

Annual Crash Overview



Appleton

2020

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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 databased 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,

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

Annual Crash Overview

2020 Crash Totals

Total Number of Crashes.....984

<u>Crash Totals by General Location</u>	<u>% of Total Crashes</u>
Non-Intersection Crashes.....477	48.48%
Intersection Crashes.....507	51.52%
Freeway (Highway 41 and 441) Crashes.....103	10.47%
<u>Crash Totals Involving Pedestrians or Bicyclists</u>	
Bicycle Motor Vehicle Crashes.....20	2.03%
Pedestrian Motor vehicle Crashes.....4	0.41%

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

5-Year Graphical Crash History

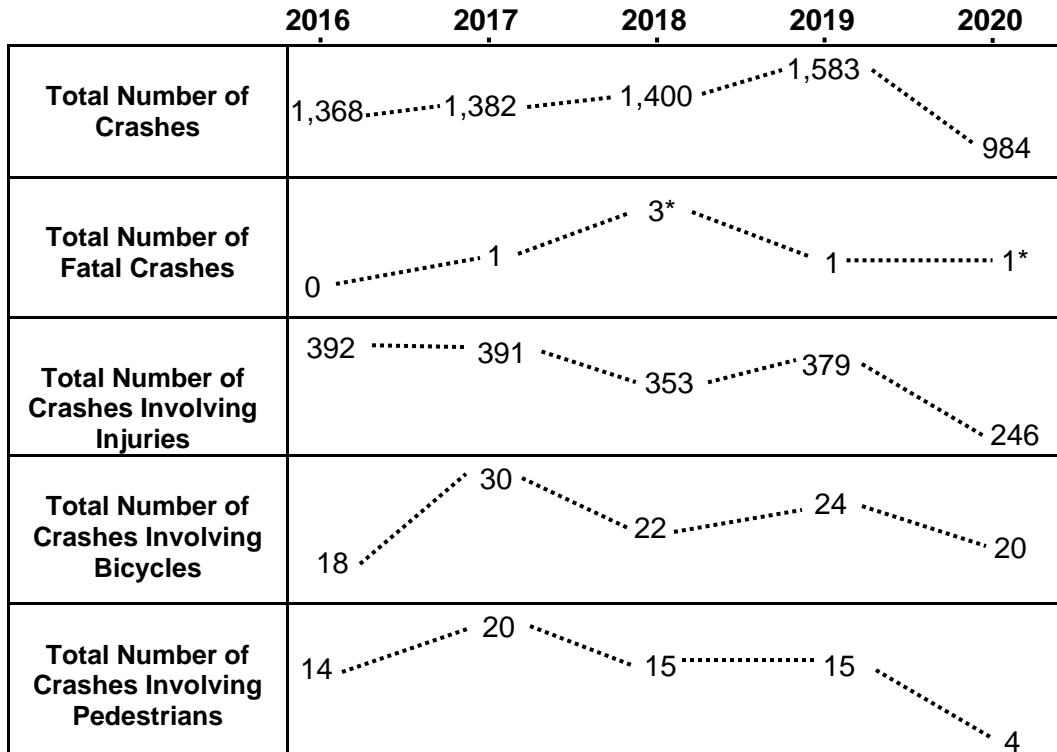


Figure 1 *All were non intersection, singular vehicle crashes

Table 1: Average Total Number of Crashes by Month for 2016-2020

January	129
February	130
March	102
April	86
May	103
June	123
July	98
August	101
September	106
October	108
November	118
December	129

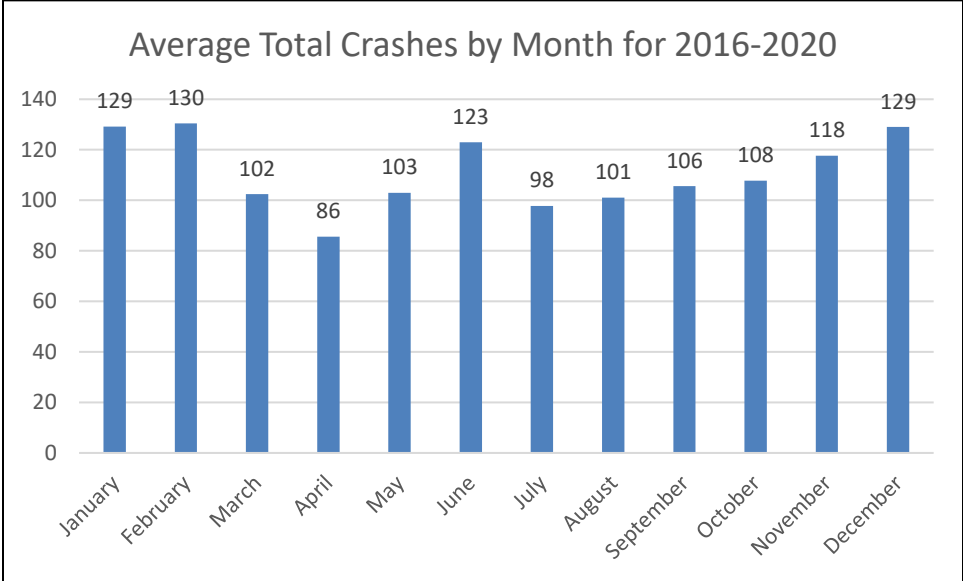


Figure 2

Crash Rate Graphical History (CPMVE¹)

		2018	2019	2020
Signalized	3-Year Crash Rate	0.63	0.61	0.54
	5-Year Crash Rate	0.73	0.63	0.57
2-Way Stop	3-Year Crash Rate	0.23	0.22	0.19
	5-Year Crash Rate	0.20	0.24	0.22
All-Way Stop	3-Year Crash Rate	0.32	0.24	0.26
	5-Year Crash Rate	0.36	0.33	0.28
Yield	3-Year Crash Rate	0.28	0.32	0.29
	5-Year Crash Rate	0.24	0.36	0.28
Uncontrolled	3-Year Crash Rate	0.11	0.07	0.05
	5-Year Crash Rate	0.14	0.11	0.08
Roundabout	3-Year Crash Rate	1.06	0.79	0.78
	5-Year Crash Rate	0.91	0.67	0.71
3-Way Stop	3-Year Crash Rate	0.38	0.32	0.38
	5-Year Crash Rate	0.52	0.40	0.36

Note: 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 2013-2018.
 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 2014-2019.
 The years studied for the 3-Year Crash Rate for 2020 heading are 2018-2020.
 The years studied for the 5-Year Crash Rate for 2020 heading are 2016-2020.

Figure 3

1. See bottom of page 5 for explanation of CMPVE

2020 Crashes in Appleton

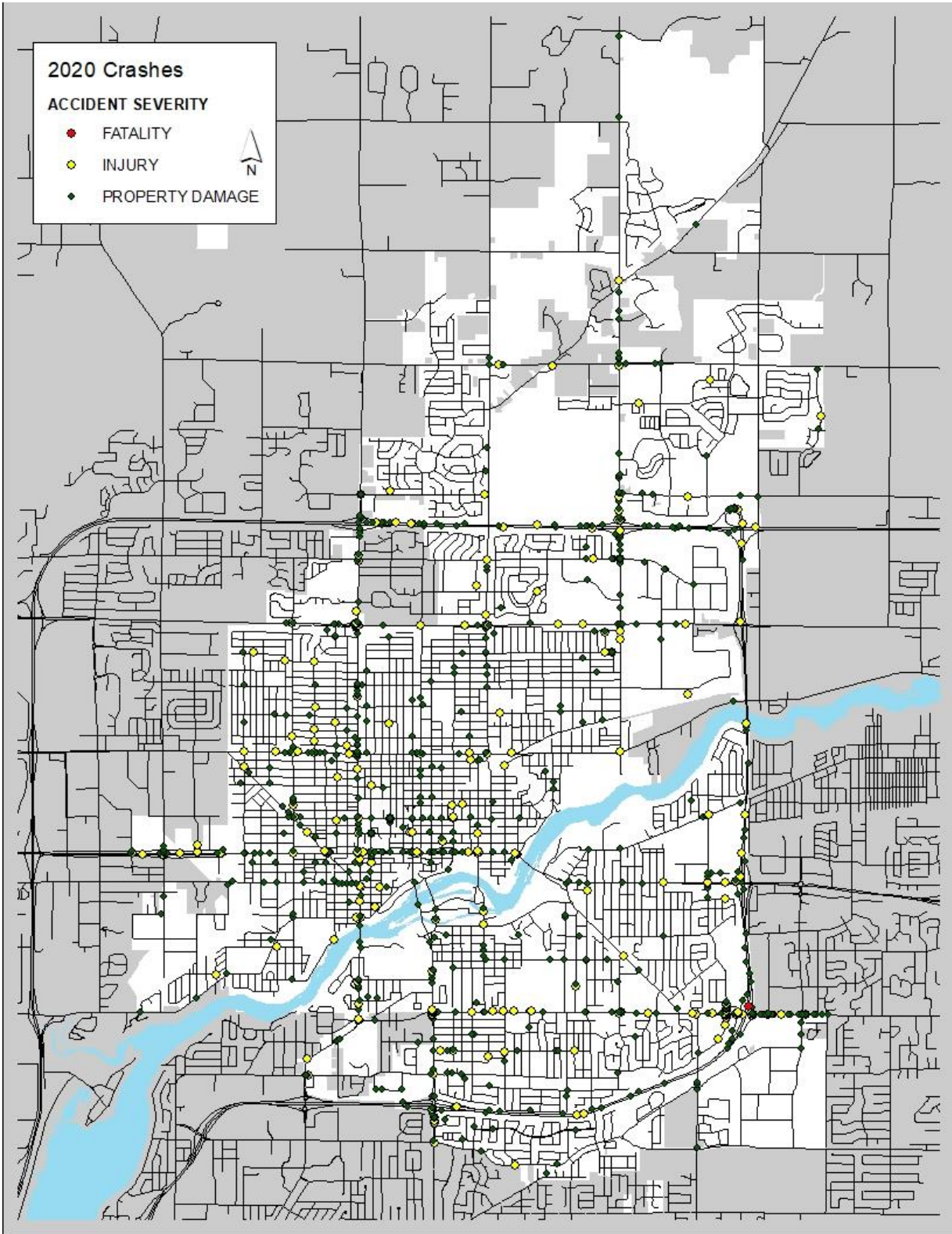


Figure 4

2020 Annual Crash Overview

Crash Severity

Total Number of Fatal Crashes:.....(Total Fatalities: 1).....1	0.10%
Total Number of Injury Crashes.....(Total Injuries: 315).....246	25.00%
Total Number of Crashes only Involving Damages.....737	74.90%

% of Total Crashes

Non-Intersection Crash Summary

Number of Reported Non-Intersection Crashes.....477	48.48%
Number of Fatal Crashes.....(Total Fatalities: 1).....1	0.10%
Number of Injury Crashes.....(Total Injuries: 133).....102	10.37%
Number of Crashes only Involving Damages.....374	38.01%

Intersection Crash Summary

Number of Reported Intersection Crashes.....507	51.52%
Number of Fatal Crashes.....(Total Fatalities: 0).....0	0.00%
Number of Injury Crashes.....(Total Injuries: 182).....144	14.63%
Number of Crashes only Involving Damages.....363	36.89%

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 (2016-2020)	Average 5- Year Crash Rate (CPMVE)	3-Year Crash Total (2018-2020)	Average 3- Year Crash Rate (CPMVE)
Signalized	2324	0.61	1271	0.55
2-Way Stop	1509	0.16	842	0.15
All-Way Stop	55	0.38	32	0.37
Yield	121	0.19	84	0.22
Uncontrolled	59	0.07	31	0.06
Roundabout	395	1.33	271	1.52
3-Way Stop	33	1.21	19	1.16

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 (2016-2020)

RANK	SIGNALIZED	CRASH RATE
1	E CALUMET ST / S KENSINGTON DR	2.03
2	N BADGER AV / N MASON ST / W PACKARD ST	1.59
3	E COLLEGE AVE / S KENSINGTON DR	1.25
4	N MASON ST / W WISCONSIN AVE	1.24
5	W COLLEGE AV / S MEMORIAL DR	1.23
6	N BALLARD RD / E CAPITOL DR	1.04
7	N BALLARD RD / E NORTHLAND AVE	1.02
8	N APPLETON ST / W FRANKLIN ST	0.97
9	E CALUMET ST / S ONEIDA ST	0.94
10	E LAWRENCE ST / S MORRISON ST	0.93

RANK	UNCONTROLLED	CRASH RATE
1	CAMBRIDGE DR / E CARDINAL PL	1.17
2	S DRIFTWOOD LN / SCHAEFER CIR	0.67
3	N HELEN ST / E LONGVIEW DR	0.65
4	E GRANT ST / N RANKIN ST	0.42
5	S DREW ST / E WATER ST	0.41

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	N NICHOLAS ST / W PERSHING ST	2.74
4	E ASHBURY DR / N PROVIDENCE AVE	2.10
5	W COMMERCIAL ST / N SUMMIT ST	1.97

Table 5

RANK	ROUNDBABOUT	CRASH RATE
1	W NORTHLAND AV / N RICHMOND ST	4.14
2	E COLLEGE AV / E JOHN ST / S WALTER AVE	1.00
3	S LAKE PARK RD / E PLANK RD	0.88
4	E EVERGREEN DR / N LIGHTNING DR	0.47
5	S LAKE PARK RD / E MIDWAY RD	0.43

Table 6

RANK	YIELD	CRASH RATE
1	W PARKWAY BLVD / N SUMMIT ST	2.53
2	S JACKSON ST / E LINCOLN ST	2.44
2	S OUTAGAMIE ST / W PINE ST	2.44
4	N ELINOR ST / W GRANT ST	2.15
5	E MARQUETTE ST / N MORRISON ST	1.77

Table 7

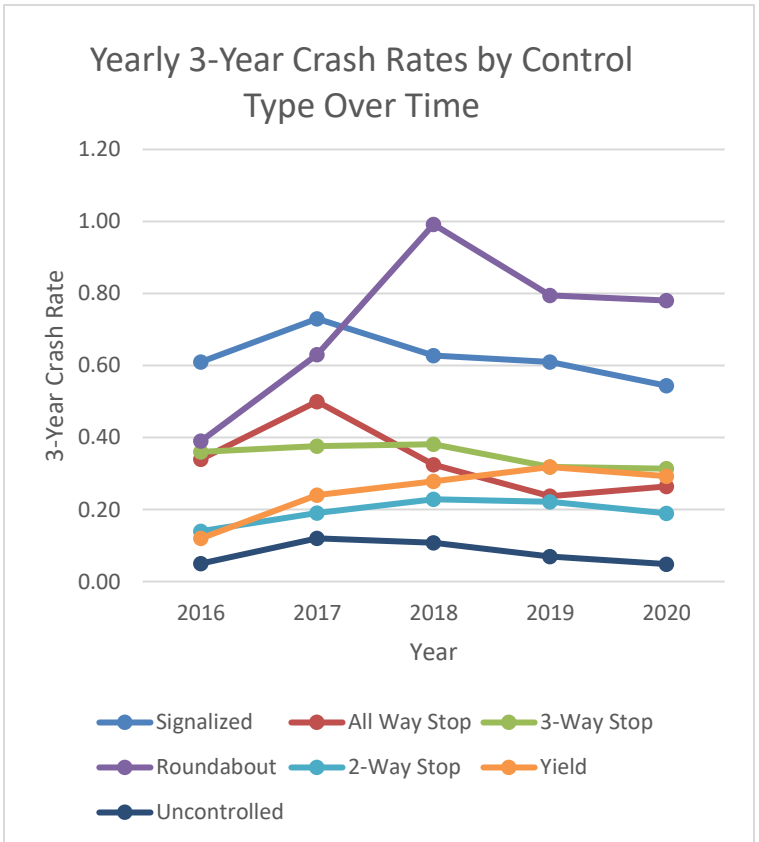


Figure 5

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 4.14	1 Calumet / Kensington 2.04	1 CAMBRIDGE / CARDINAL 1.17	1 Parkway / Summit 2.54
2 5th / Locust 2.74	2 College / John / Walter 1.00	2 Badger / Mason / Packard 1.59	1 DRIFTWOOD / SCHAEFER 0.67	2 Jackson / Lincoln 2.44
3 Nicholas / Pershing 2.74	3 Lake Park / Plank 0.88	3 College / Kensington 1.25	1 HELEN / LONGVIEW 0.65	2 Outagamie / Pine 2.44
4 Ashbury / Providence 2.10	4 Evergreen / Lightning 0.47	4 Mason / Wisconsin 1.24	1 GRANT / RANKIN 0.42	4 Elinor / Grant 2.15
5 Commercial / Summit 1.97	5 Lake Park / Midway 0.43	5 College / Memorial 1.23	1 DREW / WATER 0.41	5 Marquette / Morrison 1.77
		6 Ballard / Capitol 1.04		
		7 Ballard / Northland 1.02		
		8 Appleton / Franklin 0.97		
		9 Calumet / Oneida 0.94		
		10 Lawrence / Morrison 0.93		

Data from Tables 3-7

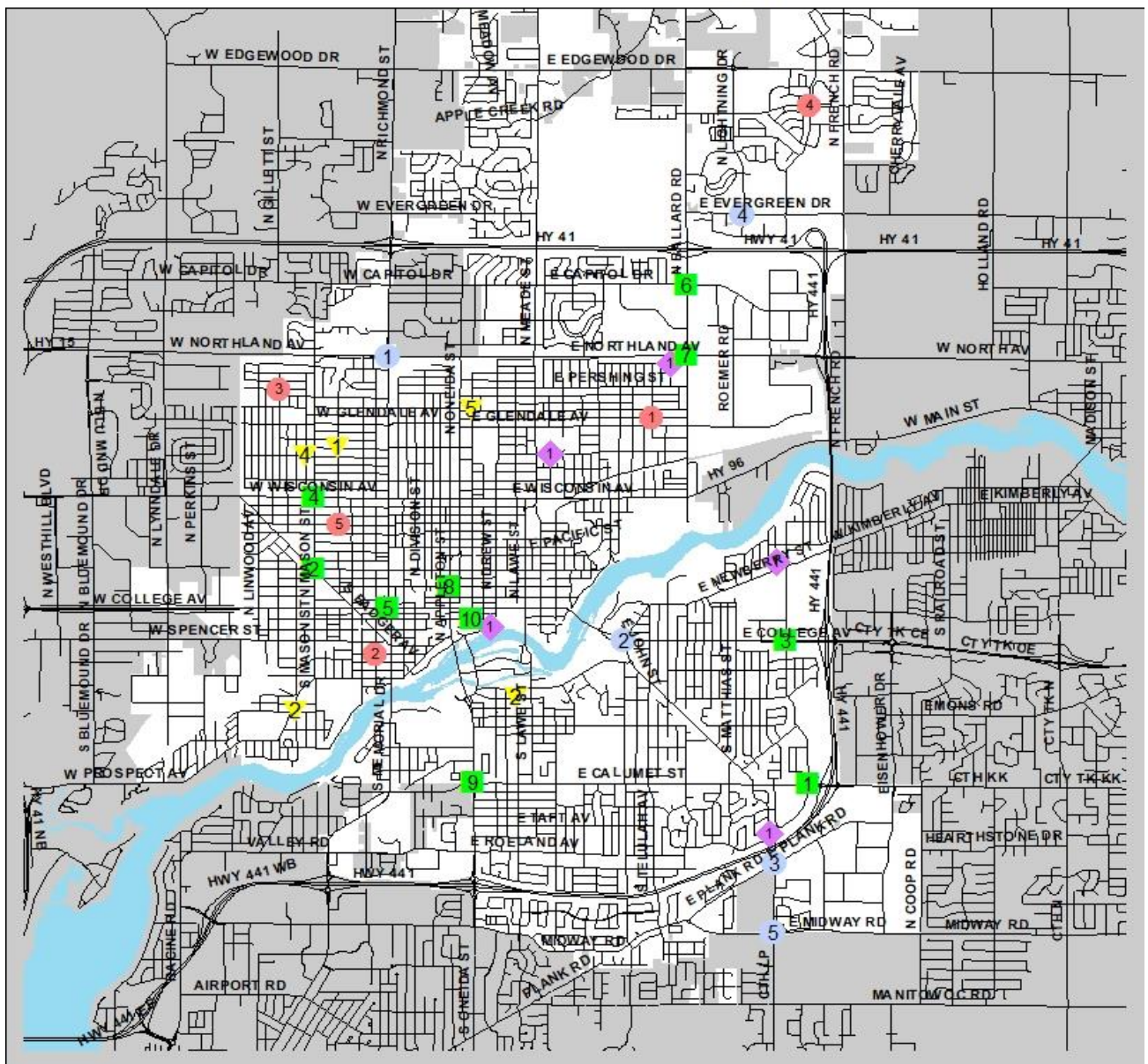


Figure 6

**Table 8: Ranking of Intersections with Highest Total Crashes in
2020**

RANK	INTERSECTION	*	2020 CRASH TOTAL	CONTROL TYPE
1	W NORTHLAND AVE / N RICHMOND ST	*	52	ROUNDBABOUT
2	E CALUMET ST / S KENSINGTON DR		18	SIGNALIZED
3	E CALUMET ST / STONYBROOK RD	*	17	SIGNALIZED
4	E CALUMET ST / EISENHOWER DR	*	12	SIGNALIZED
5	W COLLEGE AVE / S MEMORIAL DR	*	12	SIGNALIZED
6	N BADGER AVE / W COLLEGE AVE / N STORY ST	*	11	SIGNALIZED
7	W COLLEGE AVE / N LYNNDAL DR	*	11	SIGNALIZED
8	N BALLARD RD / E NORTHLAND AVE	*	9	SIGNALIZED
9	E CALUMET ST / S ONEIDA ST		9	SIGNALIZED
10	N MASON ST / W WISCONSIN AVE	*	9	SIGNALIZED
11	N MEADE ST / E NORTHLAND AVE	*	9	SIGNALIZED
12	S BADGER AVE / S MEMORIAL DR	*	8	SIGNALIZED
13	E COLLEGE AVE / S KENSINGTON DR		8	SIGNALIZED
14	W FRANKLIN ST / N RICHMOND ST	*	8	SIGNALIZED
15	S MEMORIAL DR / W PROSPECT AVE	*	8	SIGNALIZED
16	N RICHMOND ST / W WISCONSIN AVE	*	8	SIGNALIZED
17	W COLLEGE AVE / N PERKINS ST	*	7	SIGNALIZED
18	W CAPITOL DR / N RICHMOND ST	*	7	SIGNALIZED
19	S KENSINGTON DR / E TARGET ST		7	2-WAY STOP
20	N BALLARD RD / E EDEGEWOOD DR	*	6	SIGNALIZED
21	W CALUMET ST / S MEMORIAL DR	*	6	SIGNALIZED
22	N DIVISION ST / W PACKARD ST		5	4-WAY STOP
23	N BALLARD RD / E EVERGREEN DR	*	5	SIGNALIZED
24	E CALUMET ST / S SCHAEFER ST		5	SIGNALIZED
25	W GLENDALE AVE / N RICHMOND ST	*	5	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 2020

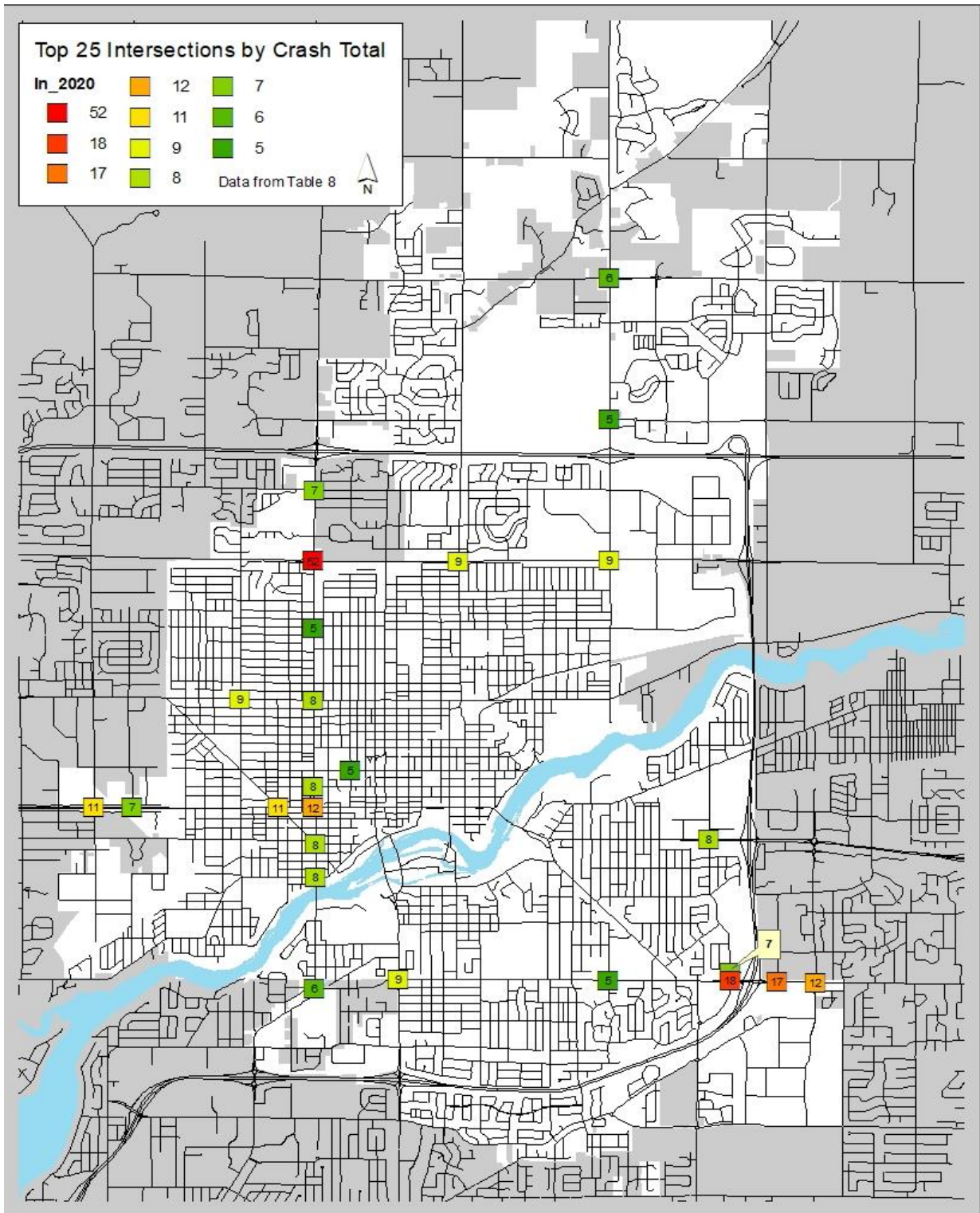


Figure 7

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

RANK	INTERSECTION	3-YEAR CRASH RATE	2018 CRASH TOTAL	2019 CRASH TOTAL	2020 CRASH TOTAL	3-YEAR CRASH TOTAL	CONTROL TYPE
1	W NORTHLAND AVE / N RICHMOND ST	5.22	76	84	52	212	ROUNDBOUT
2	N ELINOR ST / W GRANT ST	3.59	1	1	1	3	YIELD
3	W 5TH ST / S LOCUST ST	2.74	2	1	0	3	2-WAY
4	N ERB ST / W MARQUETTE ST	2.35	3	1	1	5	YIELD
5	S JACKSON ST / E WILSON AVE	2.11	2	1	0	3	YIELD
6	S LAWE ST / E SOUTH RIVER ST	1.91	8	7	4	19	3-WAY
7	E CALUMET ST / S KENSINGTON DR	1.71	27	18	18	63	SIGNALIZED
8	E CAPITOL DR / N CONKEY ST	1.66	2	3	1	6	2-WAY
9	N BENNETT ST / W WEILAND AVE	1.53	1	0	2	3	2-WAY
10	N DREW ST / E WASHINGTON ST	1.48	7	8	1	16	2-WAY
11	N LOCUST ST / W PARKWAY BLVD	1.47	1	1	1	3	2-WAY
12	S KENSINGTON DR / E TARGET ST	1.40	7	15	7	29	2-WAY
13	E COLLEGE AVE / S KENSINGTON DR	1.33	23	8	8	39	SIGNALIZED
14	N MASON ST / W WISCONSIN AVE	1.32	12	13	9	34	SIGNALIZED
15	N APPLETON ST / W WASHINGTON ST	1.28	8	3	0	11	SIGNALIZED
16	E FREMONT ST / S LAWE ST	1.27	3	6	2	11	4-WAY
17	N MASON ST / W PACKARD ST	1.26	3	4	3	10	SIGNALIZED
18	E LOURDES DR / S MATTHIAS ST	1.19	2	1	1	4	2-WAY
19	N DURKEE ST / E WASHINGTON ST	1.17	2	2	1	5	2-WAY
20	N DIVISION ST / W PACKARD ST	1.16	1	2	5	8	4-WAY

1. All Interstate 41 and State Highway 441 interchanges excluded.
2. Roundabout opened in September 2019, was signalized previously.

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

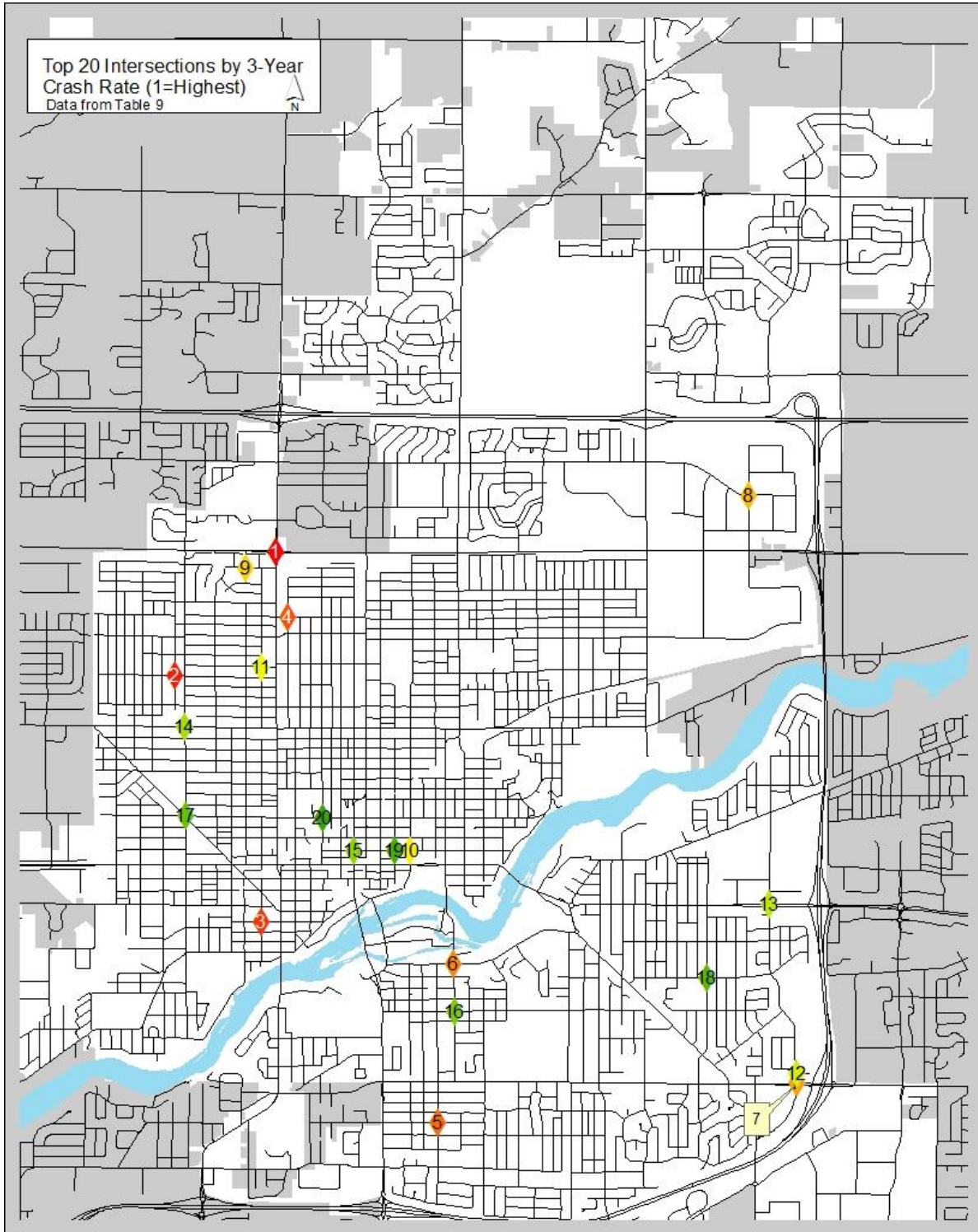


Figure 8

Bicycle Involved Crash Summary

Number of Reported Bicycle Involved Crashes.....20
 Number of Injury Crashes.....(Total Injuries: 18).....18
 Number of Fatal Crashes.....(Total Fatalities: 0).....0

% of Total Crashes
2.03%
1.83%
0.00%

Number of Reported Injuries:

A.....3
 B.....10
 C.....5

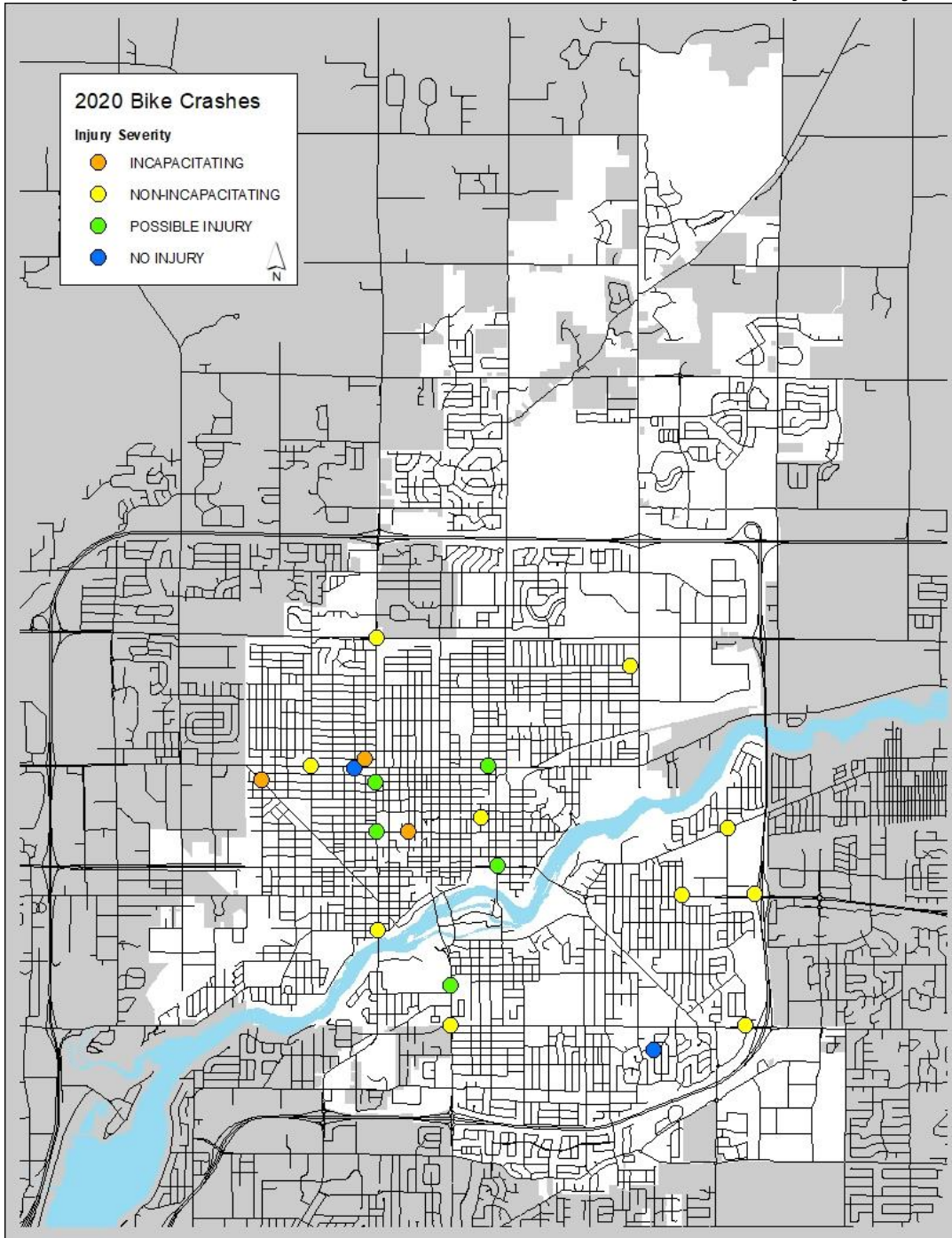


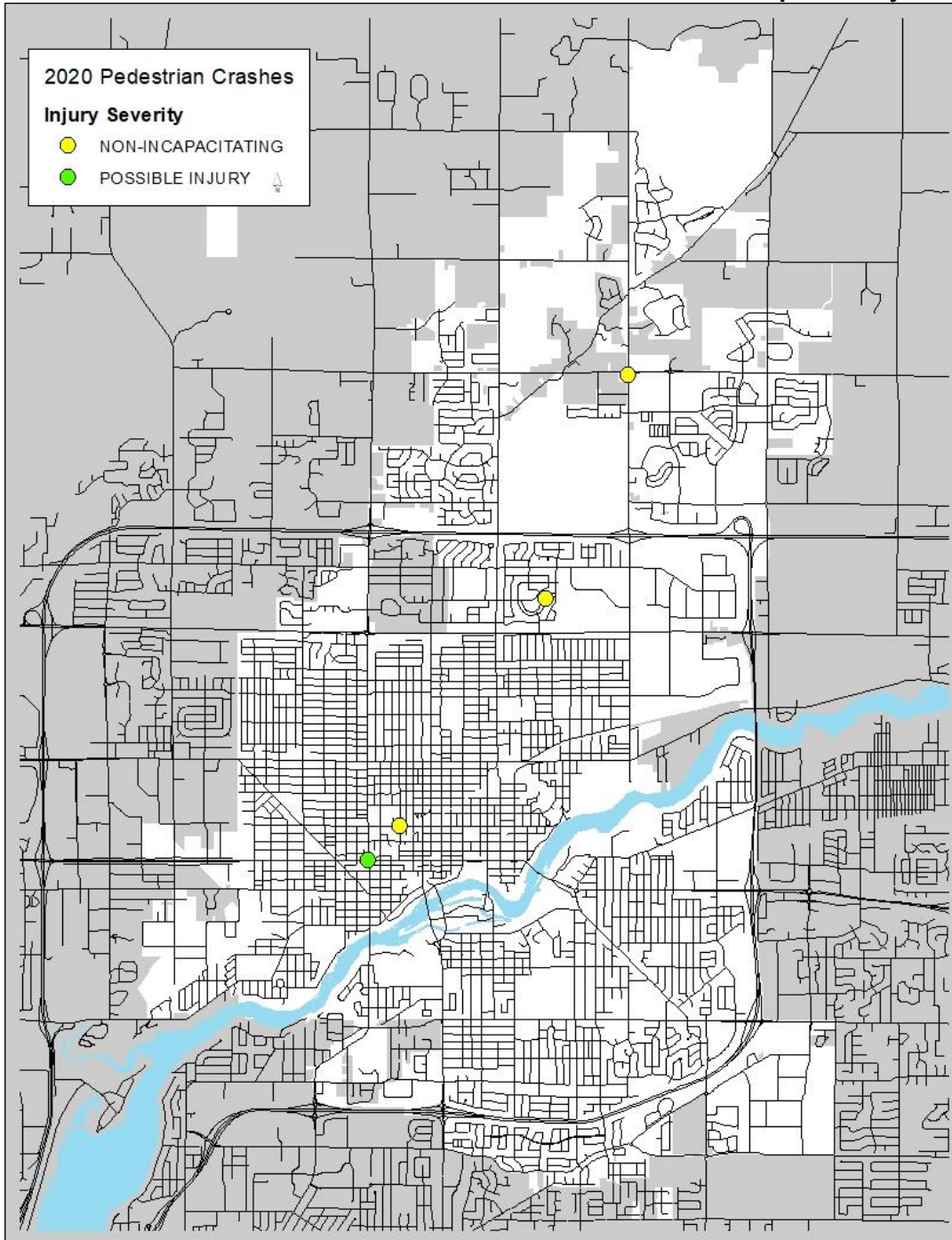
Figure 9

Pedestrian Involved Crash Summary

	<u>% of Total Crashes</u>
Number of Reported Pedestrian Involved Crashes..... 4	0.41%
Number of Injury Crashes (Total Injuries: 4).....	4
Number of Fatal Crashes (Total Fatalities: 0).....	0
	0.00%

Number of Reported Injuries:

A....0
 B....3
 C....1



Note: Injury Severity-highest level injury severity for a crash, taken over all persons involved in a crash.

K=Killed B=Non-incapacitating
 C=Possible A=Incapacitating
 Blank=Unreported

Figure 10