T E C H N I C A L M E M O R A N D U M

TRAFFIC CRASHES AND SAFETY PERFORMANCE MEASURES 2019-2021

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This report was prepared by the Akron Metropolitan Area Transportation Study (AMATS) in cooperation with the U.S. Department of Transportation, the Ohio Department of Transportation, and the Village, City and County governments of Portage and Summit Counties and Chippewa and Milton Township in Wayne County. The contents of this report reflect the views of AMATS, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view and policies of the Ohio and/or U.S. Department of Transportation. This report does not constitute a standard, specification or regulation.

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Section 1: A New Vision for Safety-Safe Streets for All

Overview of Safe Streets for All (SS4A)

SS4A is a new program established through the new Federal funding bill known as the Bipartisan Infrastructure Law (BIL). $5 billion is authorized over the next five years, with approximately $1 billion being available each year.

The focus of the program is on preventing fatalities and serious injuries on our roadways. SS4A is a funding mechanism to move forward Transportation Pete Buttigieg's National Roadway Safety Strategy and the Department's goal of zero deaths and serious injuries on our nation's roadways.

SS4A funding grants can be used for developing Action Plans or implementing projects. AMATS has decided to create an Action Plan internally, which is what our SS4A taskforce is doing right now. The idea behind creating an Action Plan is to queue up a list of possible projects that will be eligible for Implementation Plan grants in future fiscal years.

Although AMATS is developing the Action Plan without SS4A funding, we still want to ensure that the plan is compliant with the components required in such Action Plans. There is considerable flexibility in the federal government's guidelines on how to develop an Action Plan, though the following components are identified in a plan's development:

- **Leadership commitment and goal setting** that includes a goal timeline for eliminating roadway fatalities and serious injuries.

- **Planning structure** through a committee, task force, implementation group, or similar body charged with oversight of the Action Plan development, implementation, and monitoring.

- **Safety analysis** of the existing conditions and historical trends that provides a baseline level of crashes involving fatalities and serious injuries across a jurisdiction or region.

- **Engagement and collaboration** with the public and relevant stakeholders, including the private sector and community groups, that allows for both community representation and feedback.

- **Equity** considerations developed through a plan using inclusive and representative processes.

- **Policy and process changes** that assess the current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize transportation safety.

- **Strategy and project selections** that identify a comprehensive set of projects and strategies, shaped by data, the best available evidence and noteworthy practices, as well as stakeholder input and equity considerations, that will address the safety problems described in the Action Plan.

- **Progress and transparency methods** that measure progress over time after an Action Plan is developed or updated, including outcome data.

After the plan is completed, AMATS and its members may decide to pursue Implementation Grants in future fiscal years' funding rounds. These grants can fund a large variety of infrastructure, behavioral, and operational safety activities that are identified. FHWA listed the following activities as illustrative examples:

- **Applying low-cost roadway safety treatments** system-wide, such as left- and right-turn lanes at intersections, centerline and shoulder rumble strips, wider edge lines, high-friction surface treatments, road diets, and better signage along high-crash urban and rural corridors.

- **Identifying and correcting common risks** across a network, such as improving pedestrian crosswalks by adding high-visibility pavement markings, lighting, and signage at transit stops, in a designated neighborhood, or along a busy public transportation route.

- **Transforming a roadway corridor** on a High-Injury Network into a Complete Street with safety improvements to control speed, separate users, and improve visibility, along with other measures that improve safety for all users.

- **Installing pedestrian safety enhancements and closing network gaps** with sidewalks, rectangular rapid-flashing beacons, signal improvements, and audible pedestrian signals for people walking, rolling, or using mobility assisted devices.

- **Working with community members in an identified problem area** to carry out quick-build street design changes informed by outreach and user input.

- **Supporting the development of bikeway networks** with bicycle lanes for different roadway volumes and speeds that are safe for people of all ages and abilities.

- **Carrying out speed management strategies** such as implementing traffic calming road design changes, addressing speed along key corridors through infrastructure, conducting education and outreach, setting appropriate speed limits, and making strategic use of speed safety cameras.

- **Creating safe routes to school and public transit services** through multiple activities that lead to people safely walking, biking, and rolling in underserved communities.

- **Promoting the adoption of innovative technologies or strategies to promote safety** and protect vulnerable road users in high-traffic areas where commercial motor vehicles (CMVs), pedestrians, bicyclists, motorcyclists, etc. interact.

- **Conducting education campaigns to accompany new or innovative infrastructure**, such as roundabouts, pedestrian hybrid beacons, or pedestrian-only zones.

- **Implementing standard and novel data collection and analysis technologies and strategies** to better understand vulnerable road user (pedestrian/bicycle/transit rider) network gaps and to collect exposure data.

- **Deploying advanced transportation technologies**, such as the installation of connected intersection-based safety solutions and vehicle-to-infrastructure (V2I) advisory speed limit systems (e.g., Intelligent Speed Assistance [ISA]).

- **Combating roadway departure crashes** through enhanced delineation, shoulder widening, rumble strips, and roadside safety improvements.

- **Evaluating and improving the safety of intersections** by considering innovative design changes, improved delineation, and advanced warning.

This Technical Memorandum, along with other data sources, will be used to help evaluate and determine where fatal and severe injury crashes are occurring and where vulnerable areas and users and located. After this network is identified, strategies in the Action Plan will be identified for funding and implementation.

Section 2: AMATS Area Crashes

Overview

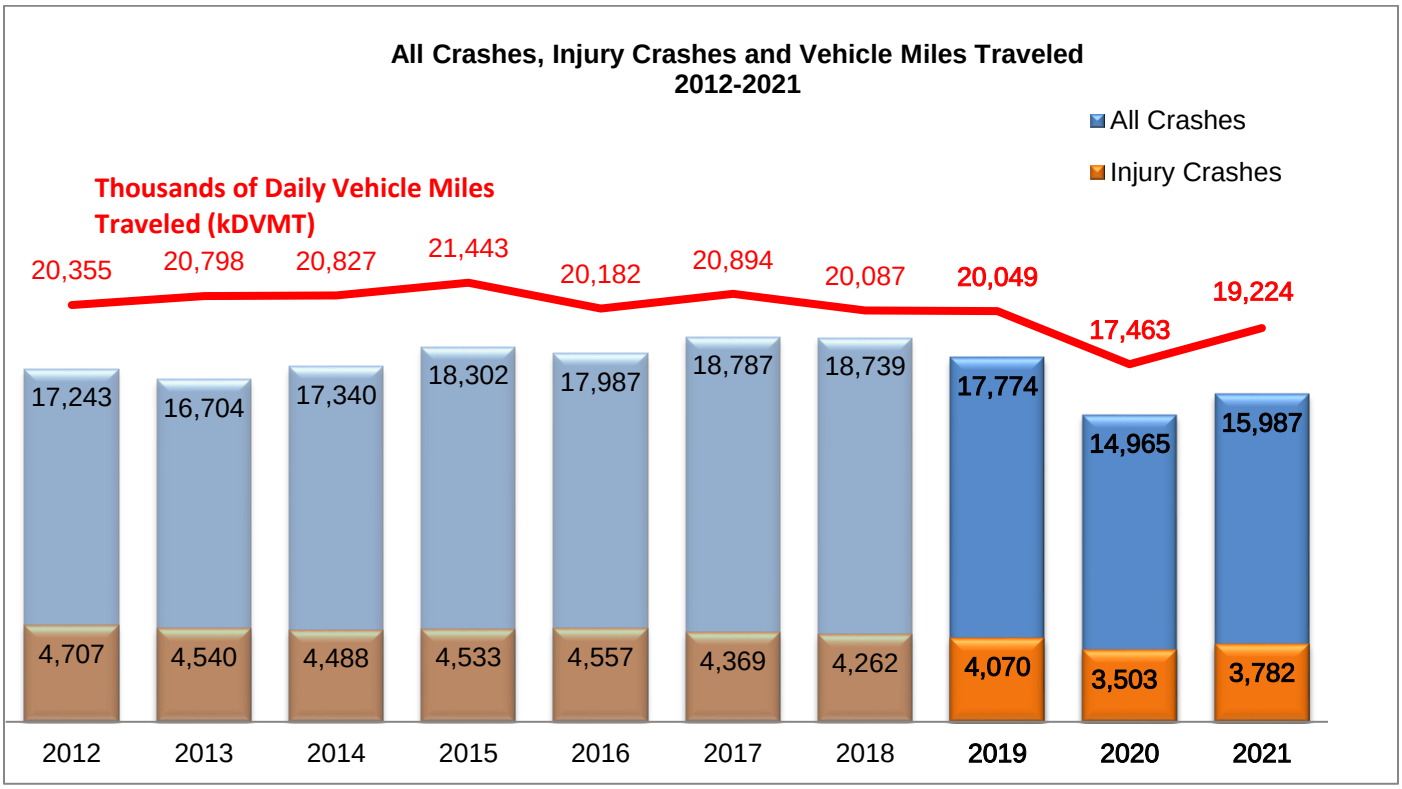
The 2019-2021 Crash Memorandum was prepared by reviewing 48,726 crash records obtained from the Ohio Department of Transportation (ODOT). Animal crashes and construction zone crashes were removed and not included in the analysis since they do not relate to the characteristics of the roadway. The data is then imported in into GIS and plotted. It is carefully checked for location accuracy and then categorized as section or intersection crashes. The roadway section and intersection locations are further analyzed and then ranked. In Section 3 Bicycle and Pedestrian-Related Crashes are discussed. Section 4 highlights Safety Performance Measures and Targets. Freeway crashes are not included in this report and instead are analyzed and ranked by the Ohio Department of Transportation.

Trends

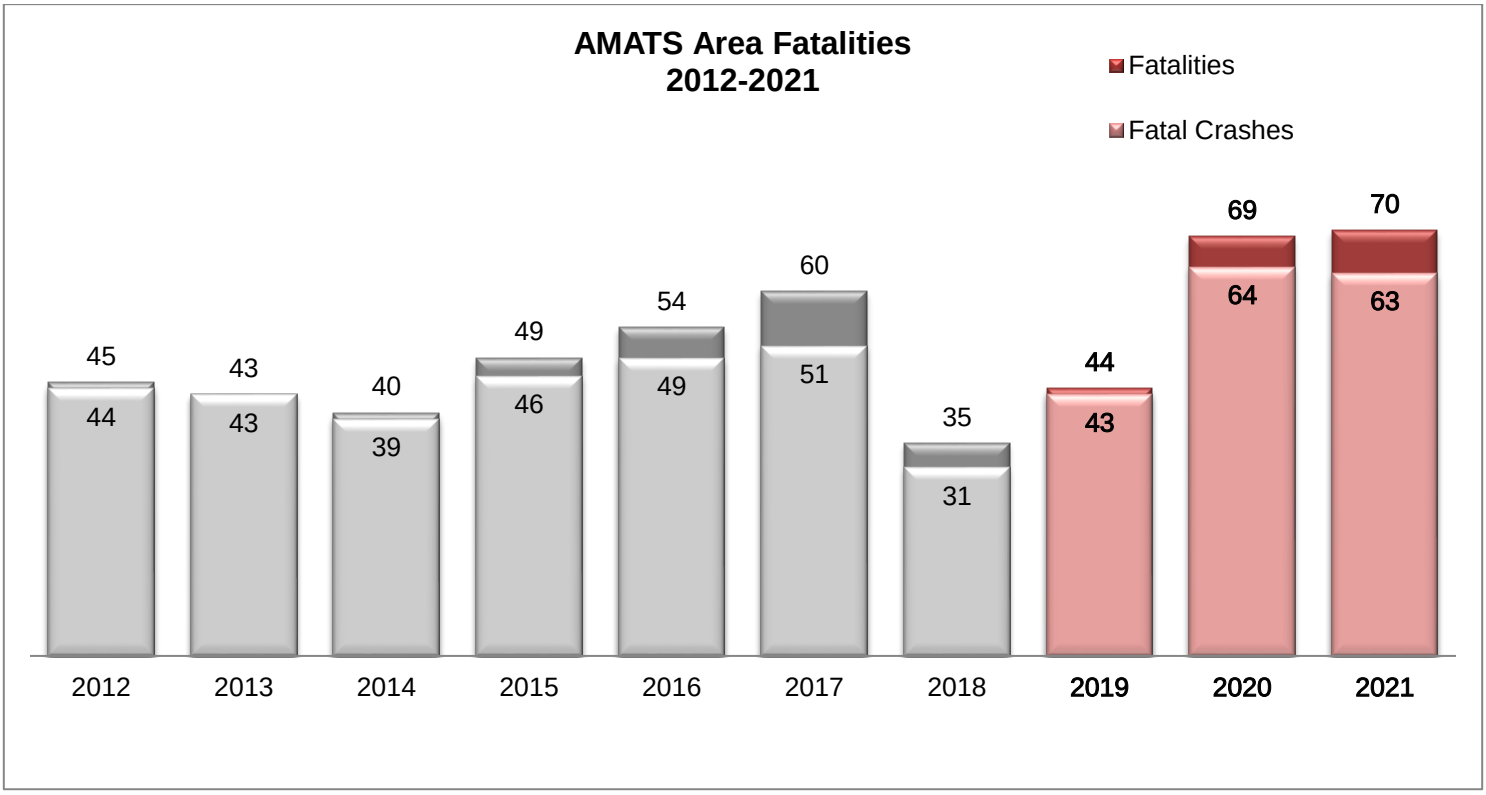
The pandemic in 2020 created a substantial decrease in Vehicle Miles Traveled (VMT) and in overall crashes. However, the number of fatalities in 2020 went up significantly and remained high in 2021. There is no clear explanation for this phenomenon other than speculation that less traffic in 2020 led to higher speeds and more fatal crashes. It appears that the pandemic changed safety, hopefully not permanently.

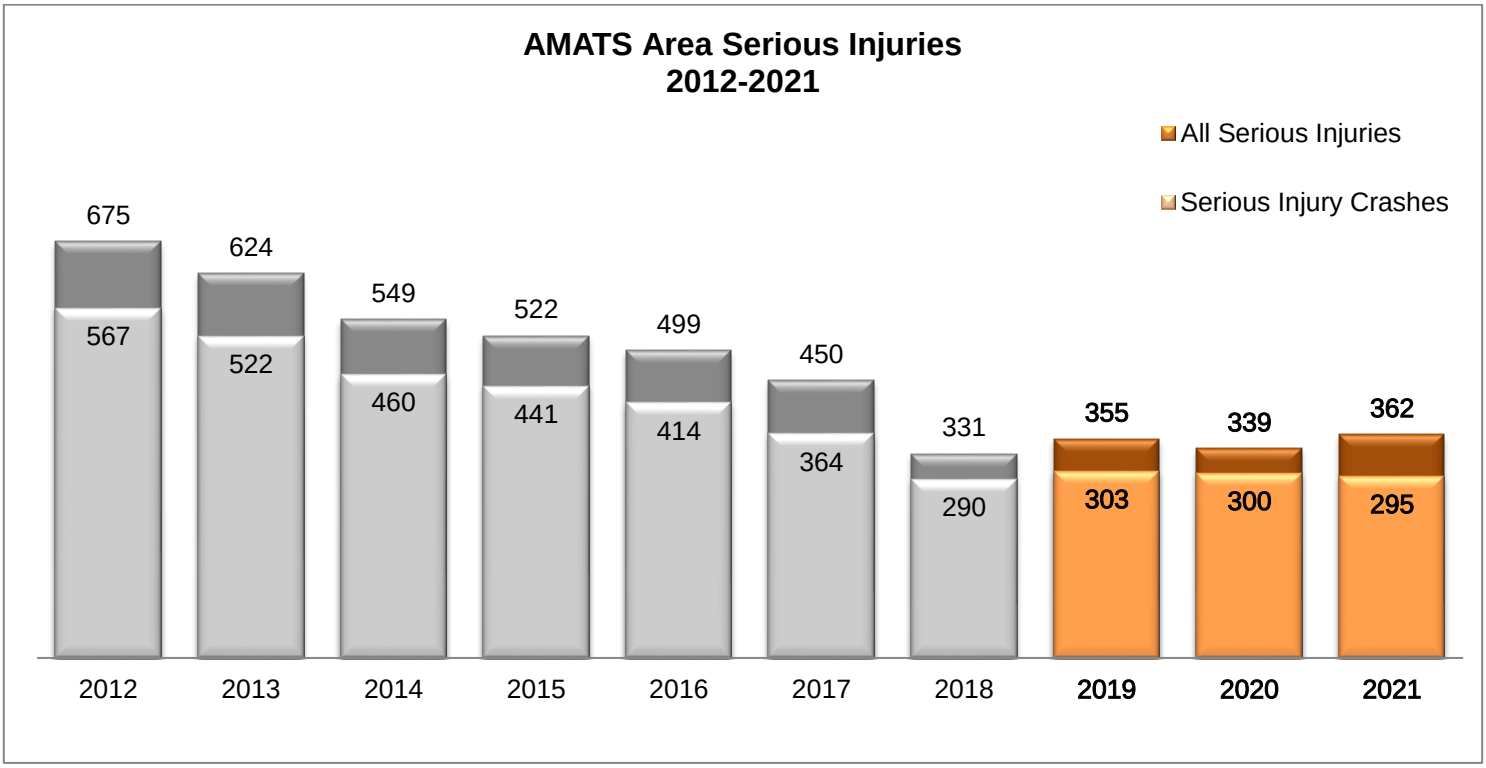
In 2021, the overall number of crashes in the AMATS area increased by 1,022 from 2020. This is approximately a 6% increase from 2020. Injury crashes increased by 279 or 8% but fatal crashes stayed nearly the same. Unfortunately, 2020 and 2021 fatalities, at 69 and 70 respectively, were much higher than 2019 fatalities, which was 44.

The following graph shows the number of total crashes in the AMATS area between 2012 and 2021. The red line at the top shows thousands of daily vehicle miles traveled (kDVMT) in the AMATS area. This data was obtained from the ODOT Office of Technical Services. In 2021 kDVMT was still down 4% from 2019 and is still rebounding since the low point during the pancemic.



The following graphs show the number of fatal crashes and serious injury crashes as well as the resulting fatalities and serious injuries between 2012 and 2021. A crash is one event, but it may involve multiple vehicles or multiple occupants and result in multiple fatalities or injuries. Fatal crashes and serious injury crashes are hard to graph on the previous graph with the others because they are a small percentage of all crashes.





Methodology

The 2019-2021 Crash Report uses Geographical Information System (GIS) coordinates to plot crashes. Sometimes the coordinates are not correct in the imported data and crashes must be manually moved to their proper location based on the description on the police report. This is time-consuming but necessary for an accurate report.

Another challenge is determining if a crash should be considered section or intersection related. Not all crashes that occur near an intersection are classified as intersection related. An example would be a single vehicle departing the roadway and hitting a tree at a location that just happens to be near an intersection. Another example would be a crash occurring as vehicles are departing an intersection. If the intersecting street is used as a reference the crash appears to be intersection related when it wasn't. Most of the time the police officer's crash report must be reviewed to gain a better understanding of these types of crashes. The final decision is based on the location of the vehicles and the nature of the crash.

Once crashes are properly identified as intersection or section related, the crash is assigned a unique identification number for sorting of the crashes. The final step in GIS is to sum up all the crashes that occur within each unique intersection or section.

Once the analysis in GIS is done, a list of high crash sections and intersections is produced. This criterion is now focused on crash severity in addition to number to crashes. The following is the minimum criteria used to be considered a "high crash" location.

- The high crash criterion for roadway sections is 3 or more crashes per mile per year.
- The high crash criterion for intersections is 9 or more crashes in the three-year period.
- A minimum of 30 percent of the crashes at a location must be fatal or injury related for both roadway sections and intersections to be considered a high crash location.

Once the locations that meet the minimum criteria are obtained a final score is calculated based on where the location ranked according to number of crashes and where it ranked according to percentage of fatal and injury crashes.

High Crash Roadway Sections

A "section" is defined as a length of roadway between two logical termini such as intersections with other roadways. The length of a section is usually shorter in urban areas and could be miles long in a rural area. All roads in the AMATS area were considered, including those that are not federally classified.

- AMATS identified 143 high crash roadway sections that have 3 or more crashes per mile per year and at least 30 percent of the crashes are fatal or injury-related over the three-year period.

- Table 1 lists the 143 high crash roadway sections ranked by composite score. This table also notes if any crashes were bicycle or pedestrian related. Map 1 shows the top 50 high crash roadway sections. A location in red font indicates at least one fatality. There are 27 segments that had at least one fatality.

Table 1

HIGH CRASH ROADWAY SECTIONS

RANKED BY SCORE BASED ON NUMBER OF CRASHES AND PERCENT OF INJURY AND FATAL CRASHES

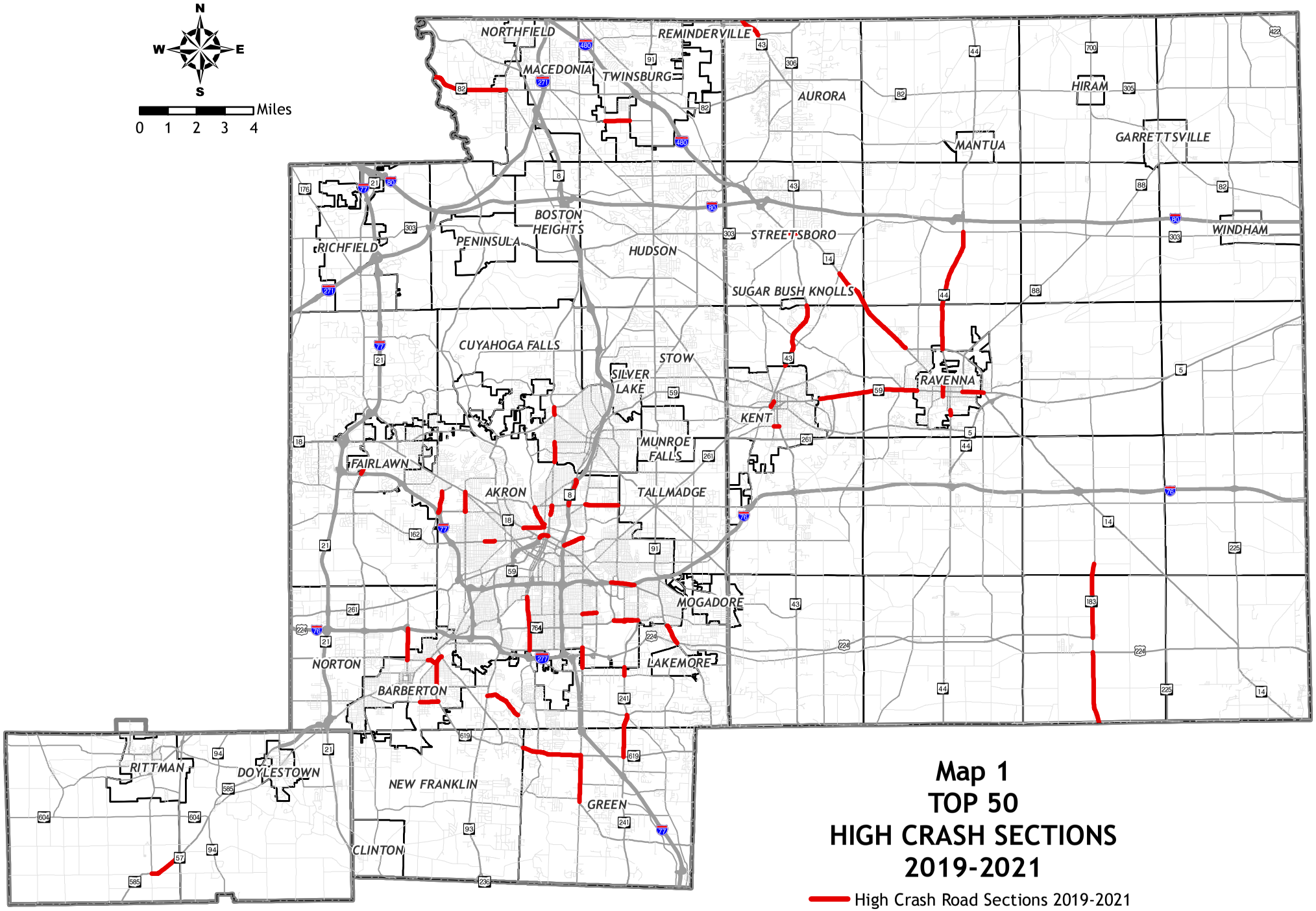
2019-2021

Rank	Roadway Section	Length (miles)	Total Crashes	Crashes per Mile per Year	Crashes per Mile per Year Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
1	SR 59 from Alpha Dr to SR 261	0.41	15	12	17	53%	5	22	0	0	Portage-Franklin Twp
1	Massillon Rd (SR241) from Krumroy Rd (CR 130) to Oaks Dr / Akron SCL	0.29	10	11	21	60%	1	22	0	0	Summit-Springfield Twp
3	River St (SR 43) from Haymaker Pkwy (SR 59) to W Main St	0.21	9	14	13	44%	25	38	0	0	Kent
4	M.L. King Blvd (SR 59) from W Market St Overpass to N Broadway St	0.18	22	41	2	41%	53	55	0	0	Akron
5	S Cleveland-Massillon Rd from I-77 to Rosemont Blvd/Elgin Dr	0.53	30	19	6	40%	55	61	0	0	Fairlawn
6	SR 43 from Kent North Corp Line to Streetsboro South Corp Line	2.40	79	11	24	42%	43	67	0	0	Portage-Franklin Twp
6	Arlington Rd from Greensburg Rd to Turkeyfoot Lake Rd (SR 619)	1.68	33	7	53	48%	14	67	0	0	Green
8	Copley Rd (SR 162) from Storer Ave to East Ave	0.36	26	24	4	38%	66	70	1	0	Akron
9	E Main St (SR 59) from Freedom St (SR 88) to SR 14/SR 44	0.75	42	19	7	38%	68	75	0	0	Ravenna
10	Norton Ave/Fairview Ave from Wooster Rd N to 5th St NE (SR 619)	0.33	5	5	75	60%	1	76	0	0	Barberton
11	5th St NE (SR 619) from Robinson Ave to State St	1.15	34	10	31	41%	50	81	0	1	Barberton
12	N Main St (SR 261) from Olive St (W) to E Tallmadge Ave	0.32	10	10	28	40%	55	83	0	0	Akron
13	State Rd from Cuyahoga Falls Corp Line to Broad Blvd	0.66	39	20	5	36%	81	86	1	0	Cuyahoga Falls
13	SR 59 from Brady Lake Rd (CR 162) to Ravenna West Corp Line	0.45	12	9	42	42%	44	86	0	0	Portage-Ravenna Twp
15	SR 14 from SR 303 (W) to SR 303 (E)	0.33	42	42	1	33%	90	91	0	0	Streetsboro
15	SR 59 from SR 261 to Brady Lake Rd (CR 162)	2.55	72	9	37	40%	54	91	0	1	Portage-Franklin/Ravenna Twps
15	SR 14 from Streetsboro East Corp Line to Cleveland Rd (CR 171)	2.23	42	6	57	43%	34	91	0	0	Portage-Shalersville/Ravenna Twps
18	Canton Rd (SR 91) from Waterloo Rd (US224) to Akron SCL	0.72	24	11	23	38%	69	92	0	2	Summit-Springfield Twp
18	Barber Rd from Norton Ave to I-76	1.11	18	5	67	44%	25	92	0	0	Barberton/Norton
18	N Forge St from Fountain St to N Arlington St	0.70	11	5	72	45%	20	92	0	0	Akron
21	W Turkeyfoot Lake Rd (SR 619) from Green West Corp Line to S Main St	0.50	16	11	25	38%	69	94	0	1	Green
22	W North St from W Market St (SR 18) to N Howard St	0.74	11	5	76	45%	20	96	0	1	Akron
23	S Hawkins Ave from Mull Ave Circle to W Market St (SR 18)	0.81	14	6	63	43%	34	97	0	1	Akron
23	SR 183 from German Church Rd (TR 49) to Waterloo Rd (US 224)	2.48	31	4	90	52%	7	97	0	0	Portage-Atwater Twp
25	E Tallmadge Ave (SR 261) from Home Ave to Brittain Rd	1.16	52	15	12	35%	87	99	0	2	Akron
26	N Aurora Rd (SR 43) from Treat Rd to Aurora NCL	0.78	11	5	82	45%	20	102	0	0	Aurora
27	W Aurora Rd (SR 82) from Cuyahoga County Line to Olde Eight Rd (CR 16)	2.69	34	4	89	47%	15	104	0	0	Summit-Sagamore Hills/Northfield Center Twps
28	S Main St from Wilbeth Rd (SR 764) to S Broadway St	1.11	42	13	15	33%	90	105	2	0	Akron
29	SR 14 from Diagonal Rd to Streetsboro East Corp Line	1.30	33	8	44	39%	63	107	0	0	Streetsboro
29	E Turkeyfoot Lake Rd (SR 619) from S Main St to Arlington Rd	1.56	38	8	45	39%	62	107	0	0	Green
29	SR 585 from Benner Rd to SR 57	1.20	15	4	90	47%	17	107	0	0	Wayne-Milton Twp
32	Snyder Ave from Van Buren Ave to 5th St SE	0.65	9	5	83	44%	25	108	0	0	Barberton
33	S Main St from Waterloo Rd to Wilbeth Rd (SR 764)	0.77	15	6	54	40%	55	109	0	1	Akron
34	Portage Lakes Dr (CR 75) from Manchester Rd (SR 93) to S Turkeyfoot Rd (CR123)	1.38	18	4	85	44%	25	110	0	0	Summit-Coventry Twp
35	Gorge Blvd from Tallmadge Ave (SR 261) to Cuyahoga Falls Ave	0.95	17	6	61	41%	50	111	0	0	Akron
36	E Highland Rd (CR111) from Chamberlin Rd (CR128) to Hadden Rd (TR129)	0.88	11	4	92	45%	20	112	0	0	Summit-Twinsburg Twp
37	E Archwood Ave from S Arlington St to Kelly Ave	0.49	7	5	79	43%	34	113	0	1	Akron
38	Cuyahoga St from N Howard St to Memorial Pkwy/E Tallmadge Ave	0.76	12	5	71	42%	44	115	0	0	Akron
39	Cherry St from Franklin Ave to S Water St (SR 43)	0.18	2	4	107	50%	9	116	0	0	Kent
39	Sycamore St from W Main St (SR 59) to Highland Ave	0.18	2	4	107	50%	9	116	0	0	Ravenna
39	Sycamore St from Riddle Ave to W Main St (SR 59)	0.18	2	4	107	50%	9	116	0	0	Ravenna
42	S Prospect St from Ravenna SCL to Lake Ave	0.19	6	11	27	33%	90	117	0	0	Ravenna
43	White Pond Dr from I-77 to Frank Blvd	0.77	12	5	74	42%	44	118	0	0	Akron
44	S Arlington St from Bruce Rd/Akron SCL to E Waterloo Rd	0.70	21	10	30	33%	90	120	0	0	Akron
44	SR 183 from US 224 to Clark Rd (TR 121)	2.60	27	3	114	52%	6	120	0	1	Portage-Atwater/Edinburg Twps
46	Massillon Rd (SR 241) from Turkeyfoot Lake Rd (SR 619) to Killian Rd	1.50	17	4	106	47%	15	121	0	0	Green
46	SR 44 from SR 14 to SR 303	4.27	45	4	113	51%	8	121	0	0	Portage-Ravenna/Shalersville Twps
48	E Market St (SR 18) from Seiberling St to Mogadore Rd	0.82	24	10	32	33%	90	122	0	1	Akron
49	State Rd from Portage Trail to Graham Rd	0.27	22	27	3	32%	120	123	0	0	Cuyahoga Falls
49	Triplett from Seiberling St to Hilbish Ave	0.84	12	5	79	42%	44	123	2	0	Akron
51	SR 14 from SR 303 (E) to Diagonal Rd	2.01	112	19	8	33%	116	124	0	0	Streetsboro
51	E Thornton St from S Main St to Grant St	0.42	12	10	34	33%	90	124	0	0	Akron
51	E Glenwood Ave from Howard St to SR 8	0.84	24	10	34	33%	90	124	0	0	Akron

Rank	Roadway Section	Length (miles)	Total Crashes	Crashes per Mile per Year	Crashes per Mile per Year Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
54	S Canton Rd (SR 91) from E Market St (SR 18) to Mogadore Rd	0.55	14	8	43	36%	82	125	0	0	Akron
54	Copley Rd (SR 162) from Collier Rd to St Micheals	0.50	11	7	50	36%	75	125	0	0	Akron
54	Mogadore Rd (CR 81) from Tallmadge Rd (CR 18) to SR 261	2.52	28	4	107	46%	18	125	0	0	Portage-Brimfield Twp/Tallmadge
57	Brittain Rd from Independence Ave to Howe Ave	0.56	7	4	92	43%	34	126	0	0	Akron
57	Wall St (CR 159) from Red Brush Rd (CR 158) to Cleveland Rd (CR 171)	1.30	16	4	95	44%	31	126	0	0	Portage-Ravenna Twp
59	SR 59 from SR 14/SR 44 to SR 5	0.78	9	4	102	44%	25	127	0	0	Portage-Ravenna Twp
59	8th St NW from Wooster Rd W to Hopocan Ave	0.39	4	3	118	50%	9	127	0	0	Barberton
61	Smith Rd (CR116) from Owasso Ave to Sand Run Rd	0.96	27	9	38	33%	90	128	0	0	Summit-Bath Twp/Akron
62	S Hawkins Ave from Vernon Odom Blvd (SR 261) to Copley Rd (SR 162)	1.31	35	9	41	34%	88	129	0	0	Akron
63	Manchester Rd (SR 93) from State St (CR162) to Robinson Ave (CR 54)	0.89	44	16	10	32%	120	130	0	1	Summit-Coventry Twp
64	Northampton Rd from Portage Trail to Bath Rd	2.36	28	4	98	43%	34	132	0	0	Cuyahoga Falls
65	Diagonal Rd from S Hawkins Ave to Superior Ave	0.59	11	6	58	36%	75	133	0	0	Akron
65	SR 5/44 from Prospect St to SR 14	3.04	29	3	130	59%	3	133	0	0	Portage-Ravenna Twp
67	State Rd from Steels Corners Rd to Wyoga Lake Rd	1.79	21	4	100	43%	34	134	0	0	Cuyahoga Falls
68	Massillon Rd (SR241) from Killian Rd (CR135) to Krumroy Rd (CR130)	1.39	16	4	104	44%	31	135	0	0	Summit-Springfield Twp
69	Wooster Rd W from 31st St to 14th St NW	1.01	48	16	11	31%	125	136	0	0	Barberton
69	Russell Ave/Superior Ave from East Ave to Diagonal Rd	0.74	18	8	46	33%	90	136	0	0	Akron
71	Wooster Rd N from Norton Ave to State St	0.50	19	13	14	32%	123	137	0	0	Barberton
71	SR 585 from Fulton Rd to Benner Rd	1.61	27	6	64	37%	73	137	0	1	Wayne-Milton Twp
73	SR 14 from I-76 to SR 183	0.78	18	8	48	33%	90	138	0	0	Portage-Edinsburg Twp
74	SR 88 from Garrettsville North Corp Line to SR 305	1.08	11	3	119	45%	20	139	0	0	Portage-Hiram/Nelson Twps
75	S Arlington St from E Archwood Ave to 2nd Ave	1.18	61	17	9	31%	131	140	0	2	Akron
76	Prospect St (CR 74) from SR 5/44 to Hayes Rd (CR 138)	1.70	36	7	51	33%	90	141	0	1	Portage-Rootstown/Ravenna Twps
76	S Main St from Center Rd to Turkeyfoot Lake Rd (SR 619)	2.24	33	5	78	39%	63	141	0	1	Green
78	S Hawkins Ave from Copley Rd (SR 162) to Mull Ave Circle	1.06	21	7	52	33%	90	142	0	1	Akron
78	North Ave / S Main St (SR 91) from Howe Rd to Northmoreland Ave	0.89	17	6	56	35%	86	142	0	0	Tallmadge
80	Ravenna Rd from Shepard Rd to Chamberlin Rd	0.79	10	4	88	40%	55	143	0	0	Twinsburg
81	Diagonal Rd (CR 155) from SR 303 to Menonite Rd	2.91	56	6	55	34%	89	144	0	0	Portage-Shalersville/Mantua Twps
81	W Streetsboro St (SR 303) from Nicholson Dr to Boston Mills Rd	0.79	14	6	62	36%	82	144	0	0	Hudson
81	SR 44 from Hartville Rd (CR 69) to Tallmadge Rd (CR 18)	1.42	13	3	140	54%	4	144	0	0	Portage-Rootstown Twp
84	Russell Ave from Manchester Rd (SR 93) to Boulevard St	0.54	8	5	77	38%	69	146	0	0	Akron
85	W Thornton St from East Ave to Rhodes Ave	0.70	11	5	72	36%	75	147	0	1	Akron
86	SR 14/44 from Ravenna NE Corp Line to SR 59	1.00	32	11	25	31%	125	150	0	0	Portage-Ravenna Twp
86	N Mantua St (SR 43) from W Main St to Gougler Ave	0.33	6	6	60	33%	90	150	0	0	Kent
86	Sandy Lake Rd (CR 89) from Meloy Rd (TR 92) to Lakewood Rd (CR 151)	0.68	7	3	116	43%	34	150	0	0	Portage-Ravenna Twp
86	Main-Broadway Connector from Bartges St to Rosa Parks Dr	0.22	2	3	141	50%	9	150	1	0	Akron
90	East Ave from Iona Ave to Morse St	0.89	33	12	16	30%	135	151	0	0	Akron
90	Romig Rd from Akron Corp Line to Vernon Odom Blvd (SR 261)	1.39	49	12	18	31%	133	151	0	1	Akron
90	New Milford Rd from SR 5/SR 44 to Ravenna South Corp Line	0.41	5	4	96	40%	55	151	0	0	Ravenna
90	N Cleveland Ave (SR 532) from Mogadore Rd to Mogadore North Corp Line	1.08	12	4	107	42%	44	151	0	2	Mogadore
94	W Wilbeth Rd from Kenmore Blvd to Maryland Ave	0.77	11	5	79	36%	75	154	0	0	Akron
95	W Main St (SR 59) from Ravenna West Corp Line to Diamond St	0.57	20	12	19	30%	136	155	0	0	Ravenna
96	W State St from Wooster Rd N to Barberton Corp Line	0.86	30	12	20	30%	136	156	0	0	Barberton
96	Vernon Odom Blvd (SR 261) from Collier Rd / Akron Corp Line to Romig Rd	0.36	6	6	66	33%	90	156	0	1	Akron
96	Goodyear Blvd from Kelly Ave to Brittain Rd	0.70	7	3	122	43%	34	156	0	0	Akron
99	Wooster Rd W from Johnson Rd to 31st St	0.29	10	11	21	30%	136	157	0	0	Barberton
99	Medina Rd (SR 18) from Medina Line Rd (CR 2) to S Hametown Rd (CR253)	1.00	28	9	39	32%	118	157	0	0	Summit-Bath/Copley Twps
99	Diagonal Rd from Superior Ave to Copley Rd (SR 162)	1.35	37	9	40	32%	117	157	0	0	Akron
99	Hazel St from N Arlington St to Eastwood Ave/Garry Rd	0.95	9	3	132	44%	25	157	0	0	Akron
99	SR 44 from Mantua North Corp Line to SR 82	1.41	13	3	138	46%	19	157	0	0	Portage-Mantua Twp
104	Massillon Rd/Geo Washington (SR 241) from Akron Corp Line to E Waterloo Rd (US 224)	0.55	16	10	33	31%	125	158	0	0	Akron
104	Newberry St from Main St to Broadway East/Tallmadge Rd	0.56	9	5	68	33%	90	158	0	0	Cuyahoga Falls
104	W Streetsboro Rd (SR 303) from Boston Heights WCL to Akron-Cleveland Rd	1.43	19	4	84	37%	74	158	0	0	Boston Heights
104	SR 5 from SR 59 to Rock Spring Rd (CR 52)	3.01	30	3	125	43%	33	158	0	1	Portage-Ravenna/Charlestown Twps
108	Buchholzer Blvd from Independence Ave to Howe Ave	0.57	9	5	70	33%	90	160	0	0	Akron
109	E Main St (SR 59) from Prospect St to Freedom St (SR 88)	0.42	13	10	29	31%	132	161	0	0	Ravenna
110	Lakewood Rd (CR 151) from Summit Rd (CR 148) to Hommon Rd (TR 153)	0.71	7	3	129	43%	34	163	0	0	Portage-Ravenna Twp
111	W Bath Rd from Akron/Cuy Falls CL to Northampton Rd	1.18	12	3	120	42%	44	164	0	0	Cuyahoga Falls

Rank	Roadway Section	Length (miles)	Total Crashes	Crashes per Mile per Year	Crashes per Mile per Year Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
112	Robinson Ave from 5th St (SR 619) to State St	1.05	30	10	36	30%	136	172	0	0	Barberton
112	Manchester Rd (SR 93) from SB Ramp to old Manchester Rd to East Ave	1.37	32	8	47	31%	125	172	0	0	Akron
114	Albrecht Ave from Canton Rd (SR 91) to Akron Corp Line	0.70	9	4	86	33%	90	176	0	0	Akron
114	Roslyn Ave from Copley Rd (SR 162) to Elmdale Ave	0.99	10	3	121	40%	55	176	0	0	Akron
116	S Maple St (SR 162) from W Exchange St to Glendale Ave	0.47	6	4	87	33%	90	177	0	0	Akron
116	Akron Rd (SR 585) from Mt Eaton Rd N Jct (SR 94) to Doylestown Rd (CR 70)	1.71	17	3	127	41%	50	177	0	0	Wayne-Chippewa Twp
118	Grant St from E Wilbeth Rd to E South St	1.04	19	6	59	32%	123	182	0	0	Akron
118	SR 303 from SR 44 to SR 88	4.48	46	3	117	39%	65	182	0	0	Portage-Shalersville/Freedom Twps
120	W Portage Trail Ext from Akron-Peninsula Rd to Northampton Rd	1.04	23	7	49	30%	134	183	0	0	Cuyahoga Falls
120	East Ave from Munroe Rd to Tallmadge ECL	1.21	14	4	101	36%	82	183	0	0	Tallmadge
122	SR 14 from SR 5 to I-76	4.48	72	5	68	32%	119	187	0	0	Portage-Ravenna/Edinsburg Twps
123	E Highland Ave from N Chestnut St to Freedom St (SR 88)	0.51	6	4	99	33%	90	189	0	0	Ravenna
124	Massillon Rd (SR 241) from Greensburg Rd to Boettler Rd	1.91	32	6	65	31%	125	190	0	0	Green
125	Portage Trail/High St/School St from Newberry St/Munroe Falls Ave to Bailey Rd	0.54	5	3	136	40%	55	191	0	0	Cuyahoga Falls
126	S Lincoln St from E Summit St to E Main St (SR 59)	0.26	3	4	103	33%	90	193	0	0	Kent
127	SR 43 from Stark County Line to US 224	2.74	26	3	131	38%	66	197	0	0	Portage-Suffield Twp
128	E North St from N Howard St to N Arlington St	1.38	15	4	112	33%	90	202	0	0	Akron
129	Front St from Second St to Broad Blvd	0.86	8	3	135	38%	69	204	0	0	Cuyahoga Falls
130	SR 14/44 from N Freedom St/SR 88 to Ravenna NE Corp Line	0.58	6	3	115	33%	90	205	0	0	Ravenna
131	E Turkeyfoot Lake Rd (SR 619) from Massillon Rd (SR 241) to Green East Corp Line	2.51	25	3	126	36%	80	206	0	1	Green
132	N Munroe Rd from East Ave to E Howe Rd/Northeast Ave (SR261	1.18	11	3	134	36%	75	209	0	0	Tallmadge
133	Carnegie Ave from Sarlson Ave to Manchester Rd (SR 93)	1.41	14	3	128	36%	82	210	0	0	Akron
134	N Depeyster St from E Main St to Crain Ave	0.30	3	3	123	33%	90	213	0	0	Kent
135	S Seiberling St from Triplett Blvd (SR 764) to Martha Ave	0.90	9	3	124	33%	90	214	0	0	Akron
136	Copley Rd (SR162) from Jacoby Rd (CR205) to Collier Rd (CR 28) / Akron WCL	1.84	22	4	97	32%	120	217	0	0	Summit-Copley Twp
137	S Portage Path from Copley Rd (SR 162) to W Exchange St	0.32	3	3	133	33%	90	223	0	0	Akron
138	W Turkeyfoot Lake Rd (SR 619) from State St to New Franklin East Corp Line	0.81	10	4	94	30%	136	230	0	0	New Franklin
139	Waterloo Rd (CR450) from US224 to Portage Line Rd (CR 5)/(CR 7)	1.66	15	3	143	33%	90	233	0	0	Summit-Springfield Twp
140	Grant St from E South St to E Exchange St	0.88	10	4	105	30%	136	241	0	0	Akron
141	Ghent Rd (CR 98) from Smith Rd (CR116) to Cleveland-Massillon Rd (CR 17)	1.76	16	3	141	31%	125	266	0	0	Summit-Bath Twp
142	Lake St from N Water St to Kent ECL	1.08	10	3	136	30%	136	272	0	0	Kent
143	Garman Rd from N Hawkins Ave to N Portage Path	1.09	10	3	139	30%	136	275	0	0	Akron

Red denotes that the segment had at least one fatality



Map 1
TOP 50
HIGH CRASH SECTIONS
2019-2021

High Crash Road Sections 2019-2021

High Crash Intersections

Crashes that occur within a radius of 250 feet from the center of an intersection and involve at least two vehicles are usually considered an intersection-related crash. Exceptions to this rule were driveway-related crashes and crashes that had non-intersection characteristics such as departing from the intersection. All intersections in the AMATS area were considered, including those of roads that are not federally classified.

- AMATS identified 231 intersections (222 overall ranks) that have a minimum of 9 crashes and at least 30 percent of the crashes are fatal or injury-related over the three-year period.

- Table 2 lists the 231 high crash intersections ranked by composite score. This table also notes if any crashes were bicycle or pedestrian related. Map 2 shows the top 50 high crash intersections. A location in red font indicates at least one fatality. There are 10 intersections that had at least one fatality.

High Crash Freeway Locations

The analysis of freeway crashes in the AMATS area is done by the central office of the Ohio Department of Transportation (ODOT) in Columbus. ODOT's analysis of freeways is done using methodology from the Highway Safety Manual. The freeway system is divided into *rural* and *urban* and is analyzed by examining segments that are one-tenth of a mile long. ODOT only considers the top 50 rural and top 50 urban locations statewide for further study. For further information about top freeway crash locations along with other 2020 HSIP Priority Locations from ODOT, please follow the following link.

http://www.dot.state.oh.us/Divisions/Planning/ProgramManagement/HighwaySafety/HSIP/Pages/Priority-Lists-Initiatives.aspx

Table 2

HIGH CRASH INTERSECTIONS

RANKED BY SCORE BASED ON NUMBER OF CRASHES AND % OF INJURY AND FATAL

2019-2021

Rank	Street and Intersecting Street(s)	Total Crashes	Total Crashes Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
1	Medina Rd (SR 18) and Medina Line Rd	24	32	63%	9	41	0	0	Summit-Bath/Copley Twps
2	SR 14 and SR 44/N Chestnut St	39	10	51%	36	46	0	1	Ravenna
2	N Howard St and Glenwood Ave	31	18	55%	28	46	0	0	Akron
4	SR 261 and Mogadore Rd	19	47	63%	7	54	0	0	Kent
4	SR 82 and Mantua Center Rd	19	47	63%	7	54	0	0	Portage-Mantua Twp
6	US 224 and SR 225	28	23	50%	37	60	0	0	Portage-Deerfield Twp
7	Cleveland Massillon Rd and Eastern Rd	20	44	55%	27	71	0	0	Norton
8	SR 82 and Chamberlain Rd	16	63	56%	20	83	0	0	Portage-Mantua Twp
9	SR 88 and SR 305	18	54	50%	37	91	0	0	Portage-Hiram/Nelson Twps
9	SR 59 and Rhodes Rd/Ashton Ln	14	88	71%	3	91	1	0	Portage-Franklin Twp
11	US 224 and Portage Line Rd (SR 532)	19	47	47%	46	93	0	0	Portage-Suffield Twp
12	SR 44 and Tallmadge Rd	17	60	53%	35	95	0	0	Portage-Rootstown Twp
13	N Howard St and North St	44	6	41%	90	96	0	2	Akron
14	SR 5/44 and Lynn Rd	31	18	42%	83	101	0	0	Portage-Rootstown Twp
15	S High St and Bartges St	20	44	45%	58	102	0	0	Akron
15	E Aurora Rd (SR 82) and Hadden Rd/Wilcox Dr	20	44	45%	58	102	0	0	Twinsburg
17	S Arlington St and S Case Av/Johnston St	35	12	40%	92	104	0	1	Akron
17	Wadsworth Rd (SR 57) and Easton Rd (SR 604)	13	103	85%	1	104	0	0	Wayne-Chippewa Twp
19	Bellows St and Crosier St	14	88	57%	18	106	0	0	Akron
19	S Arlington Rd and Nimisila Rd	14	88	57%	18	106	0	0	Green
21	Eastwood Ave and Morningview Ave	15	76	53%	33	109	0	0	Akron
21	SR 59 and Apple Blossom Dr	15	76	53%	33	109	0	1	Portage-Franklin Twp
23	SR 21 and Edwards Rd	13	103	62%	10	113	0	0	Wayne-Chippewa Twp
24	Broad Blvd and Front St	18	54	44%	60	114	2	1	Cuyahoga Falls
24	SR 585 and Eastern Rd	18	54	44%	60	114	0	0	Norton
24	Kent Rd (SR 59) and Fishcreek Rd	18	54	44%	60	114	0	0	Stow
27	SR 14 and Mondial Pkwy/Singletary Dr	54	3	39%	115	118	0	0	Streetsboro
28	Bartges St and Dart Ave	15	76	47%	47	123	0	0	Akron
28	Riverview Rd and Ira Rd	15	76	47%	47	123	0	0	Cuyahoga Falls
30	SR 57 and SR 585	14	88	50%	37	125	0	0	Wayne-Chippewa Twp
30	Wadsworth Rd (SR 261) and S Hametown Rd	14	88	50%	37	125	0	0	Norton
32	Manchester Rd (SR 93) and Robinson Ave	33	16	39%	111	127	0	2	Summit-Coventry Twp
33	Copley Rd (SR 162) and Madison Ave	19	47	42%	82	129	0	1	Akron
34	Brown St and Archwood Ave	22	40	41%	90	130	0	0	Akron
35	Copley Rd (SR 162) and Wildwood Ave	13	103	54%	31	134	0	0	Akron
35	E Market St (SR 18) and Goodkirk St	13	103	54%	31	134	0	0	Akron
37	Kent Rd (SR 59) and Darrow Rd (SR 91)	28	23	39%	112	135	1	0	Stow

Rank	Street and Intersecting Street(s)	Total Crashes	Total Crashes Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
38	Mayfair Rd and Wise Rd	16	63	44%	76	139	0	0	Green
38	Brown St and E Thornton St	12	124	58%	15	139	0	1	Akron
38	SR 14 and Alliance Rd	12	124	58%	15	139	0	0	Portage-Atwater Twp
38	Waterloo Rd and Portage Line Rd	12	124	58%	15	139	0	0	Portage-Suffield Twp
42	S Broadway St and Rosa Parks Dr	44	6	36%	136	142	0	0	Akron
43	MLK Jr. Blvd (SR 59) and N Broadway St (SR 261)	35	12	37%	132	144	0	0	Akron
44	S Maple St (SR 162) and W Cedar St	29	22	38%	125	147	0	2	Akron
45	S Broadway St and E Miller Ave	23	35	39%	113	148	0	1	Akron
45	US 224 and SR 43	23	35	39%	113	148	0	0	Portage-Suffield Twp
47	SR 261 and Franklin Ave/Sunnybrook Rd	11	147	73%	2	149	0	0	Kent
48	W Market St (SR 18) and Rhodes Ave	13	103	46%	49	152	0	0	Akron
48	E Wilbeth Rd (SR 764) and Brown St	13	103	46%	49	152	0	0	Akron
48	E Waterloo Rd and Coventry St/I-77 SB Off-ramp	13	103	46%	49	152	0	0	Akron
48	Broad Blvd and 4th St	13	103	46%	49	152	0	0	Cuyahoga Falls
48	Diagonal Rd and Mennonite Rd	13	103	46%	49	152	0	0	Portage-Mantua Twp
53	SR 21 and Clinton Rd	11	147	64%	6	153	0	0	Wayne-Chippewa Twp
54	SR 14/44 and N Freedom St (SR 88)	27	25	37%	133	158	0	0	Ravenna
54	S Main St and Swartz Rd/US 224 EB Ramps	24	32	38%	126	158	1	0	Akron
54	Wooster Rd N and Wooster Rd W/Robinson Ave	24	32	38%	126	158	0	1	Barberton
57	SR 14 and Cleveland Rd	12	124	50%	37	161	0	0	Portage-Ravenna Twp
57	Hudson Dr and Steels Corners Rd/Allen Rd	12	124	50%	37	161	0	0	Stow
59	E Market St (SR 18) and Main St	14	88	43%	77	165	1	1	Akron
59	S Hawkins Ave and Stoner St	14	88	43%	77	165	0	0	Akron
59	SR 261 and Summit Rd	14	88	43%	77	165	0	0	Portage-Franklin Twp
59	Massillon Rd (SR 241) and Krumroy Rd	14	88	43%	77	165	0	0	Summit-Springfield Twp
59	Myersville Rd and Killian Rd	14	88	43%	77	165	0	0	Summit-Springfield Twp
64	Portage Trail and 4th St	21	43	38%	124	167	1	0	Cuyahoga Falls
65	Archwood Ave and Inman St	15	76	40%	92	168	0	0	Akron
65	Van Buren Ave and Robinson Ave	15	76	40%	92	168	0	1	Barberton
67	Buchtel Ave and Goodkirk St	18	54	39%	115	169	0	0	Akron
68	S Main St and Thornton St	34	14	35%	156	170	0	0	Akron
68	S Arlington Rd and Mount Pleasant Rd	10	166	70%	4	170	0	0	Green
70	Darrow Rd (SR 91) and Terex Rd	31	18	35%	155	173	0	0	Hudson
71	W Market St (SR 18) and Maple St	22	40	36%	136	176	0	3	Akron
71	Copley Rd (SR 162) and Noble Ave	11	147	55%	29	176	0	0	Akron
71	S Arlington Rd and Krumroy Rd/Thierry Ave	11	147	55%	29	176	0	0	Summit-Coventry Twp
74	Triplett Blvd (SR 241 / SR 764) and Hilbish Ave (SR 241)	25	28	36%	149	177	0	0	Akron
74	Rhodes Ave and W Thornton St	10	166	60%	11	177	0	0	Akron
74	Randolph Rd and Martin Rd	10	166	60%	11	177	0	0	Portage-Suffield Twp
74	SR 43 and Trares Rd	10	166	60%	11	177	0	0	Portage-Suffield Twp
74	Ravenna Rd and Bellmeadow Dr/Chamberlin Rd	10	166	60%	11	177	0	0	Summit-Twinsburg Twp
79	S Arlington St and Archwood Ave	30	21	33%	159	180	0	2	Akron

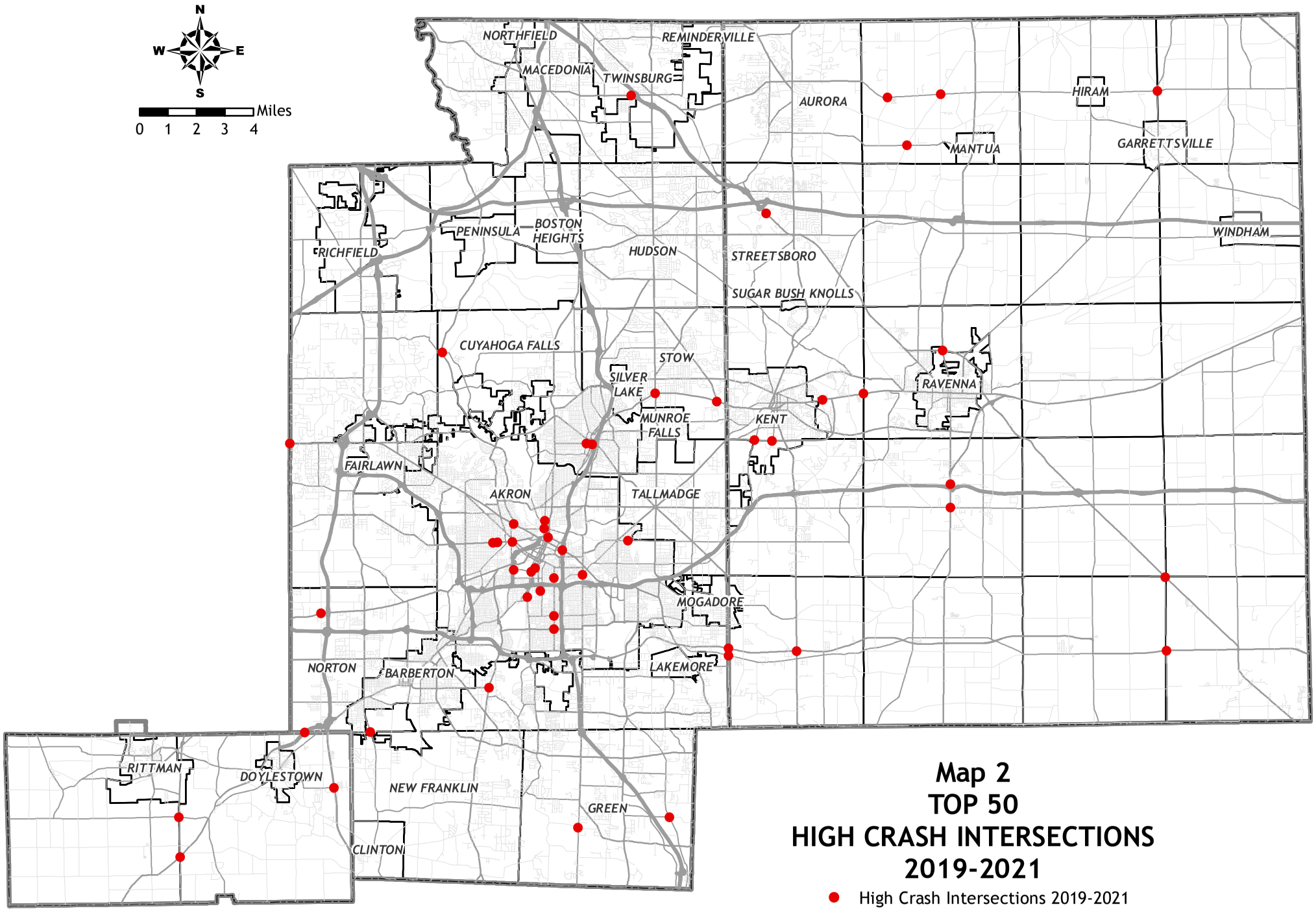
Rank	Street and Intersecting Street(s)	Total Crashes	Total Crashes Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
80	E Market St (SR 18) and Canton Rd (SR 91)/Robindale Ave	19	47	37%	134	181	0	0	Akron
80	SR 14 and Infirmary Rd	19	47	37%	134	181	0	0	Portage-Ravenna Twp
82	Vernon Odom Blvd (SR 261) and Superior Ave	27	25	33%	159	184	0	0	Akron
83	Diagonal Rd and East Ave	16	63	38%	126	189	0	0	Akron
83	Medina Rd (SR 18) and Heritage Woods Dr	16	63	38%	126	189	0	0	Summit-Bath/Copley Twps
83	SR 303 and SR 8 NB Off Ramp	16	63	38%	126	189	1	0	Boston Heights
83	Broad Blvd and 2nd St	16	63	38%	126	189	0	0	Cuyahoga Falls
87	N Main St and Medford Ave	11	147	45%	54	201	0	0	Akron
87	S Arlington St and Lovers Lane	11	147	45%	54	201	0	0	Akron
87	E Market St (SR 18) and E Exchange St	11	147	45%	54	201	1	0	Akron
87	Howe Ave and Cliffside Dr	11	147	45%	54	201	0	0	Cuyahoga Falls
91	Manchester Rd (SR 93) and W Waterloo Rd	48	4	31%	199	203	0	0	Akron
91	S Arlington Rd and Arlington Ridge	48	4	31%	199	203	0	2	Green
91	Boston Mills Rd and Olde Eight Rd	10	166	50%	37	203	0	0	Boston Heights
91	Doylestown Rd and Seville Rd	10	166	50%	37	203	0	0	Wayne-Milton
91	S Prospect St and Sandy Lake Rd	10	166	50%	37	203	0	0	Portage-Rootstown Twp
96	Olde Eight Rd and Valley View Rd	9	200	67%	5	205	0	0	Summit-Northfield Center Twp
97	Graham Rd and Wyoga Lake Rd/Oakwood Dr	34	14	32%	192	206	0	0	Cuyahoga Falls
98	S Arlington Rd and I-77 SB Ramps	38	11	32%	197	208	0	0	Green
98	Kenmore Blvd and Old Manchester Rd	12	124	42%	84	208	1	0	Akron
98	SR 44 and Pioneer Trail	12	124	42%	84	208	0	0	Portage-Mantua Twp
98	Center Rd and Renninger Rd	12	124	42%	84	208	0	0	New Franklin
98	Canton Rd and Tisen Rd	12	124	42%	84	208	0	0	Summit-Springfield Twp
98	Steels Corners Rd and Bridgewater Pkwy/Steels Pointe	12	124	42%	84	208	0	0	Stow
98	SR 14 and SR 303 (W Jct)	12	124	42%	84	208	0	0	Streetsboro
105	Medina Rd (SR 18) and Crystal Lake Rd/Montrose West Ave	58	2	31%	209	211	0	0	Summit-Bath/Copley Twp
106	N Chestnut St and Highland Ave	18	54	33%	159	213	1	0	Ravenna
107	SR 14/44 and SR 59	32	17	31%	199	216	0	0	Portage-Ravenna Twp
107	SR 43 and Old Forge Rd	17	60	35%	156	216	0	0	Portage-Brimfield Twp
107	Killian Rd and Pickle Rd	17	60	35%	156	216	0	0	Summit-Springfield Twp
110	SR 14/SR 303 and SR 43	85	1	31%	216	217	0	0	Streetsboro
111	W Hopocan Ave and 15th St NW	13	103	38%	117	220	1	0	Barberton
111	Portage Trail and 13th St (W Jct)	13	103	38%	117	220	1	0	Cuyahoga Falls
111	State Rd and Sackett Ave	13	103	38%	117	220	0	0	Cuyahoga Falls
111	W Market St (SR 18) and Morewood Rd/Summit Mall Entrance	13	103	38%	117	220	0	0	Fairlawn
111	Mayfair Rd and Mount Pleasant Rd	13	103	38%	117	220	0	0	Green
111	US 224 and E Waterloo Rd	13	103	38%	117	220	0	0	Summit-Springfield Twp
111	SR 43 and Randolph Rd	13	103	38%	117	220	0	0	Portage-Suffield Twp
118	Archwood Ave and Coventry St	25	28	32%	193	221	0	0	Akron
118	E Wilbeth Rd (SR 764) and Coventry St/I-77 SB Ramp	25	28	32%	193	221	0	0	Akron
118	Howe Ave and Buchholzer Blvd	25	28	32%	193	221	0	0	Cuyahoga Falls
118	W Market St (SR 18) and Valley St	9	200	56%	21	221	1	1	Akron

Rank	Street and Intersecting Street(s)	Total Crashes	Total Crashes Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
118	Wadsworth Rd (SR 57) and Doylestown Rd	9	200	56%	21	221	0	0	Wayne-Chippewa Twp
118	SR 14 and SR 225	9	200	56%	21	221	0	0	Portage-Deerfield Twp
118	SR 5/44 and Hayes Rd	9	200	56%	21	221	0	0	Portage-Ravenna Twp
118	E Waterloo Rd (US 224) and Kubler Trail	9	200	56%	21	221	0	0	Summit-Springfield Twp
118	Killian Rd and Pressler Rd	9	200	56%	21	221	0	0	Summit-Springfield Twp
127	S Broadway St (SR 261) and E Exchange St	43	8	30%	220	228	0	0	Akron
127	MLK Jr. Blvd (SR 59) and N High St (SR 261)	43	8	30%	220	228	0	0	Akron
129	Brittain Rd and Newton St	15	76	33%	159	235	0	0	Akron
129	Portage Trail and Lillis Dr	15	76	33%	159	235	0	0	Cuyahoga Falls
129	E Turkeyfoot Lake Rd (SR 619) and Cottage Grove Rd	15	76	33%	159	235	0	0	Green
129	Olde Eight Rd and Twinsburg Rd	15	76	33%	159	235	0	0	Summit-Northfield Center Twp
129	SR 21 and Eastern Rd	15	76	33%	159	235	0	1	Norton
129	E Aurora Rd (SR 82) and Ravenna Rd (SR 82)/Cannon Rd/Ravenna Rd	15	76	33%	159	235	0	0	Summit-Twinsburg Twp
135	Fishcreek Rd and Stow Rd	22	40	32%	196	236	0	0	Stow
136	E Market St (SR 18) and Arlington St	26	27	31%	210	237	0	0	Akron
137	Vernon Odom Blvd (SR 261) and Rand St/Rhodes Ave	14	88	36%	150	238	0	0	Akron
137	S Arlington St and 2nd St/Martin St/I-76 WB Off-ramp	14	88	36%	150	238	0	0	Akron
137	Summit St and Powder Mill Rd	14	88	36%	150	238	0	0	Portage-Franklin Twp
137	Massillon Rd (SR 241) and Greensburg Rd	14	88	36%	150	238	0	0	Green
137	Canton Rd and Sanitarium Rd	14	88	36%	150	238	0	1	Lakemore
142	S Arlington St (SR 764) and Triplett Blvd (SR 764)	19	47	32%	197	244	1	0	Akron
143	Copley Rd (SR 162) and Diagonal Rd/S Portage Path	23	35	30%	217	252	1	0	Akron
143	W Cedar St and Dart Ave	23	35	30%	217	252	0	1	Akron
143	SR 43 and I-76 WB Ramps/Edson Rd	23	35	30%	217	252	0	0	Portage-Brimfield Twp
146	N Main St and Iuka Ave	10	166	40%	92	258	0	1	Akron
146	E Exchange St and Goodkirk Rd	10	166	40%	92	258	0	0	Akron
146	E Waterloo Rd and Highview Ave	10	166	40%	92	258	0	0	Akron
146	S Main St and US 224 WB Ramps	10	166	40%	92	258	0	0	Akron
146	S Hawkins Ave and Delia Ave	10	166	40%	92	258	0	0	Akron
146	N Arlington St and Hazel St	10	166	40%	92	258	0	0	Akron
146	Akron Peninsula Rd and W Bath Rd	10	166	40%	92	258	0	0	Akron
146	Old Forge Rd and Mogadore Rd	10	166	40%	92	258	0	0	Portage-Brimfield Twp
146	Eastern Rd and Portage St/Wooster Rd W	10	166	40%	92	258	0	0	Wayne-Chippewa Twp
146	Howe Ave and Ritchie St	10	166	40%	92	258	0	0	Cuyahoga Falls
146	S Arlington Rd and I-77 NB Ramps	10	166	40%	92	258	1	0	Green
146	Gougler Ave (SR 43) and River (SR 43)/W Main St	10	166	40%	92	258	0	0	Kent
146	Haymaker Pkwy (SR 59) and S Depeyster St	10	166	40%	92	258	0	0	Kent
146	S Prospect St and E Lake Ave	10	166	40%	92	258	0	0	Ravenna
146	Steels Corners Rd and SR 8 SB Ramps	10	166	40%	92	258	0	0	Stow
146	Streetsboro Rd (SR 303) and Jefferson St	10	166	40%	92	258	0	0	Streetsboro
162	E Market St (SR 18) and Adams St (E Jct)	9	200	44%	60	260	0	2	Akron
162	S Arlington St and Rosemary St	9	200	44%	60	260	0	2	Akron

Rank	Street and Intersecting Street(s)	Total Crashes	Total Crashes Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
162	Kenmore Blvd and W Wilbeth Rd	9	200	44%	60	260	0	0	Akron
162	Medina Line Rd and Granger Rd	9	200	44%	60	260	0	0	Summit-Bath Twp
162	Portage Trail and 3rd St	9	200	44%	60	260	0	1	Cuyahoga Falls
162	Smith Rd and Bath Hills Blvd/Corunna Ave	9	200	44%	60	260	0	0	Fairlawn
162	Massillon Rd (SR 241) and Graybill Rd	9	200	44%	60	260	0	0	Green
162	S Arlington Rd and Greensburg Rd	9	200	44%	60	260	0	0	Green
162	E Main St (SR 59) and University Dr	9	200	44%	60	260	0	2	Kent
162	SR 585 and Fulton Rd (CR 27)	9	200	44%	60	260	0	0	Wayne-Milton Twp
162	SR 59 and Brady Lake Rd/Hoover Rd	9	200	44%	60	260	0	0	Portage-Ravenna Twp
162	Graham Rd and Dover Rd	9	200	44%	60	260	0	0	Silver Lake
162	Eastern Rd and Rittman Rd	9	200	44%	60	260	0	0	Wayne-Chippewa Twp
175	W Market St (SR 18) and Revere Rd	16	63	31%	199	262	0	0	Akron
175	N Main St (SR 261) and Olive St	16	63	31%	199	262	0	1	Akron
175	W Exchange St and Rand Ave	16	63	31%	199	262	1	0	Akron
175	W Market St (SR 18) and Hampshire Rd	16	63	31%	199	262	0	0	Fairlawn
175	S Arlington Rd and Boettler Rd	16	63	31%	199	262	0	0	Green
175	Middleton Rd and Stow Rd	16	63	31%	199	262	0	0	Hudson
175	West Ave (SR 261) and Thomas Rd	16	63	31%	199	262	0	1	Tallmadge
182	E Wilbeth Rd (SR 764) and Virgina Ave	12	124	33%	159	283	0	0	Akron
182	Bellows St and Archwood Ave	12	124	33%	159	283	0	0	Akron
182	Kelly Ave and Archwood Ave	12	124	33%	159	283	0	0	Akron
182	Perkins St (SR 59) and N Union St	12	124	33%	159	283	0	0	Akron
182	Portage Trail and North Haven Blvd	12	124	33%	159	283	1	0	Cuyahoga Falls
182	S Miller Rd and Chamberlain Rd	12	124	33%	159	283	0	0	Fairlawn
182	Massillon Rd (SR 241) and Corporate Woods Cir/Thorn Dr	12	124	33%	159	283	0	0	Green
182	Mantua St (SR 43) and W Main St	12	124	33%	159	283	0	0	Kent
182	E Main St (SR 59) and Luther Ave/Terrace Dr	12	124	33%	159	283	0	2	Kent
182	Kent Rd (SR 59) and Marsh Rd	12	124	33%	159	283	0	1	Stow
182	SR 14 and Classic Dr	12	124	33%	159	283	0	0	Streetsboro
182	E Aurora Rd (SR 82) and Chamberlin Rd	12	124	33%	159	283	0	0	Twinsburg
182	Brown St and Lamparter St	11	147	36%	136	283	0	0	Akron
182	Bellows St and Emerling Ave	11	147	36%	136	283	0	1	Akron
182	Memorial Pkwy and Aquaduct St/Royal Ave	11	147	36%	136	283	0	0	Akron
182	Grant St and Archwood Ave	11	147	36%	136	283	0	0	Akron
182	S Main St and N Turkeyfoot Rd	11	147	36%	136	283	0	0	Summit-Coventry Twp
182	Portage Trail and Valley Rd	11	147	36%	136	283	0	0	Cuyahoga Falls
182	State Rd and Valley Rd	11	147	36%	136	283	0	0	Cuyahoga Falls
182	S Arlington Rd and Interstate Pkwy	11	147	36%	136	283	0	0	Green
182	W Main St and Francis St	11	147	36%	136	283	0	0	Kent
182	Steels Corners Rd and Wyndham Ridge Dr	11	147	36%	136	283	0	0	Stow
182	Kent Rd (SR 59) and Charring Cross Rd	11	147	36%	136	283	0	0	Stow
205	Triplett Blvd (SR 764) and Massillon Rd	13	103	31%	210	313	0	0	Akron

Rank	Street and Intersecting Street(s)	Total Crashes	Total Crashes Rank	Percent Injury & Fatal	Injury & Fatal Rank	Total Rank Score	Bike Related	Ped Related	Location
205	Graham Rd and Bailey Rd	13	103	31%	210	313	0	0	Cuyahoga Falls
205	2nd St and Northland St	13	103	31%	210	313	0	0	Cuyahoga Falls
205	SR 14 and SR 303 (E Jct)/Ranch Rd	13	103	31%	210	313	0	0	Streetsboro
205	Darrow Rd (SR 91) and Ethan Dr/Meadowood Dr	13	103	31%	210	313	0	1	Twinsburg
210	W Market St (SR 18) and Wallhaven Cir	9	200	33%	159	359	0	0	Akron
210	E Market St (SR 18) and Summit St	9	200	33%	159	359	0	1	Akron
210	Vernon Odom Blvd (SR 261) and Raymond St	9	200	33%	159	359	0	0	Akron
210	S Broadway St and Selle St	9	200	33%	159	359	0	0	Akron
210	E Tallmadge Ave (SR 261) and Dayton St	9	200	33%	159	359	0	0	Akron
210	Brown St and N Firestone Blvd	9	200	33%	159	359	0	0	Akron
210	Copley Rd (SR 162) and SR 21 NB Ramps	9	200	33%	159	359	0	0	Summit-Copley Twp
210	Portage Trail and Cedar Hill Rd	9	200	33%	159	359	0	0	Cuyahoga Falls
210	S Water St (SR 43) and Bowman Dr/Cherry St	9	200	33%	159	359	0	0	Kent
210	S Water St (SR 43) and Beryl Dr	9	200	33%	159	359	0	0	Kent
210	W Summit St and Franklin Ave	9	200	33%	159	359	0	0	Kent
210	Twinsburg Rd and Valley View Rd	9	200	33%	159	359	0	0	Macedonia
222	E Market St (SR 18) and I-76 WB Ramps	10	166	30%	222	388	0	0	Akron
222	S Main St and Firestone Blvd	10	166	30%	222	388	1	0	Akron
222	Darrow Rd (SR 91) and Eastlawn St	10	166	30%	222	388	0	0	Akron
222	5th St SE and Snyder Ave	10	166	30%	222	388	1	0	Barberton
222	Graham Rd and Lillis Dr	10	166	30%	222	388	0	0	Cuyahoga Falls
222	Darrow Rd (SR 91) and Barlow Rd	10	166	30%	222	388	0	0	Hudson
222	W Streetsboro Rd (SR 303) and Terex Rd	10	166	30%	222	388	0	0	Hudson
222	Summit St and Loop Rd	10	166	30%	222	388	1	0	Kent
222	Stow Rd and Call Rd	10	166	30%	222	388	0	0	Stow
222	Darrow Rd (SR 91) and Highland Rd	10	166	30%	222	388	0	0	Twinsburg

Red denotes that the intersection had at least one fatality



Map 2
TOP 50
HIGH CRASH INTERSECTIONS
2019-2021

● High Crash Intersections 2019-2021

Section 3: Bicycle and Pedestrian Crashes

Overview

As biking and walking becomes a more popular and viable means of transportation, there is growing concern about the safety of bicycle riders and pedestrians. Determining how and where these incidents occur can help plan for future bicycle lanes, sidewalks, lighting, and educational outreach. Bicycle and pedestrian-related crashes tend to happen more randomly and usually do not have the characteristic of being concentrated at specific locations like other vehicular crashes. Because of this it is sometimes more practical to make improvements to a corridor rather than a specific location.

Education is an important tool to help curb bicycle and pedestrian-related crashes. Appendix A has bicycle and pedestrian safety tips to help with this education. Many bicycle riders and pedestrians, especially those under the driving age, may not be aware of the rules that they must observe. Appendix B shows School Bus Stopping Laws as this can impact many pedestrians and drivers.

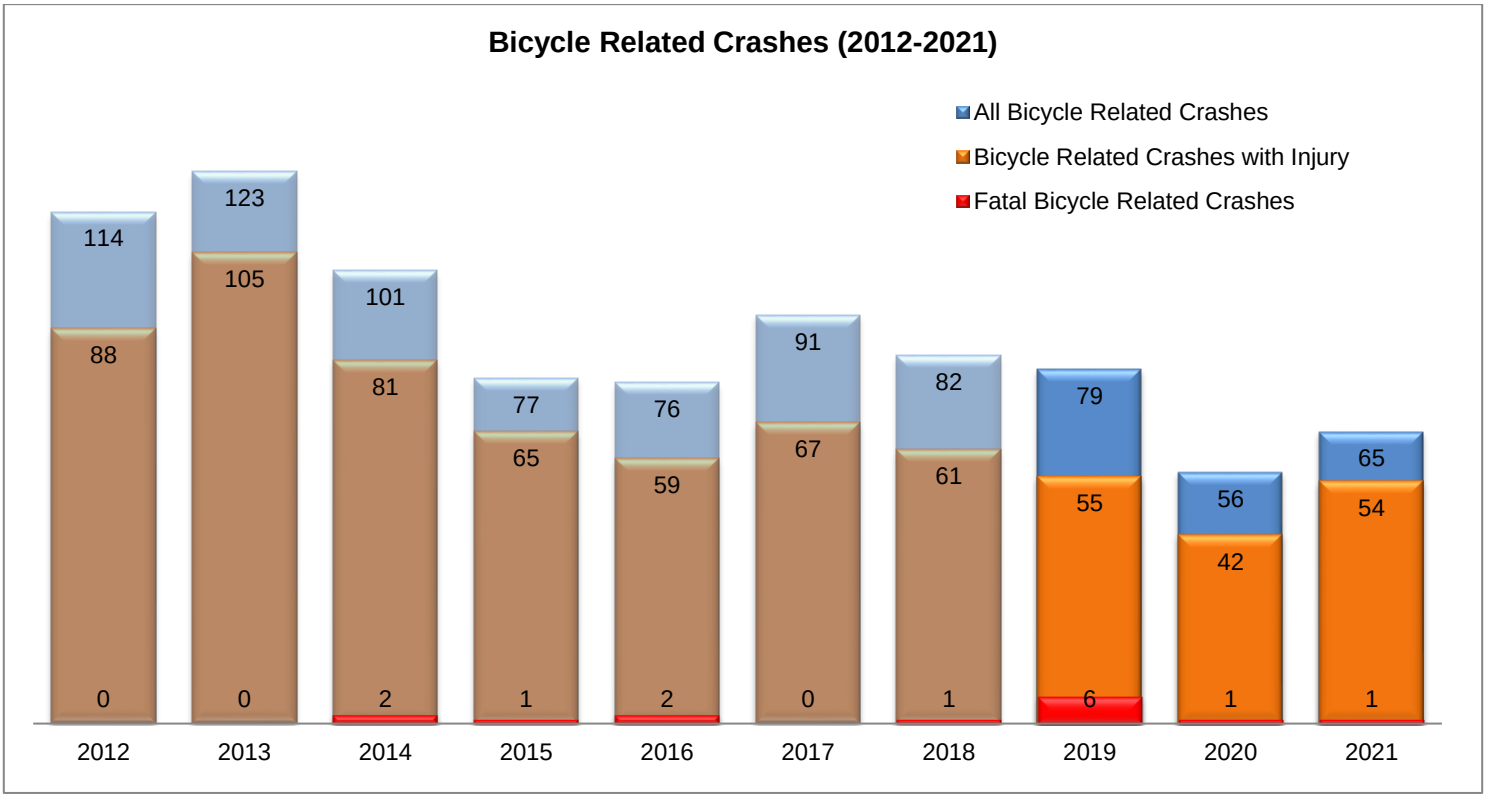
Bicycle and pedestrian-related crashes have a high percentage of injuries.

- Out of the 200 bicycle-related crashes that occurred between 2019, 2020 and 2021, 151 of them or **75.5%** resulted in an injury and eight of them in a fatality.

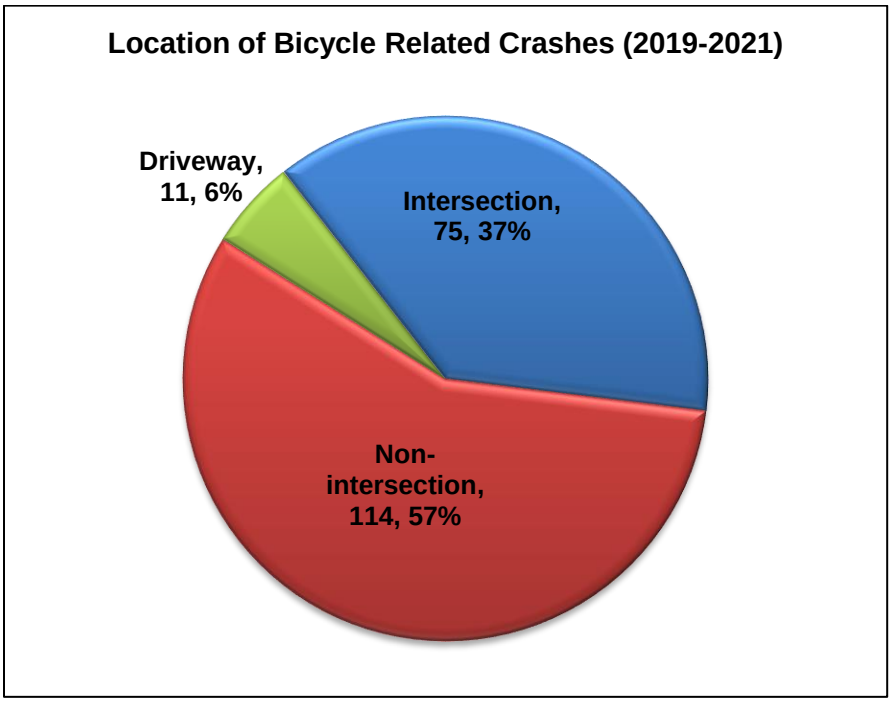
- There were 382 pedestrian-related crashes in this same time-period with 319 or **83.5%** of them resulting in an injury and 26 of them in a fatality. Pedestrians accounted for over **14%** of all fatalities that occurred between 2019 and 2021.

Bicycle-Related Crashes

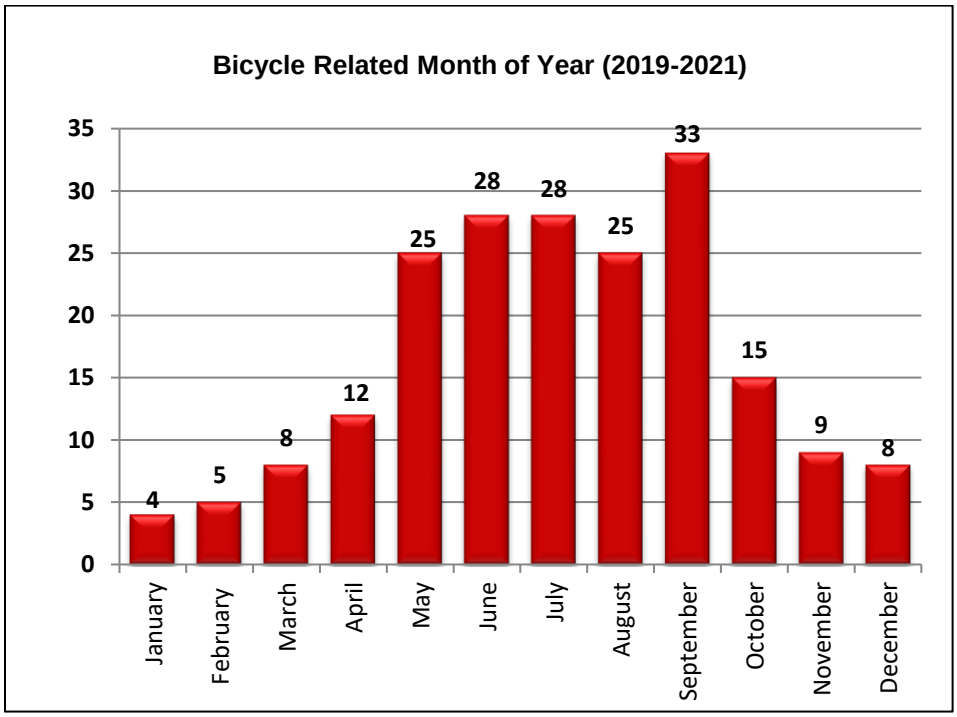
In 2021, total bicycle-related crashes increased by 9 and injuries increased by 12. There was one fatal bicycle-related crash in 2021.

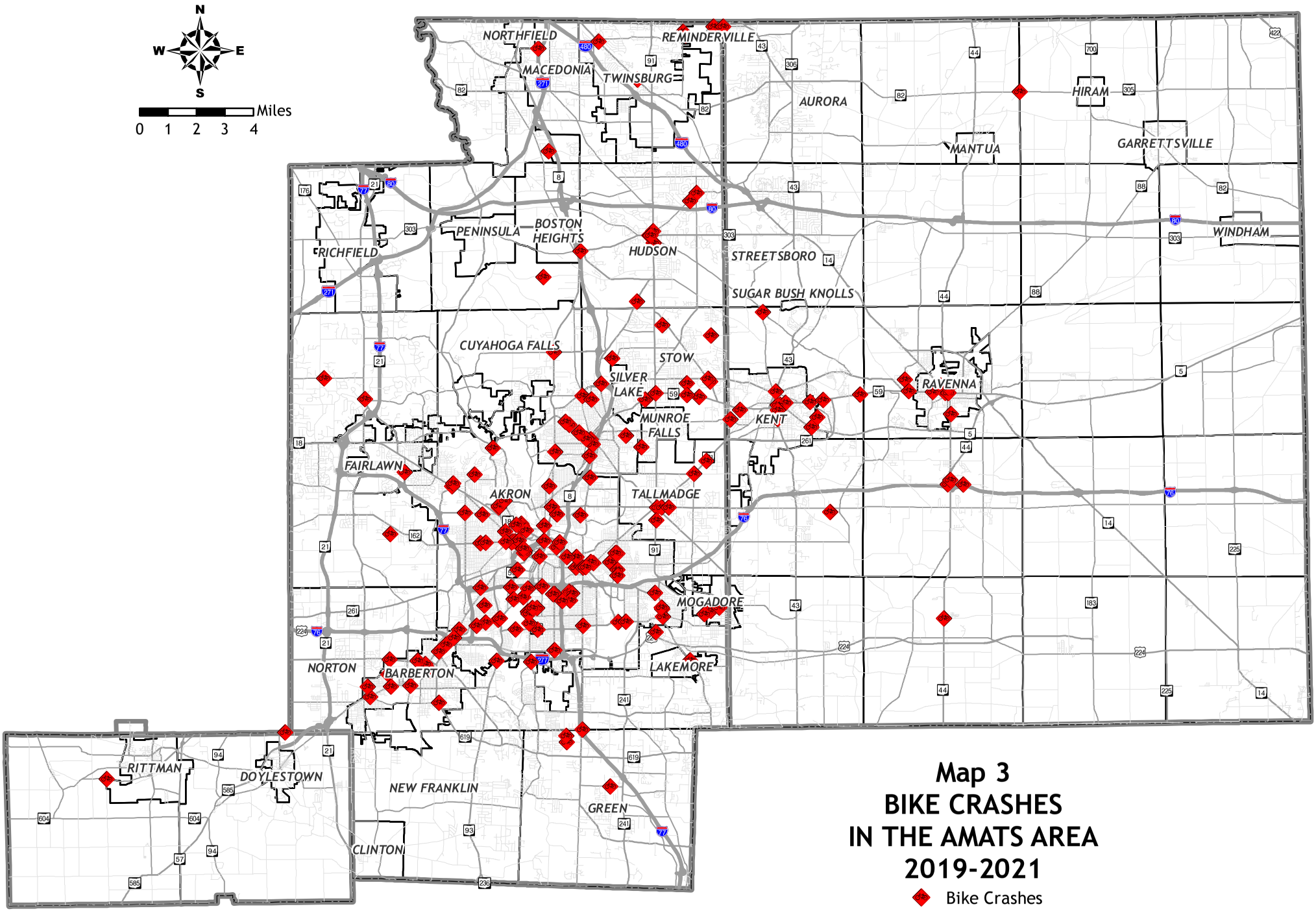


The chart below shows where most bicycle-related crashes occur. Slightly more occur at non-intersection locations than intersection. Many bicycle riders, especially younger ones, may not obey stop signs and traffic signals which leads to intersection related crashes. Often a vehicle does not see a bicycle because of their narrow profile and turns into it or pulls in front of it. Often a driver is not expecting a bicycle in the crosswalk or misjudges its approach speed. If a bicycle rider is biking against traffic a driver may not look that direction when turning into or pulling out of another street or driveway. Map 3 shows where the bicycle-related crashes occurred in the AMATS area.



This chart shows that most crashes occur in summer and early fall when bicycle riding conditions are most favorable. Unlike other crashes, those involving bicycles tend to be concentrated in the warmer months.



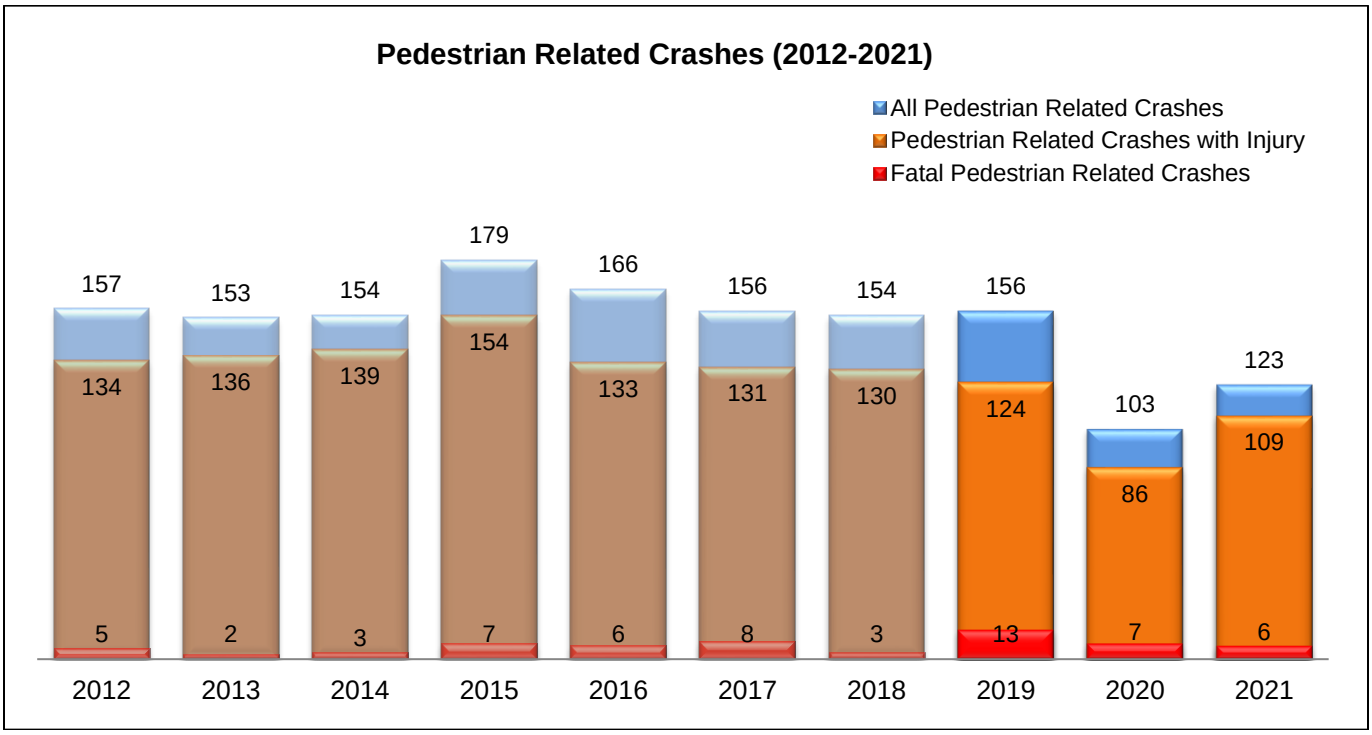


Map 3
BIKE CRASHES
IN THE AMATS AREA
2019-2021

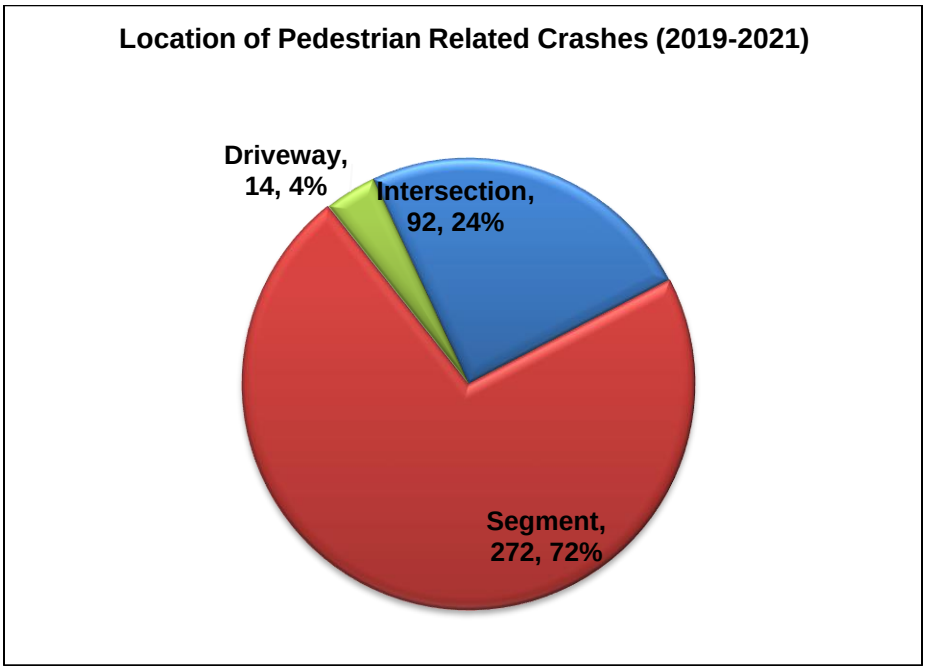
Bike Crashes

Pedestrian-Related Crashes

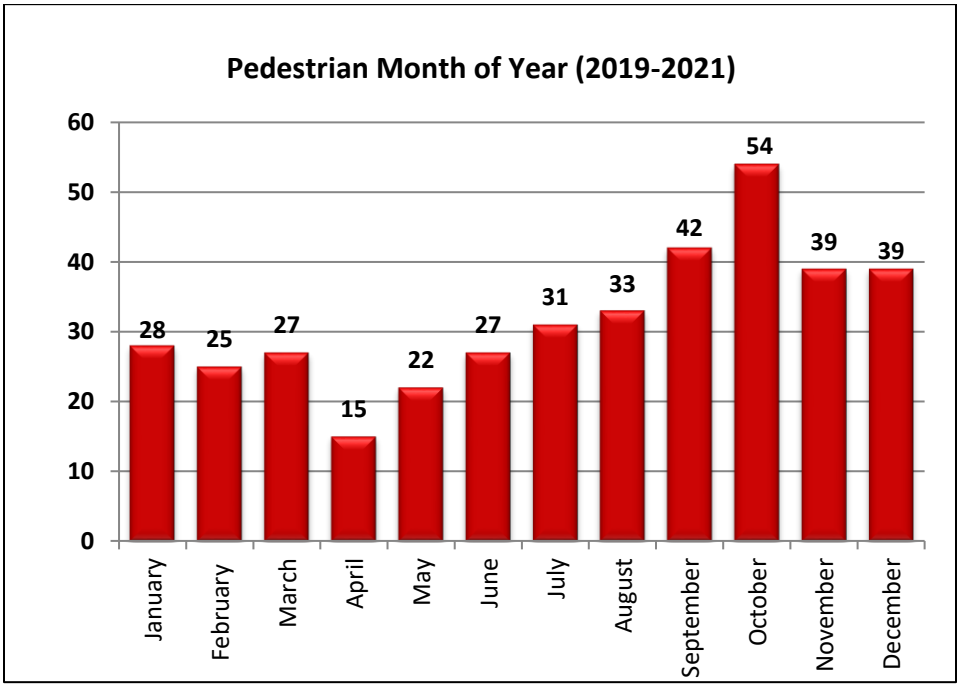
The number of pedestrian-related crashes and injuries increased from 2020 but are not back up to the 2019 levels. Between 2019 and 2021 there were 382 pedestrian-related crashes with 319 injuries and 26 fatalities. That means over 90% of pedestrian related crashes resulted in injury or fatality. The following graph shows pedestrian-related crashes in the AMATS area since 2012. Overall, pedestrian fatalities accounted for 14% of all fatalities over the three-year period.



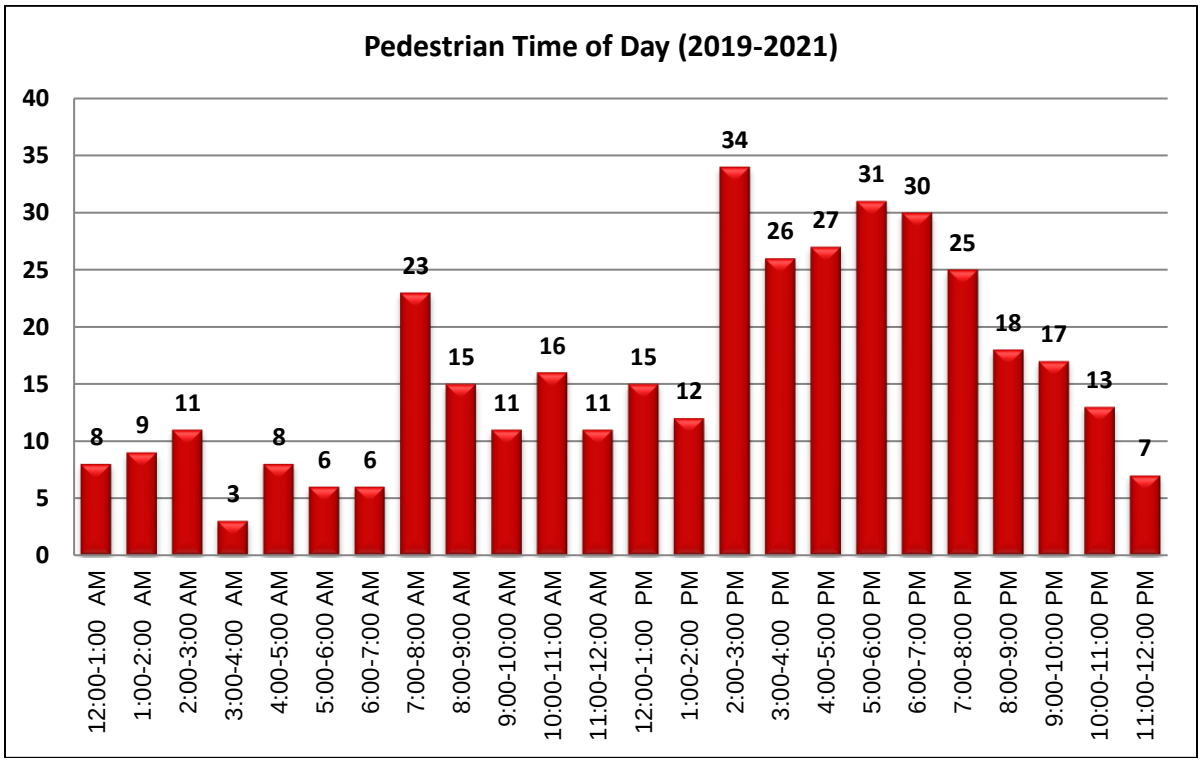
Pedestrian crashes occur more often away from intersections. Many of those that are intersection-related occur when a vehicle making a turn and does not see the pedestrian, or a pedestrian was crossing the street against the signal. Map 4 shows where pedestrian-related crashes occurred in the AMATS area.

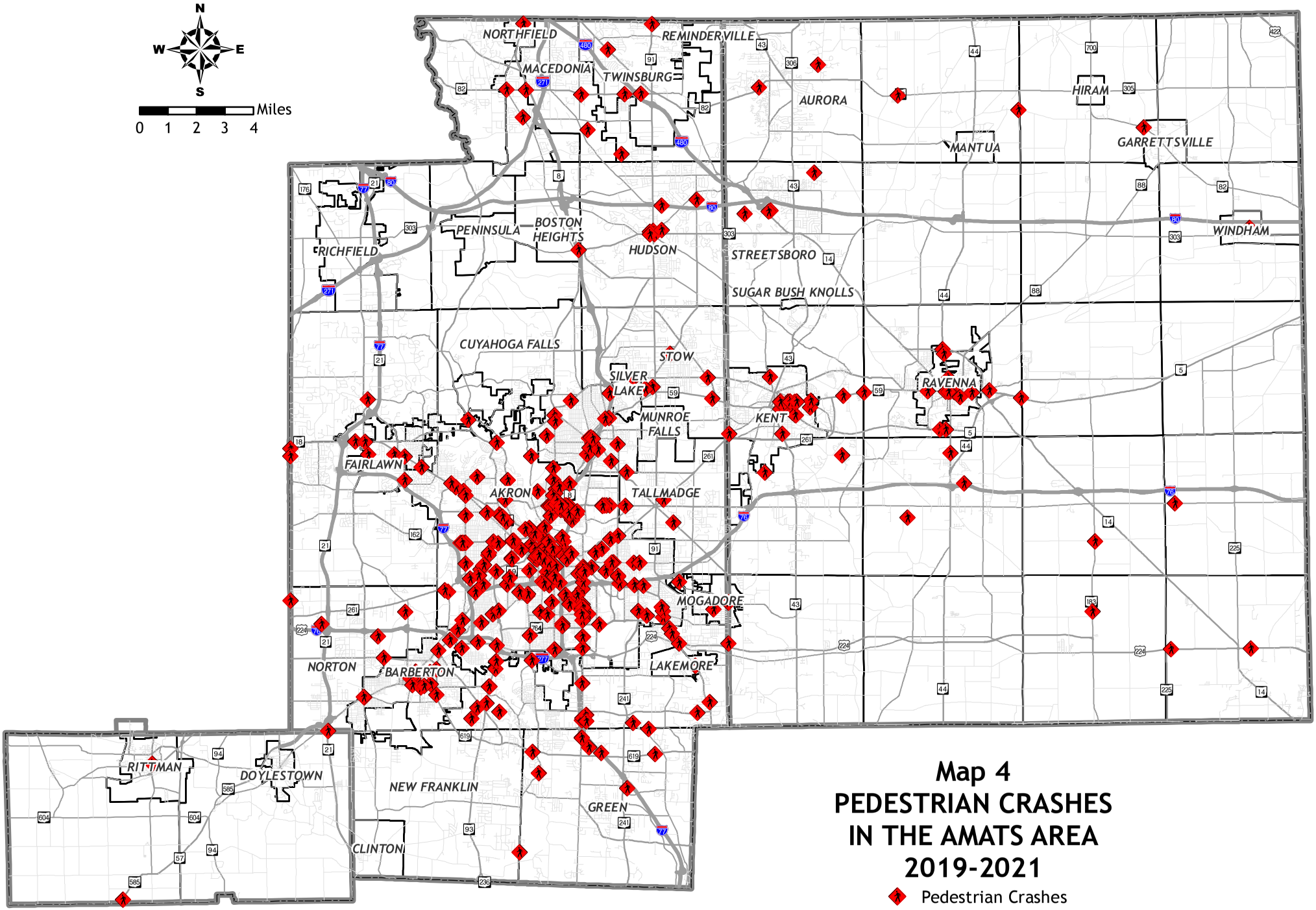


The following graph shows the month that pedestrian-related crashes occurred. October is traditionally the month with the most incidents. One might think that most of these incidents occur around Halloween; however, after examining the data closer we found that they are spread out throughout the month. One speculation about why October has the most incidents is the decreasing amount of daylight along with weather that is still reasonably nice. Pedestrians are still active but are harder to see in darkness even if streetlights are present.



There is a spike in morning pedestrian-related crashes from 7-8 a.m. It is likely that this is a time when many pedestrians are commuting to work or school, often in dark conditions. Pedestrian crashes peak again in the afternoon and evening hours as seen in the table below.





Map 4
PEDESTRIAN CRASHES IN THE AMATS AREA 2019-2021

Pedestrian Crashes

Section 4: Safety Performance Measures and Targets

Safety performance management is part of the overall Transportation Performance Management (TPM) program. The Federal Highway Administration (FHWA) is requiring state DOTs and agencies like AMATS to develop a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.

Recent federal legislation requires ODOT and AMATS to establish performance measures and set targets that demonstrate fatal and serious injury reductions on all public roads. The required performance measures for safety are:

- Number of fatalities
- Fatality rate
- Number of serious injuries
- Serious injury rate
- Number of non-motorized fatalities and serious injuries

AMATS is required to establish safety performance measures. There are two options available for satisfying this requirement: commit to a quantifiable target for each measure within the metropolitan area or approve of ODOT's statewide targets and agree to plan and program projects so that they contribute toward the accomplishment of those goals. AMATS is committed to support the goals set forth by ODOT for the entire state, rather that develop separate targets and goals for our area.

After reviewing historical crash trends, external factors and through consultation with the state's Metropolitan Planning Organizations (MPOs), ODOT is recommending a 2 percent annual reduction target across all five safety categories. A state is considered to have met or made significant progress if at least four of the five targets are better than the baseline.

In accordance with federal regulations, AMATS used a five-year average to calculate the initial safety targets in 2015. These averages will become the benchmark to which all future calculations will be compared. All future values will also be calculated using five years of data. This five-year rolling average is used to smooth out short term year-to-year fluctuations in data.

The table below shows the calculation of the AMATS rolling averages for the five safety performance measures. The 2015 averages are the benchmark values that the 2021 values are compared to. In three out of the five safety performance measures AMATS has far exceeded the ODOT goal of reducing each category by two percent, when compared to 2015 averages.

	2015 5-year Avg	2016 5-year Avg	2017 5-year Avg	2018 5-year Avg	2019 5-year Avg	2020 5-year Avg	2021 5-year Avg	Percent Change
Number of Fatalities	**46**	**46**	**49**	**48**	**48**	**52**	**56**	**21%**
Fatalities Per 100 Million VMT	**0.60**	**0.61**	**0.64**	**0.63**	**0.64**	**0.74**	**0.79**	**31%**
Number of Serious Injuries	**590**	**574**	**529**	**470**	**431**	**395**	**367**	**-61%**
Serious Injuries Per 100 MVMT	**7.79**	**7.58**	**6.94**	**6.20**	**5.73**	**5.47**	**5.15**	**-51%**
Number of Non-motorized Fatalities and Serious Injuries	**57.4**	**54.4**	**51.4**	**50.8**	**48.8**	**45.2**	**45.0**	**-22%**