Committee of the Whole – November 18, 2024

Transportation Safety in the City of Kalamazoo

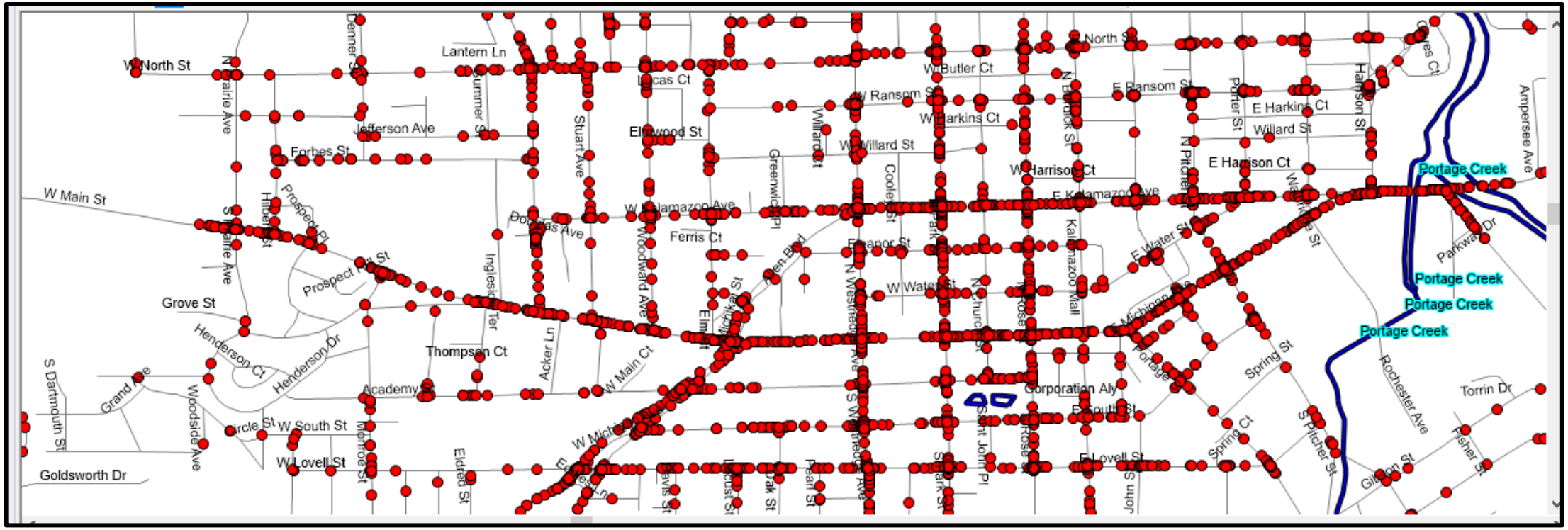
November 18, 2024

Problem to be Solved

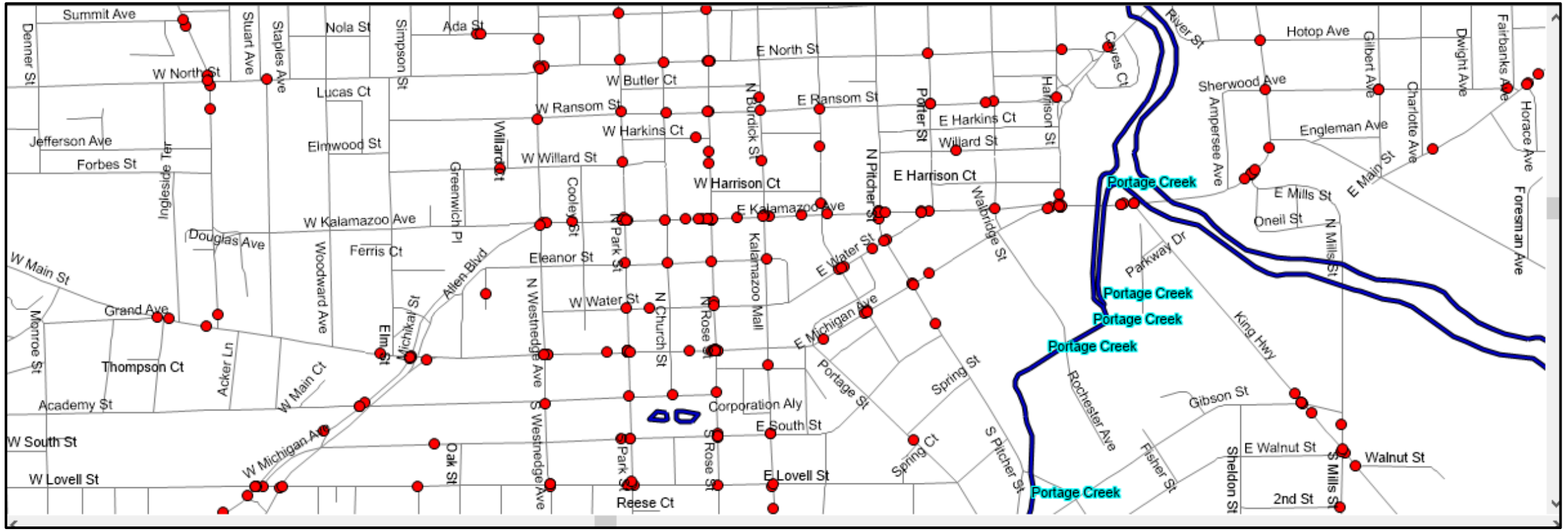
- In the past 10½ years:
  - 31,600 report crashes (per the Michigan State Police crash system)
    - 44 fatal crashes
    - About 3,070 crashes a year on an annual basis
  - 348 Bicycle-related crashes, including 4 fatal crashes,
  - 471 Pedestrian related crashes including 11 fatal crashes
- A minimum of 1 excess crash per day (300 – 400 each year)
    - Based on a comparison with other Michigan cities using population, miles of street, and land area as factors
- ***<u>Crash data shows the major factor in crashes is speed</u>***

KALAMAZOO STREETS FOR ALL

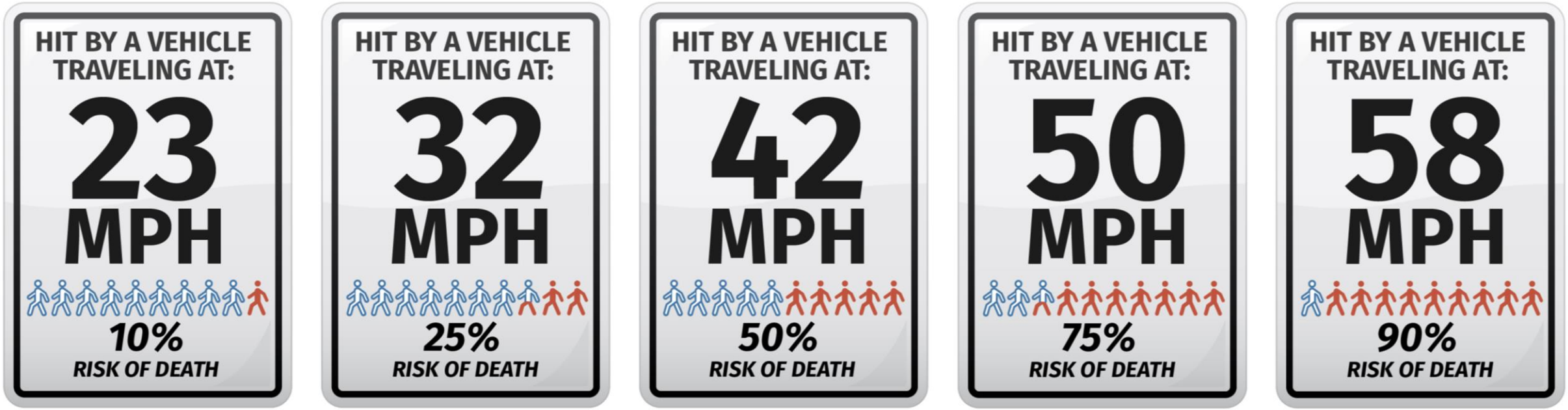
World as It Was: Streets for Cars - Vehicle Crash History 2011-2021



World as It Was: Streets for Cars - Pedestrian & Bicycle Crash History 2011-2021



World as It Was: Streets for Cars - Speed Kills

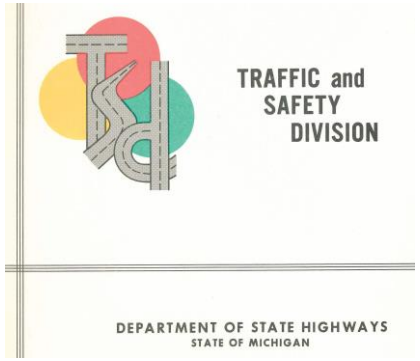


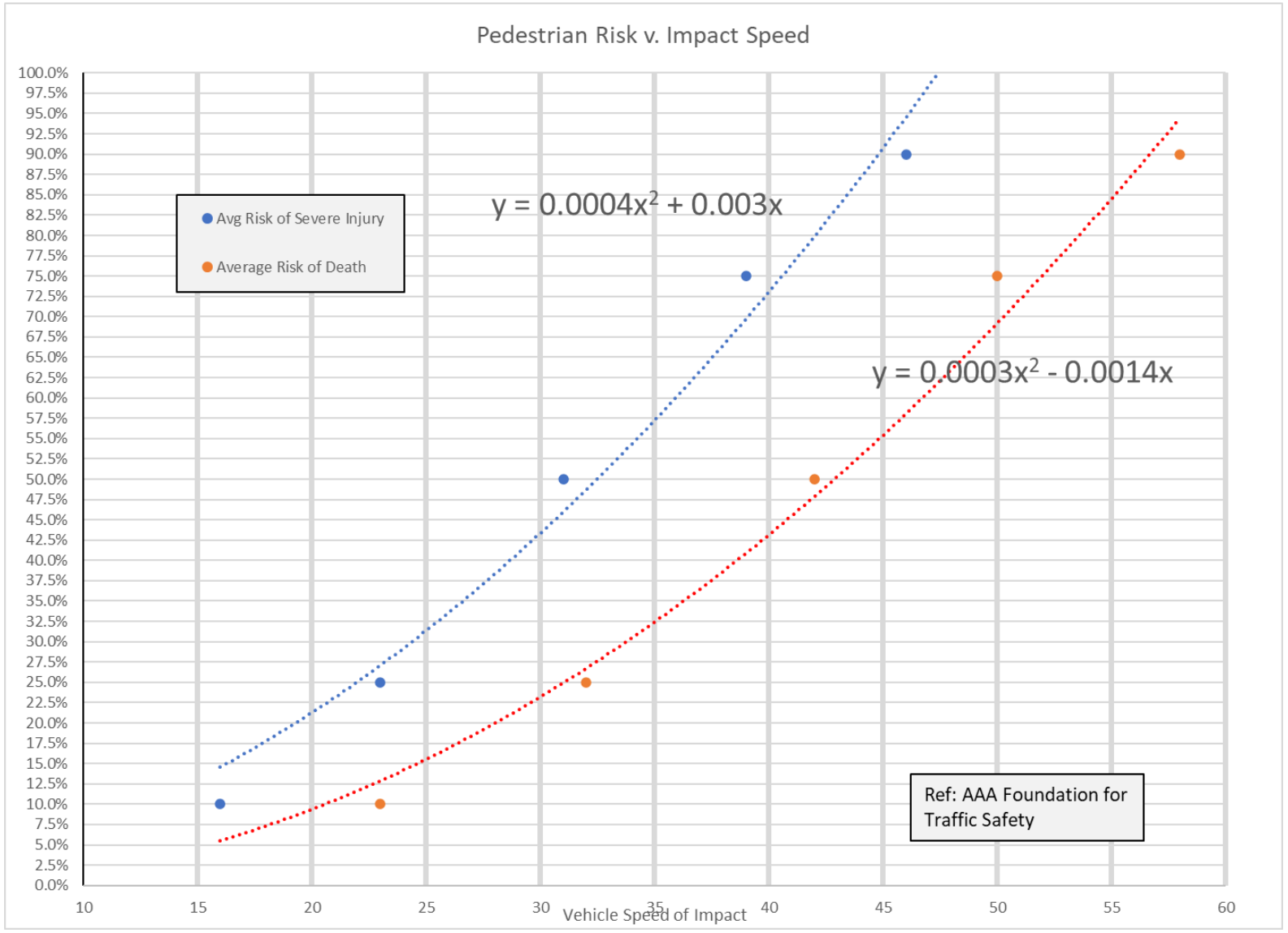
World as It Was: Streets for Cars

<u>Emphasis by street and highway agencies on</u>:

- Time
  - Reduce the time to travel from Point A to Point B
- Convenience
  - Reduce number of stops
  - Shorten paths between Point A and Point B
- Safety
  - Reduce specific types of crashes:
    - At signalized intersections
    - Rear-end collisions

No considerations for pedestrian and non-motorized vehicle traffic





These are just a few examples of the ways communities are working to create safer streets for pedestrians.

Road diets and traffic calming

Lowering speed limits

Protected bike lanes

Pedestrian infrastructure improvements

Restricting right turns on red

Elimination of auxiliary lanes

Community engagement

Crash History – Before and After

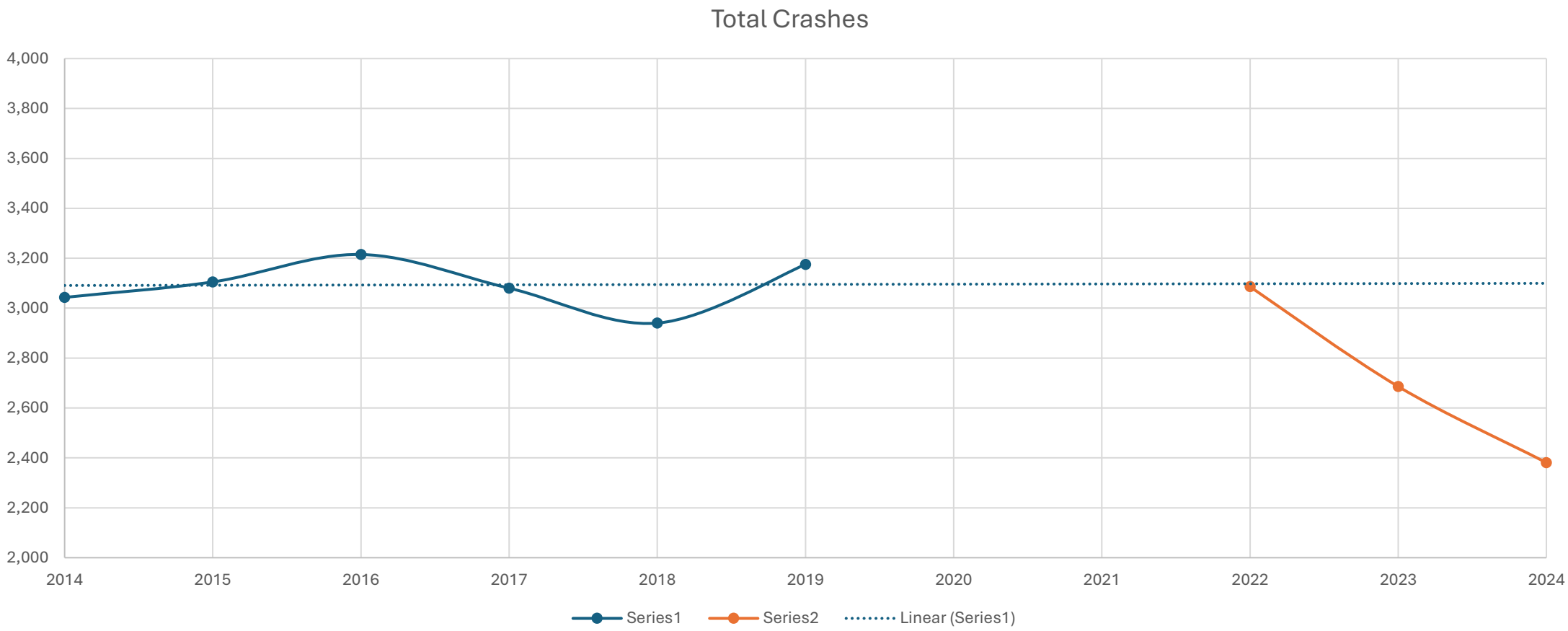
Crash History - Before and After																			
Period	Year	Fatal Injury (K)	No Injury (O)	Possible Injury (C)	Suspected Minor Injury (B)	Suspected Serious Injury (A)	Total Crashes		Year	Before	After	Crashes Saved from 2014-2019 Avg	Percent Reduction from 2014-2019 Avg						
Before	2014	2	2,583	313	107	40	3,045		2014	3,043					3119	Injuries & Deaths			
	2015	5	2,599	337	133	36	3,110		2015	3,105					18,581	Total Crashes			
	2016	5	2,662	358	155	40	3,220		2016	3,215					16.8%	Share of Total Crashes			
	2017	6	2,504	385	142	49	3,086		2017	3,080									
	2018	5	2,451	326	129	34	2,945		2018	2,940									
	2019	0	2,663	315	138	59	3,175		2019	3,175									
After	2022	5	2,578	320	143	45	3,091		2022		3,086	7	0.2%		2,718	Average			
	2023	9	2,246	252	132	56	2,695		2023		2,686	407	13.2%						
	2024	6	1,944	263	125	42	2,381		2024		2,381	712	23.0%		2,381				
								Ave 2014-2019	3,093		1,126	Crashes saved						5/9/2024	
								STD	89		189	Minimum injuries saved						1/1/2014	
								%	2.9%									3,781.00	
																		10.3518138	

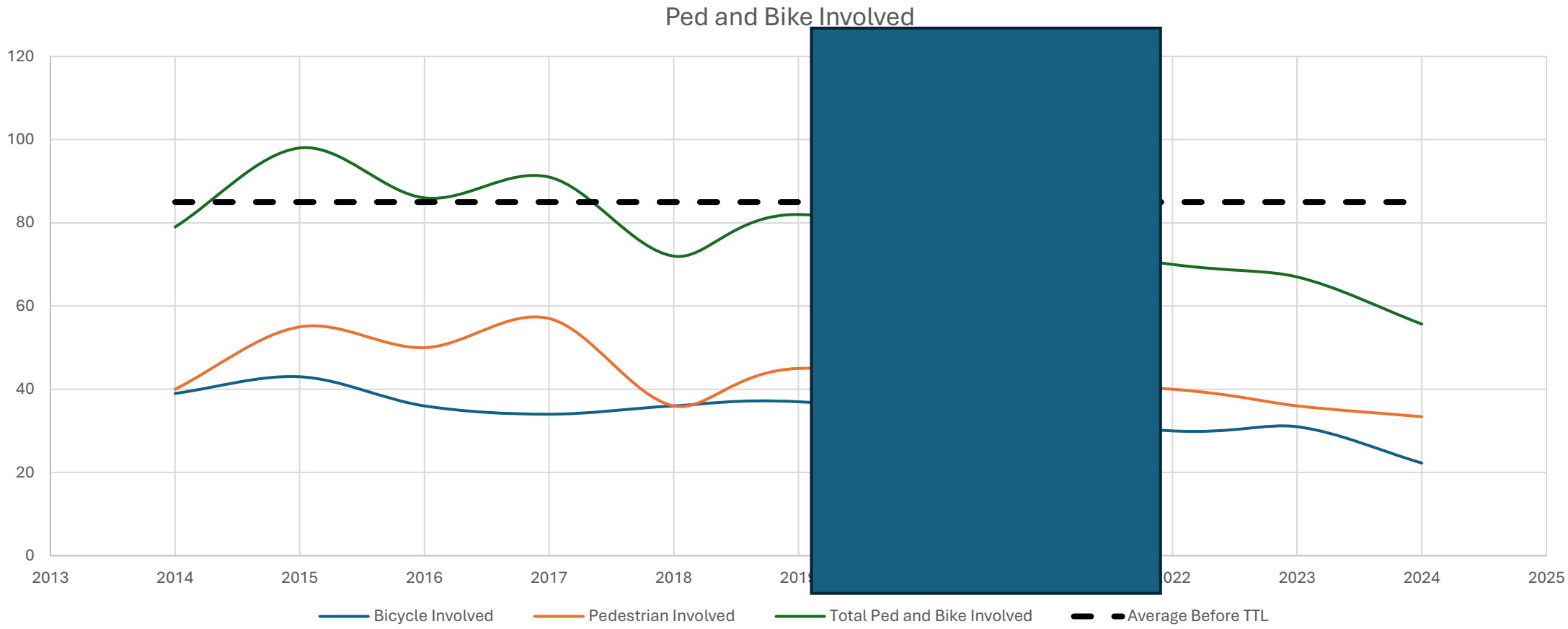
Comparison – City and State

																		10/24/2024	
																		1/1/2024	
	City of Kalamazoo								State of Michigan (Except COK)									297.00	
	Total Crashes		Ped Involved		Bike Involved		Ped and Bike Total		Total Crashes		Ped Involved		Bike Involved		Ped and Bike Total			365.25	
	As of 10/28/24	Projected 2024	As of 10/28/24	Projected 2024	As of 10/28/24	Projected 2024	As of 10/28/24	Projected 2024	Total Crashes		Ped Involved		Bike Involved		As of 10/28/24	Projected 2024		0.81	
K - Fatality	5	6	2	2	1	1	3	4	768	944	118	145	19	23	137	168			
O - Property Damage Only	1581	1,944	4	5	8	10	12	15	178806	219895	231	284	309	380	540	664			
C - Possible Injury	214	263	10	12	12	15	22	27	23340	28703	541	665	455	560	996	1,225			
B - Suspected Minor Injury	102	125	3	4	9	11	12	15	13254	16300	596	733	554	681	1150	1,414			
A - Suspected Serious Injury	34	42	2	2	3	4	5	6	4018	4941	323	397	164	202	487	599			
TOTAL	1,936	2,381	21	26	33	41	54	66	220,186	270,784	1,809	2,225	1,501	1,846	3,310	4,071			

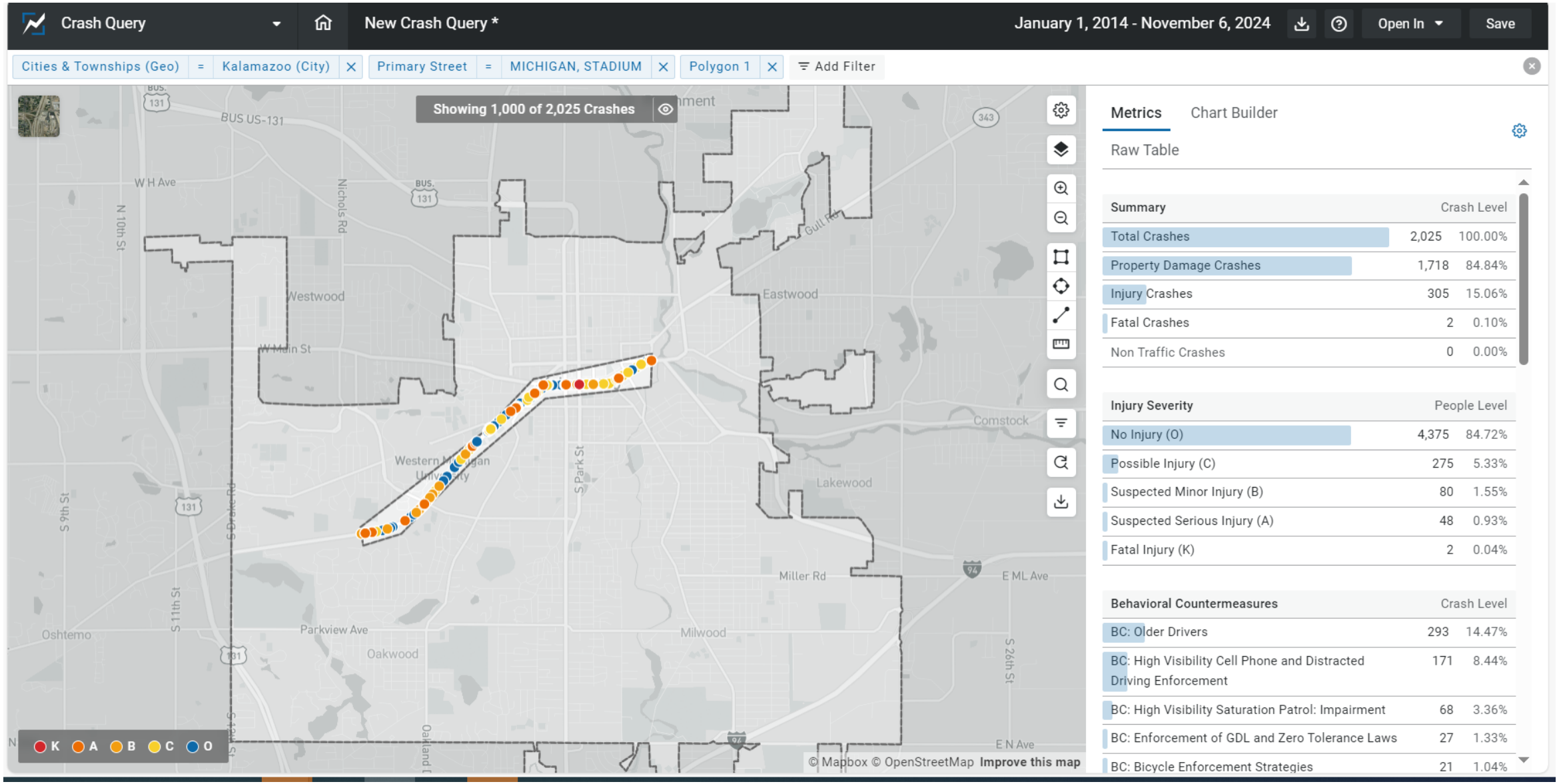
Pedestrian and Bicycle Related Crashes

	PEDESTRIAN AND BICYCLE RELATED CRASHES												
Period	Year	Kalamazoo Pedestrian Related	Kalamazoo Bike Related	Total Bike and Ped Related	Average for Period			Michigan Ped Related	Michigan Bike Related	Total Bike and Ped Related	Average for Period		
Before	2014	40	38	78				2,586	1,805	4,391			
	2015	58	44	102				2,644	1,921	4,565			
	2016	49	37	86				2,535	2,035	4,570			
	2017	58	33	91				2,630	1,781	4,411			
	2018	36	38	74				2,504	1,598	4,102			
	2019	46	37	83	86			2,599	1,534	4,133	4,362		
	2020	38	22	60				1,944	1,255	3,199			
	2021	33	23	56				2,063	1,284	3,347			
After	2022	42	29	71				2,158	1,403	3,561			
	2023	36	30	66				2,382	1,559	3,941			
	2024	34	41	75	71	-17.5%		2,225	1,846	4,071	3,858	-11.6%	
						Before/After Change						Before/After Change	
						City of Kalamazoo						State of Michigan	


Total Crashes
4,000
3,800
3,600
3,400
3,200
3,000
2,800
2,600
2,400
2,200
2,000
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Series1
Series2
Linear (Series1)


Ped and Bike Involved
120
100
80
60
40
20
0
2013
2014
2015
2016
2017
2018
2019
2022
2023
2024
2025
Bicycle Involved
Pedestrian Involved
Total Ped and Bike Involved
Average Before TTL

Traffic Analysis Systems


Crash Query
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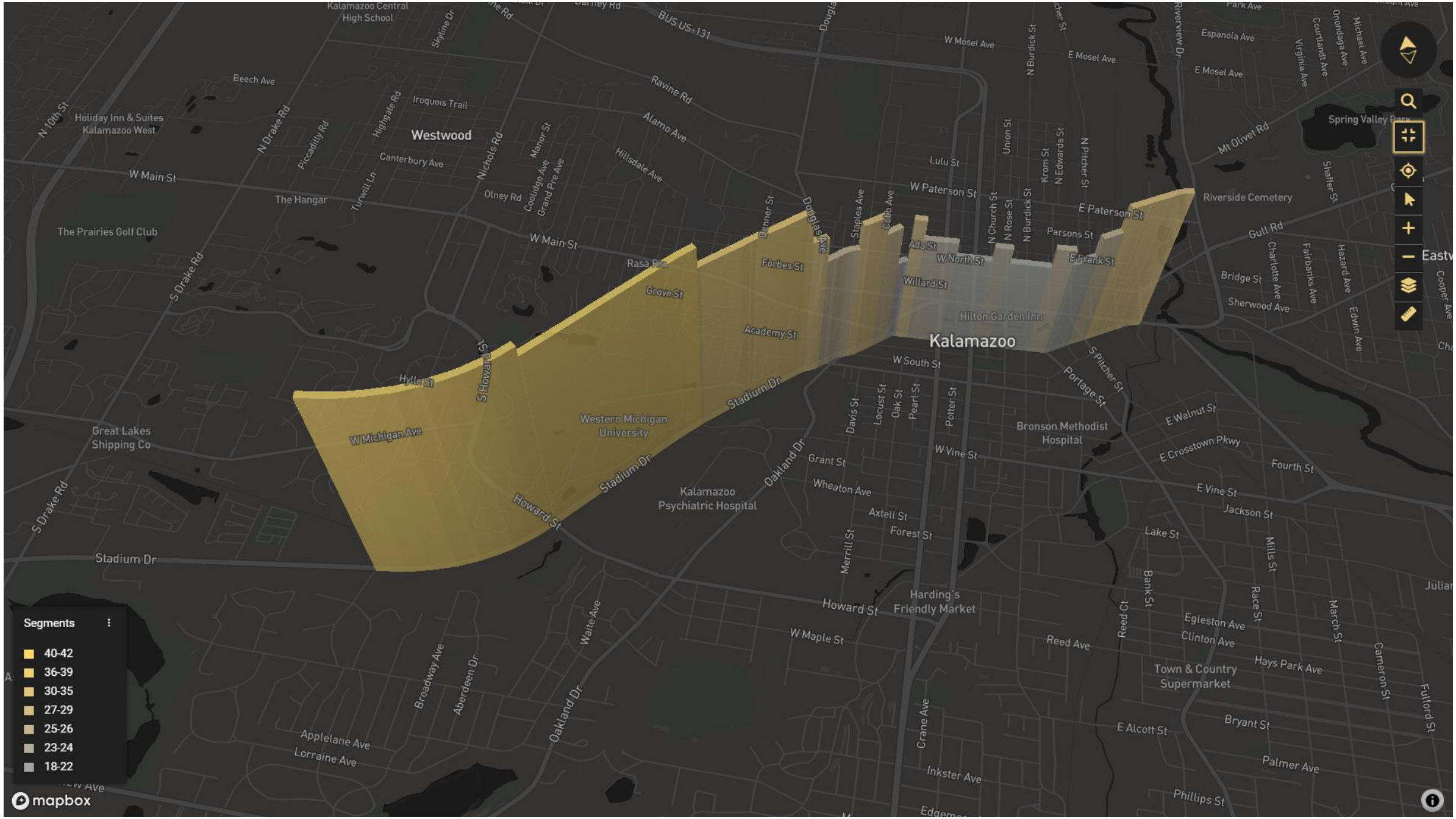
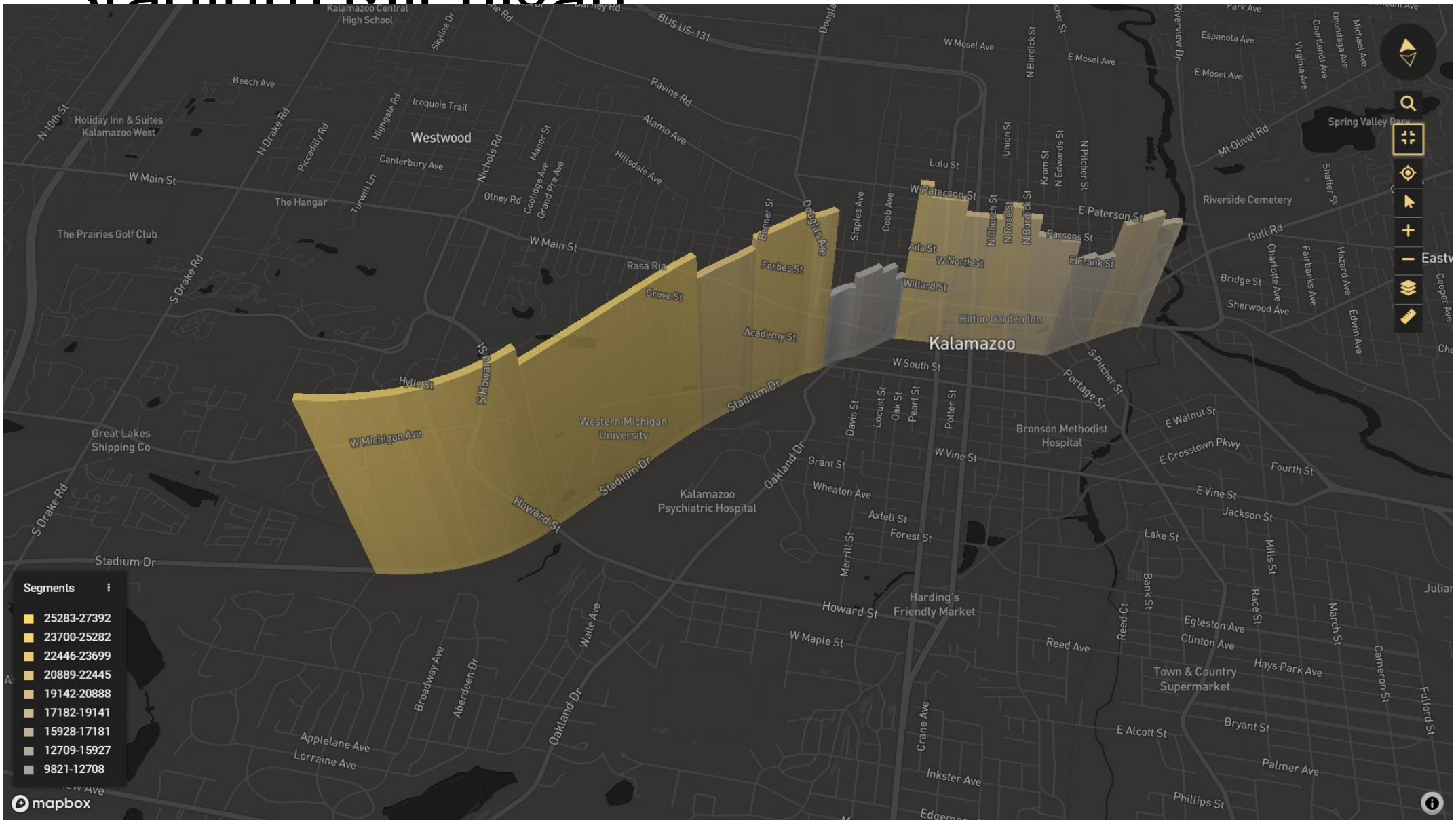
Primary Street = MICHIGAN, STADIUM
Polygon 1
Add Filter
Showing 1,000 of 2,025 Crashes
Metrics
Chart Builder
Raw Table
Summary Crash Level
Total Crashes 2,025 100.00%
Property Damage Crashes 1,718 84.84%
Injury Crashes 305 15.06%
Fatal Crashes 2 0.10%
Non Traffic Crashes 0 0.00%
Injury Severity People Level
No Injury (O) 4,375 84.72%
Possible Injury (C) 275 5.33%
Suspected Minor Injury (B) 80 1.55%
Suspected Serious Injury (A) 48 0.93%
Fatal Injury (K) 2 0.04%
Behavioral Countermeasures Crash Level
BC: Older Drivers 293 14.47%
BC: High Visibility Cell Phone and Distracted Driving Enforcement 171 8.44%
BC: High Visibility Saturation Patrol: Impairment 68 3.36%
BC: Enforcement of GDL and Zero Tolerance Laws 27 1.33%
BC: Bicycle Enforcement Strategies 21 1.04%
K A B C O
© Mapbox © OpenStreetMap Improve this map
BUS US-131
W H Ave
N 10th St
Nichols Rd
Westwood
W Main St
Eastwood
Gull Rd
Comstock
Lakewood
S Park St
S 9th St
S Drake Rd
S 11th St
Oshtemo
Parkview Ave
Oakwood
Miller Rd
Milwood
E ML Ave
S 26th St
E N Ave


Segments
40-42
36-39
30-35
27-29
25-26
23-24
18-22
Kalamazoo
Westwood
Western Michigan University
Kalamazoo Psychiatric Hospital
Bronson Methodist Hospital
Hilton Garden Inn
Holiday Inn & Suites Kalamazoo West
The Prairies Golf Club
Great Lakes Shipping Co
Harding's Friendly Market
Town & Country Supermarket
Riverside Cemetery
Spring Valley Park
Kalamazoo Central High School
The Hangar
W Main St
W Michigan Ave
Stadium Dr
Howard St
Oakland Dr
Portage St
Ravine Rd
BUS US-131
W Mosel Ave
E Mosel Ave
W Paterson St
E Paterson St
Mt Olivet Rd
Gull Rd
W South St
W Vine St
E Walnut St
E Crosstown Pkwy
E Vine St
Fourth St
Jackson St
Lake St
Reed Ave
W Maple St
Inkster Ave
Palmer Ave
Bryant St
E Alcott St
Phillips St
Egleston Ave
Clinton Ave
Hays Park Ave
Applelane Ave
Lorraine Ave
Broadway Ave
Aberdeen Dr
Waite Ave
Crane Ave
Reed Ct
Bank St
Race St
Mills St
March St
Cameron St
Fulford St
Beech Ave
Iroquois Trail
Canterbury Ave
Olney Rd
Hillsdale Ave
Alamo Ave
Lulu St
Ada St
W North St
Willard St
Forbes St
Grove St
Academy St
Rasa Rla
Hyllee St
S Howard St
Grant St
Wheaton Ave
Axtell St
Forest St
Merrill St
Davis St
Locust St
Oak St
Pearl St
Potter St
Parsons St
E Frank St
Bridge St
Sherwood Ave
Charlotte Ave
Fairbanks Ave
Hazard Ave
Edwin Ave
Shaffer St
Cooper Ave
Michael Ave
Onondaga Ave
Courtland Ave
Virginia Ave
Espanola Ave
Park Ave
Riverview Dr
N Burdick St
E Mosel Ave
Union St
Krom St
N Edwards St
N Pitcher St
N Church St
N Rose St
N Burdick St
Douglas Ave
Staples Ave
Gobb Ave
Denner St
Manor St
Coolidge Ave
Grand Prre Ave
Nichols Rd
Turwill Ln
Piccadilly Rd
Highgate Rd
N Drake Rd
S Drake Rd
N 10th St
Skyline Dr
Barney Rd
Douglas
S Pitcher St
mapbox

Stadium Michigan



Stadium Drive

Vehicle Speed: All Days/ All time Periods					
Year	Avg Segment Speed (mph)	50th Speed Percentile	85th Speed Percentile	95th Speed Percentile	
2019	27.57	29.10	35.81	39.33	mph
2024	26.67	28.00	35.81	39.67	mph
Difference	(0.90)	(1.10)	-	0.33	mph

Stadium Drive

Travel Time and Delay: All Days/ All Time Periods				
Year	Avg Segment Travel Time (sec)	Vehicle Miles of Travel (StL Volume)	Vehicle Hours of Delay (StL Volume)	
2019	363	74829.08	335.87	
2024	372	60488.56	288.48	
Difference	9	-14340.5	-47.39	
Percent Change	2.5%	-19.2%	-14.1%	

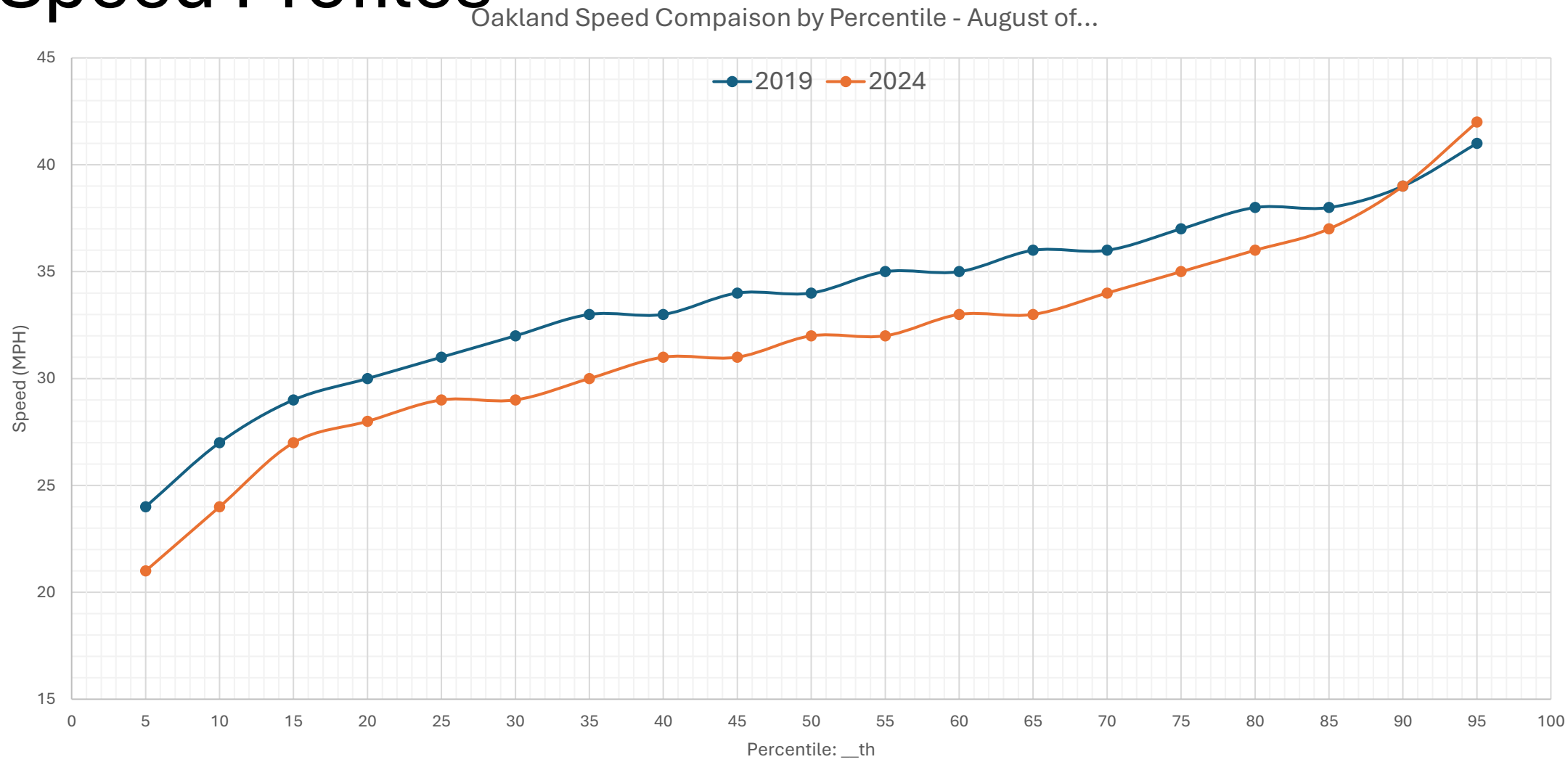
Stadium Drive

	Avg Segment Speed (mph)	50th Speed Percentile	85th Speed Percentile	95th Speed Percentile	
2019	26.52	28.19	35.05	38.52	mph
2024	25.05	26.10	34.43	38.43	mph
Change	(1.48)	(2.10)	(0.62)	(0.10)	

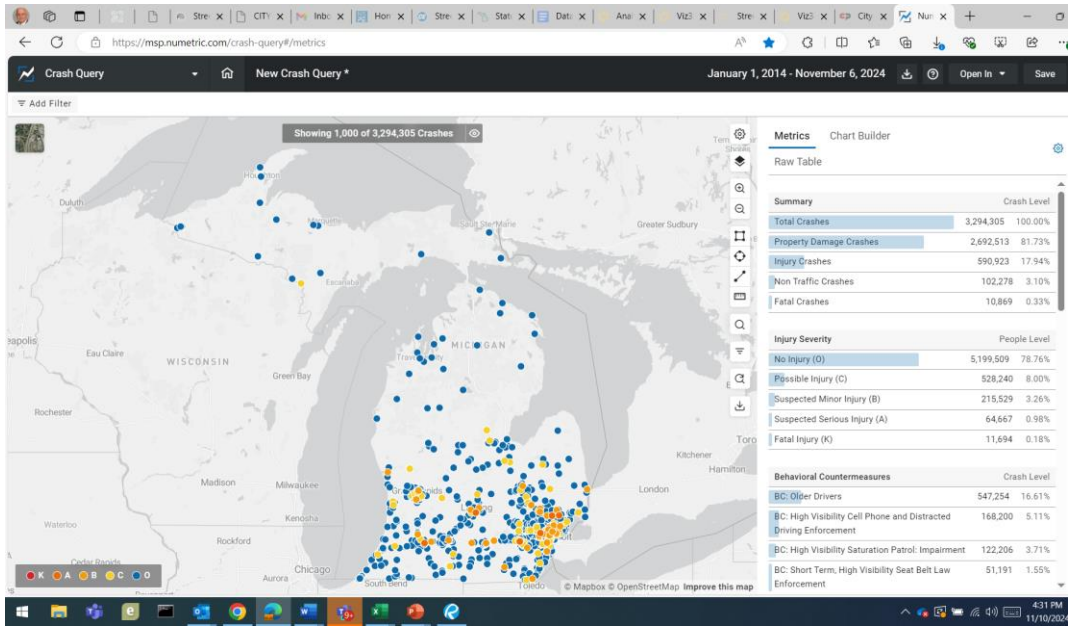
Stadium Drive

	Avg Segment Travel Time (sec)	Vehicle Miles of Travel (StL Volume)	Vehicle Hours of Delay (StL Volume)
2019	381	20988.84	121.53
2024	402	16987.24	110.59
Change	21	-4001.6	-10.94
	Minutes		
2019	6.35	349.81	2.03
2024	6.70	283.12	1.84
Change	0.35	(66.69)	(0.18)

Speed Profiles



Michigan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Crash Query
New Crash Query *
January 1, 2014 - November 6, 2024
Open In
Save
Add Filter
Showing 1,000 of 3,294,305 Crashes
Metrics
Chart Builder
Raw Table
Summary
Crash Level
Total Crashes 3,294,305 100.00%
Property Damage Crashes 2,692,513 81.73%
Injury Crashes 590,923 17.94%
Non Traffic Crashes 102,278 3.10%
Fatal Crashes 10,869 0.33%
Injury Severity
People Level
No Injury (O) 5,199,509 78.76%
Possible Injury (C) 528,240 8.00%
Suspected Minor Injury (B) 215,529 3.26%
Suspected Serious Injury (A) 64,667 0.98%
Fatal Injury (K) 11,694 0.18%
Behavioral Countermeasures
Crash Level
BC: Older Drivers 547,254 16.61%
BC: High Visibility Cell Phone and Distracted Driving Enforcement 168,200 5.11%
BC: High Visibility Saturation Patrol: Impairment 122,206 3.71%
BC: Short Term, High Visibility Seat Belt Law Enforcement 51,191 1.55%
MICHIGAN
WISCONSIN
Duluth
Eau Claire
Green Bay
Rochester
Madison
Milwaukee
Chicago
Aurora
Kenosha
Rockford
Waterloo
Greater Sudbury
London
Kitchener
Hamilton
Toledo
South Bend
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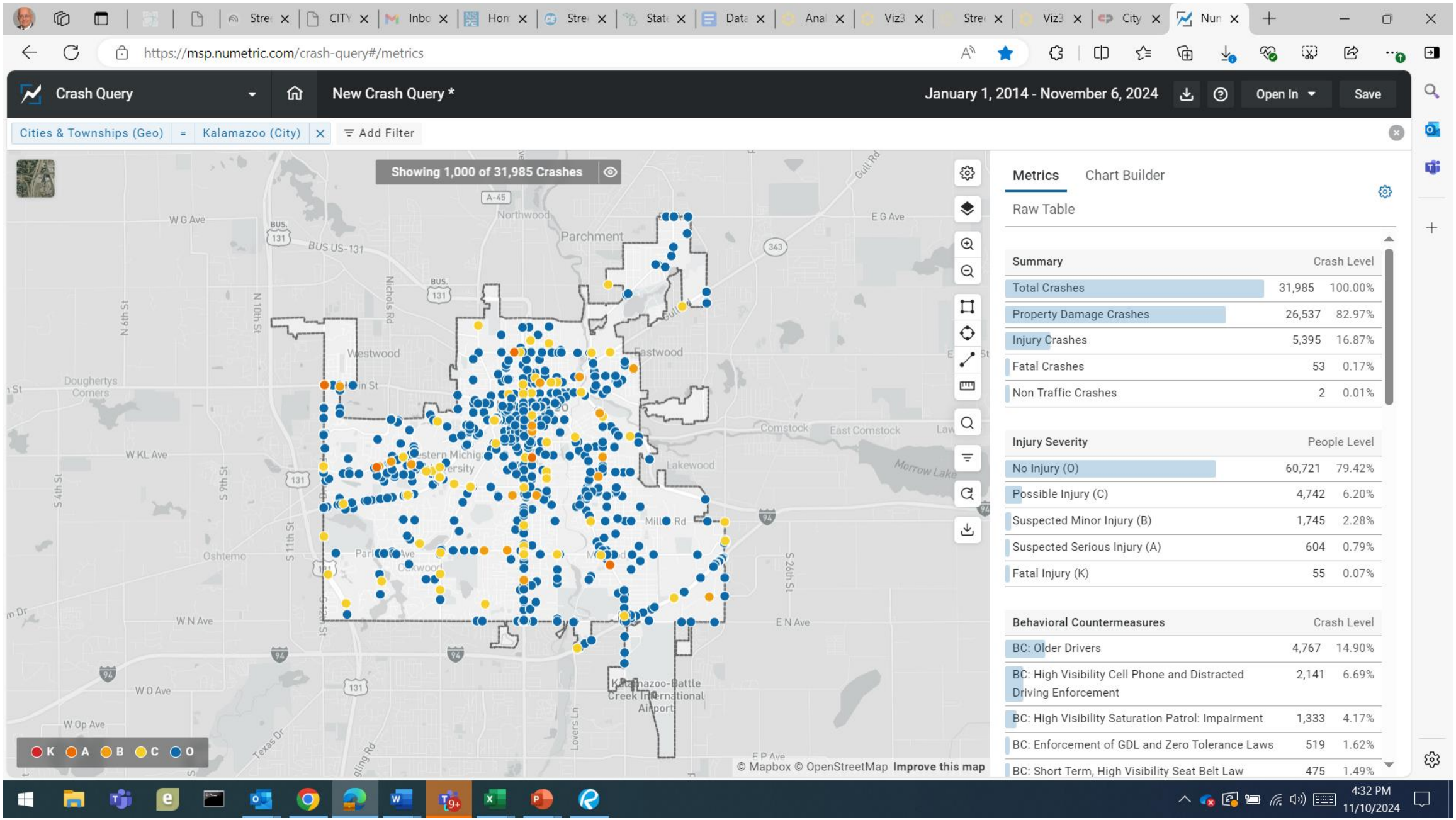
4:31 PM
11/10/2024


Crash Query
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Open In
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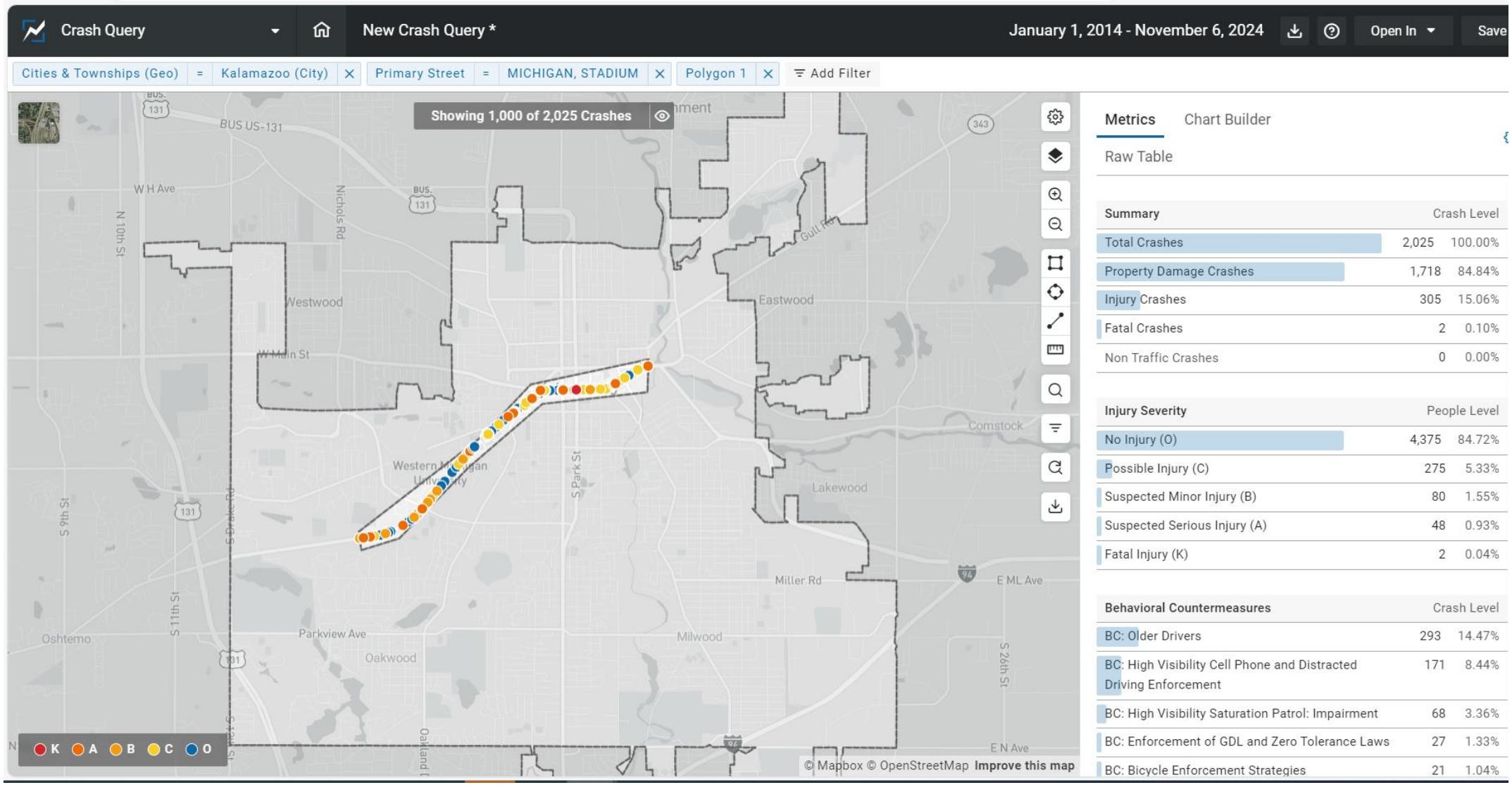
Cities & Townships (Geo) = Kalamazoo (City)
Add Filter
Showing 1,000 of 31,985 Crashes
Metrics
Chart Builder
Raw Table
Summary Crash Level
Total Crashes 31,985 100.00%
Property Damage Crashes 26,537 82.97%
Injury Crashes 5,395 16.87%
Fatal Crashes 53 0.17%
Non Traffic Crashes 2 0.01%
Injury Severity People Level
No Injury (O) 60,721 79.42%
Possible Injury (C) 4,742 6.20%
Suspected Minor Injury (B) 1,745 2.28%
Suspected Serious Injury (A) 604 0.79%
Fatal Injury (K) 55 0.07%
Behavioral Countermeasures Crash Level
BC: Older Drivers 4,767 14.90%
BC: High Visibility Cell Phone and Distracted Driving Enforcement 2,141 6.69%
BC: High Visibility Saturation Patrol: Impairment 1,333 4.17%
BC: Enforcement of GDL and Zero Tolerance Laws 519 1.62%
BC: Short Term, High Visibility Seat Belt Law 475 1.49%
K A B C O
© Mapbox © OpenStreetMap Improve this map
Parchment
Northwood
Westwood
Eastwood
Comstock
East Comstock
Lakewood
Oshtemo
Kalamazoo-Battle Creek International Airport
4:32 PM
11/10/2024

Stadium & Michigan



Discussion