

Annual Crash Overview



Appleton 2019

Prepared By: Department of Public
Works-Traffic Section
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Executive Summary

The City of Appleton's Annual Crash Overview contains statistics, charts and tables for the most current year of available records. This report helps understand the crash experiences within the City, specifically trends and averages for comparison over time. Locations scoring a high crash total and/or rate are studied in more detail to determine if corrective action should be taken. Corrective action could range from simply addressing a vision obstruction at an intersection, to budgeting for a substantial reconstruction of an intersection.

The information in this report is derived from a crash database maintained by the Wisconsin Department of Transportation. The database contains crash reports that have met the statutory requirements established by the State of Wisconsin. As crash reports are completed by law enforcement, they are submitted to the State of Wisconsin throughout the year for processing into the database.

Each crash is coded into the City's GIS software. The GIS allows our department to review crash records in a variety of ways to look for contributing conditions and trends. This assists our engineering efforts to identify strategies to take corrective actions and reduce crashes throughout the City.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Hardy".

Michael Hardy, PE, PTOE
Assistant Traffic Engineer
City of Appleton, WI

Annual Crash Overview

2019 Crash Totals

Total Number of Crashes.....1,583

Crash Totals by General Location % of Total Crashes

Non Intersection Crashes.....678 42.83%
 Intersection Crashes.....90 57.17%

Freeway (Highway 41 and 441) Crashes.....76 4.80%

Crash Totals Involving Pedestrians or Bicyclists

Bicycle Motor Vehicle Crashes.....24 1.52%
 Pedestrian Motor vehicle Crashes.....15 0.95%

Note: Total number of crashes includes crashes on Interstate 41 and State Highway 441, within city corporate limits.

5-Year Graphical Crash History

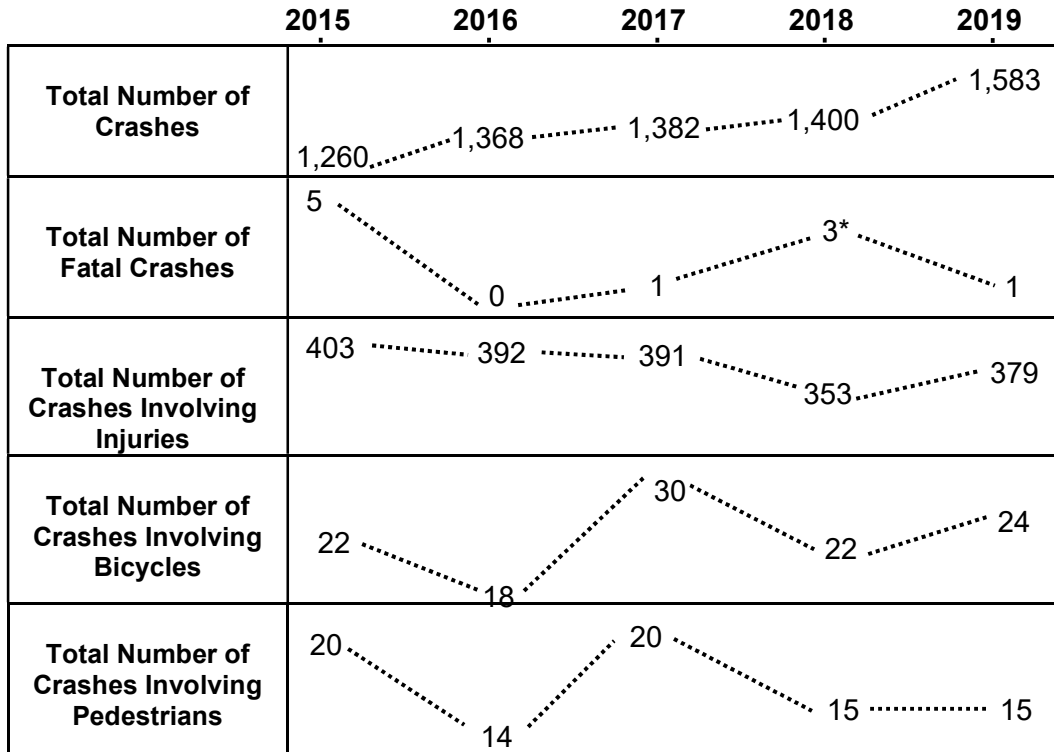


Figure 1 *All were non intersection, singular vehicle crashes

Table 1: Average Total Number of Crashes by Month for 2015-2019

January	131
February	128
March	108
April	93
May	103
June	122
July	100
August	108
September	112
October	118
November	121
December	144

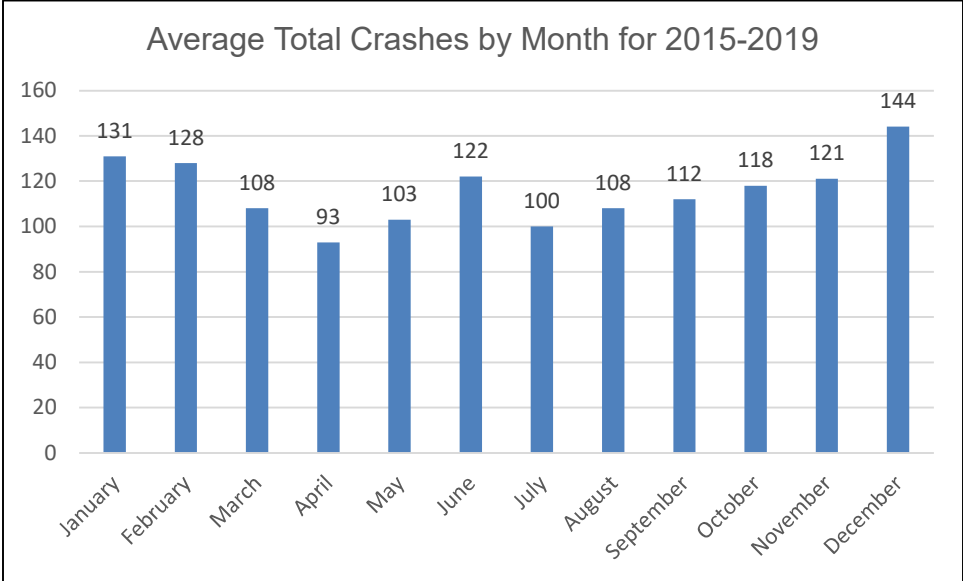


Figure 2

Crash Rate Graphical History (CPMVE¹)

		2017	2018	2019
Signalized	3-Year Crash Rate	0.73	0.63	0.61
	5-Year Crash Rate	0.77	0.73	0.63
2-Way Stop	3-Year Crash Rate	0.19	0.23	0.22
	5-Year Crash Rate	0.19	0.2	0.24
All-Way Stop	3-Year Crash Rate	0.50	0.32	0.24
	5-Year Crash Rate	0.46	0.36	0.33
Yield	3-Year Crash Rate	0.24	0.28	0.32
	5-Year Crash Rate	0.26	0.24	0.36
Uncontrolled	3-Year Crash Rate	0.12	0.11	0.07
	5-Year Crash Rate	0.18	0.14	0.11
Roundabout	3-Year Crash Rate	0.63	1.06	0.79
	5-Year Crash Rate	0.51	0.91	0.67
3-Way Stop	3-Year Crash Rate	0.38	0.38	0.32
	5-Year Crash Rate	0.70	0.52	0.40

Note: The years studied for the 3-Year Crash Rate for 2017 heading are 2015-2017.
 The years studied for the 5-Year Crash Rate for 2017 heading are 2013-2017.
 The years studied for the 3-Year Crash Rate for 2018 heading are 2016-2018.
 The years studied for the 5-Year Crash Rate for 2018 heading are 2014-2018.
 The years studied for the 3-Year Crash Rate for 2019 heading are 2017-2019.
 The years studied for the 5-Year Crash Rate for 2019 heading are 2015-2019.

Figure 3

1. See bottom of page 5 for explanation of CMPVE

2019 Crashes in Appleton

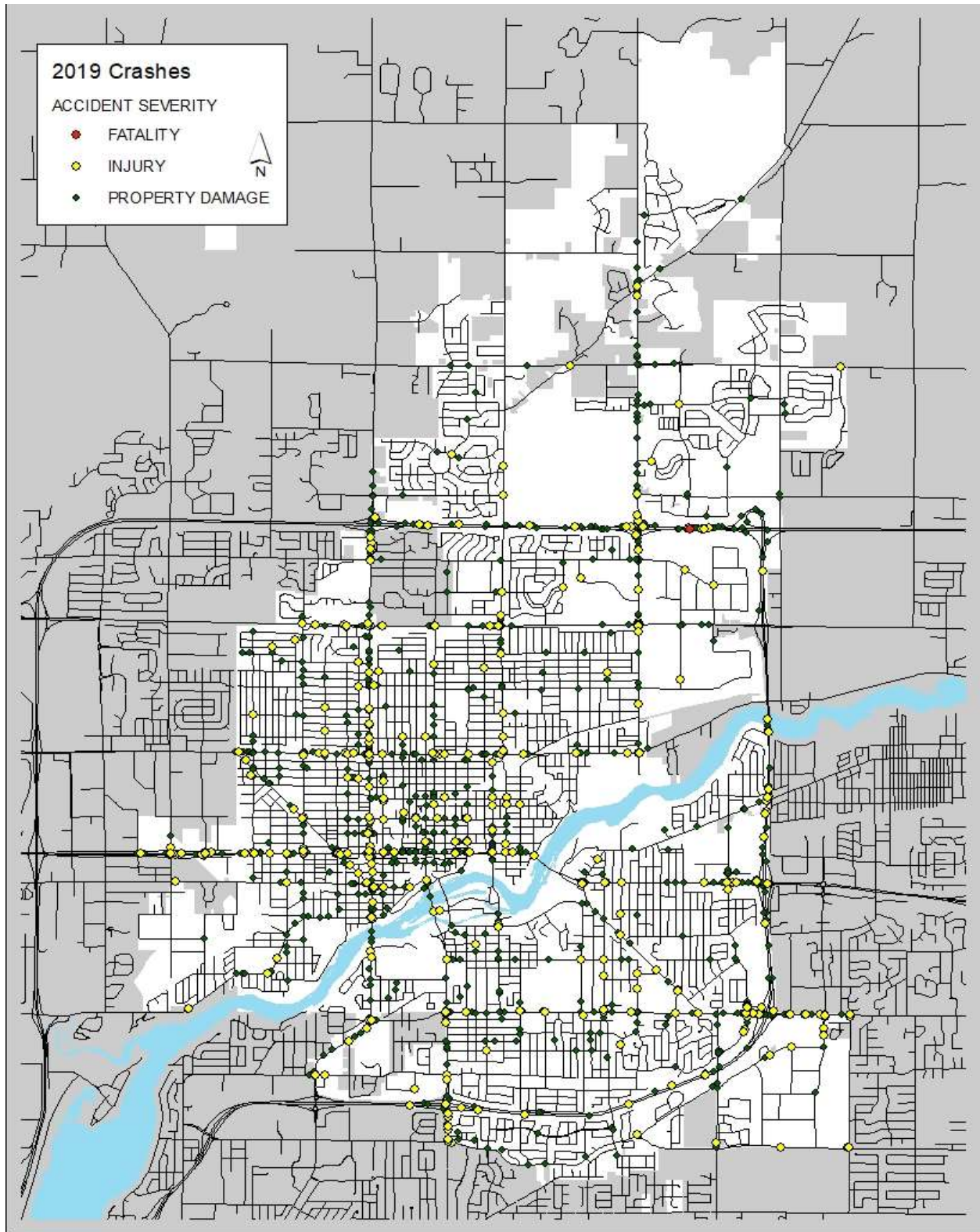


Figure 4

2019 Annual Crash Overview

Crash Severity

% of Total Crashes

Total Number of Fatal Crashes:.....(Total Fatalities: 1).....1	0.06%
Total Number of Injury Crashes.....(Total Injuries: 512).....379	23.94%
Total Number of Crashes only Involving Damages.....1203	75.99%

Non Intersection Crash Summary

Number of Reported Non-Intersection Crashes.....678	42.83%
Number of Fatal Crashes.....(Total Fatalities: 1).....1	0.06%
Number of Injury Crashes.....(Total Injuries: 174).....139	8.78%
Number of Crashes only Involving Damages.....538	33.99%

Intersection Crash Summary

Number of Reported Intersection Crashes.....905	57.17%
Number of Fatal Crashes.....(Total Fatalities: 0).....0	0%
Number of Injury Crashes.....(Total Injuries: 338).....240	15.16%
Number of Crashes only Involving Damages.....665	42.01%

Note: Total number of crashes includes crashes on Interstate 41 and State Highway 441, within city corporate limits.

Table 2: Crash Summary by Control Type

Control Type	5-Year Crash Total (2015-2019)	Average 5- Year Crash Rate (CPMVE)	3-Year Crash Total (2017-2019)	Average 3- Year Crash Rate (CPMVE)
Signalized	2250	0.63	1297	0.61
2-Way Stop	1778	0.24	990	0.22
All-Way Stop	61	0.33	27	0.24
Yield	156	0.36	87	0.32
Uncontrolled	80	0.11	33	0.07
Roundabout	379	0.67	285	0.79
3-Way Stop	33	0.40	25	0.32

Note: Average crash rates and crash totals exclude crashes on Interstate 41 and State Highway 441 ramp intersections, within city corporate limits.

Crash Rate

$$R = \frac{1,000,000 * C}{365 * N * V}$$

- R** = Crash rate for the intersection as crashes per million entering vehicles (CPMVE)
- C** = Total number of intersection-related crashes in the study period
- N** = Number of years of data
- V** = Traffic volumes entering the intersection daily

Control Type Summary

Tables 3-7: Highest Crash Intersections by 5-Year Crash Rate (2015-2019)

RANK	SIGNALIZED	CRASH RATE
1	E CALUMET ST / S KENSINGTON DR	2.38
2	N BADGER AV / N MASON ST / W PACKARD ST	1.74
3	W COLLEGE AV / S KENSINGTON DR	1.33
4	W COLLEGE AV / S MEMORIAL DR	1.31
5	N BALLARD RD / E NORTHLAND AVE	1.20
6	N MASON ST / W WISCONSIN AVE	1.19
7	E LAWRENCE ST / S MORRISON ST	1.14
8	N BALLARD RD / E CAPITOL DR	1.13
9	N APPLETON ST / W WASHINGTON ST	1.12
10	N MEADE ST / E NORTHLAND AVE	1.06

RANK	UNCONTROLLED	CRASH RATE
1	N NICHOLAS ST / W TAYLOR ST	1.68
2	S GLADYS AV / E PARK HILLS DR	1.53
3	CAMBRIDGE DR / E CARDINAL PL	1.17
4	ALTON CT / E ALTON ST	1.15
5	W LINDBERGH ST / N NICHOLAS ST	1.03

Table 4

* Only intersections with 2 or more total crashes were included

Table 3

RANK	2-WAY STOP	CRASH RATE
1	N ALEXANDER ST / E FRANCES ST	5.18
2	W 5TH ST / S LOCUST ST	2.74
3	E ASHBURY DR / N PROVIDENCE AVE	2.10
4	N DREW ST / E WASHINGTON ST	1.83
5	W LAWRENCE ST / S STATE ST	1.68

Table 5

RANK	ROUNDAABOUT	CRASH RATE
1	W NORTHLAND AV / N RICHMOND ST	3.75
2	E COLLEGE AV / E JOHN ST / S WALTER AVE	1.10
3	S LAKE PARK RD / E PLANK RD	0.80
4	E EVERGREEN DR / N LIGHTNING DR	0.56
5	E JOHN ST / E SOUTH RIVER ST	0.45

Table 6

RANK	YIELD	CRASH RATE
1	W COMMERCIAL ST / N SUMMIT ST	3.95
2	N NICHOLAS ST / W PERSHING ST	3.42
3	E MARQUETTE ST / N MORRISON ST	2.66
4	S JACKSON ST / E LINCOLN ST	2.44
5	E MARQUETTE ST / N MC DONALD ST	2.05

Table 7

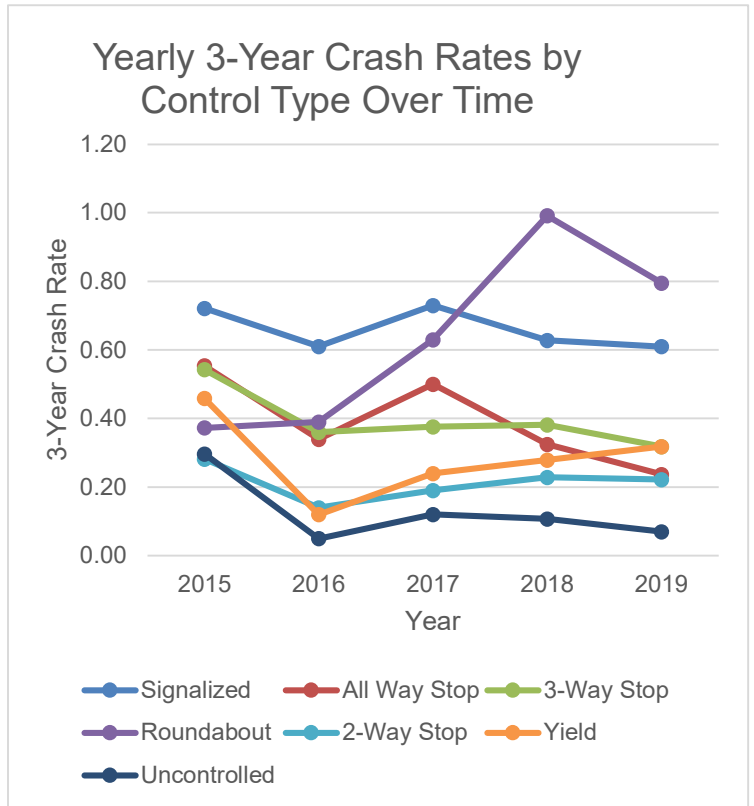


Figure 5

Note: All Interstate 41 and State Highway 441 interchanges excluded.

Intersections with Highest 5-Year Crash Rate by Control Type

Intersections with Highest 5-Year Crash Rate by Control Type

2-Way Stop	Roundabout	Signalized	Uncontrolled	Yield
1 Alexander / Frances 5.18	1 Northland / Richmond 3.75	1 Calumet / Kensington 2.38	1 Nicholas / Taylor 1.68	1 Commercial / Summit 3.95
2 5th / Locust 2.74	2 College / John / Walter 1.10	2 Badger / Mason / Packard 1.74	2 Cambridge / Cardinal 1.17	2 Nicholas / Pershing 3.42
3 Ashbury / Providence 2.10	3 Lake Park / Plank 0.80	3 College / Kensington 1.33	3 Driftwood / Schaefer 1.01	3 Marquette / Morrison 2.66
4 Drew / Washington 1.83	4 Evergreen / Lightning 0.56	4 College / Memorial 1.31	4 Longview / Ullman 0.94	4 Jackson / Lincoln 2.44
5 Lawrence / State 1.68	5 John / South River 0.45	5 Ballard / Northland 1.20	5 Draw / Water 0.62	5 Jackson / Wilson 1.69
		6 Mason / Wisconsin 1.19		
		7 Lawrence / Morrison 1.14		
		8 Ballard / Capitol 1.13		
		9 Appleton / Washington 1.12		
		10 Meade / Northland 1.06		

Data from Tables 3-7

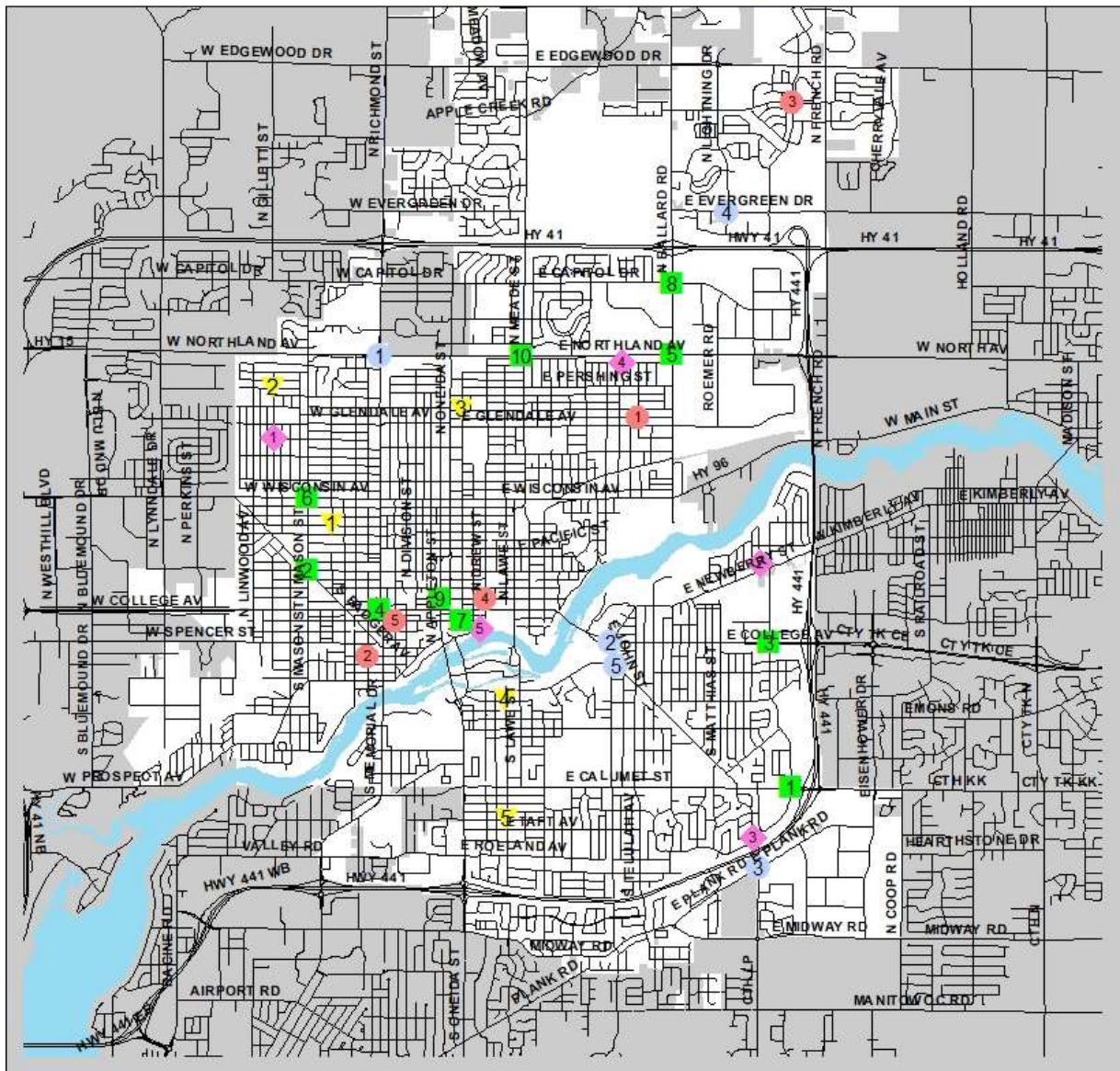


Figure 6

Table 8: Ranking of Intersections with Highest Total Crashes in 2019

RANK	INTERSECTION	*	2019 CRASH TOTAL	CONTROL TYPE
1	W NORTHLAND AV / N RICHMOND ST	*	84	ROUNDBABOUT
2	E CALUMET ST / S KENSINGTON DR		18	SIGNALIZED
3	E CALUMET ST / S ONEIDA ST	*	18	SIGNALIZED
4	W COLLEGE AV / S MEMORIAL DR	*	17	SIGNALIZED
5	N BALLARD RD / E NORTHLAND AVE	*	15	SIGNALIZED
6	E CALUMET ST / STONYBROOK RD	*	15	SIGNALIZED
7	S KENSINGTON DR / E TARGET ACCESS RD		15	2-WAY STOP
8	N BADGER AV / W COLLEGE AV / N STORY ST	*	14	SIGNALIZED
9	S BADGER AV / S MEMORIAL DR	*	14	SIGNALIZED
10	W CALUMET ST / S MEMORIAL DR	*	14	SIGNALIZED
11	N RICHMOND ST / W WISCONSIN AVE	*	14	SIGNALIZED
12	W COLLEGE AV / N LYNNDALE DR	*	14	SIGNALIZED
13	N MASON ST / W WISCONSIN AVE	*	13	SIGNALIZED
14	S MEMORIAL DR / W PROSPECT AVE	*	13	SIGNALIZED
15	E CALUMET ST / EISENHOWER DR	*	11	SIGNALIZED
16	W COLLEGE AV / N MASON ST	*	11	SIGNALIZED
17	N MEADE ST / E NORTHLAND AVE	*	10	SIGNALIZED
18	W COLLEGE AV / N PERKINS ST	*	9	SIGNALIZED
19	N BALLARD RD / E CAPITOL DR	*	9	SIGNALIZED
20	N BALLARD RD / E EVERGREEN DR	*	9	SIGNALIZED
21	W COLLEGE AV / N STATE ST		9	SIGNALIZED
22	N DREW ST / E WASHINGTON ST		8	2-WAY STOP
23	S KENSINGTON DR / S LAKE PARK RD		8	ROUNDBABOUT
24	E COLLEGE AV / S KENSINGTON DR		8	SIGNALIZED
25	E COLLEGE AV / N LAWE ST		8	SIGNALIZED

* Denotes shared roadway jurisdiction with State or County.

1. All Interstate 41 and State Highway 441 interchanges excluded.

Intersections with Highest Total Crashes in 2019

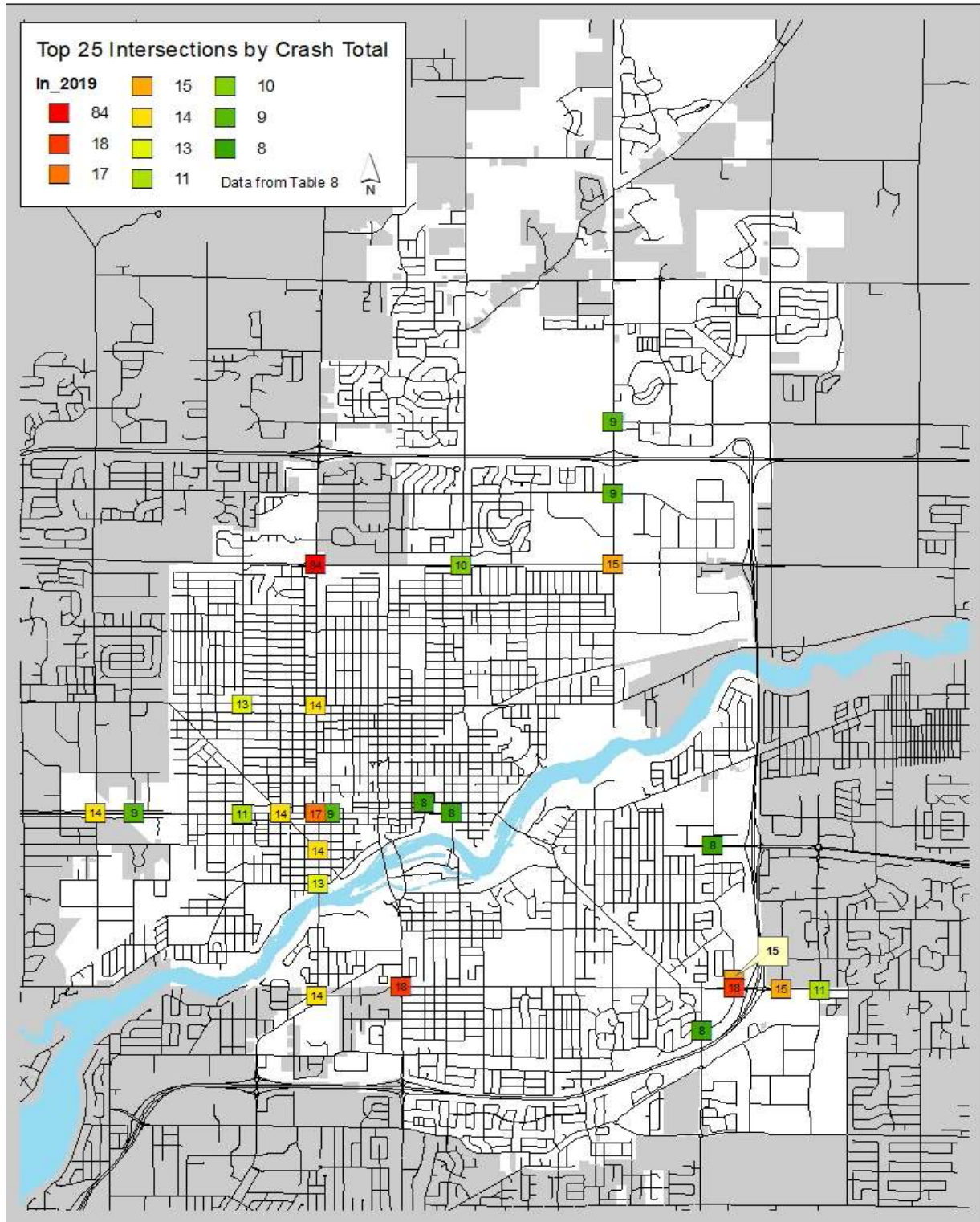


Figure 7

Table 9: Intersections with Highest 3-Year Crash Rate with at least 3 Total Crashes

RAN K	INTERSECTION	3-YEAR CRASH RATE	2017 CRASH TOTAL	2018 CRAS H TOTAL	2019 CRAS H TOTAL	3- YEAR CRAS H TOTAL	CONTROL TYPE
1	N ALEXANDER ST / E FRANCES ST	5.18	1	1	1	3	2-WAY STOP
2	W NORTHLAND AV / N RICHMOND ST	5.00	43	76	84	203	ROUNDBABOUT ²
3	E ASHBURY DR / N PROVIDENCE AVE	3.49	3	1	1	5	2-WAY STOP
4	W 5TH ST / S LOCUST ST	2.74	0	2	1	3	2-WAY STOP
5	S LAWE ST / E SOUTH RIVER ST	2.51	10	8	7	25	3-WAY STOP
6	S JACKSON ST / E WILSON AVE	2.11	0	2	1	3	YIELD
7	N DREW ST / E WASHINGTON ST	2.03	7	7	8	22	2-WAY STOP
8	N GILLETT ST / W SPRING ST	1.94	2	0	1	3	2-WAY STOP
9	E PACIFIC ST / N RANKIN ST	1.93	4	0	3	7	2-WAY STOP
10	E CALUMET ST / S KENSINGTON DR	1.90	25	27	18	70	SIGNALIZED
11	N ERB ST / W MARQUETTE ST	1.88	0	3	1	4	YIELD
12	E ASHBURY DR / N LIGHTNING DR	1.80	2	0	2	4	2-WAY STOP
13	E CAPITOL DR / N CONKEY ST	1.66	1	2	3	6	2-WAY STOP
14	N MASON ST / W PACKARD ST	1.64	6	3	4	13	SIGNALIZED
15	N APPLETON ST / W WASHINGTON ST	1.40	1	8	3	12	SIGNALIZED
16	N MASON ST / W WISCONSIN AVE	1.40	11	12	13	36	SIGNALIZED
17	E COLLEGE AV / S KENSINGTON DR	1.36	9	23	8	40	SIGNALIZED
18	S KENSINGTON DR / E TARGET ST	1.35	6	7	15	28	2-WAY STOP
19	W LAWRENCE ST / S STATE ST	1.30	3	3	0	6	2-WAY STOP
20	E FREMONT ST / S LAWE ST	1.27	2	3	6	11	4-WAY STOP

1. All Interstate 41 and State Highway 441 interchanges excluded.
2. Roundabout opened in September 2018, was signalized previously

Intersections with Highest 3-Year Crash Rate with at least 3 Total Crashes

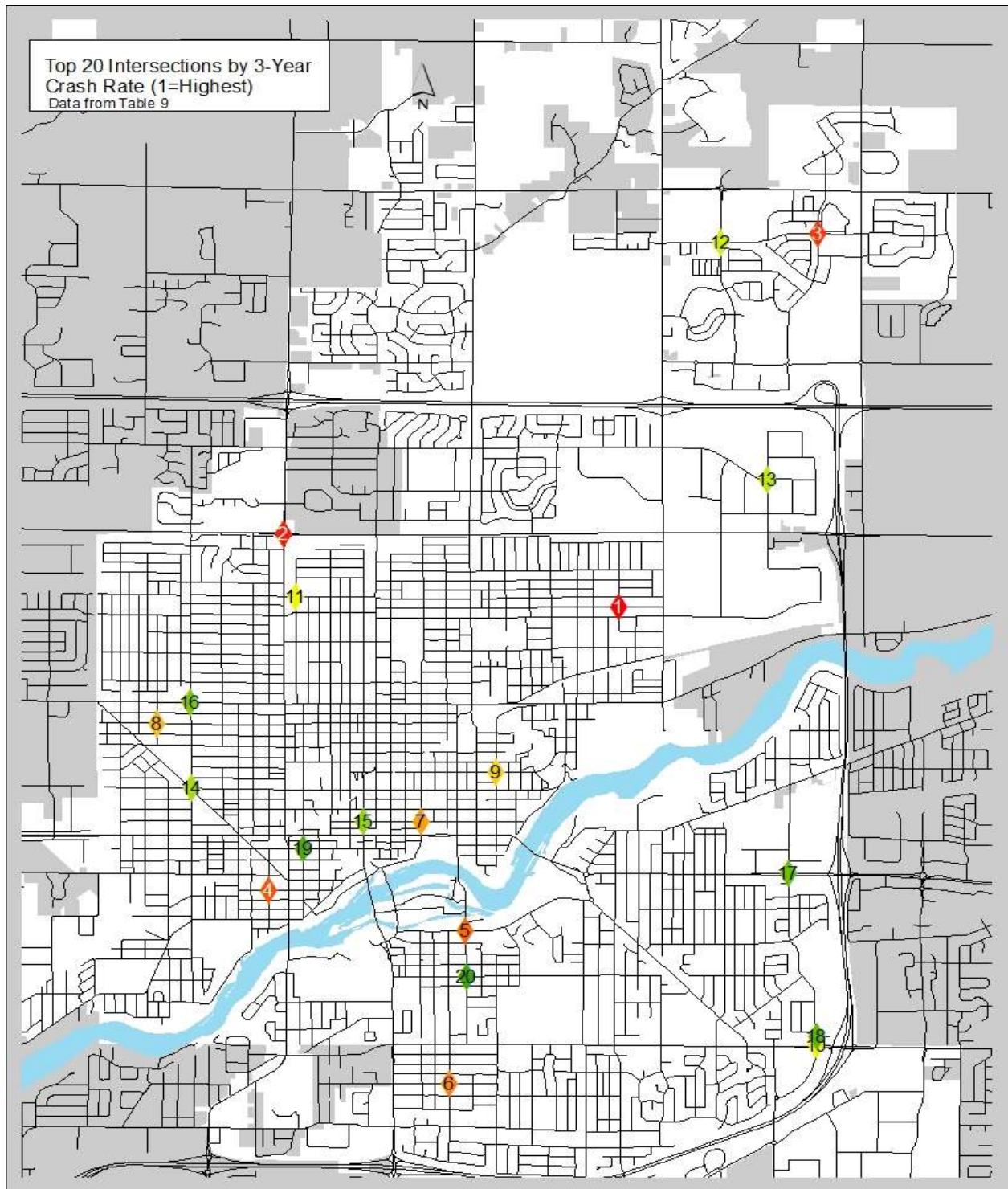


Figure 8

Bicycle Involved Crash Summary

Number of Reported Bicycle Involved Crashes.....24
 Number of Injury Crashes.....(Total Injuries: 21) 21
 Number of Fatal Crashes.....(Total Fatalities: 0) ..0

% of Total Crashes
1.52%
1.33%
0%

Number of Reported Injuries:

A.....2
 B.....12
 C.....6

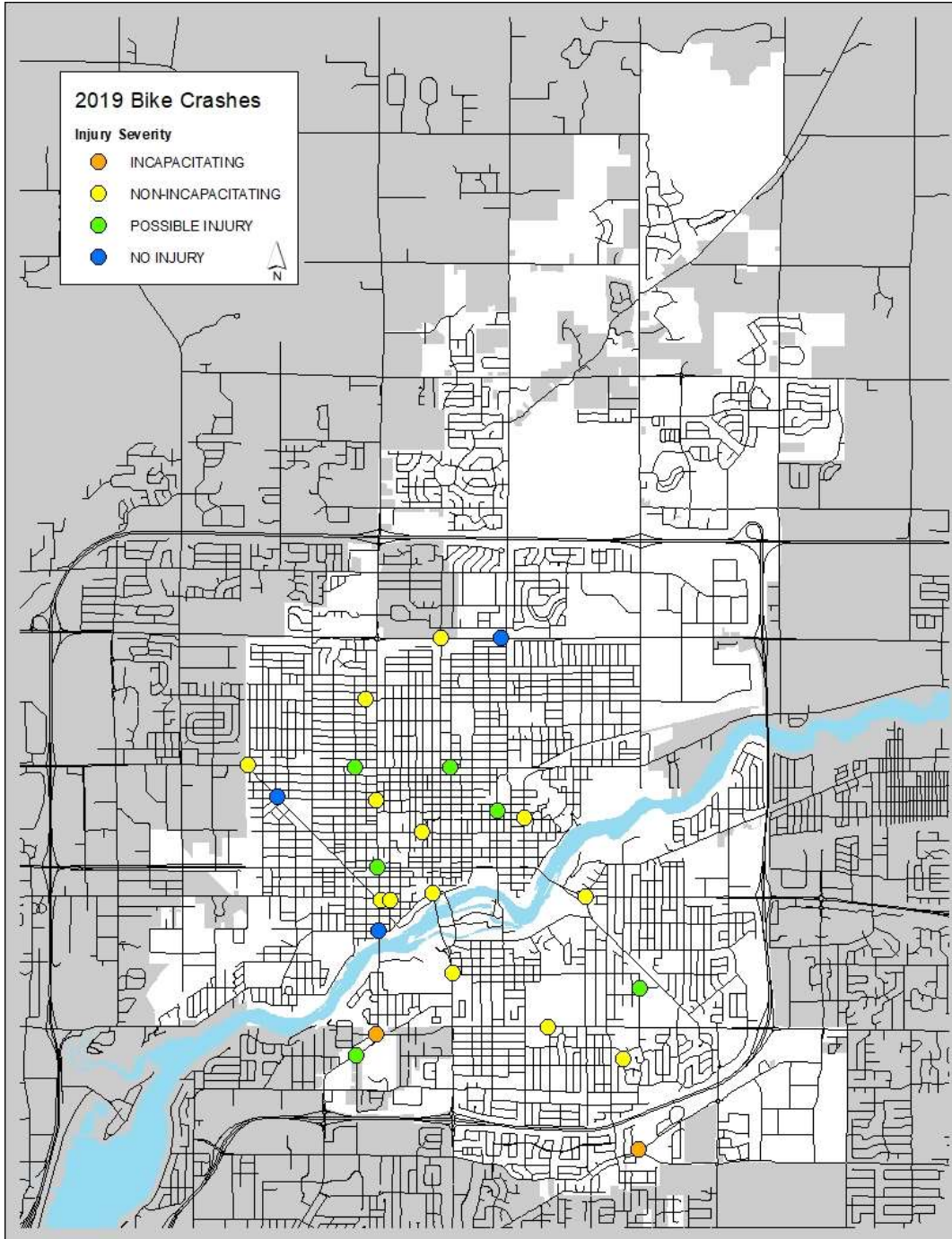


Figure 9

Pedestrian Involved Crash Summary

	<u>% of Total Crashes</u>
Number of Reported Pedestrian Involved Crashes.....15	0.95%
Number of Injury Crashes (Total Injuries: 17).....15	0.95%
Number of Fatal Crashes (Total Fatalities: 0).....0	0%

Number of Reported Injuries:

A....3
 B....13
 C....1

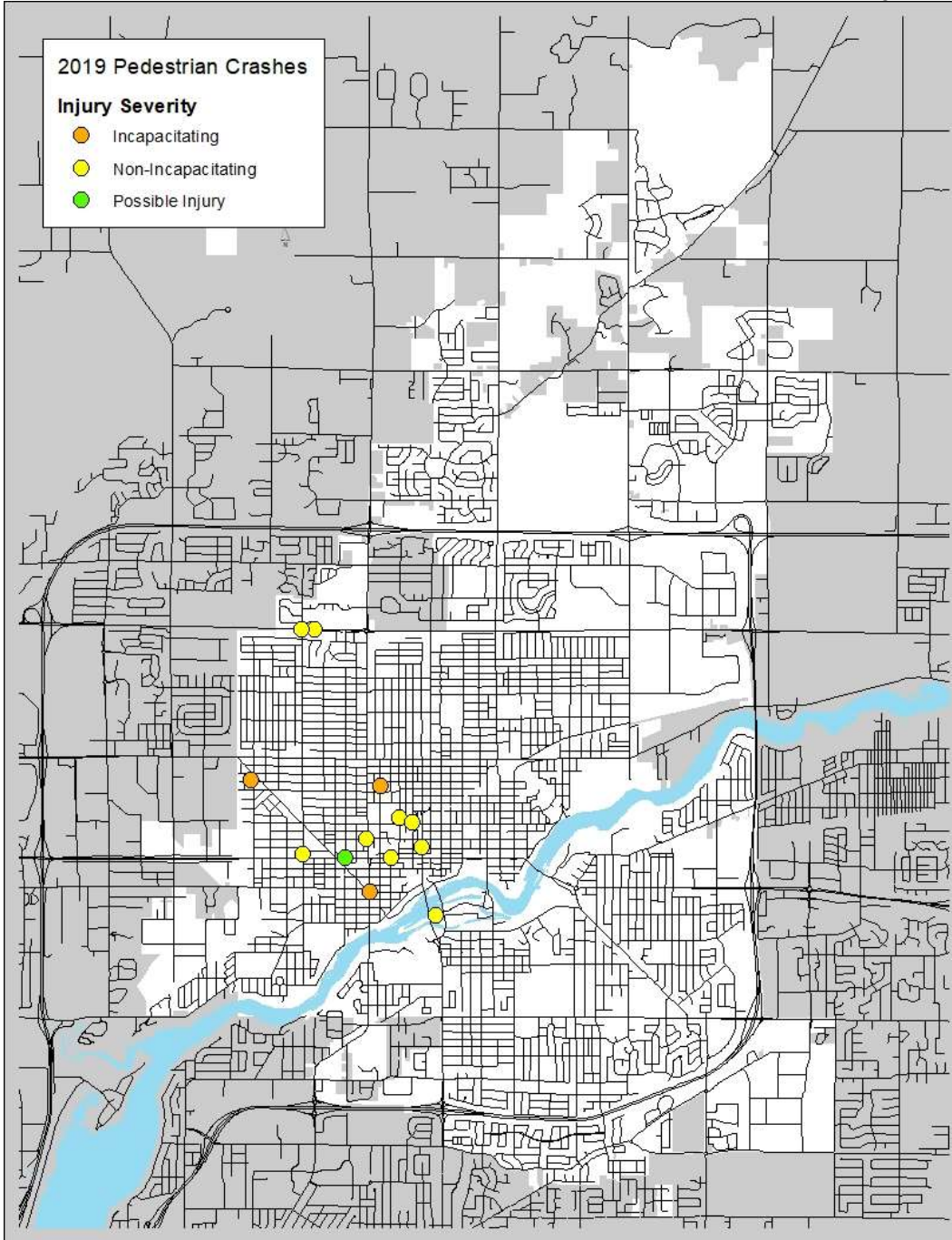


Figure 10