2019 ANNUAL COLLISION STATISTICS REPORT

York Region

8983915

Executive Summary

York Region is home to nearly 1.2 million people in nine municipalities, bounded by Steeles Avenue in the south, Highway 50 in the west, York Durham Line in the east, to Lake Simcoe in the north. The Region continues to experience growth and is expected to reach 1.5 million people by 2031.

The Regional road network consists of approximately 4,400 lane-kilometres of urban and rural arterial roads, 2,200 intersections and approximately 890 traffic signals that help residents and visitors get to where they live, work and play. Regional roads carry more than six billion vehicle-kilometres of travel annually and more than 2.6 million vehicle trips daily.

First published in 2014, the Annual Collision Statistics Report (6th edition) contains collision statistics on York Region roads to identify trends and support decision-making. This year's report primarily includes data collected for 2016 to 2018. The collision data does not include collisions that occur on local municipal roadways as each municipality manages their own data. The daily vehicle volumes shown throughout the report are sourced from the 2016 Transportation Tomorrow Survey.

The Annual Collision Statistics Report provides a detailed breakdown of the traveller experience on Regional roads, using collision statistics and other data such as traffic volume, weather and population. Staff analyzed collision data using motor vehicle collision reports from York Regional Police to identify issues for specific locations as well as trends that may indicate larger issues. The report also supports coordinated law enforcement and helps in the development of programs to improve road safety, including public education and awareness campaigns for all travellers in York Region.

KEY FINDINGS AND INITIATIVES

A review of collisions over the past ten years shows that motor vehicle collisions are decreasing despite more vehicles travelling on Regional roads than ever before. In 2018, there was a ten-year low in total collisions, with less than 7,600 collisions occurring on Regional roads. Most collisions, 83 per cent, were a direct result of improper driving.

The number of pedestrian and cyclist collisions are increasing as active transportation is becoming more popular in York Region. However, as the growth in trips is outpacing growth in collisions, the rate of collisions is actually decreasing. Pedestrians and cyclists are most vulnerable to injuries, with 92 per cent of pedestrians and 80 per cent of cyclists sustaining injuries during collisions. Most collisions occur when vehicles are making turns at signalized intersections.

The Annual Collision Statistics Report is part of a proactive approach to making Regional roads safer for all travellers. Through data and analysis, York Region is introducing new pedestrian and cycling safety measures at select signalized intersections and measuring success to support future enhancements, while building strong partnerships with its road safety partners. The red light camera program continues to change driver behaviour and significantly reduce collisions, reducing right angle collisions by more than 70 per cent at intersections equipped with cameras.

Please visit www.york.ca/trafficsafety for more information.

ANNUAL COMPARISON OF COLLISIONS

Collisions are a result of numerous factors, often interconnected and unique to specific events. A general overview of collision statistics on Regional roads between the years 2016 and 2018 shows that collisions continue to occur most frequently on Fridays, during the winter months and the evening rush hour (5 p.m. to 6 p.m.). The most common collisions are rear-end collisions at signalized intersections, as a result of motorists following too close. Consistent with past years, the majority of high collision intersections are situated on high volume roads in urban areas. The following table compares collision data for the years 2016, 2017 and 2018.

STATISTICS	2016	2017	2018
Number of collisions	7,964	7,672	7,510
Number of fatal collisions	15	12	17
Number of injury collisions	2,242	1,977	1,936
Number of collisions involving pedestrians	175	147	159
Percentage of collisions involving pedestrians resulting in injuries or fatalities	94%	93%	96%
Number of collisions involving cyclists	115	96	94
Percentage of collisions involving cyclists resulting in injuries or fatalities	86%	82%	78%
Collision rate per 100,000 population	696	661	635
Fatal collision rate per 100,000 population	1.3	1.0	1.4
Day with highest number of collisions	Thursday	Friday	Friday
Month with highest number of collisions	December	November	January
Hour with the highest number of collisions	5 to 6 p.m.	5 to 6 p.m.	5 to 6 p.m.
Most common collision type	Rear-end	Rear-end	Rear-end
Most frequently recorded improper driving action	Following too close	Following too close	Following too close
Location with the highest number of collisions	Weston Road and Rutherford Road	Highway 7 and Weston Road	Highway 7 and Weston Road
Percentage of collisions occurring at intersections	76.6%	68.8%	69.4%
Percentage of collisions occurring during winter driving (snow/ice road surface) conditions	6.9%	6.0%	6.8%

Collisions are random events that are influenced by many factors, including road and environmental conditions and driver behaviour.

Table of Contents

Overview

York Region's collision statistics over the last decade show a continued decreasing trend in total collisions since 2010, with less than 7,600 collisions in 2018, despite an increasing trend in the daily traffic volumes to more than 2.6 million trips per day and population growth by two per cent annually.

COLLISION FREQUENCY BETWEEN 2009 AND 2018
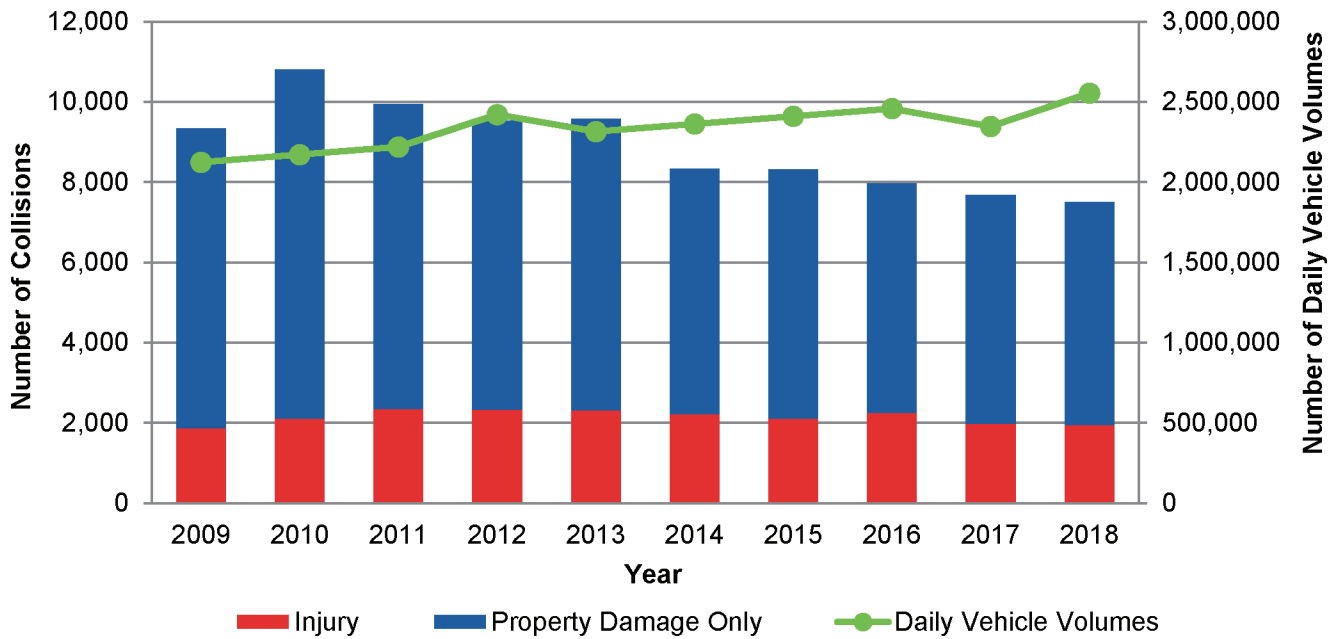
A map showing the locations of all reported motor vehicle collisions on Regional roads from 2016 to 2018 is illustrated on the next page.
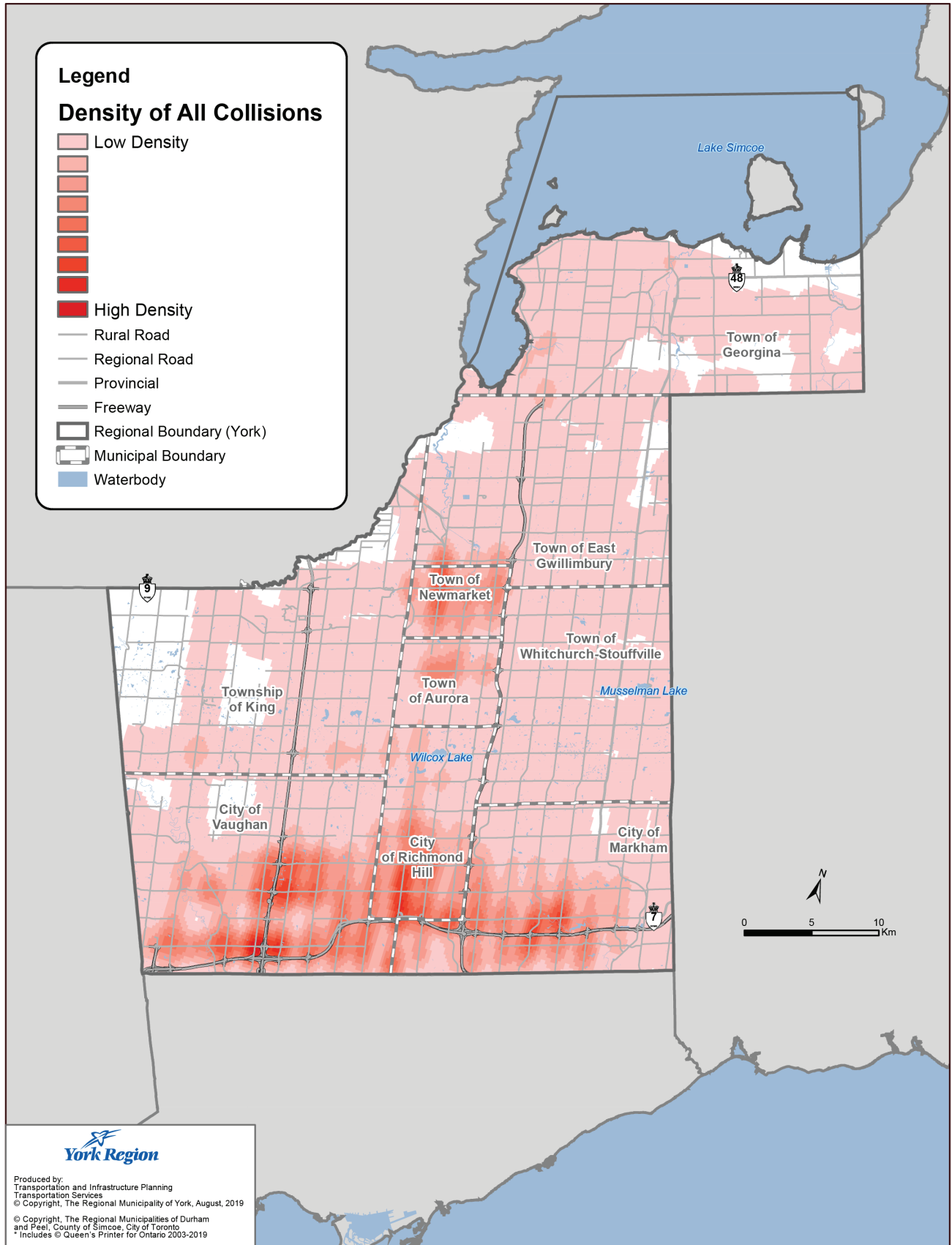

Photo: York Regional Police Vehicle

Legend

Density of All Collisions

- Low Density
- High Density
- Rural Road
- Regional Road
- Provincial
- Freeway
- Regional Boundary (York)
- Municipal Boundary
- Waterbody

Lake Simcoe

Town of Georgina

Town of East Gwillimbury

Town of Newmarket

Town of Whitchurch-Stouffville

Musselman Lake

Township of King

Town of Aurora

Wilcox Lake

City of Vaughan

City of Richmond Hill

City of Markham

0   5   10 Km

York Region

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While total collision statistics show a decreasing trend, the number of injury collisions has also decreased since 2011, despite experiencing a spike in 2016. In 2017 and 2018, the number of injury collisions dropped to less than 2,000 injury collisions each year.

The number of fatal collisions continues to fluctuate year over year. The Region experienced a 10-year low in fatal collisions in 2017, with a total of 12 fatalities; there were a total of 17 fatalities in 2018. This is not unusual as fatal collisions are random events that have a tendency to spike in any given year. The 2018 fatal collision locations map is illustrated on the next page.

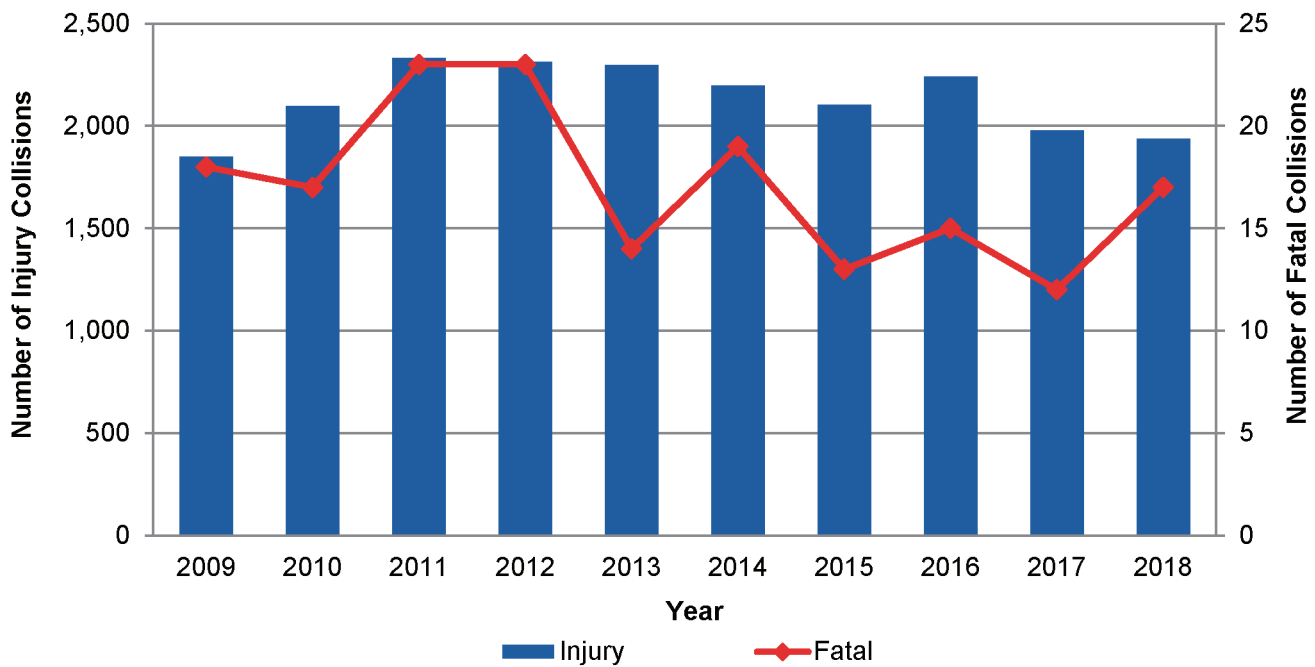## FREQUENCY OF INJURY AND FATAL COLLISIONS, BETWEEN 2009 AND 2018

Photo: York Region EMS Vehicle

THERE WERE 17 FATAL COLLISIONS IN YORK REGION IN 2018; THE HIGHEST NUMBER IN THE LAST THREE YEARS.

PEDESTRIANS AND CYCLISTS WERE INVOLVED IN 4 OF THE 17 COLLISIONS.

THERE WERE NO FATAL COLLISIONS INVOLVING TRANSIT VEHICLES IN 2018.

2018 FATAL COLLISIONS MAP

1. Stouffville Road and Highway 404 NB-Off Ramp (January 8, 2018)
2. Mulock Drive and Sandford Street (January 22, 2018)
3. Kennedy Road and Highway 7 (February 26, 2018)
4. 16th Avenue and Fern Avenue (March 16, 2018)
5. Yonge Street and Highway 407 WB-Off Ramp (March 22, 2018)
6. Stouffville Road between Bayview Avenue and Leslie Street (April 1, 2018)
7. Ninth Line and Bethesda Sideroad (May 22, 2018)
8. Highway 7 and Pine Valley (June 19, 2018)
9. Bathurst Street south of Highway 11 (July 17, 2018)
10. Major Mackenzie Drive and Wellness Way (August 10, 2018)
11. Highway 7 and Vaughan Valley Boulevard (August 15, 2018)
12. Bayview Avenue and Woodriver Street (August 19, 2018)
13. Major Mackenzie Drive west of Pine Valley Drive (September 7, 2018)
14. Dufferin Street and Major Mackenzie Drive (September 10, 2018)
15. Highway 27 north of 17th Sideroad (October 10, 2018)
16. Rutherford Road west of Peter Rupert Way (November 2, 2018)
17. Aurora Road between Kennedy Road and McCowan Road (November 16, 2018)

*Note: No transit involved collisions resulting in fatality

Legend

- Cyclist
- Motorcyclist
- Pedestrian
- Vehicle

— Rural Road
— Regional Road
— Provincial
— Freeway
▢ Municipal Boundary
▇ Waterbody

9

COLLISIONS BY MONTH, DAY AND TIME

Collision statistics by month indicate a seasonal trend. There are a higher number of collisions occurring during summer, fall and winter months while spring has the least number of collision occurrences. During the summer months, this can be attributed to poor driver behaviour/habits when motorists tend to drive faster and more aggressively with favourable road conditions. Aggressive driving also contributes to a higher percentage of injury collisions as compared to other months of the year. During the fall months, this is likely due to the impact of shorter daylight hours when the evenings are darker and weather conditions are less favourable for road users.

During the winter months, adverse or snow weather makes driving more dangerous by reducing tire traction and impairing visibility. Drivers typically adjust to the road condition and drive more slowly and carefully in snowy weather and many people avoid or postpone unnecessary travel. This suggests less severe collisions (those producing only property damage) increase during winter, while more severe collisions (those resulting in injuries and fatalities) decrease.

During the spring months, which have the lowest number of collisions, drivers typically continue to drive in winter driving mode even though weather conditions are getting more favourable for road users.

COLLISIONS BY MONTH, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
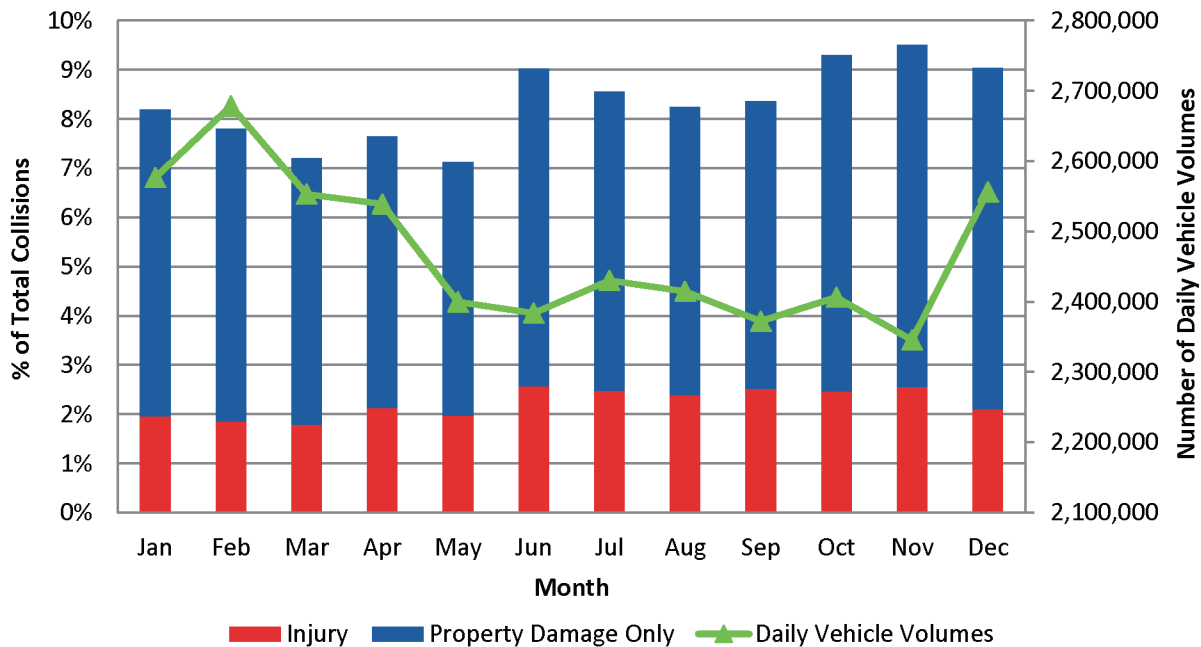
THE MONTH OF JUNE HAD THE HIGHEST NUMBER OF INJURY COLLISIONS, LIKELY CONTRIBUTED TO MOTORISTS DRIVING FASTER AND MORE AGGRESSIVELY DURING SUMMER MONTHS.

THE MONTH OF NOVEMBER HAD THE HIGHEST NUMBER OF OVERALL COLLISIONS.

The day-of-week collision pattern correlates closely with typical day-of-week traffic volume patterns, with the highest number of collisions occurring on Fridays.

COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

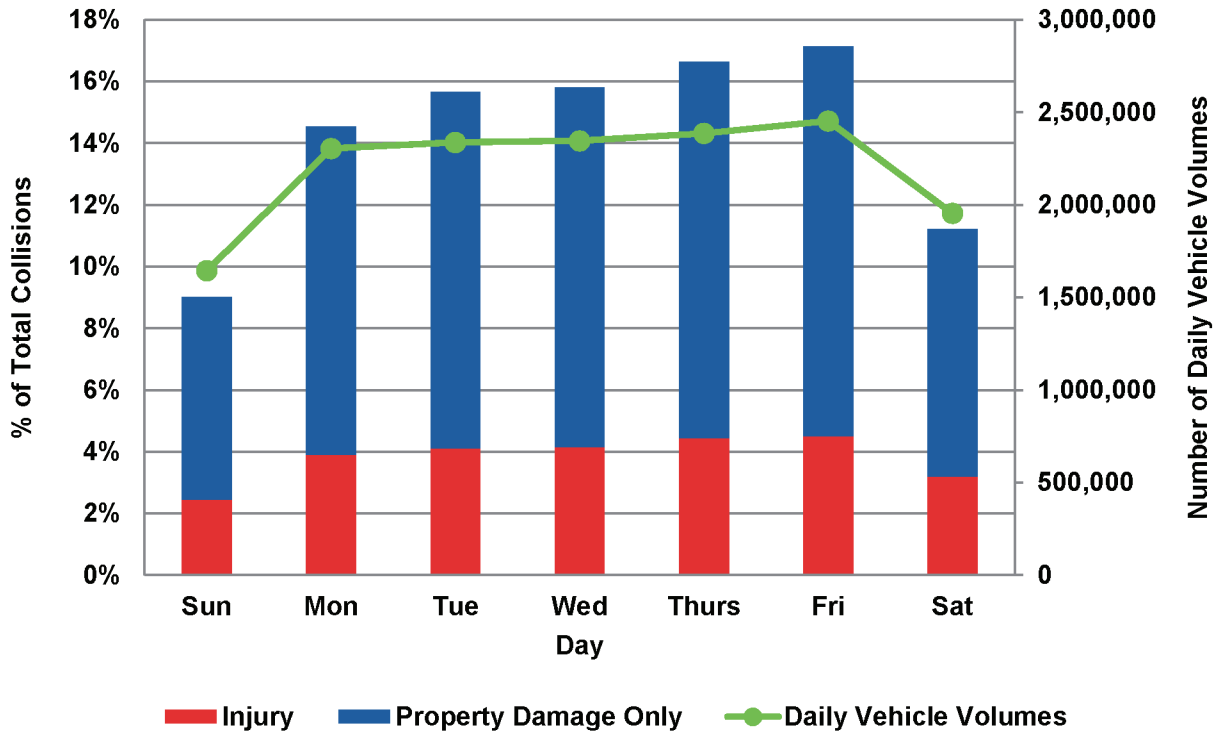

Photo: McCowan Road near Highway 7

THE DAY-OF-WEEK COLLISION PATTERN CORRELATES CLOSELY WITH TYPICAL DAY-OF-WEEK TRAFFIC VOLUME. THERE ARE MORE COLLISIONS ON DAYS WHEN PEOPLE TRAVEL MORE.

The time-of-day collision trend also correlates closely with typical daily traffic volume patterns (i.e. high numbers of collisions occur during highest traffic volume times). The highest number of collisions occurred on weekdays, between 8 a.m. and 9 a.m. and 3 p.m. and 7 p.m., accounting for 33 per cent of all collisions. Collisions were higher during the afternoon on weekends, which is consistent with the number of daily vehicle trips on weekends.

COLLISIONS BY TIME-OF-DAY, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
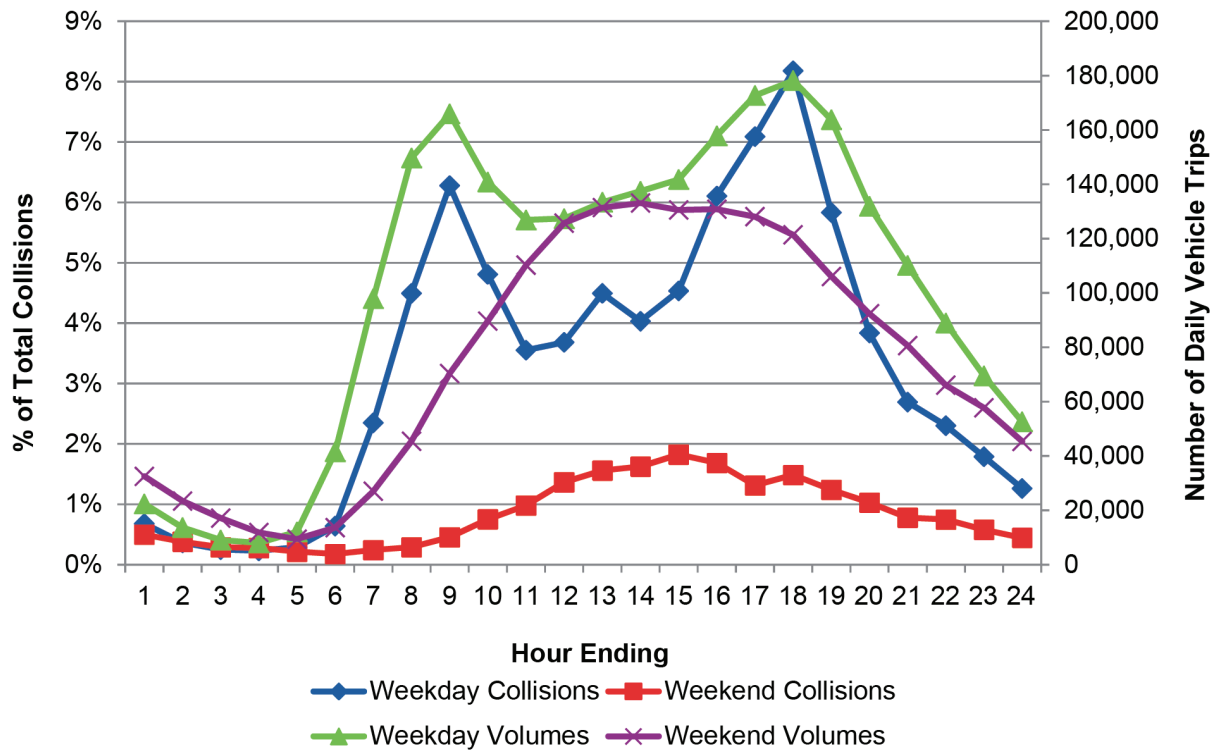

Photo: Bathurst Street and Davis Drive

➜ ON AVERAGE, THE HIGHEST NUMBER OF COLLISIONS OCCURRED BETWEEN 5 P.M. AND 6 P.M. ON WEEKDAYS.

➜ ON AVERAGE, COLLISIONS WERE HIGHEST BETWEEN 2 P.M. AND 4 P.M. ON WEEKENDS.

Road and Environmental Conditions

COLLISIONS BY ROAD SURFACE CONDITION

The majority, 74 per cent, of all collisions occurred during dry road surface conditions; 19 per cent occurred during wet road surface conditions, and six per cent of collisions occurred during snow/ice road surface conditions. Other road surface conditions include oil, mud and gravel.

COLLISIONS BY ROAD SURFACE CONDITION, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

> → 74 PER CENT OF ALL COLLISIONS OCCURRED DURING DRY ROAD SURFACE CONDITIONS.

Snow/Ice, 6%
Other, 1%
Wet, 19%
Dry, 74%
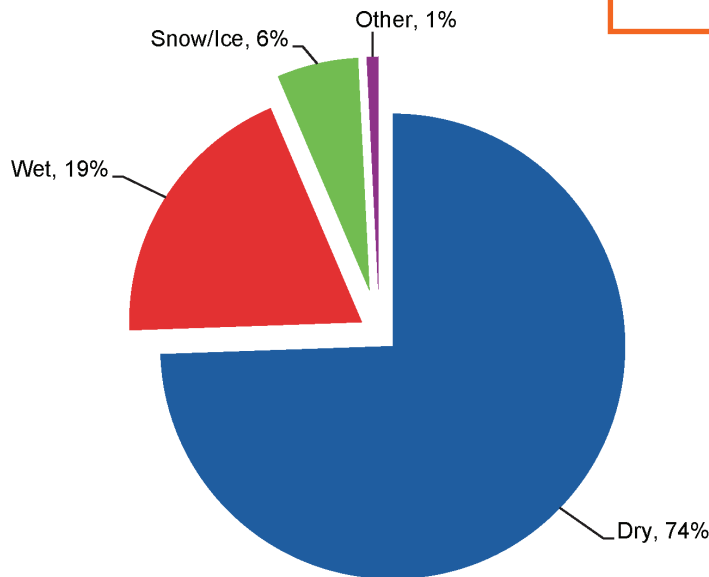
Although the majority of collisions occur during dry conditions, adverse weather conditions contribute to peak collision days. The top ten high-frequency collision days between 2016 and 2018 were during a winter event, its aftermath or a significant rainfall event. The top ten collision days from 2016 to 2018 are listed below.

TOP TEN DAYS THAT EXPERIENCED THE MOST COLLISIONS BETWEEN 2016 AND 2018

DATE	DAY	NO. OF COLLISIONS	RAIN (mm)	SNOW (cm)	AVE. TEMP (degree ºC)
April 7, 2017	Friday	115	-	3.0	1.5
February 7, 2018	Thursday	61	-	7.6	-8.8
September 29, 2017	Friday	53	5.8	-	9.8
December 15, 2016	Thursday	51	-	7.4	-11.0
November 2, 2017	Thursday	47	11.2	-	10.1
December 13, 2017	Wednesday	45	-	0.4	-11.6
December 18, 2017	Monday	45	1.4	2.2	-1.9
February 9, 2018	Saturday	44	0.2	8.4	-7.8
November 9, 2017	Thursday	44	0.7	1.6	1.4
October 23, 2017	Monday	44	10.8	-	15.5

York Region uses enhancements in technology in the winter maintenance program to ensure timely response and application to changing road conditions to improve winter driving conditions.


Photo: York Region snow plows

> ➡ YORK REGION USES A ROAD WEATHER INFORMATION SYSTEM TO TRACK RAIN, SNOW AND ICE AND GPS TRACKING TO MAXIMIZE THE EFFECTIVENESS OF THE WINTER MAINTENANCE FLEET BEFORE, DURING AND AFTER WINTER STORMS. IN ADDITION, PATROL VEHICLES ARE EQUIPPED WITH SENSORS TO GAUGE THE TEMPERATURE OF THE ROAD SURFACE TO BETTER IDENTIFY WHEN ROADS MAY NEED TO BE TREATED.

COLLISIONS BY TRAFFIC CONTROL TYPE

Fifty-five per cent of all collisions occurred at signalized intersections.

COLLISIONS BY TRAFFIC CONTROL TYPE, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
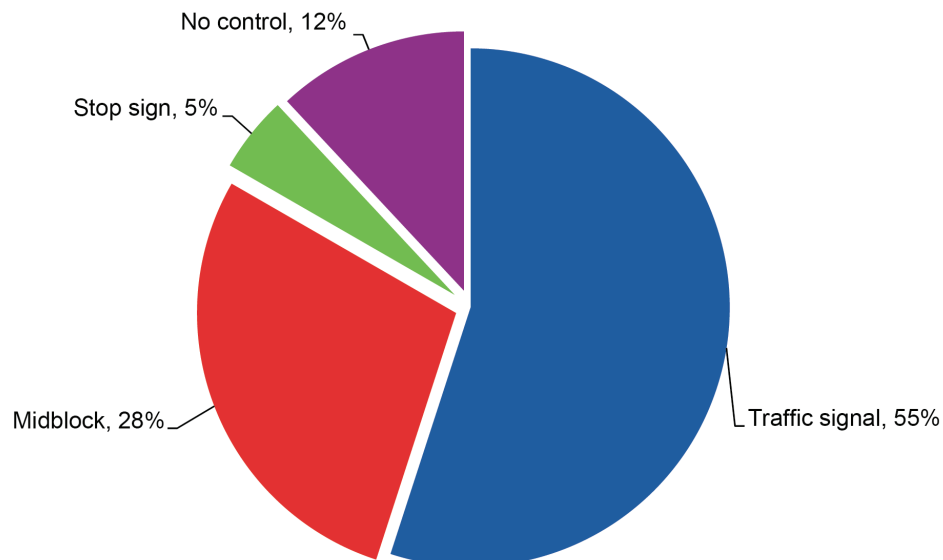
> ➡ IN 2018, YORK REGION INSTALLED 10 NEW TRAFFIC SIGNALS AND REBUILT FOUR SIGNALIZED INTERSECTIONS TO COMPLY WITH THE ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT.

- No control, 12%
- Stop sign, 5%
- Midblock, 28%
- Traffic signal, 55%

The installation of traffic and pedestrian signals helps to facilitate access for vehicular and pedestrian movements to and from local communities and subdivisions to major corridors, manage traffic and enhance travel. While the benefits of traffic signals are well-documented, there are trade-offs that need to be considered prior to installation. From a safety perspective, installation of traffic signals may

prevent some types of collisions at an intersection; however, they often increase the number of rear-end collisions. York Region installs new traffic signals when an intersection meets the criteria set out in York Region's Traffic and Pedestrian Signal Policy and thorough analysis and careful consideration of all the trade-offs using engineering tools and data.

COLLISIONS BY INITIAL IMPACT TYPE

The most common collision type was rear-end at signalized intersections. Rear-end collisions can occur as a result of driver inattention or distraction, tailgating or aggressive driving. Rear-end collisions are considered "low severity" as they have a lower injury rate compared to right-angle or turning movement collisions. Right-angle and turning movement collisions at intersections are considered "high severity" as they are most likely to result in serious injury to vehicle occupants.

COLLISIONS BY INITIAL IMPACT TYPE, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Other, 2%

Approaching, 1%

Single motor vehicle, 12%

Rear-end, 40%
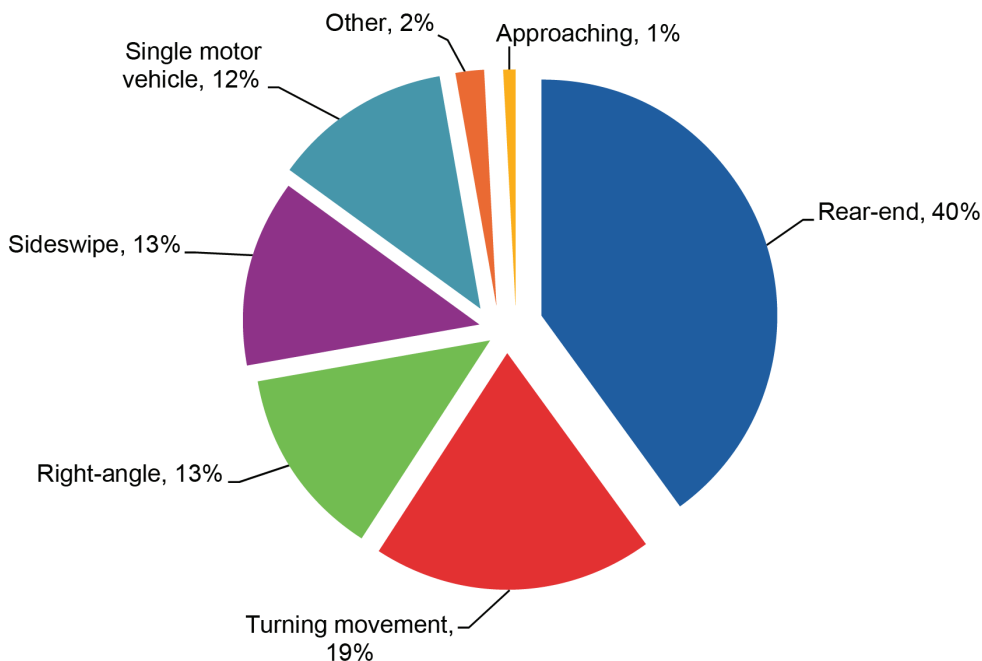
Sideswipe, 13%

Right-angle, 13%
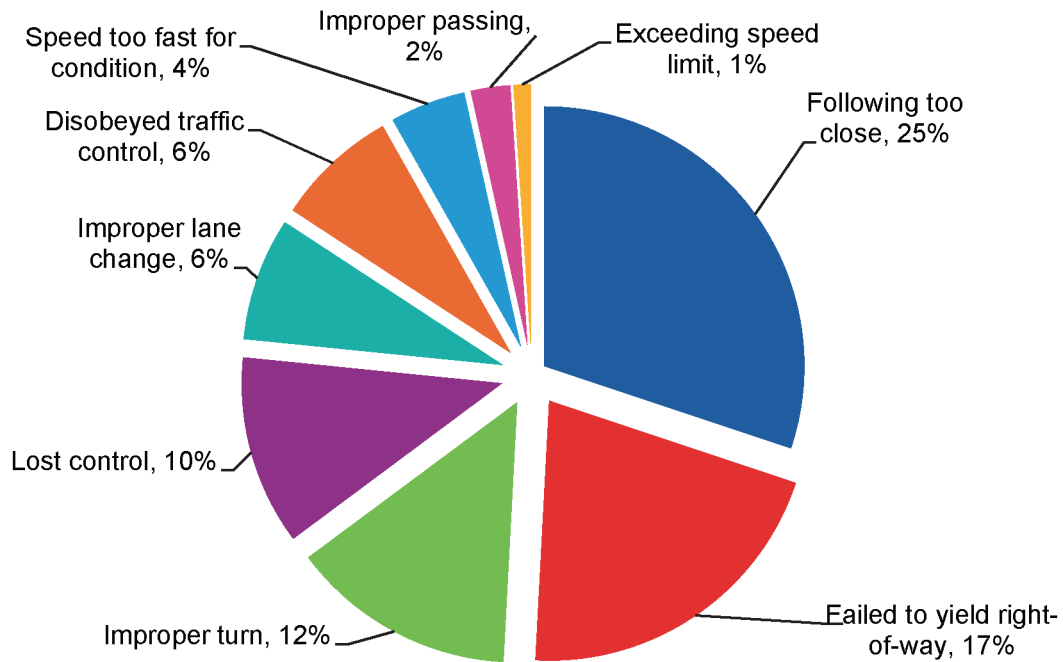
Turning movement, 19%

Photo: Highway 7 and Bowes Road

REAR-END COLLISIONS, CONSIDERED THE LEAST SEVERE, REPRESENTED 40 PER CENT OF ALL COLLISIONS. RIGHT-ANGLE COLLISIONS, CONSIDERED THE MOST SEVERE, REPRESENTED 13 PER CENT OF ALL COLLISIONS.

Driver Behaviour

COLLISIONS BY DRIVER ACTION

Statistics show that drivers were driving properly in ten per cent of all collisions and seven per cent of all collisions were recorded as "other" or "unknown" in the motor vehicle collision reports. These are excluded from the chart below. Most collisions, 83 per cent, were a direct result of improper driving. Leading causes are "following too close" and "failed to yield".

COLLISIONS BY DRIVER ACTION, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Speed too fast for condition, 4%
Improper passing, 2%
Exceeding speed limit, 1%
Following too close, 25%
Disobeyed traffic control, 6%
Improper lane change, 6%
Lost control, 10%
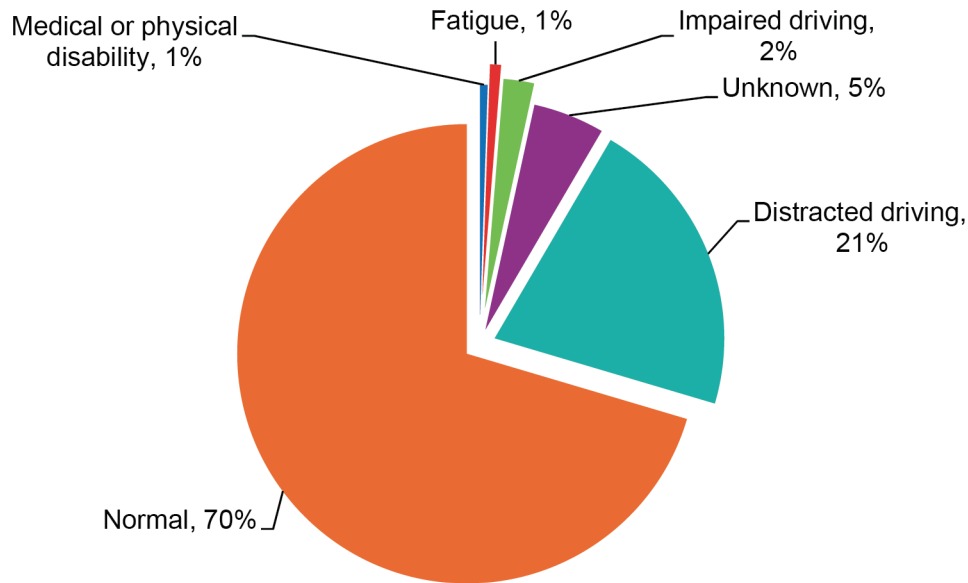Improper turn, 12%
Failed to yield right-of-way, 17%

Through integration of collision statistics, enforcement efforts and business analytics, York Regional Police identify aggressive driving to be a significant issue on Regional roads. Using information from speed studies and community complaints, York Regional Police proactively conduct enforcement initiatives to reduce speed on roadways. Residents who observe acts of aggressive driving in their community are also encouraged to complete a Road Watch Report, available at yrp.ca.

IN 2018, YORK REGIONAL POLICE RECEIVED 3,061 ROAD WATCH REPORTS OF AGGRESSIVE DRIVING.

COLLISIONS BY DRIVER CONDITION

Collisions where the condition of at-fault driver was recorded as "normal" or "unknown" accounted for 75 per cent of all collisions. Of the remaining at-fault drivers, most were identified as "inattentive driving".

COLLISIONS BY AT-FAULT DRIVER CONDITION, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Medical or physical disability, 1%

Fatigue, 1%

Impaired driving, 2%

Unknown, 5%

Distracted driving, 21%

Normal, 70%

Distracted driving continues to be one of the fast growing offences York Regional Police see on our roads. This refers to all forms of distracted or inattentive driving, such as adjusting a vehicle's entertainment system, GPS unit or stereo, eating or drinking, using a hand-held device, self-grooming or tending to children in the backseat. York Regional Police is committed to reversing this trend with a focus on proactive enforcement, such as the We're on Board bus initiative and Operation Stay Focused, along with legislative lobbying for increased penalties and fines.

Impaired driving is also among the top concerns that York Regional Police sees on the roads. York Regional Police is committed to eliminating impaired driving and its message is clear: If you drink or do drugs, don't drive. York Regional Police encourages all citizens to stand up to impaired driving and call 9-1-1 immediately if they see a suspected impaired driver. The call may save a life or prevent a serious injury. Impaired driving is a crime in progress and York Regional Police officers will respond immediately to all calls.

> IN 2018, YORK REGIONAL POLICE CHARGED MORE THAN 4,441 DRIVERS WITH DISTRACTED DRIVING, AN AVERAGE OF 371 CHARGES EVERY MONTH.

> IN 2018, YORK REGIONAL POLICE LAID MORE 1,649 CHARGES WITH IMPAIRED-RELATED OFFENCES.

Vulnerable Road Users

COLLISIONS INVOLVING PEDESTRIANS AND CYCLISTS

Pedestrians and cyclists are most at risk for serious injury or death when involved in a motor vehicle collision. More than 90 per cent of pedestrian and 80 per cent of cyclist collisions resulted in injuries. A steadily increasing trend was experienced in the Region in pedestrian collisions by an average of two per cent since 2010, with the highest of 174 pedestrian collisions in 2016. The number of pedestrian collisions dropped to less than 160 pedestrian collisions in 2017 and 2018.
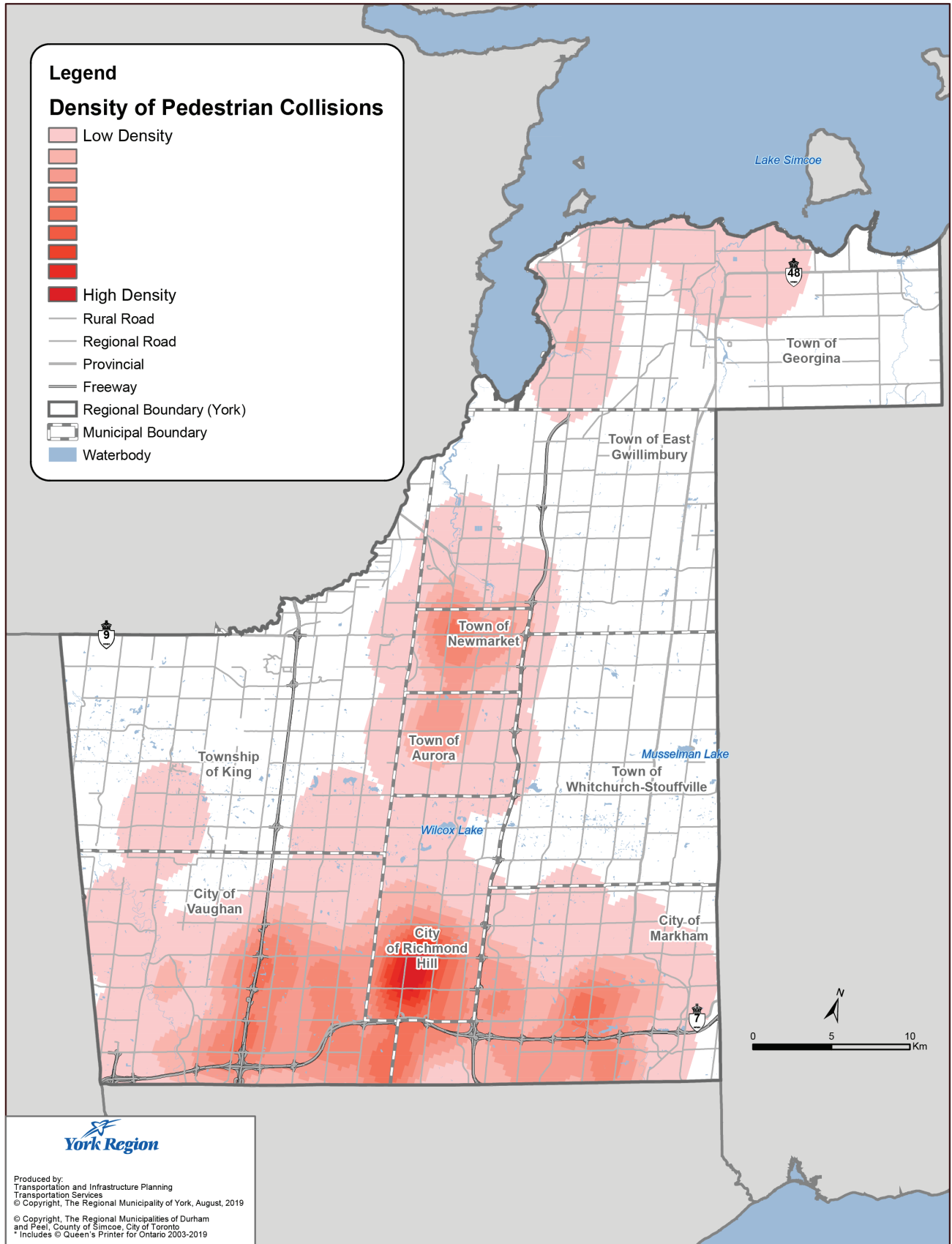
Cyclist collisions fluctuate over the years. In 2016, 115 cyclist collisions occurred, the highest number in the past 10 years, while 2018 had less than 100 cyclist collisions, the lowest number in the last five years. Pedestrian and cyclist collision increases are likely the result of more active modes of transportation, mainly walking and cycling. This increased interaction between vehicles with pedestrians and cyclists increases the likelihood of collisions.

COLLISIONS INVOLVING PEDESTRIANS AND CYCLISTS, BETWEEN 2009 AND 2018
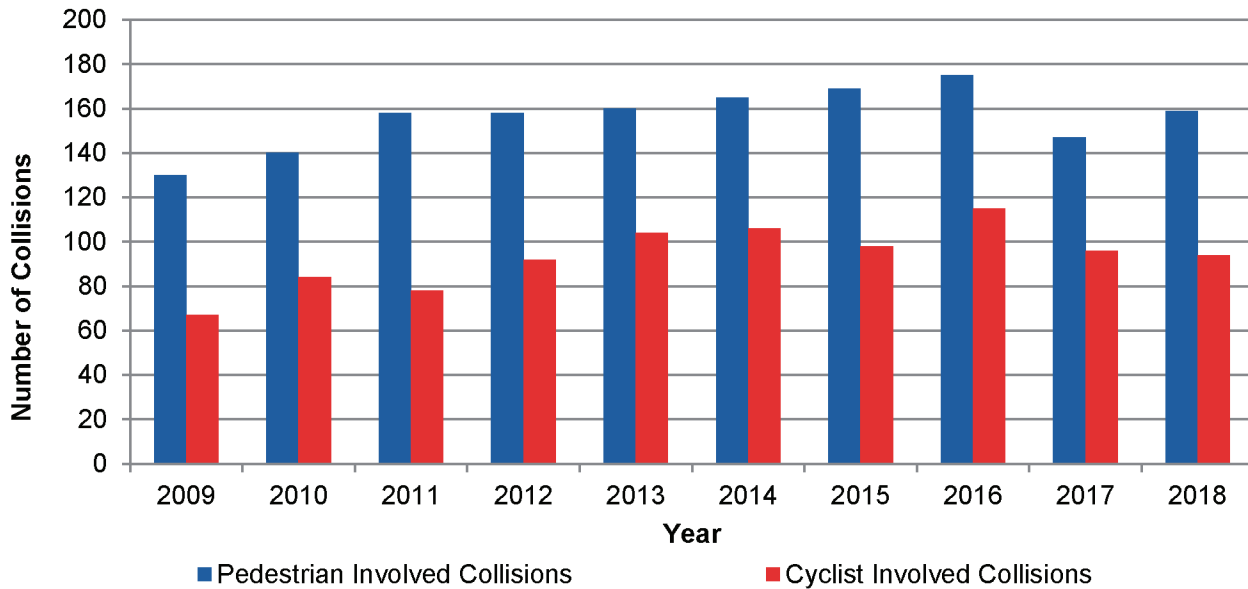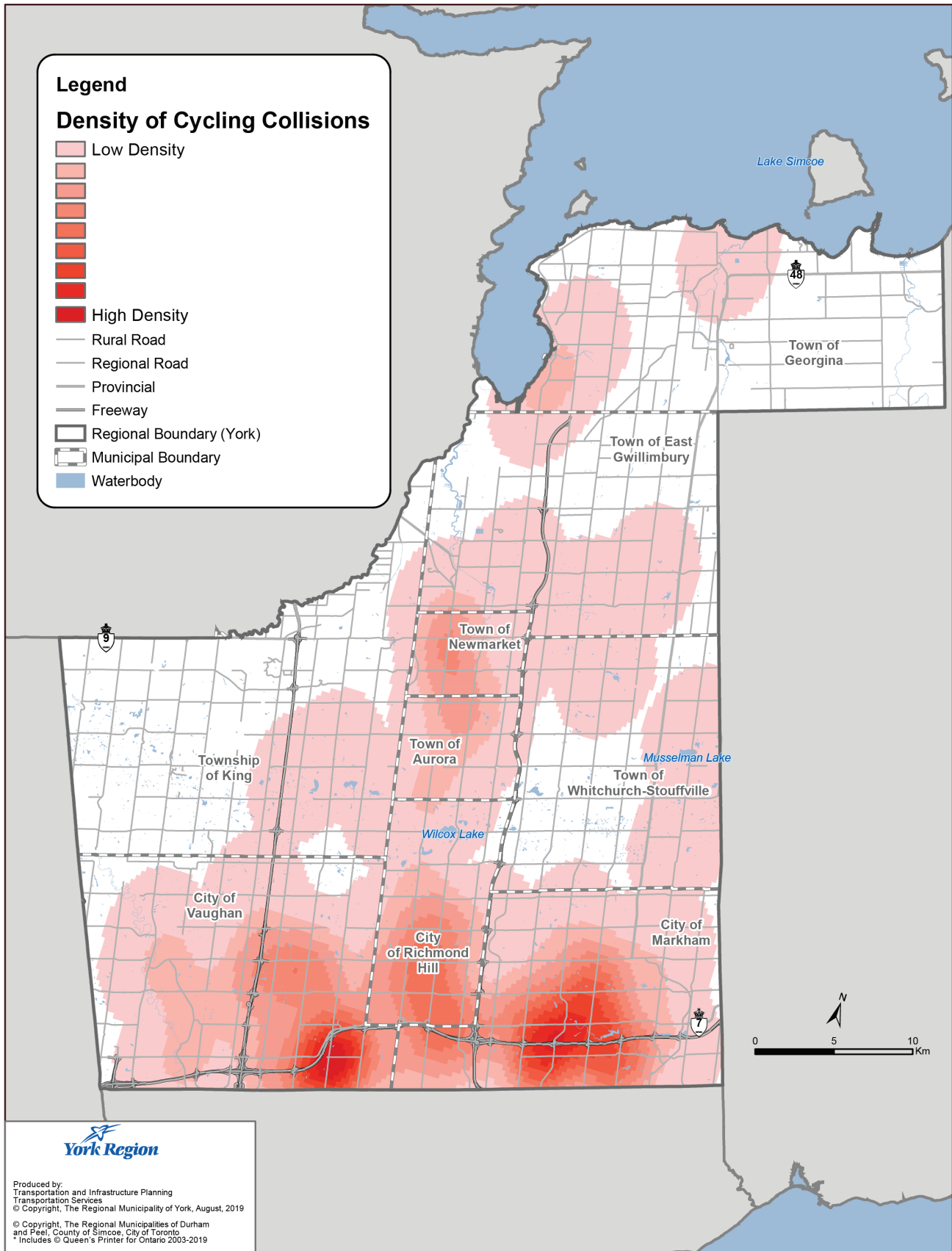

The 2016 to 2018 collision density for all reported pedestrian or cyclist-involved collisions on Regional roads are illustrated on the maps on the next two pages. The majority of these occurred in urban areas.

Legend

Density of Pedestrian Collisions

Low Density

High Density

Rural Road
Regional Road
Provincial
Freeway
Regional Boundary (York)
Municipal Boundary
Waterbody

Lake Simcoe

Town of Georgina

Town of East Gwillimbury

Town of Newmarket

Town of Aurora

Township of King

Musselman Lake

Town of Whitchurch-Stouffville

Wilcox Lake

City of Vaughan

City of Richmond Hill

City of Markham

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York Region

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2016 TO 2018 CYCLIST COLLISION DENSITY LOCATIONS IN YORK REGION

Legend

Density of Cycling Collisions

Low Density

High Density

— Rural Road
— Regional Road
— Provincial
— Freeway
▭ Regional Boundary (York)
▭ Municipal Boundary
▪ Waterbody

Lake Simcoe

Town of Georgina

Town of East Gwillimbury

Town of Newmarket

Township of King

Town of Aurora

Musselman Lake

Town of Whitchurch-Stouffville

Wilcox Lake

City of Vaughan

City of Richmond Hill

City of Markham

N

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Km

York Region

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Pedestrian and cyclist collisions follow seasonal trends. Pedestrian collisions most frequently occur during the fall months when daylight becomes shorter and pedestrians are less visible. The highest number of pedestrian collisions occur in October and November. Cyclist collisions most frequently occur in the summer months when the weather is favourable and cyclist volumes are higher. The month of July has the highest number of cyclist collisions.

Poor weather or road conditions do not appear to be a factor in pedestrian and cyclist collisions. Each year York Region focuses on promoting safety messages around daylight savings time when clocks go back and the days get darker sooner, to create a safer environment for pedestrians and cyclists.

COLLISIONS INVOLVING A PEDESTRIAN OR CYCLIST BY MONTH, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
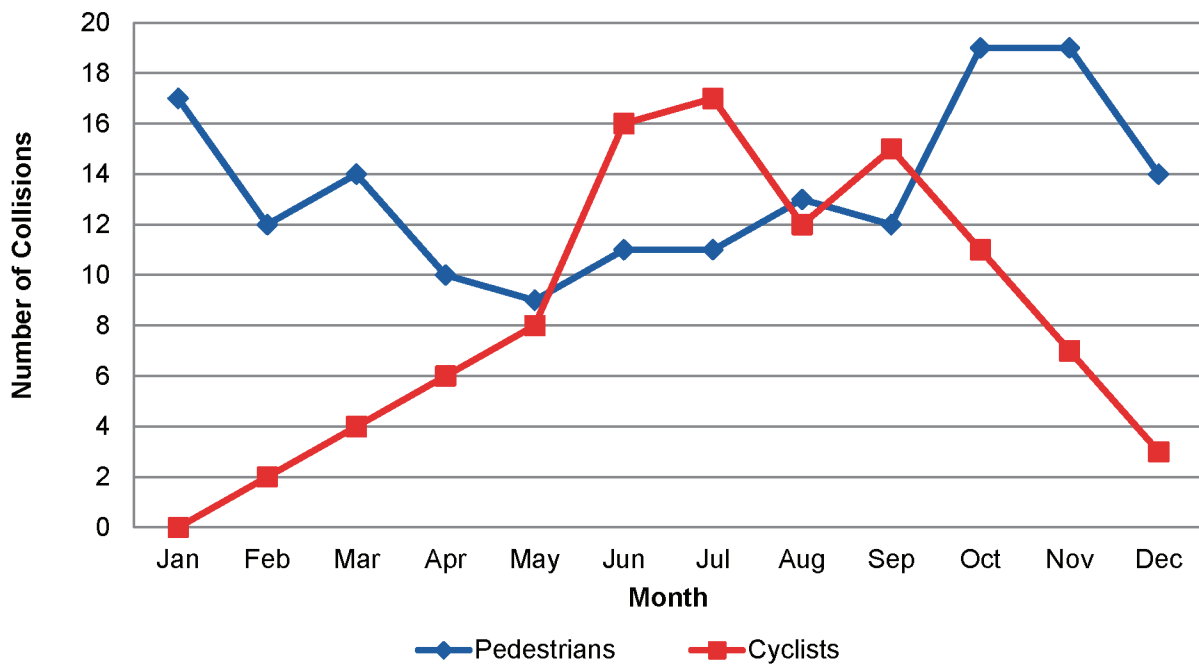
Photo: Yonge Street and Wellington Street

The day-of-week collision pattern shows that the highest number of pedestrian collisions occurred on Fridays and cyclist collisions occurred evenly through weekdays.

COLLISIONS INVOLVING A PEDESTRIAN OR CYCLIST BY DAY-OF-WEEK, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
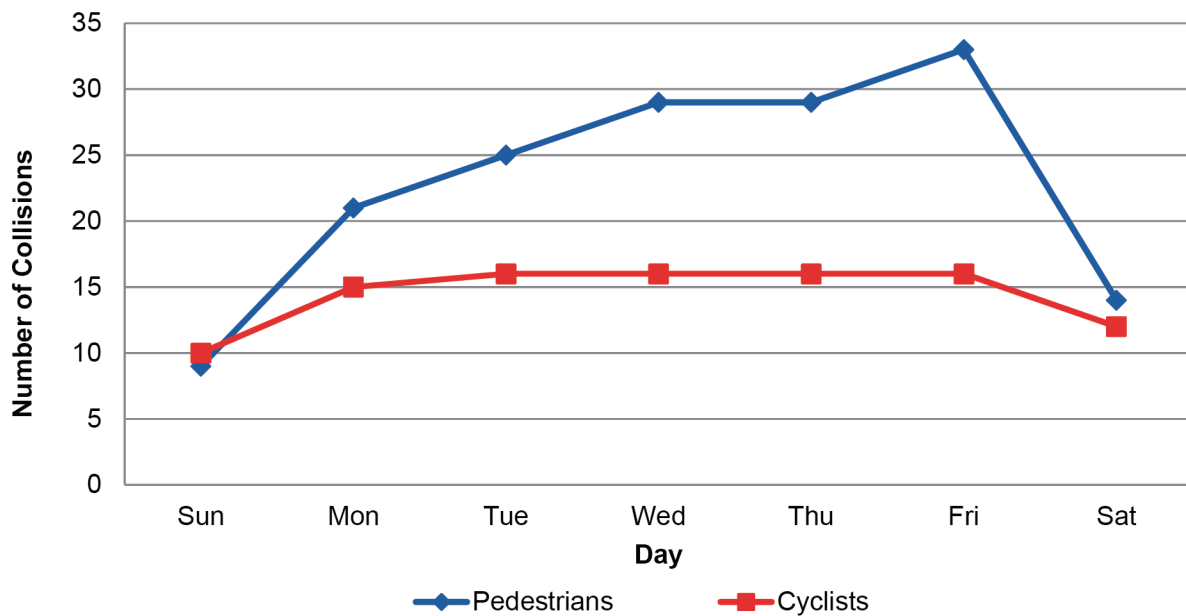
The time-of-day collision pattern shows the highest number of pedestrian collisions occurred during the morning and afternoon peak hours, correlating closely with typical daily traffic volume patterns.

COLLISIONS INVOLVING A PEDESTRIAN BY TIME-OF-DAY, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
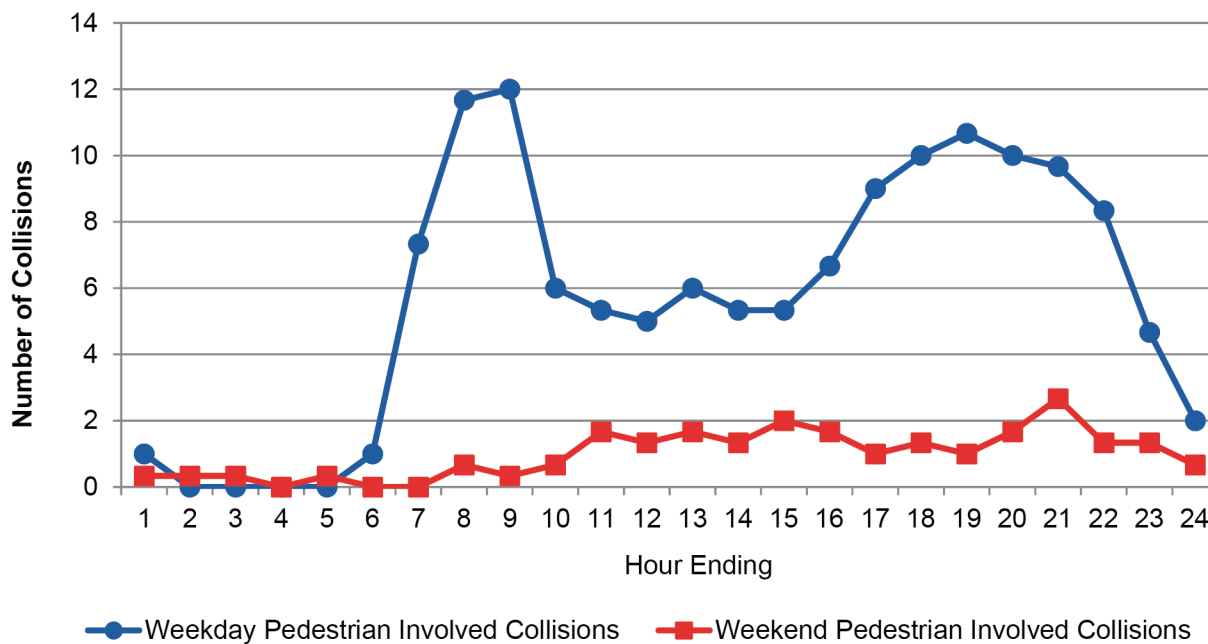
The highest number of cyclist collisions also correlates closely with typical daily traffic volume patterns, occurring during the morning, midday and afternoon peak hours.

COLLISIONS INVOLVING A CYCLIST BY TIME-OF-DAY, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Legend:
— Weekday Cyclist Involved Collisions
— Weekend Cyclist Involved Collisions
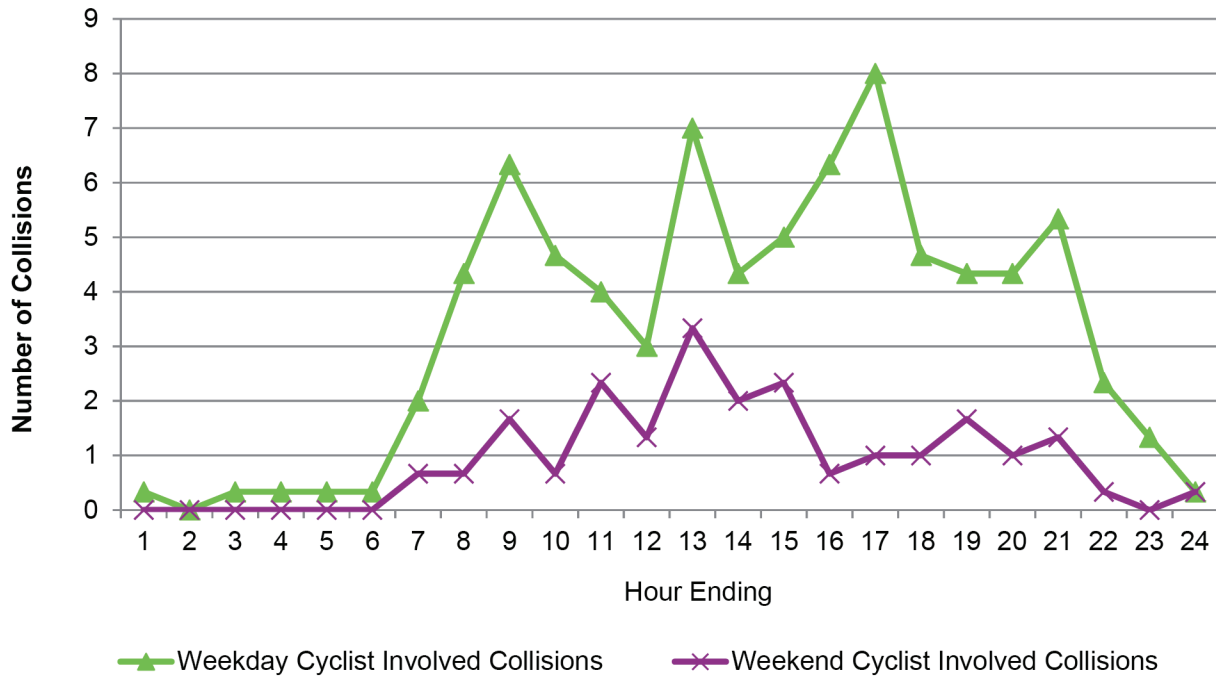
Photo: Cyclist with traffic on Leslie Street

> → THE HIGHEST NUMBER OF PEDESTRIAN COLLISIONS OCCURRED ON WEEKDAYS, MOST OFTEN DURING THE MORNING AND AFTERNOON PEAK PERIODS WHEN TRAFFIC VOLUMES ARE HIGHEST.

> → THE HIGHEST NUMBER OF CYCLIST COLLISIONS CORRELATES CLOSELY WITH TYPICAL DAILY TRAFFIC VOLUMES DURING THE AFTERNOON PEAK HOURS.

Pedestrians and cyclists are most at risk of fatal or severe injury in the event of a collision with a motor vehicle. The majority of pedestrian collisions, 92 per cent, and 80 percent of cyclist collisions resulted in injuries. The majority of pedestrian collisions occur at signalized intersections.

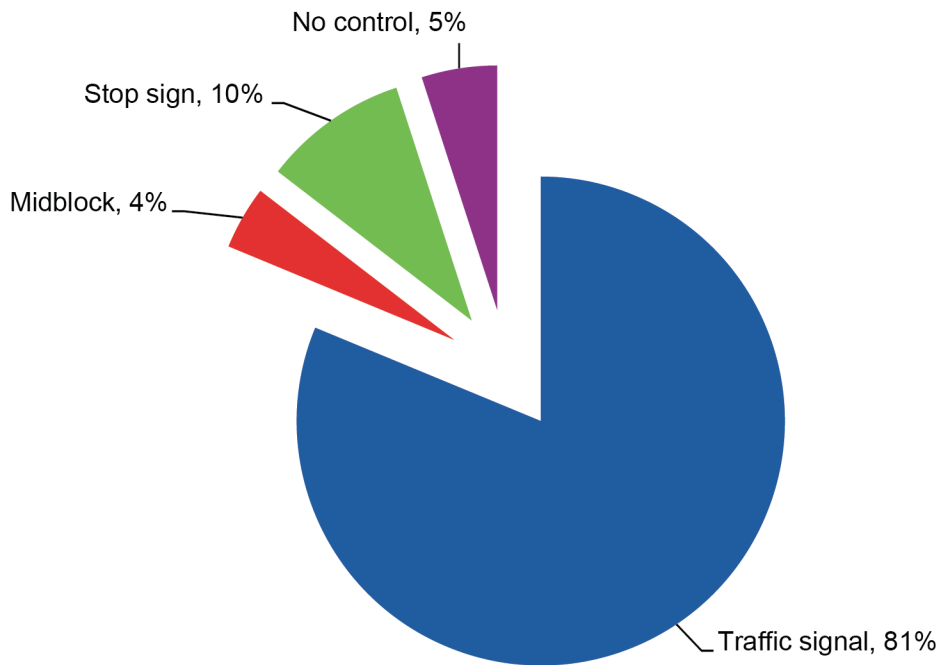## COLLISIONS INVOLVING A PEDESTRIAN BY SEVERITY, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Fatal, 2%

Property damage only, 6%

Injury, 92%
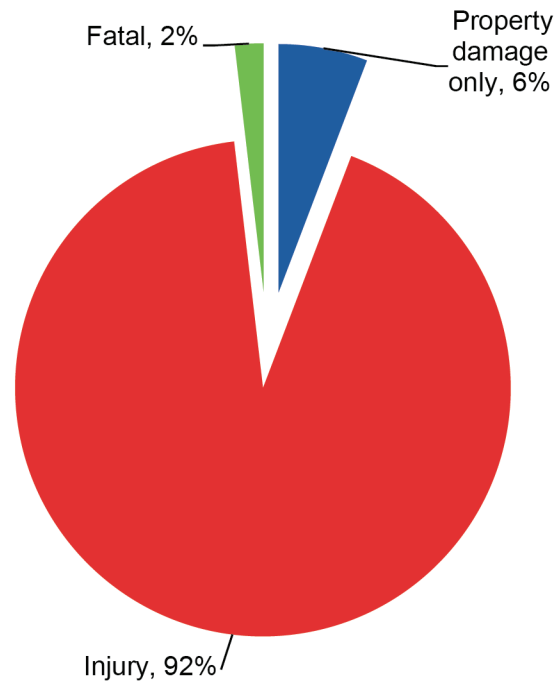
COLLISIONS INVOLVING A CYCLIST BY SEVERITY, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Fatal, 2%

Property damage only, 18%

Injury, 80%
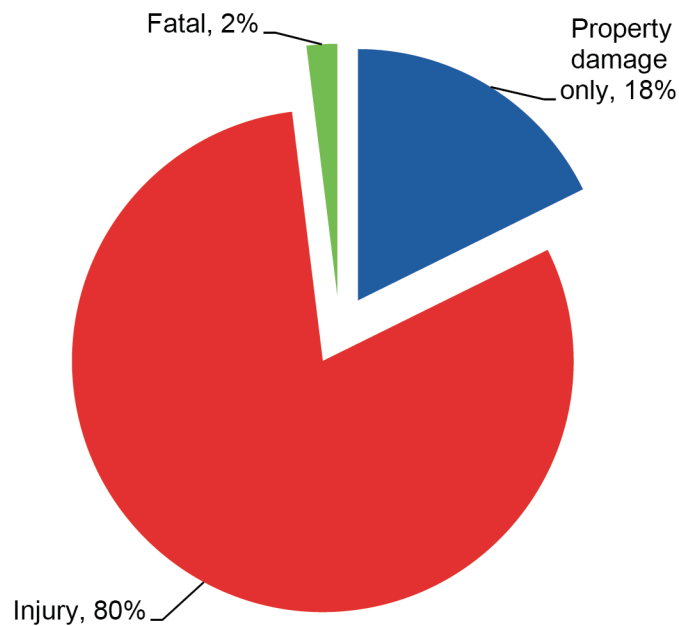
More than 80 per cent of pedestrian collisions occurred at signalized intersections.

COLLISIONS INVOLVING A PEDESTRIAN BY TRAFFIC CONTROL TYPE, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

No control, 5%
Stop sign, 10%
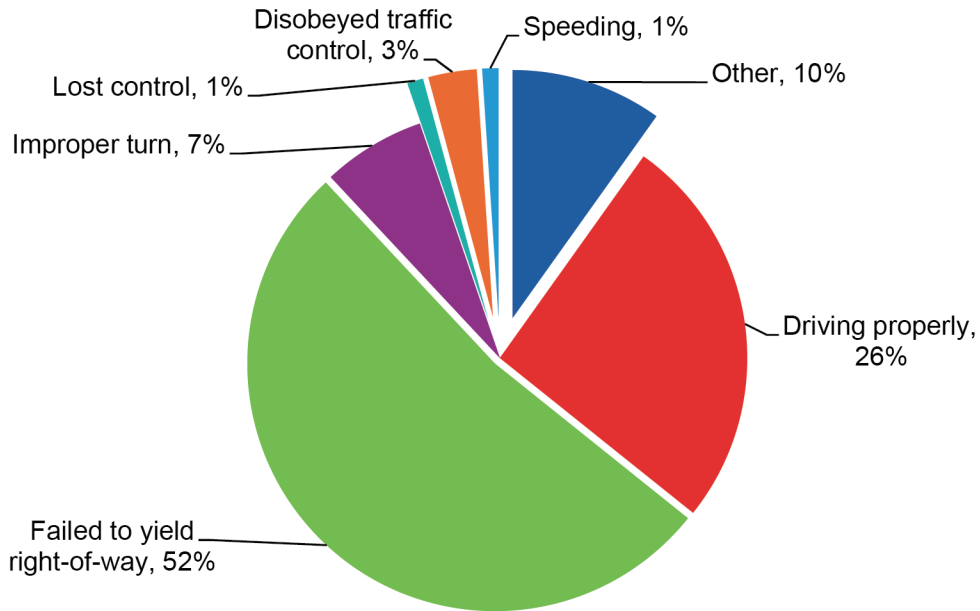Midblock, 4%
Traffic signal, 81%

More than 60 per cent of cyclist collisions occurred at signalized intersections.

COLLISIONS INVOLVING A CYCLIST BY TRAFFIC CONTROL TYPE, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018
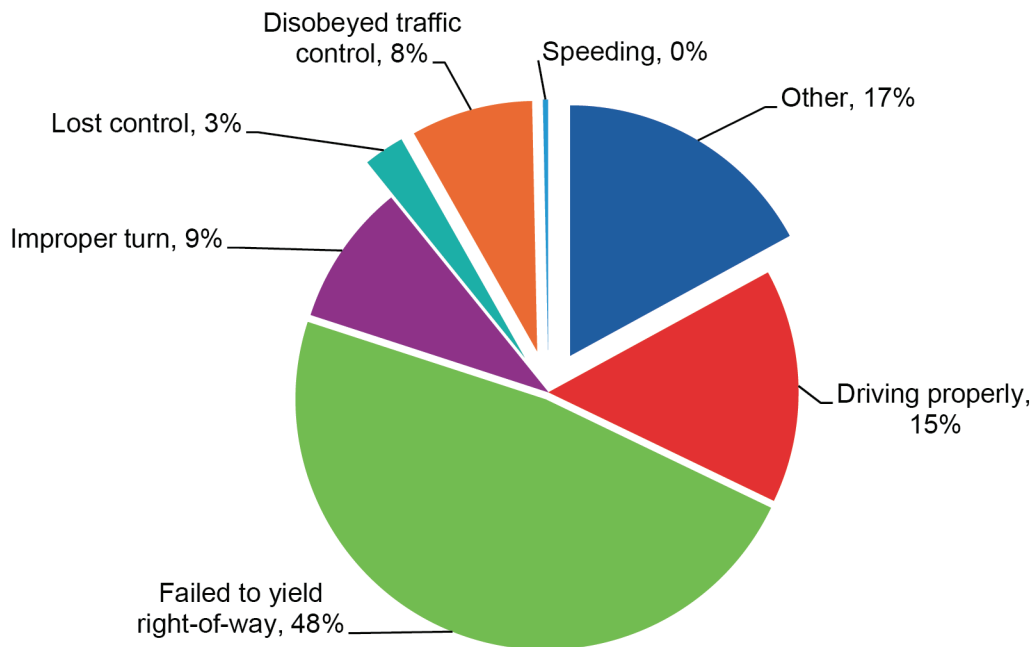

No control, 10%
Stop sign, 20%
Midblock, 9%
Traffic signal, 61%
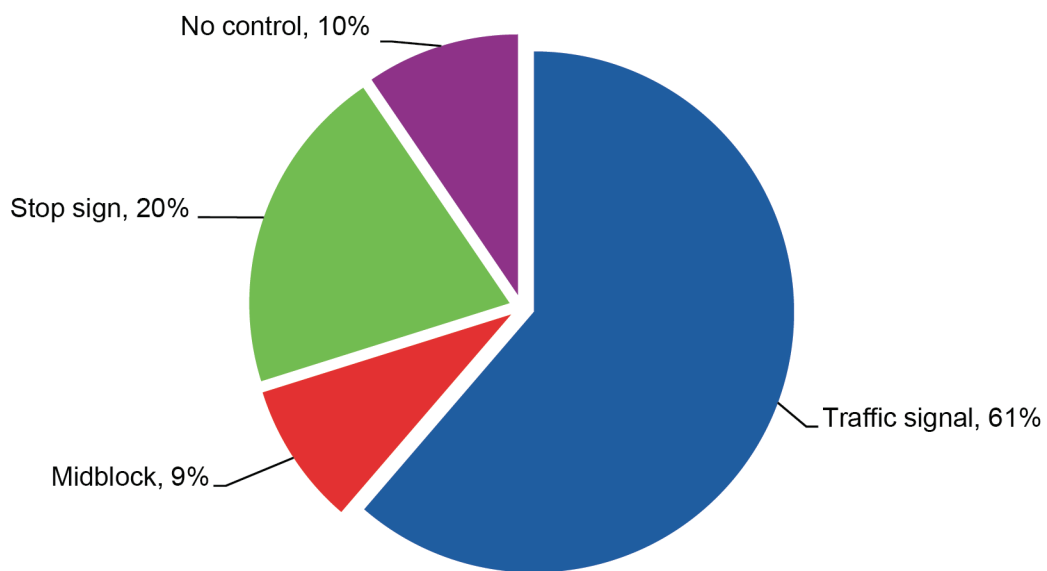
Pedestrian and cyclist collisions were found to be more attributable to drivers failing to yield right-of-way. Approximately 50 per cent of pedestrian and cyclist collisions were a direct cause of drivers failing to yield right-of-way. Pedestrians or cyclists were considered at-fault in 20 per cent of collisions.

COLLISIONS INVOLVING A PEDESTRIAN BY DRIVER ACTION, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Disobeyed traffic control, 3%
Speeding, 1%
Other, 10%
Lost control, 1%
Improper turn, 7%
Driving properly, 26%
Failed to yield right-of-way, 52%

COLLISIONS INVOLVING A CYCLIST BY DRIVER ACTION, THREE-YEAR AVERAGE BETWEEN 2016 AND 2018

Disobeyed traffic control, 8%
Speeding, 0%
Other, 17%
Lost control, 3%
Improper turn, 9%
Driving properly, 15%
Failed to yield right-of-way, 48%

Red Light Camera Locations

COLLISION FREQUENCY AT RED LIGHT CAMERA LOCATIONS

In 2013, York Region introduced the red light camera program to improve driver and pedestrian safety by reducing the number of right-angle collisions at intersections. The program began with 20 cameras in 2013 and expanded to 40 cameras in 2017. The red light camera locations are illustrated on the map on page 28.

Red light cameras have significantly reduced the number of right-angle collisions, from 187 in 2010 to 64 in 2018. Red light cameras have proven to change driver behaviour, benefitting all road users and the community. York Region continues to monitor the performance of the red light camera program and will relocate cameras to new sites to maximize effectiveness.

RIGHT-ANGLE COLLISIONS AT RED LIGHT CAMERA LOCATIONS BETWEEN 2010 AND 2018
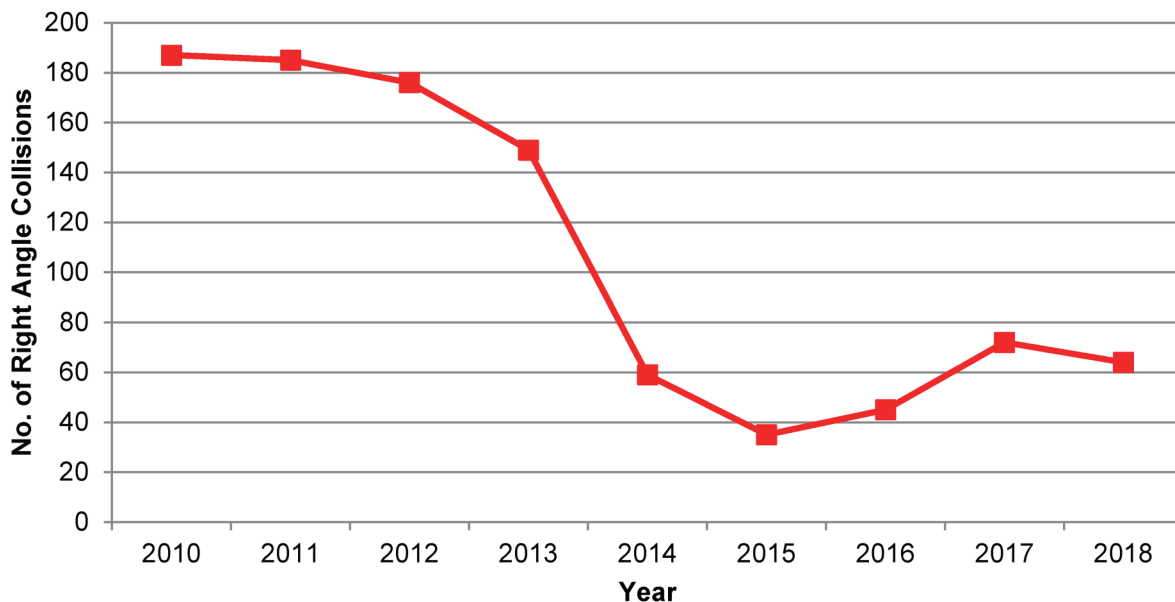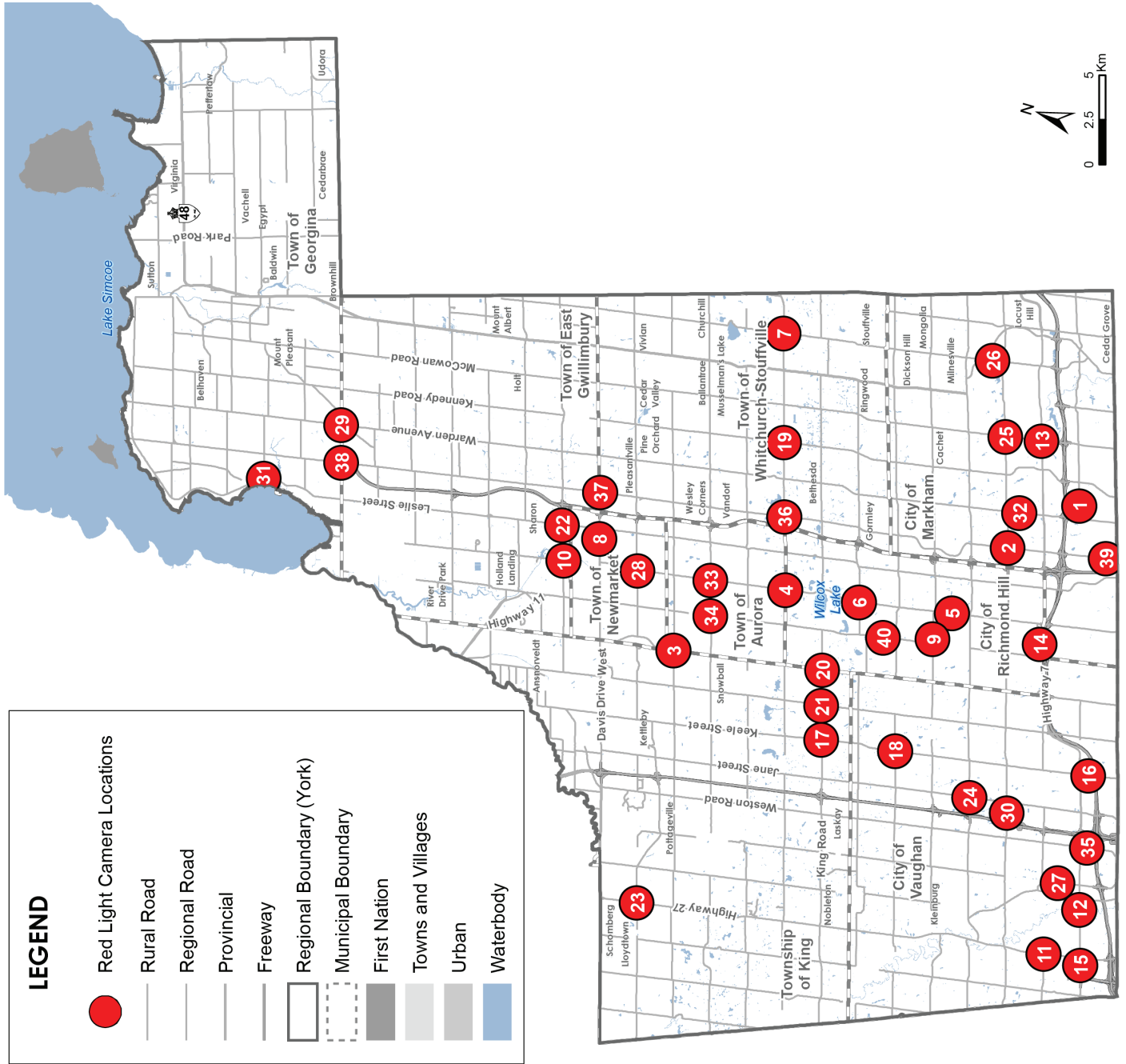

Photo: Red Light Camera

IN 2018, 17,322 TICKETS WERE ISSUED AT RED LIGHT CAMERA LOCATIONS.

IN 2018, THE TOP INTERSECTION FOR TICKETS ISSUED WAS THE INTERSECTION OF WOODBINE AVENUE AND STEELCASE ROAD IN THE CITY OF MARKHAM WITH 1,779 TICKETS ISSUED.

1. 14th Avenue and Birchmount Road
2. 16th Avenue and Woodbine Avenue
3. 18th Sideroad and Bathurst Street/ St. John's Sideroad
4. Bayview Avenue and Bloomington Road
5. Bayview Avenue and Crosby Avenue/ Redstone Road
6. Bayview Avenue and Stouffville Road
7. Bloomington Road and Ninth Line
8. Davis Drive and Carlson Drive/Ashton Road
9. Elgin Mills Road East and Enford Road/ Yorkland Street
10. Green Lane East and Main Street North/ 2nd Concession Road
11. Highway 27 and Langstaff Road
12. Highway 7 and Islington Avenue
13. Highway 7 and McCowan Road
14. Highway 7 and Red Maple Road
15. Highway 7 and Vaughan Valley Boulevard
16. Keele Street and Doney Crescent/Jardin Drive
17. Keele Street and King Road
18. Keele Street and Kirby Road
19. Kennedy Road and Bloomington Road
20. King Road and Bathurst Street
21. King Road and Dufferin Street
22. Leslie Street and Green Lane East
23. Lloydtown/Aurora Road and Highway 27
24. Major Mackenzie Drive West and Jane Street
25. McCowan Road and 16th Avenue
26. Ninth Line and Bur Oak Avenue
27. Pine Valley Drive and Willis Road/ Chancellor Drive
28. Prospect Street and Bayview Avenue/ Mulock Drive
29. Ravenshoe Road and Warden Avenue
30. Rutherford Road and Sweetriver Boulevard
31. The Queensway South and Metro Road South/ Morton Avenue
32. Warden Avenue and Carlton Road/ Baycliffe Road
33. Wellington Street East and Bayview Avenue
34. Wellington Street East and Yonge Street/ Wellington Street West
35. Weston Road and Rowntree Dairy Road/ Colossus Drive
36. Woodbine Avenue and Bloomington Road
37. Woodbine Avenue and Davis Drive
38. Woodbine Avenue and Ravenshoe Road
39. Woodbine Avenue and Steelcase Road West/ Steelcase Road East
40. Yonge Street and Jefferson Forest Drive/ Tower Hill Road

LEGEND

- Red Light Camera Locations
- Rural Road
- Regional Road
- Provincial
- Freeway
- Regional Boundary (York)
- Municipal Boundary
- First Nation
- Towns and Villages
- Urban
- Waterbody

COLLISIONS BY LOCATION

The top ten collision frequency intersections continue to be those situated along major arterial corridors in the Cities of Markham, Richmond Hill and Vaughan, Towns of East Gwillimbury and Newmarket and Township of King. These arterial roads are York Region's most travelled roadways that provide a continuous link between York Region to Peel Region, Durham Region, Simcoe County, and connecting Regional roads to Highways 11, 427, 400 and 404.

TOP 10 COLLISION FREQUENCY LOCATIONS, THREE-YEAR TOTAL BETWEEN 2016 AND 2018

DESCRIPTION (RANK IN PREVIOUS REPORT)	THREE-YEAR INJURY COLLISIONS	THREE-YEAR TOTAL COLLISIONS
1. Highway 7 and Weston Road (2)	33	120
2. Yonge Street and Green Lane (3)	23	106
3. Weston Road and Rutherford Road (4)	25	99
4. Highway 7 and Keele Street (6)	17	97
5. Highway 7 and Pine Valley Drive (10)	26	96
6. Islington Avenue and Rutherford Road (-)	25	89
7. Yonge Street and Carrville Road/16th Avenue (9)	27	84
8. Davis Drive West and Bathurst Street (-)	29	81
9. Highway 7 and McCowan Road (8)	21	80
10. Major Mackenzie Drive East and Bayview Avenue (-)	18	79

In the past few years, York Region has invested millions of dollars on road capital projects at the following high collision frequency intersections:

- Highway 7 and Weston Road
- Highway 7 and Pine Valley Drive
- Yonge Street and Carrville Road/16th Avenue
- Yonge Street and Green Lane
- Davis Drive West and Bathurst Street

Projects included road reconstruction, widening, intersection upgrades and improvements to enhance traffic operations and to improve safety of all road users. York Region is investing $2.8 billion in the Regional transportation network over the next ten years.
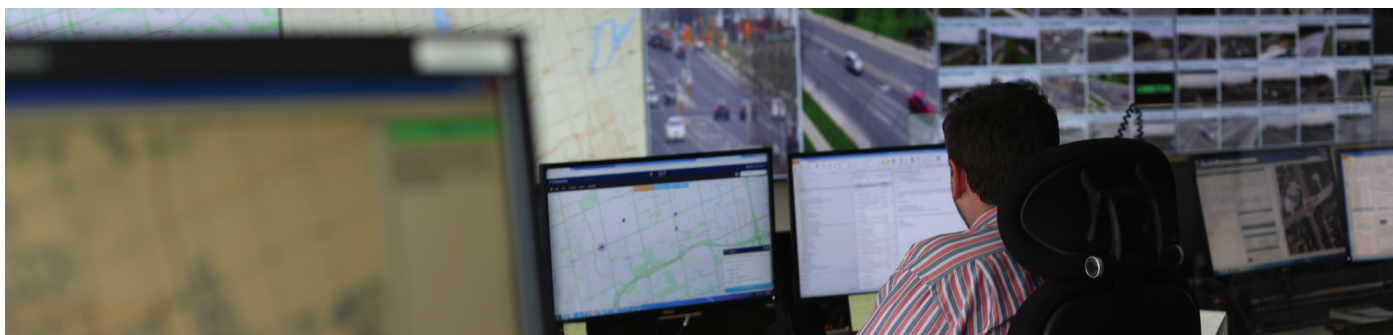

Photo: Roads and Traffic Operations Centre

29

A pedestrian and cyclist safety index was developed to prioritize Regional signalized intersections based on risk exposure to pedestrians and cyclists

The principles of the National Cooperative Highway Research Program approach has been used in the development of a pedestrian and cyclist safety index to prioritize signalized intersections on Regional roads. The index consists of a weighted score taking into consideration variables such as road characteristic, road user volume, crossing distance, speed limit and environment.

The scores for each variable were combined and weighted to determine the scores for each factor (safety, demand and existing conditions). The sum of the factor scores equates to the total weighted prioritization score (out of 60) for each intersection, with higher scores indicating higher priority for improvement. A ranked list of intersections with scores over 48 (80 per cent of 60) or higher are included in the table below.

INTERSECTION PRIORITIZATION INDEX

| Signalized Intersection | Variable Scores (all /5) | | | | | | | | | | Factor Scores | | | Total Weighted Score (/60) |
| | Safety | | Demand | | | | Ex. Conditions | | | | | | | |
	Collisions	PSI	Ped. Volume	Transit	Attractors	Pop. Density	Traffic Volume	Turning Volume	Speed	Approach Lanes	Safety (/20)	Demand (/20)	Ex. Conditions (/20)	
Yonge Street and Carrville Road/ 16th Avenue*	5	5	5	5	5	5	5	4	0	5	20	20	14	54
Yonge Street and Mulock Drive	5	5	5	5	5	3	4	4	3	5	20	18	16	54
Major Mackenzie Drive East and Bayview Avenue	5	5	5	3	5	4	4	4	3	4	20	17	15	52
Highway 7 and Weston Road*	5	5	5	5	3	0	5	5	4	5	20	13	19	52
Weston Road and Rutherford Road**	5	5	3	3	3	4	5	5	3	5	20	13	18	51
Highway 7 and Leslie Street*	4	5	5	5	5	0	5	4	4	5	18	15	18	51
Yonge Street and Major Mackenzie Drive*	5	5	5	5	5	4	4	3	0	4	20	19	11	50
Highway 7 and Pine Valley Drive*	5	5	4	5	2	1	5	5	3	5	20	12	18	50
Yonge Street and Elgin Mills Road*	5	5	5	5	4	3	4	4	1	3	20	17	12	49
Yonge Street and Clark Avenue	5	4	5	5	4	5	4	3	0	5	18	19	12	49
Bathurst Street and Carrville Road/ Rutherford Road	5	4	5	3	5	2	5	4	2	5	18	15	16	49
Bathurst Street and Clark Avenue West	5	4	5	3	4	4	5	4	1	4	18	16	14	48

*   Excluded due to recent or imminent construction
** Excluded due to identified traffic operational impacts

# Location Maps

COLLISION FREQUENCY BY MUNICIPALITY

The following maps illustrate the top ten collision locations in York Region and for each of the local municipalities for the three-year period between 2016 and 2018.

1. Highway 7 and Weston Road
   (*120)
2. Yonge Street and Green Lane
   (*106)
3. Weston Road and Rutherford Road
   (*99)
4. Keele Street and Highway 7
   (*97)
5. Highway 7 and Pine Valley Drive
   (*96)
6. Islington Avenue and Rutherford Road
   (*89)
7. Yonge Street and Carrville Road/
   16th Avenue
   (*84)
8. Davis Drive and Bathurst Street
   (*81)
9. Highway 7 and McCowan Road
   (*80)
10. Yonge Street and Major Mackenzie Drive
    (*79)

* Represents the number of collisions between 2016 and 2018
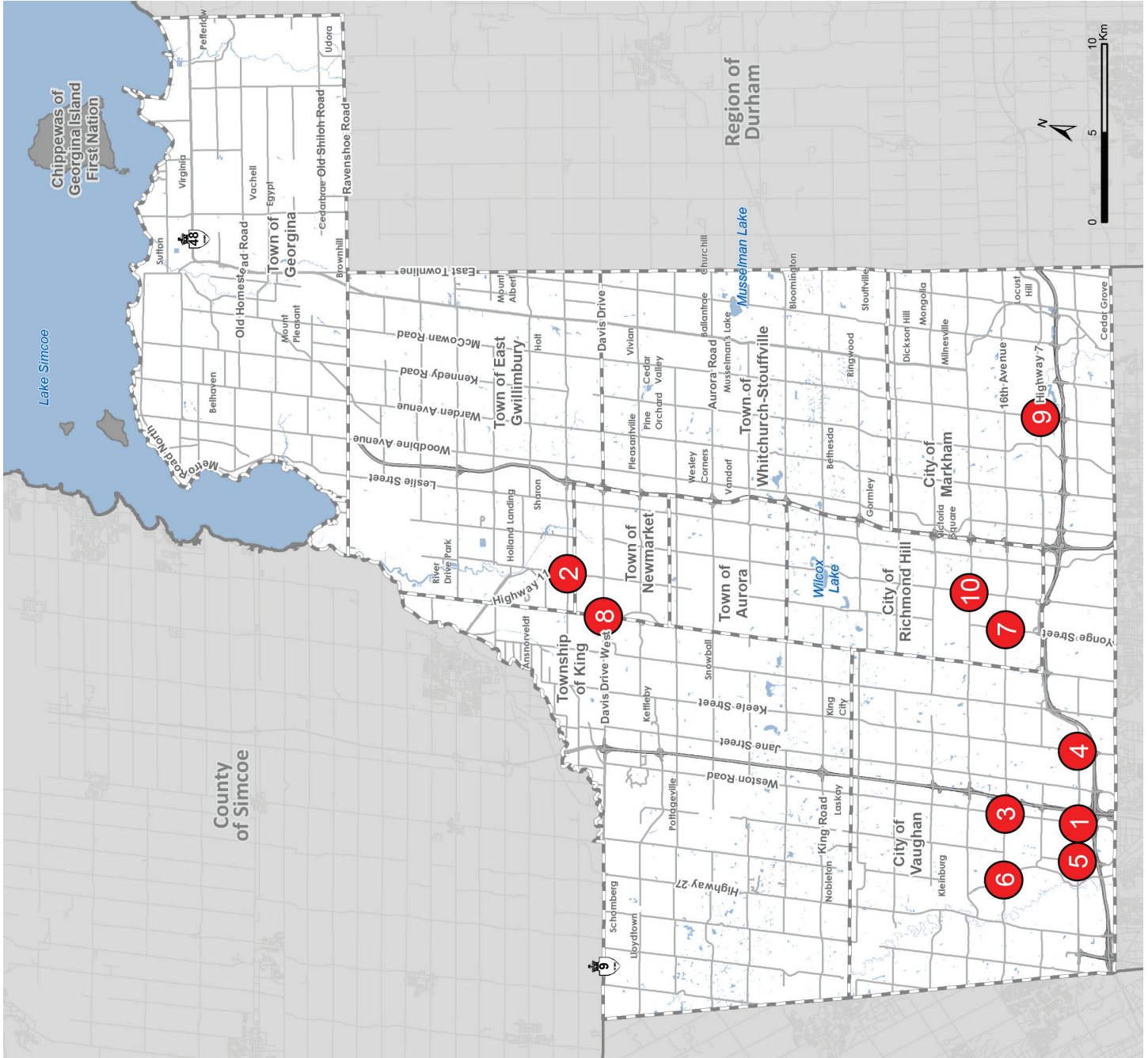
1. Wellington Street and Yonge Street (*76)

2. Wellington Street East and Bayview Avenue (*56)

3. Leslie Street and Wellington Street East (*44)

4. Wellington Street East and Industrial Parkway (*40)

5. Wellington Street East and Mary Street/ John West Way (*34)

6. St. John's Sideroad and Bayview Avenue (*34)

7. Bathurst Street and 15th Sideroad/ Bloomington Road (*34)

8. Wellington Street West and Bathurst Street (*24)

9. Yonge Street and St. John's Sideroad (*23)

10. Wellington Street East between Industrial Parkway and Mary Street/John West Way (*22)

* Represents the number of collisions between 2016 and 2018

33
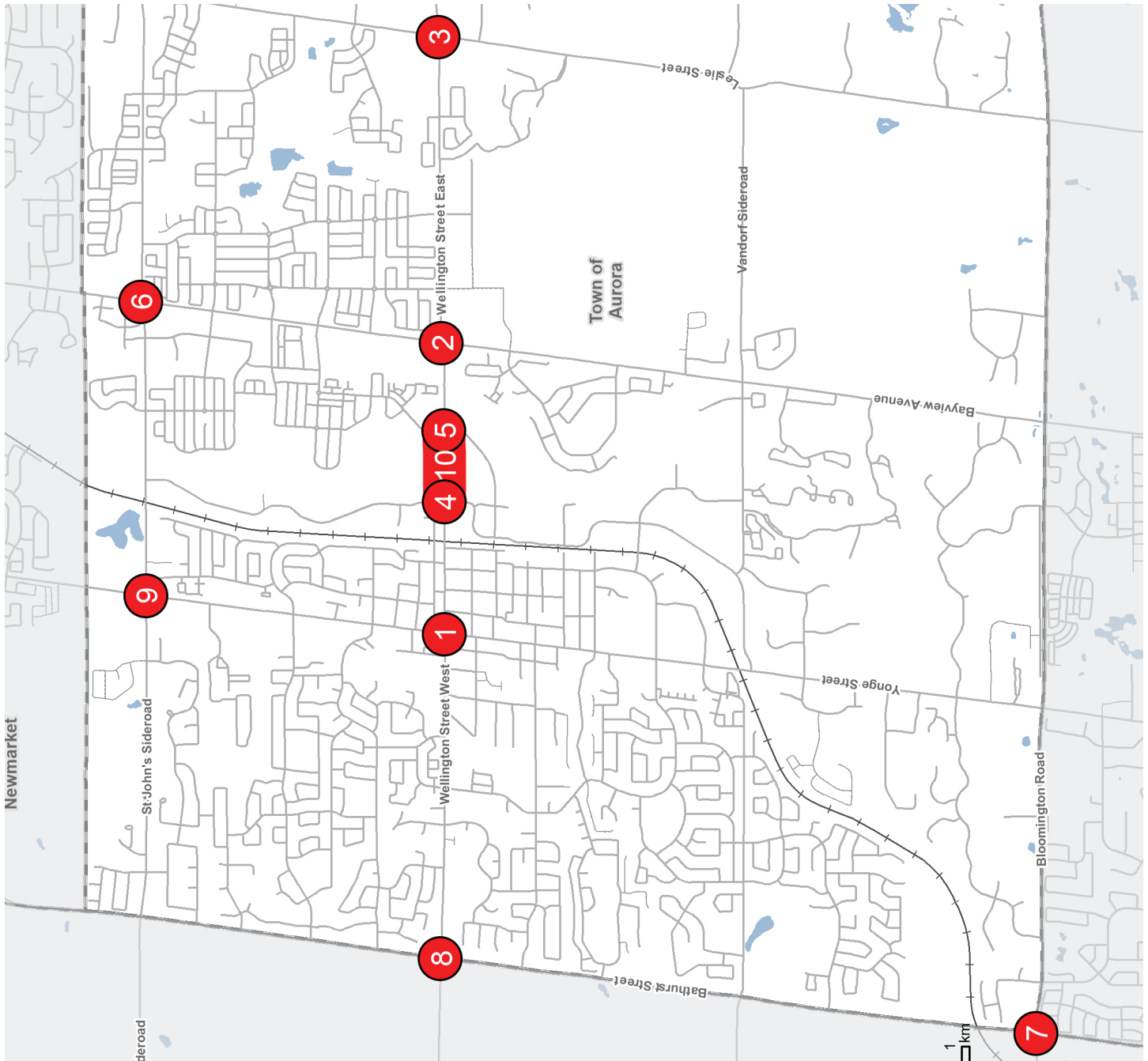
1. Yonge Street and Green Lane
   (*106)

2. Woodbine Avenue and Ravenshoe Road
   (*70)

3. Leslie Street and Green Lane East
   (*63)

4. Green Lane East and Main Street North/
   2nd Concession Road
   (*54)

5. Highway 11 and Bathurst Street
   (*31)

6. Highway 11 between Sherwood Glen
   and Bathurst Street
   (*31)

7. Green Lane East between East Gwillimbury
   GO Station and Old Green Lane
   (*24)

8. Green Lane East and Harry Walker Parkway
   (*22)

9. Woodbine Avenue and Davis Drive
   (*19)

10. Green Lane East between Yonge Street and
    Yonge-Green Lane Centre – Lowes Plaza
    (*19)

* Represents the number of collisions between
  2016 and 2018
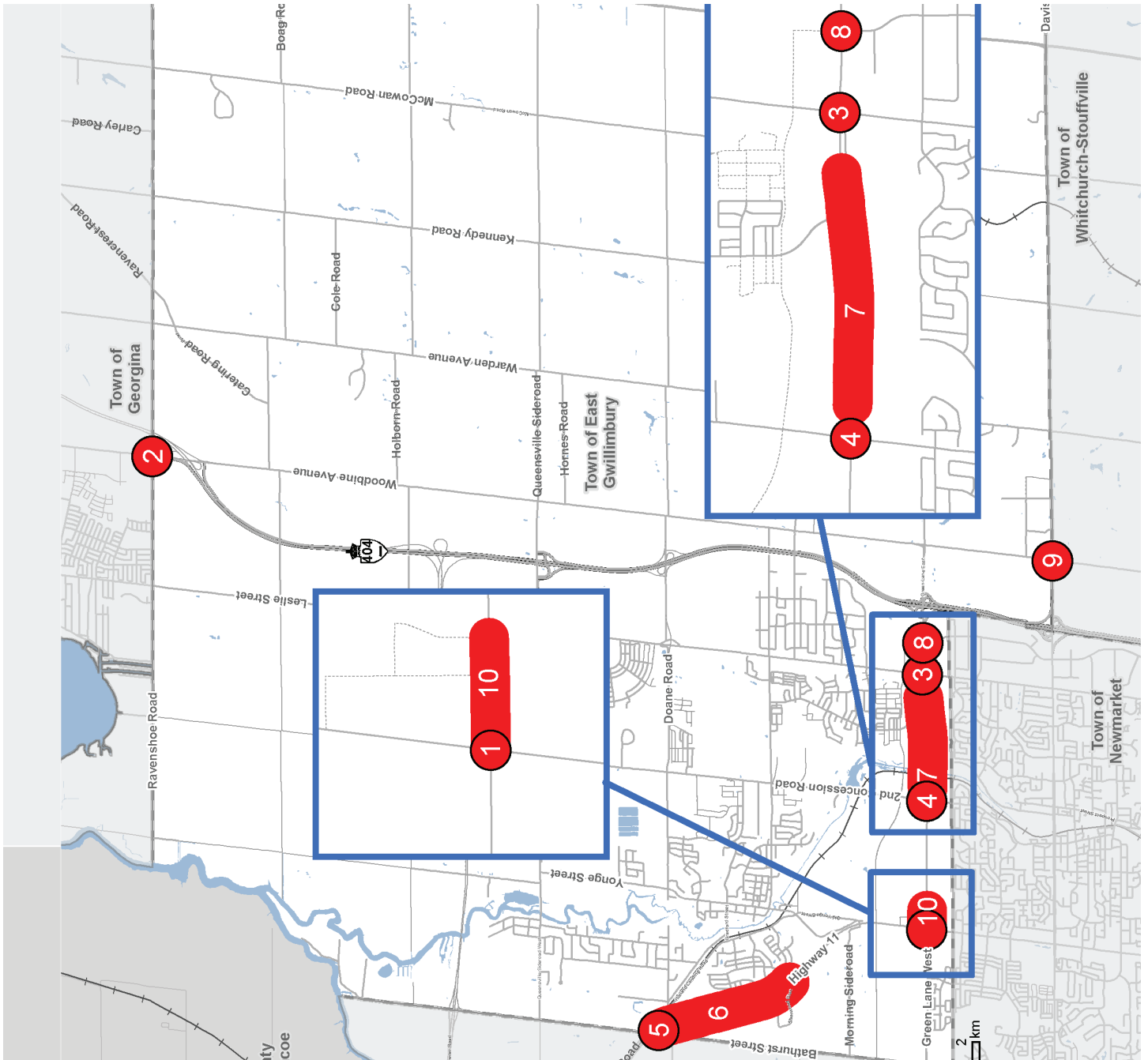
1. Woodbine Avenue and Ravenshoe Road (*70)

2. Woodbine Avenue and Morton Avenue/ Pollock Road (*20)

3. Ravenshoe Road between Woodbine Avenue and Warden Avenue (*19)

4. Dalton Road and Black River Road (*16)

5. Woodbine Avenue and Glenwoods Avenue (*13)

6. Ravenshoe Road and Victoria Road/ Concession 7 (*12)

7. Woodbine Avenue between Ravenshoe Road and Glenwoods (*12)

8. Woodbine Avenue and Arlington Drive (*11)

9. Dalton Road between McDonough Avenue/ High Street and Black River Road (*11)

10. Woodbine Avenue and Riverglen Drive (*9)

* Represents the number of collisions between 2016 and 2018

2019 ANNUAL COLLISION STATISTICS REPORT
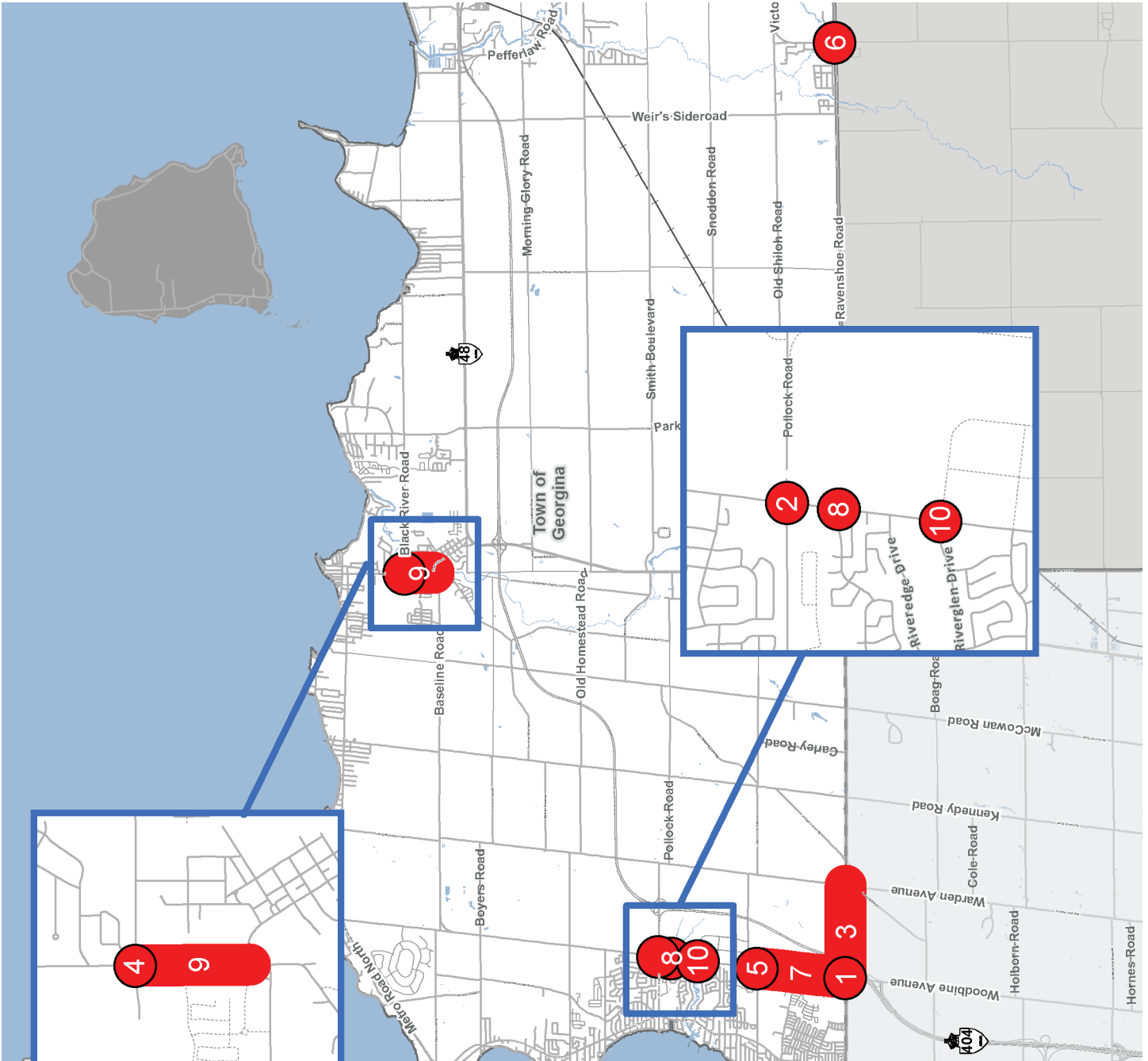
TOP 10 COLLISION LOCATIONS IN THE TOWNSHIP OF KING

1. Davis Drive West and Bathurst Street (*81)

2. King Road and Bathurst Street (*43)

3. King Road and Highway 27 (*35)

4. Bathurst Street and 15th Sideroad/ Bloomington Road (*34)

5. King Road and Jane Street (*32)

6. Highway 11 between Bathurst Street and Kalvers Street (*32)

7. Keele Street and King Road (*31)

8. Highway 11 and Bathurst Street (*31)
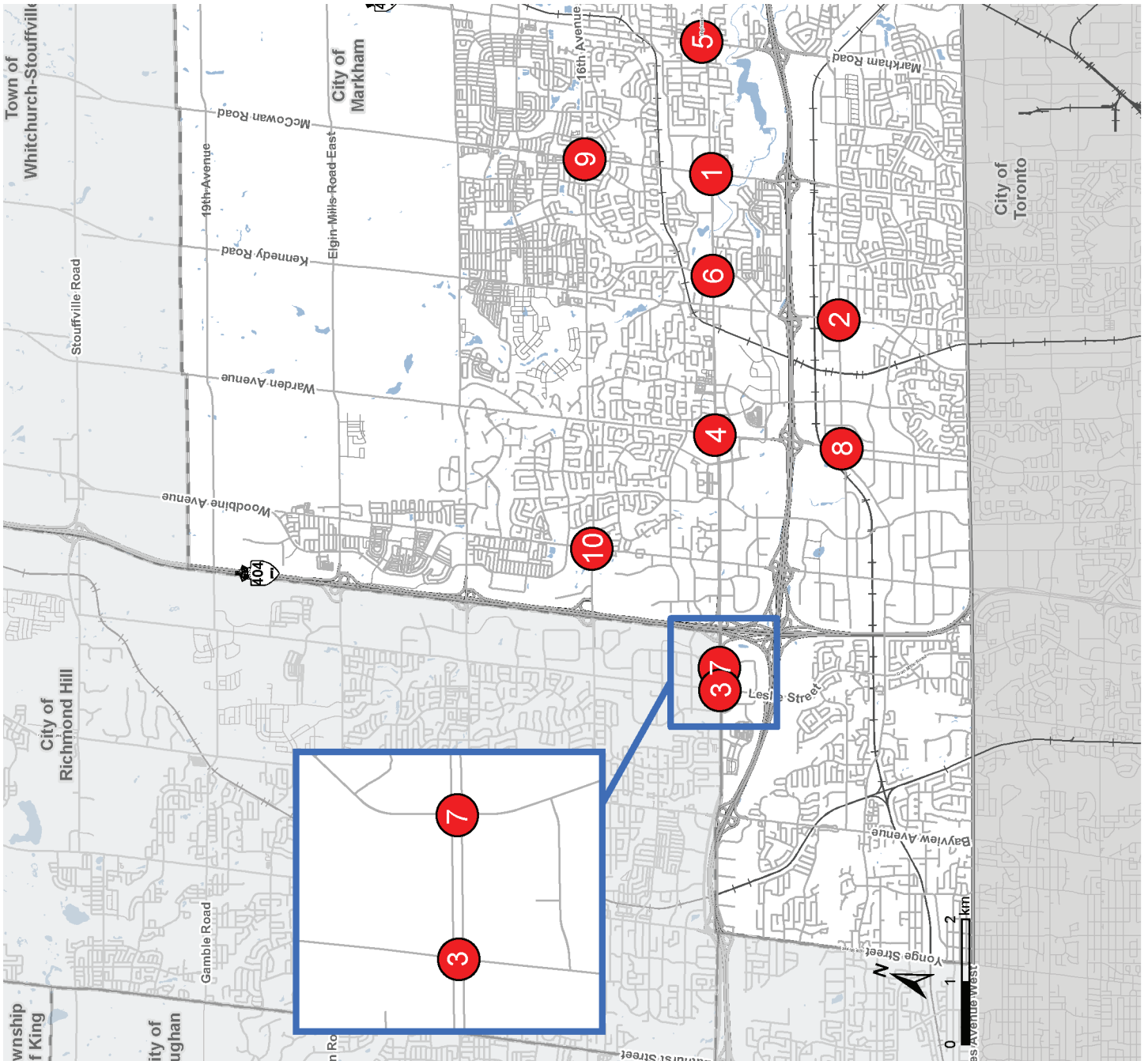
9. Davis Drive West and Keele Street (*27)

10. King Road and Dufferin Street (*26)

* Represents the number of collisions between 2016 and 2018
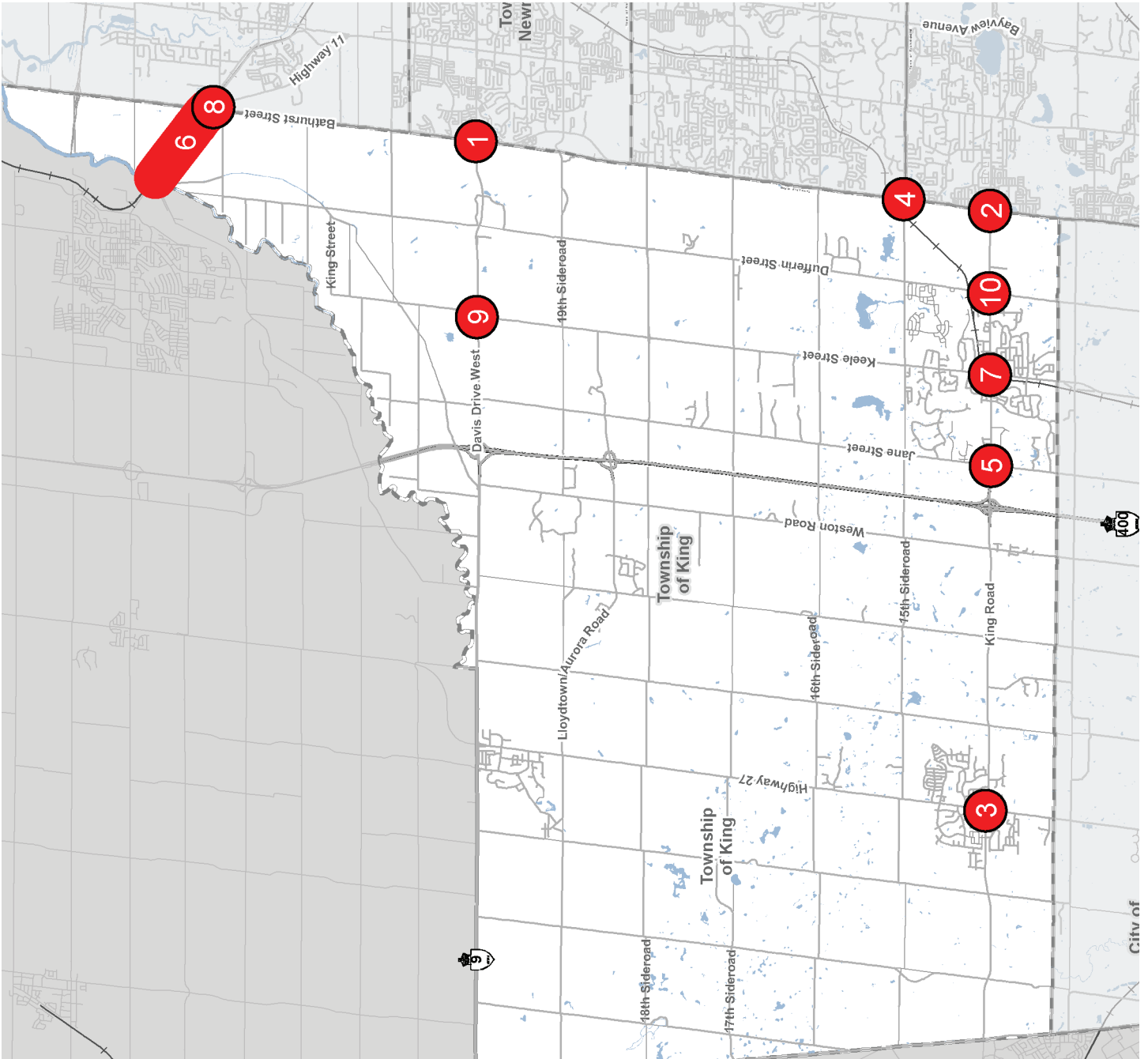
TOP 10 COLLISION LOCATIONS IN THE CITY OF MARKHAM

1. Highway 7 and McCowan Road (*80)

2. Kennedy Road and 14th Avenue (*68)

3. Highway 7 and Leslie Street (*65)

4. Highway 7 and Warden Avenue (*60)

5. Highway 7 and Main Street Markham (*59)

6. Highway 7 and Kennedy Road (*58)

7. Highway 7 and Commerce Valley Drive East/ East Beaver Creek Road (*55)

8. Warden Avenue and 14th Avenue/ Alden Road (*54)

9. McCowan Road and 16th Avenue (*54)

10. 16th Avenue and Woodbine Avenue (*53)

* Represents the number of collisions between 2016 and 2018

2019 ANNUAL COLLISION STATISTICS REPORT

TOP 10 COLLISION LOCATIONS IN THE TOWN OF NEWMARKET

1. Davis Drive West and Bathurst Street (*81)
2. Yonge Street and Davis Drive (*75)
3. Yonge Street and Mulock Drive (*75)
4. Leslie Street and Davis Drive (*53)
5. Prospect Street and Bayview Avenue/Mulock Drive (*51)
6. Leslie Street and Mulock Drive (*46)
7. Yonge Street and Eagle Street (*46)
8. Yonge Street and Kingston Road/Dawson Manor Boulevard (*43)
9. Davis Drive and Lundy's Lane/Prospect Street (*38)
10. Bathurst Street and Mulock Drive (*36)

* Represents the number of collisions between 2016 and 2018
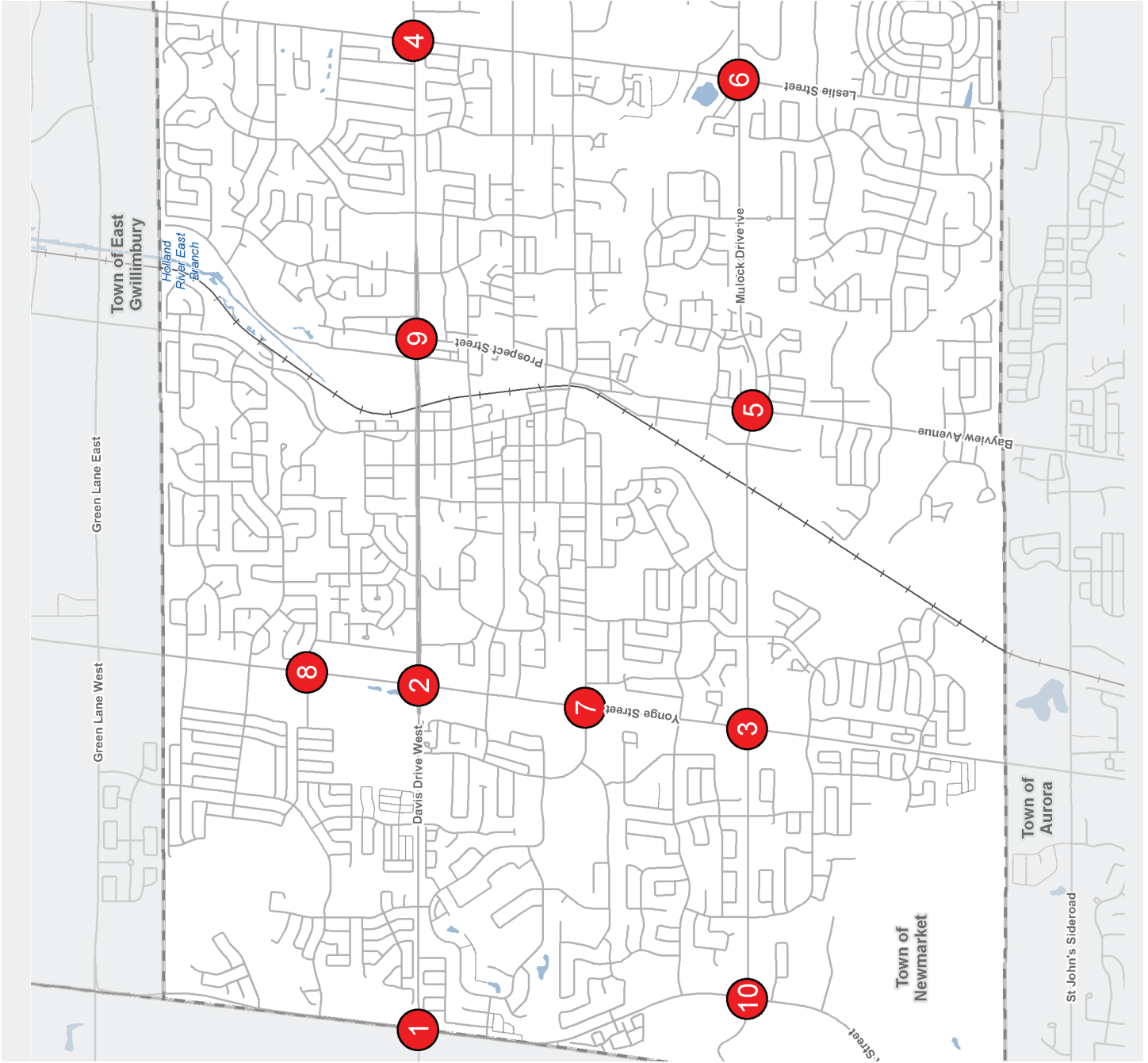
1. Yonge Street and Carrville Road/ 16th Avenue (*84)

2. Major Mackenzie Drive East and Bayview Avenue (*79)

3. Yonge Street and Major Mackenzie Drive (*78)

4. Yonge Street and Elgin Mills Road (*67)

5. Major Mackenzie Drive West and Bathurst Street (*65)

6. Highway 7 and Leslie Street (*65)

7. Bathurst Street and Carrville Road/ Rutherford Road (*61)

8. Bayview Avenue and 16th Avenue (*58)

9. Yonge Street and Garden Avenue/ Highway 7 - Yonge Street Ramp (*54)

10. Highway 7 and Highway 7 – Bayview Avenue Ramp (*48)

* Represents the number of collisions between 2016 and 2018
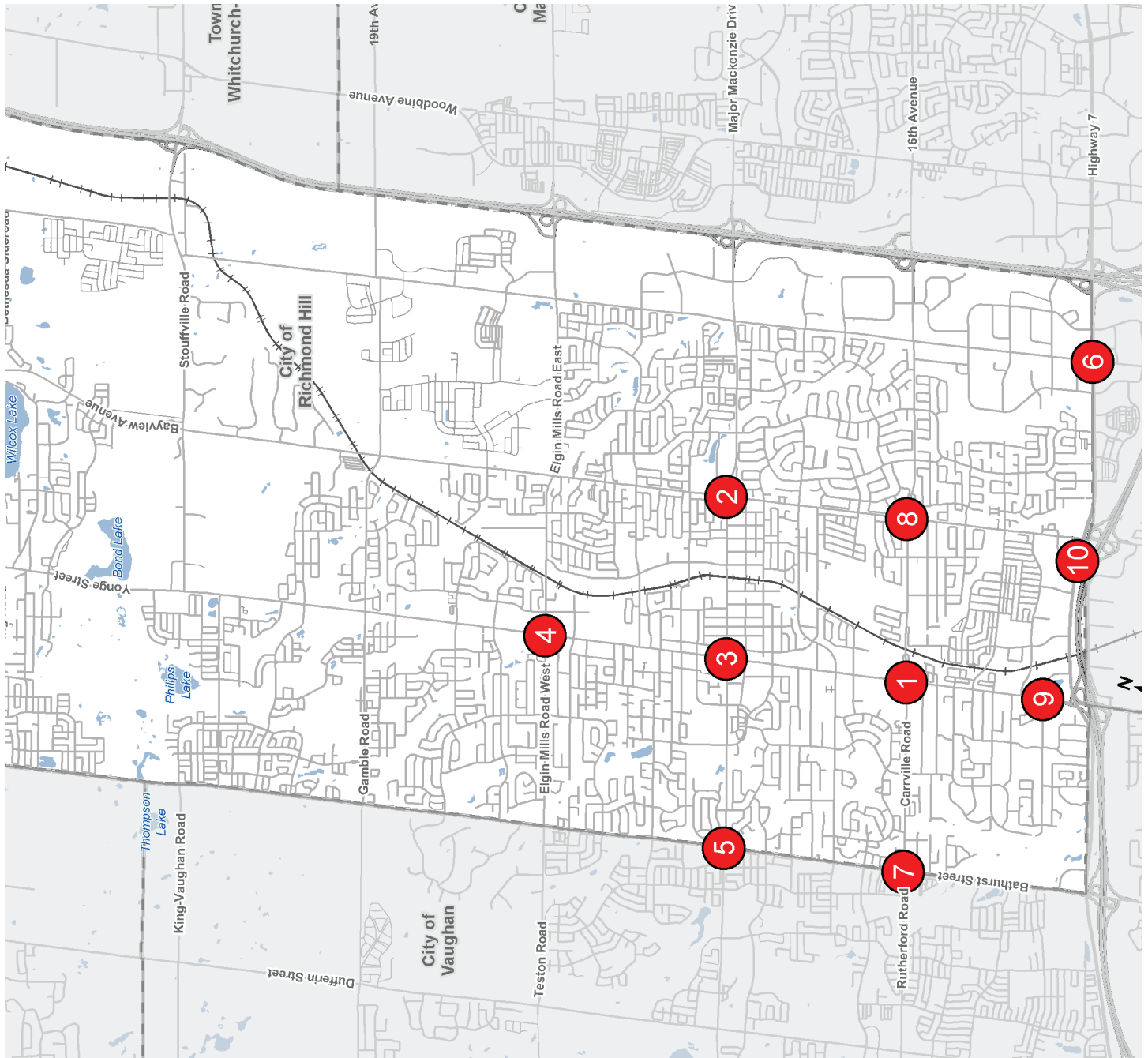
TOP 10 COLLISION LOCATIONS IN THE CITY OF VAUGHAN

1. Highway 7 and Weston Road (*120)

2. Weston Road and Rutherford Road (*99)

3. Keele Street and Highway 7 (*97)

4. Highway 7 and Pine Valley Drive (*96)

5. Islington Avenue and Rutherford Road (*89)

6. Highway 7 and Jane Street (*77)

7. Jane Street and Rutherford Road (*77)

8. Dufferin Street and Langstaff Road (*74)

9. Major Mackenzie Drive West and Weston Road (*73)

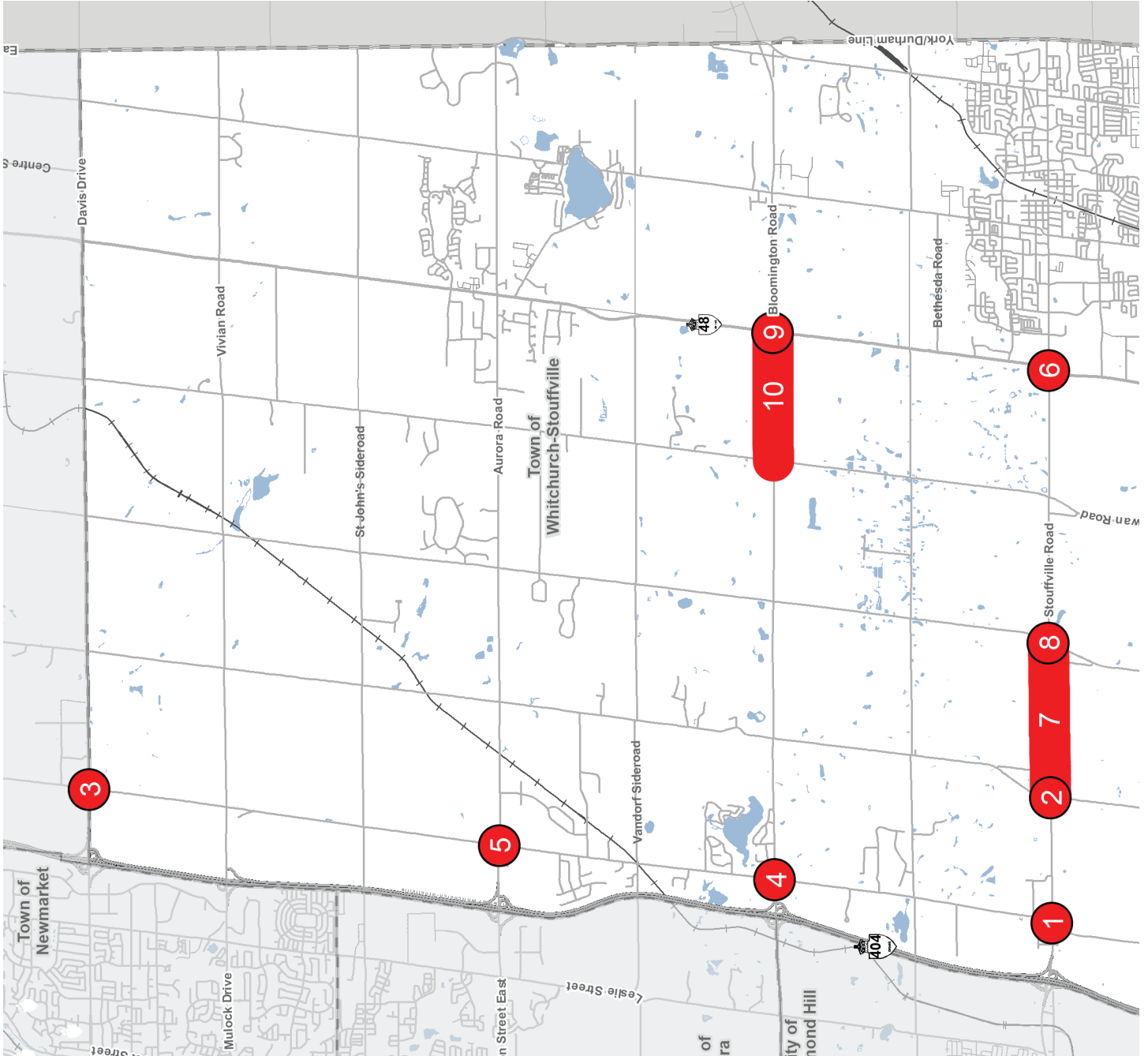10. Major Mackenzie Drive West and Jane Street (*72)

* Represents the number of collisions between 2016 and 2018
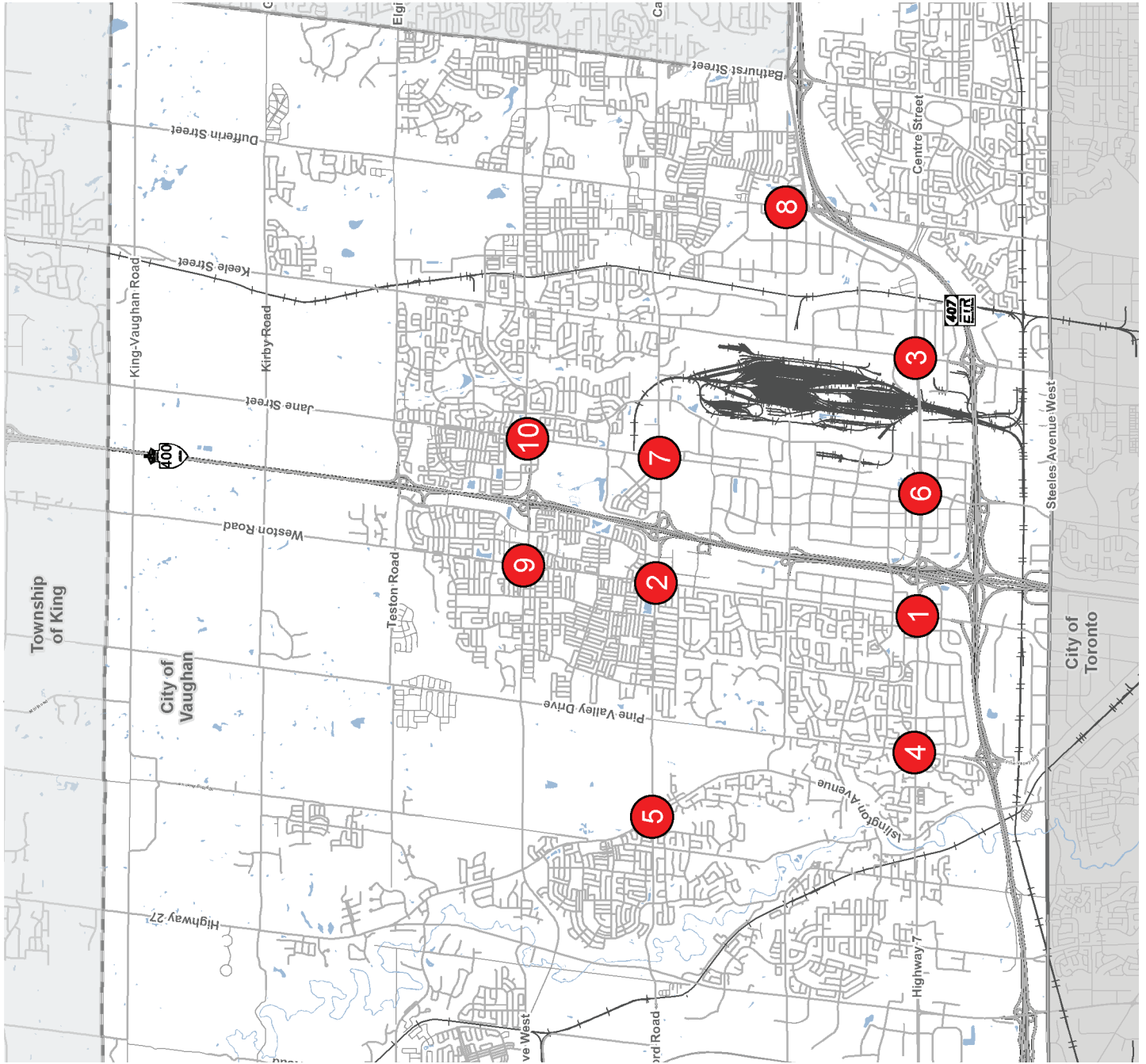
1. Woodbine Avenue and Stouffville Road (*25)

2. Stouffville Road and Warden Avenue (*22)

3. Woodbine Avenue and Davis Drive (*19)

4. Woodbine Avenue and Bloomington Road (*17)

5. Woodbine Avenue and Aurora Road (*16)

6. Stouffville Road and Main Street / Highway 48 (*15)

7. Stouffville Road between Warden Avenue and Kennedy Road (*15)

8. Kennedy Road and Stouffville Road (*14)

9. Bloomington Road and Highway 48 (*13)

10. Bloomington Road between McCowan Road and Highway 48 (*13)

* Represents the number of collisions between 2016 and 2018

2019 ANNUAL COLLISION STATISTICS REPORT

ROAD SERVICES

York Region