CRASH TRENDS & HIGH-CRASH LOCATIONS

Community Advisory Committee

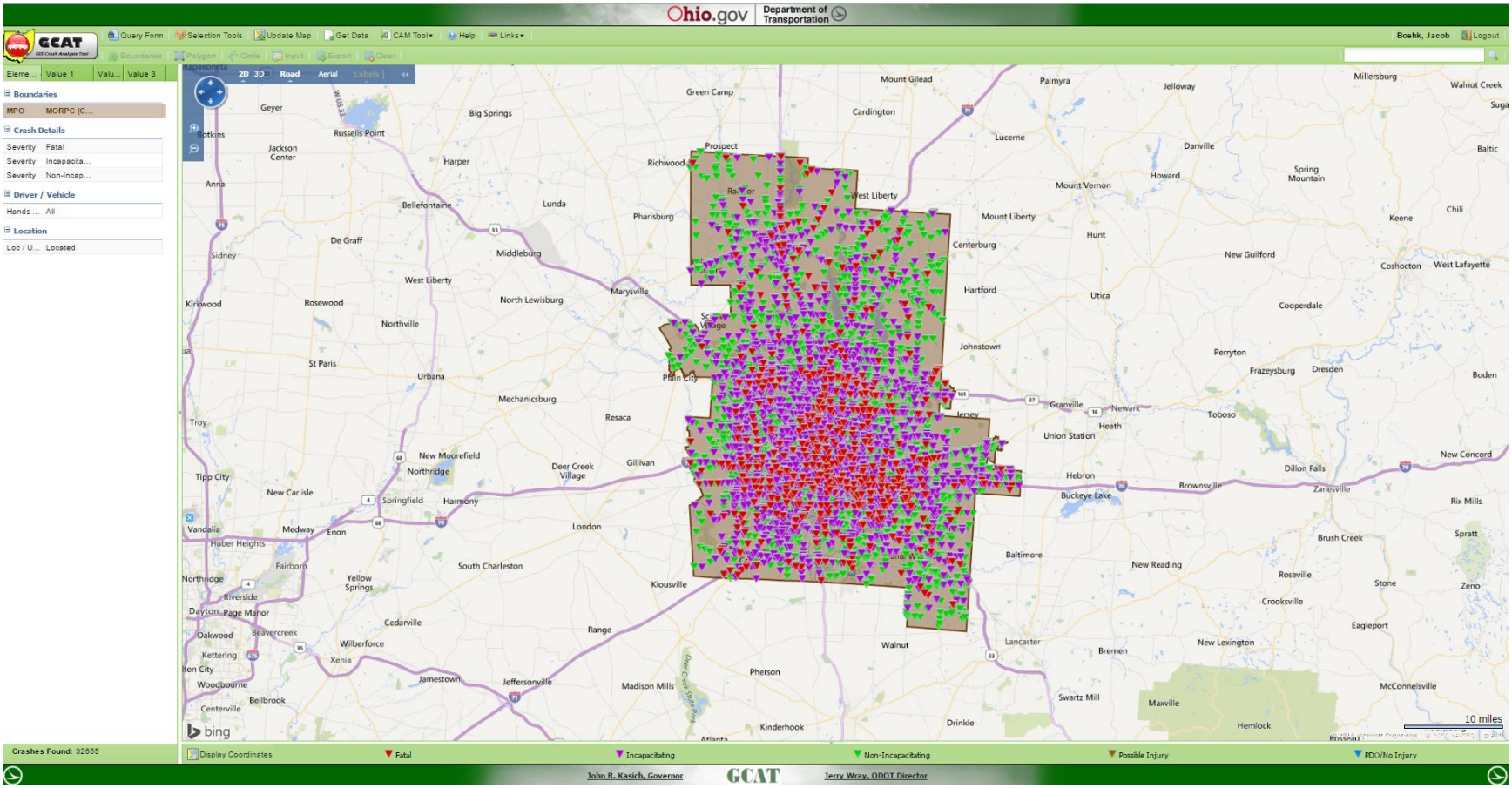
August 29, 2016

morpc
Mid-Ohio Regional
Planning Commission

Purpose of Presentation

- Information only
- No action necessary

Crash Data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bing
John R. Kasich, Governor
GCAT
Jerry Wray, ODOT Director

Regional Trends (2011-2015)

- Total number of crashes was 13.9% higher in 2015 compared to 2011.
- Still 455 crashes over the last 5 years resulted in at least one fatality.

CRASH TRENDS BY YEAR, 2011 TO 2015

YEAR	CRASH STATISTICS				OCCUPANT STATISTICS					SAFETY METRICS		
	Fatal	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
2011	97	9,080	26,949	36,126	103	886	12,260	78,549	91,798	25.40%	2.87	68.87
2012	97	9,092	27,069	36,258	106	885	12,053	79,972	93,016	25.34%	2.89	68.64
2013	81	8,783	25,583	34,447	90	882	11,694	75,312	87,978	25.73%	2.93	66.88
2014	84	9,341	28,339	37,764	91	803	12,377	82,039	95,310	24.96%	2.75	60.96
2015	96	10,487	30,577	41,160	108	922	14,176	88,974	104,180	25.71%	2.83	69.59
5-Year Total	455	46,783	138,517	185,755	498	4,378	62,560	404,846	472,282			
Annual Average	91	9,357	27,703	37,151	100	876	12,512	80,969	94,456	25.4%	2.85	67
Percent Change (2011 to 2015)	-1.0%	15.5%	13.5%	13.9%	4.9%	4.1%	15.6%	13.3%	13.5%	1.2%	-1.7%	1.1%

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: *[(37.56 x (#FatalCrashes + #SeriousInjuryCrashes) + (6.55 x #MinorInjuryCrashes) + (4.44 x #PossibleInjuryCrashes) + #NoInjuryCrashes] / #TotalCrashes.*

Regional Trends (2011-2015)

Although Vehicle Miles Traveled increased, fatalities and serious injuries decreased.

- Fatality decrease: 0.72% on average
- Serious injury decrease: 6.7% on average

TRANSPORTATION SAFETY PERFORMANCE MEASURES

PERFORMANCE MEASURE	2015 BENCHMARK	2020		2040		2016 GRADE
		TARGET	TRACK	TARGET	TRACK	
Number of fatalities	96	-10%	0.09%	-39%	-14.6%	✗
Number of serious injuries	890	-10%	-8.3%	-39%	-35.6%	✗
Number of non-motorized fatal & serious injuries	138	-10%	12.5%	-39%	84.3%	✗
Rate of fatalities per 100 million VMT	0.69	0.63	0.69	0.42	0.60	✗
Rate of serious injuries per 100 million VMT	6.40	5.83	5.86	3.91	4.17	✗

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
2009	105	973	121	0.75	6.95
2010	101	969	124	0.72	6.95
2011	102	948	125	0.74	6.84
2012	104	932	129	0.75	6.75
2013	98	912	130	0.71	6.58
2014	96	890	138	0.69	6.40
2015	100	876	140	0.71	6.28
TREND	↓ (Decreasing)	↓ (Decreasing)	↑ (Increasing)	↓ (Decreasing)	↓ (Decreasing)

Notes
- The values shown represent five year rolling averages (ex. for 2004-2008) (106+113+95+93+121)/5=106)
- Shaded orange cells indicate the highest value for each respective column

Crash Types

2011-2015 KEY FACTS:

- With 60,599 crashes, rear-end collisions were most common crash type. Fortunately, only 1% rear-end crashes resulted in a fatality or serious injury.

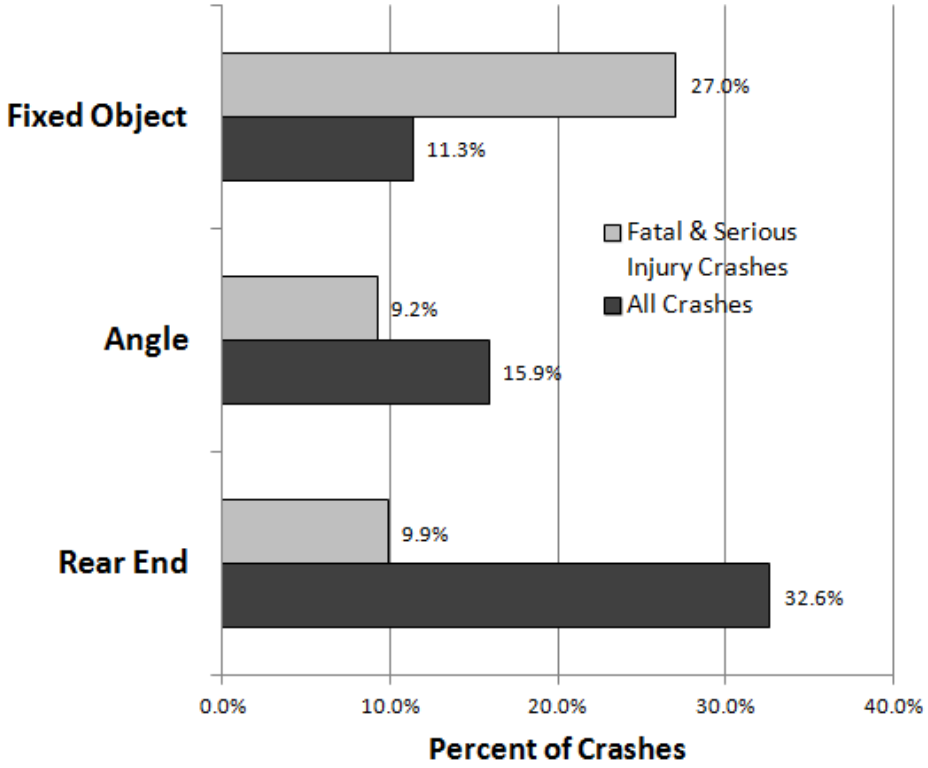
- Fixed-object, pedestrian, rear end, and angle crashes resulted in the largest number of fatal crashes.

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	60,599	45	574	5,846	44,729	9,404	1.0%
Angle	29,533	42	673	4,235	20,312	4,271	2.4%
Sideswipe - Passing	23,820	8	227	1,495	20,265	1,825	1.0%
Fixed Object	21,049	123	732	3,049	15,131	2,014	4.1%
Parked Vehicle	15,375	12	109	620	14,053	581	0.8%
Left Turn	10,052	27	334	2,001	6,105	1,585	3.6%
Backing	6,225	2	14	86	5,948	175	0.3%
Animal	4,545	0	12	126	4,265	142	0.3%
Sideswipe - Meeting	3,812	25	132	552	2,569	534	4.1%
Other	2,904	4	78	323	2,259	240	2.8%
Pedestrian	2,610	90	421	1,234	244	621	19.6%
Head On	1,387	37	129	326	641	254	12.0%
Other Object	1,362	1	14	67	1,191	89	1.1%
Pedalcycles	1,335	14	137	667	244	272	11.3%
Overturning	806	17	87	262	316	124	12.9%
Unknown	322	7	11	41	235	28	5.6%
Train	13	0	1	3	8	1	7.7%
Other Non-Vehicle	5	0	0	1	2	2	0.0%
Falling From Or In Vehicle	1	1	0	0	0	0	100%

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

Crash Types



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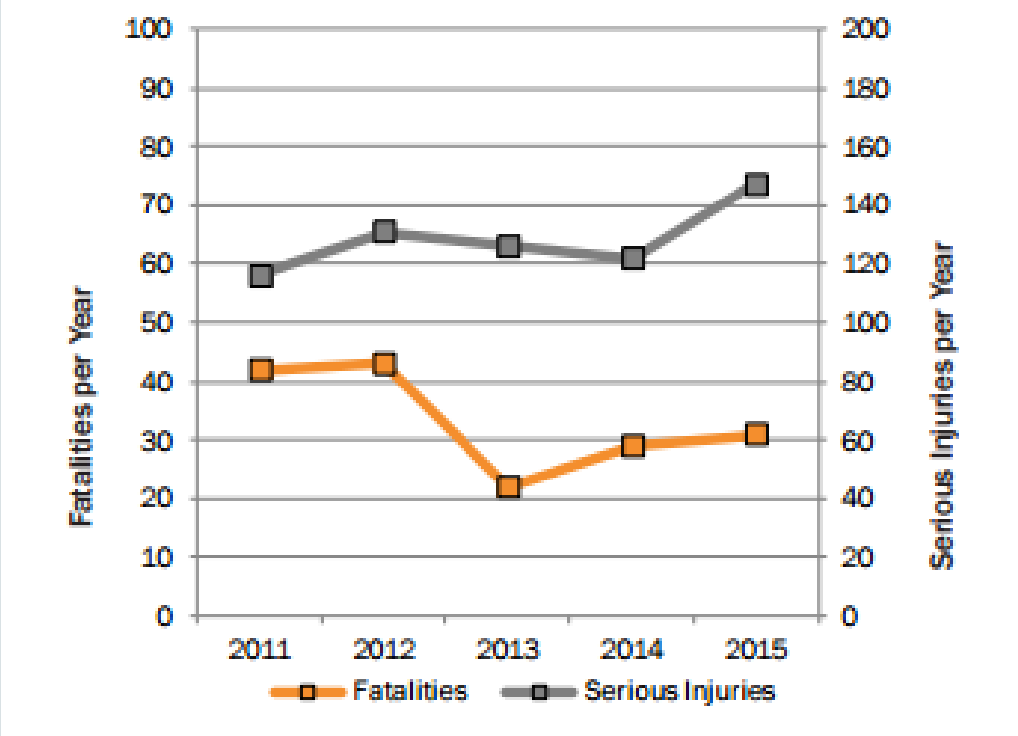
Alcohol-related Fatalities & Serious Injuries

2011-2015 KEY FACTS:

- Alcohol was suspected in 34% of all fatal crashes and 15% of serious injury crashes.
- Alcohol-related serious injuries did increase but fatalities did not.



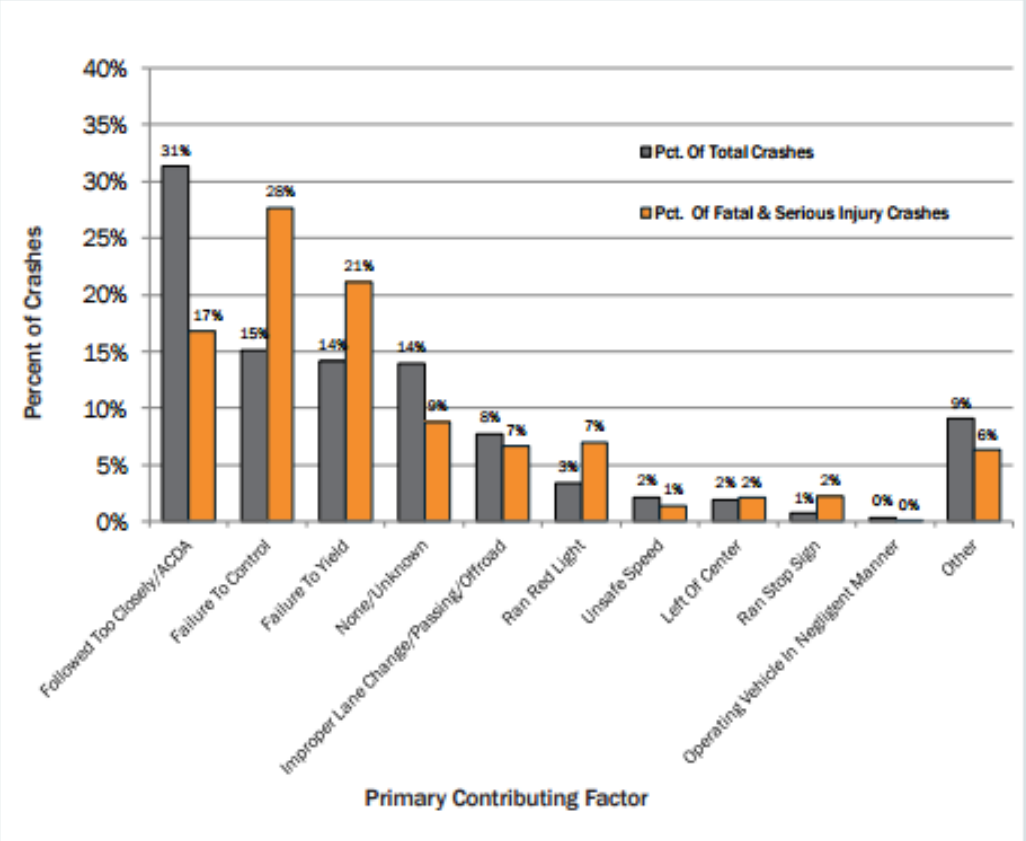
ALCOHOL-RELATED FATALITIES & SERIOUS INJURIES BY YEAR

Contributing Factors

2011-2015 KEY FACTS:

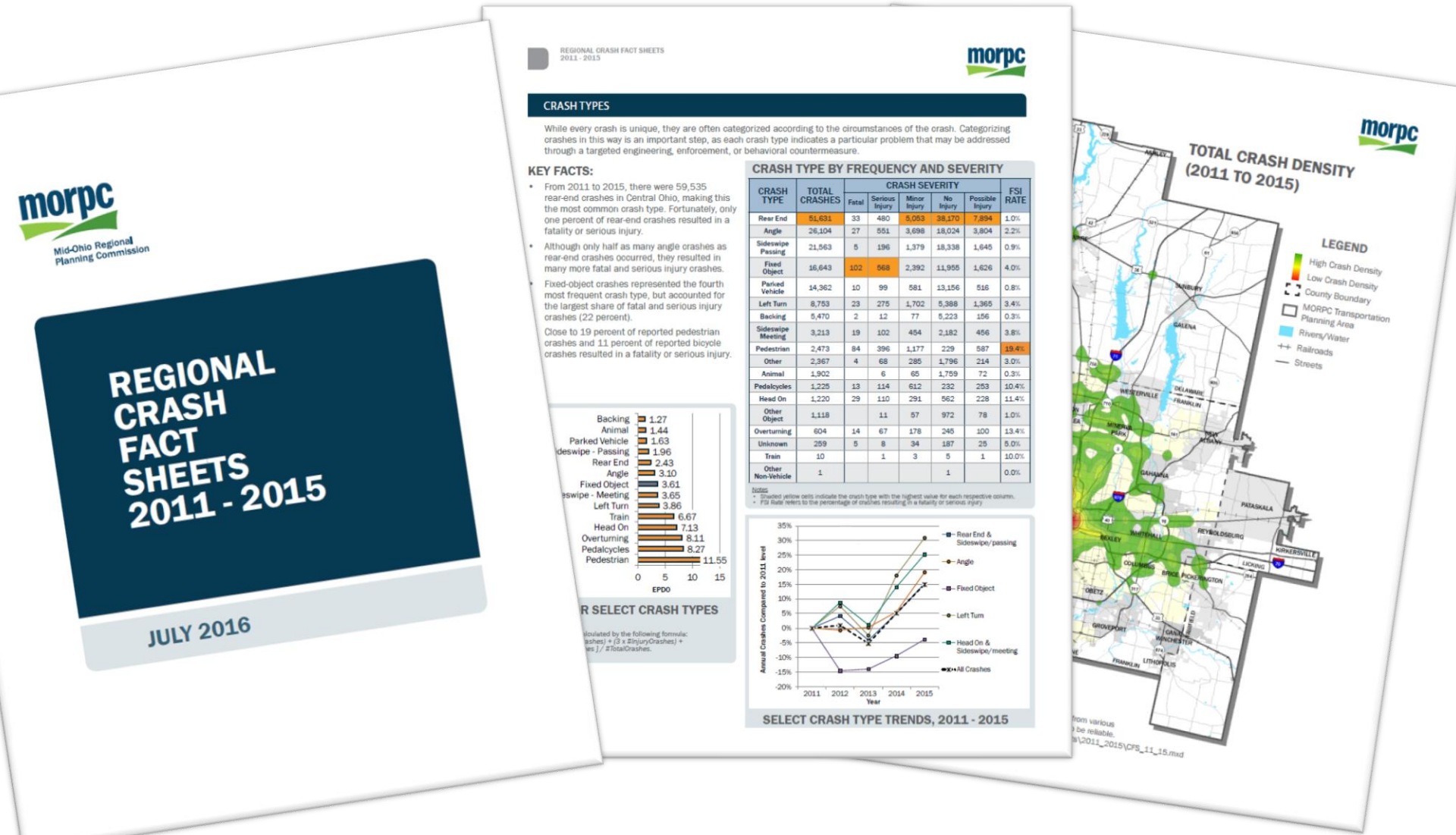
- *Following too closely* was the most common contributing factor (31%).

- *Failure to control* accounted for only 15% of all crashes, but 28% of fatal & serious injury crashes.



PRIMARY CONTRIBUTING FACTORS (EXCLUDING PED/BIKE)

Crash Fact Sheets (2011-2015)



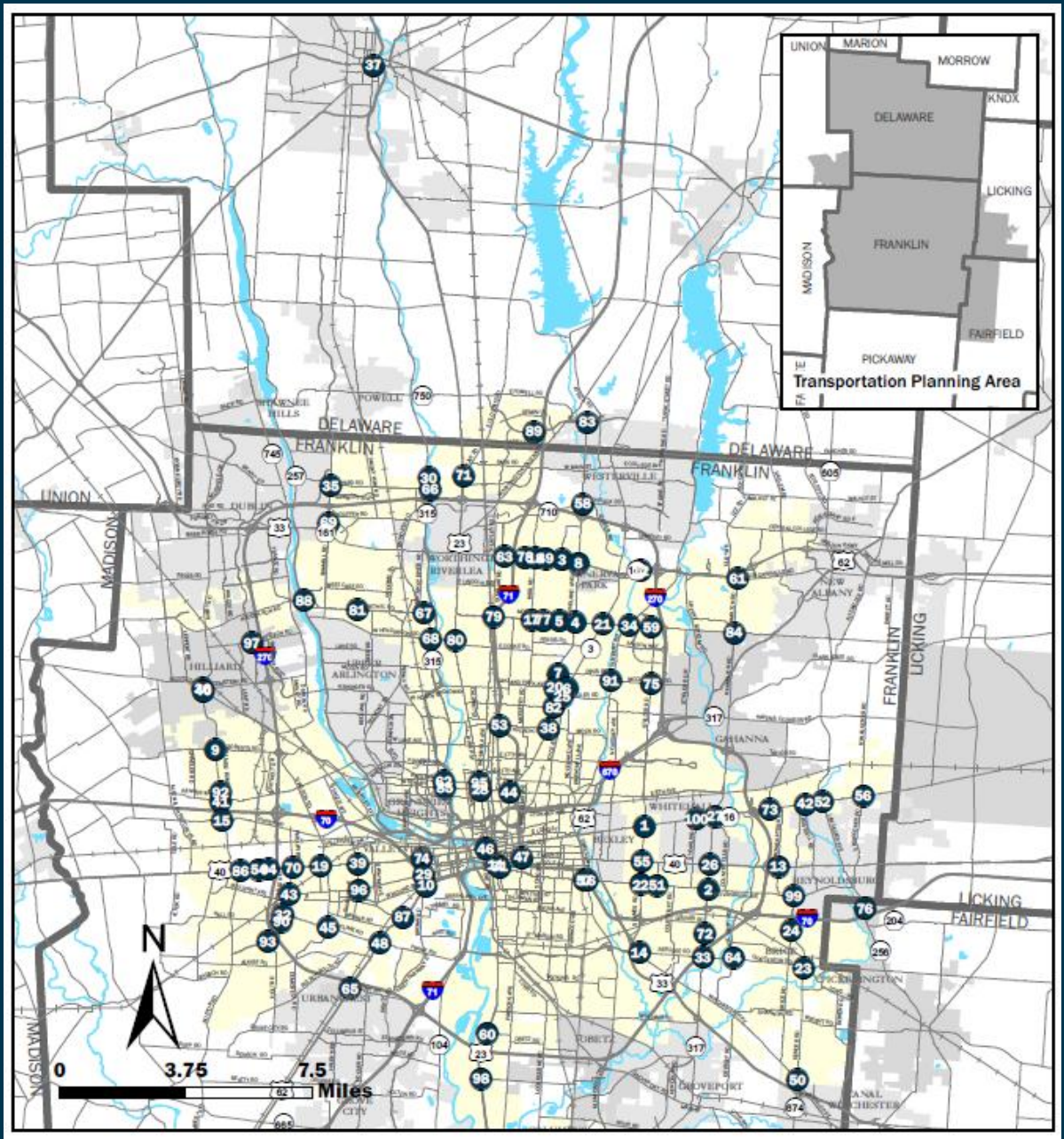
CRASH TYPE	TOTAL CRASHES	CRASH SEVERITY					FSI RATE
		Fatal	Serious Injury	Minor Injury	No Injury	Possible Injury	
Rear End	51,631	33	480	5,053	38,170	7,894	1.0%
Angle	26,104	27	551	3,698	18,024	3,804	2.2%
Sideswipe Passing	21,563	5	196	1,379	18,338	1,645	0.9%
Fixed Object	16,643	102	568	2,392	11,955	1,626	4.0%
Parked Vehicle	14,362	10	99	581	13,156	516	0.8%
Left Turn	8,753	23	275	1,702	5,388	1,365	3.4%
Backing	5,470	2	12	77	5,223	156	0.3%
Sideswipe Meeting	3,213	19	102	454	2,182	456	3.8%
Pedestrian	2,473	84	396	1,177	229	587	19.4%
Other	2,367	4	68	285	1,796	214	3.0%
Animal	1,902		6	65	1,759	72	0.3%
Pedalcycles	1,225	13	114	612	232	253	10.4%
Head On	1,220	29	110	291	562	228	11.4%
Other Object	1,118		11	57	972	78	1.0%
Overturning	604	14	67	178	245	100	13.4%
Unknown	259	5	8	34	187	25	8.0%
Train	10		1	3	5	1	10.0%
Other Non-Vehicle	1				1		0.0%

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

Regional Crash Data Analysis

- Regional Crash Fact Sheets
- Top 100 High-Crash Locations
- Top 5 High-Crash Intersections by Jurisdiction
- Local Crash Fact Sheets
- Top Pedestrian & Bicycle High-Crash Clusters

Top 100 High-Crash Locations 2013-2015



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Top 100 High-Crash Locations 2013-2015

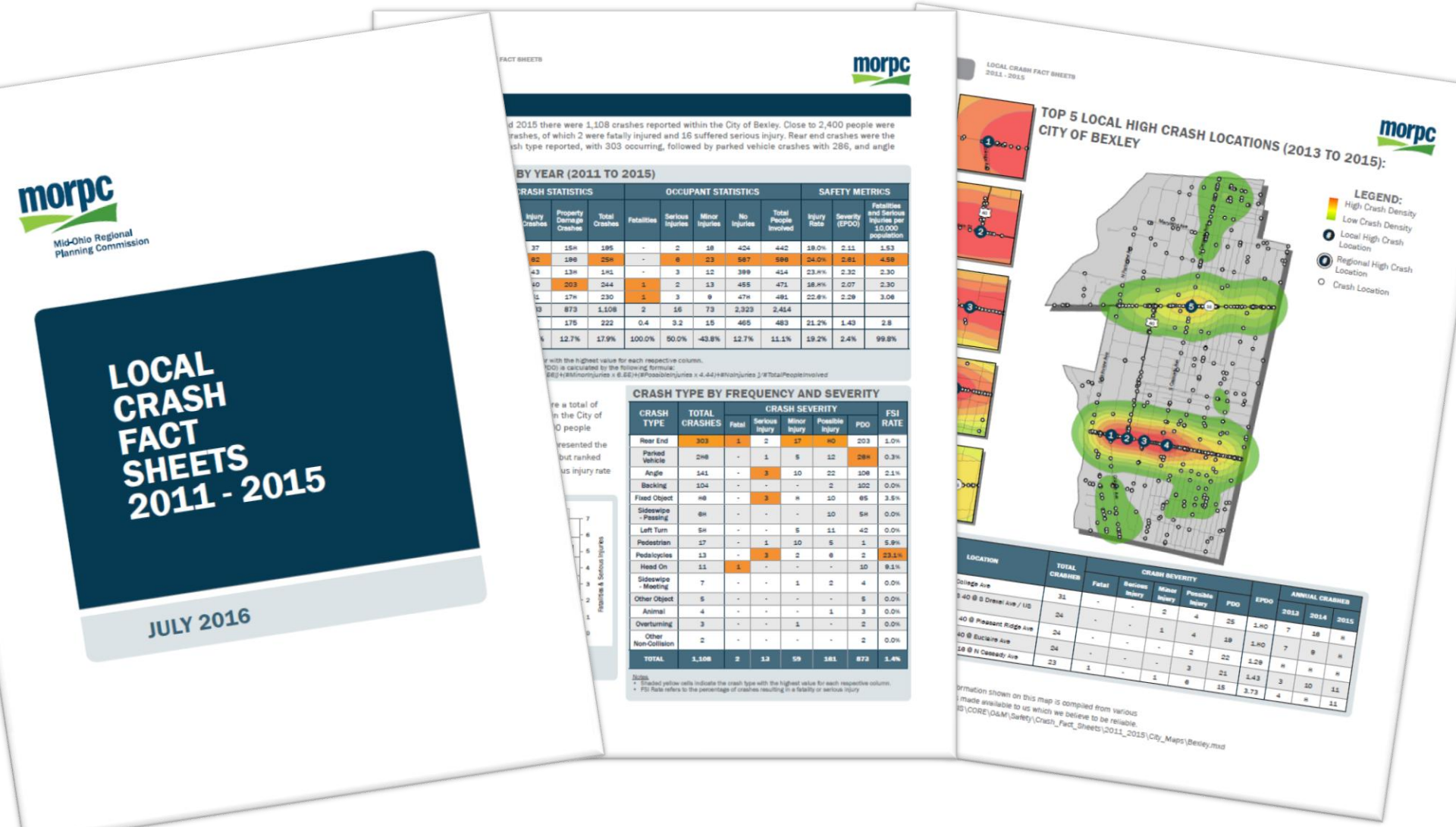
RANK	LOCATION	JURISDICTION	TOTAL CRASHES (FREQ.)	CRASH SEVERITY					SEVERITY (EPDO)	AVERAGE DAILY TRAFFIC (ADT)	CRASH RATE (MEV RATE)	CRITERIA RANKINGS			ANNUAL CRASHES			PRIOR RANK	COMMENTS
				Fatal Injury	Serious Injury	Minor Injury	Possible Injury	PDO				Freq.	EPDO	MEV	2013	2014	2015		
1	Broad St / SR 16 @ James Rd	Columbus	172	1	5	24	22	120	3.49	50,100	3.14	4	16	16	61	48	63	2	Safety study completed in 2007 and updated in 2010. No funding identified for design or construction. LED signals and backplates were added in 2016.
2	E Livingston Ave @ Hamilton Rd / SR 317	Columbus	158	1	3	27	21	106	3.33	36,500	3.95	9	21	6	48	51	59	1	Right turn lanes completed in 2008. Columbus conducted safety study in 2014. LED signals and backplates were added in 2016. ODOT awarded safety funding. Project for improvements is currently in the design phase with construction anticipated in 2018.
3	Dublin Granville Rd / SR 161 @ Maple Canyon Dr	Columbus	165		4	22	20	119	3.04	36,700	4.11	7	36	5	54	59	52	3	SR 161 corridor timing changes made in 2011. ODOT awarded safety funding for a corridor access study. Corridor study is currently underway.
4	Cleveland Ave @ Morse Rd	Columbus	268	2	3	31	33	199	2.75	56,000	4.37	1	53	2	72	106	90	6	Phase 2 of Morse Rd project completed in 2010, added turn lanes, signal rephasing. Crashes significantly reduced in 2010 and 2011. The City of Columbus continues to monitor this intersection
5	Broad St / SR 16 @ Lancaster Ave / Reynoldsburg-New Albany Rd	Columbus	148		4	19	22	103	3.21	52,600	2.57	10	26	31	49	34	65	48	Signal refurbished in 2007. E Broad Corridor study completed in 2009. No funding identified for design or construction. A funding application is being submitted to MORPC in 2016 for this location.
6	Oakland Park Ave @ Westerville Rd / SR 3	ODOT	110	1	1	8	34	66	3.13	26,400	3.81	27	33	8	40	36	34		
7	Morse Rd @ Northtowne Blvd / Walford St	Columbus	127		3	18	11	95	2.95	40,100	2.89	16	40	19	50	32	45	5	Traffic signals along the Morse Rd corridor were retimed in 2014.
8	Cleveland Ave @ Innis Rd	Franklin County	94		4	8	16	66	3.61	29,800	2.88	46	13	20	23	30	41	25	
9	Cleveland Ave @ Dublin Granville Rd / SR 161	Columbus	191		2	23	31	135	2.61	50,200	3.47	3	66	12	54	58	79	4	SR 161 corridor timing changes made in 2011. ODOT awarded safety funding for a corridor access study. Corridor study is currently underway. LED signals and backplates were added in 2016.
10	Hilliard Rome Rd @ Roberts Rd	Columbus	111		3	16	12	80	3.16	39,100	2.59	25	29	29	28	43	40	18	LED signals and backplates were added in 2016.
11	S Central Ave / Harrisburg Pike @ W Mound St	Columbus	97		3	15	13	66	3.45	32,900	2.69	45	18	27	29	35	33	9	Safety study completed in 2014. ODOT awarded safety funding. Project for improvements is currently in design phase with construction anticipated late 2018.
12	E Main St / US 40 @ McNaughten Rd	Columbus	148		1	26	24	97	2.78	52,200	2.59	10	50	30	39	51	58	24	ODOT awarded safety funding. Improvement project currently in design phase with construction anticipated in 2018.
13	E Mound St @ S 3rd St	Columbus	101		2	16	16	67	3.13	30,200	3.05	40	34	17	22	38	41	39	This intersection will be modified to include a westbound left-turn phase as part of the I-70/I-71 Phase 2C project. Construction is anticipated in late 2016.
14	Buenos Aires Blvd @ E Dublin Granville Rd / SR 161	ODOT	84		3	16	10	55	3.77	26,000	2.95	64	9	18	29	25	30	47	
15	Frank Rd / SR 104 / Refugee Rd @ Winchester Pike	Columbus	121		2	16	15	88	2.76	38,600	2.86	20	52	21	29	33	59	44	LED signal heads and westbound right-turn lane was added in 2009.
16	Feder Rd / Fisher Rd @ Hilliard Rome Rd	Columbus	120		3	16	17	84	3.14	46,100	2.38	23	31	39	33	45	42	15	Traffic study is complete. ODOT and MORPC funding has been awarded for future years. Project for improvements is currently in design phase.
17	Alum Creek Dr @ E Livingston Ave / US 33	Columbus	121		4	13	13	91	3.17	47,400	2.33	20	28	47	40	32	49	40	Traffic signals to be upgraded to LED in late 2016/early 2017.
18	Karl Rd @ Morse Rd	Columbus	146		2	23	11	110	2.63	49,300	2.70	12	64	25	41	44	61	14	Traffic signals along the Morse Rd corridor were retimed in 2014.
19	E Dublin Granville Rd / SR 161 @ Karl Rd	Columbus	111		2	13	21	75	2.96	42,800	2.37	25	38	40	28	36	47	42	SR 161 corridor timing changes made in 2011. ODOT awarded safety funding for a corridor access study. Corridor study is currently underway. LED signals and backplates were added in 2016.
20	Broad St / US 40 @ N Wilson Rd	ODOT	103		2	13	20	68	3.08	38,100	2.47	37	35	34	27	40	36	7	
21	Cleveland Ave @ Oakland Park	Columbus	87		1	19	8	59	2.95	24,100	3.30	57	39	14	22	28	37	16	Minor improvements made in 2013. LED signals and backplates were added in 2016.The City of Columbus continues to monitor this intersection.
22	Morse Rd @ Westerville Rd / SR 3	Columbus	141		5	10	8	118	2.89	57,900	2.22	13	44	56	42	47	52	37	Traffic signals along the Morse Rd corridor were retimed in 2014.
23	James Rd @ Livingston Ave	Columbus	106		2	9	17	78	2.71	35,900	2.70	32	55	26	21	35	50	21	LED signal heads installed in 2009. Safety study completed in 2015. ODOT awarded safety funding. Project for improvements will begin construction in 2016.
24	Gender Rd @ Refugee Rd	Columbus	167		1	19	17	130	2.20	36,000	4.24	5	108	3	56	54	57	19	Safety study completed in 2008. ODOT approved for safety funding. Project for improvements is currently under construction.

Top Intersections by Jurisdiction 2013-2015

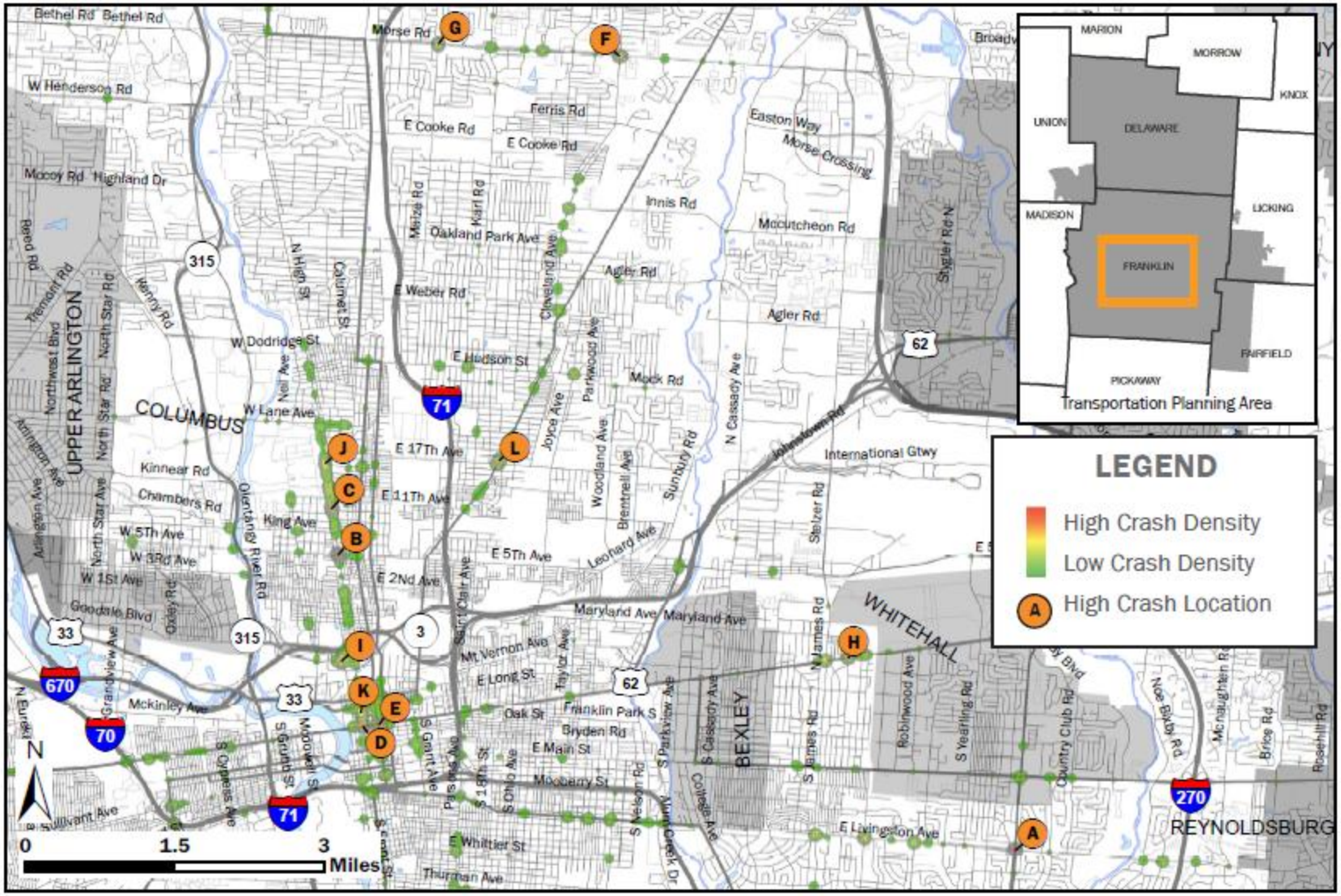
Lists are available for Counties, Cities, and Villages

JURISDICTION	RANK	LOCATION	TOTAL CRASHES (FREQ.)	CRASH SEVERITY					SEVERITY (EPDO)	ANNUAL CRASHES			TOP 100
				Fatal Injury	Serious Injury	Minor Injury	Possible Injury	PDO		2013	2014	2015	
BEXLEY	1	E Main St @ College Ave	31	-	-	2	4	25	1.80	7	16	8	-
	2	E Main St / US 40 @ S Drexel Ave / US 40	24	-	-	1	4	19	1.80	7	9	8	-
	3	E Main St / US 40 @ Pleasant Ridge Ave	24	-	-	-	2	22	1.29	8	8	8	-
	4	E Main St / US 40 @ Euclaire Ave	24	-	-	-	3	21	1.43	3	10	11	-
	5	E Broad St / SR 16 @ N Cassady Ave	23	1	-	1	6	15	3.73	4	8	11	-
CANAL WINCHESTER	1	Gender Rd / SR 674 @ Winchester Blvd	39	-	-	1	6	32	1.67	5	20	14	-
	2	Gender Rd / SR 674 @ W Waterloo St	24	-	-	-	5	19	1.72	6	8	10	-
	3	Gender Rd / SR 674 @ Groveport Pike	16	-	-	1	3	12	1.99	8	3	5	-
	4	Gender Rd @ W Walnut St	8	-	-	1	2	5	2.55	1	3	4	-
	5	Gender Rd / SR 674 @ Canal St	8	-	-	-	2	6	1.86	2	5	1	-
COLUMBUS	1	Cleveland Ave @ Morse Rd	268	2	3	31	33	199	2.75	72	106	90	X
	2	Cleveland Ave @ Dublin Granville Rd / SR 161	191	-	2	23	31	135	2.61	54	58	79	X
	3	Broad St / SR 16 @ James Rd	172	1	5	24	22	120	3.49	61	48	63	X
	4	Brice Rd @ Scarborough Blvd / Tussing Rd	167	1	-	14	31	121	2.32	35	52	80	X
	5	Refugee Rd @ Gender Rd	167	-	1	19	17	130	2.20	56	54	57	X
DELAWARE CITY	1	Sandusky St / US 36 @ E William St / US 36	100	-	3	1	4	92	2.29	38	28	34	X
	2	Liberty St @ W William St / US 36	35	-	1	-	3	31	2.34	16	9	10	-
	3	Cottswold Dr @ Columbus Pike / US 23	33	-	1	-	7	25	2.84	8	16	9	-
	4	N Henry St @ E William St / US 36	32	-	1	6	4	21	3.61	10	8	14	-
	5	Kilbourne Rd / SR 521 @ Sunbury Rd / US 36	32	1	3	3	7	18	6.84	13	8	11	-
DUBLIN	1	W Bridge St / US 33 @ Frantz Rd / Post Rd	59	-	-	2	10	47	1.77	14	30	15	-
	2	Avery-Muirfield Dr @ Perimeter Loop Rd	55	-	2	2	16	35	3.53	22	14	19	-
	3	Avery-muirfield Dr @ Perimeter Dr	48	-	-	4	10	34	2.18	9	17	22	-
	4	E Bridge St @ Riverside Dr / US 33	41	-	-	1	4	36	1.47	15	18	8	-
	5	Bridge St / US 33 @ Corbins Mill Dr	39	-	1	1	5	32	2.52	19	13	7	-

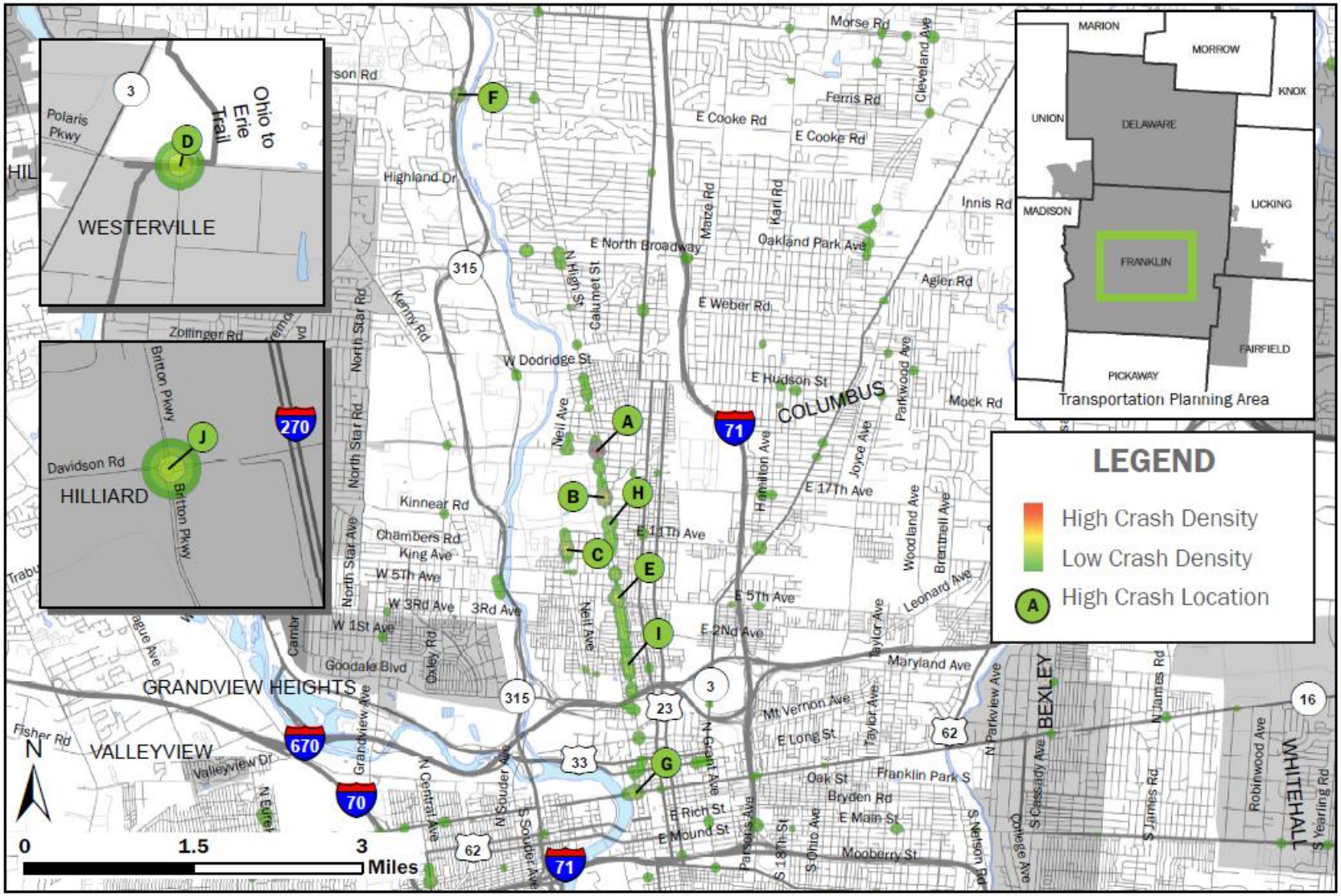
Local Crash Fact Sheets (2011-2015)



Top Pedestrian High-Crash Clusters (2011-2015)



Top Bicycle High-Crash Clusters (2011-2015)



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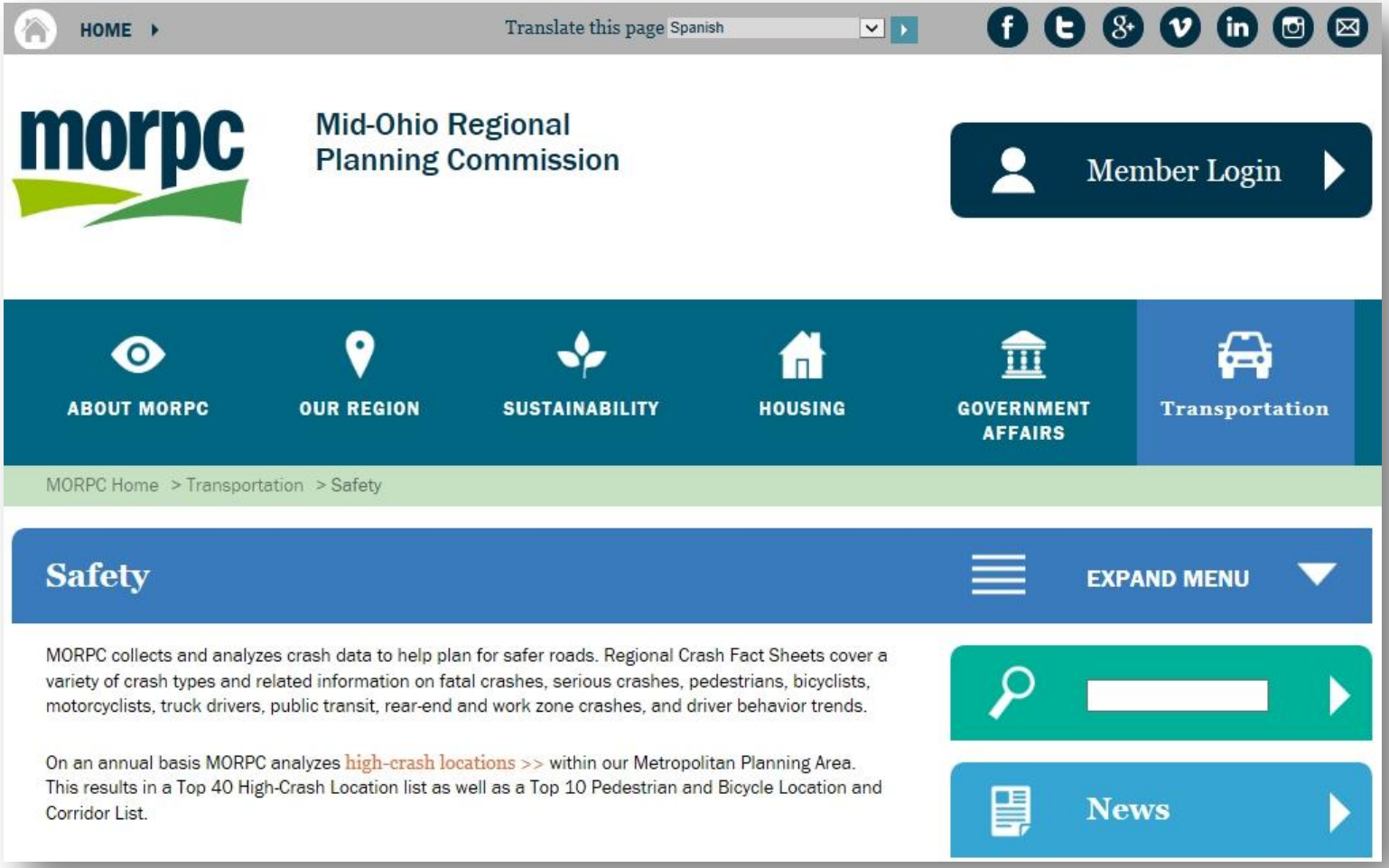

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