MORPC
MID-OHIO REGIONAL PLANNING COMMISSION

STATE OF SAFETY REPORT (2013 - 2017)

JANUARY 2019

MORPC STAFF RESPONSIBLE FOR THE 2013-2017 STATE OF SAFETY REPORT
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The State of Safety Report was prepared by the Mid-Ohio Regional Planning Commission (MORPC), 111 Liberty St., Columbus, OH 43215, 614-228-2663, with funding from the Federal Highway Administration, Federal Transit Administration, Ohio Department of Transportation, and Delaware, Fairfield, Franklin, Licking, and Union counties. The contents of this report reflect the views of MORPC which is solely responsible for the information presented herein.

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EXECUTIVE SUMMARY

The Mid-Ohio Regional Planning Commission (MORPC) is the principal public agency conducting regional transportation studies for the Central Ohio area because it serves as the designated Metropolitan Planning Organization (MPO) for the Columbus Urbanized Area. It covers Franklin County, Delaware County and portions of Licking, Fairfield and Union counties. As an MPO, MORPC must seek to increase the safety of the transportation system for motorized and non motorized users. MPOs must also coordinate with state departments of transportation to develop performance measures that aim to realize a significant reduction in traffic fatalities and serious injuries on all public roads.

Since 2005, MORPC has analyzed regional crash data in order to better understand regional crash trends. The majority of crash data represented within this document is received from standardized police reports (OH-1) that are generated each time a traffic crash occurs and law enforcement responds. This data includes crash type, crash severity, recorded contributing factors, road condition, and driver behavior factors including speed, age, alcohol, and drugs. The Ohio Department of Public Safety (ODPS) is responsible for compiling, analyzing, and publishing crash data and statistics in the State of Ohio. ODPS works closely with the Ohio Department of Transportation (ODOT) to disseminate this information to various safety partners within the state for the purposes of identifying transportation safety issues and determining which strategies seem most appropriate to address them, whether they be engineering, education, enforcement, or emergency services. The information that follows is meant to provide a comprehensive picture of the state of transportation safety within the Central Ohio region, as well as provide insight into opportunities for further reducing serious injuries and fatalities.

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REGIONAL OVERVIEW

SECTION 1

OVERALL CRASH STATISTICS

Between 2013 and 2017, a total of 196,792 crashes were reported within MORPC's Transportation Planning Area. Of the over 498,131 people involved in these crashes, 528 were fatally injured and 4,323 suffered serious injuries. An over 21 percent increase in total crashes occurred between 2013 and 2017, while fatal injuries increased by 34.6 percent over the 5 year period. The number of serious injuries decreased by slightly more than 4 percent.

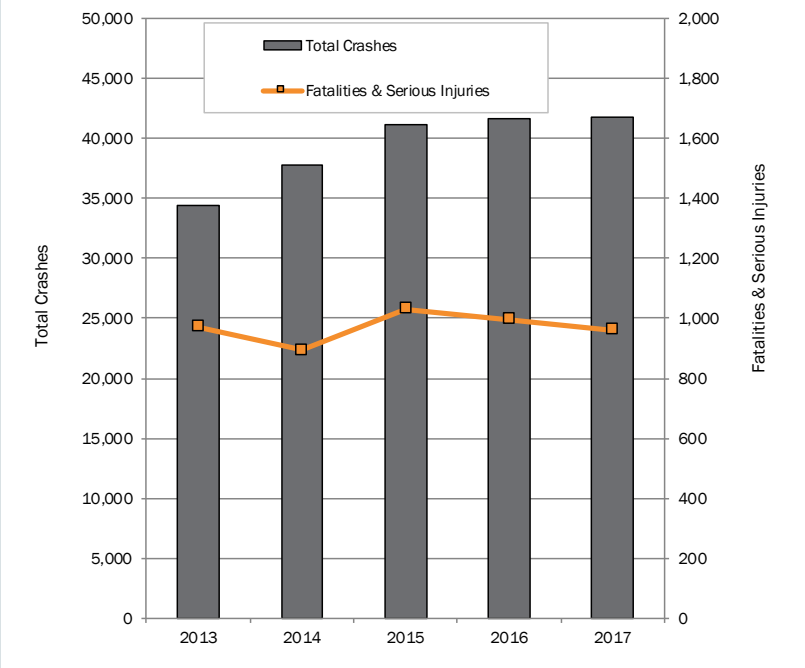
CRASH TRENDS BY YEAR (2013 TO 2017)

YEAR	CRASH STATISTICS				OCCUPANT STATISTICS					SAFETY METRICS		
	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Fatalities	Serious Injuries	Minor Injuries	No Injuries	Total People Involved	Injury Rate	EPDO	Fatalities and Serious Injuries per 100,000 population
2013	81	8,783	25,583	34,447	90	882	11,694	75,312	87,978	25.73%	2.97	66.20
2014	84	9,341	28,339	37,764	91	803	12,377	82,039	95,310	24.96%	2.78	60.13
2015	96	10,488	30,576	41,160	108	922	14,177	88,973	104,180	25.71%	2.86	68.17
2016	115	10,863	30,694	41,672	124	871	14,642	89,566	105,203	26.34%	2.86	66.37
2017	109	10,990	30,650	41,749	115	845	14,718	89,782	105,460	26.59%	2.84	61.73
5-Year Total	485	50,465	145,842	196,792	528	4,323	67,608	425,672	498,131			
Annual Average	97	10,093	29,168	39,358	106	865	13,522	85,134	99,626	25.9%	2.86	65
Pct. Change, 2013-2017	34.6%	25.1%	19.8%	21.2%	27.8%	-4.2%	25.9%	19.2%	19.9%	3.3%	-4.3%	-6.8%

Notes
- Shaded orange cells indicate the year with the highest value for each respective column.
- The Equivalent Property Damage Only (EPDO) index is calculated by the following formula: *[(39.24 x (#FatalCrashes + #SeriousInjuryCrashes) + (6.55 x #MinorInjuryCrashes) + (4.44 x #PossibleInjuryCrashes) + #NoInjuryCrashes] / #TotalCrashes.*

KEY FACTS:

- The total number of crashes reported in MORPC's Transportation Planning Area was 21.2 percent higher in 2017 compared to 2013.
- On average, around 273 people were involved in a car crash every day.
- On average, a fatal crash occurred every 4 days.
- Approximately one out of four crashes resulted in an injury; however 93 percent of those injuries were minor.
- While the injury rate increased by 3.3 percent between 2013 and 2017, the severity index (EPDO) decreased by 4.3 percent.



OVERALL CRASH TRENDS (2013 TO 2017)

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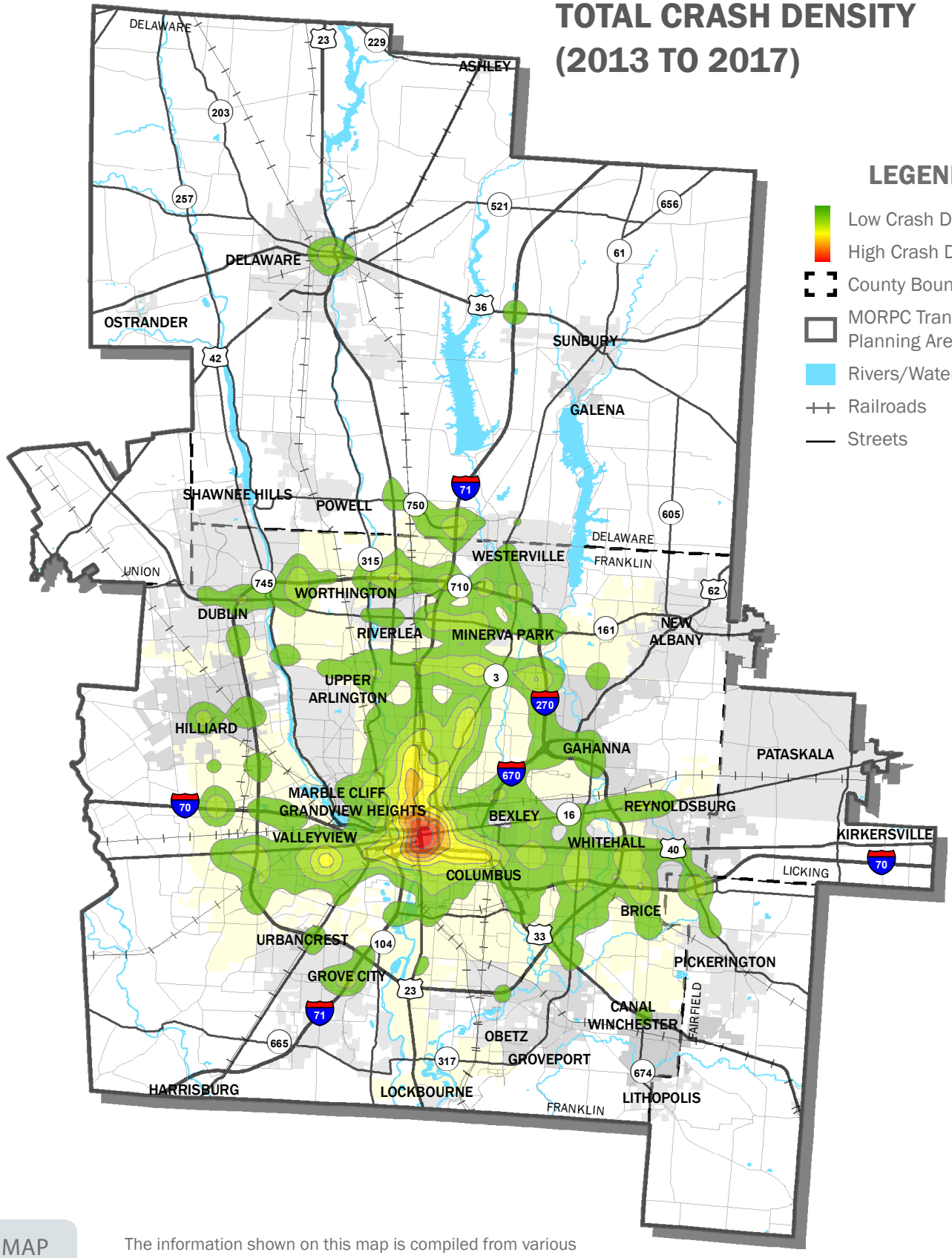
TOTAL CRASH DENSITY (2013 TO 2017)



MAP
1

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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REGIONAL PERFORMANCE

The MAP-21 and the FAST Act transformed the Federal-aid highway program by establishing new performance management requirements to ensure that State Departments of Transportation (DOT) and Metropolitan Planning Organizations (MPO) choose the most efficient investments for Federal transportation funds. The Safety Performance Measure Final Rule supports a data-driven performance focus by establishing five performance measures that carry out the Highway Safety Improvement Program (HSIP). They include the five-year rolling averages of:

1. **Number of Fatalities**
2. **Rate of Fatalities per 100 MVMT**
3. **Number of Non-motorized Fatalities & Serious Injuries**
4. **Number of Serious Injuries**
5. **Rate of Serious Injuries per 100 MVMT**

In coordination with the State DOT, MPOs are required to establish targets for these five performance measures considering all public roads in the MPO's planning area. As such, these five performance measures, and respective targets, were included in the most recent update of MORPC's Metropolitan Transportation Plan (MTP) under the goal of increasing transportation investments.

TRANSPORTATION SAFETY PERFORMANCE MEASURES

PERFORMANCE MEASURE	2015 BENCHMARK	2020		2040		2018 GRADE
		TARGET	TRACK	TARGET	TRACK	
Number of fatalities	96	-2%	1.7%	-20%	20.1%	✗
Number of serious injuries	890	-2%	-3%	-20%	-28.7%	✓
Number of non-motorized fatal & serious injuries	138	-2%	8.1%	-20%	135.3%	✗
Rate of fatalities per 100 million VMT	0.69	0.73	0.75	0.60	0.77	✗
Rate of serious injuries per 100 million VMT	6.40	5.99	5.87	4.90	3.96	✓

Notes
- The benchmark and targets represent five year rolling averages
- Million Vehicle Miles Traveled (MVMT)
- "TARGET" = Performance target included in the 2016-2040 MTP
- "TRACK" = Progress should current trends continue

✓ On track to meet target
✗ Not on track to meet target

YEAR-BY-YEAR COMPARISON OF SAFETY PERFORMANCE

YEAR	NUMBER OF FATALITIES	NUMBER OF SERIOUS INJURIES	NUMBER OF NON-MOTORIZED FATAL & SER INJ	RATE OF FATALITIES/ 100 MVMT	RATE OF SERIOUS INJ/ 100 MVMT
2011	102	949	115	0.74	6.87
2012	105	940	123	0.76	6.82
2013	98	922	125	0.71	6.65
2014	97	898	133	0.69	6.46
2015	100	883	138	0.72	6.35
2016	105	878	145	0.74	6.26
2017	107	866	145	0.74	6.11
TREND	↑ (Increasing)	↓ (Decreasing)	↑ (Increasing)	↑ (Increasing)	↓ (Decreasing)

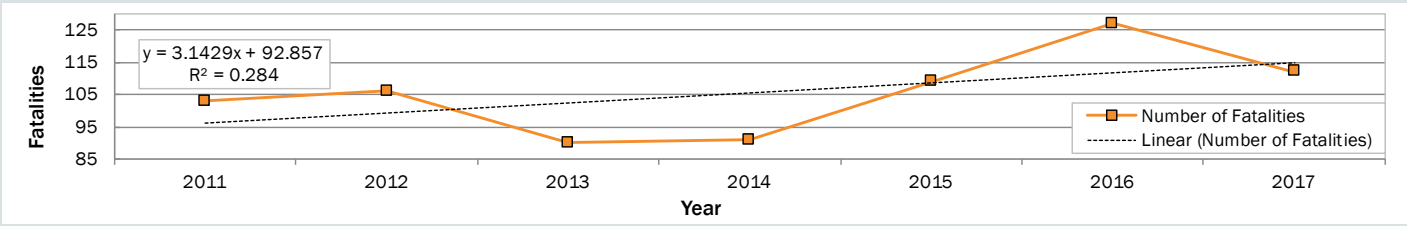
Notes
- The values shown represent five year rolling averages (ex. for 2013-2017) (90+91+109+127+112)/5=107)
- Shaded orange cells indicate the highest value for each respective column

KEY FACTS:

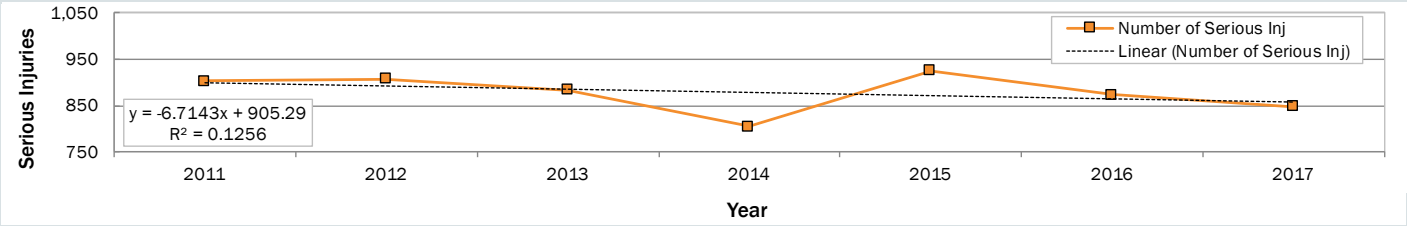
- The number of non-motorized fatal & serious injuries resulting from a collision with a motor-vehicle are increasing within the region.
- While for the most part fatalities remain stable and serious injuries continue to trend downward, the Central Ohio Region is not on track to meet 3 of the 5 transportation safety performance targets established in the 2016-2040 Metropolitan Transportation Plan.
- If current trends continue, between 2017-2020 there will be on average 106 fatalities and 840 serious injuries per year.

REGIONAL PERFORMANCE

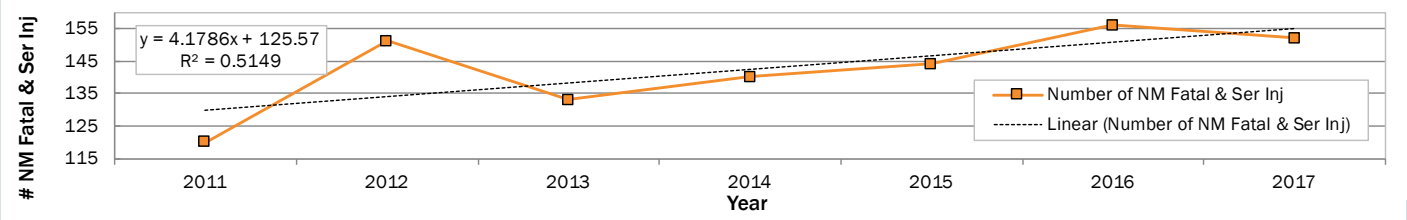
The figures below show a year-by- year comparison of the five transportation safety performance measures dicussed earlier, along with a linear trend line:



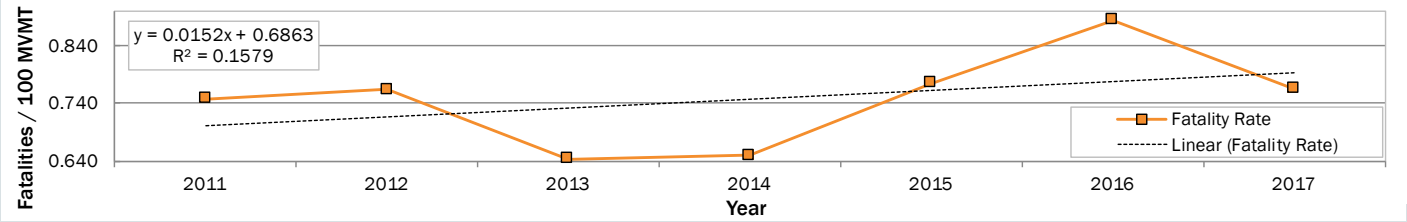
NUMBER OF FATALITIES



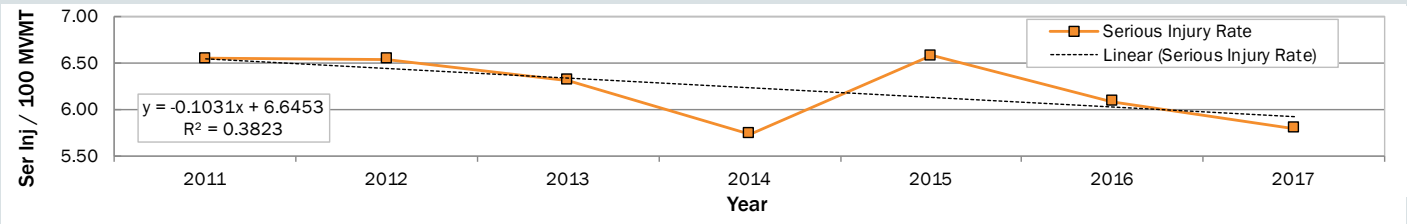
NUMBER OF SERIOUS INJURIES



NUMBER OF NON-MOTORIZED FATAL & SERIOUS INJURIES



RATE OF FATALITIES PER 100 MVMT



RATE OF SERIOUS INJURIES PER 100 MVMT

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SERIOUS CRASH TYPES

SECTION 2

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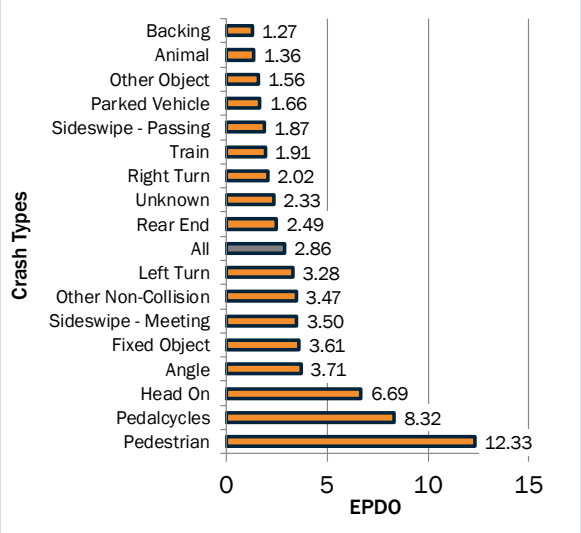
CRASH TYPES

While every crash is unique, they are often categorized according to the circumstances of the crash. Categorizing crashes in this way is an important step, as each crash type indicates a particular problem that may be addressed through a targeted engineering, enforcement, or behavioral countermeasure.

KEY FACTS:

- From 2013 to 2017, there were 64,756 rear-end crashes in Central Ohio, making this the most common crash type. Fortunately, only one percent of rear-end crashes resulted in a fatality or serious injury.
- Fixed-object crashes represented the fourth most frequent crash type, but accounted for the largest share of fatal and serious injury crashes (19.1 percent).
- Over 20 percent of reported pedestrian crashes and 9.6 percent of reported bicycle crashes resulted in a fatality or serious injury. Pedestrian crashes have a significant Equivalent Property Damage Only (EPDO) score, which indicates a crash type with high levels of serious injuries or fatalities.
- Since 2013, the region has experienced an increase in several crash types, including Head On & Sideswipe/Meeting, Angle, and Rear End & Sideswipe/Passing.



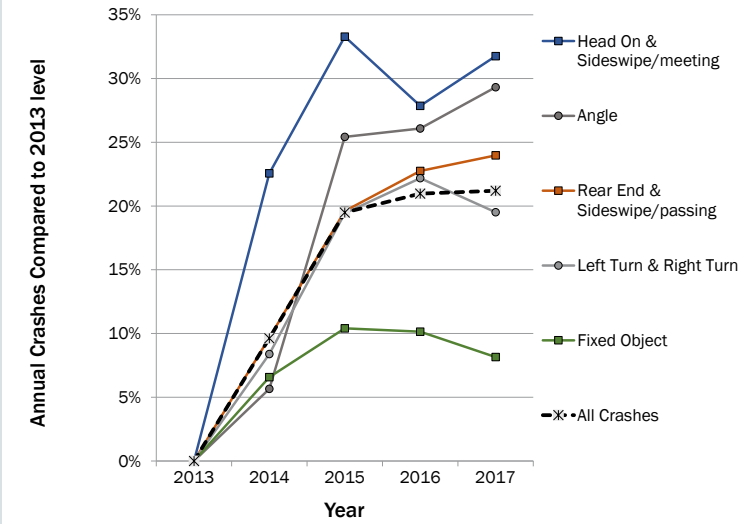
EPDO FOR SELECT CRASH TYPES

Notes
- The Equivalent Property Damage Only (EPDO) index is calculated using the following formula: *[(39.24 x (#FatalCrashes + #SeriousInjuryCrashes) + (6.55 x #MinorInjuryCrashes) + (4.44 x #PossibleInjuryCrashes) + #NoInjuryCrashes] / #TotalCrashes.*

CRASH TYPE BY FREQUENCY AND SEVERITY

CRASH TYPE	TOTAL CRASHES	CRASH SEVERITY					FSI RATE
		Fatal	Serious Injury	Minor Injury	No Injury	Possible Injury	
Rear End	64,756	50	619	6,297	47,313	10,477	1.0%
Sideswipe - Passing	30,284	11	237	1,718	26,163	2,155	0.8%
Left Turn	21,960	31	490	3,387	14,785	3,267	2.4%
Fixed Object	20,421	147	645	2,861	14,671	2,097	3.9%
Angle	18,844	38	528	3,245	11,716	3,317	3.0%
Parked Vehicle	11,338	4	78	544	10,321	391	0.7%
Backing	6,631	1	12	99	6,312	207	0.2%
Right Turn	6,203	0	49	466	5,143	545	0.8%
Animal	4,057	0	9	115	3,799	134	0.2%
Head On	2,804	50	221	663	1,318	552	9.7%
Pedestrian	2,767	98	468	1,314	189	698	20.5%
Other Non-Collision	1,734	3	58	236	1,251	186	3.5%
Sideswipe - Meeting	1,615	18	49	169	1,225	154	4.1%
Pedalcycles	1,410	14	121	728	220	327	9.6%
Other Object	907	1	5	31	839	31	0.7%
Overturning	666	17	62	225	242	120	11.9%
Unknown	369	1	7	20	320	21	2.2%
Train	16	0	0	2	13	1	0.0%
Other Non-Vehicle	8	0	1	2	2	3	12.5%
Falling From Or In Vehicle	1	1	0	0	0	0	100.0%

Notes
- Shaded yellow cells indicate the crash type with the highest value for each respective column.
- FSI Rate refers to the percentage of crashes resulting in a fatality or serious injury



SELECT CRASH TYPE TRENDS (2013 TO 2017)

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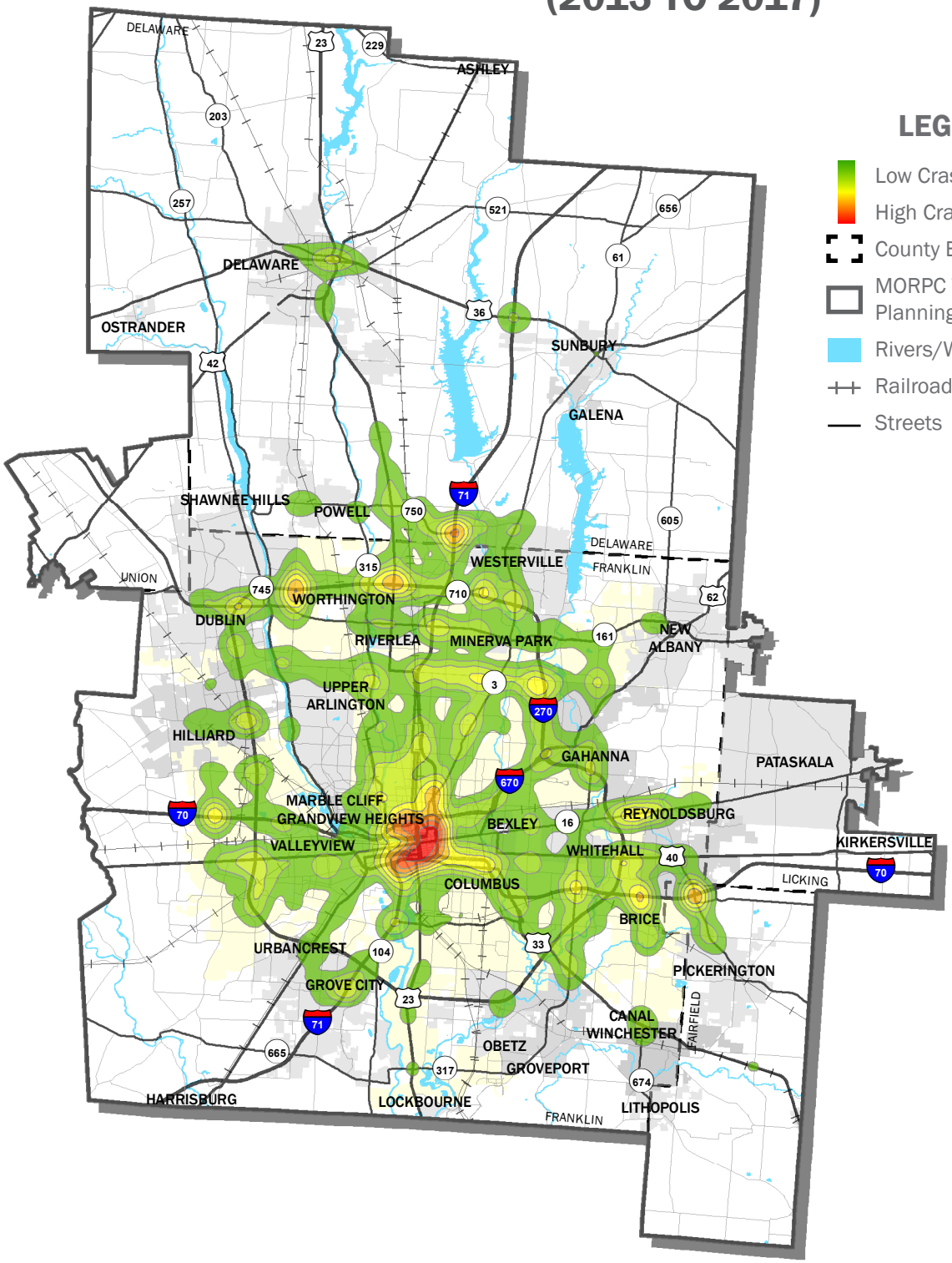
REAR-END CRASH DENSITY (2013 TO 2017)



LEGEND

- Low Crash Density
- High Crash Density
- County Boundary
- MORPC Transportation Planning Area
- Rivers/Water
- Railroads
- Streets

MAP
2

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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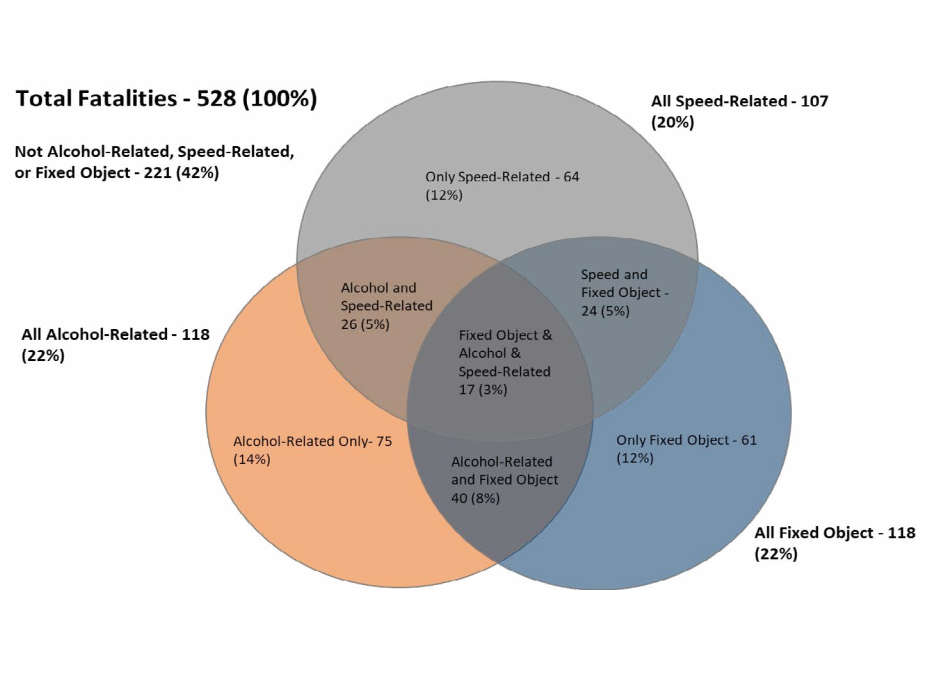
FIXED OBJECT CRASHES

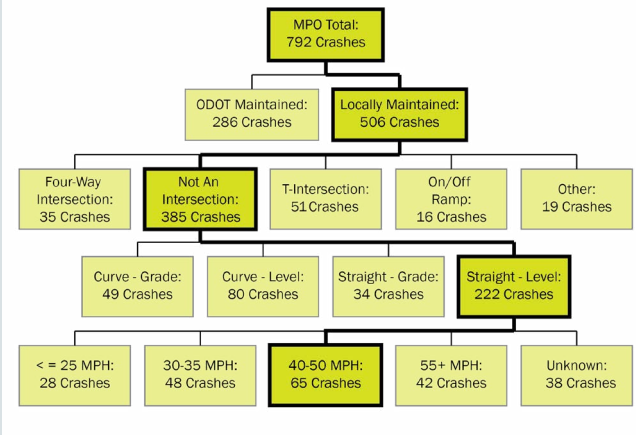
Fixed object crashes regionally account for the largest number of both fatalities and serious injury crashes. Fixed object crashes occur when a motorist leaves the roadway and strikes a stationary object such as a tree or utility pole. Between 2013 and 2017, of the 20,421 fixed object crashes that occurred, 147 were fatal crashes, while 645 were serious injury crashes.

KEY FACTS:

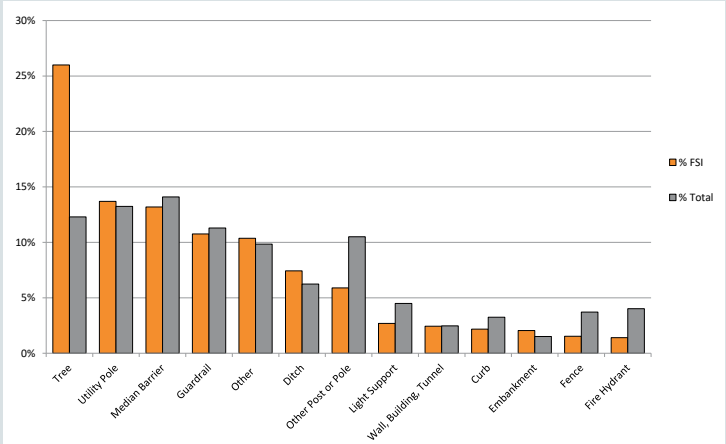
- Fixed object crashes accounted for only 10 percent of all crashes, but 30 percent of all fatal crashes.
- 58 percent of all fatalities involved alcohol, speeding, striking a fixed object or a combination thereof.
- 11 percent of all fatalities occured when a driver struck a fixed object under the influence of alcohol.
- Median barriers, trees, curbs, and utility poles were the most commonly struck fixed objects.
- Tree related crashes represented 12 percent of all fixed object crashes, but nearly 25 percent of fatal and serious injury crashes.
- Fixed object crashes occured most often on straight, level roadway segments.



PRIMARY CONTRIBUTING FACTORS (FATALITIES)



FIXED OBJECT CRASH TREE DIAGRAM (FATAL AND SERIOUS INJ. CRASHES)



PERCENT FATAL & SERIOUS INJURY (FSI) BY OBJECT STRUCK

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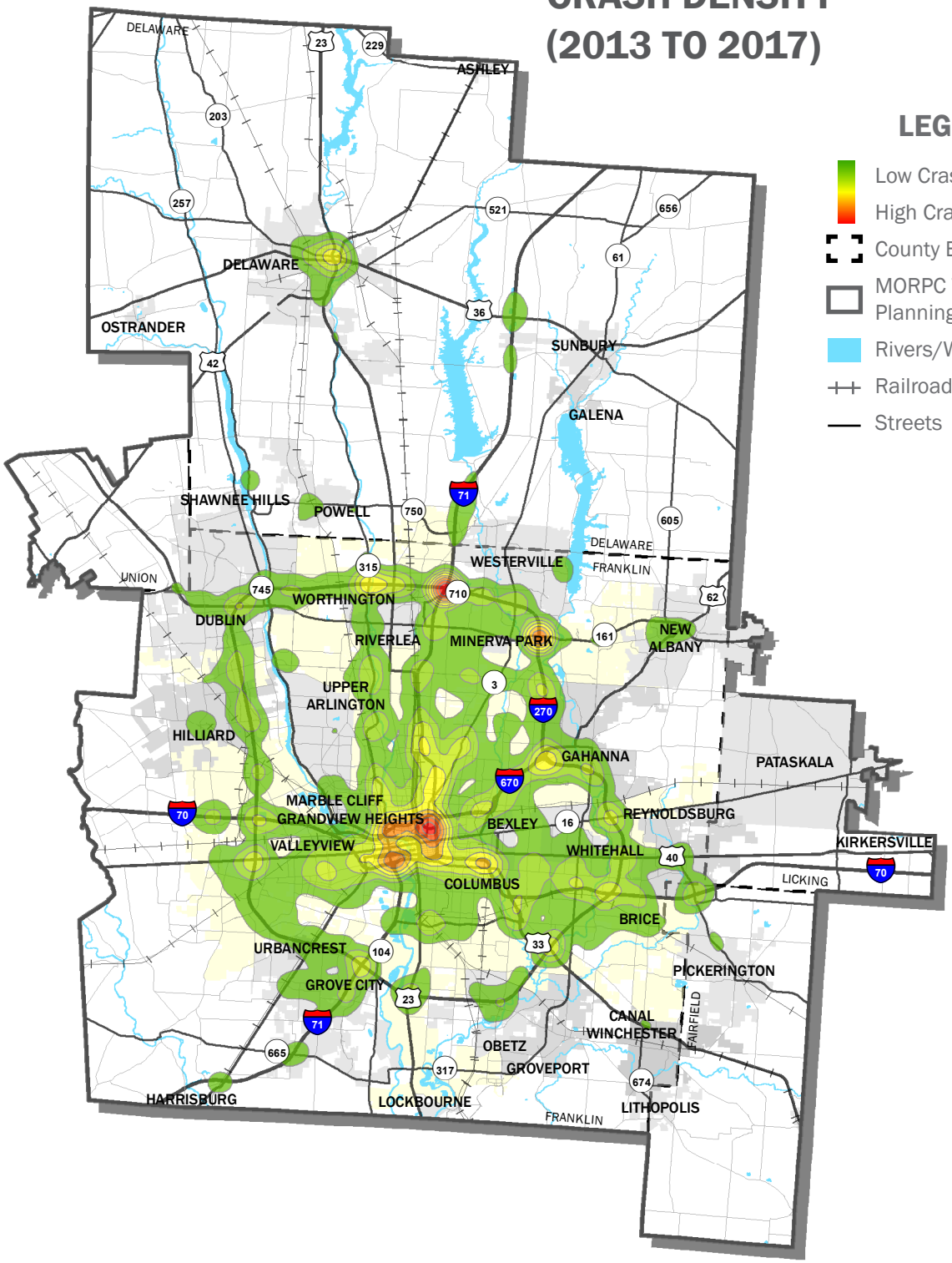
FIXED OBJECT CRASH DENSITY (2013 TO 2017)



LEGEND

- Low Crash Density
- High Crash Density
- County Boundary
- MORPC Transportation Planning Area
- Rivers/Water
- Railroads
- Streets

MAP
3

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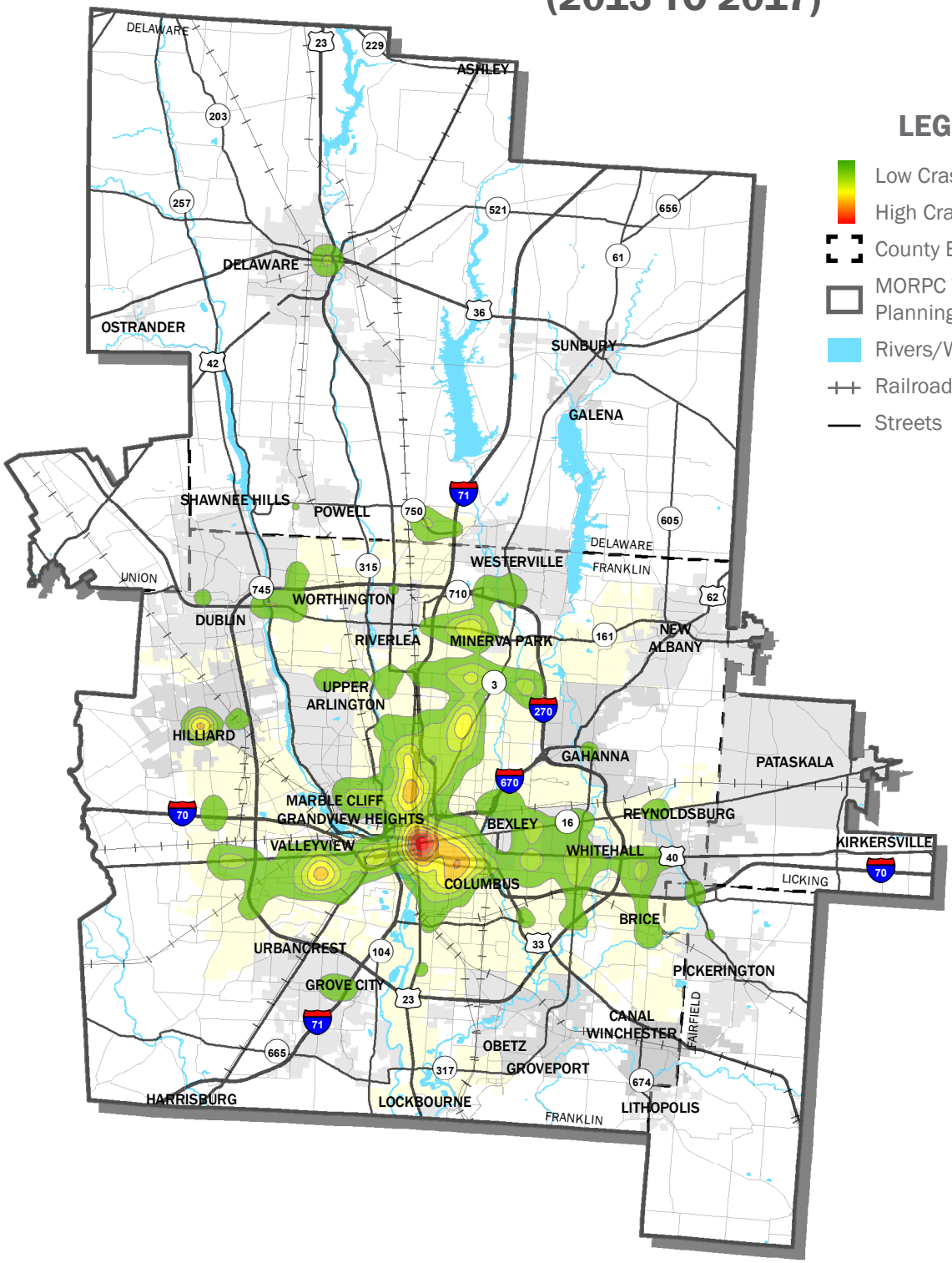
ANGLE CRASH DENSITY (2013 TO 2017)



MAP
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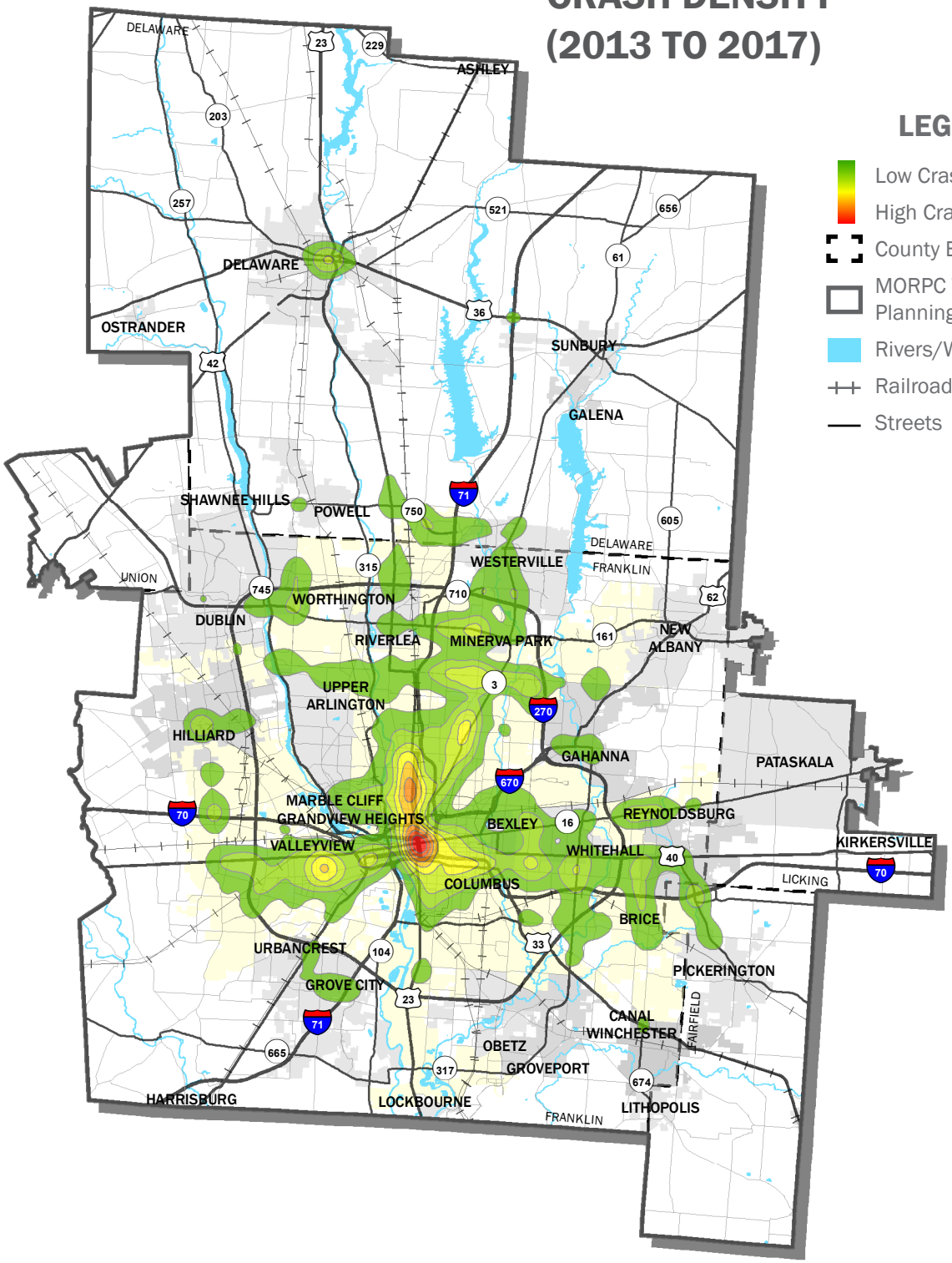
NON-FREEWAY CRASH DENSITY (2013 TO 2017)



LEGEND

- Low Crash Density
- High Crash Density
- County Boundary
- MORPC Transportation Planning Area
- Rivers/Water
- Railroads
- Streets

MAP 5

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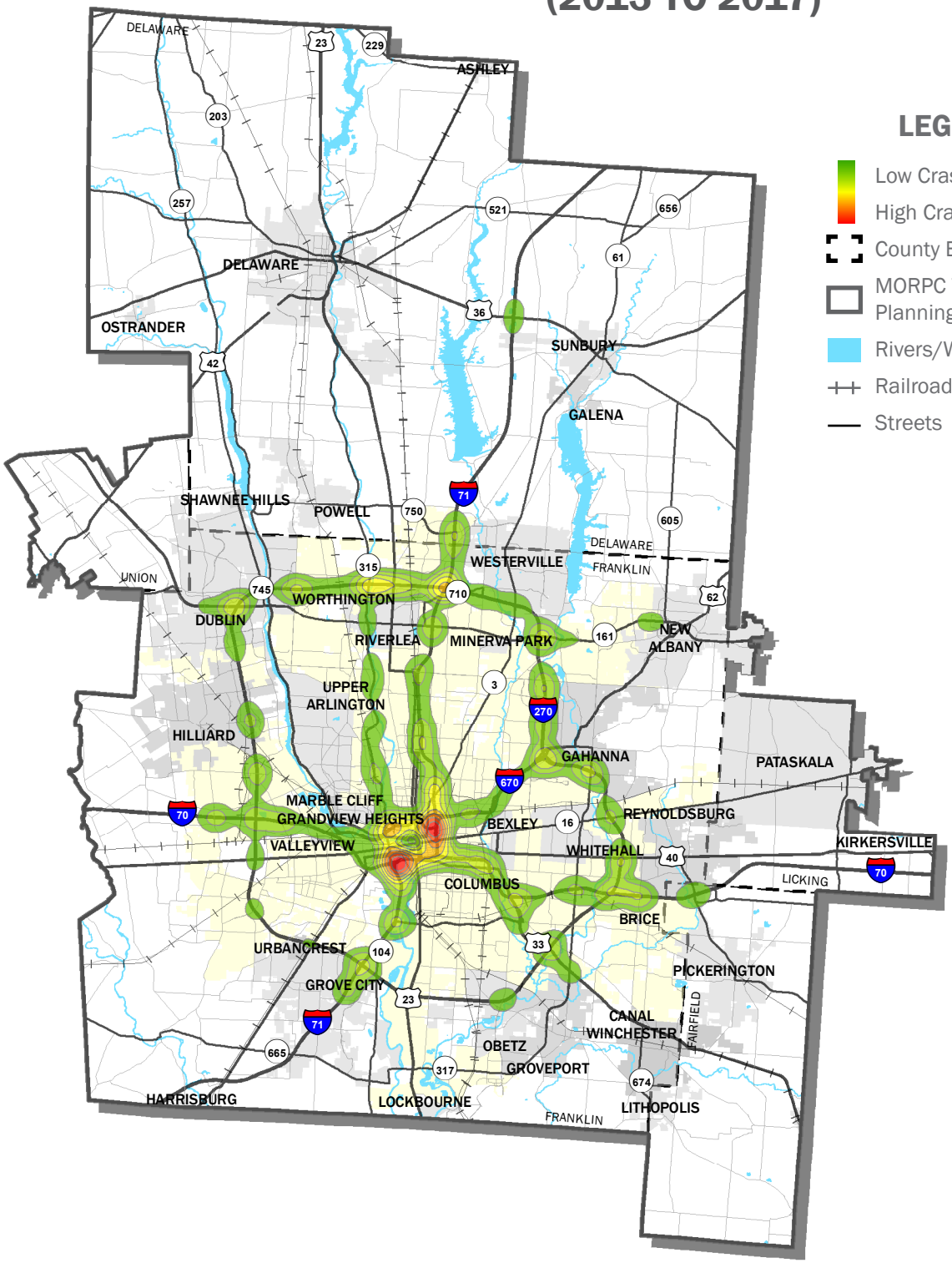
FREEWAY CRASH DENSITY (2013 TO 2017)



LEGEND

- Low Crash Density
- High Crash Density
- County Boundary
- MORPC Transportation Planning Area
- Rivers/Water
- Railroads
- Streets

MAP
6

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HIGH RISK DRIVERS AND BEHAVIORS

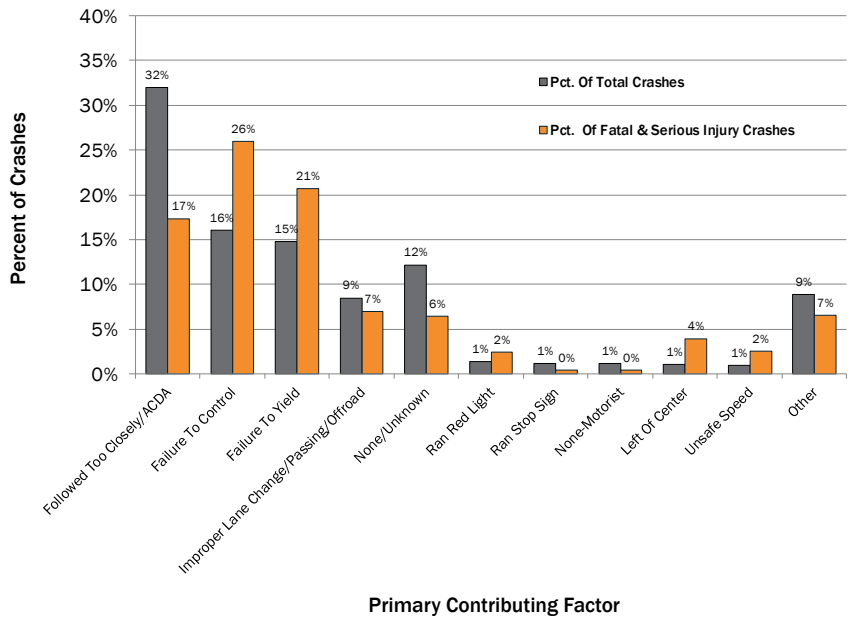
SECTION 3

CONTRIBUTING FACTORS & ROADWAY CONDITIONS

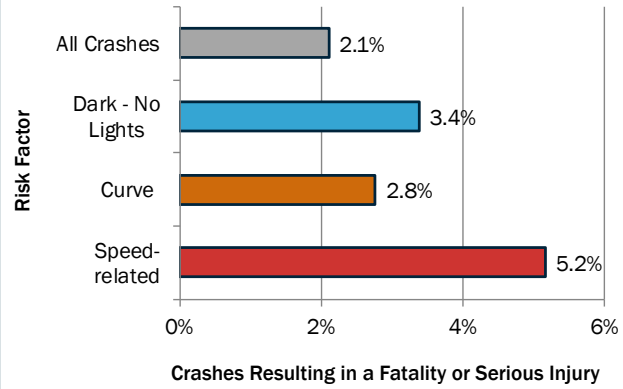
The factors leading up to a crash provide engineers and law enforcement officials with valuable information needed to reduce the severity and frequency of future crashes. In this regard, behavioral aspects, along with infrastructure and environmental conditions, must be considered. The statistics shown here refer to the contributing factor for the at-fault vehicle (the *Unit in Error* as noted on the crash report).

KEY FACTS:

- *Following too closely* was the most common contributing factor, accounting for around 32 percent of all crashes.
- *Failure to control* accounted for only 16 percent of all crashes, but 26 percent of fatal & serious injury crashes.
- Around 3.4 percent of crashes occurring under dark, unlit conditions resulted in a fatality or serious injury, compared to 1.8 percent during daylight conditions.
- Speed-related crashes were more than twice as likely to result in a fatal or serious injury than other crashes.
- Over 3.38 percent of single-car crashes resulted in a fatality or serious injury compared to less than 1.7 percent of crashes involving two vehicles.



PRIMARY CONTRIBUTING FACTORS (EXCLUDING PED/BIKE)



RISK FACTORS FOR FATAL & SERIOUS INJURIES

EFFECT OF SPEEDING & NUMBER OF UNITS ON SEVERITY

Number of Units Involved in Crash		1	2	3 or more	Total
Not Speed-Related	Total Crashes	22,683	140,160	16,887	179,730
	FSI Crashes	660	2,196	559	3,415
	FSI Rate	2.9%	1.6%	3.3%	1.9%
Speed-Related	Total Crashes	4,818	8,101	1,460	14,379
	FSI Crashes	269	357	115	741
	FSI Rate	5.6%	4.4%	7.9%	5.2%
All Crashes	Total Crashes	27,501	148,261	18,347	194,109
	FSI Crashes	929	2,553	674	4,156
	FSI Rate	3.38%	1.7%	3.67%	2.1%

Notes
- These data include only those crashes where a determination was made as to whether the crash was speed-related.
- The shaded yellow cells indicate the highest value for each row.
- FSI Crashes = the number of fatal and serious injury crashes.
- FSI Rate = the percent of crashes that resulted in a fatal or serious injury.

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ALCOHOL-RELATED FATALITIES & SERIOUS INJURIES

Alcohol is a suspected factor in many of the fatal and serious injury crashes in MORPC's Transportation Planning Area. Between 2013 and 2017, an average of 28 people died in alcohol-related crashes each year and close to 124 more sustained serious injuries. For the purposes here, a fatality or serious injury is classified as *alcohol-related* if the reporting officer suspected the driver, pedestrian, or bicyclist of the at-fault vehicle of being under the influence of alcohol.

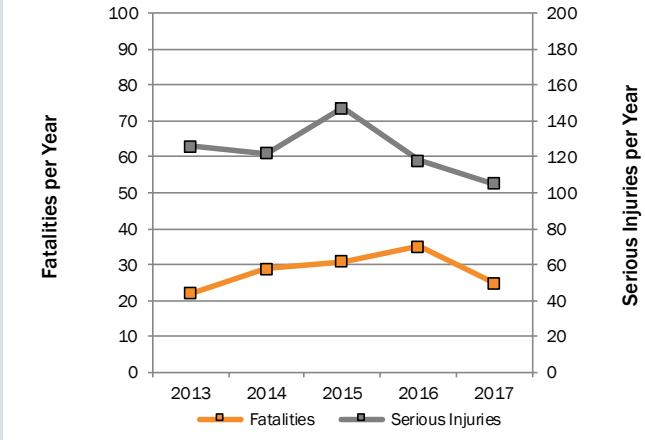
KEY FACTS:

- From 2013 to 2017, alcohol was suspected in 27 percent of all fatalities and 14 percent of serious injuries.
- Alcohol was suspected in around 38 percent of all fatalities resulting from sideswipe-passing crashes.
- Alcohol was suspected in around 30 percent of all serious injuries resulting from fixed-object crashes.
- Alcohol-related serious injuries decreased but alcohol-related fatalities rose slightly between 2013 and 2017.

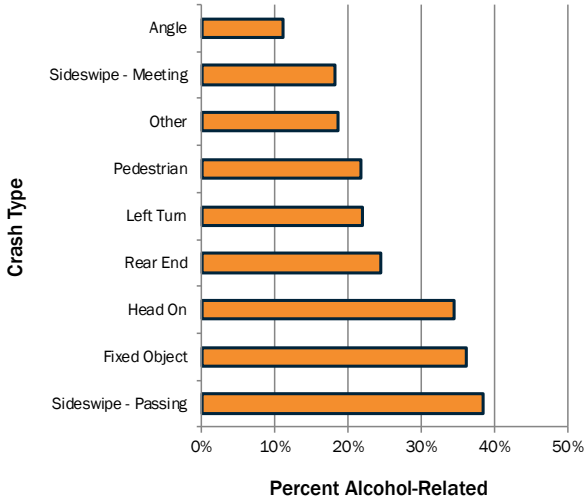
ALCOHOL-RELATED FATALITIES & SERIOUS INJURIES BY CRASH TYPE

CRASH TYPE	FATALITIES				SERIOUS INJURIES			
	Total Fatalities	Alcohol-Related Fatalities	% Alcohol-Related	% All Fatalities (Alcohol-Related)	Total Serious Injuries	Alcohol-Related Serious Injuries	% Alcohol-Related	% All Serious Injuries (Alcohol-Related)
Angle	45	5	11%	1%	663	54	8%	1%
Fixed Object	158	57	36%	11%	725	214	30%	5%
Head On	61	21	34%	4%	326	74	23%	2%
Left Turn	32	7	22%	1%	590	3	1%	0%
Pedestrian	101	22	22%	4%	495	68	14%	2%
Rear End	53	13	25%	2%	739	86	12%	2%
Sideswipe - Meeting	22	4	18%	1%	66	10	15%	0%
Sideswipe - Passing	13	5	38%	1%	281	30	11%	1%
Other	43	8	19%	2%	438	79	18%	2%
Total	**528**	**142**	**27%**	**27%**	**4,323**	**618**	**14%**	**14%**

Notes
- The column titled *%All Fatalities/Serious Injuries (Alcohol-Related)* refers to the percent of all fatalities or serious injuries that are attributable to alcohol-related crashes of the particular crash type. For example, alcohol-related fixed-object crashes account for 15% of all fatal crashes and 7% of all serious injury crashes.
- Shaded yellow cells indicate the crash type with the highest value for each respective column. In this case, fixed-object crashes are the most problematic for alcohol-related crashes in all categories.



ALCOHOL-RELATED FATALITIES & SERIOUS INJURIES BY YEAR



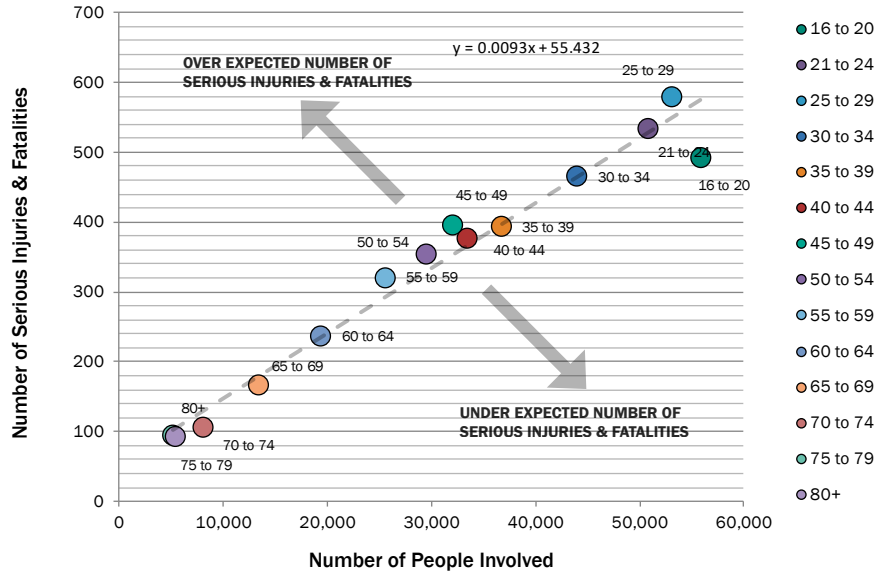
PERCENT OF FATALITIES RESULTING FROM ALCOHOL-RELATED CRASHES BY CRASH TYPE

OCCUPANT CHARACTERISTICS - AGE

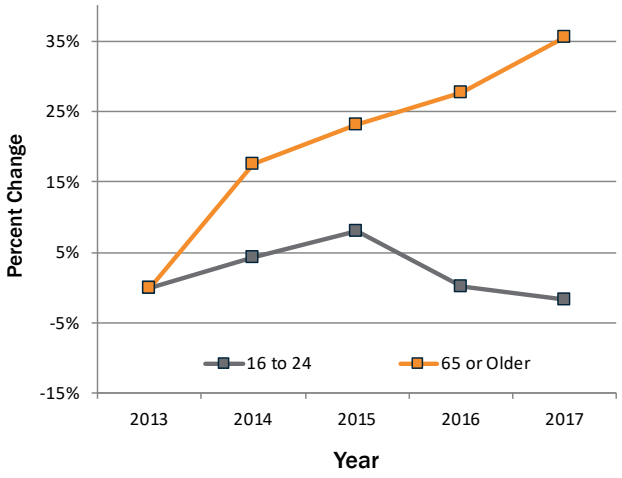
Of the factors that influence whether someone is involved in a crash and the severity of resulting injuries, driver experience and skill are important factors. Additionally, a person's age and underlying health may affect the extent of their injuries.

KEY FACTS:

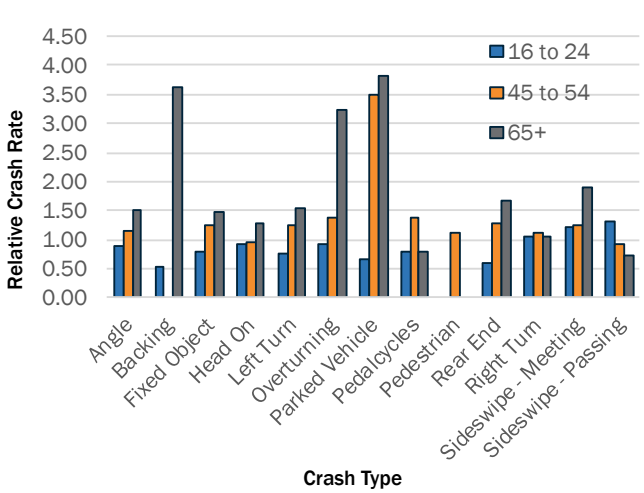
- While individuals between the ages of 25 and 29 accounted for the highest number of serious and fatal injuries, individuals between the ages of 45 and 49 were the most likely to suffer serious or fatal injuries when involved in a crash.
- Crashes attributed to senior drivers have increased by around 35 percent since 2013.
- The number of crashes with a teenager listed as the at-fault driver was around 12 percent higher in 2017, compared to 2013.
- Senior drivers were shown to have disproportionately high relative crash rates for Backing and Overturning crashes, compared to other age groups.



NUMBER PEOPLE INVOLVED IN CRASHES BY NUMBER OF SERIOUS INJURIES & FATALITIES



CRASH TREND BY AGE OF AT-FAULT DRIVER - SELECT AGE GROUPS



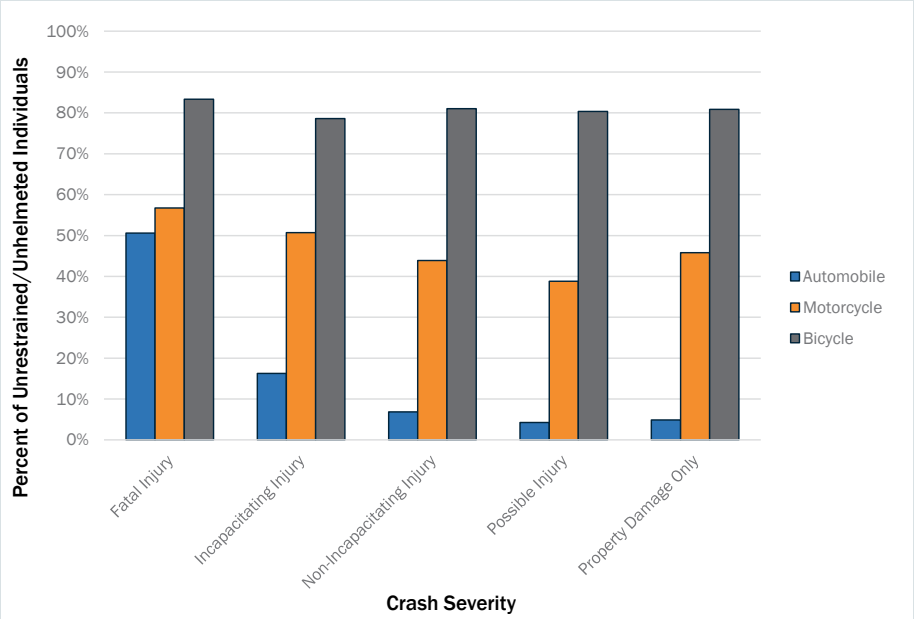
RELATIVE CRASH RATE BY CRASH TYPE AND AGE GROUP

OCCUPANT CHARACTERISTICS - RESTRAINT USAGE

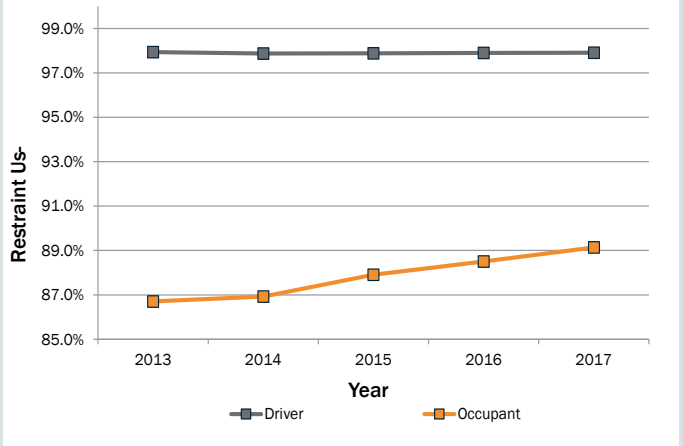
The usage of safety features found in vehicles involved in crashes influences the presence and severity of injuries experienced by occupants. Between 2013 and 2017, 51 percent of individuals experiencing fatal injuries in automobile crashes were observed to be unrestrained.

KEY FACTS:

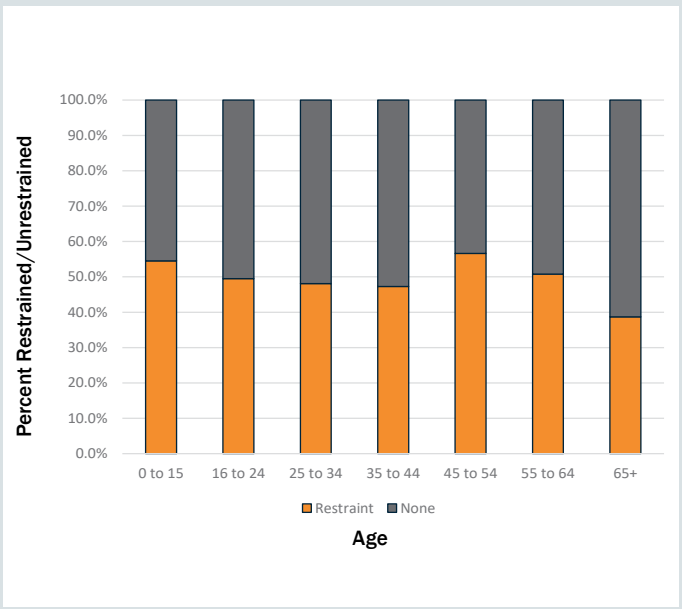
- 16 percent of people seriously injured in automobile crashes since 2013 were unrestrained, compared to 5 percent in property damage only crashes.
- 57 percent of people fatally injured in motorcycle crashes since 2013 were unhelmeted, while 45 percent of people were unhelmeted across all motorcycle crashes.
- Driver restraint usage observed in automobile crashes has increased by 0.1 percent since 2013, while occupant restraint usage has increased by 2.4 percent. A 8.8 percent gap between driver and occupant usage rates existed in 2017.
- Individuals aged 65+ exhibited the lowest restraint usage of people fatally injured in automobile crashes (38.7 percent), followed by those aged 35 to 44 (47.3 percent).



PERCENT OF PEOPLE UNRESTRAINED OR UNHELMETED BY CRASH SEVERITY AND UNIT TYPE



DRIVER AND OCCUPANT RESTRAINT USAGE BY YEAR



RESTRAINT USAGE BY PEOPLE FATALLY INJURED BY AGE

MORPC
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SPECIAL VEHICLES AND ROADWAY USERS

SECTION 4

UNIT STATISTICS

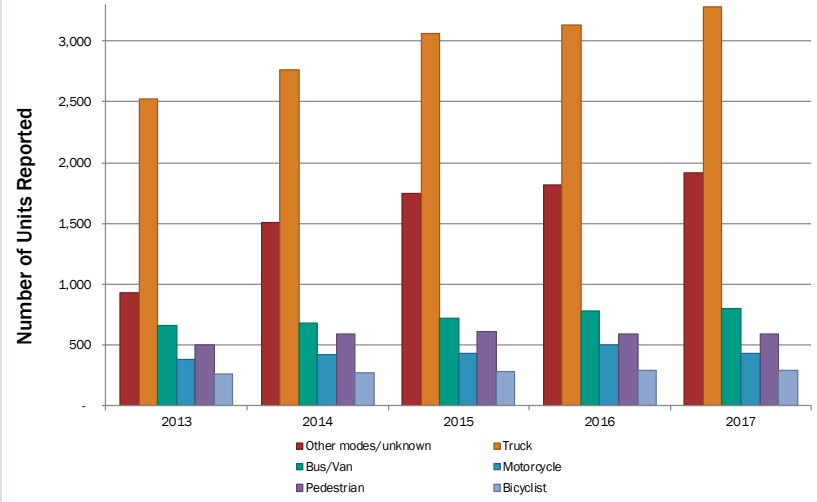
The majority of crashes in MORPC's Transportation Planning Area involved one or more motor vehicles. However, it is also important to understand the frequency and severity of the other types of *units* involved. In this context, the term *unit* refers to the vehicle involved in the crash. For bicycle and pedestrian crashes, the *unit* refers to the person involved.

KEY FACTS:

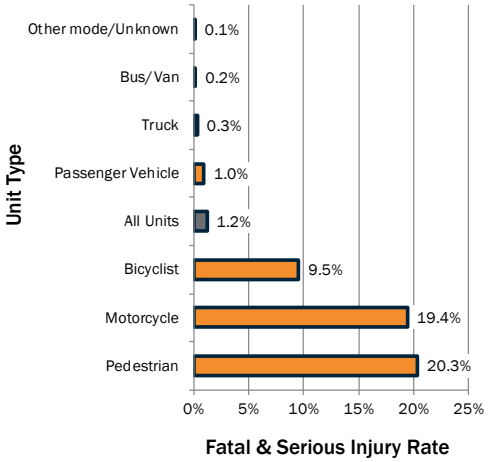
- From 2013 through 2017, there were 376,617 units involved in reported crashes. Of these, over 340,000 (91.3 percent) were passenger vehicles. Trucks were the next most common type, accounting for over 14,000 units (3.9 percent).
- Occupants of buses and vans were the least likely to suffer a fatal or serious injury during a crash, while pedestrians, motorcyclists, and bicyclists were the most vulnerable.
- Pedestrians were 20.3 times more likely to be killed or seriously injured in a crash during a collision than the occupants of a passenger vehicle. The comparable figures for motorcyclists and their passengers and bicyclists are 19.4 and 9.5, respectively.
- The number of units reported has similarly increased since 2013 for each mode, with the exception of bicyclist.

UNIT STATISTICS (2013 TO 2017)

UNIT TYPE	MOST SEVERE INJURY				TOTAL UNITS	UNITS IN ERROR
	Fatal Injury	Serious Injury	Minor Injury	No Injury		
Bicyclist	14	120	941	213	1,404	47%
Bus/Van	0	7	372	3,264	3,643	36%
Motorcycle	73	348	1,247	502	2,170	49%
Other modes	1	8	66	398	473	52%
Passenger Vehicle	297	2,987	53,149	287,365	343,798	48%
Pedestrian	102	487	2,090	216	2,895	37%
Truck	11	38	604	14,119	14,772	54%
Unknown	0	2	38	7,422	7,462	92%



NUMBER OF UNITS REPORTED BY YEAR



FATAL & SERIOUS INJURY RATE BY UNIT TYPE

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MOTORCYCLE CRASHES

Motorcycle crashes tend to be particularly severe due to the speed and vulnerability of the motorcyclist. Educational programs that seek to improve the motorcyclist's skill can reduce the number and severity of crashes; however, behavioral issues, such as speeding, also need to be addressed.

KEY FACTS:

- Motorcyclists had the second-highest rate of fatal and serious injuries reported among all types of roadway users: 19 percent of motorcyclists suffered a serious injury or fatality when involved in a collision.
- Nearly 22 percent of fatal and serious injury motorcycle crashes were reported as being *speed-related*.
- Motorcyclist errors accounted for 53 percent of all motorcycle crashes. They accounted for 71 percent of fatal crashes.

MOTORCYCLE CRASH SEVERITY BY CONTRIBUTING FACTOR

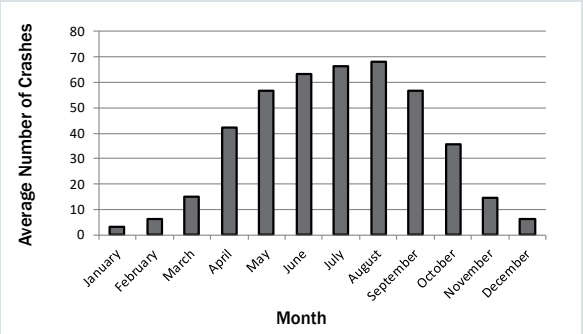
CONTRIBUTING FACTOR		CRASH SEVERITY					TOTAL CRASHES
		Fatal	Serious Injury	Minor Injury	No Injury	Possible Injury	
MOTORCYCLIST ERROR	Failure To Control	39%	29%	36%	9%	12%	25%
	Followed Too Closely/ACDA	4%	7%	9%	12%	5%	9%
	Improper Lane Change/Passing/ Offroad	7%	3%	4%	4%	1%	4%
	Operating Vehicle In Negligent Manner	0%	1%	1%	0%	0%	1%
	Unsafe Speed or Exceeded Speed Limit	11%	3%	3%	0%	1%	2%
	Other Factors	10%	10%	15%	7%	6%	11%
	Total	71%	53%	68%	33%	25%	53%
OTHER UNIT IN ERROR	Failure To Yield	11%	28%	9%	37%	12%	23%
	Followed To Closely/ ACDA	9%	3%	12%	10%	6%	10%
	Improper Lane Change/Passing/ Offroad	1%	4%	3%	9%	3%	5%
	Improper Turn	1%	3%	1%	5%	2%	3%
	Ran Red Light	0%	3%	1%	1%	0%	1%
	Other Factors	6%	6%	6%	6%	4%	6%
	Total	29%	47%	32%	67%	27%	47%
TOTAL CRASHES		4%	18%	35%	29%	15%	100%

Notes
- Percentages shown are based only on crashes with an *at-fault* vehicle reported.
- Percentages shown refer to the portion of total crashes attributable to the contributing factor, for each severity level. For instance, *Failure to Control* accounts for 29% of all fatal motorcycle crashes.
- Shaded yellow cells indicate the contributing factor with the highest value for each respective column, excluding grouped categories (*Other Factors*).

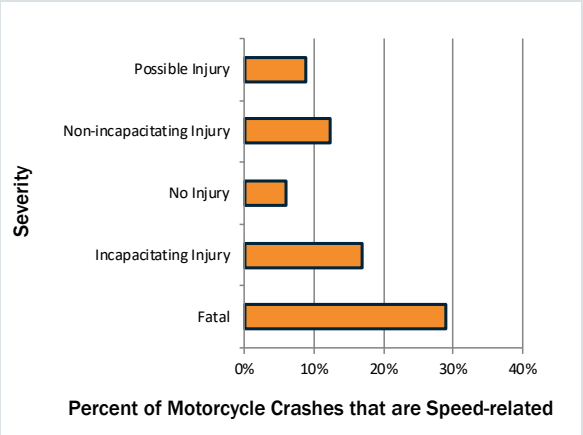
MOTORCYCLE CRASHES BY SEVERITY (2013 TO 2017)

YEAR	CRASH SEVERITY		TOTAL CRASHES	FSI RATE
	Fatal	Serious Injury		
2013	13	66	384	21%
2014	13	65	421	19%
2015	15	75	431	21%
2016	20	66	497	17%
2017	12	76	437	20%
Total	73	348	2,170	19%

Notes
- FSI Rate = the percent of crashes that resulted in a fatal or serious injury.

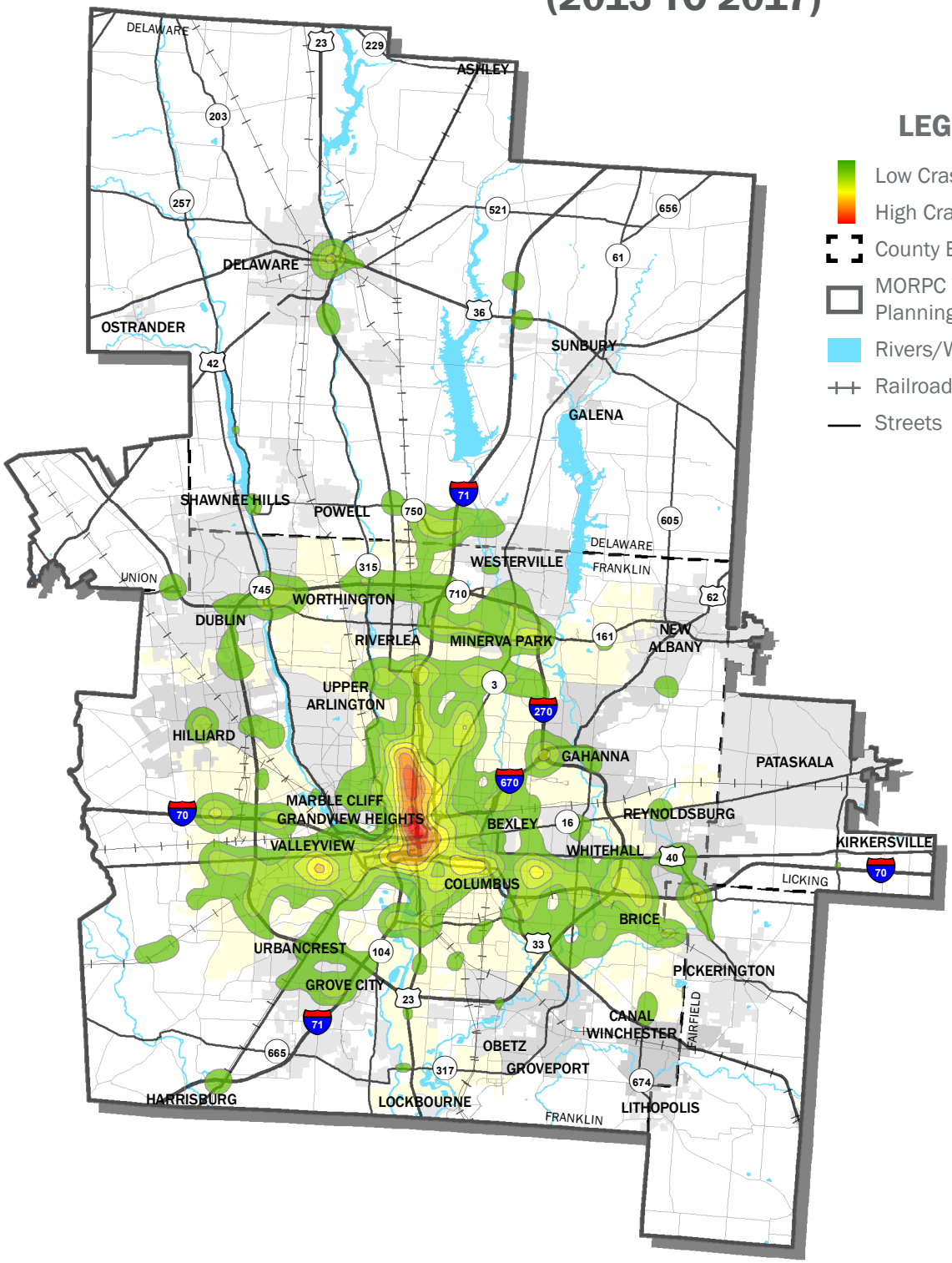


AVERAGE MOTORCYCLE CRASHES BY MONTH



MOTORCYCLE CRASH SPEED & SEVERITY

MOTORCYCLE CRASH DENSITY (2013 TO 2017)



LEGEND

- Low Crash Density
- High Crash Density
- County Boundary
- MORPC Transportation Planning Area
- Rivers/Water
- Railroads
- Streets

MAP
7

The information shown on this map is compiled from various sources made available to us which we believe to be reliable.
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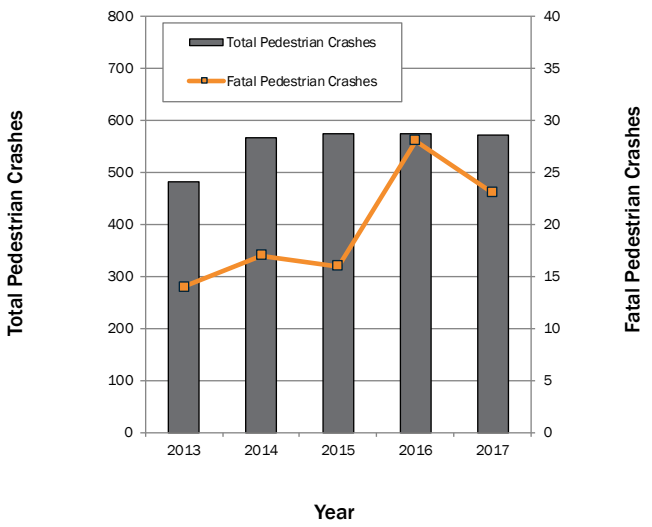
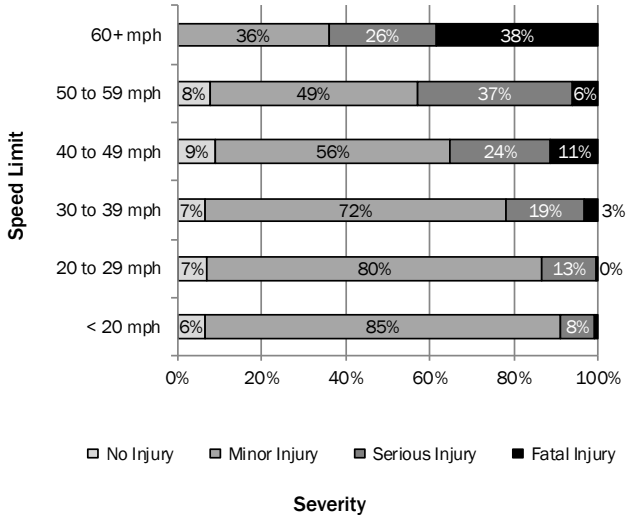
PEDESTRIAN CRASHES

Although the number of pedestrian crashes in Central Ohio is relatively low compared to other crash types, they tend to be much more severe, and therefore are a major area of concern. From 2013 to 2017, pedestrian crashes accounted for over 20 percent of all fatal crashes.



PEDESTRIAN CRASH TREND (2013 TO 2017)



PEDESTRIAN CRASH SEVERITY BY SPEED LIMIT

KEY FACTS:

- Over 20 percent of pedestrian crashes resulted in the pedestrain suffering serious or fatal injuries.
- Pedestrian fatalities increased 64 percent from 2013 to 2017.
- Pedestrian crashes on roads with a posted speed limit less than 30 miles per hour (mph) rarely lead to a fatality. The fatality rate increased sharply beyond 30 mph, rising to over 38 percent where the speed limit is 60 mph or greater.
- Over the last five years, pedestrians were reported to be at fault in 44 percent of all pedestrian crashes, but 69 percent of fatal crashes.

PEDESTRIAN CRASH SEVERITY BY CONTRIBUTING FACTOR

CONTRIBUTING FACTOR		CRASH SEVERITY					TOTAL CRASHES
		Fatal	Serious Injury	Minor Injury	No Injury	Possible Injury	
PEDESTRIAN ERROR	Improper Crossing	26%	25%	16%	14%	11%	16%
	Darting	6%	9%	6%	9%	7%	8%
	Lying And/Or Illegally In Roadway	14%	6%	6%	3%	3%	4%
	Other Pedestrian Factors	23%	19%	16%	15%	17%	16%
	Total (Pedestrian in Error)	69%	59%	44%	41%	37%	44%
OTHER UNIT IN ERROR	Failure To Yield	9%	17%	26%	29%	28%	26%
	Failure To Control	9%	4%	3%	7%	6%	6%
	Improper Backing	0%	1%	5%	2%	4%	2%
	Other Driver-related factors	13%	19%	23%	22%	26%	22%
	Total (Driver in Error)	31%	41%	56%	59%	63%	56%
TOTAL CRASHES		3%	17%	6%	49%	25%	100%

Notes
- Percentages shown are based only on crashes with an *at-fault* vehicle reported.
- Percentages shown refer to the portion of total crashes attributable to the contributing factor, for each severity level. For instance, *darting* accounts for 10% of all fatal pedestrian crashes.
- Shaded yellow cells indicate the contributing factor with the highest value for each respective column, excluding grouped categories (other driver and pedestrian-related factors).

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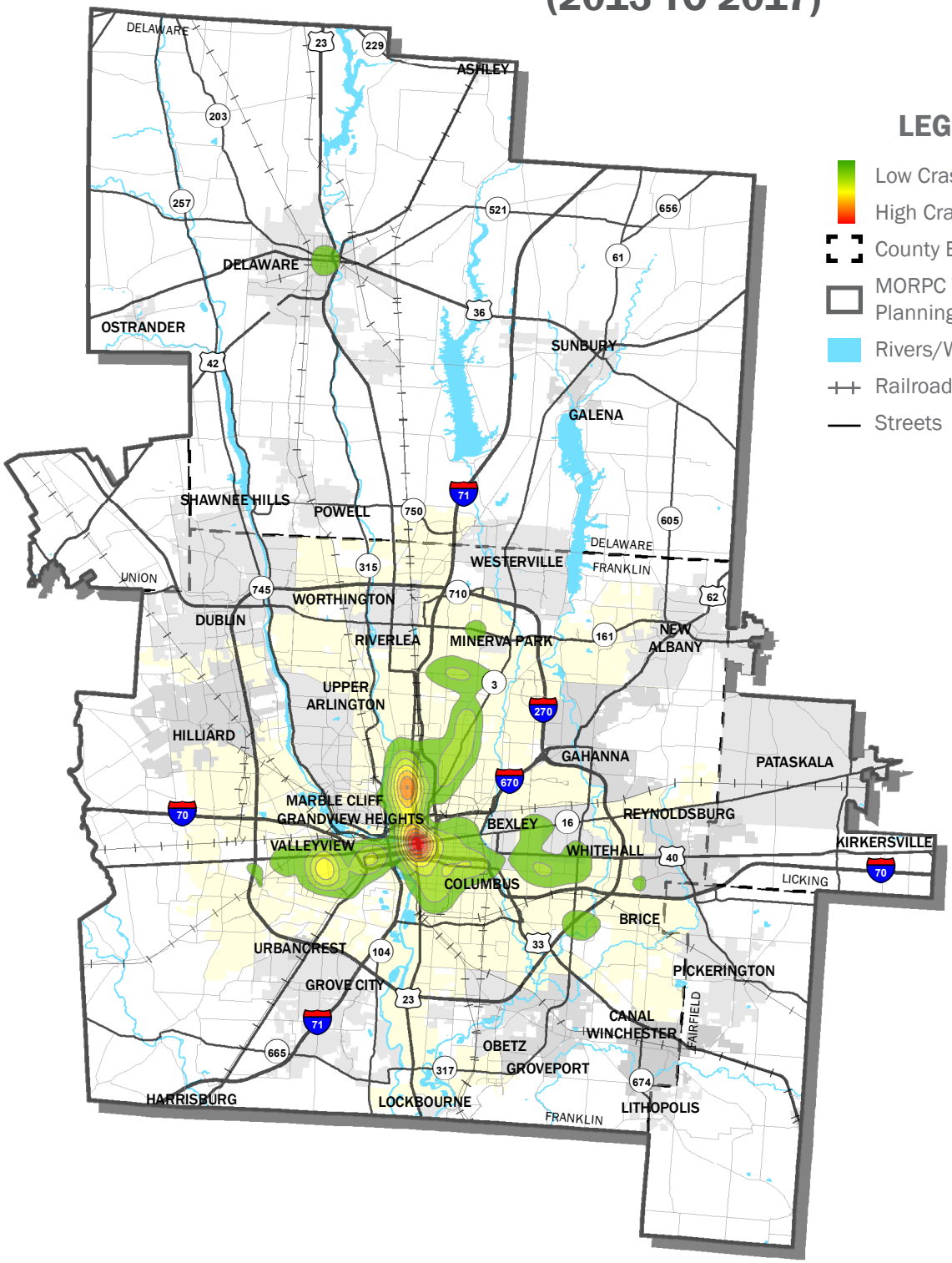
PEDESTRIAN CRASH DENSITY (2013 TO 2017)



LEGEND

- Low Crash Density
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MAP
8

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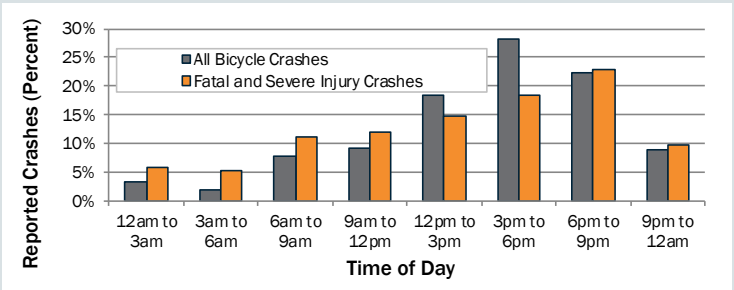
BICYCLE CRASHES

Similar to pedestrians and motorcyclists, bicyclists are especially vulnerable in collisions with motor vehicles. Around 7 percent of all reported crashes involving a bicyclist resulted in either a fatal or serious injury in 2017, a slight decrease from 2016. The total number of crashes has remained relatively constant over the last 5 years, with a 7 percent increase in 2017 compared to 2013.

KEY FACTS:

- Around 10 percent of bicycle crashes resulted in a fatality or serious injury, compared to 3.3 percent of all crashes.
- Bicyclists 10 to 20 years old comprised the most common age range, accounting for over 31 percent of all bicyclists involved in a crash.
- Crashes that occured between 3pm and 9pm accounted for over 42 percent of all fatal and serious injury crashes.

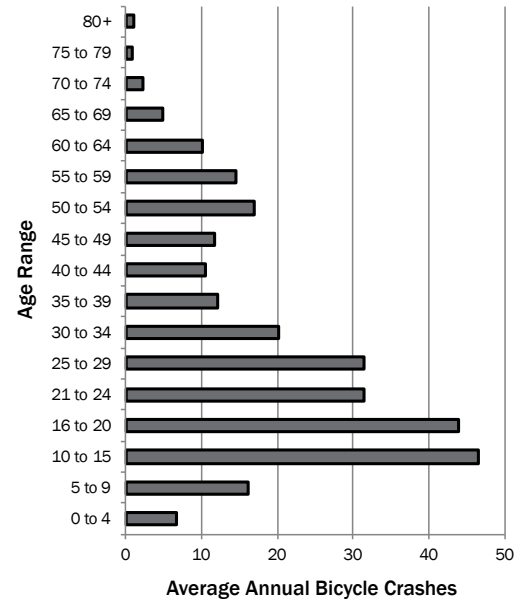


REPORTED BICYCLE CRASHES BY TIME OF DAY & SEVERITY

BICYCLE CRASHES BY SEVERITY (2013 TO 2017)

YEAR	CRASH SEVERITY		TOTAL CRASHES	FSI RATE
	Fatal	Serious Injury		
2013	3	29	269	12%
2014	3	26	275	11%
2015	4	24	283	10%
2016	2	25	296	9%
2017	2	17	288	7%
Total	14	121	1,411	10%

Notes
- FSI Rate = the percent of crashes that resulted in a fatal or serious injury.



AVERAGE ANNUAL BICYCLE CRASHES BY BICYCLISTS' AGE RANGE (2013 TO 2017)

BICYCLE CRASH SEVERITY BY CONTRIBUTING FACTOR

CONTRIBUTING FACTOR		CRASH SEVERITY					TOTAL CRASHES
		Fatal Injury	Serious Injury	Minor Injury	No Injury	Possible Injury	
BICYCLIST ERROR	Improper Crossing	20%	9%	14%	5%	8%	9%
	Failure To Yield Right Of Way	0%	6%	12%	5%	7%	8%
	Failure To Obey Signs/Signals/ Officer	0%	9%	11%	2%	5%	6%
	Other Factors	50%	33%	43%	14%	34%	30%
	Total (Bicyclist in Error)	70%	58%	80%	26%	54%	54%
OTHER UNIT IN ERROR	Failure To Yield	0%	20%	9%	34%	29%	23%
	Followed To Closely/ACDA	20%	6%	1%	6%	2%	4%
	Improper Lane Change/ Passing/ Offroad	0%	3%	1%	4%	1%	2%
	Other Factor (Driver Factors)	10%	13%	8%	29%	14%	17%
	Total (Other Unit in Error)	30%	42%	20%	74%	46%	46%
TOTAL CRASHES		0.8%	9.1%	34.6%	33.9%	21.6%	100%

Notes
- Percentages shown refer to the portion of total crashes attributable to the contributing factor for each severity level.
- Shaded cells indicate the contributing factor with the highest value for each respective column, excluding grouped categories (other driver and pedestrian-related factors).

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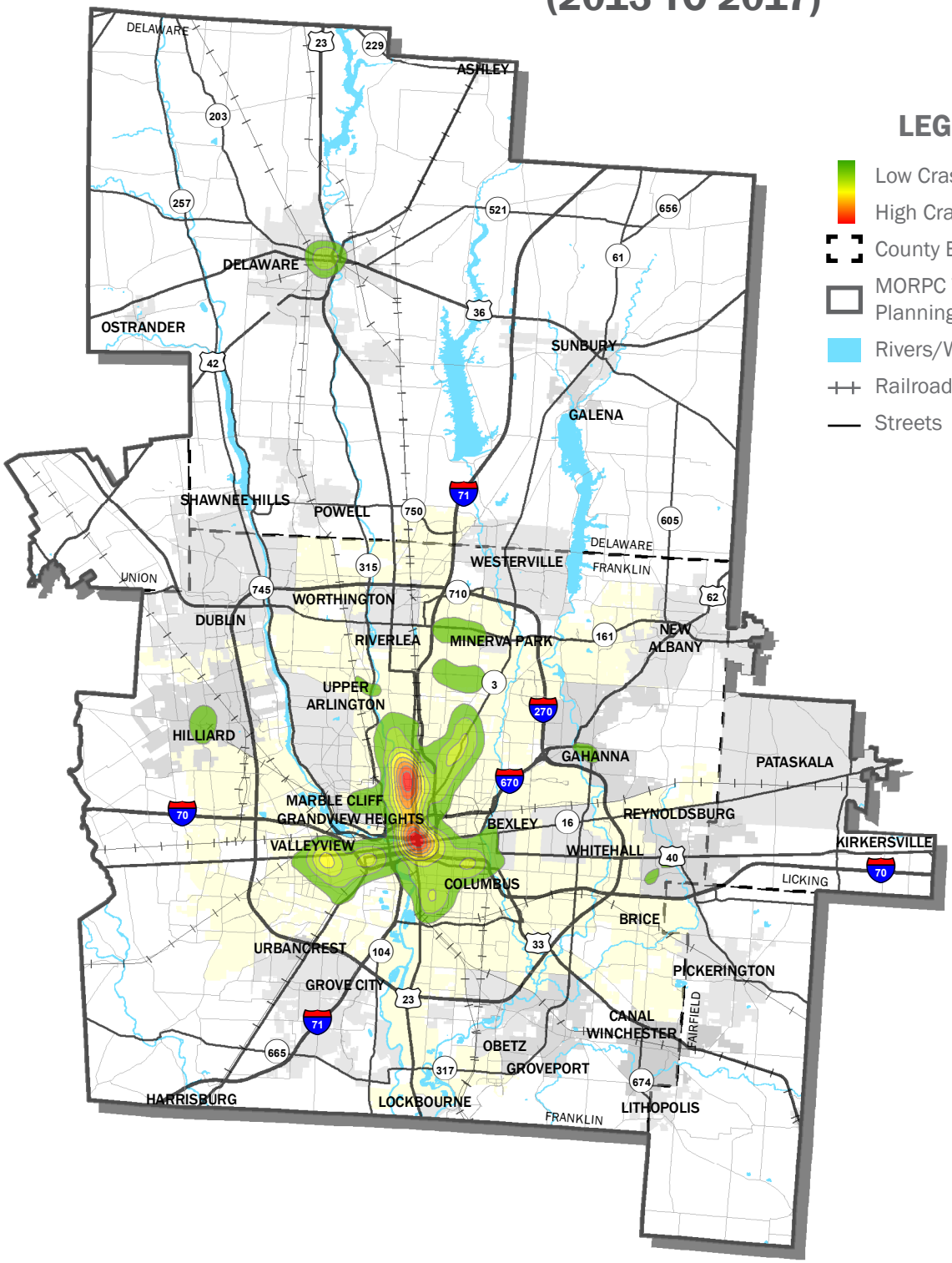
BICYCLE CRASH DENSITY (2013 TO 2017)



LEGEND

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MAP
9

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