasures
Jurisdiction Engineers	Evaluate clearance intervals of all signalized intersections.	Number of clearance intervals evaluated and adjusted
Jurisdiction Engineers	Evaluate older equipment for potential systemic improvements like LED signal heads, reflective backplates, and signs; conduct safety studies, as appropriate	Number of upgraded intersections
ODOT	Continue to investigate access management strategies to limit driveway access along main corridors.	Number of corridors studied Number of access points removed or prevented

INFRASTRUCTURE STRATEGIES AND ACTIONS

Strategy 2: Utilize infrastructure-related measures to minimize the potential for and impacts from roadway departure crashes.

Timeline: Ongoing

Leaders	Description	Performance Measure
Jurisdiction Engineers	Provide clear zones to remove obstructions and reduce the potential for occupant ejection from vehicles.	Number of clear zones established
ODOT and Jurisdiction Engineers	Analyze locations to identify areas that could benefit from installation guardrail, rumble strips, safety edge, pavement markings, raised pavement markers, delineators, curve signs, lighting, etc.	Number of installations
ODOT and Jurisdiction Engineers	Analyze locations that would benefit from shoulder/berm maintenance.	Number of locations maintained

EDUCATION STRATEGIES AND ACTIONS

Strategy 1: Conduct safety education.

Timeline: Ongoing

Leaders	Description	Performance Measure
Local Enforcement	Identify and prioritize schools for local law enforcement to give safety presentations.	Number of presentations given
Department of Public Safety District Office	Identify proven distracted driving programs that could be implemented in the region.	Programs identified and implemented in at least one school/year
Department of Public Safety District Office	Develop a safety public service announcement and target viewership in driver education programs and at the Bureau of Motor Vehicles (BMV)	PSA developed and deployed
Local Businesses and School Districts	Work with local business and school districts on initiatives that remind drivers to stay focused on driving.	Number of initiatives developed
Local Enforcement	Engage enforcement at high school events (pep rallies, football games) to share safety messages.	Number of events attended/supported by local enforcement
Erie Regional Planning Commission	Work with safety stakeholders to promote safe driving across the MPO region.	Materials developed and disseminated

ENFORCEMENT STRATEGIES AND ACTIONS

Strategy 1: Utilize enforcement methods, policies and programs to reduce the potential for distracted driving-related FSI crashes.

Timeline: 1-2 years

Leaders	Description	Performance Measure
School Districts & Law Enforcement	Identify if/where significant problems are occurring around high schools; target enforcement at arrival and dismissal times.	Prioritized list of schools and targeted enforcement deployed
Erie Regional Planning Commission	Provide crash maps to local police showing distracted driving crash hot spots.	Crash maps developed and disseminated

DATA STRATEGIES AND ACTIONS

Strategy 1: Continue to review and analyze crash data to support local distracted driving awareness efforts that target mitigation of distracted driving-related FSI crashes.

Timeline: 1 year

Leaders	Description	Performance Measure
Erie Regional Planning Commission	Assess FSI crashes by school district to understand where major problems are occurring to target resources accordingly.	Prioritized list of schools
Erie Regional Planning Commission	Identify potential correlation of distracted driving by month to support education and enforcement campaigns more than once a year.	Additional crash analysis completed

EDUCATION STRATEGIES AND ACTIONS

Strategy 1: Outreach related to mitigating speed related crashes.

Timeline: 1-2 years

Leaders	Description	Performance Measure
School Districts	Review education/information available in driver's education courses and in high schools to determine needs related to reducing speeding. Coordinate with driver education companies.	Drivers education materials reviewed

ENFORCEMENT STRATEGIES AND ACTIONS

Strategy 1: Conduct ongoing review and analysis of crash data to support local efforts.

Timeline: Ongoing

Leaders	Description	Performance Measure
Erie Regional Planning Commission	Provide crash maps showing speed-related crash hot spots to local police departments.	Crash maps developed and disseminated

6.1 PRIORITY INTERSECTIONS

Data analytics indicate crash factors are over-represented at some intersections. The *Action Plan* identifies areas within the Erie region that should be studied further to identify location-specific crash mitigation strategies and countermeasures, based on the results of the analyses and with input from the stakeholders. The locations identified in Table 1 are illustrated in Figure 59.

Table 1. Top 25 Crash Intersections in the Erie Region

Location	Local Rank	State Rank	Maintaining Authority	Fatal Crashes	Serious Injury Crashes	Total Crashes	Emphasis Area Overlap [1]	Location Status
W Mason Rd & US-250	1	182	ODOT Erie County	1	6	37	RWD; INT; DD; SPD	Signal Timing Study completed (2017); red and yellow clearance intervals were lengthened. Recommend reviewing crash data before and after implementation to assess effectiveness. Due to their proximity, this project should be addressed with W. Mason Road/Kelley Road (Local Rank #3).
OH-61/OH-113 & Ceylon Rd	2	--	ODOT Erie County Berlin Heights	1	4	27	RWD; INT; DD	Intersection converted to all-way stop with flashing beacons. Recommend reviewing crashes before and after implementation.
W Mason Rd & Kelley Rd	3	--	Erie County Milan Township	1	5	54	RWD; INT; SPD	Proximity to US-250 creates challenges. EHOVE Career Center west of the intersection is a major traffic generator. Due to their proximity, this project should be addressed with W. Mason Road/US 250 (Local Rank #1).
Milan Rd (US 250) & OH-2 EB Off-Ramp	4	411	ODOT	0	4	24	RWD; INT; DD; SPD	Signal timing study currently being completed. Review results once received. Additional recommendations from a 2005 study were completed in 2018; included new signals, turn lanes, and access management.
SR-4 & Skadden Rd	5	78	ODOT Erie County	0	4	58	RWD; INT; DD; SPD	Roundabout alternative currently being designed.
Lakeshore Ave & Butler Street / Milan Rd (US-250)	6	--	Sandusky	0	3	33	RWD; INT; SPD	Analysis of Butler Street is included in the US-6 Corridor Study
E Mason Rd & SR-60	7	--	ODOT Erie County	1	2	20	RWD; INT	

PRIORITY INTERSECTIONS AND SEGMENTS

Location	Local Rank	State Rank	Maintaining Authority	Fatal Crashes	Serious Injury Crashes	Total Crashes	Emphasis Area Overlap [1]	Location Status
OH-99 & Harris Rd	8	--	ODOT Groton Township	0	3	21	RWD; INT; SPD	
US-250 & Sartor Dr	9	--	ODOT Perkins Township	0	3	35	INT; DD; SPD	Signal timing study currently underway for US-250 corridor. Review results when complete. Additional recommendations from 2005 study were implemented in 2018; included new signals, turn lanes, and access management.
Northwest Rd & US-6	10	--	ODOT Erie County	0	3	16	RWD; INT; DD; SPD	
SR-269 & US-6	11	--	ODOT	0	3	19	RWD; INT	Centerline rumble strips and flashing chevron signs have been installed and pavement was micro milled (2017).
Campbell St & W Bogart Rd	12	--	Erie County Perkins Township	1	1	20	RWD; INT; DD; SPD	Recently converted to a roundabout, opened in 2018.
Camp Rd & Hull Rd	13	235	Erie County Huron Township	0	3	28	RWD; INT; DD	Intersection realigned (2012).
E Mason Rd & Lake St/SR-61	14	--	ODOT Erie County Berlin Heights	1	2	17	RWD; INT; DD; SPD	ODOT installed Stop signs with flashing beacons (2010/2011).
Parkland Dr & US-250	15	--	ODOT Perkins Township	1	2	43	RWD; INT; DD; SPD	Signal timing study currently underway for US-250 corridor. Review results when complete. Additional recommendations from 2005 study were implemented in 2018; included new signals, turn lanes, and access management. Intersection rebuilt w/ Parkland as right-out-only in 2015.
SR-101 & Bardshar Rd	16	--	ODOT Erie County	0	2	43	RWD; INT; DD; SPD	
W Bogart Rd & Old Railroad Rd	17	--	Erie County Margaretta Township	0	2	18	RWD; INT; SPD	Bogart Road widened with safety edge in 2010 and 2012.

PRIORITY INTERSECTIONS AND SEGMENTS

Location	Local Rank	State Rank	Maintaining Authority	Fatal Crashes	Serious Injury Crashes	Total Crashes	Emphasis Area Overlap [1]	Location Status
US-6 & Columbus Ave	18	--	ODOT Sandusky	0	2	28	RWD; INT	
SR-4 & Pierce St	19	--	ODOT Sandusky	0	2	38	RWD; INT	Safety funding is allocated for signal reconstruction (2023).
Strub Rd & Columbus Ave	20	153	Erie County	0	2	17	RWD; INT; DD; SPD	
Camp St & W Perkins Ave	20	--	Erie County Sandusky Perkins Township	0	2	39	RWD; INT; DD; SPD	Signal replaced, added backplates and is part of coordinated system (2014).
SR-2 and SR-60 (EB ramps)	22	--	ODOT	1	1	44	RWD; INT; SPD	
OH-269 & Portland Rd	23	42	ODOT Erie County	0	1	31	RWD; INT; DD; SPD	Flashing beacons have been installed (2019). Recommend analyzing before/after crash data to assess effectiveness.
E Washington Row & Columbus Ave	24	--	Sandusky	0	2	31	RWD; INT; DD	
W Monroe St & Fulton St	25	--	Sandusky	0	2	25	RWD; INT; SPD	

[1] **RWD** = Roadway Departure Crash
INT = Intersection Crash
DD = Distracted Driving-Related Crash
SPD = Speed Related Crash

6.2 PRIORITY SEGMENTS

Data analytics indicate crash factors are over-represented along certain corridors and, more specifically, along several roadway corridor segments. Based on crash analyses and with stakeholder input, the plan identifies areas within the Erie region that should be studied further to identify and implement location-specific crash mitigation strategies and countermeasures. The segments identified in Table 1 are illustrated in Figure 60.

Table 2. Top 25 Crash Segments in the Erie region

Segment	Local Rank	State Rank	Maintaining Authority	Fatal Crashes	Serious Injury Crashes	Total Crashes	Emphasis Area Overlap [1]	Location Status
US-250 between Huron Avery Rd and E Mason Rd	1	--	ODOT	1	5	55	RWD; INT; DD; SPD	Signal timing study currently being completed. Review results once received.
US-6 between SR-269 N (Prairie Rd) and SR-269 S (Martins Point Rd)	2	--	ODOT	1	6	54	RWD; INT; DD; SPD	Rumble strips installed recently along Lima-Sandusky Road.
SR-4 between W Mason Rd and SR-99 (Skadden Rd)	3	--	ODOT	0	6	42	RWD; INT; DD; SPD	Roundabout currently in design.
US-250 between SR-2 and Fun Dr	4	--	ODOT	0	4	21	RWD; INT; SPD	Signal timing study currently being completed. Review results once received. Additional recommendations from a 2005 study were completed in 2018 that include new signals, turn lanes, and access management.
Columbus Ave between Industrial Pkwy and London Rd	5	--	Erie County	0	4	21	RWD; INT; DD; SPD	Resurfaced with safety edge (2019).
Main St/SR-101 between Barden St and Maple Ave	6	--	ODOT Castalia	0	4	19	RWD; INT; SPD	
W Mason Rd between Taft Rd and Kelley Rd	7	--	Erie County	0	4	19	RWD; DD; SPD	Note: EHOVE Career Center is located within this segment.
SR-113 between Main Rd and Cable Rd	7	--	ODOT	0	4	19	RWD; SPD	
SR-2 between Old Railroad Rd (Overpass) and SR-4	9	993	ODOT	0	7	64	RWD; DD; SPD	

PRIORITY INTERSECTIONS AND SEGMENTS

Segment	Local Rank	State Rank	Maintaining Authority	Fatal Crashes	Serious Injury Crashes	Total Crashes	Emphasis Area Overlap [1]	Location Status
SR-4 between Miller Rd and W Bogart Rd	10	214	ODOT	1	8	106	RWD; INT; DD; SPD	ODOT Study recommended left turn lanes on SR-4 and signal timing study.
SR-60 (SLM 6.138-6.414) north of Mason Rd	11	--	ODOT	1	2	25	RWD; INT; DD; SPD	
W Bogart Rd between Schenk Rd and Campbell St	12	--	Erie County	1	1	23	RWD; INT; DD; SPD	The intersection of W Bogart Road and Campbell Street was recently converted to a roundabout, opened in 2018.
US-6 between Wahl Rd and Prairie Rd	13	--	ODOT	0	4	45	RWD; INT; DD; SPD	Resurfaced, added edge and centerline rumble strips (2019). In 2017 sequential flashing chevrons were added at one curve and the surface was micro-milled to improve friction values US 6 SLM 2.22 - 2.32.
Barrett Rd between Newberry Ave and McCartney Rd	14	--	Erie County	2	1	20	RWD; DD; SPD	
Bogart Rd between Bardshar Rd and Old Railroad Rd	15	--	Erie County	0	3	18	RWD; INT; SPD	Widened and resurfaced with safety edge (2012).
SR-2 (SLM 29.644-30.299)	16	--	ODOT	0	5	44	RWD; SPD	
SR-101 between Maple Ave and Bardshar Rd	17	--	ODOT	0	4	48	RWD; DD; SPD	
SR-269 between Portland Rd and Strecker Rd	18	--	ODOT	0	3	50	RWD; INT; DD; SPD	Safety study recommended flashing beacons, rumble strips on minor approach, and pavement marking improvements.
W Mason Rd between Patten Tract Rd and Taylor Rd	19	--	Erie County	0	3	15	RWD; INT; SPD	

PRIORITY INTERSECTIONS AND SEGMENTS

Segment	Local Rank	State Rank	Maintaining Authority	Fatal Crashes	Serious Injury Crashes	Total Crashes	Emphasis Area Overlap [1]	Location Status
Milan Rd/US-250 (SLM 2.935-3.135)	20	--	ODOT	0	6	86	INT; DD; SPD	Recommendations from a 2005 study were completed in 2018 that include new signals, turn lanes, and access management.
I-80 (SLM 12.112-12.585)	21	34 & 47	OTIC	1	3	31	RWD; INT; DD; SPD	
SR-113 between Ceylon Rd and Bellamy Rd	22	--	ODOT Berlin Heights	0	3	30	RWD; INT; SPD	Ceylon Road intersection converted to an all-way stop (2018).
SR-4 between Mason Rd and Fox Road	23	--	ODOT	0	4	59	RWD; INT; DD; SPD	
SR-113 between Joppa Rd and Harrison Rd	23	--	ODOT	0	3	36	RWD; DD; SPD	
SR-60 between Sperry Rd and I-80	25	--	ODOT	0	5	60	RWD; INT; DD; SPD	

[1] **RWD** = Roadway Departure Crash
INT = Intersection Crash
DD = Distracted Driving-Related Crash
SPD = Speed Related Crash
[2] SLM = Straight Line Mileage

PRIORITY INTERSECTIONS AND SEGMENTS

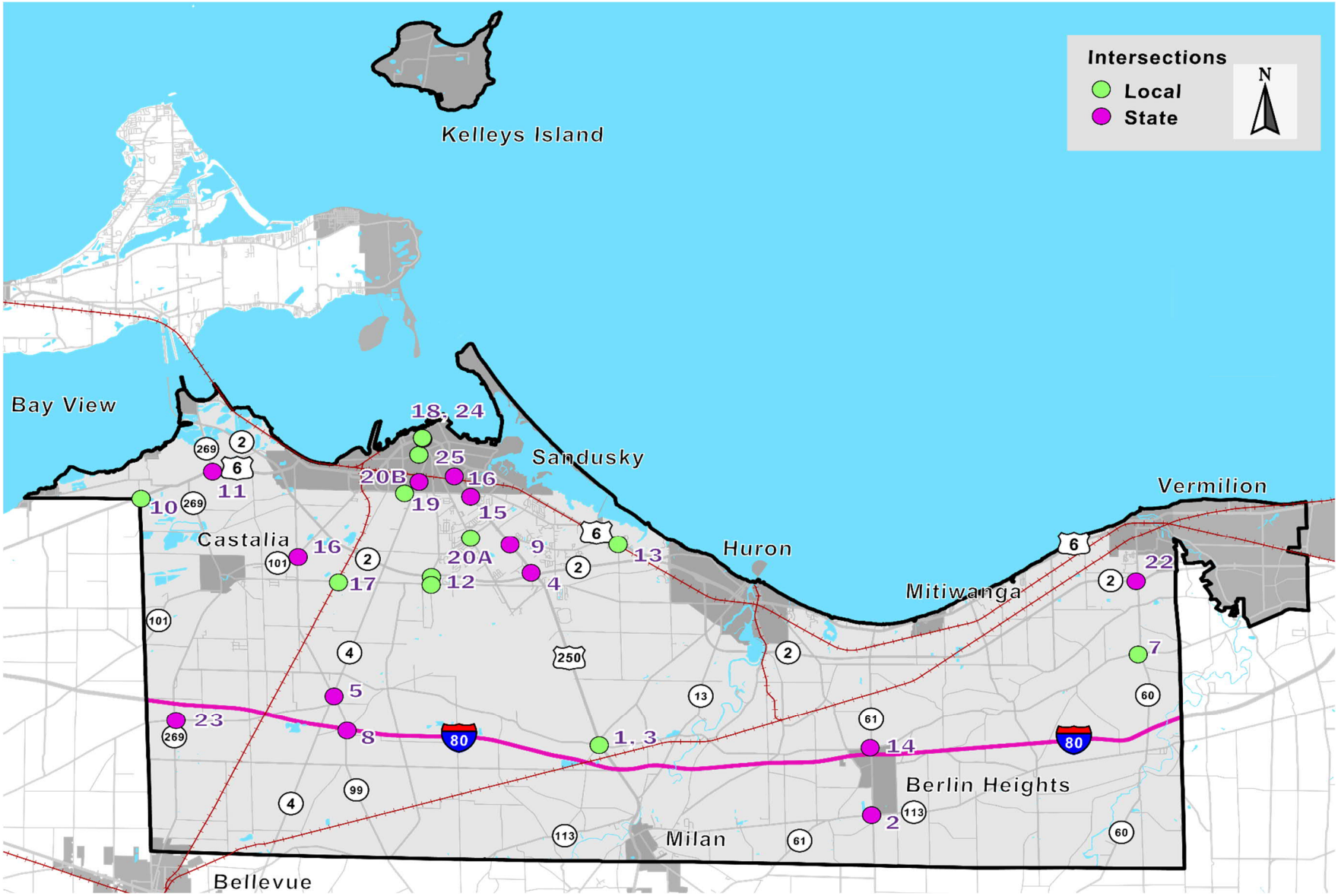


Figure 59. Top 25 Crash Intersections in the Erie region

PRIORITY INTERSECTIONS AND SEGMENTS

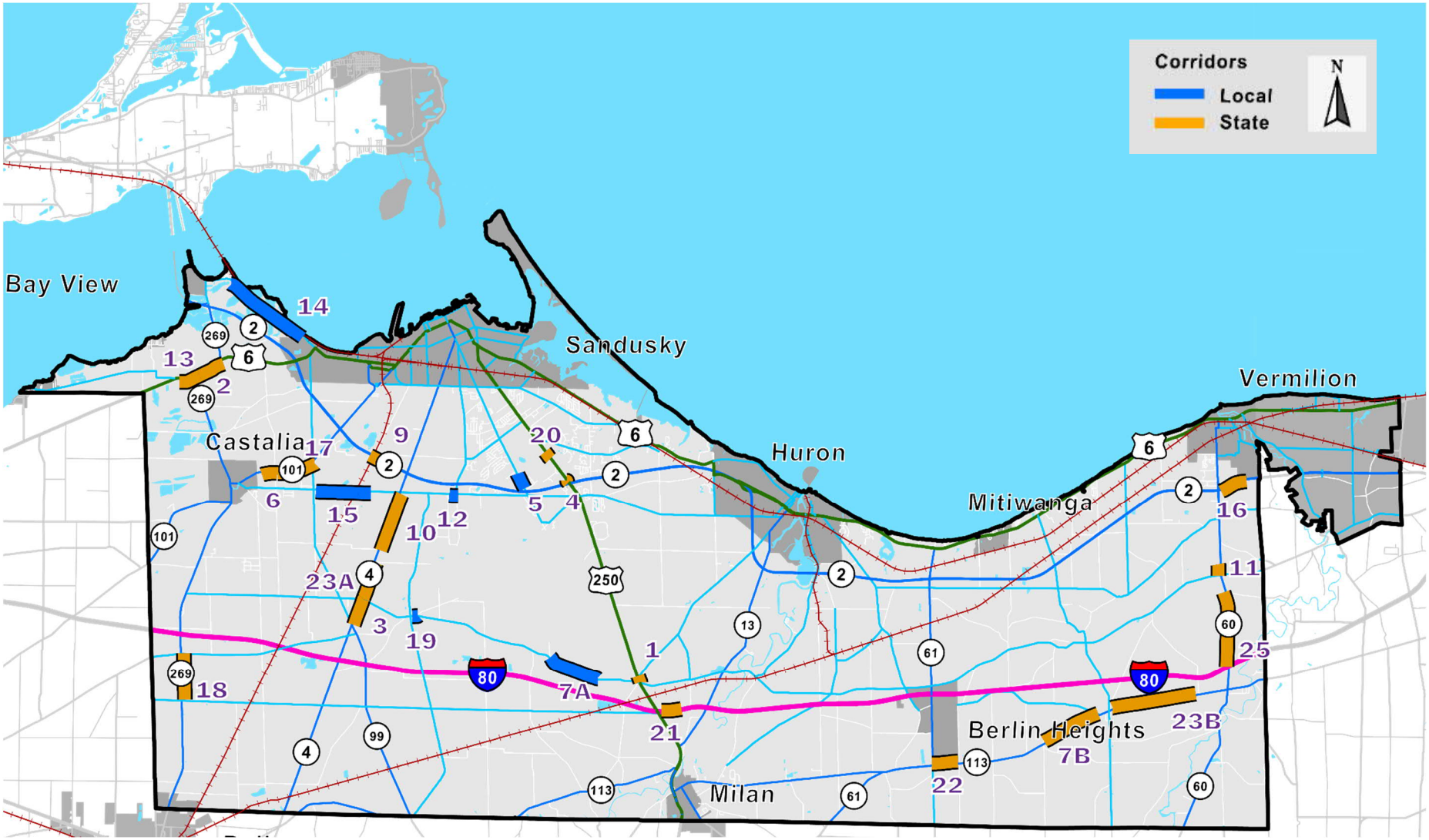


Figure 60. Top 25 Crash Segments in the Erie region

7. RECOMMENDED EARLY ACTION PROJECTS

The projects identified within this section are recommended for near term action (study/implementation) based upon the frequency and severity of crashes at specified locations, as identified in Section 6, along with input from the Project Team and key stakeholders. In addition to the projects located at specific intersection and on identified corridors, the plan recommends programmatic enhancements that could be implemented on a regional basis by the Erie Regional Planning Commission and stakeholder agencies.

Strategy 1: Systemic intersection improvements

Funding Sources: ODOT safety program for systemic safety improvements

Location	Description	Performance Measure
Multiple Intersections	Install upgraded equipment and treatments at intersections to improve safety and performance.	Number of upgraded intersections

Strategy 2: Further prioritization and study

Funding Sources: ODOT Highway Safety Program

Agency	Description	Performance Measure
Erie Regional Planning Commission	Use this local road safety plan to support further study of identified priority intersection and corridor segment locations	Number of funded safety studies
Erie Regional Planning Commission	Evaluation study of the top intersections and segments that countermeasures have been implemented during 2009-2017	Number of evaluated intersections and segments

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
ODOT COMMENTS – Jordan Whisler			
Introduction – Setting the Stage			
9	1	Needs to reflect the stated MPO HISP targets.	ERPC MPO adopted targets added to visions and objectives.
Existing Conditions – Understanding Safety Needs in the Erie Region			
14	2	Add column delineation.	Added.
19	3	The State and local is so close not sure it makes sense to just show the state. Opportunity to include local as well?	Data collected to create chart highlighting local crashes.
20	4	Why are there two axis values? Sort descending.	Changes made.
22	5	Same comment as the tree diagram above.	Data collected to create chart highlighting local crashes.
Emphasis Areas			
25	6	Please revisit. Looks off.	Recalculated with 3 points.
25	7	Sort descending.	Changed to be descending.
35	8	Seems off.	Recalculated with 3 points.
35	9	Sort.	Changed to be descending.
40	10	Looks off.	Recalculated with 3 points.
40	11	Looks off.	Recalculated and descending.
Implementation & Action Plan – Creating a Safer System			
58	12	Label the map.	Map has been labeled
Early Action Recommended Projects			
59	13	Not sure we wanted to include these at this point.	Early Action Recommended Projects updated based on discussions with ERPC. Additional conversation needed to finalize inclusion.
ERPC COMMENTS – Carrie Whitaker			
Existing Conditions – Understanding Safety Needs in the Erie Region			
15	14	Typo	Fixed.
15	15	Typo	Fixed.
Emphasis Areas			
39	16	Is this supposed to be US-250?	Added correct locations.
Implementation & Action Plan – Creating a Safer System			
52	17	Analysis of Butler being completed with the US-6 corridor study.	Information added to Location Status.
53	18	Why is there an asterisk?	Because intersection was recently converted to a roundabout. Asterisk has been removed and roundabout conversion noted in the location status.
53	19	Roundabout was implemented; opened in August 2018	Information added to Location Status.
53	22	Should it be recommendations? (Repeats in other places in chart)	Changed where needed to recommendations.
53	23	And Erie County	Added.

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
54	24	Also Perkins Township	Added.
54	25	And Erie County	Added.
54	26	Also ODOT	Added.
55	27	Erie County	Added.
55	28	Sandusky; Erie County	Added.
55	29	Erie County not Groton Township	Changed.
56	20	Roundabout implemented; opened in August 2018	Information added to Location Status.
59	30	#4 Should be state	Map changed and updated in report.
Early Action Recommended Projects			
59	21	I'm wondering if it may be best to not specify a certain location for future study. I'm just thinking that when we move forward with any further studies on the priority lists we will need to have the local jurisdiction/road owner on board so it may be best to be general at this point in time. Might there be a way to generally say – further prioritization/ study at listed identified priority segments and intersections recommended as resources allow? Something like that perhaps?	Strategy 2 updated
County Engineer Staff Comments			
Table of Contents			
2	43	Erie not in all caps.	Edited.
Executive Summary			
3	44	8 on Figure 5, pg. 10 & 8 on Figure 7 pg. 12	Number corrected.
Introduction – Setting the Stage			
6	45	(___Erie Co. ___Lorain Co.)	Exact population split of Vermilion for the estimated population between Erie and Lorain counties is unknown.
6	46	"the impact on crash" is circled and ? added	Sentence reworded.
8	31	Label vertical axes	Labels added.
8	47	statedwide	Corrected to statewide.
Existing Conditions – Understanding Safety Needs in the Erie Region			
13	32	I don't understand table	"Serious Injury" in third column should be (and changed to) Injury.
15	33	Rear end	Changed.
17	34	Lyme, Townsend, York townships circled	Crashes were logged to the wrong township, but lat/long indicates that they do fall within the study region. Location was adjusted to the appropriate township.
18	48	In-depth and in depth, consistency	Added hyphen.
18	35	Posted speed or stated speed?	These are state speed limits from the OH-1 Reports. Sentence added to report for clarification.
18	36	Posted speed or stated speed? (no 70 mph 'LOCAL' speed limits)	These are state speed limits from the OH-1 Reports. Sentence added to report for clarification.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
20	49	How did you reach this conclusion, especially along US-250?	It was not meant to be a conclusion. Sentence reworded to provide possible reasoning for most rear end crashes not occurring at an intersection.
Emphasis Areas			
26	37	Label vertical axes	Labels added.
33	50	MOthly	Fixed to Monthly
36	38	Label vertical axes	Labels added.
38	51	'the after school period', 'Saturday' and 'Sunday' are circled with a ?	Sentence reworded to provide clarity
38	39	Don't believe data; months with no FSI crashes have a zero set and a ?	This graph is only depicting distracted driving FSI crashes not all FSI crashes.
41	40	Label vertical axes	Labels added.
Implementation & Action Plan – Creating a Safer System			
42	41	Spelling of priority	Spelling corrected to priority.
49	56	Erie County Engineer; With 2018 resurfacing program, began use of safety edge	Safety edge information added to appropriate locations identified in the report.
53	52	Be consistent with hyphens in route names	Added hyphens.
53	53	The Intersection; EHOVE	Location status for W Mason Road and Kelley Road rewritten.
57	42	'r'	'r' added to correct word.
57	54	I believe in one, the 30 yr old driver killed a 74 yr old man. The 30 yr old was using heroin. In the other, the 49 yr old from Canada was drunk when he crashed his motorcycle.	Detailed information noted and will be verified.
59	55	Add a different corridor color for Ohio Turnpike.	Map updated
Sue Daugherty – Serving Our Seniors Director			
General			
NA		Ohio Department of Development published Erie County's estimated population of residents ages 60+ to b3 31% of this year (2020). In 2030 it is estimated to be 32%.	Statistic information based on the last census has been added to the report.
NA		Ottawa County's estimated 60+ population as of 2020 is 35%.	It has been noted that neighboring counties are expected to have a higher elderly population.
NA		Over 18% of crashes are reported as being FSI older drivers. I am of the opinion that addressing older drivers as part of the Road Safety Plan would be warranted.	While it is important to consider all emphasis areas. Older drivers was not identified as one of the top focus areas by the larger stakeholder group.
NA		Approximately 10 years ago Serving Our Seniors arranged for this professor of psychophysiology to speak at forum on Aging & Driving. https://www.cmich.edu/colleges/class/Psychology/Faculty/Pages/Richard-Backs,-Ph.D.aspx	Very interesting presentation! Perhaps it would be worth it to have a similar presentation soon if this was presented on over ten years ago.

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
NA		In Dec. 2020 Firelands Regional Medical Center purchased a driving simulator as part of their Occupational Therapy services. Serving Our Seniors uses FRMC Occupational Therapy Department to conduct annual driving evaluations on the volunteers who drive for Serving Our Seniors. These older adults also undergo a clinical "screening" to identify any physical (physiological) symptoms that may inhibit safe driving.	Screening the drivers who volunteer for Serving Our Seniors is a wonderful idea. Is this screening offered to the seniors served that may still occasionally drive on their own?
Ohio Turnpike and Infrastructure Commission			
Table of Contents			
2	57	ERPC?	Left to say Erie Region.
Executive Summary			
3	58	'pedestrianIn' ?	Edited to be correct.
3	59	'Erie' > ERPC?	Only corrected to have Region be capital.
3	60	Figure 5 says 8?	Number corrected.
3	61	'Erie' > ERPC?	Only corrected to have Region be capital.
Transportation Safety Partners			
4	62	'Erie' > ERPC?	Only corrected to have Region be capital.
Introduction – Setting the Stage			
7	63	'Erie' > ERPC?	Only corrected to have Region be capital.
7	64	Cross out 'the' before lakefront attractions	'the' crossed out.
8	65	'Erie' > ERPC?	Only corrected to have Region be capital.
9	66	'Erie' > ERPC?	Only corrected to have Region be capital.
Existing Conditions			
11	67	Cross out 'that were reported'	Crossed out.
11	68	80 fatalities	Added 80.
11	69	893 Serious	Added 893 serious.
11	70	9 fatalities	Added 9 fatalities.
11	71	99 Serious injuries	Added 99 serious injuries.
13	72	'Erie' > ERPC?	Only corrected to have Region be capital.
14	73	'Erie' > ERPC?	Only corrected to have Region be capital.
14	74	Villages and	Added villages and.
15	75	'Erie' > ERPC?	Left as is.
16	76	'Erie' > ERPC?	Left as is.
17	77	'Erie' > ERPC?	Left as is.
18	78	'Erie' > ERPC?	Left as is.
19	79	'Erie' > ERPC?	Left as is.
20	80	'Erie' > ERPC?	Left as is.
21	81	'Erie' > ERPC?	Left as is.
22	82	'Erie' > ERPC?	Left as is.
23	83	'Erie' > ERPC?	Left as is.
Emphasis Areas			
25	84	'Erie' > ERPC?	Only corrected to have Region be capital.
26	85	'Erie' > ERPC?	Only corrected to have Region be capital.
31	86	'Erie' > ERPC?	Only corrected to have Region be capital.

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
36	87	'Erie' > ERPC?	Only corrected to have Region be capital.
41	88	'Erie' > ERPC?	Only corrected to have Region be capital.
Implementation & Action Plan			
47	89	'Erie' > ERPC?	Only corrected to have Region be capital.
51	90	Maps of impaired driving crash hot spots or distracted driving crash hot spots?	Distracted driving. Text updated.
52	91	Maps of impaired driving crash hot spots or speed related crash hot spots?	Speed related. Text updated.
53	92	'Erie' > ERPC?	Only corrected to have Region be capital.
ERPC COMMENTS – Nicole Grohe			
Executive Summary			
3	93	pedestrianIn	Edited to be correctly written.
Transportation Safety Partners			
4	94	District 2	Updated to be District 3.
Existing Conditions			
14	95	Lyme twp, Townsend twp, York twp	Crashes were logged to the wrong township, but lat/long indicates that they do fall within the study region. Location was adjusted to the appropriate township.
Emphasis Areas			
25	96	Extra space between comma	Deleted extra space.
33	97	MOthly	Edited to be spelled correctly.
36	98	D capitalized in distracted	Edited.
Implementation & Action Plan			
46	99	Implmentation	Edited.
50	100	BMV highlighted	BMV spelled out.
52	101	Outreach needs O capitalized	O capitalized.
52	102	S on the end of cameras, no period.	Period added.
53	103	traffc	Edited to be spelled correctly.
56	104	London Rd highlighted	Edited to be formatted correctly.
57	105	Ecently needs r	'r' added to correctly spell recently.
57	106	Flashing doesn't need to be capitalized	Uncapitalized the F.
Erie County Engineer – Matt Rogers, P.E.			
Table of Contents			
1	107	Who prepared this report/study? If this report is being submitted by a P.E. it needs to be signed, dated, and stamped. O.A.C. 4733-23-01 (A)	ODOT does not require PE stamps for planning studies.
1	108	"Erie Region" implies an area larger than Erie County. This study really only focuses on Erie County (The City of Vermillion seems to have largely been ignored, for some reason, even though the whole city is part of the MPO). If we only mean "county" and not "region" (and the falsely-implied expanded geographic area of "region"), let's just say so. As it is, Erie	The ERPC planning area is the project study area. Text edited to reflect meaning of "Erie region" (see comment 109). Vermillion was not ignored; analysis results informed the focus areas for the study.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
		Region is misleading and can be subjectively interpreted.	
Executive Summary			
2	109	ERPC is a gov't entity, not a geographic area.	The area encompassed by the ERPC Metropolitan Planning Organization (MPO) planning area is located in north central Ohio and home to approximately 75,000 residents who live within nine 9 municipalities within the 255 square mile area. For the purpose of this study, the ERPC MPO planning area, which includes all of Erie County and the Lorain County portion of the City of Vermillion, is referred to as the "Erie region". The study area also includes Cedar Point, the Lake Erie shoreline and islands, which are significant tourist destination. Although transit, bicycle, and pedestrian infrastructure are modal options within the Erie region, motor vehicle travel is the most common travel mode. Study area figure added to the Executive Summary. Updated to "Erie region" throughout document.
2	110	We don't usually need to be told where we're located.	This study is written for a wide audience that may include readers not familiar with the study area.
2	111	Also, lake shore, lake islands.	Inserted requested text edit.
2	112	pedestrianIn	Corrected.
2	113	"Erie Region" circled.	The study included a 9-year analysis period (2009 through 2017) based on available crash data. During that period, 2,401 transportation-related crashes were reported. An annual average data reflects 267 crashes with 9 fatalities, 99 serious injuries and 29 non-serious injuries.
2	114	"Erie Region" circled.	
2	115	"annual" and "each year" are redundant.	
2	116	"average" implies "roughly".	
2	117	Do you mean injured? Seems like 2,401 crashes would involve more than 709 people.	
2	118	But only 9 years studied?	Corrected.
2	119	"Erie Region" circled.	Addressed with response to Comment 109.
2	120	"prioirity"	Corrected.
2	121	Largest difference? Biggest Difference?	Edited to: "... to make the most significant difference in improving road safety."
Transportation Safety Partners			
4	122	"Erie Region" circled.	Addressed with response to Comment 109.
4	123	They do? Everyone has made definite commitments to ongoing, future involvement and is on record?	Active/participating members of the stakeholder group, as identified in this section support the plan (as indicated during workshops) and intend to support

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
			implementation of plan recommendations. Intention is different than a formal commitment; MOU or other formal documentation of commitment has not been executed.
4	124	"Vermillion"	Corrected.
4	125	"2"?	Corrected to District 3.
4	126	Notable: -0 Hospitals/medical providers -0 Local fire departments -0 Railroads -0 Bicycle advocacy groups -0 Transit -0 Drivers' ed. companies/schools -Only 1 of 8 local school districts -At least 6 missing police depts. -Only 2 of 9 townships	Many agencies, organizations and jurisdictions were invited to participate in the planning process but not all were active participants. ERPC plans to keep all engaged in moving forward with the plan, regardless of their participation or lack thereof during the planning process.
Introduction – Setting the Stage			
5	127	Not unclear at all. "Vision" calls for 0 fatals by 2050. That's pretty specific.	The statement, as written, reflects timing of actually achieving zero deaths, not the desire/goal of achievement by 2050.
5	128	We're reducing statistics? Thought ODOT wanted to reduce crashes...	Revised "crash statistics" to "fatal and serious injury crashes".
5	129	No. Ignores 1) Improvements in car/truck tech & safety equipment 2) Improvements in medical care These also factor into the safety equation.	Added sentence: Additional factors influencing potential for motor vehicle safety and crash outcomes are improvements in vehicle smart technologies and safety equipment and improvements in medical treatment.
6	130	"Erie Region" circled.	Addressed with response to Comment 109.
6	131	"Erie Region" circled.	Addressed with response to Comment 109.
6	132	Again, stakeholders already know where they're at.	Addressed with response to Comment 110.
6	133	"Erie Region" circled.	Addressed with response to Comment 109.
6	134	Topic sentence.	See response to comment 138.
6	135	This sentence does not support the topic sentence.	
6	136	"Vermillion"	Corrected.
6	137	So how is Vermilion significant, and why does it basically never get mentioned again in this report?	This section reflects the county context and areas with significant population. The analysis and discussion of crash statistics are based on the data, with a focus on the hot spots. Vermilion does not experience the crash issues like those experienced by Sandusky and the other hot spots indicated by the data.
6	138	Please re-write this whole paragraph. Scattered, focuses on 3 different subjects, and is poorly written.	Edited text to: According to the Ohio County Profile for Erie County, less than 17 percent is developed; nearly 81 percent is farmland or natural setting. Significant

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
			concentrations of population within the study area are Sandusky (population 24,714) Perkins Township (population 11,728) and Vermilion (population 10,437). Although the Erie region is mostly rural, it includes the significant tourist destinations in and around the City of Sandusky, such as Cedar Point, lakefront attractions, and other destinations which draw significant tourist traffic to the area.
6	139	"Erie Region" circled.	Addressed with response to Comment 109.
6	140	"Erie Region" circled.	Addressed with response to Comment 109.
6	141	So, are we using "Erie region" or "ERPC region"?	Addressed with response to Comment 109.
6	142	Crashes	Corrected.
6	143	"ERPC region" circled.	Addressed with response to Comment 109.
6	144	"Erie Region" circled.	Addressed with response to Comment 109.
7	145	Data from Fig. 4, left scale Data from Fig. 4, right scale Either way, Fig. 2 does not match Fig. 4. Please explain discrepancy.	Figure 2 shows the number of fatalities from crashes and figure 4 shows the number of fatal crashes.
7	146	Are we talking # of fatal crashes, or # of fatalities? These are not the same. Needs to be clear in the text and data.	Figure 2 is referring to the number of fatalities.
7	147	When graphing disparate data sets, both grids should still coincide. Population labels do not match up w/ gridlines for fatalities. This happens on nearly every chart. Or don't use horizontal grid lines.	Population labels matched up with gridlines.
7	148	Same as for Fig. 2 # of crashes or # or serious injuries? Text says "crashes resulting in serious injuries..."	Figure 3 shows the number of serious injuries from crashes and figure 4 shows the number of serious injury crashes.
8	149	Rather obvious, one would think.	Noted.
8	150	"Erie Region" <-> "ERPC region" ?	Addressed with response to Comment 109.
8	151	ERPC is not a geographic area.	Addressed with response to Comment 109.
8	152	No trendlines?	Trendlines have been added.
8	153	Title	Title added.
8	154	This doesn't match the data in Fig. 2. Please explain the discrepancy.	Figure 2 shows the number of fatalities from crashes and figure 4 shows the number of fatal crashes.
8	155	Why is VMT never used again in any analysis in this report?	VMT is a reflection of population/study area behavior, included in this section as background. VMT can be used as a relative basis of comparison to normalize comparisons of data between areas. The analyses for this study focused on crash data (locations and types), independent from VMT. The study area is not broken down into sub-areas which would benefit from normalized comparison using VMT.

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
8	156	Again, fatalities or # of crashes?	Figure 2 shows the number of fatalities from crashes and figure 4 shows the number of fatal crashes.
8	157	Define MVMT.	VMT is defined in the third sentence of the Vehicle Miles Traveled paragraph.
8	158	"Erie Region" circled.	Addressed with response to Comment 109.
8	159	Is this ERPC MPO in general, or for this report? This report doesn't go past the next 5 years or so.	Text edited to: The Erie Region safety vision, goal and objective describe the safety aspirations for the next 25 years and what safety success looks like in the near term, as reflected by the five-year planning horizon for this study.
8	160	"fataily"	Corrected.
8	161	No period.	Corrected.
Existing Conditions			
9	162	"Erie Region" circled.	Addressed with response to Comment 109.
10	163	"Erie Region" circled.	Addressed with response to Comment 109.
10	164	Redundant.	Revised text to: Crashes reported on Erie region roads during the 2009-2017 analysis period were evaluated.
10	165	Erie region? ERPC region? Now ERPC area?	Addressed with response to Comment 109.
10	166	Were	Corrected.
10	167	Grammar	Revised text to: "... safety conditions, setting the stage for safety planning in the Erie region."
10	168	"Erie Region" circled.	Addressed with response to Comment 109.
10	169	"ERPC Region" circled.	Addressed with response to Comment 109.
10	170	"ERPC Region" circled.	Addressed with response to Comment 109.
10	171	Fig. 2	Refer to response to comment 145
10	172	Fig. 4 Left	
10	173	Fig. 4 Right	
10	174	Define acronym.	Added as table note.
10	175	Either way, there's something wrong or not clear about the data.	Refer to response to comment 145
10	176	What does the green highlighting mean?	Green highlight indicates peaks in analysis period.
11	177	And Perkins Twp.	Revised text to: "... within the City of Sandusky and the greater Sandusky area, with notable crash trends along US 250, US 6, SR 4 and SR 60."
11	178	This conclusion is a bit too specific for a general map like this.	
11	179	Nothing for east part of Vermilion – it's part of the MPO...?	Hot spots reflected by the data are as shown; Vermilion is included in the analyses.
12	180	"Erie Region" circled.	Addressed with response to Comment 109.
12	181	7,349 people involved in 21,611 crashes? 7,349<<21,611!	7,349 were injured or possibly injured in the 21,611 crashes. Text updated.
12	182	"Erie Region" circled.	Addressed with response to Comment 109.
12	183	817 in 2,401 crashes?	The 817 only included injured and potentially injured. A new column was added for no injuries to clarify.

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
12	184	"Erie Region" circled.	Addressed with response to Comment 109.
12	185	Cross out "serious"	Text updated
12	186	Green highlighting?	Added note to table; green highlight indicates peaks in analysis period.
12	187	I.E. 1,584 crashes/yr. involving only unoccupied vehicles?	A new column was added for no injuries to clarify.
12	188	"Erie Region" circled.	Addressed with response to Comment 109.
12	189	Just give actual %	Revised: Although 48 percent of reported crashes in the Erie region occur on state-maintained roadways, 52 percent of FSI crashes occurred on state-maintained roadways. In contrast, approximately 33 percent of reported crashes in the Erie region occurred on city-maintained roadways with 21 percent of FSI crashes.
12	190	"Erie Region" circled.	Addressed with response to Comment 109.
12	191	Like playgrounds, treatment plants, parks?	No vehicle crashes at those locations. Facilities changed to roadways to provide clarification.
12	192	Occupant?	No, this table looks at just the crashes. Table above was broken down by occupants.
12	193	Not all roads are highways. All highways are roads.	Removed "highway" from rows. Added heading (Maintaining Authority)
12	194	Not 21,611?	Table was updated to include additional roadway types (maintaining authorities).
13	195	"Erie Region" circled.	Addressed with response to Comment 109.
13	196	"Erie Region" circled.	Addressed with response to Comment 109.
13	197	"non-state-maintained roadways" <redundant> "ODOT does not own"	Edited to: Nearly two-thirds of reported crashes in the Erie Region occurred on non-state-maintained roadways. As such, it is incumbent upon local jurisdictions to prioritize locations, apply for funding, and develop plans to implement mitigation measures.
13	198	Sentence structure.	
13	199	This table & data need a bit more explanation.	Explanation added above table. "The figure below breaks the fatal, serious, and total amount of crashes down by jurisdiction. The total amount of crashes includes non-fatal and serious crashes. Crashes are also categorized by all, non-state maintained, and county-maintained to illustrate the number of crashes occurring on locally-maintained roads compared to state- and county- maintained roads."
13	200	Etc. Etc.	
14	201	Not in/part of Erie County.	Crashes associated with these townships were analyzed and determined to be within the bounds of the Erie region and moved in the table to the proper jurisdiction.
13	202	Not a proper noun.	Corrected.
14	203	"Erie Region" circled.	Addressed with response to Comment 109.
14	204	Doesn't follow from topic sentence.	Pedestrian crash is a crash type.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
14	205	So these are discussed... but not these?	Text edited to: Based upon input from the stakeholder group meetings, the study focused on the most prevalent crash types. The four most prevalent crash types that occurred during the analysis period were rear end, fixed object, animal and sideswipe-passing crashes with just over 4,800 rear crashes; only 2.3 percent of these most prevalent crash types resulted in a fatality or serious injury. By comparison, although there are fewer pedestrian crashes, more than 25 percent of reported pedestrian crashes resulted in a fatality or serious injury. As such, pedestrian crashes are studied along with the most prevalent crash types. The total crash frequency and the percentage of FSI crashes can be compared to total crashes to identify appropriate crash mitigation strategies.
15	206	"Erie Region" circled.	Addressed with response to Comment 109.
15	207	Specific locations aren't given.	The equivalent property damage only (EPDO) crash frequency calculates the relative severity of the crashes within the study area. EPDO crash frequency normalizes the data, providing another means of prioritizing crash location. It also provides the estimated economic effect that a fatal/injury crash has on society. The EPDO Crash Frequency Equation was applied to the data using information provided in the ODOT Economic Crash Analysis Tool (ECAT). Crashes with the highest EPDO value which indicates a crash type with high levels of serious injuries or fatalities, like pedestrian crashes. This information further informed decision-making by the stakeholder group.
15	208	Cross out "this".	
15	209	By quantifying the estimated economic effects of fatal and injury crashes (etc., etc.)	
15	210	Cross out "Pedestrian".	
15	211	Capitalize "c".	
15	212	With	
15	213	"er"	
15	214	"s"	
15	215	Cross out "which".	
15	216	Cross out "s".	
15	217	Cross out "a".	
15	218	"s"	
15	219	"er"	
15	220	Cross out "or", replace with "and".	
15	221	Ok, if using software or coding. In print, it's an "x" unless you're writing a math textbook.	Equation modified.
15	222	Average?	Total reflects the EPDO for all reported crashes; it is not an average. It provides an understanding of the relative EPDO for each crash type as compared to all crashes.
15	223	Not really needed here. Significance?	
15	224	So how are we relating EPDO to the rest of the info & analysis in this report? It doesn't appear we do anything with it beyond this page.	Refer to response to Comments 207-220 (informed stakeholder group decision-making)
15	225	Title	Added axis title to figure.
16	226	"Erie Region" circled.	Addressed with response to Comment 109.
16	227	And Perkins Township	See response to Comment 229.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
16	228	What about ped. Crashes in urban areas? Overturning in rural areas?	Crash data does not indicate over-representation of pedestrian crashes. Table reformatted and ordered by population. Text edited: The table below provides an assessment of the four most prevalent over-represented crash types by community, ordered by population size. Crash type percent is based on number of crashes for each crash type within each community.
16	229	% of what? All crashes?	
16	230	Not in Erie County.	Crashes associated with these townships were analyzed and determined to be within the bounds of the Erie region and moved in the table to the proper jurisdiction.
16	231	Um, look @ Fig. 39. Urban Sandusky has the highest density of roadway departure crashes, which seems to contradict what you're saying here.	Addressed with response to Comment 229.
17	232	"Erie Region" circled.	Addressed with response to Comment 109.
17	233	60% is not "almost all".	Text edited: Crash data indicate that roughly half of FSI crashes occur on state-maintained roadways. In comparison, the majority bicycle and pedestrian crashes occur on non-state-maintained roadways, 87 percent and 73 percent, respectively.
17	234	See below.	"Severe" replaced with "FSI", as applicable.
17	235	Be consistent w/ wording. Severe =/= FSI. Don't introduce new terms – if you mean FSI, just say FSI.	
17	236	"City" is circled.	Revised "city" to "municipal" in Figure 14 and throughout, as appropriate.
17	237	15 (40%)	Addressed with response to Comment 233.
17	238	22 (60%)	
17	239	Total: 393; 126; 158; 74; 751	
17	240	Watch the terminology. -City=city -Village=village -Municipal=city & village -Using "city" along implies you are not considering crashes within villages. I think this is not likely the intent- so decide which roads are appropriate.	Addressed with response to Comment 236.
18	241	"Erie Region" circled.	Addressed with response to Comment 109.
18	242	"Erie Region" circled.	Addressed with response to Comment 109.
18	243	NO! – Sideswipe-passing crashes – see Fig. 10!	Section introduction reworded to focus on top FSI crash type
18	244	So right away we've dismissed 2,703 crashes and associated fatalities & injuries. That right there negates the whole "road to zero" goal.	Sentence clarified as follows: The most prevalent FSI crash types that occurred in the Erie region during the analysis period

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
		Nothing to be done? Consider that animal crashes occur in predominantly rural areas, during certain months, at certain times of day. No driver education? No speed enforcement? No distracted driver enforcement? No changes to hunting/animal calling laws? No improvements to vehicle technology and safety?	are fixed object, rear end and angle crashes. In-depth analysis was performed for these crash types to enable focusing on treatments, measures and methods to mitigate FSI crashes.
19	245	"Erie Region" circled.	Addressed with response to Comment 109.
19	246	Guardrail or fence?	Corrected.
19	247	Fig. 15 -> This is 74 of 229, or 32%. That is not "most".	Text revised: The crash trees in Figure 15 show that about half of fixed object crashes occur on state-maintained roads. The majority of crashes on both State and locally maintained roads occurred on straight, level roadway segments.
19	248	These are all designed to be struck.	Figure 16 is a standard graphic reflecting crash classifications reported on the OH-1 crash reports filed by the police and submitted to ODOT. Supplemental text added to address roadway design elements ("safety features") that were factors in crashes: Some fixed objects are designed roadway features that are intended to improve roadway safety. It is likely that crashes into these fixed objects likely involve other contributing factors like speed, driver age, impairment, and/or distracted drivers, the most common contributing factors identified within the study's analyses. The roadway design features include guardrail face, median concrete barrier, median other barrier, guardrail end, curb, bridge parapet, bridge rail, median guardrail barrier, portable barrier and impact attenuator/crash cushion.
19	249	More needs to be done w/ the data analysis. Actual crash #s would be much preferred to % in the chart (bar charts intuitively show percentages). Objects designed to be hit need to be separated/pulled out – these are engineering safety features doing what they are intended to do, and really almost merit a separate discussion & analysis.	
19	250	Can't be FO crash then, correct?	This is the crash code reported on OH-1 forms. Explanatory note added to table: "Nothing Struck" reflects crash data that was not reported.
20	251	"Erie Region" circled.	Addressed with response to Comment 109.
20	252	Cross out "periods of".	Corrected.
20	253	Title	Corrected.
20	254	74/111 is 2/3, not roughly.	Corrected.
20	255	Vague – what analysis was done to support this statement?	Text revised: Most rear end crashes did not occur at intersections. Based on typical driver behaviors and roadway characteristics, non-intersection rear end

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
			crashes are likely related to unanticipated slowing traffic which could be caused by turning vehicles or downstream congestion.
20	256	Provide actual #s, %s, etc.	Numbers of crashes are provided in the figure.
21	257	Should be sideswipe-passing – see Fig. 10.	Refer to resolution of Comment 243.
21	258	1,536 according to Fig. 10.	710 reflects injury crashes. Text updated: There were 710 reported injuries associated with angle crashes and of these, 10 were fatalities and 83 were serious injuries.
21	259	Even if crashes occurred on a truly random basis, I's still expect 62.5% to occur during these hours. If only a majority was happening, something is wrong.	Texted updated: There were 710 reported injuries associated with angle crashes and of these, 10 were fatalities and 83 were serious injuries. FSI angle crashes happened throughout the day, peaking in the afternoon/evening between the hours of 3:00 PM and 7:00 PM. The crash tree diagram in Figure 20 shows that roughly half of FSI angle crashes on locally-maintained roads occurred at stop-controlled, four-legged intersections involving young drivers (ages 16-25). Crashes on state-maintained roads exhibit similar crash factors.
21	260	According to Fig. 20, this only 7 crashes. 7 of 93 doesn't sound like "most" to me.	
21	261	Let's pause for a moment... This is a technical, analytical report. Yet it's littered with words like roughly, most, almost all. So far, these qualifiers appear to introduce some rather significant, erroneous viewpoints into the study. This has to stop and needs to be revised. Use actual numbers, revise the wording – something – but right now I can't trust a lot of the statements in here because they're simply not supported by the numbers.	Noted. In addition to text updates, it is important to consider that crash data analyses incorporating multi-year statistics incorporates a degree of variability within each year. Precise statistical data may over or under represent data from any given year. The primary purpose of the study is to provide the stakeholder group and ODOT with an understanding of the most severe crash patterns, types and locations whereby mitigation of these crashes will have a measurable impact on mitigating crashes resulting in fatalities and serious injuries.
22	262	Angle crashes. They are not related to angles.	Corrected.
Emphasis Areas			
24	263	"Prioitized"	Corrected.
24	264	Extra space	Corrected.
24	265	Contributing to	Corrected.
24	266	Related.	Text and column headings revised.
24	267	What's the difference here?	
24	268	"Countywide" is not a maintenance authority.	
24	269	What is the difference?	
24	270	Some actual crash #s would also be helpful here.	Percentages are provided to reflect crash trends.
24	271	"Erie Region" circled.	
24	272	From	

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
24	273	To	Text updated: Crash data were analyzed to assess the most frequent emphasis areas that contribute to crashes in the Erie region.
24	274	"s"	Corrected.
24	275	"Erie Region" circled.	Addressed with response to Comment 109.
24	276	Font	Corrected.
24	277	Local is < statewide %	Emphasis areas were identified as part of a stakeholder group exercise during Workshop 1. Preceding analysis was to include additional crash information used in the selection of emphasis areas.
24	278	So how does selecting these relate to the data of Fig. 10? Fig. 12? Fig. 13? Fig. 14? What was the point of all the preceding analysis?	
24	279	So we looked @ Fig. 21 and picked 3 areas where we're doing better than statewide? Why did we ignore unrestrained occupant? Alcohol-related? Motorcycle?	
25	280	How many intersection crashes 2009-2017?	Updated text.
25	281	"Erie Region" circled.	Addressed with response to Comment 109.
25	282	Please cite source of assertion for ERPC crashes.	Text revised: Contributing factors in intersection crashes may involve obscured lines of sight, signalization, vehicle speed and road geometry.
25	283	See Fig. 20. Most intersections aren't.	
25	284	Define younger and older drivers.	Corrected.
25	285	"indicates" circled.	Text updated: Figure 22 shows the 5-year rolling averages of fatal and serious injury crashes, including future projections. Fatal crashes are projected to increase while serious injury crashes are projected to decrease.
25	286	Not so. Decreasing... but... increasing. Increasing... but... decreasing.	
25	287	So why bother w/ forecast, then?	
25	288	Title	Corrected.
25	289	Title	Corrected.
25	290	Given the low fatal #s involved, I'm not sure how accurately we can generate this type of forecast. The state can't predict this for the entire state using a huge data set. Not sure how we can do better with a much smaller, more limited data set.	Agree. This is a standard image reflecting data analytics in safety plan reports.
25	291	Define	Figure 23 is a standard graphic generated by ODOT's CAM reflecting crash classifications (age ranges) reported on the OH-1 crash reports. Terms are defined in body of report.
25	292	Define	
25	293	% of total crashes? % of this crash type? Needs clarified, for all.	Standard figure for ODOT safety plans, consistent with report template. Image purpose is to reflect crash data trends to inform decision-making focused on mitigating fatalities.
25	294	Why % here instead of actual #s like the rest of the charts?	
26	295	Title	Corrected.
26	296	These look low because they encompass fewer than 10 yrs.	These are the standard age groups used by ODOT.
26	297	Proportional in the age-years spans involved, this is how the chart should look	

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
26	298	Big difference between 66 and 96. So why are they all lumped together?	
26	299	Add number labels.	
26	300	Moral of the story: as experience increases, crash incidence decreases. Not surprising.	Agree.
26	301	Jurisdiction &	Title updated
26	302	This isn't really functional class per se. No urban/rural distinction; ODOT & FHWA don't distinguish between county, township, etc.	Standard figure for ODOT safety plans, consistent with report template. Image purpose is to reflect crash data trends to inform decision-making focused on mitigating fatalities. State routes typically have a higher VMT, and typically a higher amount of crashes. This graph shows that is the case.
26	303	How does this correlate to system VMT? I assume state VMT is larger, so it would be expected to have proportionally more crashes there...	
26	304	Title	Corrected.
26	305	This page bears repeating to point out some salient analysis.	Noted.
26	306	Legend Red=% of crashes Pencil=% of Ohio licensed drivers in age group	Added data to figure.
26	307	As can easily be seen, experience driving plays a huge roll in crashes. But tied into that is also brain development. Young people are more willing to engage in risky behaviors. The pre-frontal cortex, associated with risk-taking, is not fully developed until 25. This is clearly inferred from the fact that the 16-25 age group, accounting for only 13.1% of Ohio licensed drivers, were at-fault in 30% of FSI crashes. Conversely, the 60-65 and 66+ groups are the safest drivers.	Agree. Text updated: As reflected by the information in Figure 24, younger drivers (ages 16 to 25) are over-represented in intersection crashes. This trend reflects lack of driver experience, characteristic riskier behaviors and risk tolerance.
27	308	>50% -> this isn't stellar analysis, folks	Text updated: FSI intersection crashes happen throughout the day with peaks that corresponds to school dismissal and the end of the business day. Comparison of daily crash trends indicates fairly consistent numbers of crashes throughout the week. Annual crash data show more than 16 percent of FSI intersection crashes occurred in June, the end of the school year. The fewest FSI intersection crashes occurred in January and February.
27	309	➔ 71% of the day.	
27	310	No one thought it odd that Sunday had the most?	
27	311	Schools can run 7-10 days into June.	
27	312	Title	Added.
27	313	Title	Added.
27	314	Title	Added.
28	315	What age defines this?	Updated.
28	316	Why are "older drivers" suddenly a concern here when they're not even mentioned on page 26?	Text updated: Figure 29 illustrates the number of intersection-related crashes by crash type. Predominant FSI crash types are angle, left turn and rear end crashes. Assessment of the age of drivers involved in

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
			these types of crashes shows an over-representation of older drivers (65+); older drivers are involved in 28 percent of angle crashes at intersections and 34 percent of left turn crashes at intersections.
28	317	Title	Added.
28	318	I'm assuming this chart shows total # of each crash type... Older drivers: Angles: 0.28x74=21 crashes Left-turns: 0.34x53=18 crashes Sum=39 crashes Yet Fig. 24 has only ~35 crashes in the 66+ age group.	Figure 29 shows intersection related FSI crashes for all age groups.
29	319	"Erie Region" circled.	Addressed with response to Comment 109.
29	320	No intersection crashes in Vermilion???	Heat map reflects reported crash data for study area, including Vermilion.
30	321	How many roadway departure crashes?	Edited text to: Roadway departure crashes contributed to 47 percent
30	322	Just give the %. Is it 94%? 48%? Both are >47$.	
30	323	"Erie Region" circled.	Addressed with response to Comment 109.
30	324	Title	Corrected.
30	325	Title	Corrected.
30	326	So why should we do anything here? At this rate we'll hit 0 around 2033 without doing anything.	The graph reflects a projection from reported crash history reflecting the trend and should not be considered an accurate predictor of future crashes. This is one of the emphasis areas studied in detail based upon stakeholder committee input.
30	327	Cross out "Multiple factors may contribute to roadway departure crashes."	A contributing factor is not a causal factor. Text edited to: Multiple factors may contribute to roadway departure crashes; some contributing factors can influence the likelihood of crashes while others can influence the severity of crashes. For example, the emphasis areas of young driver and alcohol which were found to be contributing factors in roadway departure crashes influence the crash potential. In comparison, the emphasis areas of lack of seat belt use and speed which were also found to be contributing factors in roadway departure crashes influence the severity of crashes. Lack of seat belt use is the most significant contributing factor in roadway departure crashes resulting in fatalities.
30	328	Reword. Not using a seatbelt doesn't cause someone to crash. It contributes to the injuries or fatalities, but not the crash.	
30	329	Clarify per previous chart comments.	Titles added to graph.
31	330	Title	Added
31	331	Proportionally corrected. See comments for previous similar chart. This compares	Figure 33 is a standard graphic generated by ODOT's CAM reflecting crash classifications

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
		disparate unequal time/age ranges, resulting in skewed, unclear analysis.	(age ranges) reported on the OH-1 crash reports. Terms are defined in body of report.
31	332	Title	Added
31	333	13% of 47% or 13% of all roadway departures?	Edited text to: Figure 34 illustrates the number of roadway departure crashes by roadway classification. More than 47 percent of roadway departure FSI crashes occurred on state-maintained roadways with 13 percent of roadway departure FSI crashes occurring on state-maintained major collector roads. In comparison, 10 percent of roadway departure FSI crashes occurred on local roads maintained by townships.
31	334	How can there be an "additional" 10%? You have the percentages you have.	
31	335	Not really.	Changed figure to: Roadway Departure FSI Crashes by Roadway Classification and Jurisdiction, 2009–2017
31	336	Same comments per similar previous tables.	Standard figure for ODOT safety plans, consistent with report template. Image purpose is to reflect crash data trends to inform decision-making focused on mitigating fatalities.
31	337	Title	Added.
32	338	"addition"	Corrected.
32	339	"MOthly"	Corrected
32	340	Looks higher in summer, lower in winter to me.	Text edited to: Monthly crash trends show somewhat consistent crash frequency throughout the year, with annual peaks in May and July.
32	341	Title	Added.
32	342	Title	Added.
33	343	"Erie Region" circled.	Addressed with response to Comment 109.
33	344	This isn't a "why". This answers the "what happened", but not "why".	Added sentence: This indicates that the significant majority of FSI crashes are caused by vehicles hitting fixed objects.
33	345	Title	Added.
33	346	Roadway departures really need more analysis than is given here. Weather, speed, etc. And I think the emphasis is really single-vehicle roadway departures, not necessarily 2 vehicles in an angle collision and 1 gets shooed off the road. Not that they should be excluded entirely, but analyzed more in depth.	Added figure to show associated characteristics of roadway departure fixed object crashes: speed, roadway weather and pavement condition (dry, wet, snow, etc.)
34	347	Page 16 says fixed object crashes – a hallmark of roadway departures – are overrepresented in rural areas. But this shows tremendous density in urban areas. No discussion?	Text has been updated in both locations. "Over-represented in rural areas" does not necessarily correspond to frequency, it means there are more of this type of crash than other types. Similarly, there can be a lot of FO crashes in urban areas but they are

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
			not over-represented if there are similar or greater amounts of other types of crashes.
34	348	Vermilion again?	Heat map reflects reported crash data for study area, including Vermilion.
35	349	How many crashes?	Revised text to: Crash data indicate that distracted driving was a factor in five percent of FSI crashes. Based on input from ERPC stakeholders (including law enforcement) along with an understanding of human behavior, the expectation is that distracted driving is under-reported on crash reports. The data reflected in the five-year rolling average reflects an increasing trend in fatalities and serious injury crashes where distracted driving is a contributing factor. Without intervention, this trend is expected to continue in the future.
35	350	Uncapitalize "distracted".	Corrected.
35	351	"Erie Region" circled.	Addressed with response to Comment 109.
35	352	"perid"	Corrected.
35	353	Level?	Rolling average for fatal crashes updated.
35	354	Title	Added.
35	355	Title	Added.
35	356	Just curious how the rolling avg. is 0 for 2 years and can still be level elsewhere.	Rolling average for fatal crashes updated.
35	357	A crash can't be a contributing factor to a crash. Circular reasoning.	Text edited to: Figure 42 shows that the most predominant emphasis areas that are factors in or characteristics of fatal crashes associated with distracted driving are unrestrained (lack of seatbelt use), speed-related and roadway departure. These three emphasis areas are associated with all distracted-driving related fatal crashes. Drug-related was a contributing factor in half of the distracted-driving related fatal crashes. The most predominant emphasis areas recorded as factors in or characteristics of serious injury crashes associated with distracted driving are roadway departure, young driver, intersection and rear end – contributing factors in 40 to 50 percent of these crashes.
35	358	Same comments per previous similar charts.	Title corrected to convey percent meaning.
36	359	Please cite the source/analysis you did showing this to be the case in these crashes in this report.	Text edited to: More drivers cited as being at-fault in distracted driving-related crashes were ages 16 to 25 and drivers ages 30-39 than other age groups.
36	360	Title	Added.
36	361	Proportionally corrected	Figure 42 is a standard graphic generated by ODOT's CAM reflecting crash classifications (age ranges) reported on the OH-1 crash
36	362	Same comments as previous similar charts.	

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
			reports. Terms are defined in body of report.
36	363	Title	Added.
36	364	Increasing tech use	Need data to support.
36	365	No blanket assertion that these drivers are likely distracted by driving their grandchildren around?	Noted.
36	366	Same comments per previous similar charts.	Edited figure title to: Distracted Driving-Related FSI Crashes by Roadway Classification and Jurisdiction, 2009-2017
37	367	Finally, a decent summary! Except that 45% of crashes occur on the weekend, when there is no school.	Text edited: FSI distracted driving crashes show a peak between 3:00 PM and 5:00 PM. FSI distracted driving crashes are over-represented on Friday, Saturday, and Sunday. These types of crashes are also significantly over-represented in the month of May.
37	368	Title	Added.
37	369	Title	Added.
38	370	Same – Not really a "why"	Text Updated.
38	371	"Erie Region" circled.	Addressed with response to Comment 109.
38	372	Title	Added.
38	373	No discussion of underreporting? Does anyone really believe distracted driving was only behind one fixed object FSI crash each year, on average?	Underreporting is addressed at the start of the section (second section, first paragraph of distracted driving section). Edited text as follows to re-emphasize: .... Figure 48 illustrates the number of FSI distracted driving crashes by crash type. Rear end crash is the most frequent crash type for FSI distracted driving-related crashes, followed by fixed object and angle crashes. These three crash types account for almost three-quarters of FSI distracted driving-related crashes in the Erie region. As mentioned, input from the ERPC stakeholders (including law enforcement) along with an understanding of human behavior reflect an expectation that distracted driving is under-reported on crash reports. This means the data shown in Figure 48 is expected to reflect the under-reporting and crash trends for crashes involving distracted drivers, however, the actual data associated with types of distracted-driving related crashes may or may not align with the trends shown.
39	374	Perkins Twp.	Edited text to: Most distracted FSI crashes occurred in or around greater Sandusky with hot spots extending along US-250 and SR-4.
39	375	There are only 2 in the study area...	

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
39	376	Vermilion?	Heat map reflects reported crash data for study area, including Vermilion.
40	377	# Speeding crashes?	Revised text to: Speed was a contributor factor in 21 percent of FSI crashes. Speed-related crash data reflected as five-year rolling averages shows a relatively consistent number of fatal crashes and a slightly decreasing trend in serious injury crashes. When speed is a factor in a crash, there are other crash characteristics and factors, as shown in Figure 51. The most common other characteristic (emphasis area) in speed-related FSI crashes is roadway departure; other common characteristics are lack of seat belt use, alcohol-related and young drivers.
40	378	From	
40	379	Through	
40	380	For the love of grammar please reword this sentence!	
40	381	Level...?	
40	382	A crash contributing to a crash?	
40	383	Doesn't cause crashes	
40	384	Title	Added.
40	385	Title	Added.
40	386	Same comments here...	Edited figure title to: Speed-Related FSI Crashes and Emphasis Area Overlaps
41	387	See previous similar chart comments.	Figure 50 is a standard graphic generated by ODOT's CAM reflecting crash classifications (age ranges) reported on the OH-1 crash reports. Terms are defined in body of report.
41	388	Title	Added.
41	389	Proportionally correct. As driving experience increases, # crashes decreases.	Figure 50 is a standard graphic generated by ODOT's CAM reflecting crash classifications (age ranges) reported on the OH-1 crash reports. Terms are defined in body of report.
41	390	Title	Added.
41	391	State parks? Universities/colleges?	Revised to: Figure 52 illustrates the number of speed-related FSI crashes by roadway classification and jurisdiction. More than 55 percent of FSI speed-related crashes occurred on state-maintained roadways; about 17 percent occurred on state-maintained freeways and seven percent occur on state-maintained major collector roads. Approximately 16 percent of FSI speed-related crashes occurred on city-maintained roads.
41	392	"roadway functional class"	
41	393	"roadway functional class"	Revised to: Figure 53: Speed-Related FSI Crashes by Roadway Classification and Jurisdiction, 2009-2017
41	394	Same comments as similar charts	Standard figure for ODOT safety plans, consistent with report template. Image purpose is to reflect crash data trends to inform decision-making focused on mitigating fatalities.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
41	395	Title	Added.
42	396	Finally, a decent description!	Noted.
42	397	AM	Added.
42	398	Title	Added.
42	399	Title	Added.
42	400	Title	Added.
43	401	What & how. But not why.	This is standard template format. Text updated to "WHAT"
43	402	"Erie Region" circled.	Addressed with response to Comment 109.
43	403	"Erie Region" circled.	Addressed with response to Comment 109.
43	404	Title	Added.
44	405	No commentary?	Added text: Figure 58 shows that speed-related FSI crashes tend to occur on high-speed roads, notably the turnpike, and in the more densely developed greater Sandusky area. Hot spots occur at 5 fairly distinct areas along the turnpike with gaps in between so factors other than speed limit are probably in play. Two locations are turnpike interchanges; turnpike staff noted that crashes at those locations, although recorded as crashes on the turnpike, are crashes at toll plazas that are effectively mis-reported because "toll plaza" is not an option on the OH-1. The most significant turnpike location is in the vicinity of milepost 114, an area that is difficult to explain with no apparent causal factors that turnpike staff has been troubleshooting in an effort to mitigate the crashes.
44	406	Concentrated @ urban areas, turnpike, SR-2? Effect of turnpike speed limit going to 70 mph?	
Implementation & Action Plan			
45	407	"Implmentation"	Corrected.
45	408	"Priortity"	Corrected.
45	409	"Prioirity"	Corrected.
46	410	These really haven't been logically connected to the analysis of sections 3 & 4	Incorporated text to provide the requested transition.
46	411	From	Corrected.
46	412	To	
46	413	"Erie Region" circled.	Addressed with response to Comment 109.
46	414	"Erie Region" circled.	Addressed with response to Comment 109.
46	415	"fatallty"	Corrected.
46	416	Cross out "implementation of these strategies and actions will"	Text Updated.
46	417	Cross out "the public and others"	
46	418	Drivers/road users/etc.	
46	419	Cross out "implementation of these strategies and actions will"	
46	420	Cross out "implementation of these strategies and actions will"	

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
46	421	Cross out "implementation of these strategies and actions will"	
46	422	Cross out "Implementation of"	
46	423	These	
47	424	A study is not a safety improvement.	Updated text to: Implement proven and/or low-cost systematic and systemic safety measures and improvements to reduce intersection crashes.
47	425	Not low-cost	Agree. Strategy description text is "...proven and/or low-cost..."
47	426	Appropriate as statewide strategy, not as a county-specific strategy.	Updated text: Description: Coordinate with local jurisdictions to implement eligible low-cost countermeasures that could be incorporated into construction projects. Performance Measure: 1) List created and shared with local jurisdictions, 2) Number of projects that incorporate safety countermeasures
47	427	Hasn't FHWA already done this? FHWA was doing seminars on this in early-mid 2000s.	
47	428	How about actually revising the intervals?	Updated text: Number of clearance intervals evaluated and adjusted
47	429	What about unsignalized intersections?	This action is not limited to signalized intersections; signs are identified for evaluation.
47	430	"Evaulate"	Corrected.
47	431	Not systemic if it's "spot"	Not all recommendations are systemic.
47	432	What about the corridors identified in this report? What should ODOT prioritize/tackle first?	This study did not get to the level of analysis that allowed identification of specific access management issues in the study area.
47	433	It's a pretty big jump from this to this. Politics & $.	Added performance measure: Number of corridors studied
48	434	Involves environmental evaluation, r/w acquisition. Construction involves grading, drainage work. Not quick, not low-cost.	This strategy is not identified as low cost.
48	435	Safety edge? Pavement markings? RPMs? Delineators, curve signs? Lighting? Shoulder/berm maintenance?	Added.
48	436	For local governments like townships and villages, these are not low-cost strategies.	This strategy is not identified as low cost.
49	437	Why not all ages/all schools? I see kids using phones on bikes and scooters. Start safety education young.	Updated text: Identify and prioritize schools for local law enforcement to give safety presentations.
49	438	These are appropriate as statewide goals and strategies, but not in this plan, which is county-specific.	Stakeholder committee discussed and recommended these strategies.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
49	439	What study has shown that the proliferation of these signs is a proven strategy with measurable, positive outcomes on driver behavior & crash incidence?	Action updated to: Work with local business and school districts on initiatives that remind drivers to stay focused on driving.
49	440	Most – if not all – drivers know how to do this. Treating drivers like they're stupid and don't know how to comply with stop signs and traffic signals is not a way to win friends and influence people. Being distracted from a task is not the same as being ignorant of how to do the task.	Action updated to: Work with safety stakeholders to promote safe driving information across the ERPC region.
49	441	Drivers' education companies?	
49	442	Pass out safety info @ local BMV offices/in mail for people who renew vehicle registrations and driver licenses?	
50	443	Problem: D.D. is a primary offense only for drivers under 18. How are police to distinguish which drivers are under 18 and which drivers aren't police is initiating a traffic stop? High school drivers will range from 16-19 years old.	Proposed state legislation pending to make distracted driving a primary offense for all drivers. Strategy could be implemented if legislation passes.
50	444	Distracted?	Corrected.
50	445	Like page 39?	Potentially, information about crash locations can be presented in different formats.
50	446	Like Fig. 46?	Potentially, information about crash locations can be presented in different formats.
50	447	So is the emphasis on all crashes involving distracted driving, or only FSI crashes involving it? The study focuses on FSI crashes. But now is the scope here to be broadened to all – not just FSI – crashes?	Updated text: Continue to review and analyze crash data to support local distracted driving awareness efforts that target mitigation of distracted driving-related FSI crashes.
51	448	Driver education companies	Updated text (description section): … Coordinate with driver education companies.
51	449	Most school districts no longer teach drivers' ed. In the hands of private companies now.	
51	450	How is speeding related to impaired driving?	Corrected.
51	451	Why not done – a "heat map" as part of this study?	Provided (Figure 58).
51	452	I don't think there is a legal authority for this outside of municipalities…	Mitigation strategy removed from report at the request of ERPC. Red light cameras would only apply to municipalities, state has not provided guidance for unincorporated areas
51	453	Unrealistic	
51	454	This is a hugely political issue, and highly controversial. Have you followed the debate and genesis of recently-passed House Bill 62? The 2018 Ohio Supreme Court decision?	
52	455	"Erie Region" circled.	Addressed with response to Comment 109.
52	456	"Erie Region" circled.	Addressed with response to Comment 109.
52	457	These 2 are really linked. Almost 1 intersection, basically.	Updated location text to recommend addressing the two intersections as one project.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
52	458	SR-61/OH-113	Updated text.
52	459	Erie County; Berlin Heights	Updated text.
52	460	SPD?	Emphasis Area Overlap is based on crash data for the specified location.
52	461	Beacons	Updated.
52	462	DD?	Emphasis Area Overlap is based on crash data for the specified location. Although it not identified as an overlap, DD believed to be potentially under-reported.
52	463	Which one? East- or westbound? Or both?	Eastbound.
52	464	Rd.	Updated text.
52	465	See P. 54 for notes on boxed intersections.	Location status will be updated with location-specific information, as provided by members of the stakeholder committee.
52	466	Erie County;	Updated text.
53	467	Cross out "Erie County"	Updated text.
53	468	How did you determine this isn't due to queueing @ US-250 & Hull Rd.?	The study is based on crash data. Individual locations were not investigated to determine specific cause; that is a next step.
53	469	Perkins Twp.	Updated text.
53	470	No signal @ this intersection, Sartor was basically closed by Perkins Twp. ~2016	Modified text: Signal timing study currently underway for US-250 corridor. Review results when complete. Additional recommendations from 2005 study were implemented in 2018; included new signals, turn lanes, and access management.
53	471	Realigned in 2012. Railroad crossing just north of intersection.	Updated text.
53	472	Berlin Heights	Updated text.
53	473	ODOT installed flashing stop signs ~2010 or 2011.	Updated text.
53	474	How did you determine this isn't due to influence of US-250 & Perkins?	The study is based on crash data. Individual locations were not investigated to determine specific cause; that is the next step.
53	475	Perkins Twp. Replaces Sandusky	Corrected.
53	476	No signal @ this intersection.	Updated text: Signal timing study currently underway for US-250 corridor. Review results when complete. Additional recommendations from 2005 study were implemented in 2018; included new signals, turn lanes, and access management.
53	477	Intersection rebuilt w/ Parkland as right-out-only in 2015.	Updated.
53	478	See p. 54 for notes on boxed intersections.	The priority ranking is based on crash statistics. Location status is to be updated with location-specific information, as provided by members of the stakeholder committee.

Erie Region Safety Plan Disposition of Comments

February 2020

PDF Page	Comment Number	Comment	Resolution
54	479	Bogart Rd. widened w/ safety edge in 2010 & 2012. Proximity of RR crossing to west.	Updated text.
54	480	Cross out ODOT	ODOT oversight with state route.
54	481	Cross out ODOT	ODOT oversight with state route.
54	482	Allocated	Corrected.
54	483	Only ½ of intersection?	Updated text.
54	484	A	Ranking is the same for these two intersections. Note that list jumps to #22.
54	485	Cross out Sandusky	Corrected.
54	486	B	Ranking is the same for these two intersections. Note that list jumps to #22.
54	487	Signal replaced 2014. Now has backplates. Part of coord. System.	Updated text
54	488	Which ramps? 1? 2? All?	Updated text.
54	489	DD?	Emphasis Area Overlap is based on crash data for the specified location. Although it not identified as an overlap, DD believed to be potentially under-reported.
54	490	Vermilion schools ~1mi north	
54	491	How?	State ranking is based on all crashes.
54	492	In 9 years?	
54	493	Intersections marked with box have had improvements or changes during the study period, or have funding allocated for specific, definite future projects. This encompasses 13 or 25 locations. More than 50%. Why did this study spend time on these that were already previously identified, studied, and had countermeasures implemented? These 13 should have been on a separate list – but not in this list of 25 priority locations.	The priority ranking is based on crash statistics. Location status is to be updated with location-specific information, as provided by members of the stakeholder committee.
54	494	"-"	Corrected.
54	495	"e"	Corrected.
55	496	"Erie Region" circled.	Addressed with response to Comment 109.
55	497	"Erie Region" circled.	Addressed with response to Comment 109.
55	498	How do crash rates compare to statewide averages?	Crash rates were not developed/analyzed.
55	499	Be consistent w/ naming. Normal convention is to refer to ODOT routes by #s, not name.	Corrected.
55	500	Font	Corrected.
55	501	Resurfaced w/ safety edge, 2019.	Updated text.
55	502	Castalia;	Updated text.
55	503	Ehove is within segment limits.	Updated text.
56	504	Unclear	"north of Mason Rd"
56	505	"ecently"	Corrected.
56	506	Resurfaced ~2019? (check w/ ODOT). Edge, CL rumble strips, etc.	Updated text. In 2017 sequential flashing chevrons were added at one curve and the surface was micromilled to improve friction values US 6 SLM 2.22 - 2.32.
56	507	Widened, resurfaced w/ safety edge in 2012.	Updated text.

Erie Region Safety Plan Disposition of Comments
February 2020

PDF Page	Comment Number	Comment	Resolution
57	508	SLM locations usually not self-evident to the lay person.	Included to clarify the segment for the maintaining authority.
57	509	Any work zone crashes?	The study is based on crash data. Individual locations were not investigated to determine specific cause; that is a next step.
57	510	Berlin Heights	Updated text.
57	511	"-"	Corrected.
57	512	"e"	Corrected.
57	513	Again 9 of 25 locations have already had improvements built or in the works. This study ostensibly should have identified 50 locations. Instead, it identifies 28 locations that truly haven't been addressed in on form or another. That's 56% of the work that should have been done.	The priority ranking is based on crash statistics. Location status is to be updated with location-specific information, as provided by members of the stakeholder committee. The intent of the study is to identify locations with significant crash issues and determine projects and strategies to be implemented to mitigate FSI crashes during the next 5 years. The number of locations included in the ranking was determined by the project team, with the intent of including sufficient locations for future projects, knowing that several locations will experience some level of treatment.
58	514	#10 is state	The state is a partner.
58	515	#7 is state	
58	516	"Erie Region" circled.	Addressed with response to Comment 109.
59	517	"Erie Region" circled.	Addressed with response to Comment 109.
59	518	1, 4, 11, 12, 19, & 20 are almost too short for the focus of this report – how to address quickly certain locations. Expected a broader focus.	Segments are identified based on crash statistics. Some represent projects that will be easier to implement than others.
Early Action Recommended Projects			
60	519	These are pretty general.	Updated text to clarify intent to refer to identified intersections and segments for safety mitigation treatments and measures. The recommended projects within this section are based on the frequency and severity of crashes at specified locations, as identified in Section 6, along with input from the Project Team and key stakeholders, for near term action (study/implementation). In addition to the projects located at specific intersection and on identified corridors, the plan recommends programmatic enhancements that could be implemented on a regional basis by the Erie Regional Planning Commission and stakeholder agencies.
60	520	So we spent pages 46-59 discussing strategies, locations, etc. and this is all that can be said here?	

Erie Region Safety Plan Disposition of Comments

February 2020

Erie Region Safety Plan Disposition of Comments – v2

March 2020

PDF Page	Comment Number	Comment	Resolution
ERPC COMMENTS – Carrie Whitaker			
Disposition of Comments			
2	1	4635 for Erie County and 5903 for Lorain County	Added to sentence to include the population split between the counties.
2	2	Not edited – text still shows 9	There is an average of eight fatal crashes and nine fatalities.
2	3	Not edited correctly in text	Rear-end updated to rear end.
2	4	York township—isn't that in Medina County—not even near us, is that right??	That is correct, there were a small amount of crashes logged to the wrong township, but the lat/long and crash reports indicate that they do fall within the study region. The location/townships were adjusted to the appropriate township.
3	5	Was this added? I didn't see it in the text?	Safety edge was added to the text at installed locations identified by the plans. Disposition response updated.
3	6	I have no preference. It may help to have it brighter to make easier for the reader.	Map updated.
6	7	See my text edits in the plan. I didn't add it to the text anywhere but we usually refer to the MPO area as all of Erie County including the Lorain County portion of the City of Vermillion	MPO boundary text added to executive summary.
6	8	I didn't see where this was included?	Lake shore and islands added to text as major tourist destinations.
7	9	A couple of additions and deletions needed in the list – see report	Changes made based on comments in report.
8	10	No resolution for this comment	Resolution box is merged with this comment and comment above, the page cut off makes it impossible to see. Row will be shifted to adjust for this.
8	11	I inserted "MPO" in the Figure 1 chart title. See Plan	Noted.
9	12	Fatal crashes? (serious injury highlighted)	Figure 2 shows the number of fatalities, figure 3 shows the number of serious injuries, and figure 4 shows the number of fatal and serious injury crashes.
9	13	Fyi – our LRTP is 25 year horizon if you are making reference here to that	Disposition updated from 20 to 25 years.
9	14	'r" should be capitalized here as it's part of a title. Looks like all the pages with titles need the "r" capitalized.	All places where this is not capitalized have been changed to be properly capitalized.
10	15	2017	Changed to be 2017.
11	16	Did York Township really have crash attributable to Erie County? It's just that York is located in Medina County and not a neighboring county to Erie.	That is correct, there were a small amount of crashes logged to the wrong township, but the lat/long and crash reports indicate that they do fall within the study region. The location/townships were adjusted to the appropriate township.

Erie Region Safety Plan Disposition of Comments – v2

March 2020

PDF Page	Comment Number	Comment	Resolution
12	17	You may want to add a sentence to explain a little more that EPDO also provides the estimated economic effect that a fatal/injury crash has on society [Comment 209]	Sentence added to disposition and report.
13	18	York Township? Not near Erie County at all.	That is correct, there were a small amount of crashes logged to the wrong township, but the lat/long and crash reports indicate that they do fall within the study region. The location/townships were adjusted to the appropriate township.
13	19	Green highlighted note needed on Figure 14	Note added explaining green highlighting beneath figure.
14	20	Text says trees were 14% of fixed object crashes but chart shows 9%	Text changed to 9%.
16	21	Didn't see this added. [Comment 266]	"related" was added to text.
16	22	Hard to tell – recheck font as it looks like #2 is bolded ?? [Comment 276]	Text checked. Emphasis area list is italicized and bolded.
16	23	Last sentence could be removed, already mentioned in rewritten text above. [Comment 262]	Sentence removed from the report.
17	24	Chart shows projected increase in fatal and decrease in SI [Comments 285, 286, 287]	Text in disposition updated.
17	25	Recheck labels. [Comment 299]	Labels checked.
17	26	Title wasn't updated to include jurisdiction. [Comment 301]	Title was rewritten to include jurisdiction at the end.
20	27	Add jurisdiction? [Comment 335]	Added.
22	28	Add jurisdiction? [Comment 336]	Added.
22	29	Text in plan doesn't match this [Comment 367]	Text in disposition updated to match text in plan.
24	30	And jurisdiction? [Comment 393]	Added.
24	31	I defer to ODOT on this one as it's part of their template. [Comment 401]	Text updated to "WHAT" as discussed on call with ODOT.
26	32	Not proven so probably remove. Maybe reword – work with local business and school districts on initiatives that remind drivers to stay focused on driving?? [Comment 439]	Mitigation strategy updated.
26	33	Edit action? Work with safety stakeholders to promote safe driving information across the ERPC region? [Comments 440, 441, 442]	Mitigation strategy updated.
26	34	Proposed state legislation pending to make primary offense for all drivers. Maybe edit wording to reflect. [Comment 443]	Text in disposition updated to include this.
26	35	I think he means this was already done with heat mapping. [Comment 445]	Response updated in disposition.
27	36	I believe he means that this was already done with Figure 46. [Comment 446]	Response updated in disposition.
27	37	Yes, delete. [Comment 452, 453, 454]	Deleted from report.
29	38	Missing comment resolution. I think this partners with comment number 508. Maybe you can add SLM in the parenthesis in the	SLM and additional clarification added.

Erie Region Safety Plan Disposition of Comments – v2

March 2020

PDF Page	Comment Number	Comment	Resolution
		chart, then add a note at the bottom of the chart defining what SLM is?? [Comment 504]	
29	39	I noted and inserted couple of text edits on p. 56. [Comment 499]	Noted.
29	40	I know in 2017 sequential flashing chevrons were added at one curve and the surface was micromilled to improve friction values US-6 SLM 2.22-2.32. [Comment 506]	Information added to disposition and report.
30	41	Grammar here [Comment 513]	Text updated in disposition.
Local Road Safety Plan			
3	42	We definitely have more crashes than 2,401 for over a 9-year period. This number is more likely a yearly total for us. ?	Text updated to 2,401 injury crashes.
3	43	Also, 9 fatalities still doesn't match what is reported for annual averages in figures 5 and 7.	The averages are eight fatal crashes and nine fatalities.
3	44	MPO [add before "planning area is referred to..."]	Added to text.
3	45	the [Add before "ERPC planning area is located..."]	Added to text.
3	46	Metropolitan Planning Organization (MPO) [Add before "planning area is located..."]	Added to text.
3	47	You will need to edit the resolution text under Matt Rogers comment section	Text updated in disposition.
4	48	9 Years	Text changed to 9.
5	49	Add Village of Milan, Sandusky Police Department, Ohio Department of Transportation – Central Office	Added into the list
5	50	Capitalize "r" in regional	"R" capitalized in text.
5	51	Remove "Erie County Clerk"	Removed text.
5	52	Remove "Edison Local Schools". Already listed above.	Removed text.
5	53	Add "Board of" before "Erie County Commissioner"	Added to text.
5	54	Add "s" to end of "Commissioner"	Added to text.
5	55	Remove "Erie County Commissioner's Office"	Removed from text.
5	56	Remove "Erie County Sanitary Engineer"	Removed from text.
5	57	Erie County Department of Environmental Services	Added to text.
5	58	Serving Our Seniors	Added to text.
8	59	Add MPO in Figure 1 caption	Added to text.
8	60	4,635 in Erie County, 5,903 in Lorain County	Added to text.
8	61	Our Long-Range Plan is 25 years	Changed to 25 in text.
12	62	Capitalize "r" when part of title; check other pages	Capitalized "R".
12	63	Add "0" to 217 for date	Added "0".
12	64	Delete extra space [at beginning of 4.1]	Deleted extra space.
13	65	Capitalize "r" in title	Capitalized "R".
14	66	Capitalize "r" in title	Capitalized "R".
15	67	Capitalize "r" in title	Capitalized "R".

Erie Region Safety Plan Disposition of Comments – v2

March 2020

PDF Page	Comment Number	Comment	Resolution
15	68	Lowercase "R" in Erie Region	Changed to lowercase.
16	69	Capitalize "r" in title	Capitalized "R".
16	70	"rear" to "rear end"	Added "rear" in text.
17	71	Capitalize "r" in title	Capitalized "R".
18	72	Capitalize "r" in title	Capitalized "R".
19	73	Add green highlight note at bottom of chart	Added note to explain green highlighting.
19	74	Capitalize "r" in title	Capitalized "R".
20	75	Capitalize "r" in title	Capitalized "R".
21	76	Capitalize "r" in title	Capitalized "R".
21	77	Chart below shows 9% [in reference to 14%]	Changed to 9%.
22	78	Capitalize "r" in title	Capitalized "R".
23	79	Already mentioned in text above [that most crashes occur at four-way stops]	Text removed from report.
23	80	Capitalize "r" in title	Capitalized "R".
24	81	Capitalize "r" in title	Capitalized "R".
24	82	Page number "23" highlighted	Nothing updated.
26	83	Add word "related" [between "percent of" and "crashes"]	Added "related" to text.
26	84	Recheck font. Looks like number 2 is bold?	Ensured numbers have same formatting.
27	85	The fatal increase and the SI decrease	Corrected text to explain figure correctly.
28	86	Label [0-15 age range]	% of crashes added.
28	87	Show percent?	% of crashes added.
28	88	Add "and Jurisdiction" to title? [Figure 25]	Added "and Jurisdiction" to label.
33	89	Add "Jurisdiction to title? [Figure 34]	Added "and Jurisdiction" to label.
34	90	"Number" is highlighted [Figure 35]	Nothing updated.
38	91	Add "and Jurisdiction"?	Added "and Jurisdiction" to label.
39	92	Text still needs edited [for When?]	Text updated in disposition.
43	93	Labels? [on the graph data]	
43	94	Add "and Jurisdiction"? [Figure 53 and text]	Added "and Jurisdiction" to label and text.
51	95	Work with safety stakeholders to promote safe driving across the MPO region??	Added to text.
51	96	Delete action as not proven technique. Maybe reword to say – work with local business and school districts on informational initiatives that remind drivers to stay focused on driving??	Action updated.
52	97	See my notes on the disposition of comments page	Action updated.
53	98	Delete this action	Action deleted.
57	99	SR-6 should be US-6	Changed to US-6.
57	100	Both of these roads are really SR-269. Prairie Road is SR-269 South. Martins Point Rd. is SR-269 North.	Changed text to accurately reflect street names.
57	101	SR-99 [Skadden Rd]	Added SR-99 into text.