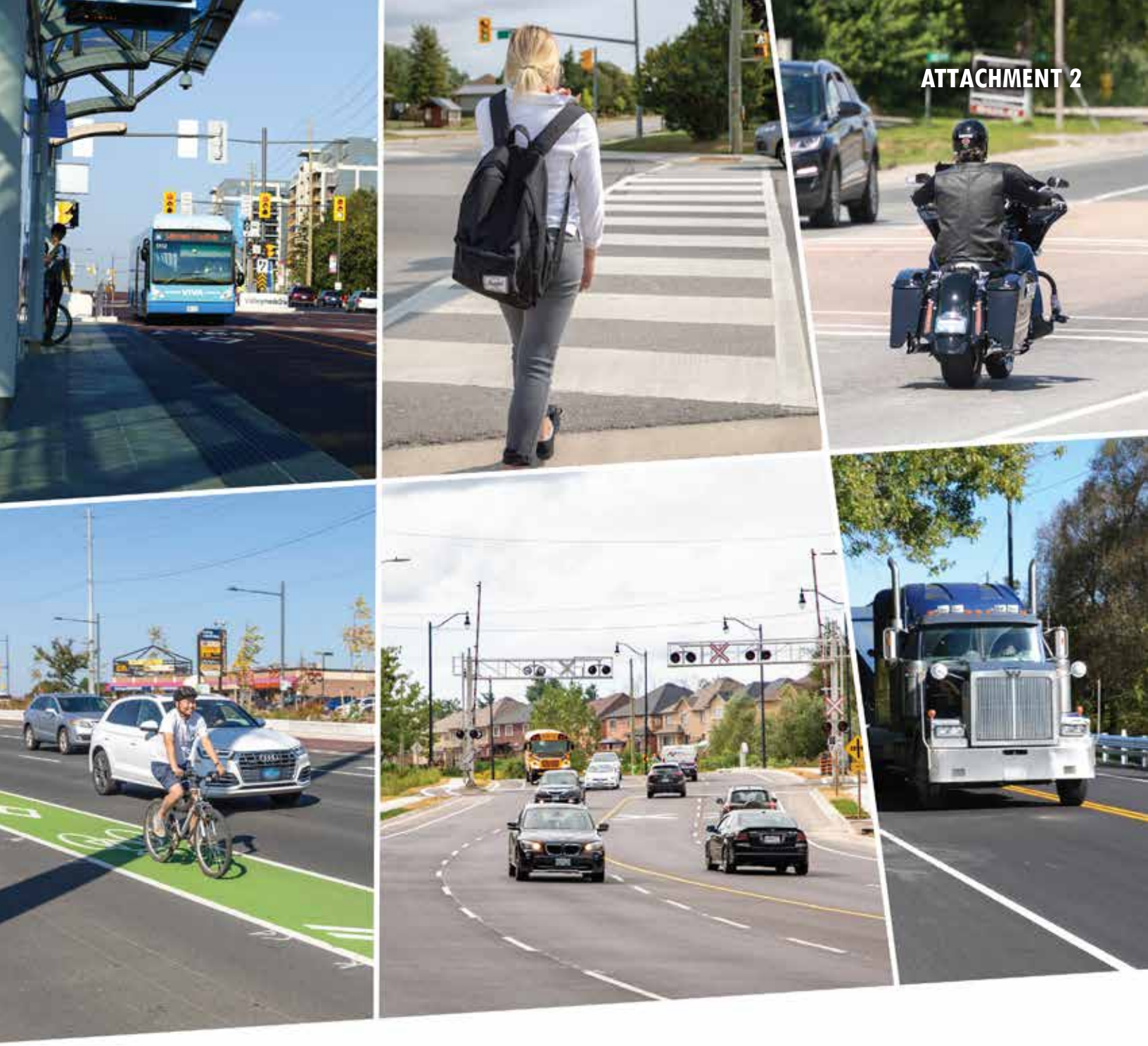


ATTACHMENT 2

2020 TRAVELLER SAFETY REPORT

A Focus on Regional Road Collision Statistics Based on 2019 and Preceding Years

Prepared by:
Corridor Control and Safety,
Communications, Community Engagement and Marketing,
Transportation Services

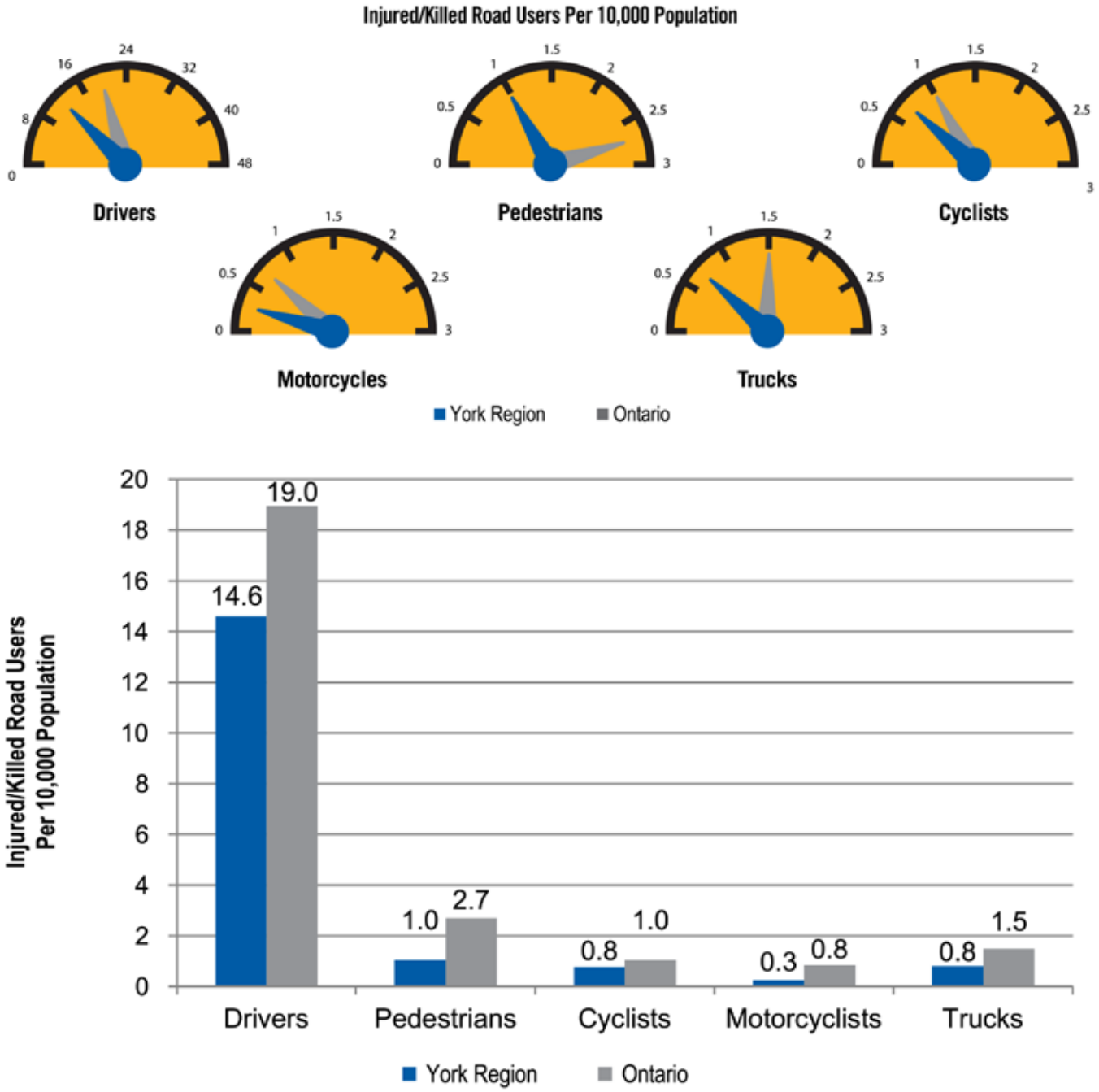
York Region

Table of Contents

Executive Summary	3
Introduction	6
Overview	7
Motorists	14
Pedestrians	28
Cyclists	40
Motorcyclists	52
Trucks	62
Transit	72
Safety Programs	82
Appendix	91

Acronyms and Abbreviations
AADT: Average Annual Daily Traffic
ASE: Automated Speed Enforcement
CAA: Canadian Automobile Association
MTO: Ministry of Transportation Ontario
MVA: Motor Vehicle Accident
PCS: Permanent Counting Station
PDO: Property Damage Only
PXO: Pedestrian Crossover
SMV: Single Motor Vehicle
TTS: Transportation Tomorrow Survey
YR: York Region
YRP: York Regional Police

2019 YORK REGION VS ONTARIO INJURY/FATALITY RATES



*York Region collisions on Regional roads reported by York Regional Police (YRP)
*Population data is based on census data from Statistics Canada
*Ontario collision data is from Ministry of Transportation Ontario (MTO) Ontario Road Safety Annual Reports

York Region roads are planned, designed, constructed and operated to Ontario provincial guidelines. Compared to provincial average level, in 2019, York Region roads had lower injury/fatality rates for all major types of road users including motor vehicle drivers, pedestrians, cyclists, motorcyclists and truck drivers. This may be attributed to improved road engineering and operations, stricter traffic legislation and enforcement and systematic road safety initiatives in the Region.

Motorists ↓ 11% (2018/2019 Collision Rate Compared to 2013-2017)

Travellers are involved in 5% fewer collisions and 3% fewer injuries each year, even with a 2% increase annually in population and trips made by all travellers in the Region. The motor vehicle accident rate (annual number of motor vehicle accidents over annual motor vehicle trips) in 2018 and 2019 was 11% lower than the 2013-2017 average.

After the Region experienced a 10-year low in fatal collisions in 2017, a total of 12 fatalities, the fatal collision numbers rose to 19 in 2019. The fatal collision rate over the past two years (2018 and 2019) was11% higher than the average of the previous five years.

It is well documented higher speeds lead to higher injury severity in collisions. More than half of all fatal collisions in 2018 and 2019 were related to speeding. Enforcement statistics over the past seven years also identify speeding as the top traffic offence in the Region, representing more than 60% of all traffic offences.

Pedestrians ↓ 21%

Cyclists ↓ 28%

While motor vehicles are the most common mode of travel in the Region, the number of people choosing active transportation modes, such as walking and cycling, is increasing at a fast pace. The rates of pedestrian (annual number of pedestrian collisions over annual walk trips) and cyclist collisions (annual number of cyclist collisions over annual bike trips) in 2018 and 2019 were 21% and 28%, respectively lower than the average of 2013-2017. Improving pedestrian and cyclist safety continues to be an area of focus due as the percentage of injuries continues to be above 80%

Motorcyclists ↓ 33%

Another type of vulnerable road user, motorcyclists, has doubled over the last 10 years, while the number of motorcycle collisions is generally very low and steady. The rate of motorcycle collisions (annual number of motorcycle collisions over annual motorcycle trips) in 2018 and 2019 was 33% lower than the 2013-2017 average. Motorcycle collisions are highly seasonal (mostly occurring in the warmer months of the year), distributed evenly among weekdays and weekends, and relatively high in some night hours. Although motorcyclists are usually not at fault in collisions, they have a high risk of losing control that can lead to a single motor vehicle (SMV) collision. Motorcyclists do not have the same level of protection as drivers of other types of vehicles and therefore have a higher injury rate when involved in a collision.

Trucks ↑ 13%

Truck collision rate in 2018 and 2019 was 13% higher than the average of 2013-2017. Fatality rates remain at low levels and injury collision rates remain steady. More than half of truck traffic and collisions occur in the City of Vaughan where trucking distribution centres are predominant. Major trucking corridors like Highway 7, Highway 27, Weston Road and Keele Street provide key connections for goods movement to provincial highways (highways 400, 407 and 427).

Transit ↑ 24%

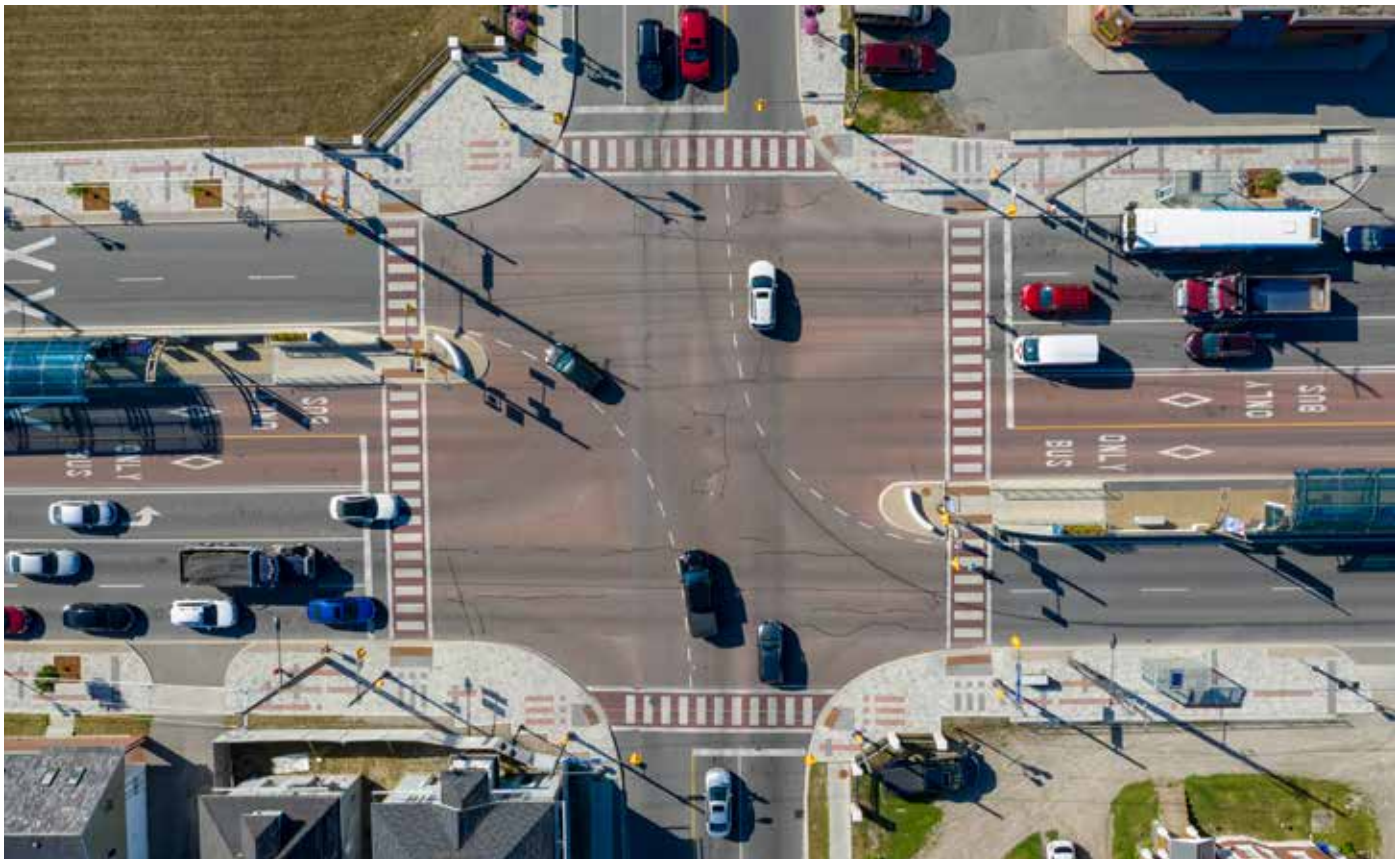
Total collisions involving all public and private transit vehicles combined increased marginally by approximately 3% annually, while transit operations in the Region, including number of service hours and kilometres travelled, has increased over the past decade. The collision rate of exclusively YRT vehicles in 2018 and 2019 was 24% higher than the 2013-2017 average.

Buses are slower, longer and require more space. A pattern of motorists failing to provide buses ample space have led to a spike in the number of sideswipe collisions. Sideswipe collisions involving private and public buses increased from 44 to 98 over the last two years, when compared to the previous five years. The majority of transit collisions (70%) were a result of the other vehicle driver being at fault.

Safety Programs

York Region recognizes that changing driver behaviour is crucial in improving road safety and continues to target top traffic violations with campaigns and programs. Data from YRP suggests the top traffic violation is speeding. The SpeedWATCH program aims to reduce speeding and increase speed limit compliance. Before-after analysis shows that this program has achieved both goals at most study locations. An automated speed enforcement program will also be piloted in select community safety zones approximately 2021-2023.

The red light camera program aims to curb red light running behaviour and improve driver and pedestrian safety. Forty cameras are deployed at select signalized intersections, and Region-wide right angle collisions at signalized intersections have been reduced significantly.



Introduction

York Region is home to nearly 1.2 million people in nine local cities and towns, bounded by Steeles Avenue in the south, Highway 50 in the west, York Durham Line in the east and 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.

York Region's Corridor Control and Safety division maintains and manages York Region's traffic data system. The database contains information on all motor vehicle accidents that occur on York Regional roads, which result in property damage of $2,000 or greater, as well as any collision that results in a minor or serious injury or fatality. Collision information completed is collected from the provincial Motor Vehicle Accident (MVA) Report Form, by YRP. Completed copies of all MVA reports are provided to the Corridor Control and Safety division for record and to conduct further analyses. At this time, York Region's traffic data system does not include collisions that occur on local municipal roadways and provincial highways as each local municipality and the Province manages their own data.

First published in 2014, the 2020 Traveller Safety Report is the 7th edition containing collision statistics on York Regional roads, based on cause, temporal information, high collision locations, injury severity and modes of travel to identify trends and support decision-making. The 2020 report primarily includes data collected for 2017 to 2019 as well as updated data for comparing with previous iterations. The daily trip volumes of motorists, pedestrians, cyclists and other modes of travel shown throughout the report are sourced and forecasted from the most recent Transportation Tomorrow Survey (TTS), 2016.

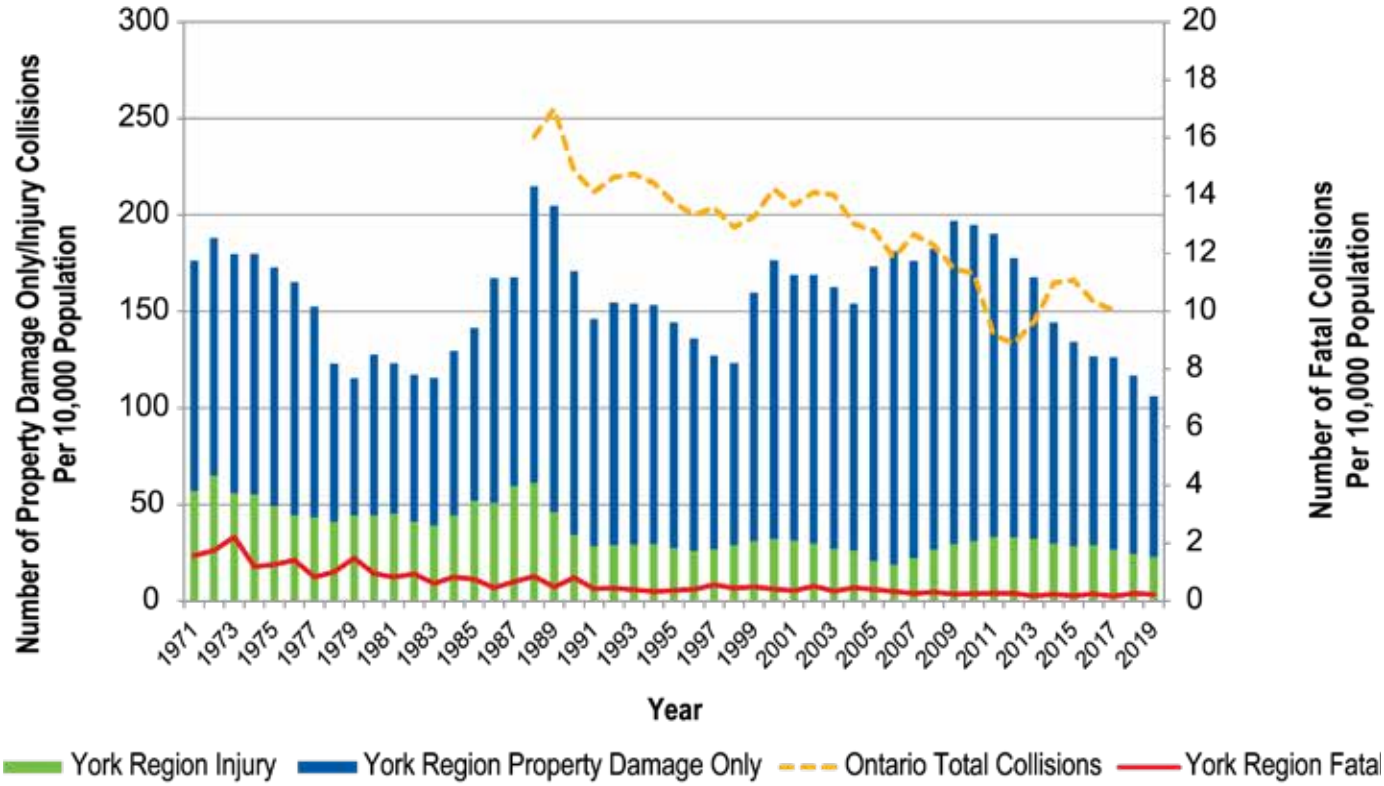
The 2020 Traveller Safety Report provides a detailed breakdown of the traveller experience on Regional roads using collision statistics and other data, such as traffic volume, weather and population. Collision data was analyzed using motor vehicle accident reports from YRP to identify issues for specific locations as well as broader trends. The report also supports 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.

The Traveller Safety Report informs our proactive approach to help make Regional roads safer for all travellers, and now the Region's response to various trends, and associated benefits. The response includes the Region's implemented or upcoming road safety initiatives in road engineering, intersection operations, pavement/signage improvements, bus rapidway constructions, automated enforcement, speed management and initiatives.

Overview

As a result of stricter legislation in technology advancements, and the success of road safety initiatives, injury and fatal collision rates for all road users have decreased significantly over the past 50 years, as shown in the figure below. York Region has lower collision rates than those of Ontario, with the exception of three years. Both injury and fatal collision rates in York Region have long-term decreasing trends, and total collision rates have dropped by 46% from 197 per 10,000 population in 2010 to 107 in 2019.

COLLISION ACROSS YORK REGION, 1971-2019



*York Region collisions on Regional and local municipal roads reported by YRP
*Population data is based on census data from Statistics Canada
*Ontario collision numbers is from MTO Ontario Road Safety Annual Reports

APPROXIMATELY 89% OF COLLISIONS ARE A RESULT OF IMPROPER DRIVING

Overall, collisions are at a 10-year low

Collisions are a result of numerous factors, of10 unique to specific events. A review over the past 10 years shows that motor vehicle accidents are decreasing despite more vehicles travelling on Regional roads than ever before. In 2019, there was a 10-year low in total collisions, with just over 7,000 collisions occurring on Regional roads. Most collisions, 89%, were a direct result of improper driving.

An overview of collision statistics on Regional roads between 2017 and 2019 shows collisions continue to occur most frequently on Fridays during the winter months and the evening peak period (5:00 p.m. to 6:00 p.m.). The most common were rear-end collisions at signalized intersections, as a result of motorists following too close. Consistent with past years, the majority of high collision intersections were situated on high volume roads in urban areas. The table on the next page compares collision data for 2017, 2018 and 2019.

ANNUAL COMPARISON OF COLLISIONS, 2017-2019

Statistics	2017	2018	2019	Change (2018-2019)
Number of Collisions	7,672	7,510	7,038	-6%
Number of Fatal Collisions	12	17	19	12%
Number of Injury Collisions	1,977	1,936	1876	-3%
Number of Collisions Involving Pedestrians	147	159	140	-12%
Percentage of Collisions Involving Pedestrians Resulting in Injuries or Fatalities	93%	96%	94%	-2%
Number of Collisions Involving Cyclists	96	94	110	17%
Percentage of Collisions Involving Cyclists Resulting in Injuries or Fatalities	82%	78%	86%	8%
Collision Rate per 100,000 Population	661	635	571	-10%
Fatal Collision Rate per 100,000 Population	1	1.4	1.5	7%
Day with Highest Number of Collisions	Friday	Friday	Friday	-
Month with Highest Number of Collisions	November	January	November	-
Hour with 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	-

ANNUAL COMPARISON OF COLLISIONS, 2017-2019 (CONTINUED)

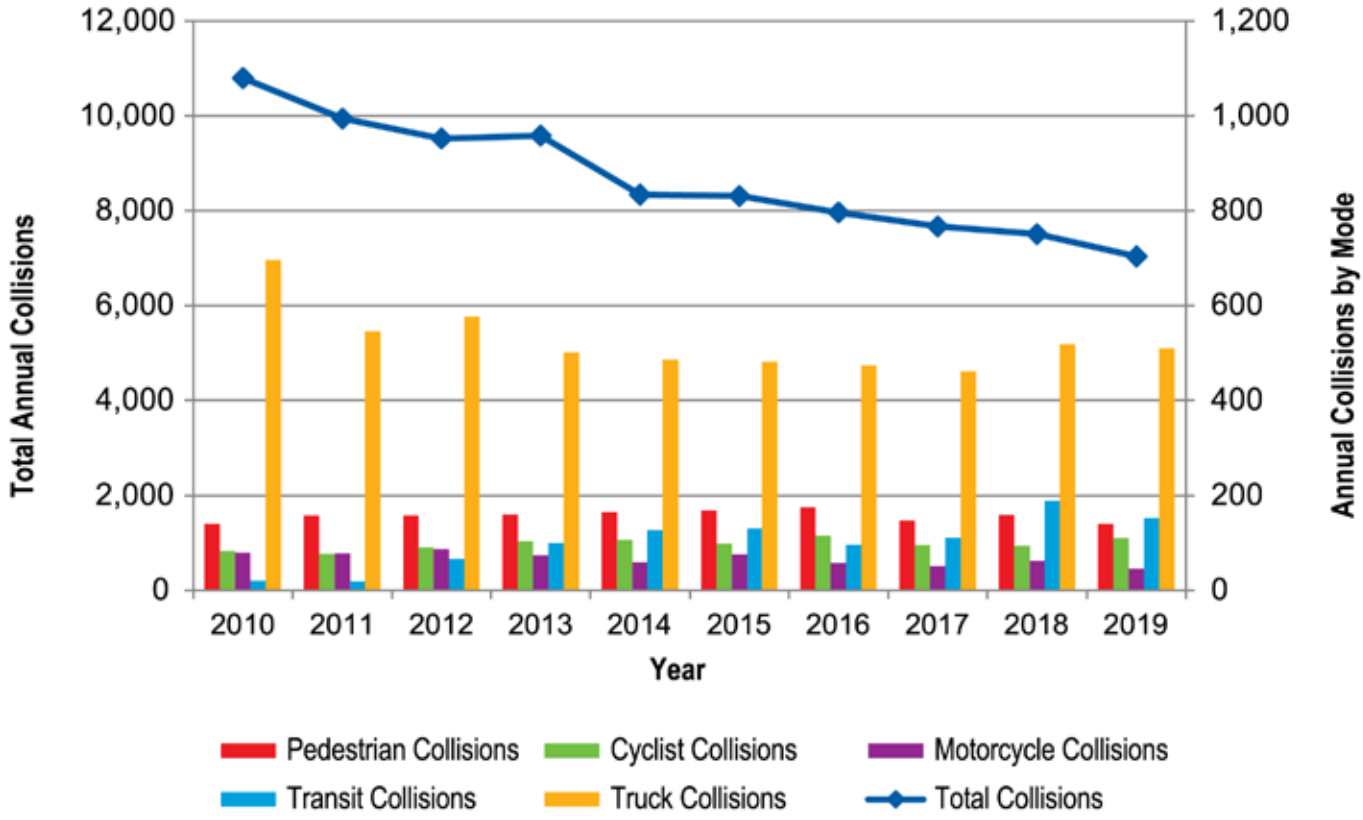
Statistics	2017	2018	2019	Change (2018-2019)
Most Frequently Recorded Improper Driving Action	Following Too Close	Following Too Close	Following Too Close	-
Location with Highest Number of Collisions	Highway 7 and Weston Road	HIghway 7 and Weston Road	HIghway 7 and Weston Road	-
Midblock with Highest Number of Collisions	Highway 7 between Wigwoss Drive/ Helen Street and Pine Valley Drive	Highway 7 between Huntington Road and Highway 427 - Highway 7 Ramp	Highway 7 between Huntington Road and Highway 427 - Highway 7 Ramp	-
Percentage of Collisions Occurring at Intersections	68.80%	69.40%	68.24%	-1%
Percentage of Collisions Occurring During Winter Driving (Snow/Ice Road Surface) Conditions	6.00%	6.80%	9.80%	3%
Number of Daily Vehicle Trips	2554674	2602512	2650351	2%
Number of Daily Walk Trips	97751	99898	102045	2%
Number of Daily Cycle Trips	10948	11359	11770	4%
Injury Collision Rate per 1,000 Vehicle Trips	3	2.89	2.66	-8%
Injury Collision Rate per 1,000 Walk Trips	1.5	1.59	1.37	-14%
Injury Collision Rate per 1,000 Cycle Trips	8.77	8.28	9.35	13%

*York Region collisions on Regional roads reported by YRP
*Population data is based on census data from Statistics Canada
*Number of trips is based on TTS studies

In 2019, there was a 10-year low in the number of collisions on Regional roads

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

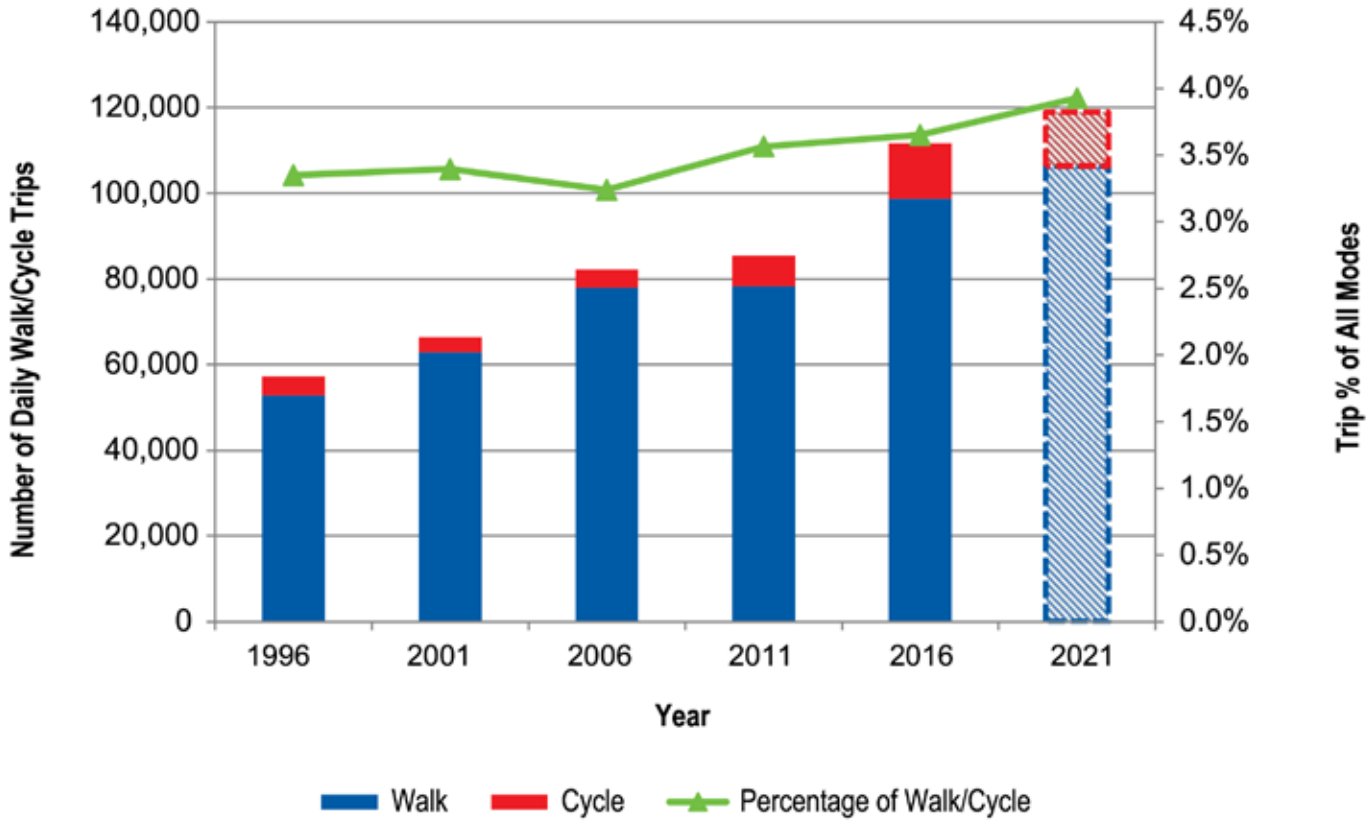
ANNUAL COLLISIONS BY ROAD USER MODES, 2010-2019



*York Region collisions on Regional roads reported by YRP

A review of collision statistics over the last decade shows overall collisions on Regional roads continue to decrease, with a 10-year low in 2019, with just over 7,000 collisions. Collisions involving pedestrians, cyclists and motorcyclists were generally consistent despite increasing trips made by these modes. Collisions involving trucks are in a general decreasing trend. Collisions involving transit vehicles have increased over the last 10 years, while York Region Transit service hours have also increased by 12%, including the introduction of six Viva rapidways into operation. GO Transit has also significantly increased operations in the Region, transitioning from hourly to 15-minute two-way service on several key corridors prior to the COVID-19 pandemic.

YORK REGION DAILY WALK/CYCLE TRIPS, 1996-2021



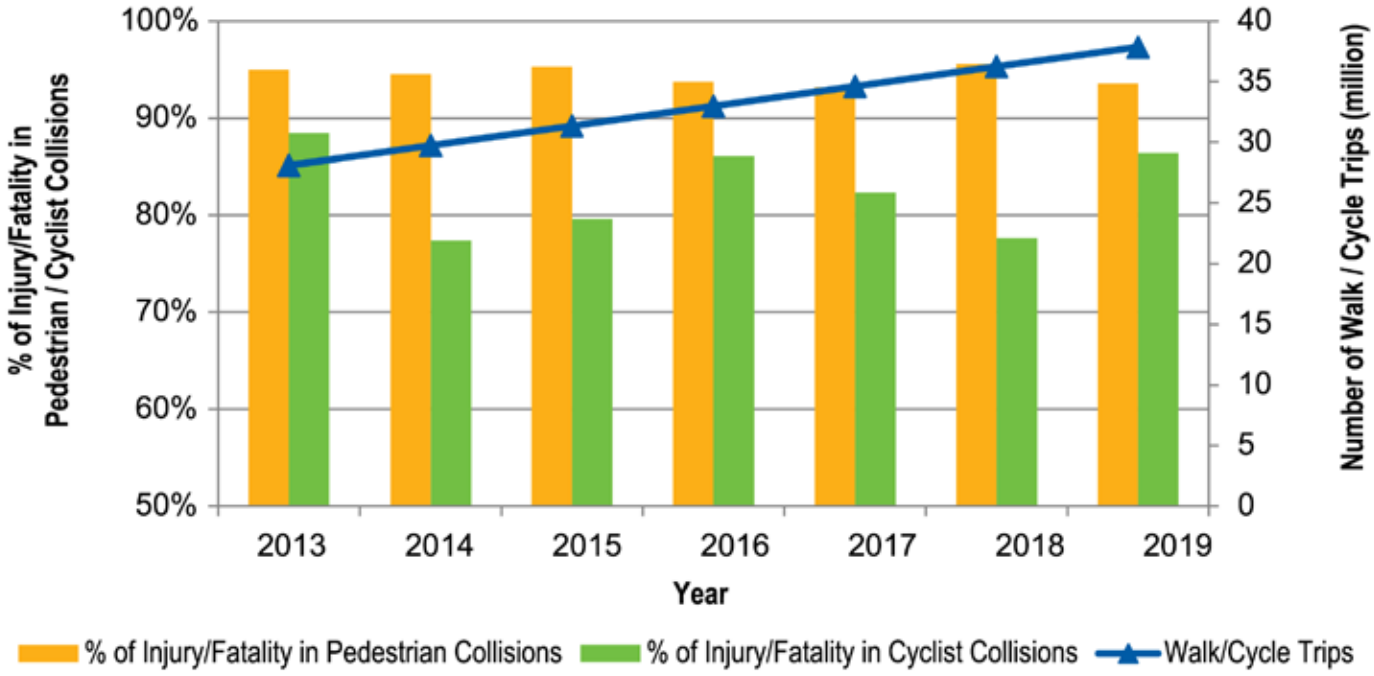
*Number of trips is based on TTS studies

New measures to protect vulnerable road users

Based on TTS studies, more and more people have chosen to walk or bike over the last 20 years. From 1996 to 2016, the total number of daily trips on foot or bicycle has increased 5% annually. In comparison, driving has only been increasing by 2%. It is estimated that daily walk and cycle trips within or crossing York Region boundaries will be close to 120,000 by 2021.

While 24% of vehicle-only collisions resulted in injury or fatality, almost all pedestrian (94%) and cyclist (82%) collisions resulted in injury or death. Pedestrians and cyclists are the most vulnerable travellers on the Regional transportation system and lack protection compared to travellers in enclosed vehicles, as shown in the figure below. The increase in pedestrian and cycling trips across the Region and high rate of injuries sustained make these modes of travel a key area of focus for safety improvements.

PEDESTRIAN AND CYCLIST INJURY/FATALITY RATES



*Number of trips is based on TTS studies

To protect vulnerable road users, York Region has implemented pedestrian and cycling safety measures at select signalized intersections. The Region is measuring success to support future enhancements, while building strong partnerships with road safety partners. In addition to existing safety programs, including red light camera and speedWATCH, York Region will be launching a two-year automated speed enforcement (ASE) pilot with the goal to increase safety in school areas while also changing driver behaviour.

Motorists ↓ 11%

Driving is the most common mode of travel on Regional roads accounting for nearly 87% of total trips. Over 700,000 motor vehicle trips are made annually with over 6,000 annual collisions involving motor vehicles. Addressing motor vehicle safety is priority due to the volume of traffic and occurring frequency of collisions. The motor vehicle accident rate (annual number of motor vehicle accidents over annual motor vehicle trips) in 2018 and 2019 was 11% lower than the 2013-2017 average.

Travellers were involved in 5% fewer collisions and 3% fewer injuries each year, even with a 2% increase annually in population and trips made by all travellers in the Region. This is encouraging and can be attributed to advancements in car technologies (e.g. airbags, anti-lock brakes, electronic stability control), road safety programs and legislation and enforcement.

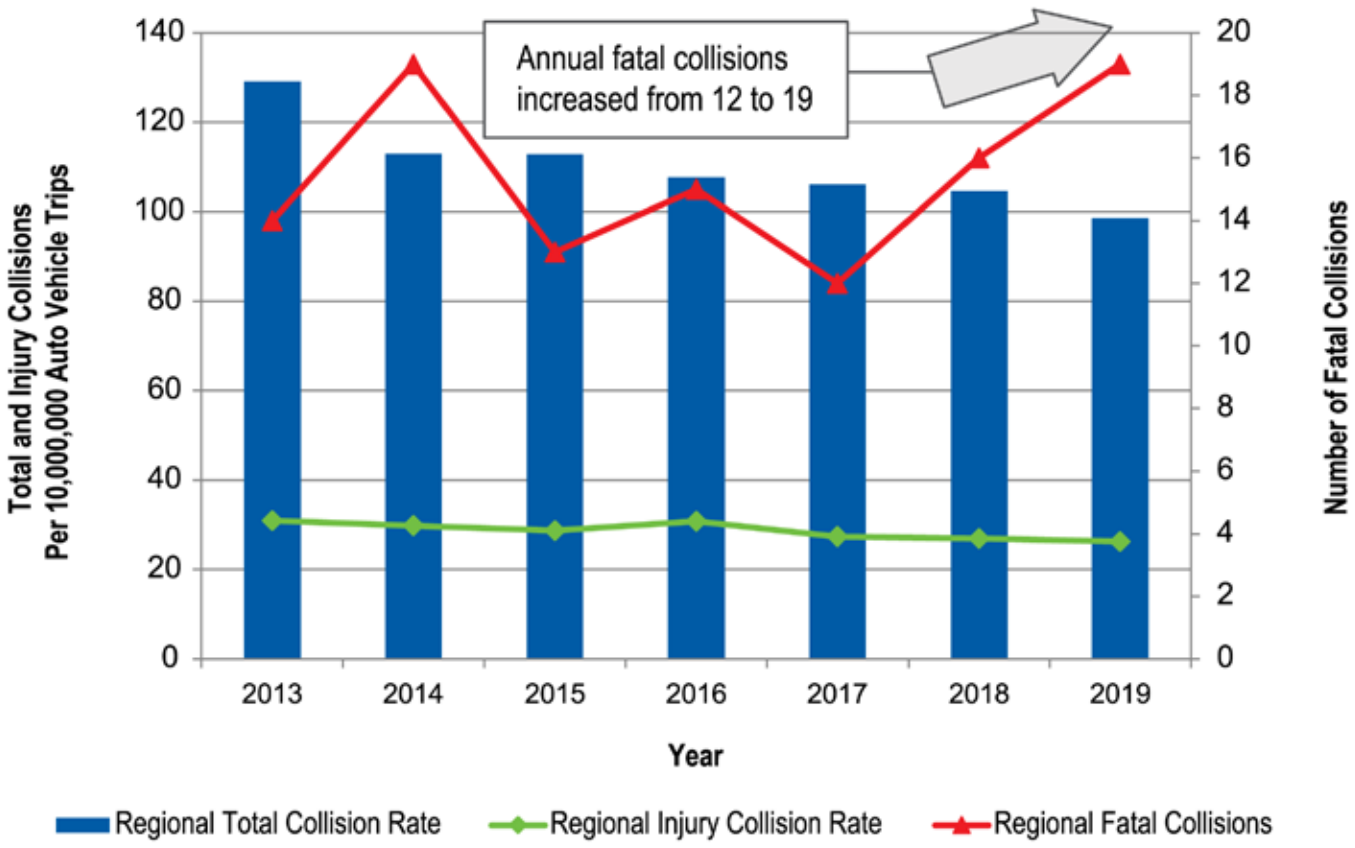
Key trends observed include:

- Travellers were involved in 5% fewer collisions each year
- Fatal collisions increased from 12 to 19 over the past two years
- More than half of fatal collisions were speed related
- Young drivers were more likely to be at fault in collisions that were more likely to be fatal than other age groups
- Snowy and rainy weather increases collision risk
- Majority of collisions occurred at intersections (69%) due to a high occurrence of conflict points with vehicles travelling in different directions and making turns
- Following too close was the top driver action (30%) in the cause of a collision
- Inattentive behaviour while driving was an increasing cause of collisions (19%)
- Top impact types were rear-end (low severity, 35%) followed by angle collisions (high severity, 28%)

The Region continues to put measures in place to address priority traffic safety concerns including:

- Pavement rehabilitation programs, such as microsurfacing (adhesive mixture containing small stones applied to roads), not only extends the life of the road but also improves traction, leading to a reduction in rear-end collisions
- Fully protected left turn implementation that reduces conflicts at high volume urban intersections
- Traffic control upgrades to traffic signals or all-way stop that significantly reduce the frequency of angle collisions

MOTOR VEHICLE ACCIDENT RATES, 2010-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies

After a 10-year low in fatal motor vehicle accidents in 2017 with a total of 12 fatalities, the number of fatalities rose in 2019 to 19. It is well-documented higher speeds lead to higher injury severity in a collision. Fatal collision statistics over the past two years show approximately 55% of all fatal collisions were related to speeding. Enforcement statistics over the past seven years also identify speeding as the top traffic violation in the Region, representing more than 60% of all traffic offences.

Slower rates of speed and appropriate space between vehicles allows more time for motorists to react. Large vehicles like trucks and buses have many blind spots and need extra room to stop and turn. By driving safely, keeping distance and taking extra precautions around large trucks and buses, passenger vehicle drivers can significantly reduce the risk of being involved in a serious collision.

Collisions by Month, Day and Time

A greater understanding of when collisions are occurring

Collision statistics by month indicate a seasonal trend. There are a higher number of collisions occurring during the fall while spring has the least.

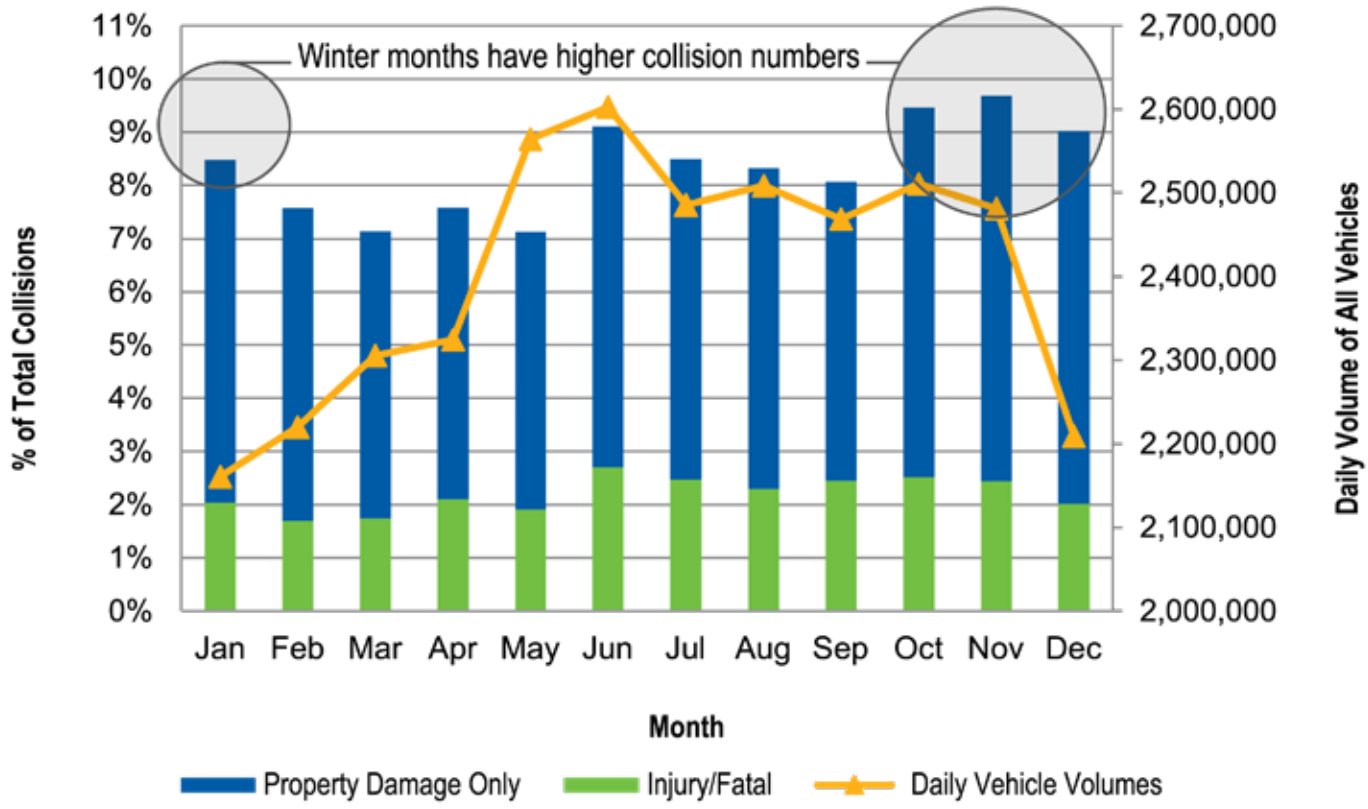
June 2019 had the highest number of injury/fatal collisions and the third highest in collisions overall. Also, June had the highest daily vehicle volumes as weather conditions were favourable and summer vacations had not begun.

November had the highest number of overall collisions and property damage-only collisions. This is likely due to shorter daylight hours when 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 road conditions and drive more slowly and carefully in snowy weather, and many people avoid or postpone unnecessary travel. This suggests an increase in less severe collisions (those producing only property damage) during winter, while more severe collisions (those resulting in injuries and fatalities) decrease.

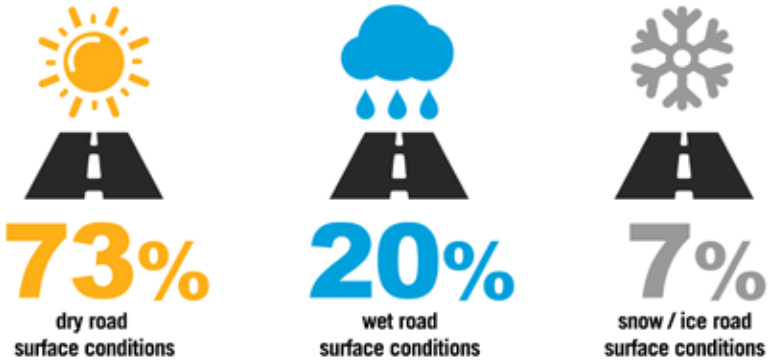
During the spring months, which have the lowest number of collisions, drivers typically continue to drive in winter driving mode even though weather conditions are getting more favourable for road users.

COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and Region's Permanent Counting Station (PCS) data

The majority of all collisions, 73%, occurred during dry road surface conditions. Wet road surface conditions accounted for 20% and 7% occurred during snow/ice road surface conditions. Over the course of 2019, the Region experienced rain and snow events on 116 and 43 days, respectively. These observations are consistent with ongoing driver education campaigns about the need to drive according to conditions.



Although the majority of collisions occurred during dry conditions, adverse weather conditions contributed to peak collision days. The top ten high frequency collision days between 2017 and 2019 experienced a winter event, its aftermath or a significant rainfall event. The number of collisions that occurred on the highest days were about triple the York Region average of 21 collisions per day. The top 10 days that experienced the most collisions are highlighted in the table below.

TOP 10 HIGH FREQUENCY COLLISION DAYS, 2017-2019

Date	Day of Week	Number of Collisions	Rain	Snow
2017-04-07	Friday	115		●
2018-02-07	Wednesday	61		●
2019-11-11	Monday	58		●
2017-09-29	Friday	53	●	
2019-02-27	Wednesday	51		●
2019-12-06	Friday	49		●
2017-11-02	Thursday	47	●	
2017-12-13	Wednesday	45		●
2017-12-18	Monday	45	●	●
2019-01-19	Saturday	45		●

*Collision data is from YRP MVA reports
*Weather data is from Environment Canada

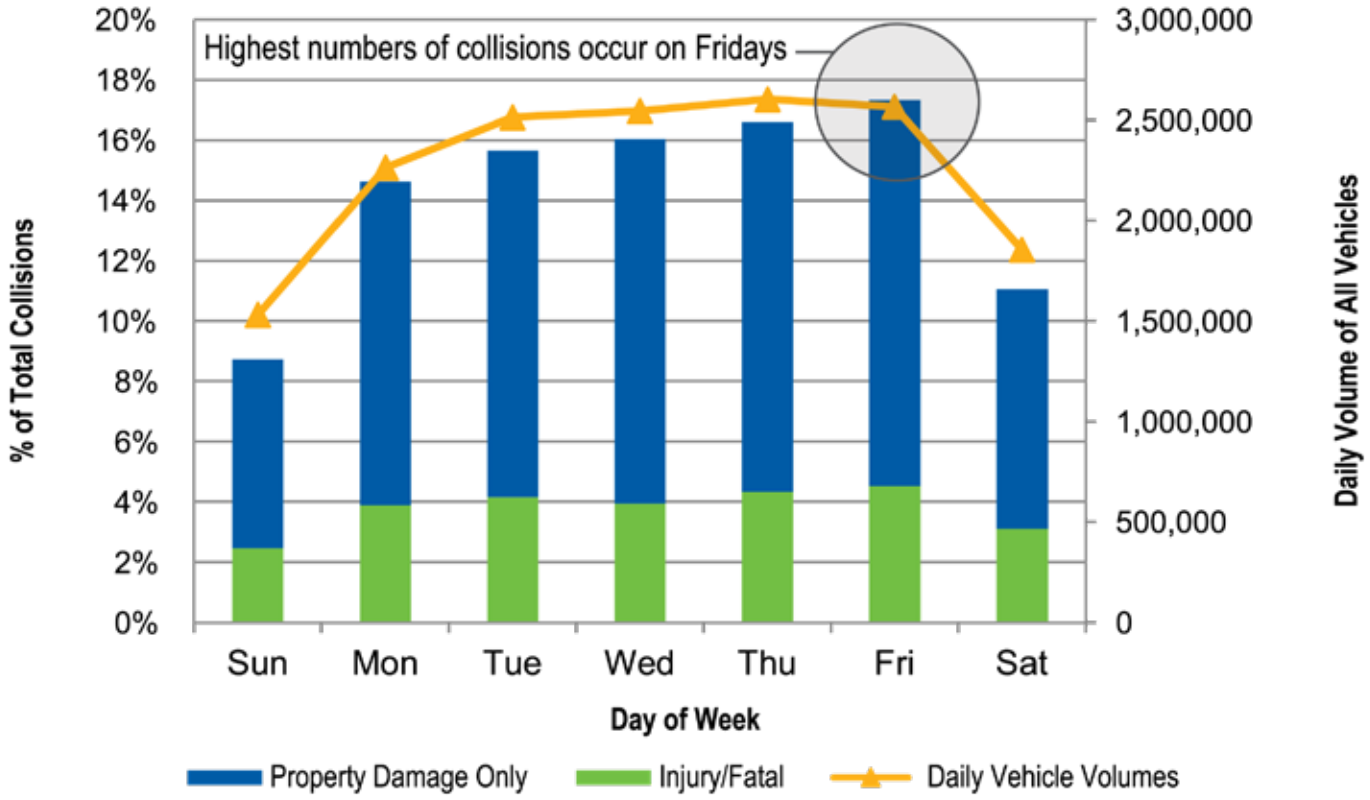
During all winter weather months (November to April), collision rates on snowy days were significantly higher than those with no rain or snow. April had the highest daily collision numbers on snowy days. During the warm months (May to September), without snow events, daily collision rates on rainy days were higher than those days with no rain, except for July.

Repaving increases tire grip and reduces collisions

New pavement can increase vehicle tire grip on the road surface and give drivers better control, resulting in a reduction of rear-end collisions, and collisions related to aged pavement, bad weather and slippery road surfaces. Examples of repaved intersections that have experienced an overall collision reduction are Yonge Street and Green Lane, Green Lane and 2nd Concession Road and Kennedy Road and Helen Avenue/YMCA Boulevard, ranging from 23% to 79%. The reduction in adverse weather events is more significant, ranging from 42% to 89%.

Day-of-week collision patterns correlated closely with typical day-of-week traffic volume patterns, the highest number of collisions occurred on Fridays when people travel more.

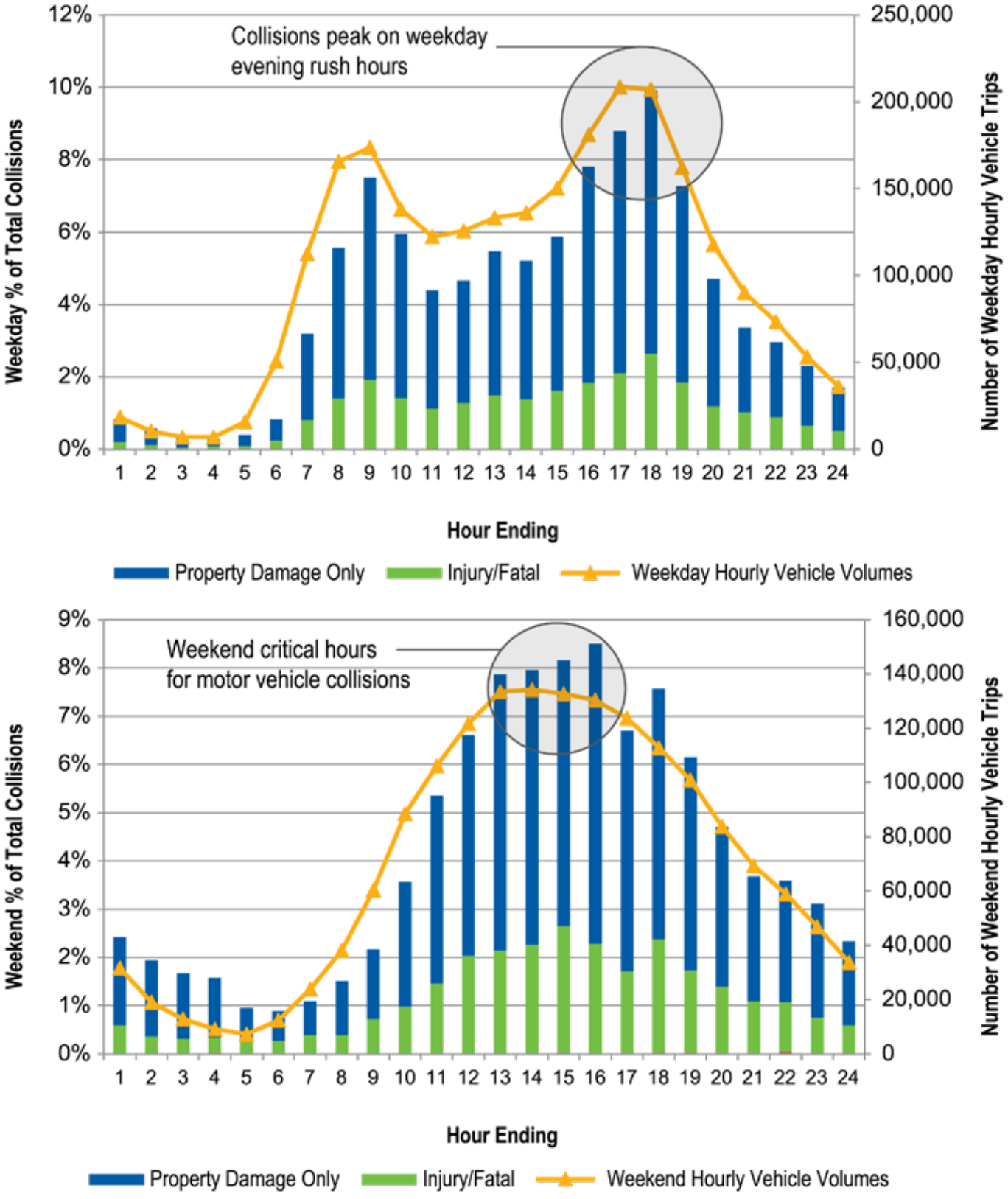
COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Time-of-day collision trend also correlated 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 7:00 a.m. and 10:00 a.m. and 3:00 p.m. and 7:00 p.m., accounting for 53% 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, 2017-2019

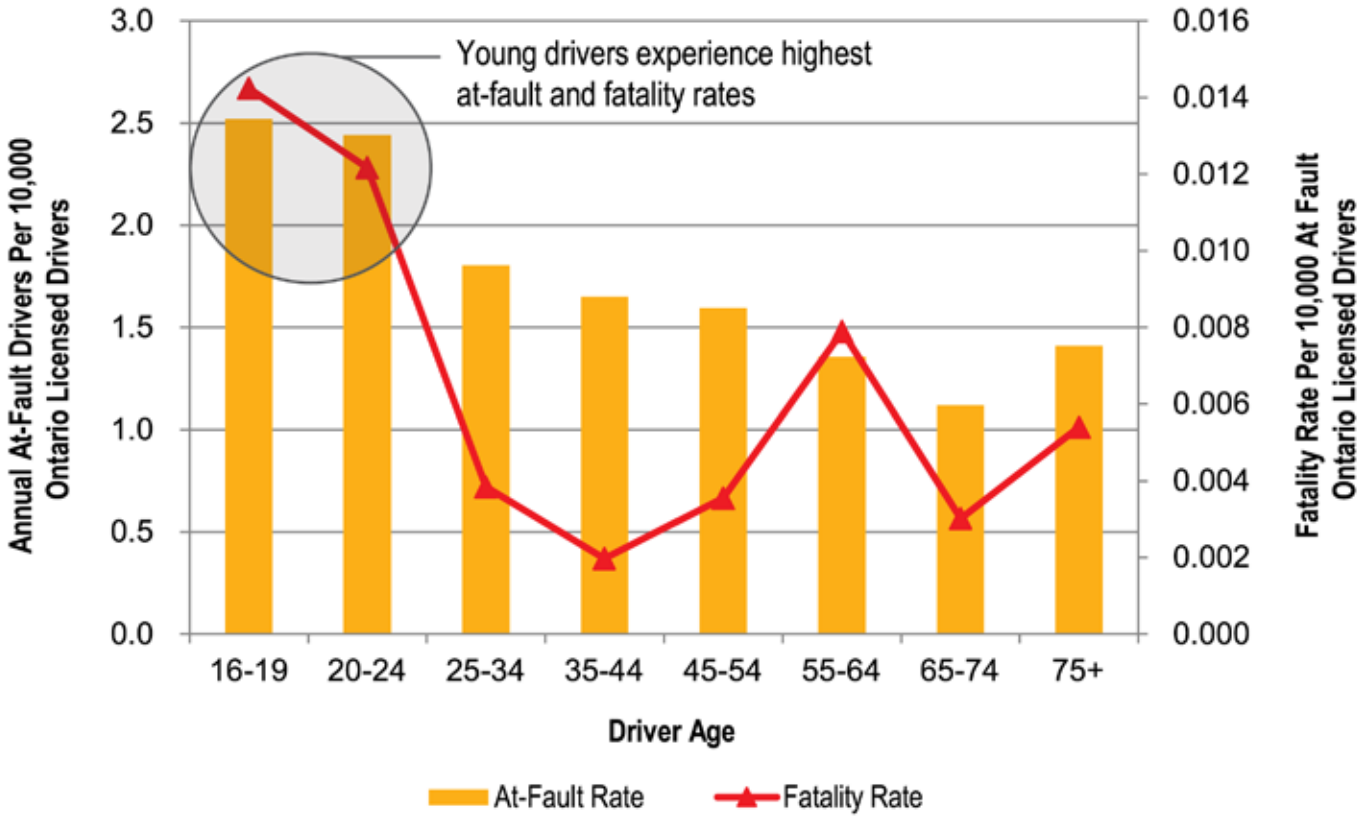


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data.

Based on the three-year average between 2017 and 2019, the highest number of collisions occurred between 5:00 p.m. and 6:00 p.m. on weekdays and between 3:00 p.m. and 4:00 p.m. on weekends.

Age Profile

AGE AND FATALITY RATE OF AT-FAULT DRIVERS



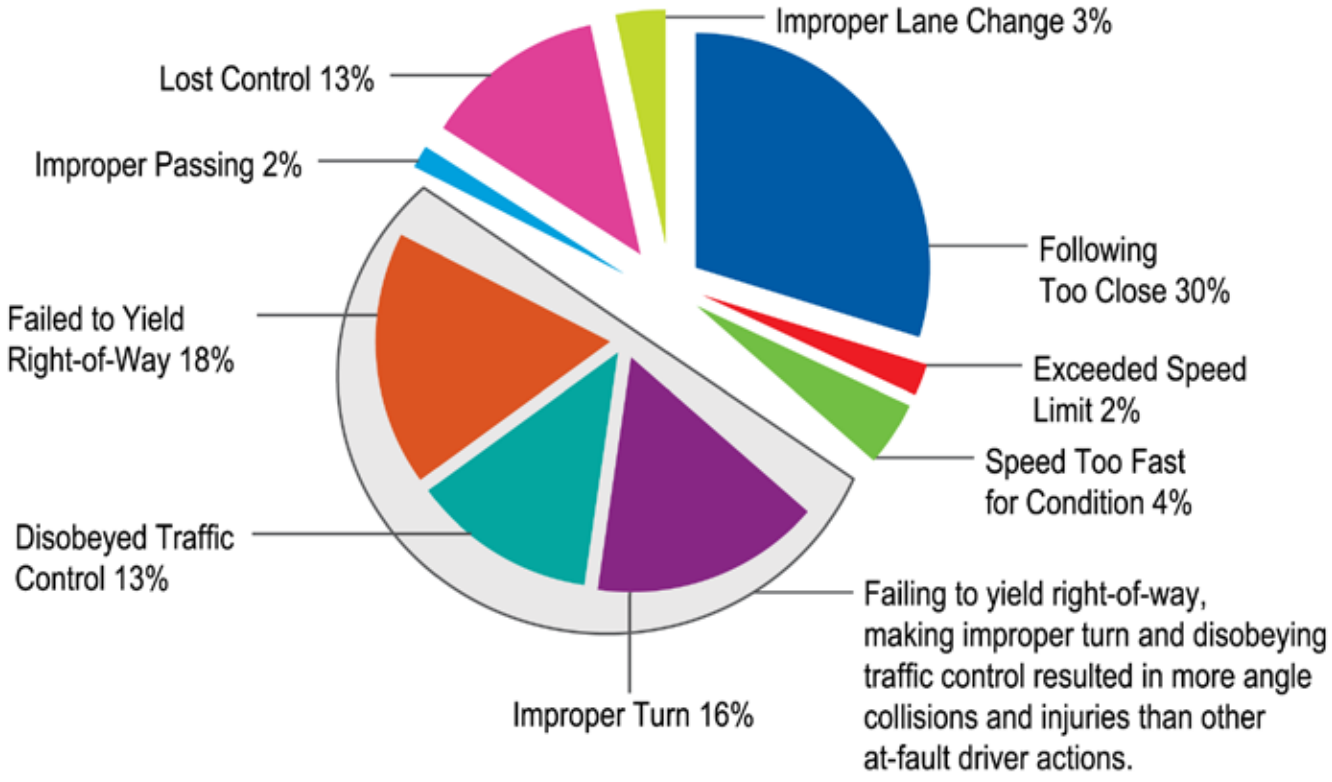
*Collision data is from YRP MVA reports
*Licensed drivers statistics and age distribution is from MTO 2016 Ontario Road Safety Annual Report

Data shows a high need to engage drivers 20 to 29 years of age

The age distribution of at-fault drivers compared to drivers fatally injured is shown in the figure above. Teenagers and young adults below the age of 25 were most likely to be at fault in a collision and also most likely to be fatally injured in a collision. For these drivers, the top at-fault action was following too close (25%), followed by failing to yield right-of-way (21%). These are also the top two at-fault actions of other driver age groups. Based on 2017 hospitalization data from York Region Public Health, drivers had the highest rate of emergency department visits for traffic accident-related injuries with 20 to 29 year olds having the highest rate compared to other age groups. These facts stress the importance of continuing to target this age group with education and enforcement.

Driver Actions and Collision Impact Types

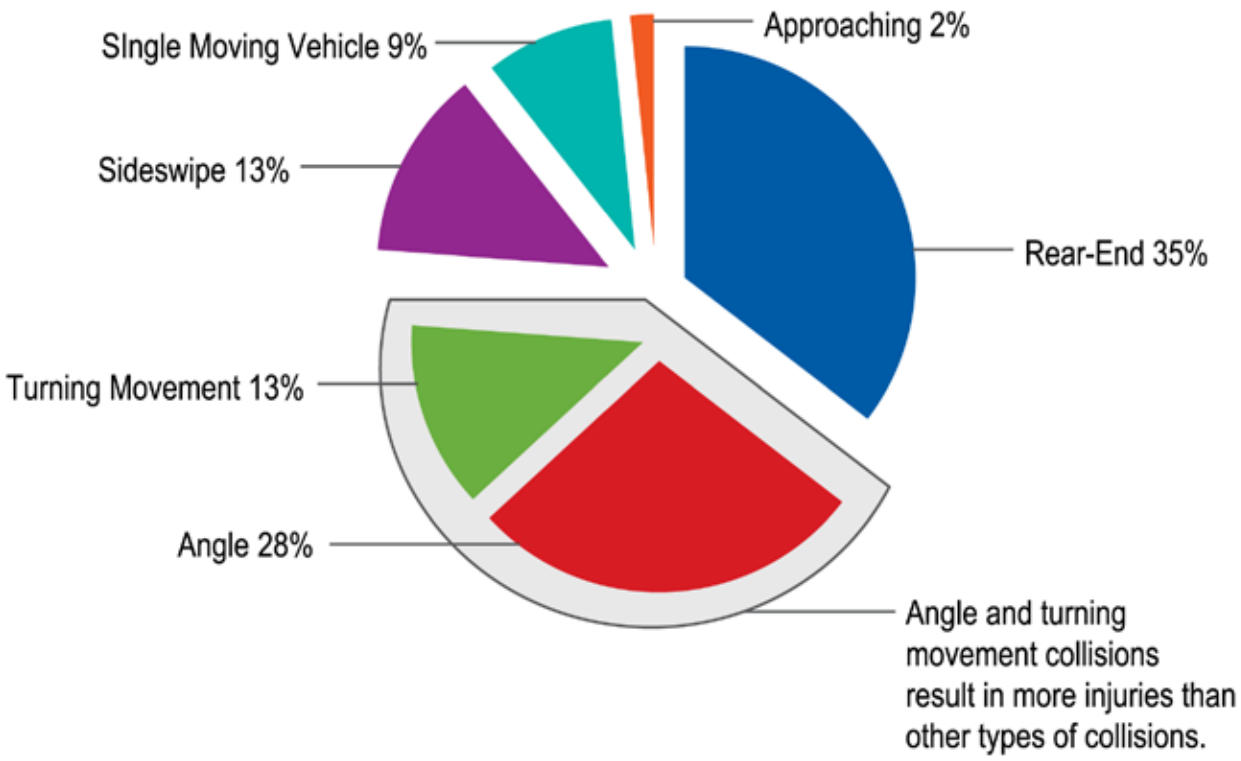
DRIVER ACTIONS IN COLLISIONS, 2017-2019



*Collision data is from YRP MVA reports

One of the most important collision diagnostics is driver behaviour. This refers to the mistake the driver made that caused the collision. The top at-fault action (27%) was following too close; however it is in a decreasing trend in terms of frequency and may soon be overtaken by fail to yield right-of-way. The decreasing frequency of collisions resulting from drivers following too closely could be due to improved vehicle safety technologies, such as brake assist and improvements of roadway safety technologies, such as microsurfacing treatments.

COLLISION IMPACT TYPES, 2017-2019



*Collision data is from YRP MVA reports

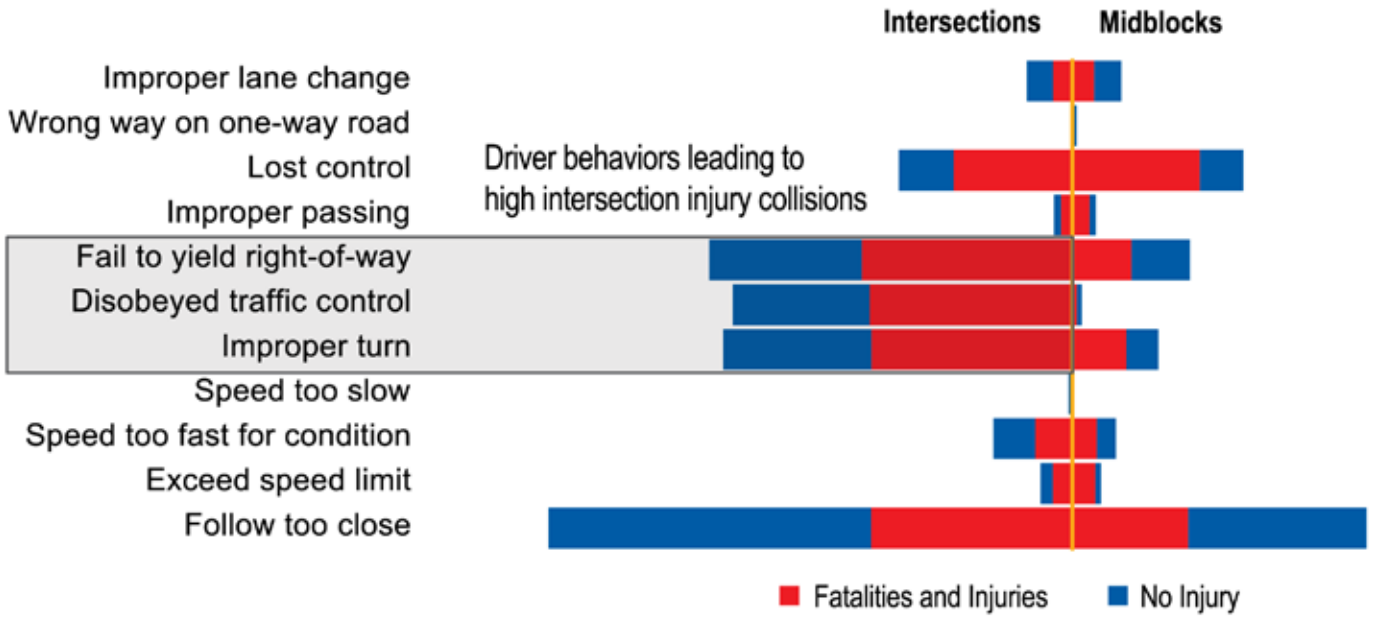
Following too close driver behaviour often leads to rear-end collisions (35%), which was the most common collision impact type. Rear-end collisions are declining and may soon be overtaken by angle collisions as the predominant type. Angle collisions (28%) also experienced a declining trend although not as pronounced.

BEFORE-AFTER ANALYSIS FOUND THAT ALL-WAY STOP IMPLEMENTATION COULD REDUCE ANGLE COLLISIONS BY 60% TO 100%, AND TRAFFIC SIGNAL IMPLEMENTATION COULD REDUCE ANGLE COLLISIONS BY 17% TO 100%.

Reducing angle collisions is a priority for the Region as evidenced by the continued investment in the red light camera program, explained below. York Region also adheres to industry standards in the conversion to intersection controls to all-way stop and traffic signal controls. While roundabouts outperform both, traffic signals and all-way stops have shown significant declines in angle collisions as opposed to a two-way stop control. Before-after analysis found that all-way stop conversions could reduce angle collisions by 60% to 100%, and traffic signal conversions could reduce angle collisions by 17% to 100%.

Driver Actions

DRIVER ACTIONS AND COLLISION LOCATIONS



*Collision data is from YRP MVA reports

FULLY PROTECTED LEFT TURN MOVEMENTS CAN REDUCE VEHICLE TO VEHICLE CONFLICTS BY AS MUCH AS 80%.

A focus on reducing conflict points

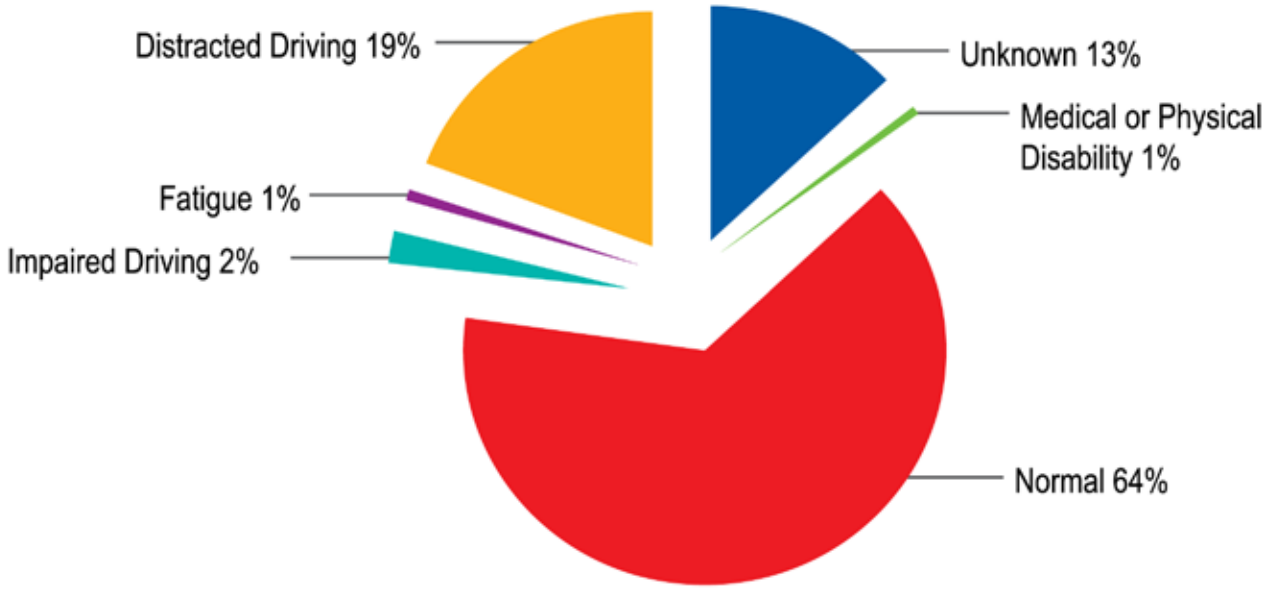
After following too close, fail to yield right-of-way (16%), making an improper turn (14%) and disobeying traffic control (12%) were the other major unsafe driver actions at intersections. 58% of collisions caused by these resulted in injuries or fatalities compared to only 38% of collisions caused by following too close.

The Region has been focusing on reducing conflict points and frequency at intersections. One ongoing initiative is the conversion from protected/permissive left turn phases (advanced green signal before full moves green signal) to fully-protected left turn phases (left turns only allowed on advanced green arrow). This initiative reduces conflicts between left turning vehicles with through moving vehicles in the opposite direction. Preliminary data suggest that protected left turn movements reduce vehicle-to-vehicle conflicts by as much as 80%.

Fully protected left turn phases have been implemented on intersections along the Region's bus rapidways. Along Highway 7 East, between Bayview Avenue and South Town Centre Boulevard, York Region's first bus rapidway, annual average intersection collisions have been reduced by 47% since its completion in 2014. Along Davis Drive, between Yonge Street and just east of Southlake Regional Health Centre, which is the Region's second bus rapidway in operation, annual average intersection collisions have been reduced by 44% since its completion in 2015.

Distracted Driving

COLLISIONS BY AT-FAULT DRIVER CONDITION, 2017-2019



*Collision data is from YRP MVA reports

Distracted driving remains top concern

DISTRACTED DRIVING IS THE TARGET OF YORK REGION'S AWARD WINNING PLEDGE TO IGNORE CAMPAIGN.

Collisions where the condition of the at-fault driver was recorded as "normal" or "unknown" accounted for 77% of all collisions. Of the remaining, most of them were identified as distracted driving.

New distracted driving laws on using hand-held devices while driving came into effect in Ontario on January 1, 2019. Drivers caught talking on their phones, texting, dialing or emailing using a hand-held device (such as a cell phone and other entertainment devices) will be fined up to $1,000 with a three-day licence suspension and three demerit points.

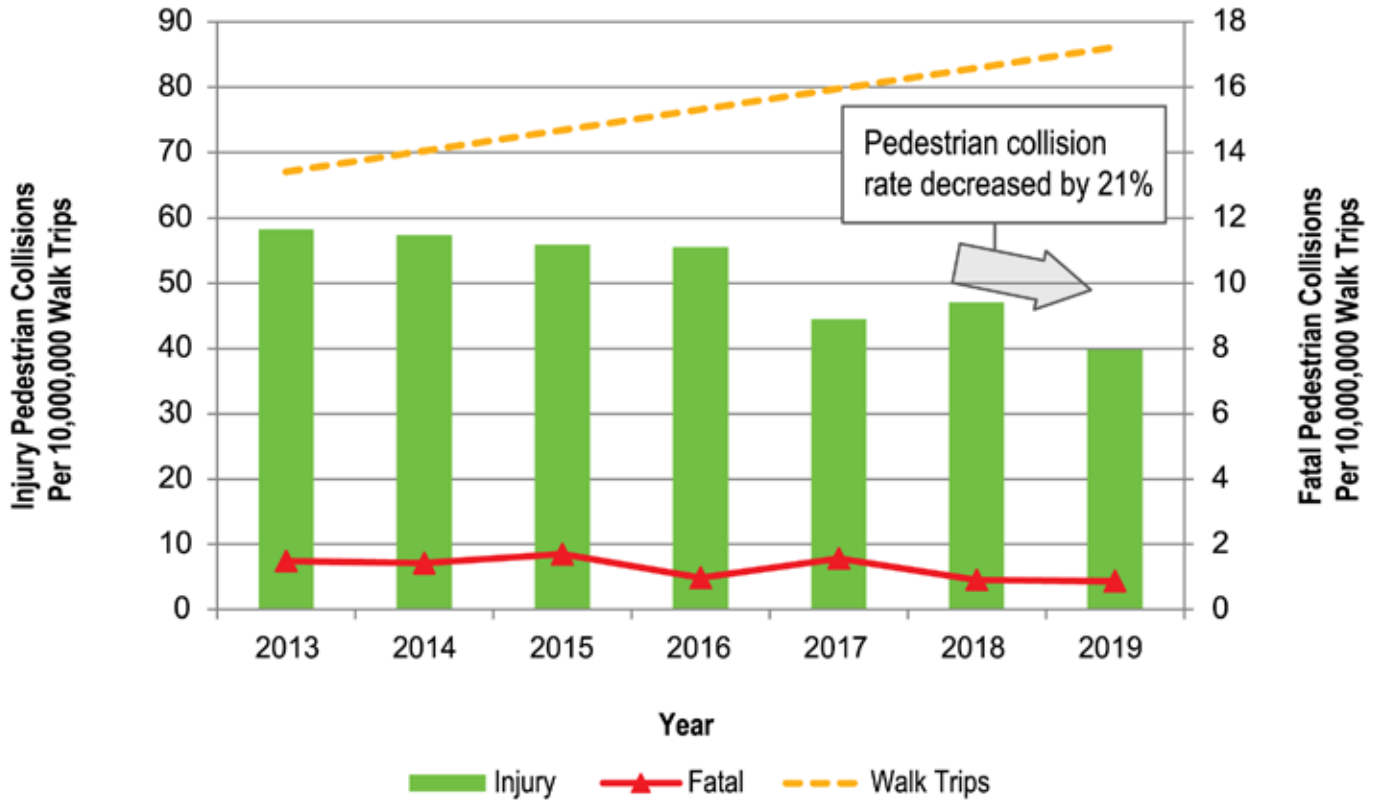
Despite the new law, 19% of at-fault drivers were still driving distracted, based on YRP MVA reports. According to the Canadian Automobile Association (CAA):

- Drivers conversing on mobile devices, either hands-free or hand-held were up to four times as likely to be involved in a crash
- 80% of collisions and 65% of near-crashes had some form of driver inattention as contributing factors
- Distraction was a factor in nearly 6 out of 10 moderate-to-severe teen crashes (AAA Foundation for Traffic Safety, 2015)
- Almost half of all people fatally injured in teen (15-19 years of age) distraction-affected crashes were teens themselves. (National Highway Traffic Safety Administration, 2013).

Distracted driving is the target of York Region's Pledge to Ignore campaign, which has won IABC Award of Excellence and MTO Road Safety Initiative of the Year. The Pledge to Ignore campaign is designed to help save lives and asks travellers to make a commitment not to use a cell phone while driving or walking near traffic. The goal is to obtain as many pledges as possible from citizens across York Region. Each pledge represents one less distracted driver. To date, the campaign has received over 85,000 pledges.

Pedestrians ↓ 21%

PEDESTRIAN COLLISION RATES, 2013-2019



*Collision data is from YRP MVA reports
*Number of trips is a general representation for comparison purposes based on TTS study data

Pedestrians are the most vulnerable road users

The pedestrian collision rate over the past two years was 21% lower than the average of the previous five years, as shown in the figure above. As the number of walk trips being made on Regional roads increased, injury and fatal collision rates were in a decreasing trend. Annual numbers of fatal collisions were stable, but proportionately remained very low (2.5%) among total collisions. While 24% of motor-vehicle-only collisions resulted in injuries or fatalities, almost all pedestrian collisions (94%) resulted in pedestrian injury or death. Pedestrians are the most vulnerable travellers and lack personal protection compared to travellers in enclosed vehicles.

Key trends observed include:

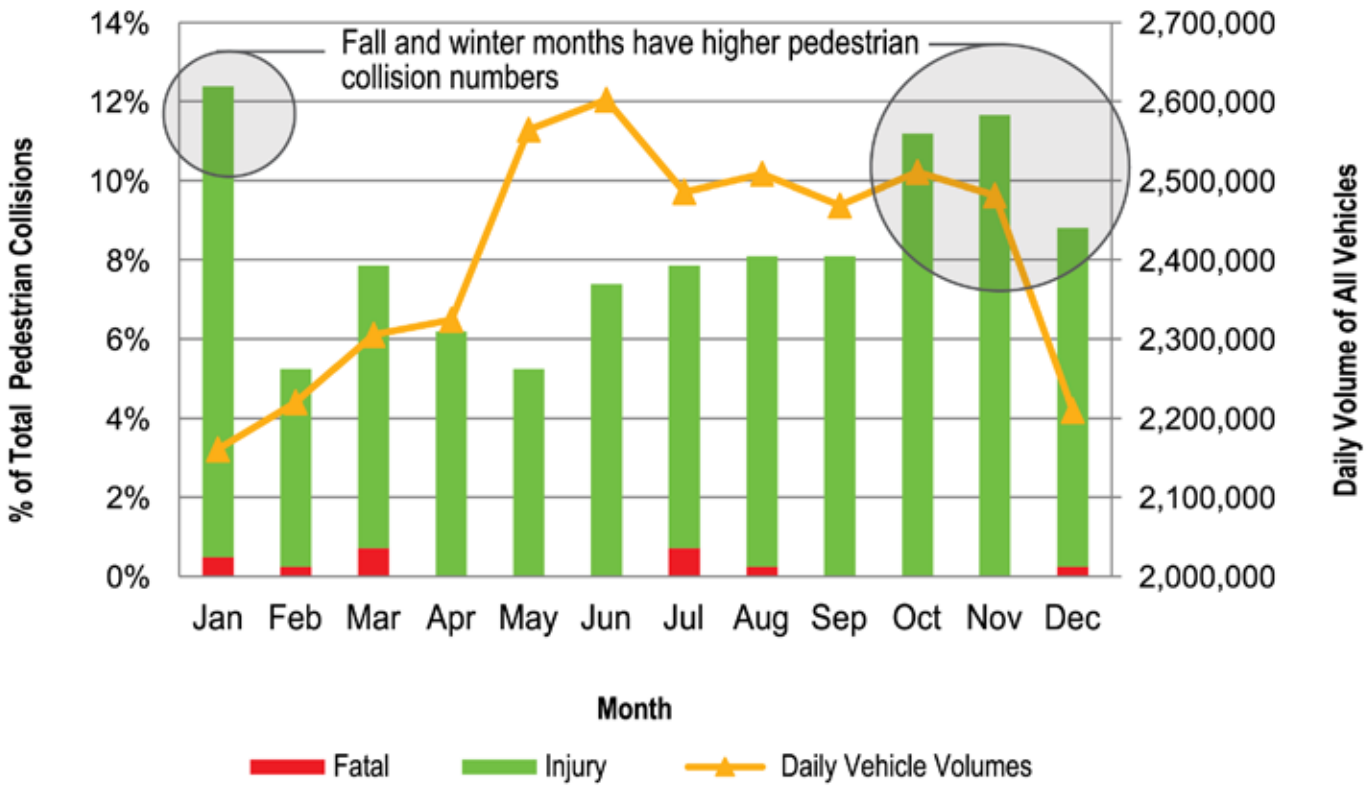
- Almost all pedestrian collisions (94%) resulted in pedestrian injury or death
- Young pedestrians were more likely to get injured in collisions, and senior pedestrians over 75 years old were most likely to be fatally injured than other age groups
- Pedestrian safety is affected by environmental factors like daylight level
- Majority of pedestrian collisions occurred at intersections (88%) as a result of high presence and high occurrence of conflict points between vehicles and pedestrians
- Right-of-way conflicts between pedestrians and motor vehicles and associated errors caused most pedestrian collisions, especially at intersections

The Region continues to put measures in place to address the priority pedestrian safety concerns including:

- Implementing community safety zones in all school locations to encourage compliance in obeying the rules of the road
- Piloting automated speed enforcement in select school zones (2021-2023)
- Piloting leading pedestrian intervals, right turn on red signal restrictions, fully protected left turns and advisory signage at intersections with high conflict rates between pedestrians and motor vehicles
- Installing pedestrian crossing devices in accordance with Provincial criteria
- Education campaigns including the award winning Pledge to Ignore Campaign and the Be visible. Be seen. campaign

Pedestrian Collisions by Month, Day and Time

PEDESTRIAN COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019

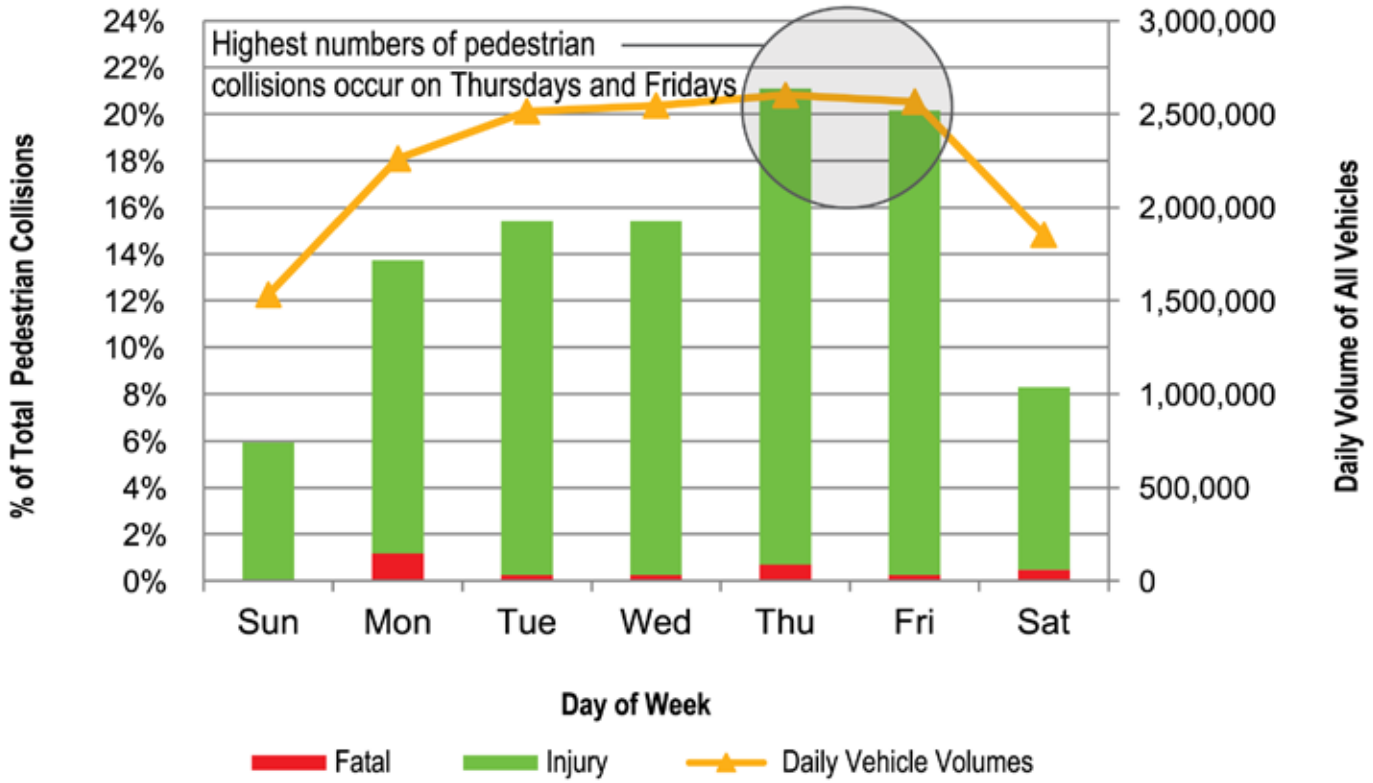


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Pedestrian collisions occurred throughout the year, the highest number of these occurred in the fall and winter from October to January, despite daily vehicle volumes being the lowest. This is likely the result of daylight becoming shorter and pedestrians are less visible.

THE ANNUAL VISIBILITY CAMPAIGN TARGETS THE INCREASE OF COLLISIONS INVOLVING PEDESTRIANS IN THE FALL MONTHS.

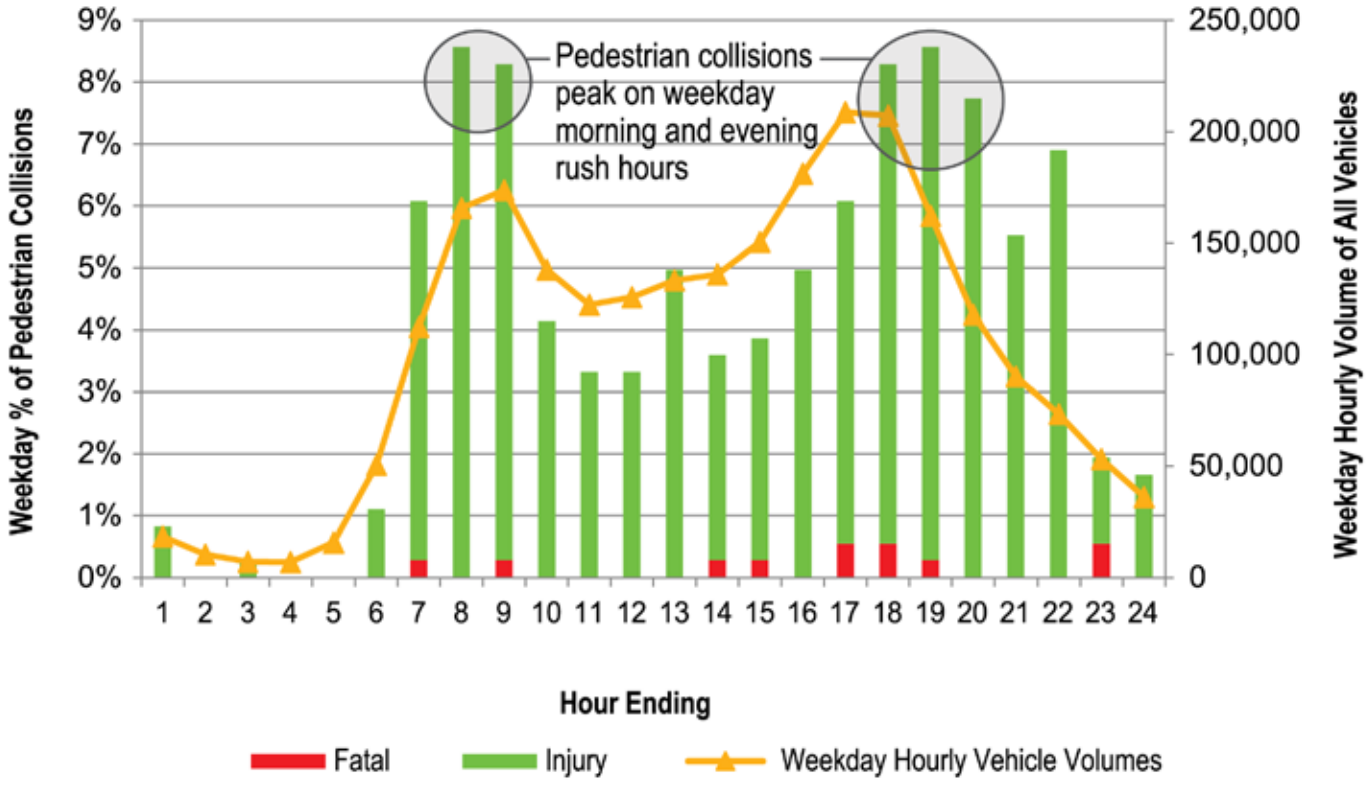
PEDESTRIAN COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019

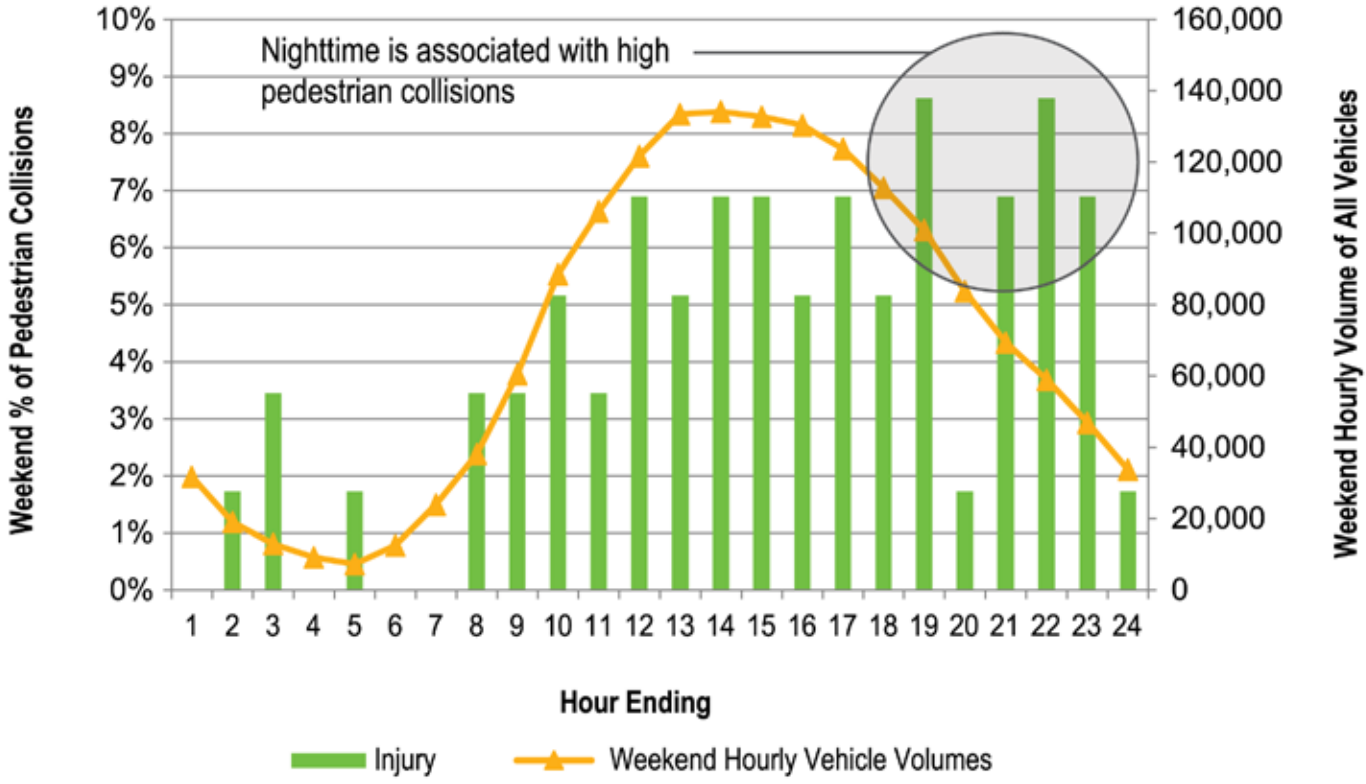


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Pedestrian collisions were more likely to occur on Thursdays and Fridays, correlating closely with typical weekly traffic patterns.

PEDESTRIAN COLLISIONS BY TIME-OF-DAY, THREE-YEAR AVERAGE, 2017-2019





*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Be Visible. Be Seen.

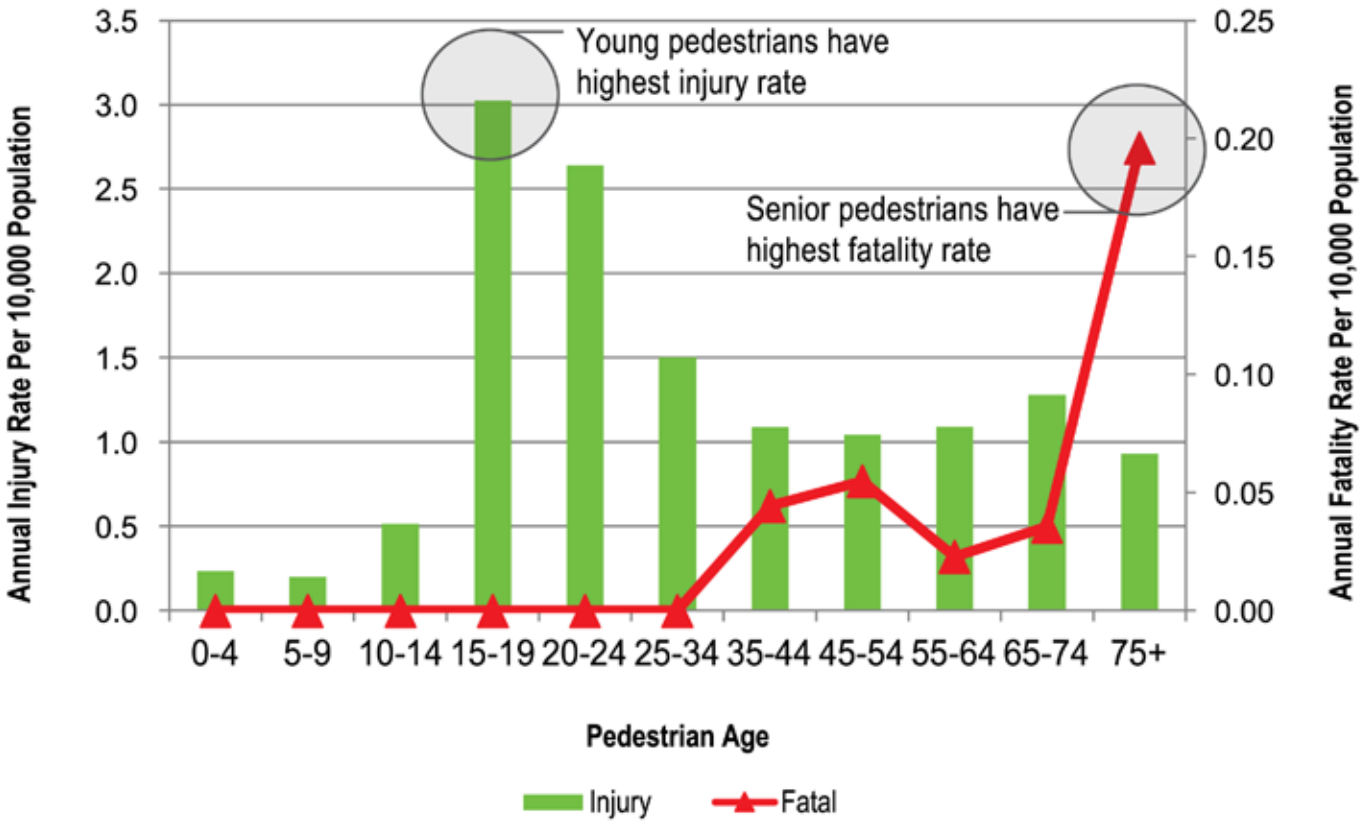
The highest number of pedestrian collisions occurred between 7:00 a.m. and 9:00 a.m., and 5:00 p.m. and 7:00 p.m. on weekdays when traffic and pedestrian volumes are typically highest, with vehicle and walk trips being made to go to work in the morning and home in the evening. Pedestrian collisions were more likely to occur in the evening, between 6:00 p.m. and 7:00 p.m. and 9:00 p.m. and 10:00 p.m. during the weekend when the road environment is getting dark and pedestrians are less visible.

Analysis of this data has resulted in the annual Be visible. Be seen campaign in the fall that recognizes that shorter daylight hours, changing weather and reduced visibility can result in significant safety issues. This campaign aims to raise awareness for all road users with tips on how to stay visible and look out for each other on roads.

Age Profile

Pedestrians, cyclists, and motorcycle riders are all vulnerable road users who are most at risk when a collision occurs because they are unprotected by seat-belts, airbags, and the shell and metal frame of four-wheeled vehicles. Children may put themselves at risk because of inexperience. The elderly and those with mobility issues are especially vulnerable due to decreased ability to take evasive actions.

INJURED OR FATALLY INJURED PEDESTRIANS AGE DISTRIBUTION



*Collision data is from YRP MVA reports
*Population data is from Statistics Canada

Pedestrians 15 to 19 years of age were most likely to get injured in a collision. Senior pedestrians 75 plus years involved in a collision had the highest fatality rate. Based on 2017 hospitalization data from York Region Public Health, 16 to 19 year old pedestrians had the highest rate of emergency department visits due to collisions while those 70 years of age and up had the highest rate of hospitalizations due to collisions.

YORK REGION'S AUTOMATED SPEED ENFORCEMENT PILOT WILL TARGET SCHOOL ZONES.

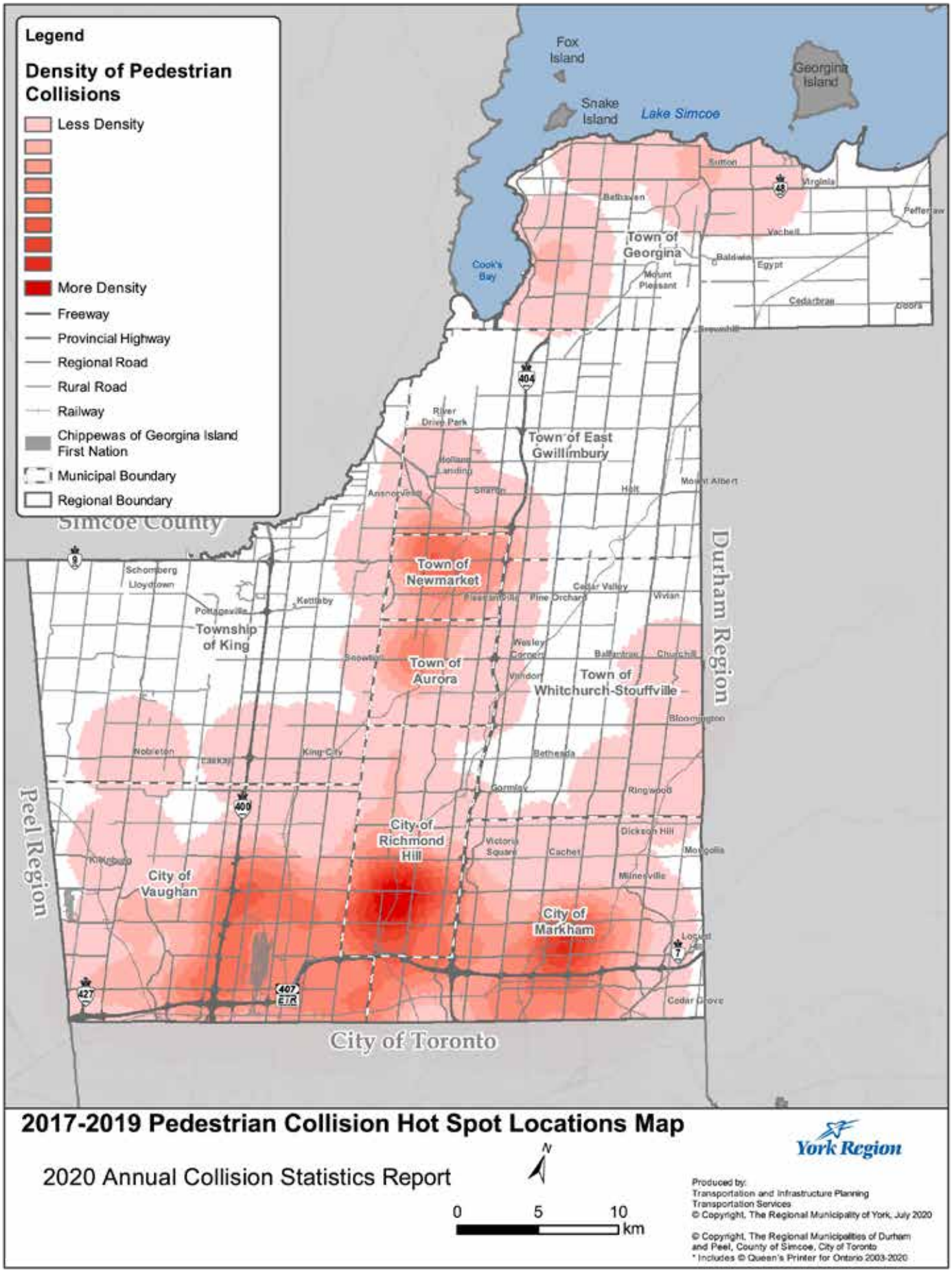
Pedestrian Collision Locations

Most pedestrian collisions occur at intersections with traffic signals

More than 80 percent of pedestrian collisions occurred at signalized intersections, as these locations have the highest pedestrian presence and high occurrence of conflict points between vehicles and pedestrians.

A collision density map showing the location of all reported pedestrian collisions on Regional roads from 2017 to 2019 is shown on the next page. It is followed by a table showing the top 10 pedestrian collision locations, based on a 10-year total.

Pedestrian collisions overwhelmingly occur in urban areas. Many of the intersections in these areas were rebuilt as part of vivaNext rapidway corridors with enhanced pedestrian safety features, such as two-stage pedestrian crossings, protected left turn movements, enhanced crosswalk pavement markings and reduced curb radii to slow down right turning vehicles. Many have also been the location for pedestrian safety outreach events.


Legend
Density of Pedestrian Collisions
Less Density
More Density
Freeway
Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Cook's Bay
Town of Georgina
Town of East Gwillimbury
Simcoe County
Durham Region
Peel Region
City of Toronto
Town of Newmarket
Township of King
Town of Aurora
Town of Whitchurch-Stouffville
City of Richmond Hill
City of Vaughan
City of Markham
404
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427
407 ETR
2017-2019 Pedestrian Collision Hot Spot Locations Map
2020 Annual Collision Statistics Report
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km
York Region
Produced by:
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Transportation Services
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TOP 10 HIGHEST PEDESTRIAN COLLISION FREQUENCY LOCATIONS, 10-YEAR TOTAL 2010-2019

Location	Municipality	Ten-Year Injury Pedestrian Collisions	Ten-Year Total Pedestrian Collisions
Yonge Street and Carrville Road/16th Avenue	Richmond Hill	16	19
Major Mackenzie Drive West and Jane Street	Vaughan	14	15
Yonge Street and Clark Avenue/Clark Avenue West	Markham	14	15
Yonge Street and Wellington Street East/West	Aurora	13	14
Highway 7 and McCowan Road	Markham	12	14
Centre Street and North Promenade/Disera Drive	Vaughan	12	13
Highway 7 and Weston Road	Vaughan	12	13
Yonge Street and Elgin Mills Road West/Elgin Mills Road East	Richmond Hill	12	12
Highway 7 and Pine Valley Drive	Vaughan	11	12
Yonge Street and Mulock Drive	Newmarket	10	12

*Collision data is from YRP MVA reports

As a further step to predict intersection safety performance, a pedestrian and cyclist safety index was developed to prioritize Regional signalized intersections based on risk exposure. Following the principles of the National Cooperative Highway Research Program approach, the index was constructed as a weighted score taking into consideration variables such as road characteristics, road user volume, crossing distance, speed limit and environment. 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% of 60) or greater are summarized in the intersection priority index table on the next page.

INTERSECTION PRIORITY 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

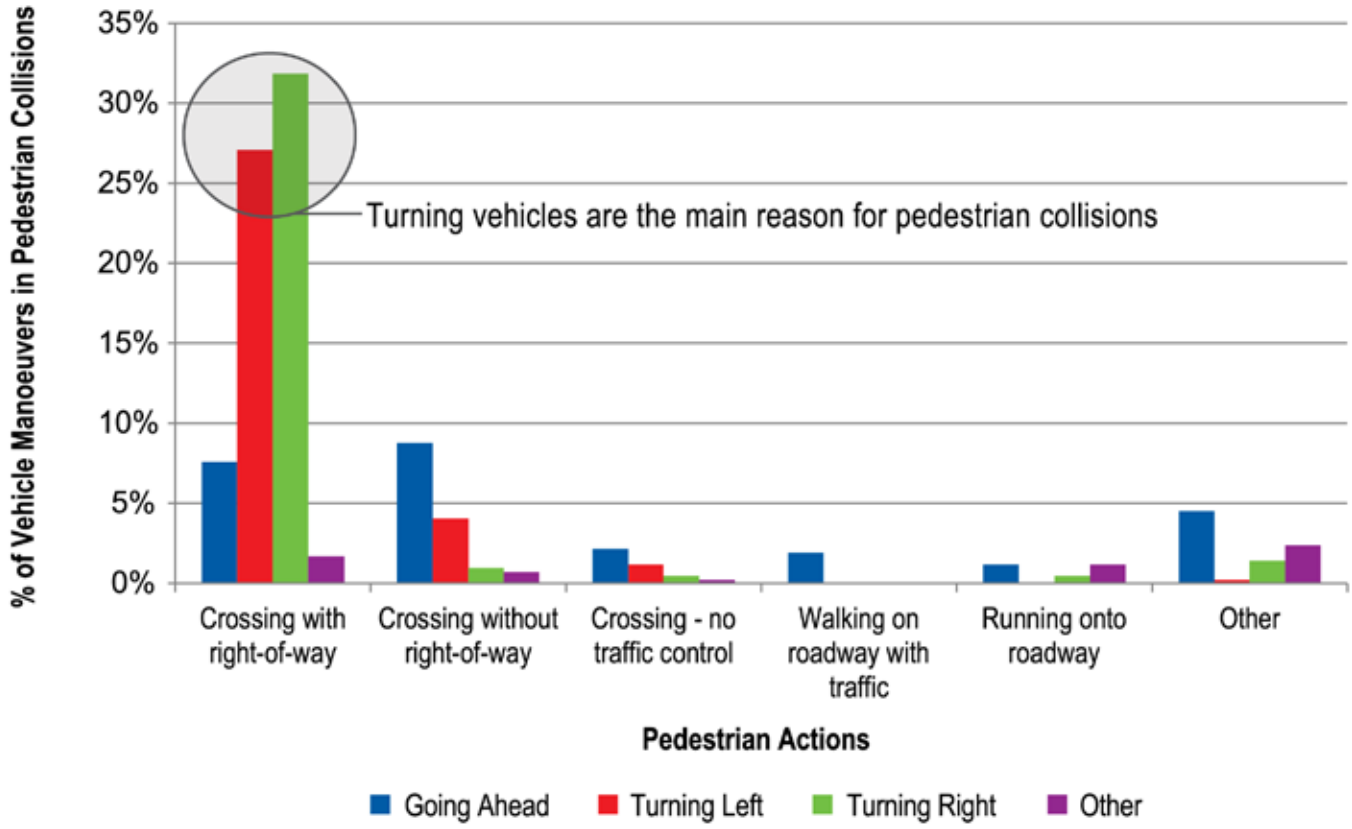
Driver and Pedestrian Actions

Pedestrian collisions were found to be predominantly attributed to improper driver action by motorists. Pedestrians were considered at fault in only 15% of all pedestrian collisions. Of all pedestrian collisions resulting from improper driver action, 77% were a direct cause of drivers failing to yield right-of-way; 8% were a result of drivers making improper turns.

77% OF PEDESTRIAN COLLISIONS ARE A DIRECT CAUSE OF DRIVERS FAILING TO YIELD RIGHT-OF-WAY

Pedestrians crossing without right-of-way, including crossing at midblock without a marked crosswalk or crossing against the flow of traffic at a signalized intersection, accounted for 37% of all pedestrian at-fault collisions.

MOTOR VEHICLE MANOEUVERS IN PEDESTRIAN COLLISIONS



*Collision data is from YRP MVA reports

Overall, 68% of pedestrian collisions involved vehicles making left or right turns. Most occurred when pedestrians are crossing with the right-of-way.

Pedestrian Safety Measures

Pilot programs to change driver behaviour

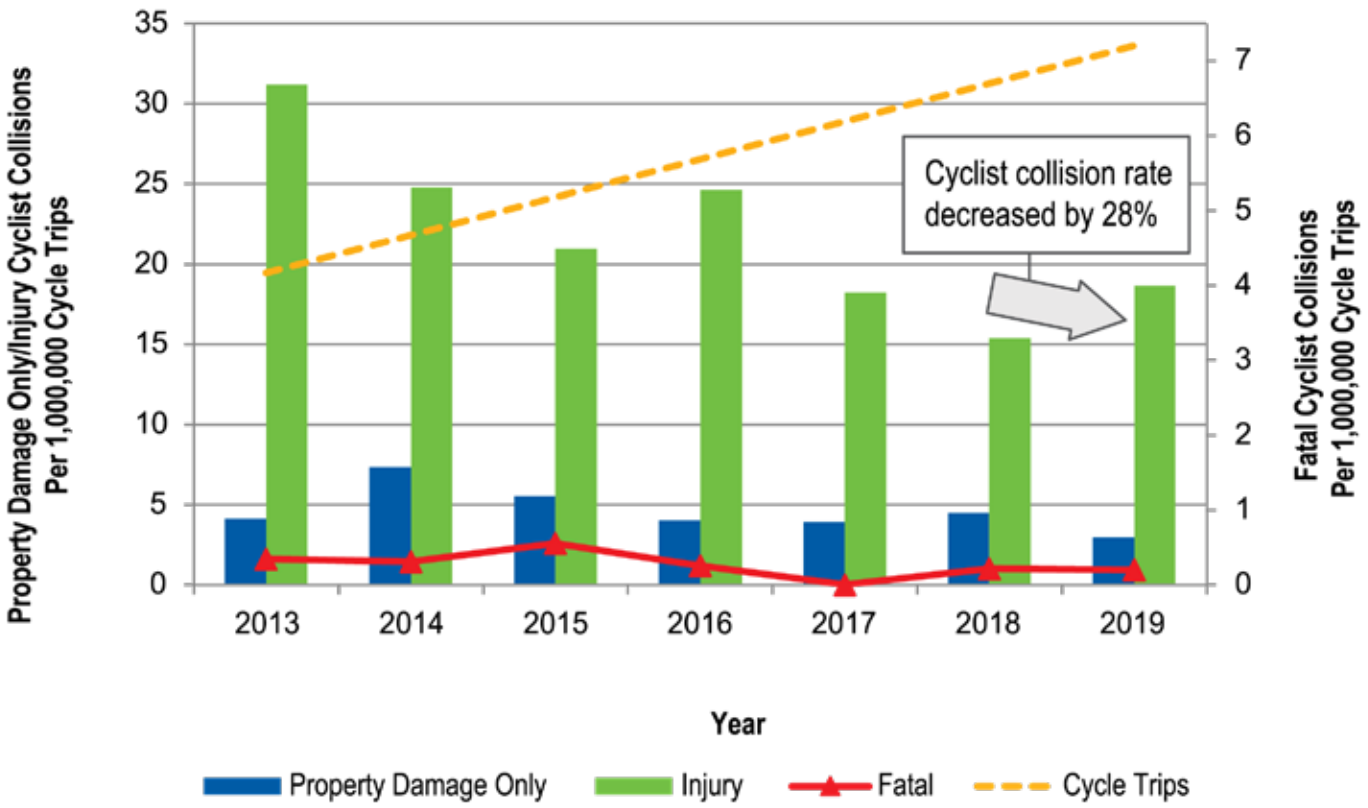
Improving pedestrian safety remains a priority and York Region is currently piloting short-term safety measures, including leading pedestrian intervals (pedestrian gets a head start in crossing the road), right turn on red signal restrictions, fully-protected left turns and advisory signage, to help reduce conflicts between drivers and pedestrians and increase driver awareness of pedestrians. Due to their high risk exposure for pedestrians and cyclists (based on the safety index mentioned above), the following intersections were selected for operational measures on a one year pilot basis:

- Bathurst Street and Carrville Road/Rutherford Road
- Bathurst Street and Clark Avenue
- Major Mackenzie Drive and Bayview Avenue
- Yonge Street and Clark Avenue

The Region is also assessing other medium-term improvements. Examples include installation of a Pedestrian Crossover (PXO), which consists of new signs and pavement markings that serve to enhance the mobility of pedestrians. A PXO is ideal for locations where some pedestrian demand exists but volumes are not enough to warrant traditional traffic or pedestrian signal installations. A PXO can be converted to a pedestrian signal in the future once the warrant criteria for a pedestrian signal has been met. The first PXO on a Regional road in York Region will be on Yonge Street near Holland Landing Community Centre and is to be installed in 2021. Other safety measures also being considered for pilots in 2021 are advanced stop lines to discourage motorists from stopping too close to a crosswalk, and flexible delineators at intersection corners to prevent turning vehicles from encroaching onto the sidewalk or boulevard areas.

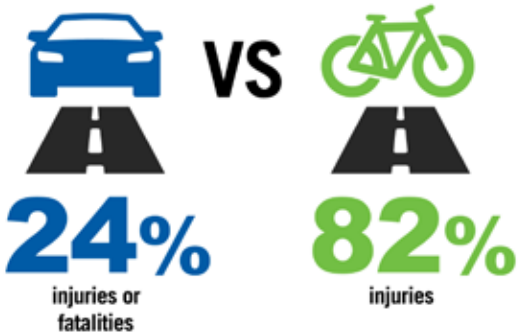
Cyclists ↓ 28%

CYCLIST COLLISION RATES, 2013-2019



*Collision data is from YRP MVA reports
* Cyclist collisions include the collisions involving e-scooters and e-bikes, as both these vehicles are coded as bikes in YRP MVA reports
*Number of trips is a general representation for comparison purposes based on TTS study data

Although the number of cycle trips on Regional roads had been increasing, injury collision rates were on a decreasing trend. However, cyclists sustained injury in over 82% of all cyclist collisions, while 24% of motor-vehicle-only collisions resulted in injury or fatality.



Key trends observed include:

- Majority (82%) of cycling collisions resulted in injury or death
- Young or senior cyclists were more likely to get injured or fatally injured in collisions
- Cyclist collisions were highly seasonal, mostly in summer months when cyclist activity is highest
- Majority of cyclist collisions occurred at intersections (80%) as a result of high cyclist presence and a high occurrence of conflict points between vehicles and cyclists
- Motor vehicles were more likely to be at fault (62%) in cyclist collisions
- Motor vehicles making turns, especially right turns, were mostly likely to get involved in cyclist collisions

Promoting safe cycling

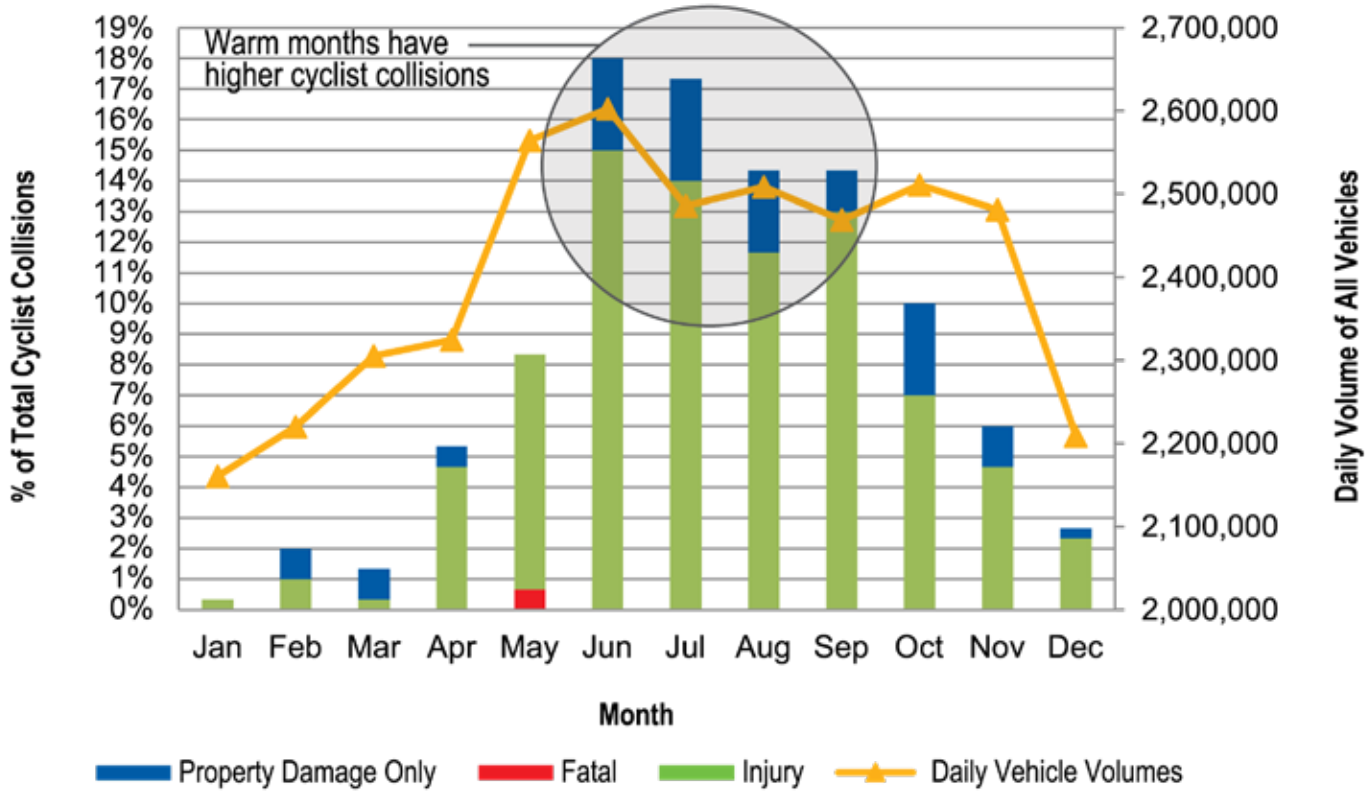
Through the york.ca/cycling web page and various initiatives, the Region continues to provide cycling safety education and promote safe cycling.

Many of the Region's safety measures are jointly aimed at pedestrian and cycling safety, including:

- Piloting leading pedestrian intervals, right turn on red restrictions, fully-protected left turns and advisory signage at intersections with high conflict rates between cyclists and motorists
- Education campaigns, including the award winning Pledge to Ignore campaign and the Be visible. Be seen. campaign
- Implementing community safety zones for all school locations with increased speeding fines and piloting automated speed enforcement in select community safety zones as youth are more likely to be injured or fatally injured than any other age group

Cyclist Collisions by Month, Day and Time

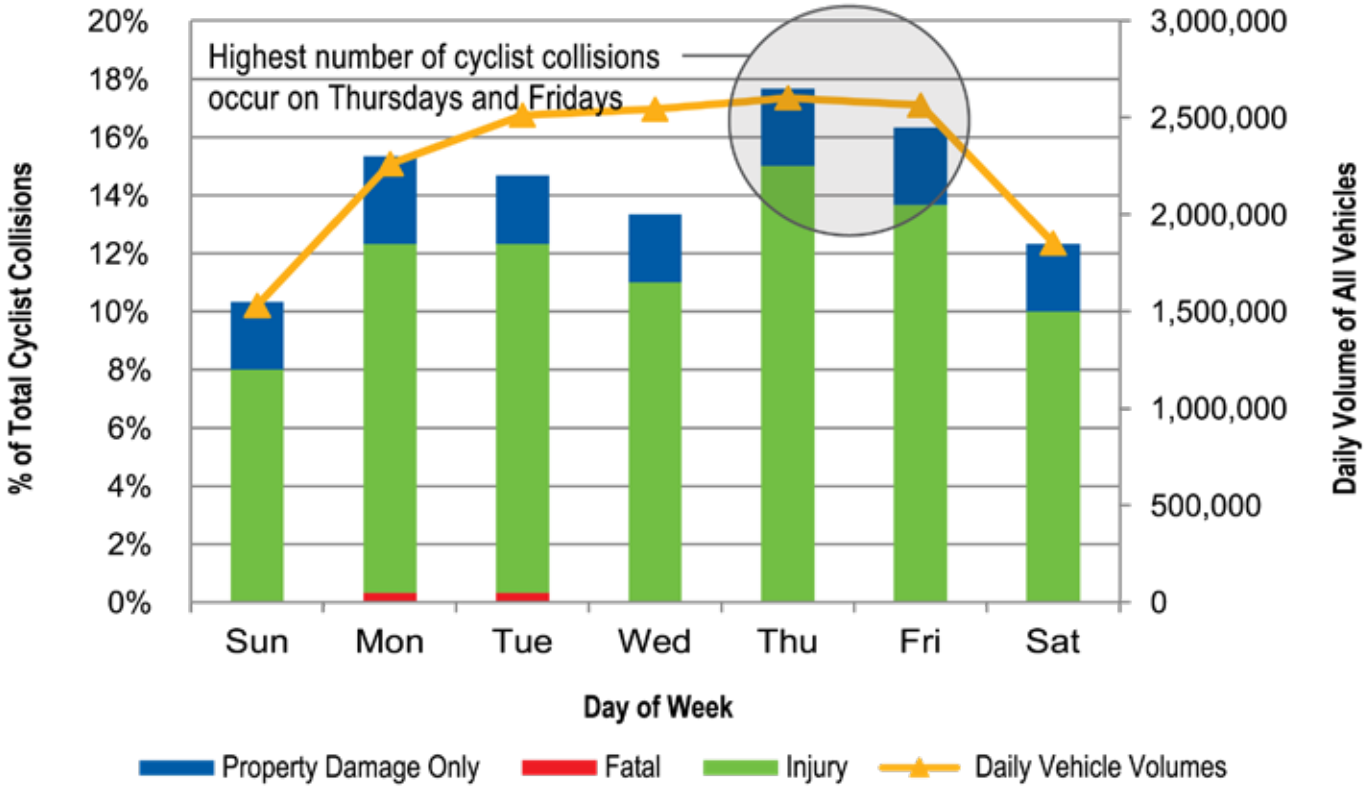
CYCLIST COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Cyclist collisions occurred in nearly every month of the year, with the most occurring in the summer months (June through September), accounting for 64%, as more cyclists tend to be on the roads when the weather is favourable. In contrast, less than 4% of cyclist collisions occurred in the winter months (January through March).

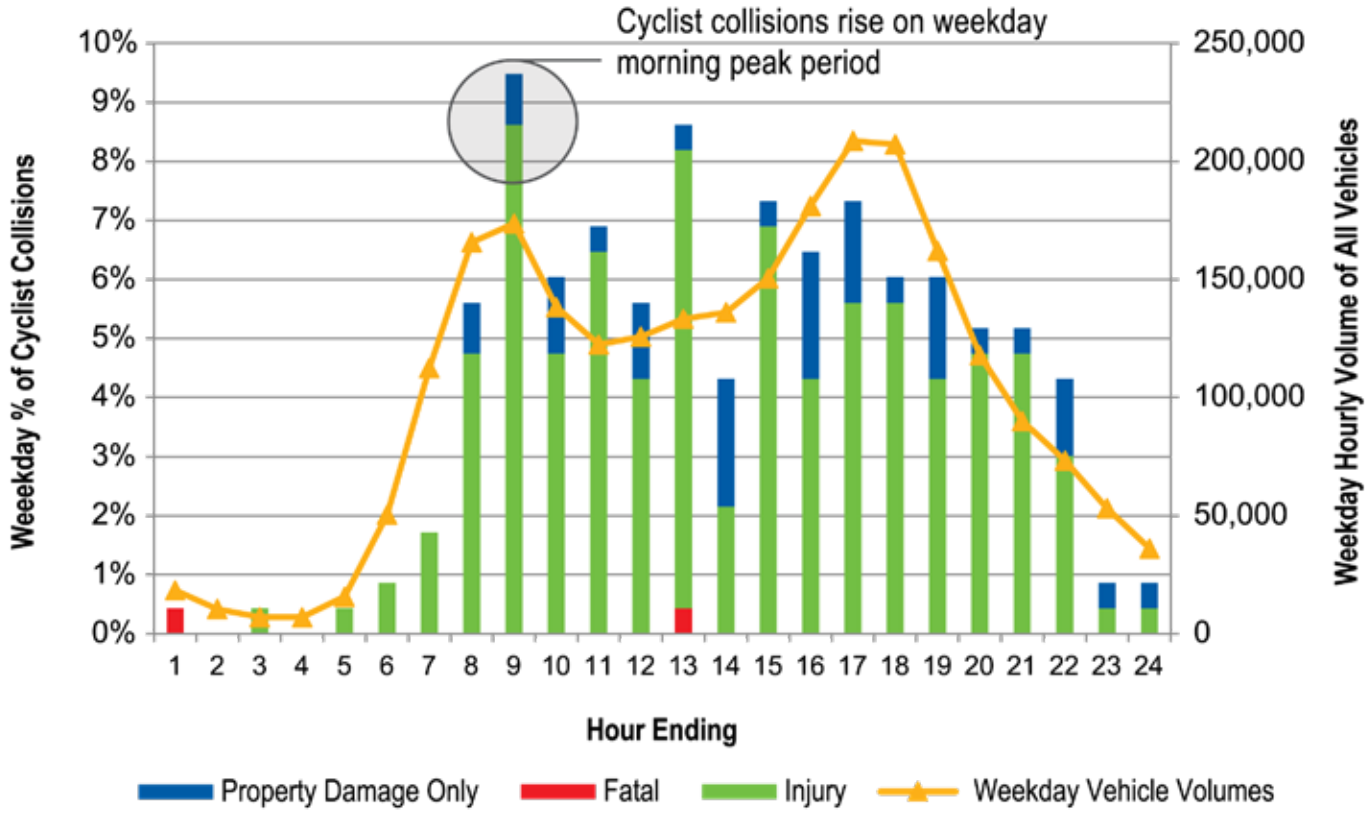
CYCLIST COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019

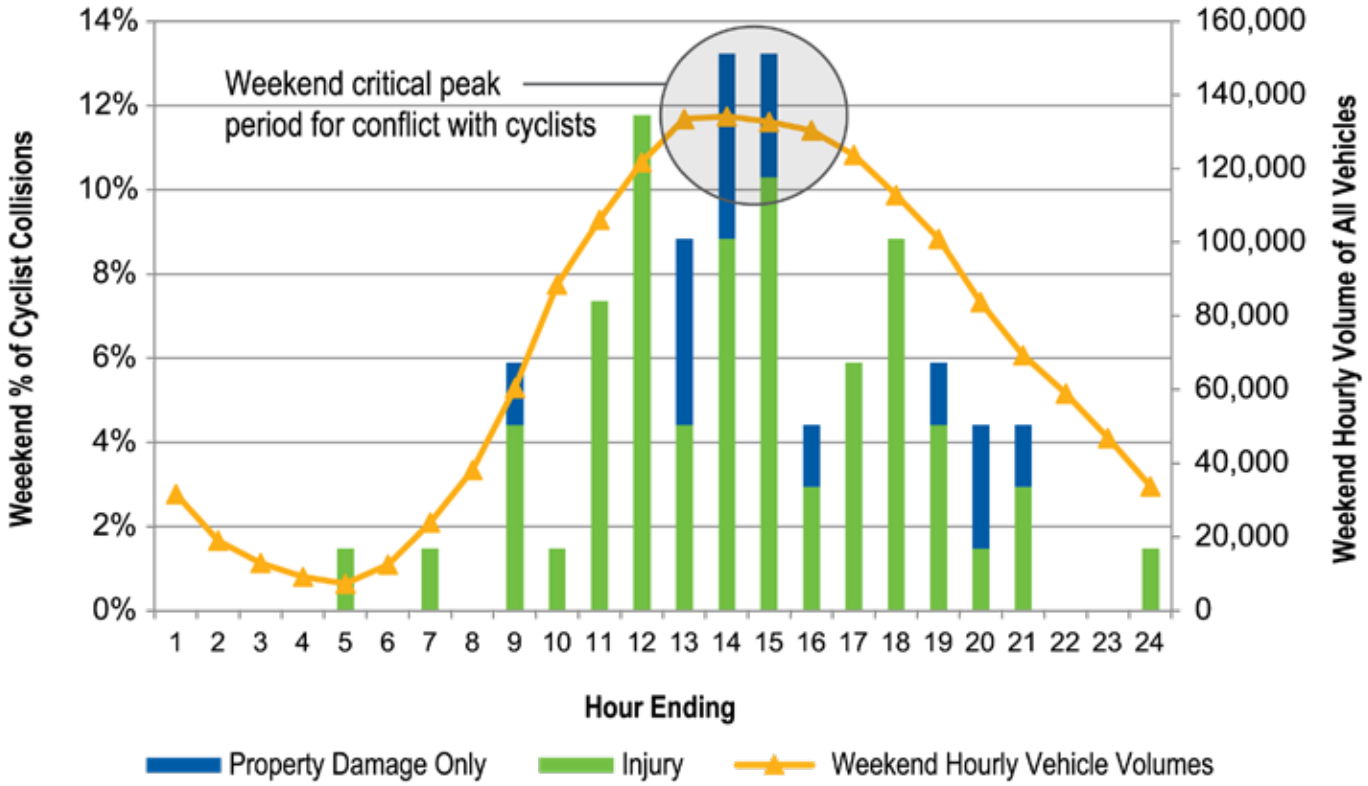


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Cyclist collisions were more likely to occur on Thursdays and Fridays, correlating closely with typical weekly traffic patterns and patterns seen for pedestrians.

CYCLIST COLLISIONS BY TIME-OF-DAY, THREE-YEAR AVERAGE, 2017-2019



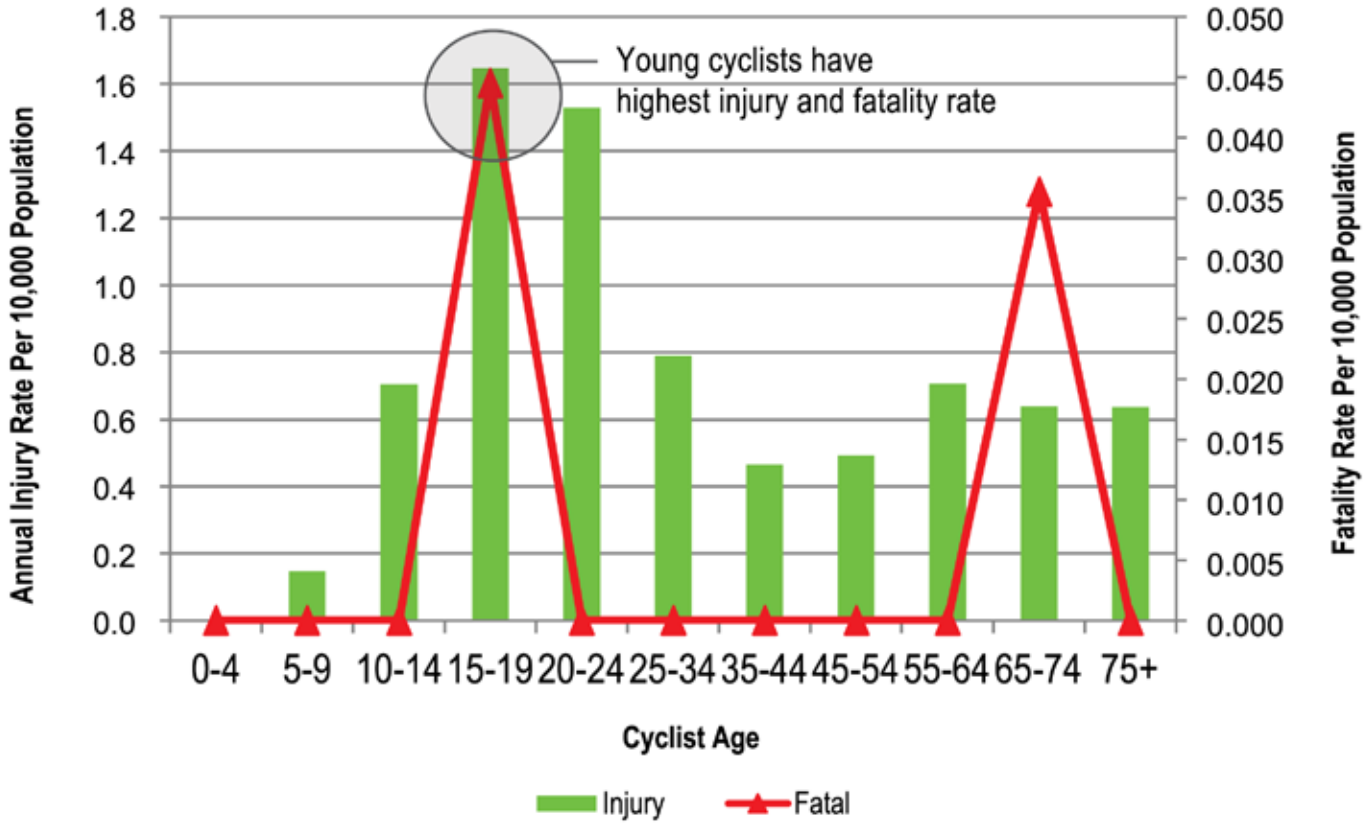


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Cyclist collisions generally followed traffic volume trends, similar to pedestrians, with peaks in the AM and PM peak period on weekdays and mid-day on weekends.

Age Profile

AGE OF INJURED OR FATALLY INJURED CYCLISTS, 2017-2019



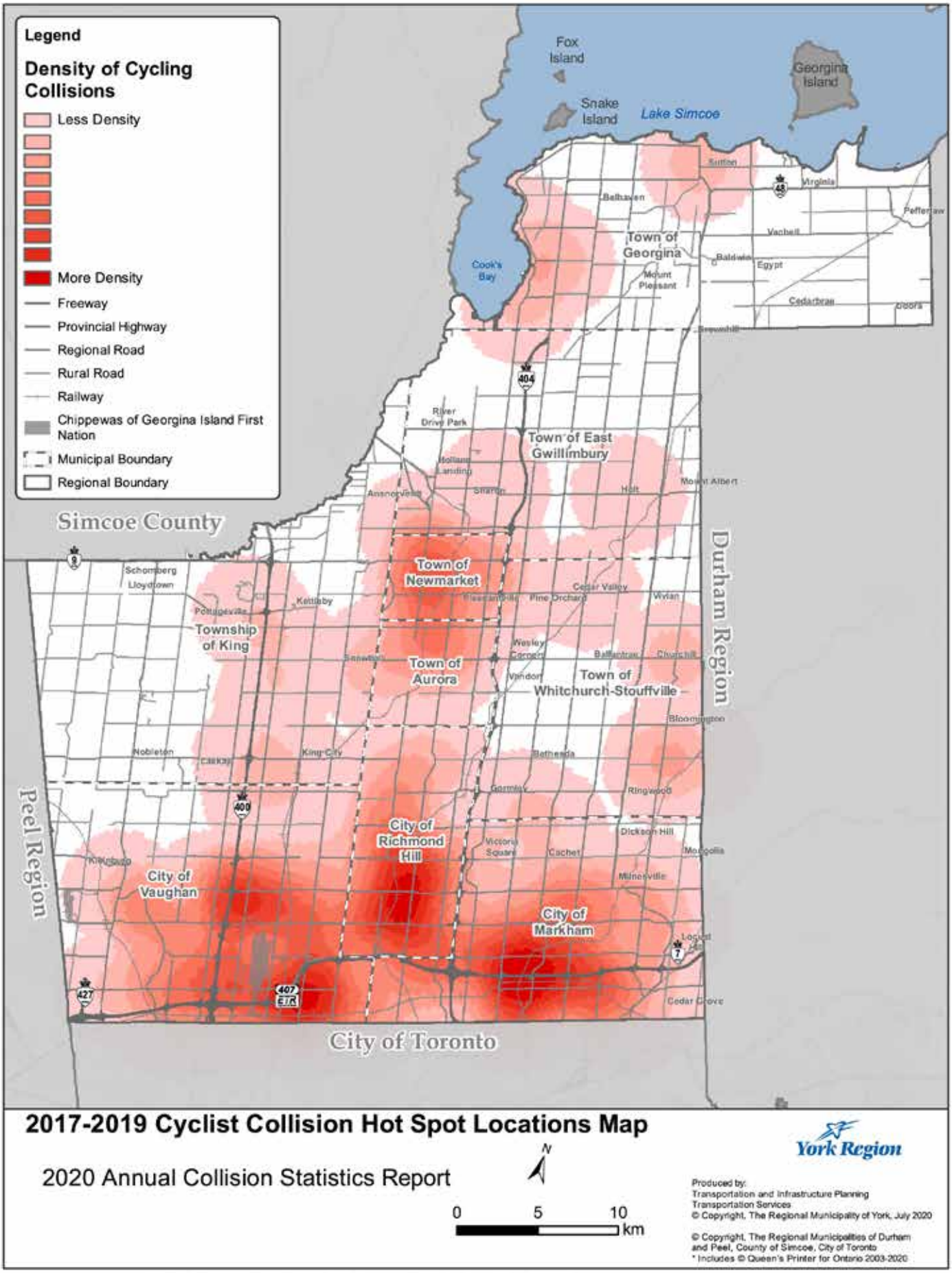
*Collision data is from YRP MVA reports
*Population data is from Statistics Canada

As shown in the figure above, cyclists ages 15 to 19 were most likely to get injured or fatally injured in a collision. Senior cyclists 65 to 74 years of age involved in a collision also had a high fatality rate. These two age groups are similar to the pedestrian age groups associated with high injury risks. In addition, the activity areas of cyclists overlap with those of pedestrians to a large degree. Measures and campaigns benefit pedestrian safety can improve cyclist safety as well.

Cyclist Collision Locations

Most cyclist collisions occur at intersections with traffic signals

Cyclist collisions are more likely to occur at signalized intersections, making up over 60% of all cyclist collisions, as intersection locations have a high cyclist presence and occurrence of conflict points between motor vehicles and cyclists. A collision density map showing the locations of all reported cyclist collisions on Regional roads from 2017 to 2019 is shown on the next page. It is followed by a table showing the top 10 cyclist collision locations, based on 10-year total.


Legend
Density of Cycling Collisions
Less Density
More Density
Freeway
Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Cook's Bay
Town of Georgina
Town of East Gwillimbury
Simcoe County
Town of Newmarket
Township of King
Town of Aurora
Town of Whitchurch-Stouffville
Durham Region
Peel Region
City of Richmond Hill
City of Vaughan
City of Markham
City of Toronto
2017-2019 Cyclist Collision Hot Spot Locations Map
2020 Annual Collision Statistics Report
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York Region
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Transportation and Infrastructure Planning
Transportation Services
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TOP 10 HIGHEST CYCLIST COLLISION FREQUENCY LOCATIONS, 10-YEAR TOTAL, 2010-2019

Location	Municipality	10-Year Injury Cyclist Collisions	10-Year Total Cyclist Collisions
14th Avenue and Markham Road	Markham	8	8
Dufferin Street and Glen Shields Avenue	Vaughan	4	8
Kennedy Road and 14th Avenue	Markham	5	7
Kennedy Road and Clayton Drive	Markham	6	6
Kennedy Road and Denison Street	Markham	4	6
Bathurst Street and Clark Avenue West	Vaughan	4	6
Major Mackenzie Drive West and Hwy 400 northbound Off-Ramp	Vaughan	3	6
Prospect Street and Bayview Avenue/Mulock Drive	Newmarket	5	5
Yonge Street and Mulock Drive	Newmarket	5	5
Kennedy Road and Hwy 407 EB Off-Ramp	Markham	5	5

*Collision data is from YRP MVA reports

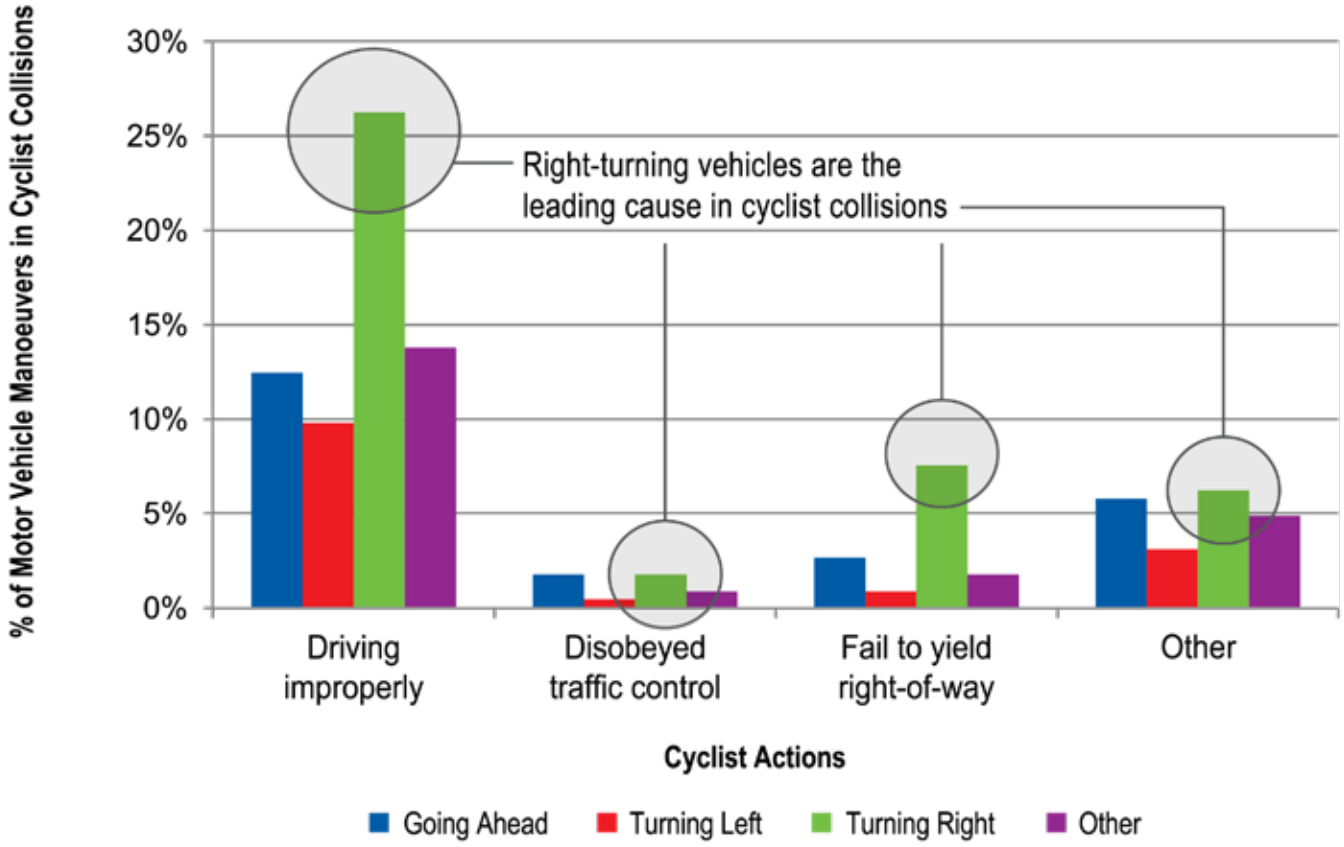
Driver and Cyclist Actions

Improper driver action is the main cause of cyclist collisions

Cyclist collisions were found to be predominantly attributed to improper driver action by motorists. Cyclists were considered at fault in only 38% of all cyclist collisions. Of all cyclist collisions resulting from improper driver action, 75% were a direct cause of drivers failing to yield right-of-way; 15% resulted from drivers making improper turns.

Cyclists failing to yield right-of-way accounted for 33% of all cyclist at-fault collisions.

MOTOR VEHICLE MANOEUVERS IN CYCLIST COLLISIONS



*Collision data is from YRP MVA reports

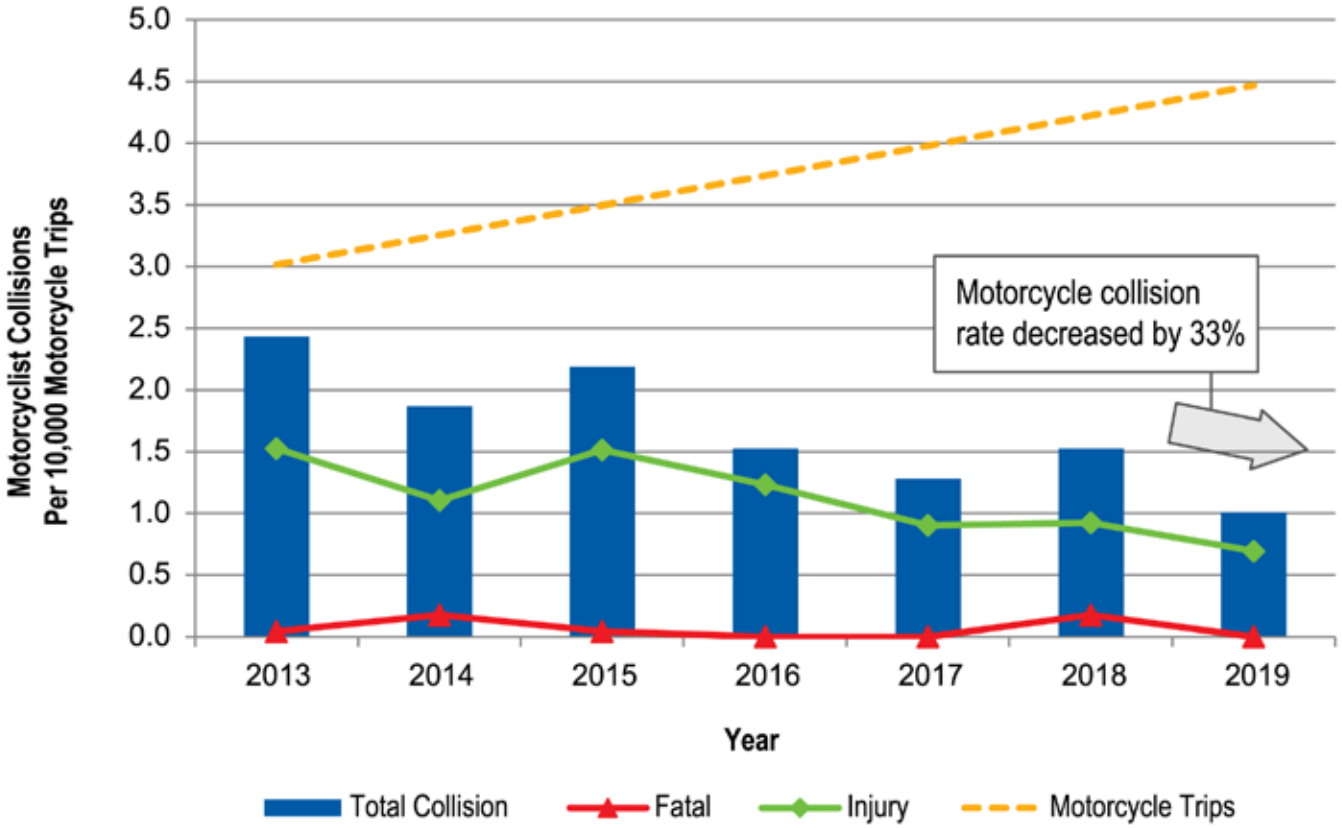
Overall, 42% of cyclist collisions involved vehicles making right turns and only 16% involved left-turning vehicles. Most of these collisions occurred when cyclists were crossing with right-of-way. For the collisions where cyclists are at fault due to disobeying traffic control, fail to yield right-of-way, etc. right-turning-vehicles were also more likely to get involved than going-ahead or left-turning vehicles.

OVERALL, 42% OF CYCLIST COLLISIONS INVOLVE VEHICLES MAKING RIGHT TURNS


PETRO-CANADA
7303

Motorcyclists ↓ 33%

MOTORCYCLE COLLISION RATES, 2013-2019



*Collision data is from YRP MVA reports
*Number of trips is a general representation for comparison purposes based on TTS study data

MOTORCYCLE COLLISION RATES HAVE REDUCED BY NEARLY 33% IN THE LAST 7 YEARS

Travel by motorcycle is growing in popularity

While the number of motorcycle trips being made on Regional roads have almost doubled during the last 10 years, motorcycle collision rates in 2018 and 2019 were 33% lower than the average of 2013-2017.

Fatal collision rates have stayed at a very low level and injury collision rates have reduced by 54%. Similar to pedestrians and cyclists, motorcyclists are vulnerable road users. While 24% of motor-vehicle-only collisions resulted in injuries or fatalities, 71% of motorcycle collisions resulted in injuries or fatalities.

Key trends observed include:

- Most motorcycle collisions occurred in the warmer months of the year; weekdays and weekends had similar levels of daily motorcycle collisions, and late night hours may be associated with increased motorcycle collision risk
- In multi-vehicle collisions involving motorcyclists, the driver of the other vehicles was predominantly at fault (68%)
- Motorcyclists were involved in more single motor vehicle accidents than vehicles, often at fault losing control of their motorcycles

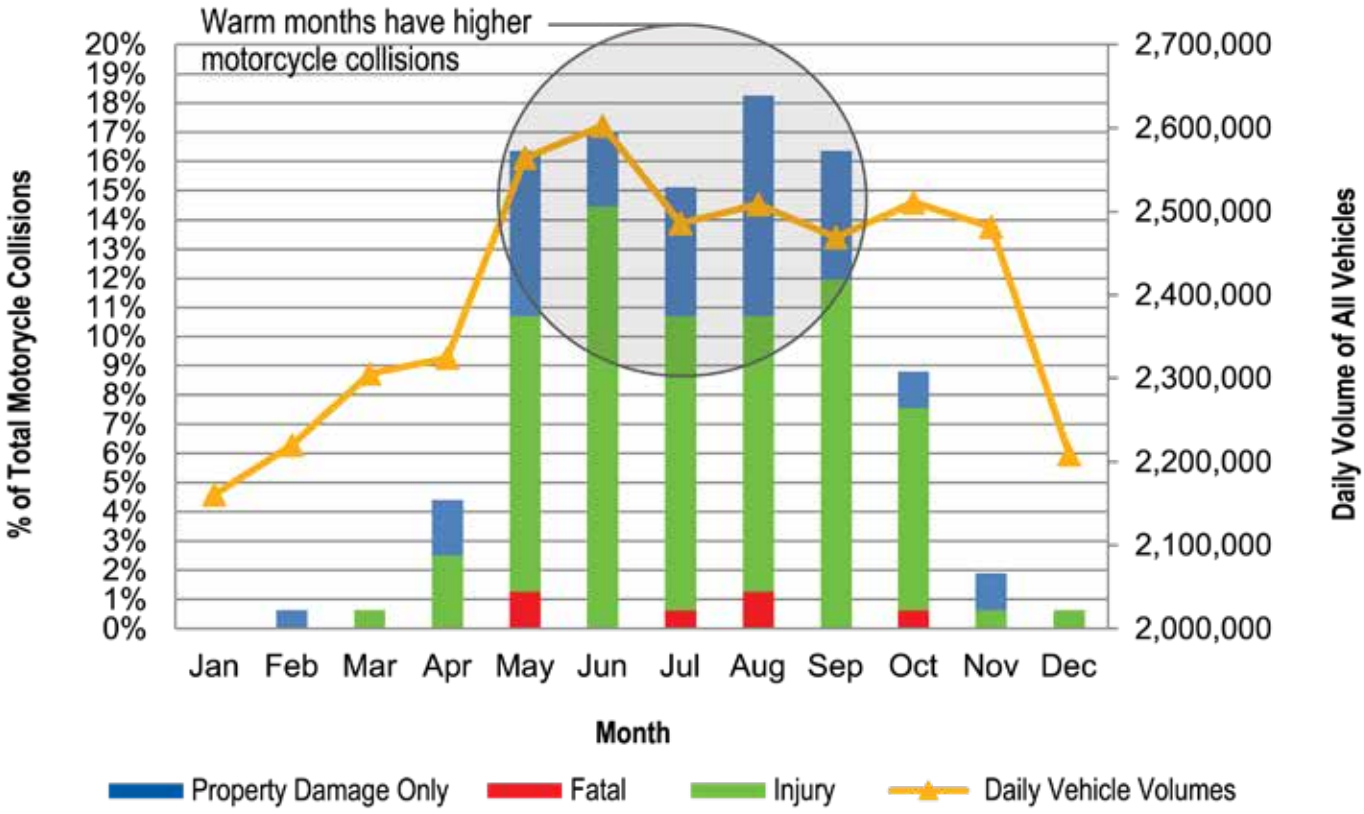
Measures continue to be put in place to address motorcycle safety including:

- YRP emphasizes motorcycle safety and awareness programs in the spring and summer months

Motorcycle Collisions by Month, Day and Time

The majority of motorcycle collisions, 96%, occurred April through October, which are the warmer months of the year and associated with motorcycle activities.

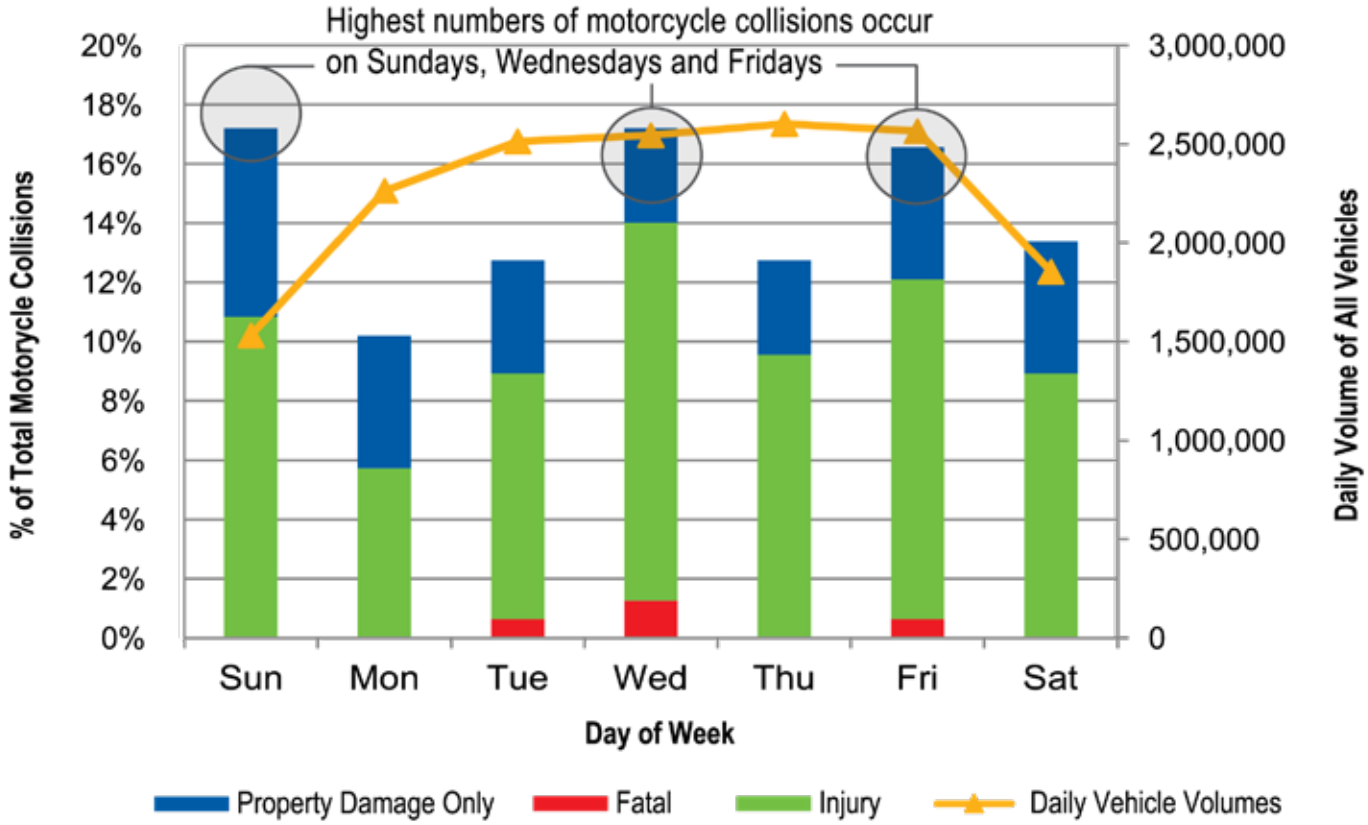
MOTORCYCLE COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Motorcycle collisions were more likely to occur on Sundays, Fridays and Wednesdays. On average, Saturdays and Sundays had similar daily collision numbers to weekdays. This implies that motorcycle trips are likely to be evenly distributed among all days of a week, while auto-vehicle volumes are much lower during weekends.

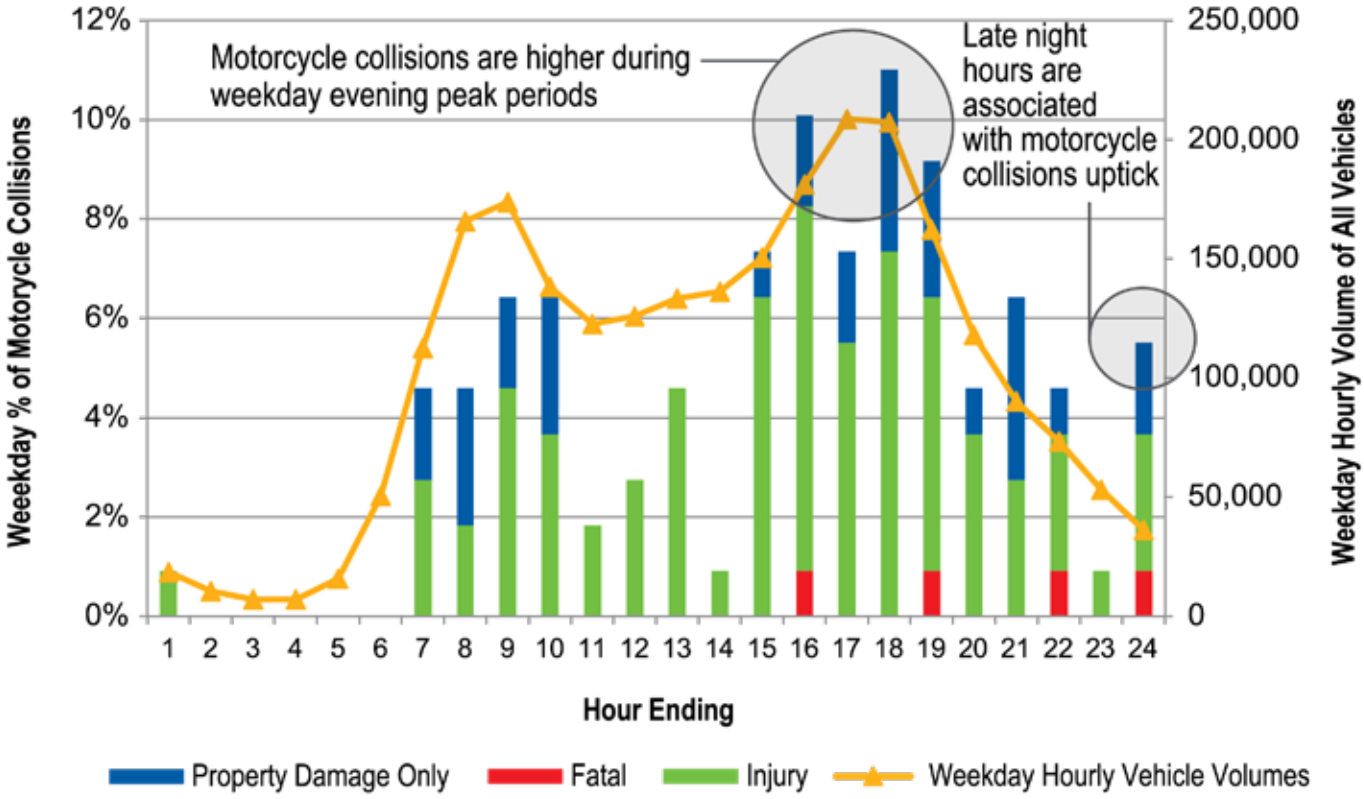
MOTORCYCLE COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019

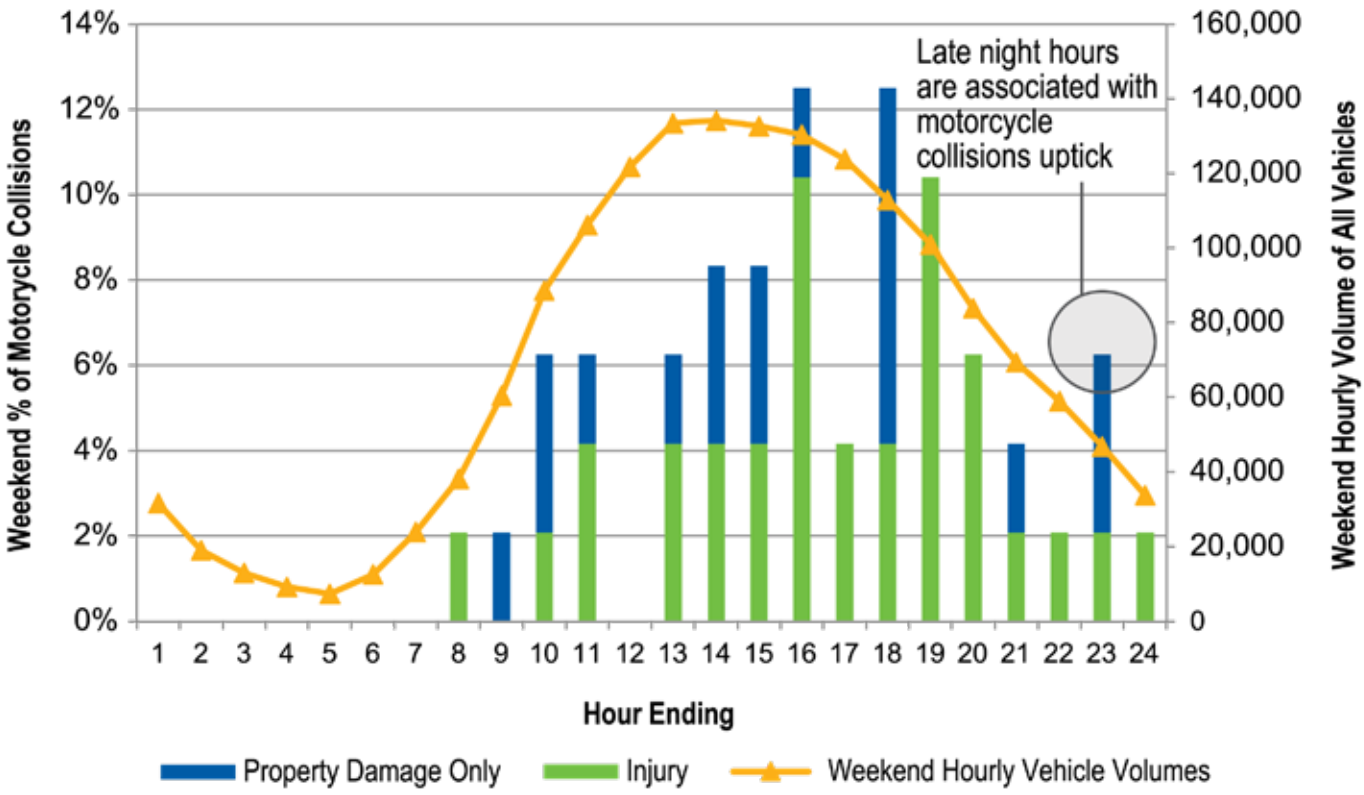


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Motorcycle collisions generally follow daily traffic volume, with morning and evening peak periods on weekdays and mid-day on weekends. Noteworthy is motorcycle collisions spiked during 11:00 p.m. to 12:00 a.m. on weekdays, and 10:00 p.m. to 11:00 p.m. on weekends, which could be due to late night hours or other behaviour.

MOTORCYCLE COLLISIONS BY TIME-OF-DAY, THREE-YEAR AVERAGE, 2017-2019

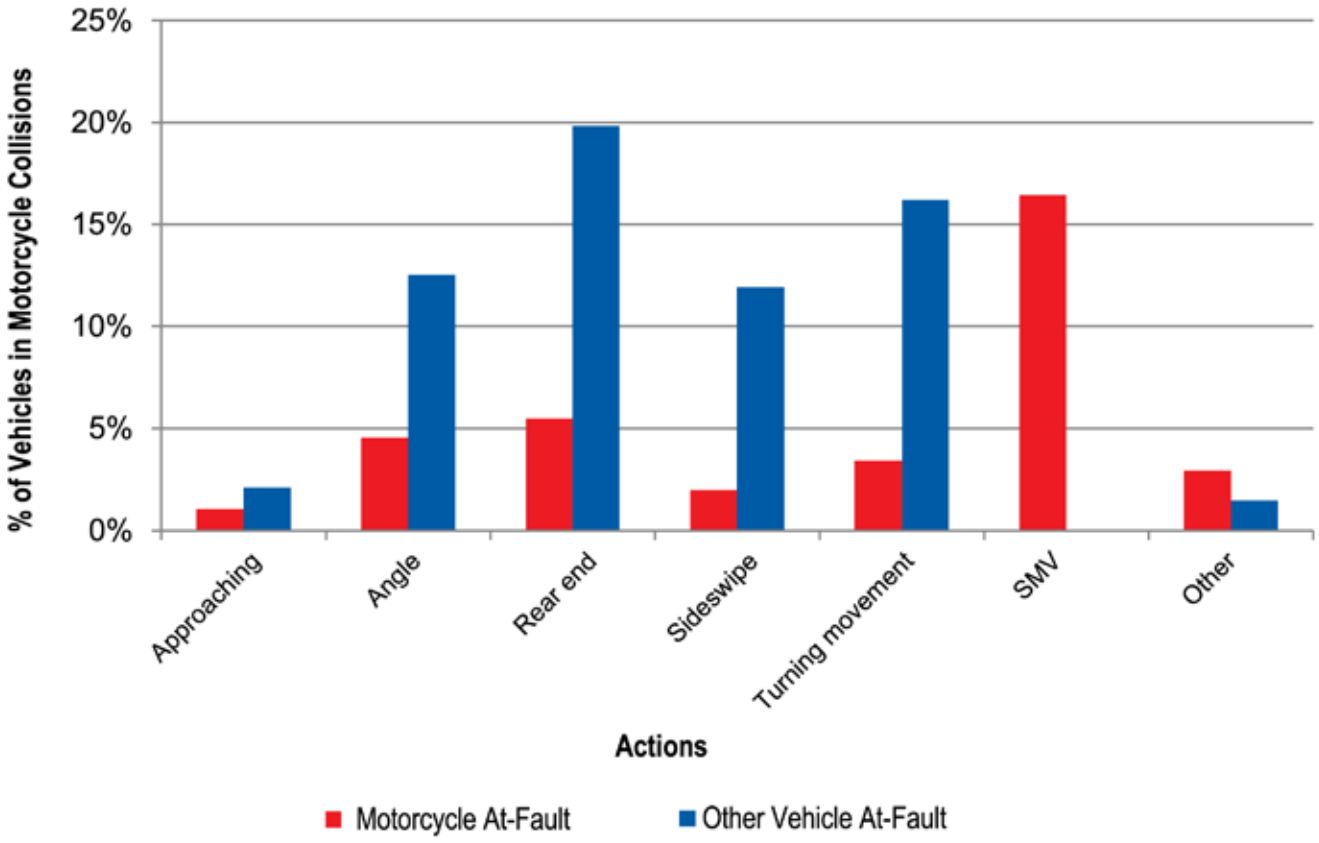




*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Driver Actions and Impact Types

MOTORCYCLE COLLISION IMPACT TYPES AND DRIVER ACTIONS

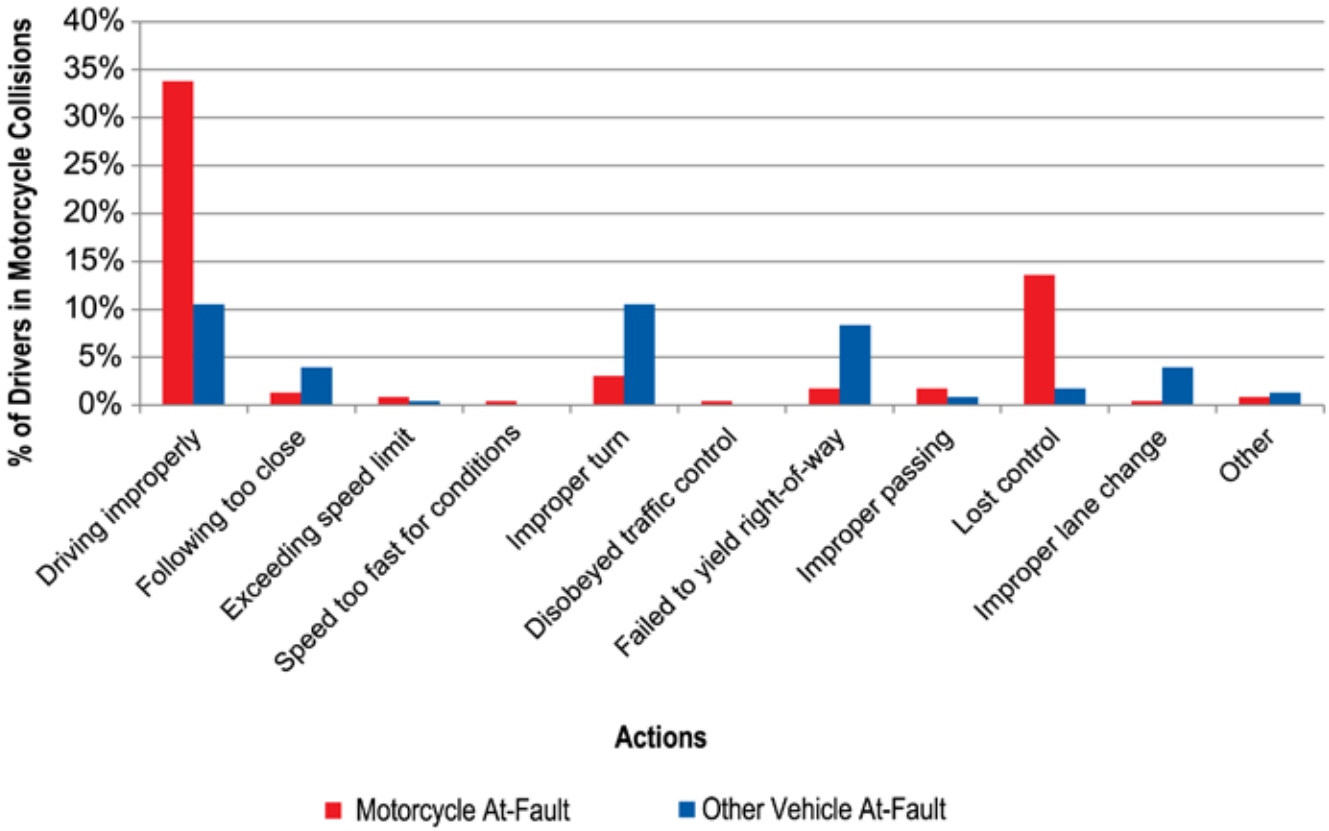


*Collision data is from YRP MVA reports

Motorcycles are relatively small and the rider's view of other vehicles is more easily obstructed. Motorcycle actions are also more difficult to predict than other types of vehicles due to their maneuverability. This explains why other types of vehicles are much more likely (68%) to be at fault in motorcycle collisions. Motorcyclists tend to cause SMV collisions when they lose control of their motorcycle. The most common driver errors made by other vehicles is improper turns, followed by fail to yield right-of-way. When a motorcyclist caused the collision, lost control was the top reason, which typically led to a SMV collision.

MAJORITY OF COLLISIONS INVOLVING MOTORCYCLES ARE CAUSE BY OTHER VEHICLE AT-FAULT ACTIONS.

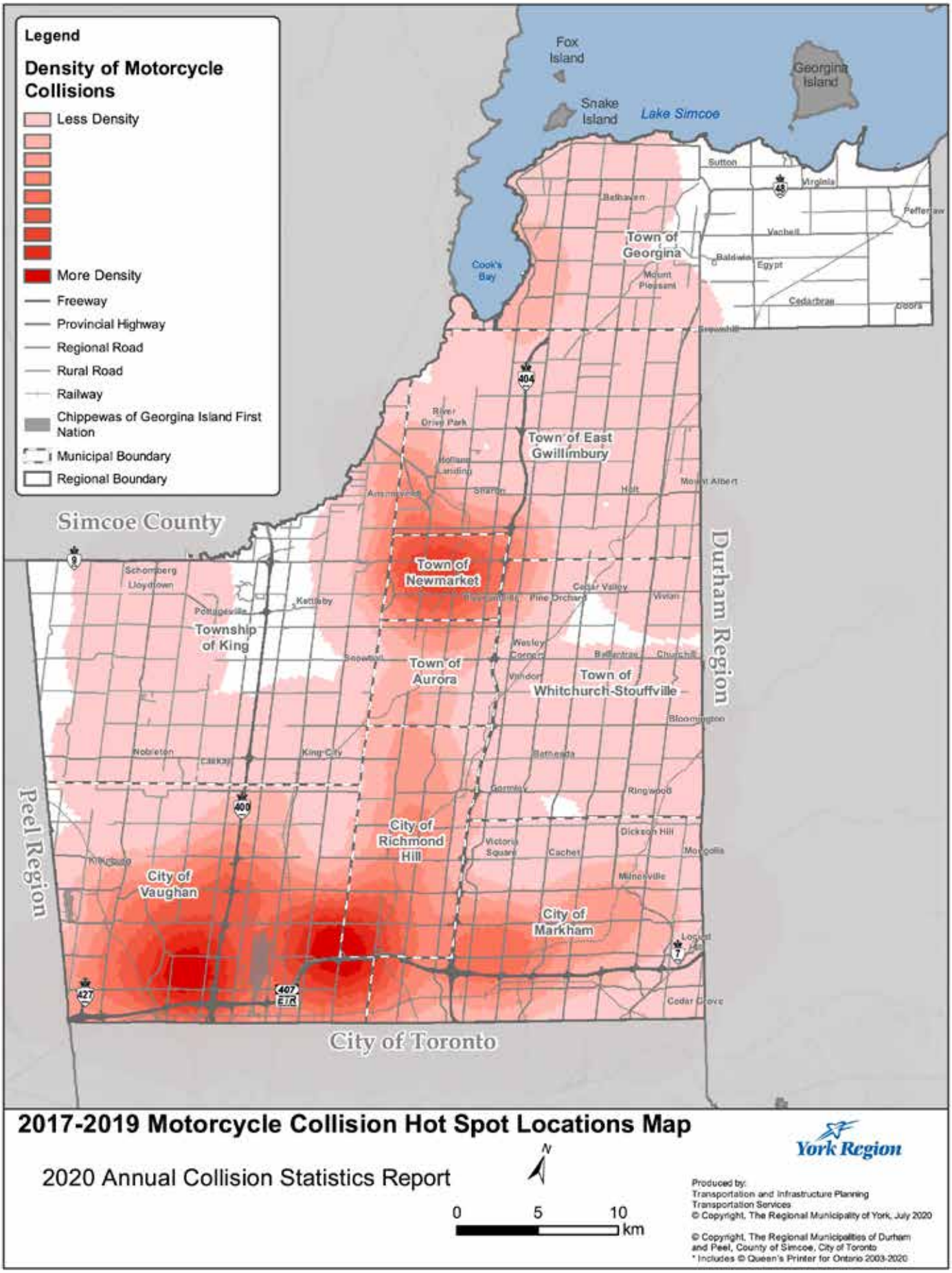
DRIVER ACTIONS IN MOTORCYCLE COLLISIONS



*Collision data is from YRP MVA reports

Motorcycle Activity and Collision Locations

A collision density map showing the locations of all reported motorcycle collisions on Regional roads from 2017 to 2019 is shown on the following page.


Legend
Density of Motorcycle Collisions
Less Density
More Density
Freeway
Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Sutton
Virginia
Pefferlaw
Bethesda
Town of Georgina
Vachell
Baldwin
Egypt
Cook's Bay
Mount Pleasant
Cedarbrae
404
River Drive Park
Town of East Gwillimbury
Holland Landing
Sharon
Holt
Mount Albert
Simcoe County
Durham Region
Schomberg
Lloydtown
Kettleby
Pottageville
Township of King
Town of Newmarket
Cedar Valley
Pine Orchard
Vivian
Wesley Corners
Ballantrae
Churchill
Snowball
Vandorf
Town of Aurora
Town of Whitchurch-Stouffville
Bloomington
Nobleton
Cakley
King City
Bethesda
Gormley
Ringwood
Peel Region
400
City of Richmond Hill
Victoria Square
Cachet
Dickson Hill
Mongolia
Kirby
City of Vaughan
Milnesville
City of Markham
Locust Hill
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City of Toronto
2017-2019 Motorcycle Collision Hot Spot Locations Map
2020 Annual Collision Statistics Report
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York Region
Produced by:
Transportation and Infrastructure Planning
Transportation Services
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The Top 10 motorcycle collision locations based on 10-year total are listed in the following table.

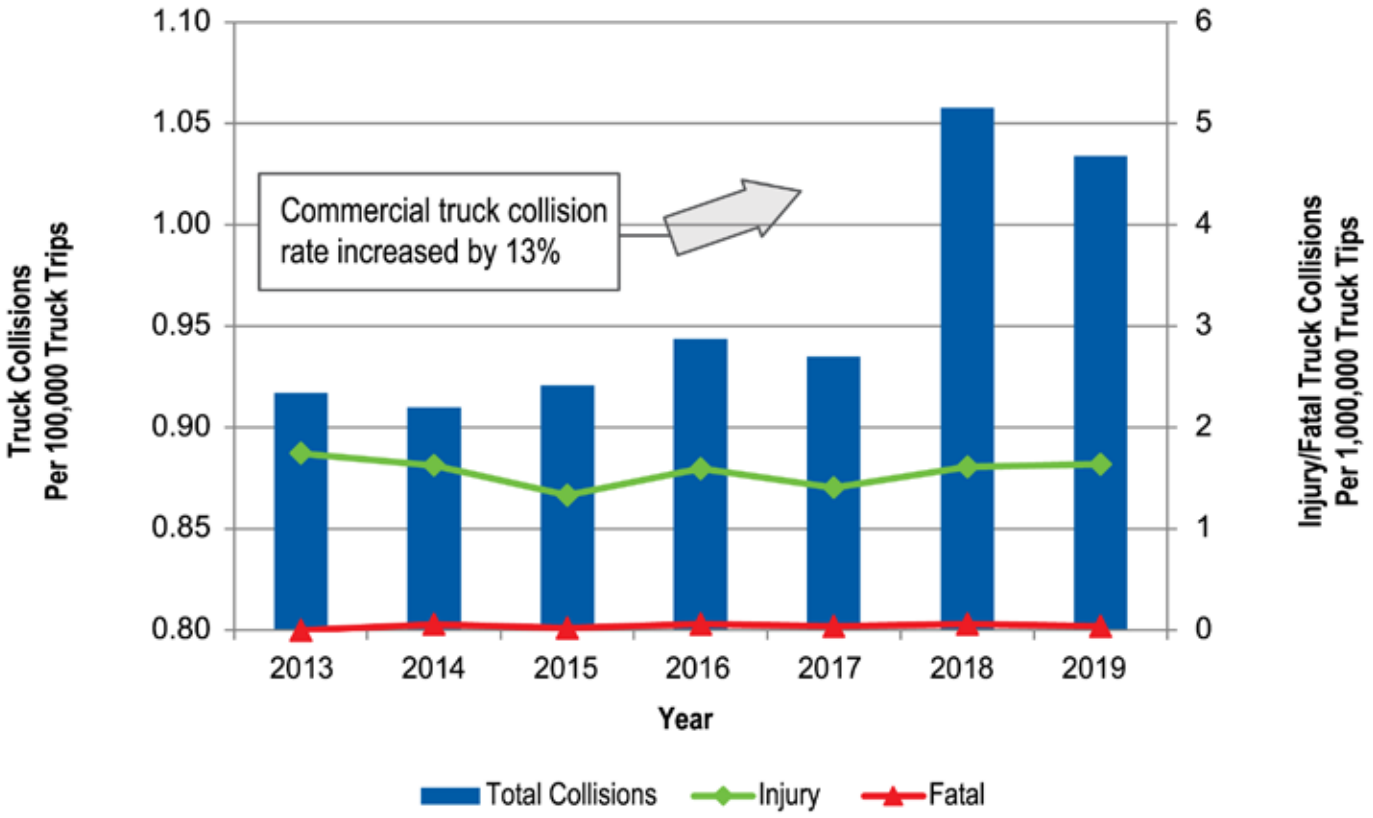
TOP 10 HIGHEST MOTORCYCLE COLLISION FREQUENCY LOCATIONS, 10-YEAR TOTAL, 2010-2019

Location	Municipality	Ten-Year Injury Motorcycle Collisions	Ten-Year Total Motorcycle Collisions
16th Avenue and Main Street Markham North/Highway 48	Markham	6	7
Keele Street and Highway 7	Vaughan	4	6
Highway 7 and Vaughan Valley Boulevard	Vaughan	3	5
Yonge Street and Carrville Road/16th Avenue	Richmond Hill	1	5
Major Mackenzie Drive West and Vellore Woods Boulevard/ Cityview Boulevard	Vaughan	4	4
Highway 7 between Marycroft Avenue/Aberdeen Avenue and Whitmore Road/Ansley Grove Road	Vaughan	4	4
Highway 7 and McCowan Road	Markham	3	4
Highway 27 and Rutherford Road	Vaughan	3	4
Davis Drive West and Bathurst Street	King/ Newmarket	3	4
Islington Avenue and Rutherford Road	Vaughan	3	4

*Collision data is from YRP MVA reports

Trucks ↑ 13%

TRUCK COLLISION RATES AND PROPORTIONS, 2013-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS study data

24% OF MOTOR VEHICLE COLLISIONS RESULTED IN INJURIES OR FATALITIES. 16% OF TRUCK COLLISIONS CAUSED INJURIES OR FATALITIES

The truck collision rate over the past two years was 13% higher than the average of the previous five years, as shown in the figure above. Sideswipe collisions were the most predominant type for trucks at 20%. Truck collision rates over the past two years were 13% higher than the average of the previous five years. Fatality rates remained at low levels and injury collision rates were steady.

The percentage of truck collisions among all collisions increased from 5.9% in 2015 to 7.4 % in 2019, other types of collisions decreased. 24% of motor-vehicle-only collisions resulted in injuries or fatalities, only 16% of truck collisions caused injuries or fatalities.

Provincial highways are major trucking destinations

Over last ten years, fatal truck collision rates stayed at a very low level, with injury truck collision rates stable. Percentage of truck collisions among all collisions increased from 5.9% in 2015 to 7.4% in 2019, other types of collisions decreased. While 24% of motor-vehicle-only collisions resulted in injuries or fatalities, only 16% of truck collisions were injuries or fatalities.

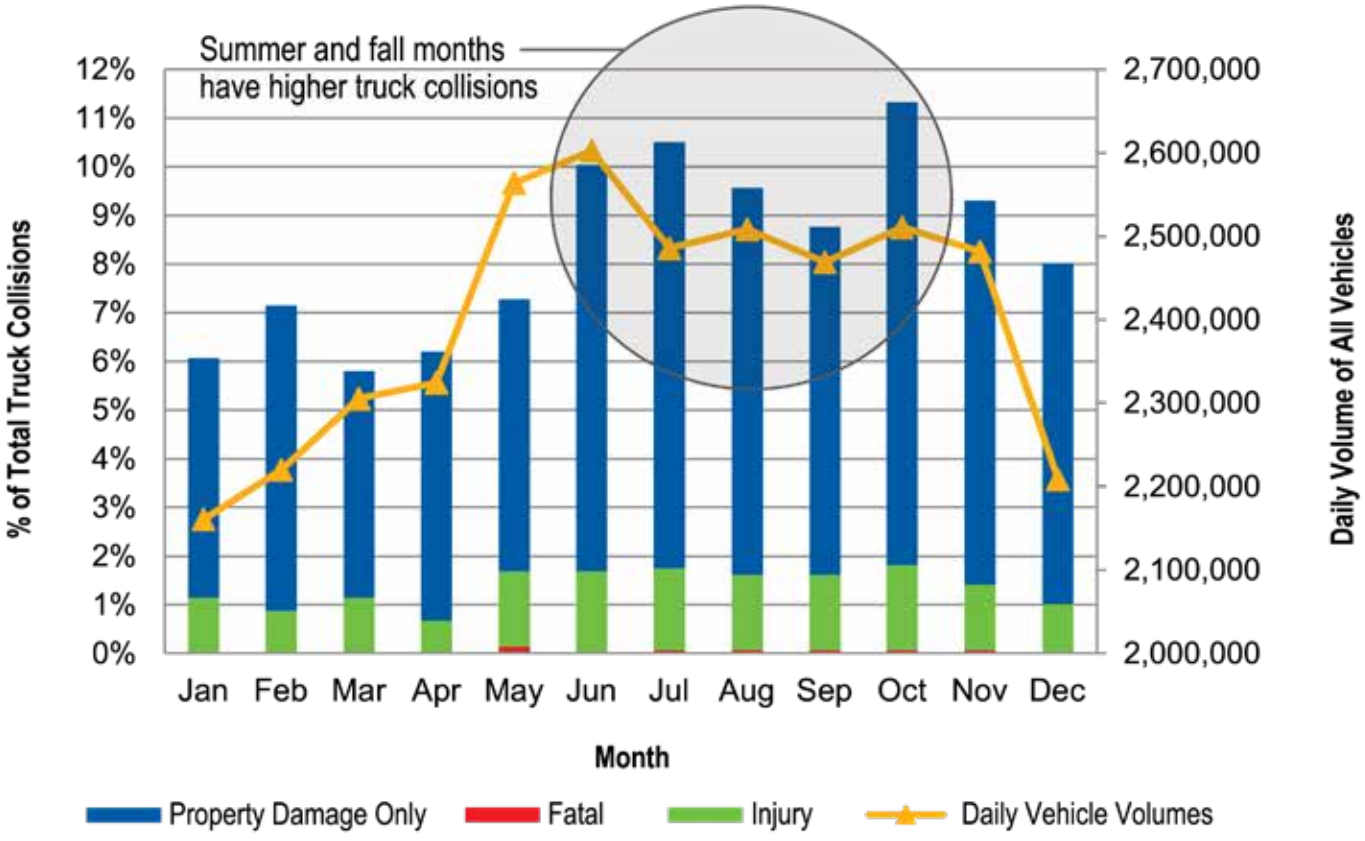
Key trends observed include:

- Truck collision rates over the past two years were13% higher than the average of the previous five years
- There were more truck collisions in summer and fall than in winter and spring, and these predominantly occurred on weekdays
- Weekday truck collisions occurred mostly during daytime without obvious AM or PM peaks, likely that commercial truck trips are distributed more evenly during daytime compared to common commuter trips
- Sideswipe collisions were the most predominant collision type for trucks at 20%
- Trucks were more likely to rear-end other vehicles, while other top at-fault action for other vehicles was sideswiping trucks
- More than half of truck traffic and collisions occurred in the City of Vaughan where trucking distribution centres are predominant
- The road segments connecting Regional major trucking destinations to major Provincial highways (Hwy 400, 401, 404, 407 and 427) were associated with the highest truck volumes and truck collision risks

Truck Collisions by Month, Day and Time

The highest number of truck collisions occurred in October. During June and August, there was also higher a number of truck collisions than other months, due to the high vehicle volumes on roads.

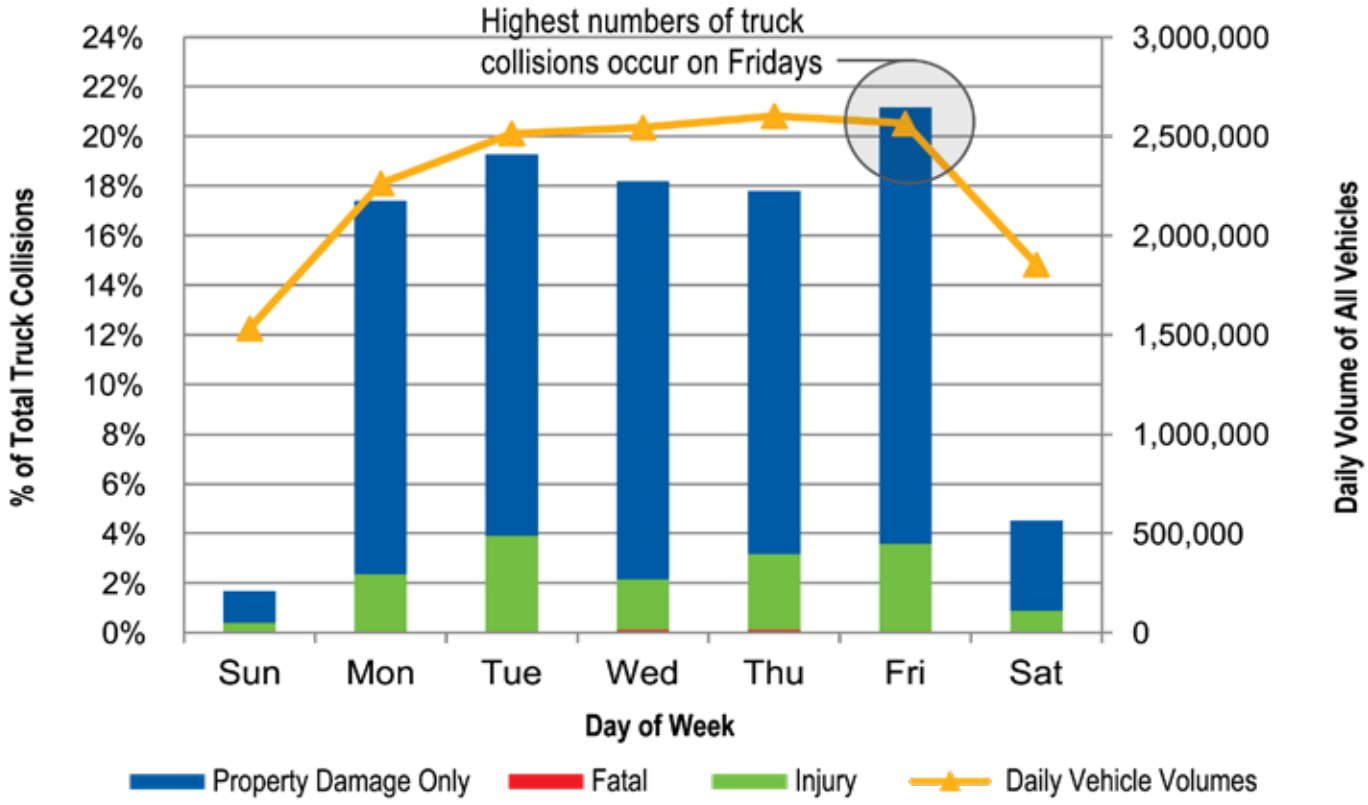
TRUCK COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Truck collision numbers peaked on Fridays and 94% of truck collisions occurred on weekdays, which are associated with most commercial trucks' activities.

TRUCK COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019

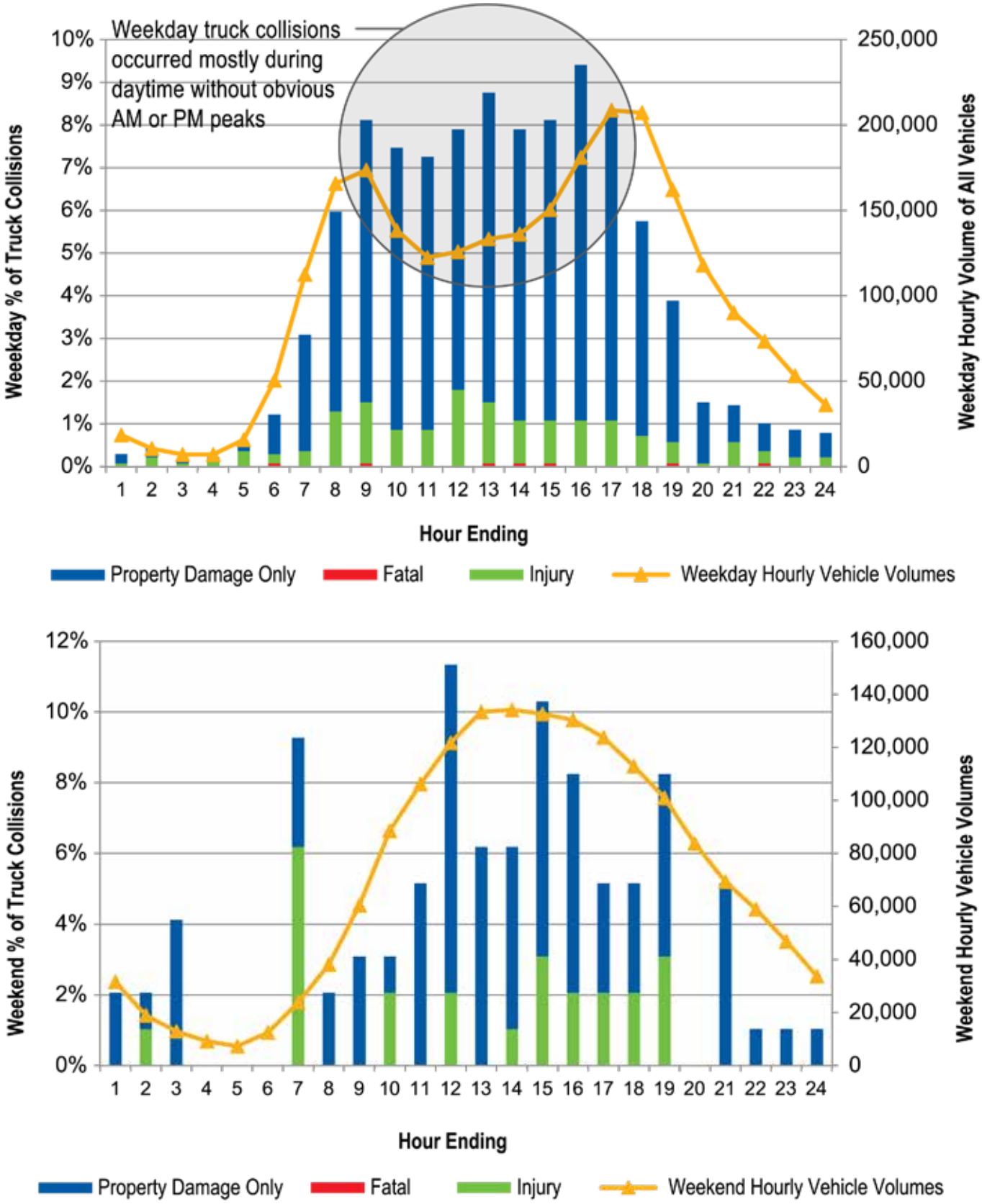


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

During weekdays, truck collisions mostly occurred during the 7:00 a.m. to 7:00 p.m. period, without obvious AM or PM peaks. This implies commercial truck trips are different from common commuting trips in that they are distributed more evenly during daytime hours.

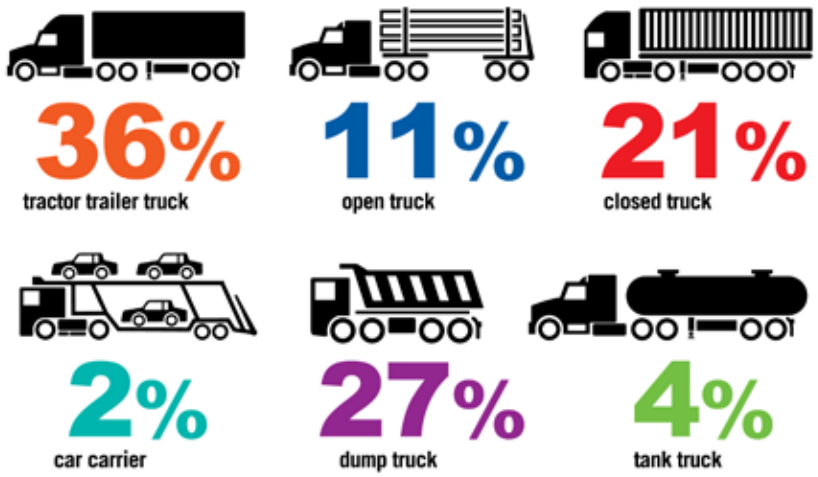
On weekends, truck collision distribution generally followed traffic volumes, with a spike in early morning (6:00 a.m. to 7:00 a.m.).

TRUCK COLLISIONS BY TIME-OF-DAY, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

TRUCK TYPES INVOLVED IN COLLISIONS



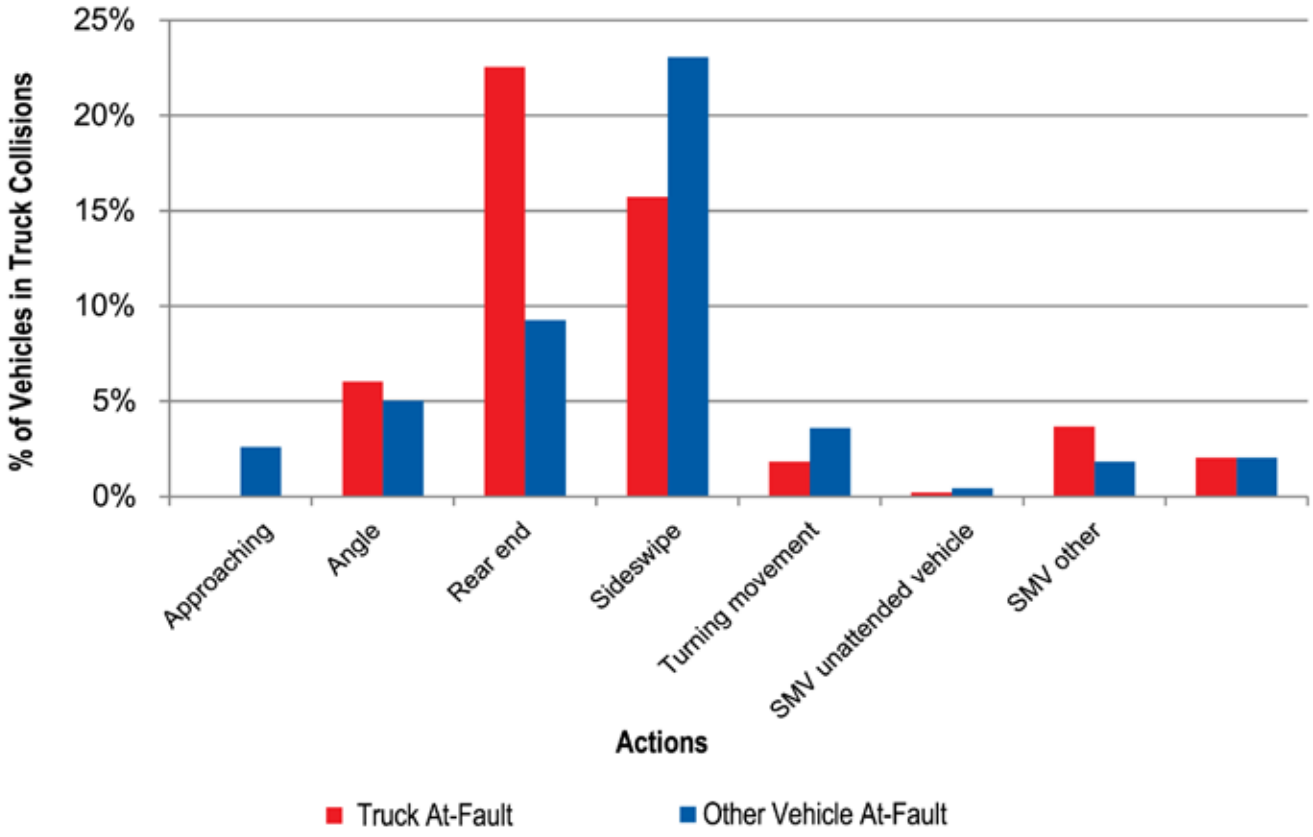
*The collision data is from YRP MVA reports.

Truck Collision Impact Types

Trucks need more space

The most common collision types involving trucks were sideswipe (20%) and rear-end. Trucks are much longer than vehicles, move slower and require more space. Truck drivers also require more reaction time, which is evidenced in the case of rear-end collisions, when a truck driver is more often at fault for following too closely. This is contrary to sideswipe collisions where the motor vehicle driver is more often at fault, indicating a pattern of motorists failing to provide trucks ample space.

TRUCK COLLISION IMPACT TYPES AND DRIVER ACTIONS

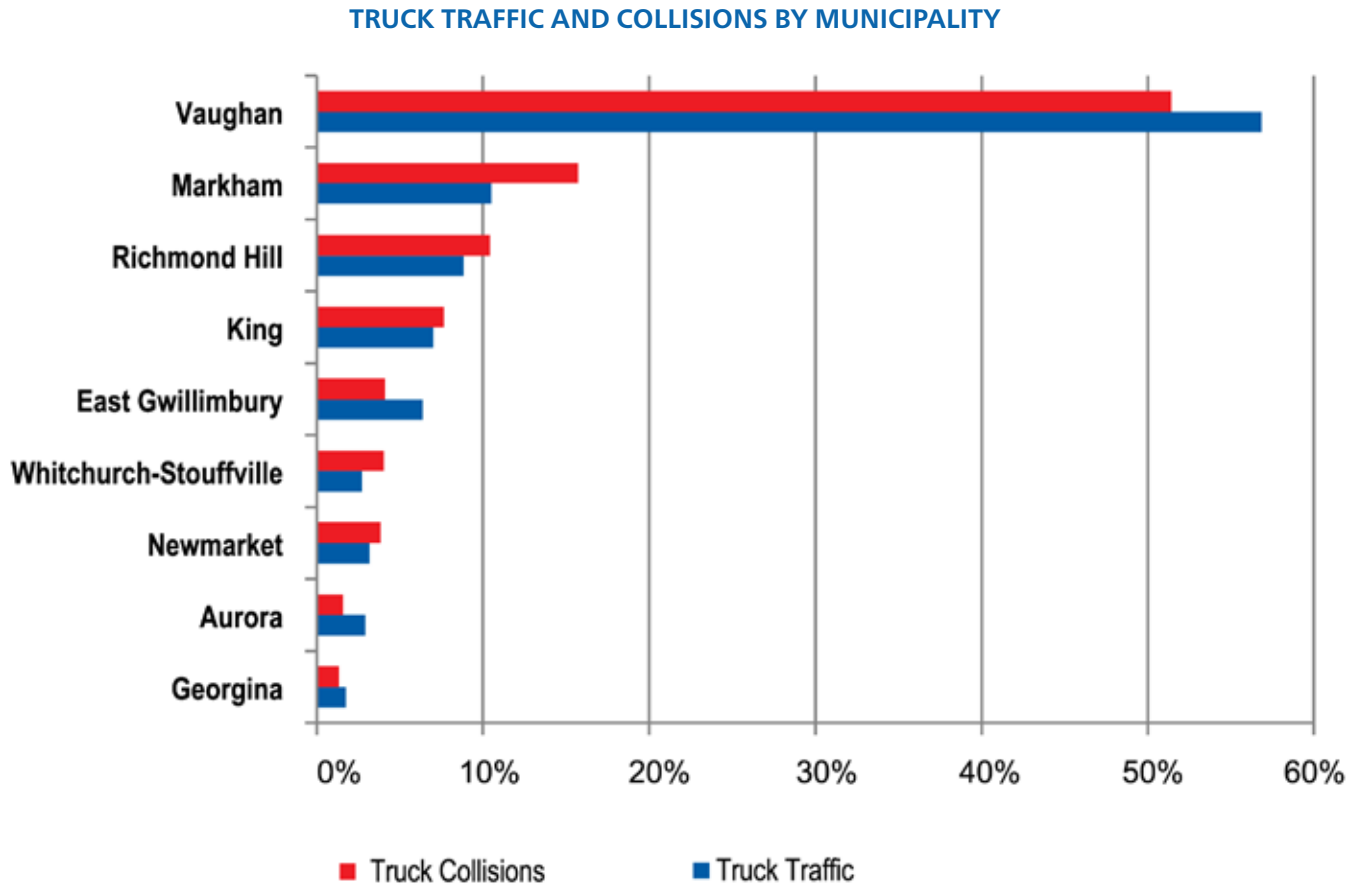


*Collision data is from YRP MVA reports

The numbers of at-fault trucks and other vehicles involved in truck collisions were very close. The top at-fault truck driver action was following too close, which accounted for 40% of total truck driver at-fault actions. The top at-fault action of other vehicles was failing to yield right-of-way, which accounted for 25% of total other vehicle at-fault actions.

TOP AT-FAULT TRUCK DRIVER ACTION IS FOLLOWING TOO CLOSE

Truck Activity and Collision Locations

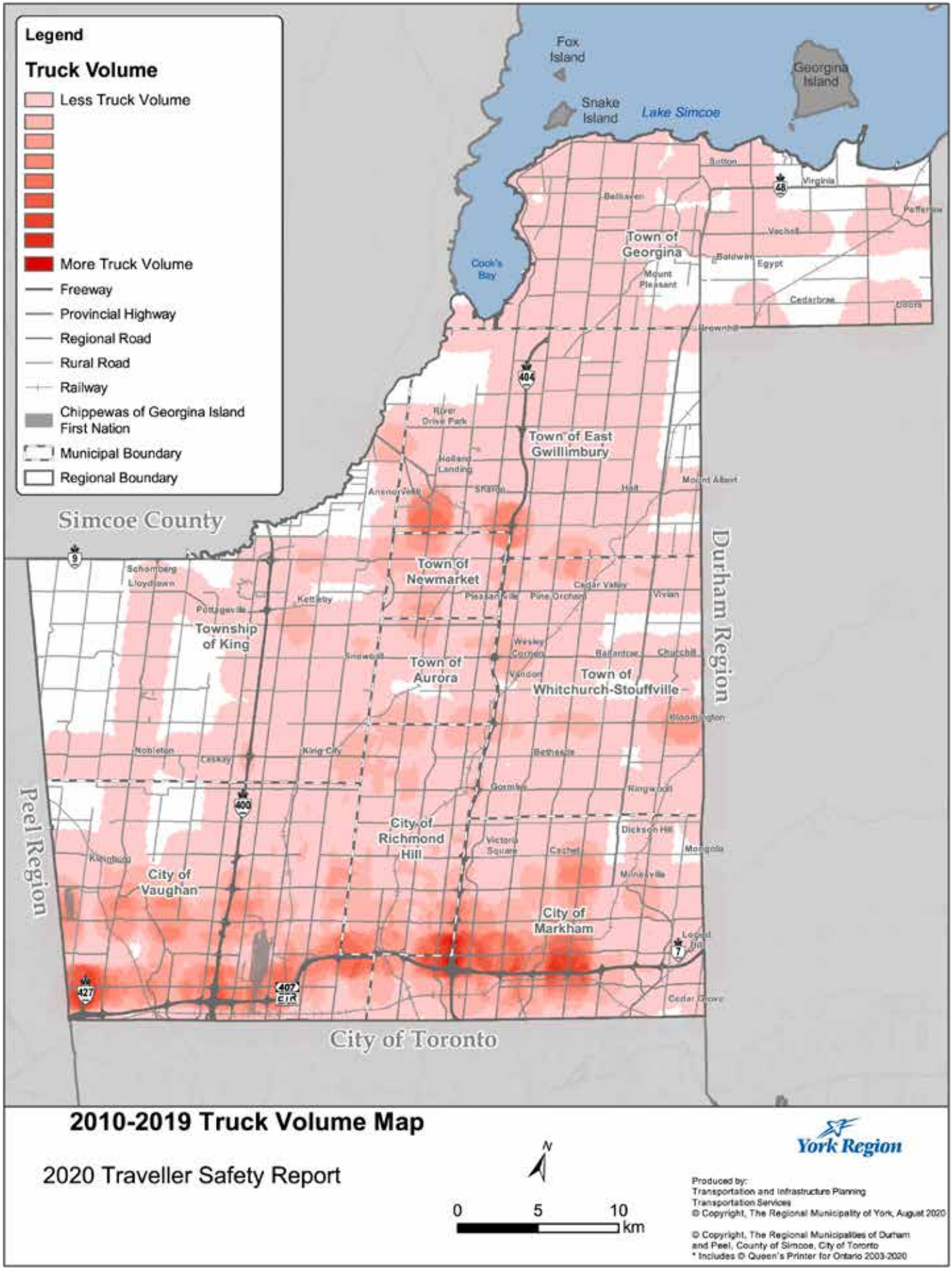


*Truck traffic data is from MTO 2016 Commercial Vehicle Study

The above figure shows that truck activities and number of collisions were proportionally correlated. Among the nine York Region municipalities, more than half of truck traffic was in the City of Vaughan as are truck collisions.

A truck activity density map showing truck traffic volume on Regional roads from 2010 to 2019, and a collision density map showing the locations of all reported truck collisions on Regional roads from 2017 to 2019, are shown on the following two pages.

The Regional road segments with highest truck volumes in the City of Vaughan were Highway 7 between Jane Street and Weston Road, Highway 7 between Highway 427 and Highway 50, and Keele Street between Highway 7 and Steeles Avenue. These sections connect major trucking destinations such as the CN MacMillan Yard at Highway 7 and Keele Street, to major Provincial highways including Highway 400, Highway 427 and Highway 407.


Legend
Truck Volume
Less Truck Volume
More Truck Volume
Freeway
Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Cook's Bay
Town of Georgina
Town of East Gwillimbury
Simcoe County
Durham Region
Peel Region
Town of Newmarket
Township of King
Town of Aurora
Town of Whitchurch-Stouffville
City of Richmond Hill
City of Vaughan
City of Markham
City of Toronto
2010-2019 Truck Volume Map
2020 Traveller Safety Report
York Region
0 5 10 km
Produced by:
Transportation and Infrastructure Planning
Transportation Services
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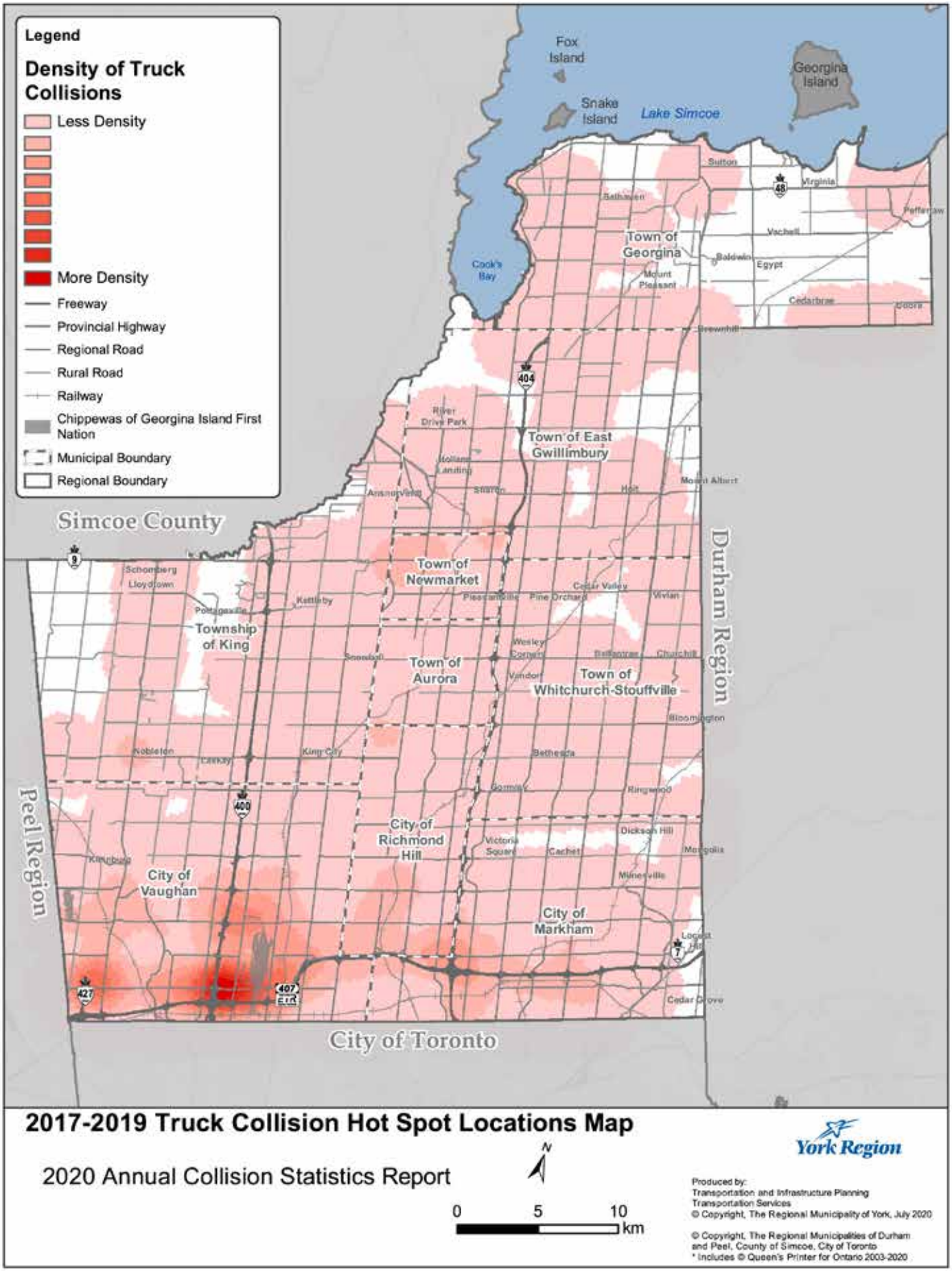
* Includes © Queen's Printer for Ontario 2003-2020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Density of Truck Collisions
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Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Sutton
Virginia
Pefferlaw
Jackson's Point
Belhaven
Town of Georgina
Vachell
Baldwin
Egypt
Cook's Bay
Mount Pleasant
Cedarbrae
Udora
Brownhill
River Drive Park
Town of East Gwillimbury
Holland Landing
Sharon
Holt
Mount Albert
Simcoe County
Durham Region
Schomberg
Lloydtown
Kettleby
Pottageville
Township of King
Town of Newmarket
Cedar Valley
Pleasantville
Pine Orchard
Wyldwood
Wesley Corners
Ballantrae
Churchill
Town of Aurora
Vandorf
Town of Whitchurch-Stouffville
Bloomington
Nobleton
Carrying
King City
Bethesda
Gormley
Ringwood
Peel Region
City of Richmond Hill
Victoria Square
Cachet
Dickson Hill
Mongolis
Kleinburg
City of Vaughan
Maineville
City of Markham
Locust Hill
Cedar Grove
City of Toronto
2017-2019 Truck Collision Hot Spot Locations Map
2020 Annual Collision Statistics Report
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York Region
Produced by:
Transportation and Infrastructure Planning
Transportation Services
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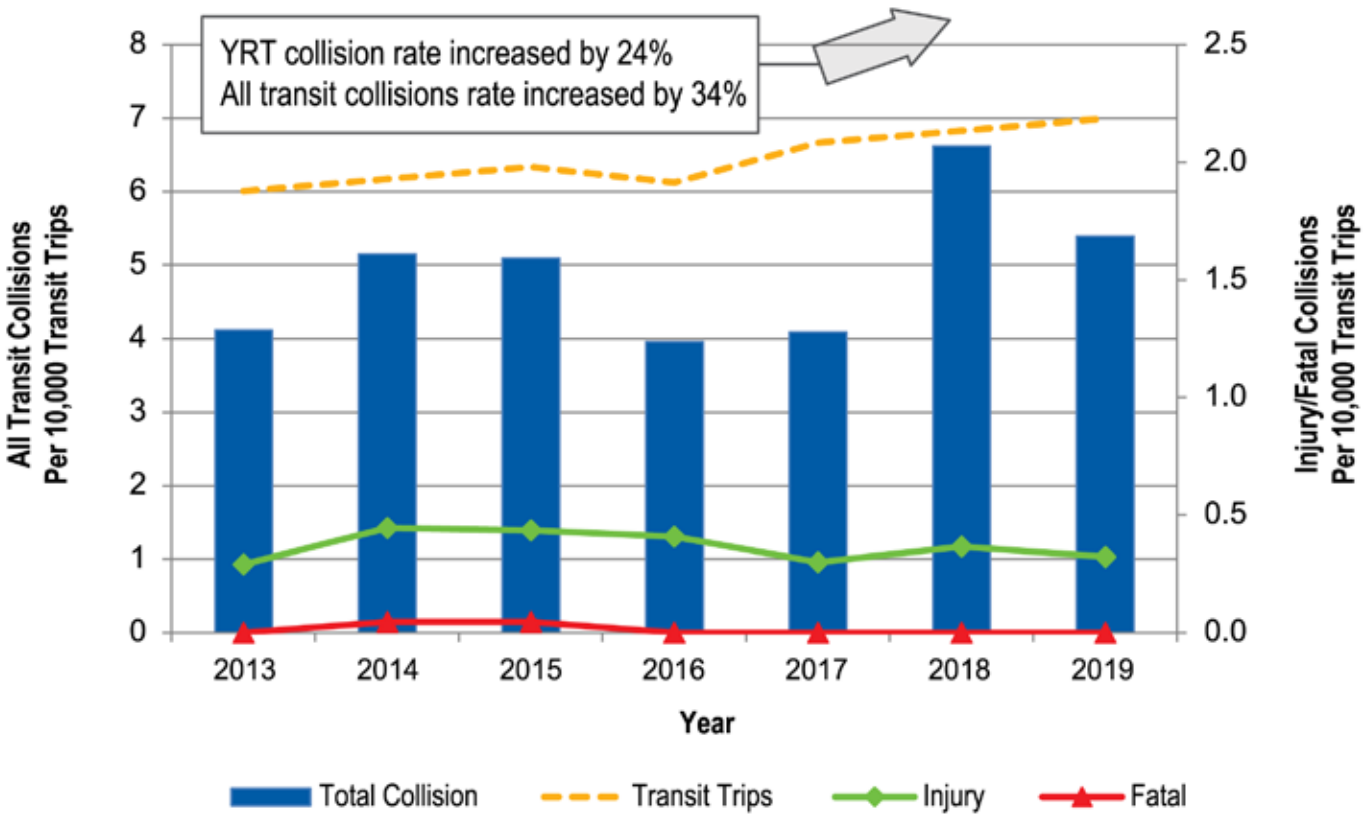
Transit ↑ 24%

TRANSIT (PRIVATE AND PUBLIC) COLLISION RATES, 2013-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies

THERE HAVE BEEN NO FATALITIES RESULTING FROM COLLISIONS INVOLVING TRANSIT VEHICLES IN THE PAST THREE YEARS

Collisions involving all public and private transit vehicles combined increased marginally by approximately 3% annually, while transit operations in the Region, including the number of service hours and kilometres travelled, increased over the past decade.

The collision rate of exclusively YRT vehicles in 2018 and 2019 was 24% higher than the2013-2017 average. Although transit (public and private) collision rates increased, the injury and fatality rates have stayed low.

Sideswipe transit collisions increased from 44 to 98 over the last two years, when compared to the previous five years. The majority of transit collisions (70%) were a result of the other vehicle driver at fault.

Bus rapidways benefit all travellers

To promote sustainable transportation and growth, York Region is advancing its transit systems, in particular building bus rapidways on selected segments of its major transit corridors, such as Highway 7, Davis Drive and Yonge Street. The safety measures associated with bus rapidway operations improved overall traffic safety, reducing collisions by about 50%.

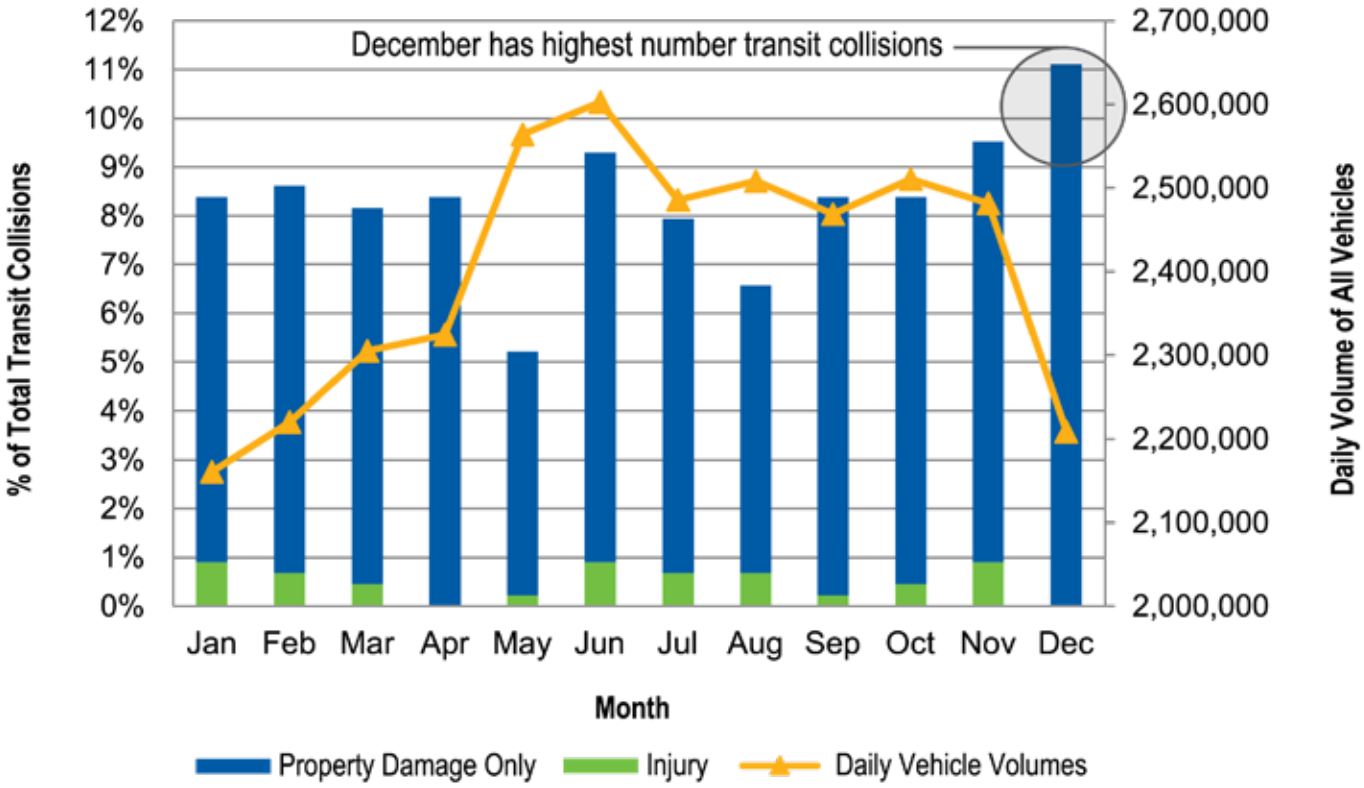
Key trends observed include:

- Over the last seven years, the number of transit collisions leading to fatalities were low (three in total). There have been no fatal transit collisions since 2016
- There were more transit collisions in the winter months than in summer and these predominantly occurred on weekdays
- Sideswipe collisions involving private and public buses increased by 120% over the last two years when compared to the previous five years
- In multi-vehicle collisions involving transit buses, the drivers of the other vehicles were mostly at fault (more than 70%)

Transit Collisions by Month, Day and Time

There was a higher number of transit collisions in the winter, which was attributed to shorter daylight hours and adverse weather.

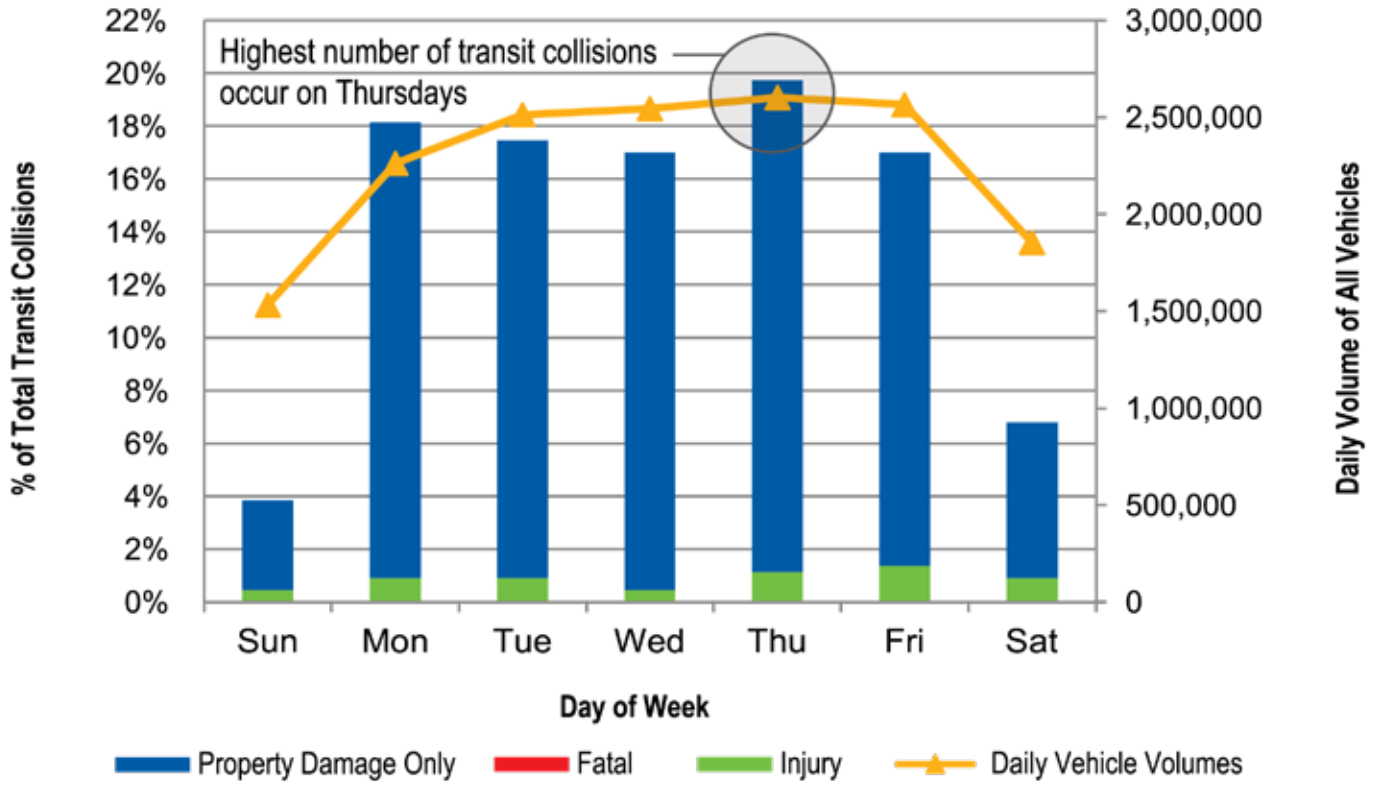
TRANSIT COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

The number of transit collisions peaked on Thursdays, and more than 89% of transit collisions occurred on weekdays, which are associated with busier transit bus schedules and heavier ridership.

TRANSIT COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019

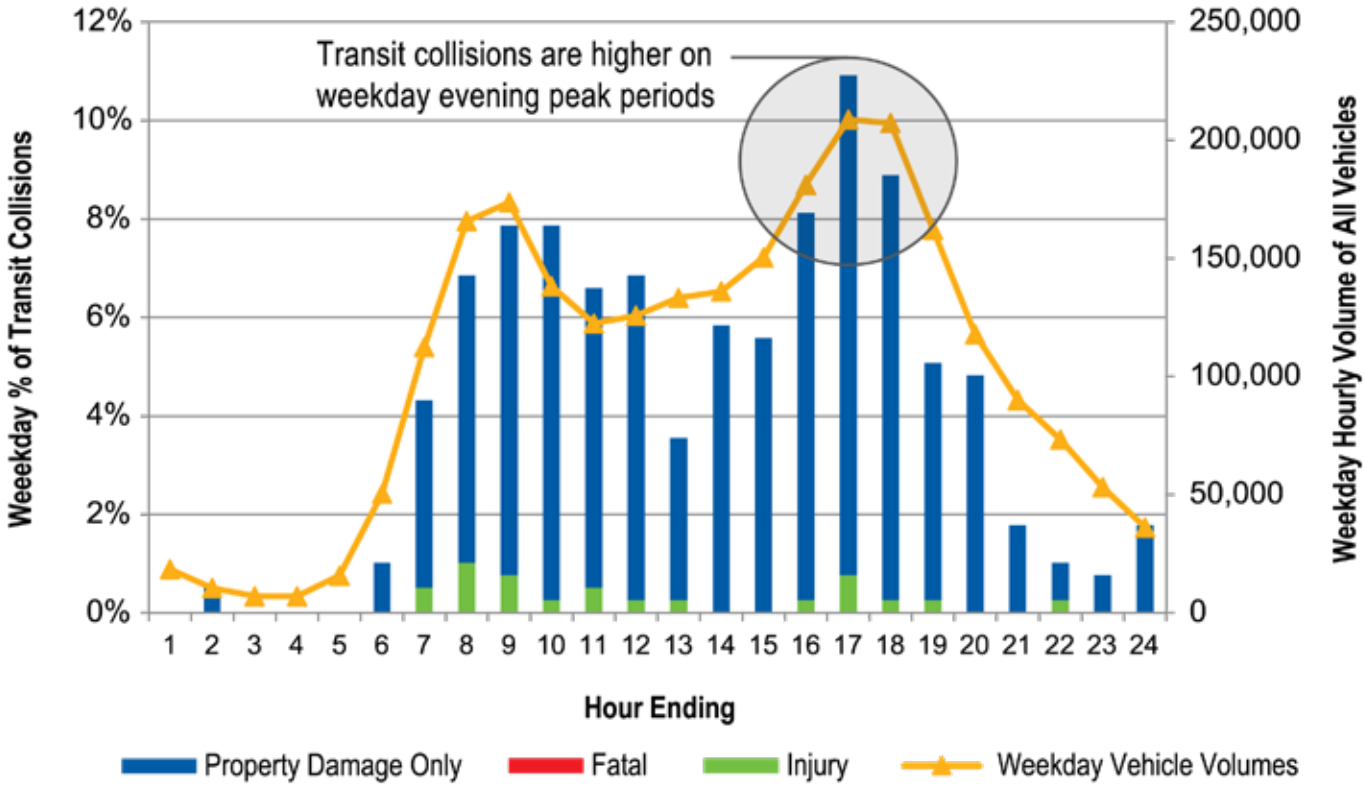


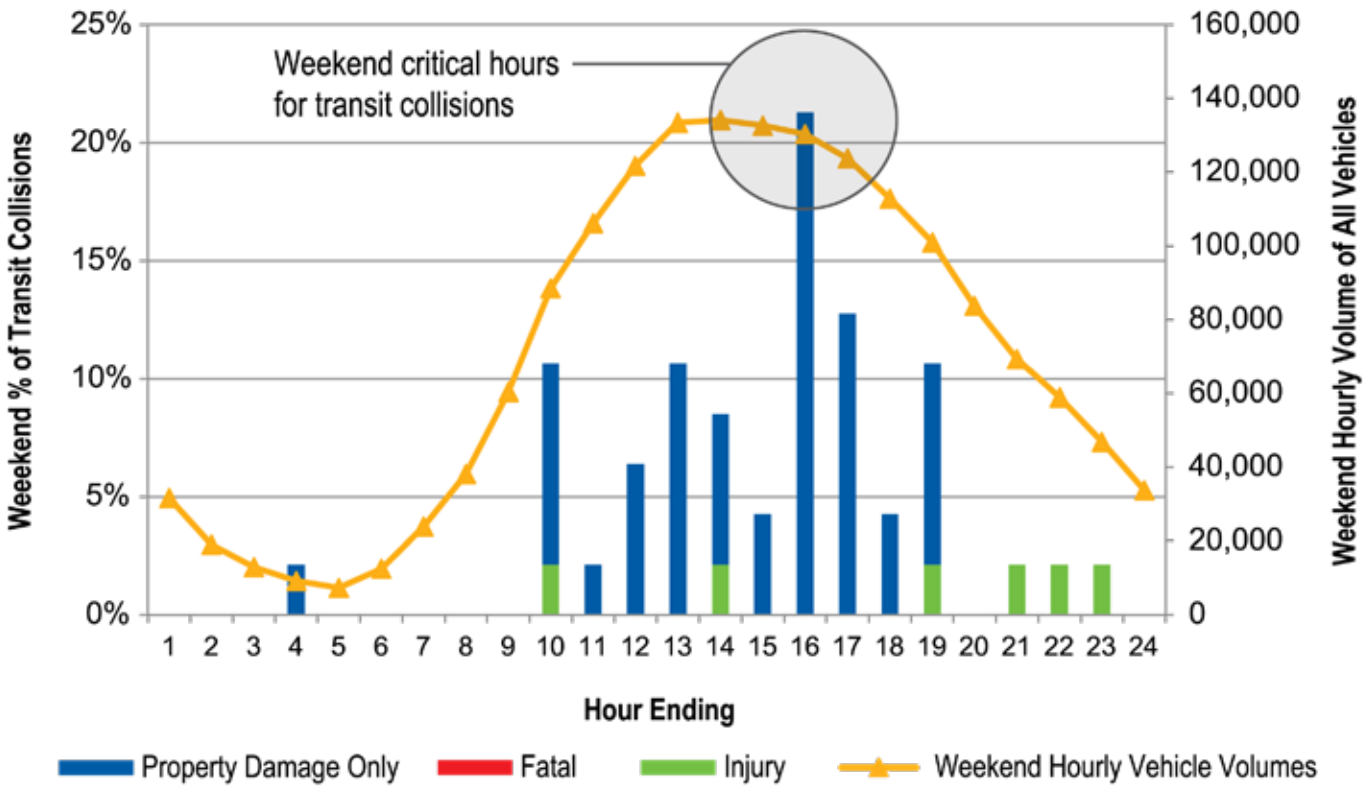
*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

During weekdays, the time of day transit collision trend correlated closely with typical daily traffic volume patterns (i.e. high numbers of collisions occurred during highest traffic volume times). The highest number of collisions occurred on weekdays, between 7:00 a.m. and 10:00 a.m. and 3:00 p.m. and 6:00 p.m., accounting for more than 50% of all collisions. Collisions were higher during the afternoon on weekdays, which is consistent with the number of daily vehicle trip patterns.

On weekends, the highest number of collisions occurred between 4:00 p.m. and 6:00 p.m.

TRANSIT COLLISIONS BY TIME-OF-DAY, THREE-YEAR AVERAGE, 2017-2019





*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

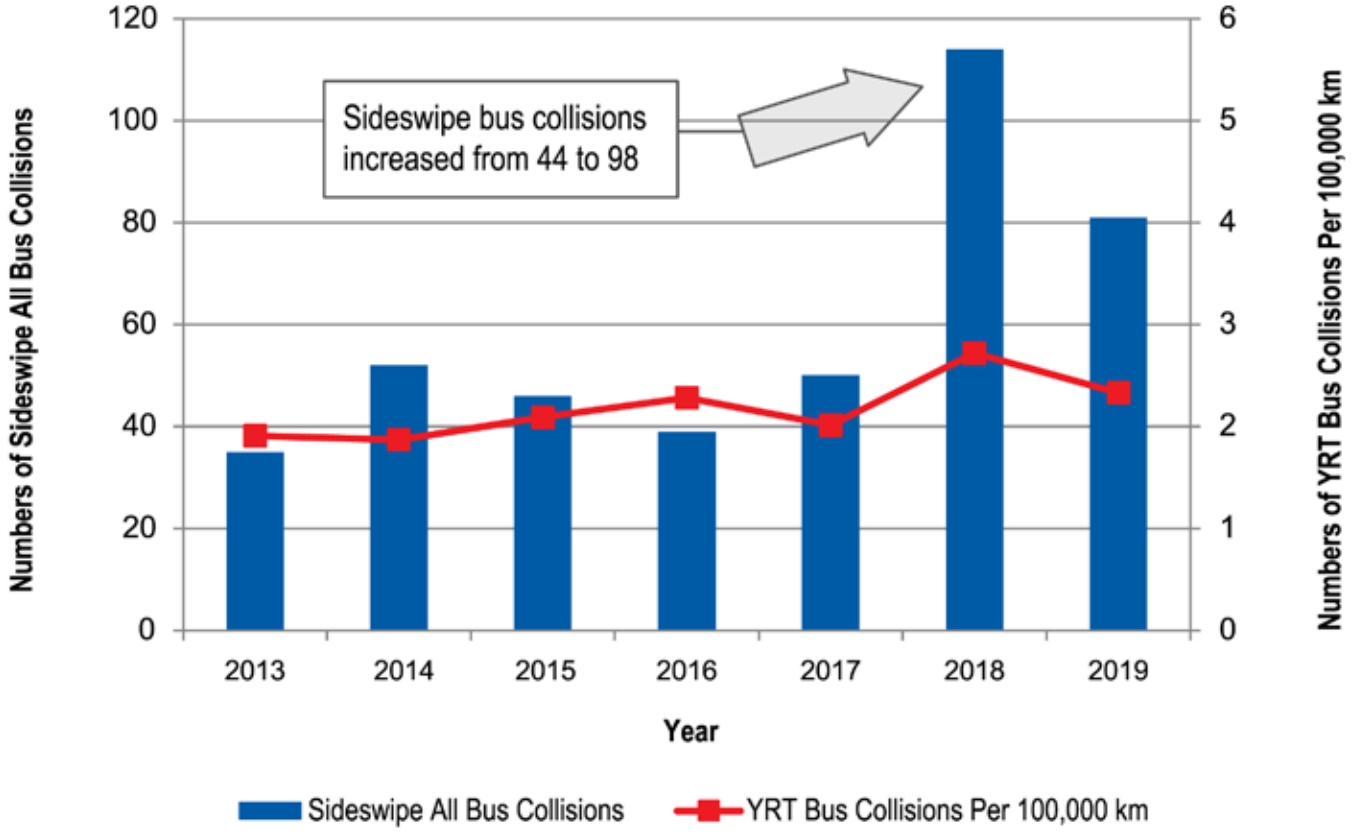
Impact Types and Driver Actions

Overall, other vehicles were at fault more than 70% of the time in collisions involving transit vehicles. More than half of transit collision types were sideswipes, with other vehicles at fault more than 80%.

Sideswipe collisions involving all private and public buses has increased from 44 to 98

Buses are slower, longer and require more space than smaller motor vehicles. Motorists failing to provide buses ample space has led to a spike in the number of sideswipe collisions. Sideswipe collisions involving private and public buses increased from 44 to 98 over the last two years, when compared to the previous five years. The majority of transit collisions (70%) were a result of other vehicle drivers being at fault.

BUS COLLISION IMPACT TYPES



*Collision data is from YRP MVA reports and YRT
*Bus mileage data is from YRT

Bus Rapidways

Bus rapidways continue to show positive safety results

York Region's first bus rapidway was completed in 2014 on Highway 7 East between Bayview Avenue and South Town Centre Boulevard in the City of Markham. This was followed by the completion of the rapidway on Davis Drive between Yonge Street and just east of Southlake Regional Health Centre in 2015. Since then, four additional bus rapidways on Bathurst Street and Centre Street in the City of Richmond Hill, Yonge Street in the Town of Newmarket and Highway 7 in the City of Vaughan have been completed and opened.

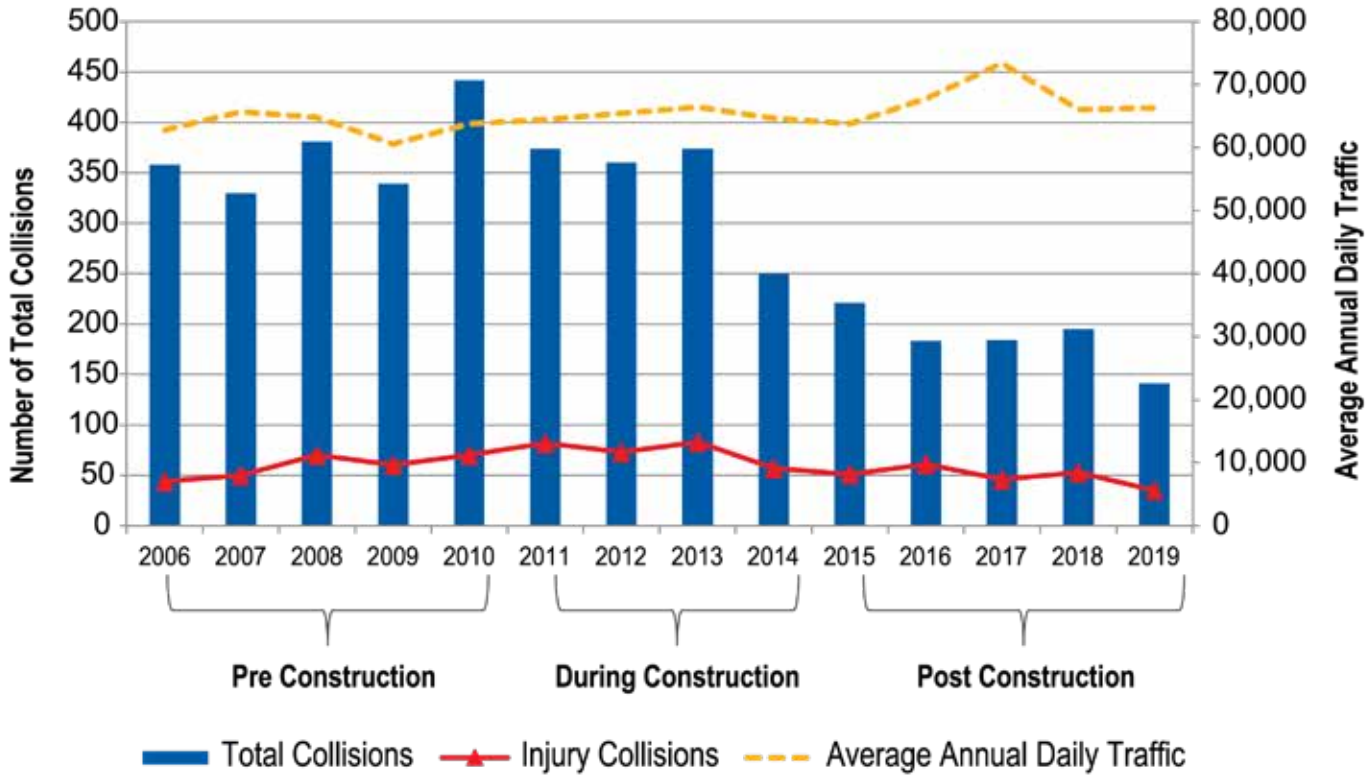
COLLISIONS HAVE REDUCED BY 50% FOLLOWING THE IMPLEMENTATION OF RAPIDWAYS

It has been noted total collisions have decreased by one-half on road segments with bus rapidways, with injury collisions also decreasing significantly. The safety measures associated with bus rapidway operations augment safety for travellers of all modes. These include:

- Restricted access from side streets
- Regulatory speed limit reductions
- Transit signal phasings
- Protected left turn movements
- Reduced curb radii
- Cycle lanes/tracks
- Audible pedestrian signals
- Two-stage pedestrian crossings and enhanced markings and signs

The number of collisions on Highway 7 between Bayview Avenue and South Town Centre Boulevard decreased by 50% since completion of the rapidway. The number of injuries has also reduced by 16%. Conversely, the annual average daily traffic (AADT) of the same road segment increased by 6% post construction.

COLLISIONS ALONG HIGHWAY 7 BUS RAPIDWAY, 2006-2019

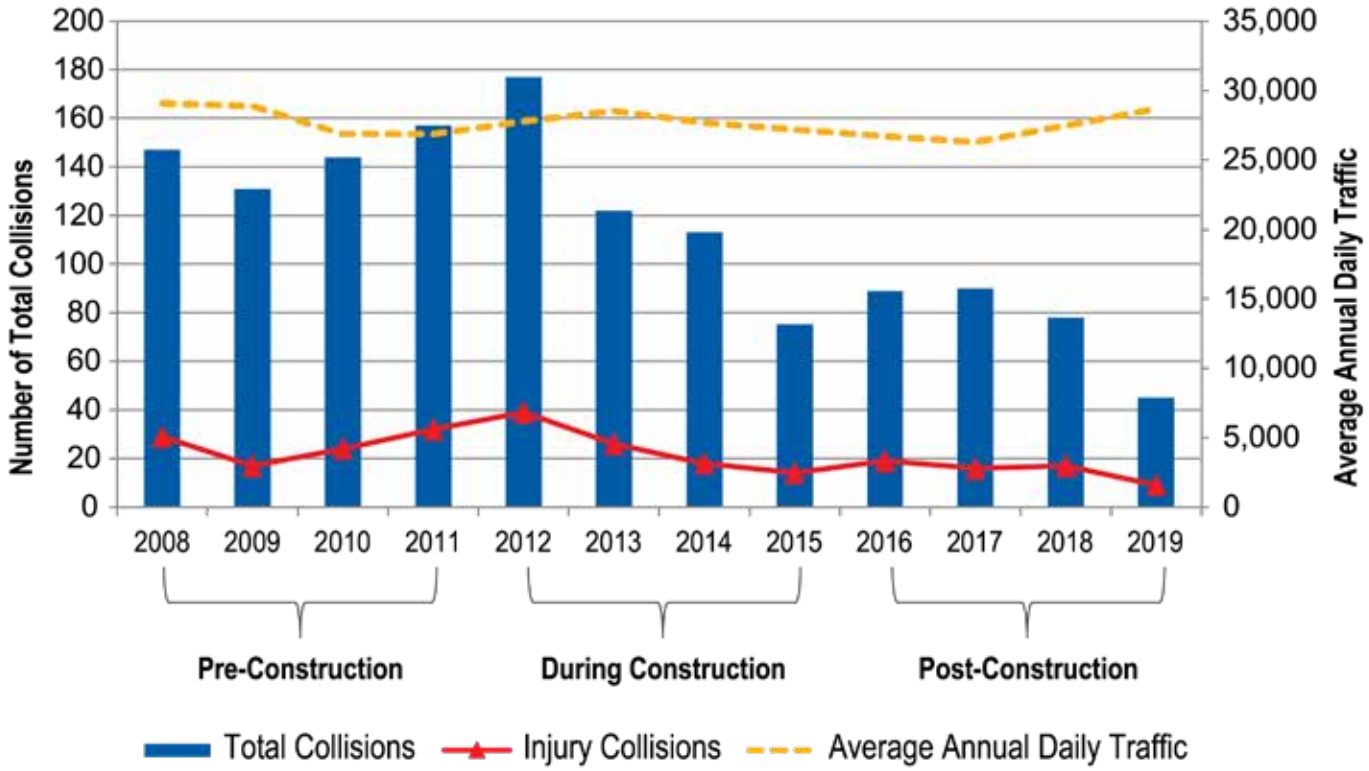


*Collision data is from YRP MVA reports
*Timelines of bus rapidway construction is from YRT website

THE NUMBER OF COLLISIONS HAS DECREASED BY 50% SINCE COMPLETION OF THE RAPIDWAY. THE NUMBER OF INJURIES HAS ALSO REDUCED BY 16%.

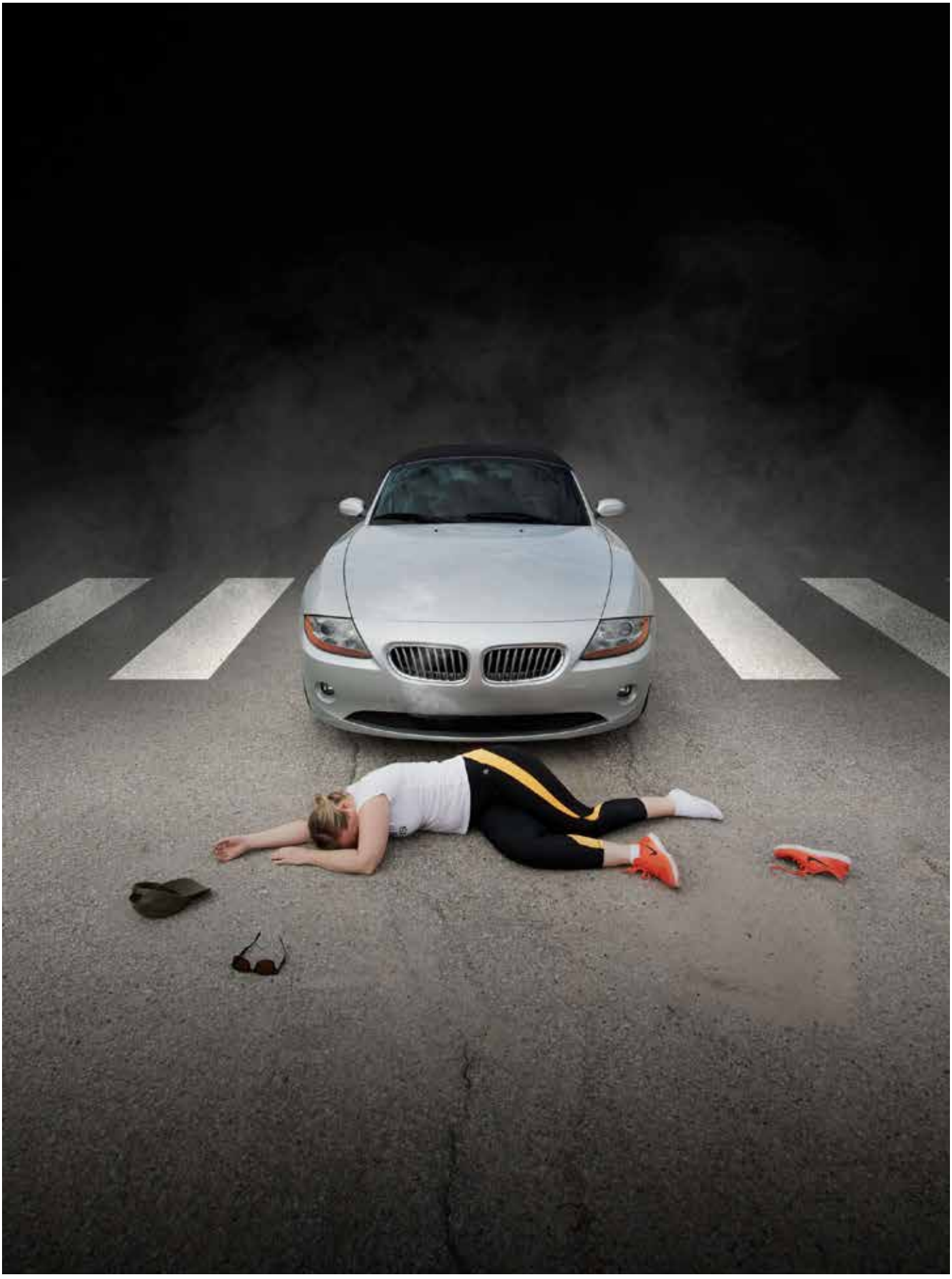
The number of collisions on the segment of Davis Drive featuring the rapidway decreased by 48% since completion of the rapidway. Number of injuries has also reduced by 40%. The average AADT of this corridor varied between 26,279 and 29,065 and there is no significant change between pre-, during and post-construction periods.

COLLISIONS ALONG DAVIS DRIVE BUS RAPIDWAY, 2008-2019



*Collision data is from YRP MVA reports
*Timelines of bus rapidway construction is from YRT website

THE NUMBER OF COLLISIONS HAS DECREASED BY 48% SINCE COMPLETION OF THE RAPIDWAY. THE NUMBER OF INJURIES HAS ALSO REDUCED BY 40%.



Safety Programs

Taking steps to change driver behaviour

As more than two-thirds of all collisions occurred at intersections, York Region has taken major steps to improve intersection safety. The main approaches include improving safety at existing signalized intersections with changes to turning movements, upgrading with stop control to traffic signals, converting two-way controlled intersections to all-way stop-controlled and implementing roundabouts.

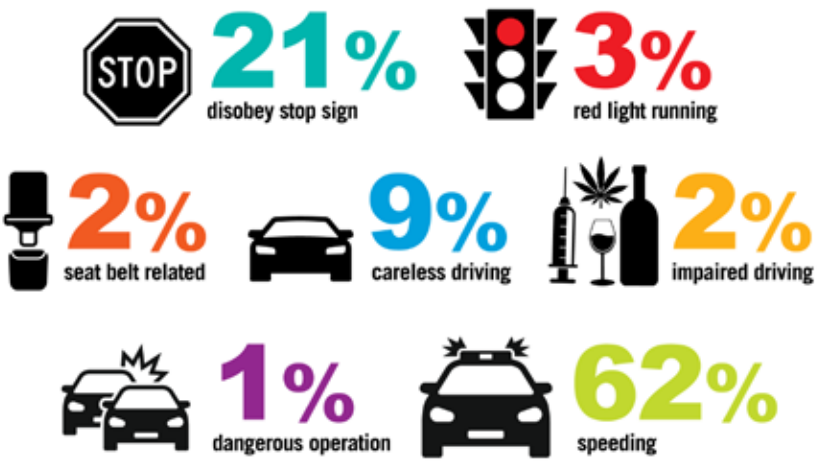
Recognizing that changing driver behaviour is crucial to improving road safety, York Region has been targeting top traffic offences with campaigns and programs. As per York Region Police Annual Statistical Reports from 2017 to 2019, the top traffic offence was speeding, accounting for over 62% of all traffic offences.

It is well known that higher impact speeds leads to higher injury severity levels in collisions. Research found when a car hits a pedestrian at a speed of 50 km/hr, the likelihood of a pedestrian fatal injury is 85%. When the speed is 30 km/hr, the likelihood is 10%. According to 2017 data, 22% of fatal car collisions in Canada involved speeding.

York Region has been actively advancing speed management programs, public education, legislation and enforcement to reduce speed-related collisions. In partnership with YRP, the Region launched the Slow Down Campaign, focused on stunt driving and speeding, with messages to encourage motorists to support one another by obeying the rules of the road and driving according to posted speed limits. Road safety programs, such as SpeedWATCH, have been implemented to help curb speeding. An automated speed enforcement program is planned to be piloted in select community safety zones.

Red light running is another traffic safety priority for the Region, as this violation is a main reason for right-angle collisions that causes more severe injuries than other type of collision. The Region introduced red light camera programs in 2013 to help reduce red light running and improve driver and pedestrian safety.

YORK REGION TRAFFIC OFFENCES, 2017-2019



*Traffic violation data is from YRP Annual Statistical Reports
*Red Light Running in the chart does not include the violations caught by red light cameras

SpeedWATCH

Displaying travel speed encourages compliance

While YRP are in charge of enforcement of speed limits on Regional roads, the Region assists with education and data collection. The SpeedWATCH program, initiated in 2014, is designed for this purpose.

Residents can promote safe driving in their community by requesting a speed board. Speed boards measure the speed of passing vehicles and display the travel speed of vehicles as they pass. This encourages drivers to stay within the speed limit. Speed boards can also be placed along Regional roads to monitor locations for excessive speeding. The speed board collects speed data that helps evaluate the degree of speeding and allocate resources in the priority locations.

Upon receiving a speed board request from residents, staff deploys one speed board to the requested location for three to four months, then is assigned to other locations. This rotation allows maximizing road coverage and distributing the boards equally across the Region.

Data collected before and after the implementation of a speed board has shown that speed boards can reduce average operating speed by 13% and increase speed limit compliance by 31%.

To request a SpeedWATCH board visit the Speed Monitoring Boards page to complete the SpeedWATCH request form.

Automated Speed Enforcement

A new tool to help increase safety in school areas

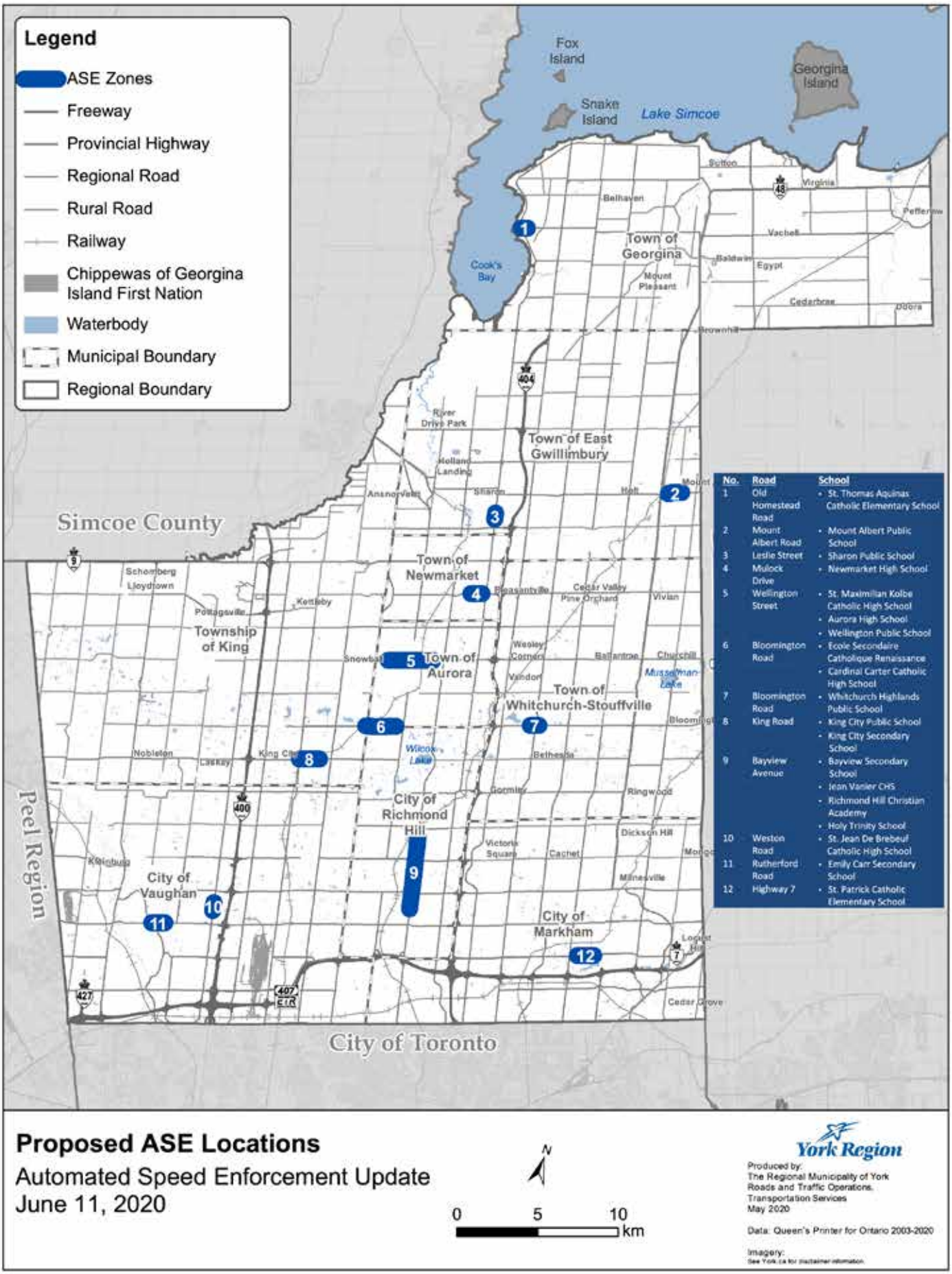
Speeding around schools puts the lives of the most vulnerable at risk. Throughout the year, York Region has implemented various measures to slow motorists down around schools. In 2012, Regional Council designated Community Safety Zones on Regional roads adjacent to all schools. The Community Safety Zone designation helps identify and advise motorists they are within a zone where public safety is of special concern, including school areas. Certain Highway Traffic Act fines (including speeding) are doubled in community safety zones. Community Safety Zone designations are reviewed annually to ensure any new or relocated schools are included.

In December 2019, the Province proclaimed Bill 65, Safer School Zones Act, 2017, which is now in effect. Ontario Regulation 398/19 was also enacted under the Highway Traffic Act, allowing municipalities to operate automated speed enforcement in Community Safety Zones.

Like many peer municipalities in Ontario, York Region is launching a two-year, automated speed enforcement (ASE) pilot, operational from 2021 to 2023 on a limited use basis, to determine the capacity of provincial courts to process the infractions, as well as a trial for the technology being used. The goal of the pilot is to increase safety in school areas while also changing driver behaviour.

Under Highway Traffic Act Regulation 398/19, ASE is only authorized for use in school zones and Community Safety Zones. York Region is piloting one mobile ASE camera and rotating it on a monthly basis among 12 Community Safety Zones covering 19 schools across the Region. The sites were identified as the highest potential risk for school children by reviewing traffic volume, school population and travel speed.

Advance public communication and automated speed enforcement warning signs have been installed at some sites to raise awareness of enforcement of speeding offences in Community Safety Zones. Installed ASE cameras will start issuing tickets at each location following a 90-day advance notification period. The operating time will be adjusted to accommodate infraction processing in the Region's Provincial Offences Courts. A map of the 12 proposed ASE locations is shown on the following page.


Legend
ASE Zones
Freeway
Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Waterbody
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Cook's Bay
Town of Georgina
Town of East Gwillimbury
Simcoe County
Town of Newmarket
Township of King
Town of Aurora
Town of Whitchurch-Stouffville
City of Richmond Hill
City of Vaughan
City of Markham
Peel Region
City of Toronto
No. Road School
1 Old Homestead Road • St. Thomas Aquinas Catholic Elementary School
2 Mount Albert Road • Mount Albert Public School
3 Leslie Street • Sharon Public School
4 Mulock Drive • Newmarket High School
5 Wellington Street • St. Maximilian Kolbe Catholic High School • Aurora High School • Wellington Public School
6 Bloomington Road • Ecole Secondaire Catholique Renaissance • Cardinal Carter Catholic High School
7 Bloomington Road • Whitchurch Highlands Public School
8 King Road • King City Public School • King City Secondary School
9 Bayview Avenue • Bayview Secondary School • Jean Vanier CHS • Richmond Hill Christian Academy • Holy Trinity School
10 Weston Road • St. Jean De Brebeuf Catholic High School
11 Rutherford Road • Emily Carr Secondary School
12 Highway 7 • St. Patrick Catholic Elementary School
Proposed ASE Locations
Automated Speed Enforcement Update
June 11, 2020
N
0 5 10 km
York Region
Produced by:
The Regional Municipality of York
Roads and Traffic Operations,
Transportation Services
May 2020
Data: Queen's Printer for Ontario 2003-2020
Imagery:

Roundabouts

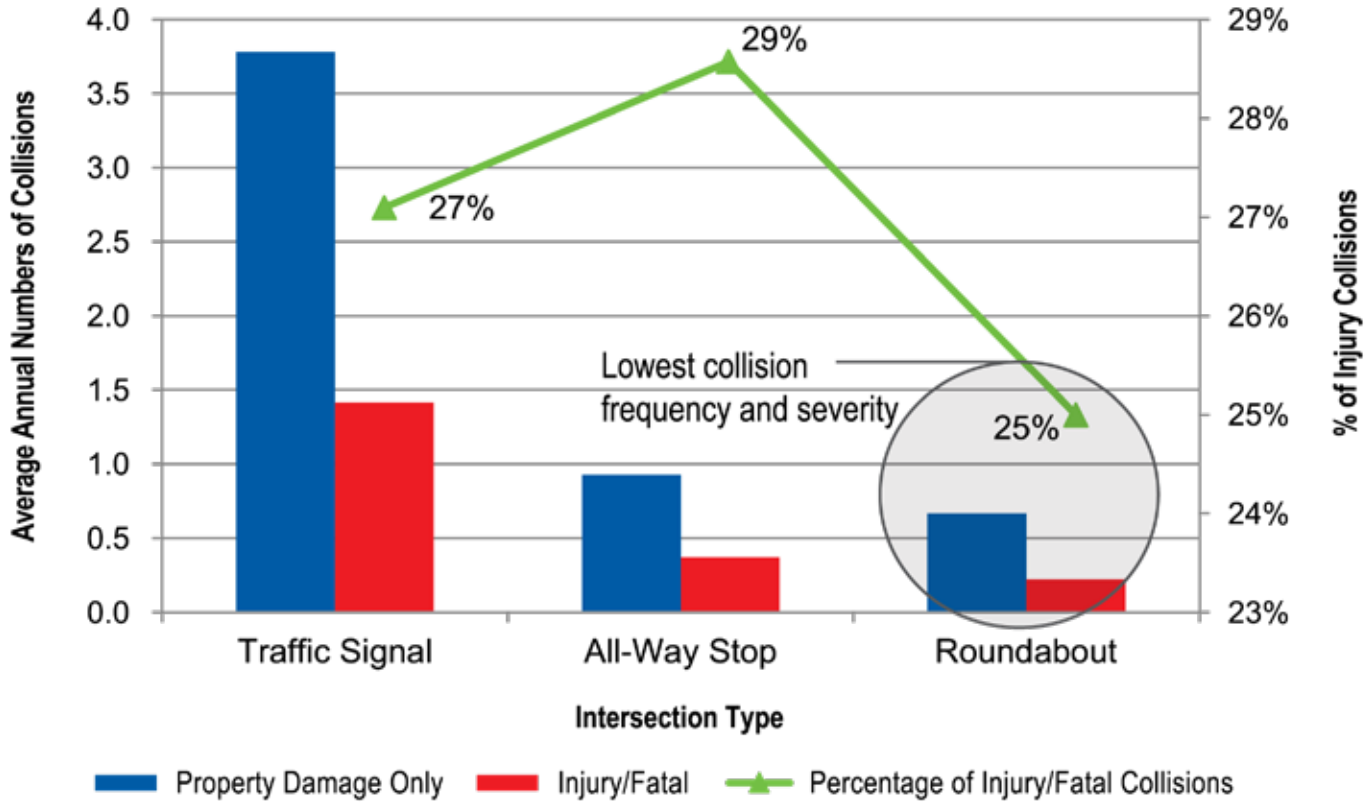
Superior safety performance and cost effectiveness

Three roundabouts have been installed by the Region to address mobility needs. The first Regional roundabout was installed in fall 2013 at the intersection of York-Durham Line and Durham Regional Road 5 in the City of Markham, as shown in the image below. This was followed in 2016 with the implementation of roundabouts at Ninth Line and Bayberry Street in the Town of Whitchurch-Stouffville and Lloydtown-Aurora Road and Keele Street in the Township of King. Two roundabouts on Regional roads have also been implemented by other jurisdictions; the Province at the intersection of Highway 48 and Bloomington Road and Durham Region at the intersection of Lake Ridge Road and Pefferlaw Road, both in 2019.

YORK-DURHAM LINE AND DURHAM REGIONAL ROAD 5 ROUNDABOUT CONFIGURATION

The following figure compares the three Regional roundabouts to intersections controlled by traffic signals and all-way stops, and demonstrates a roundabout's superior safety performance even though they generally handle higher volumes than all way stop controlled intersections.

COLLISIONS AT TRAFFIC SIGNALS, ALL-WAY STOPS AND ROUNDABOUTS



*Collision data is from YRP MVA reports

Although initial costs to construct a roundabout are much higher than a traffic signal, in the long-term, a roundabout is more cost-effective by eliminating traffic signal operating costs, reducing societal costs from lower collision rates, lowering collision severity and improving efficiency of the intersection. The Region will continue to consider roundabouts when reviewing intersection improvement opportunities given their benefits over other traffic controls under specific circumstances.

Red Light Cameras

Red light cameras began with 20 cameras in 2013 and expanded to 40 in 2017. Over the years, the red light camera program has shown positive impact in reducing right-angle collisions Region-wide at those signalized intersections; from 1,466 annual right angle collisions before 2013 to 698 after 2017; a reduction of 52%. Overall, Region-wide right angle collisions at signalized intersections were reduced by 31% one year after the deployment of red light cameras, and by 46% two years after. Experience in other jurisdictions suggests the red light camera program should aim for a 25% to 30% reduction in overall right angle collisions over time.

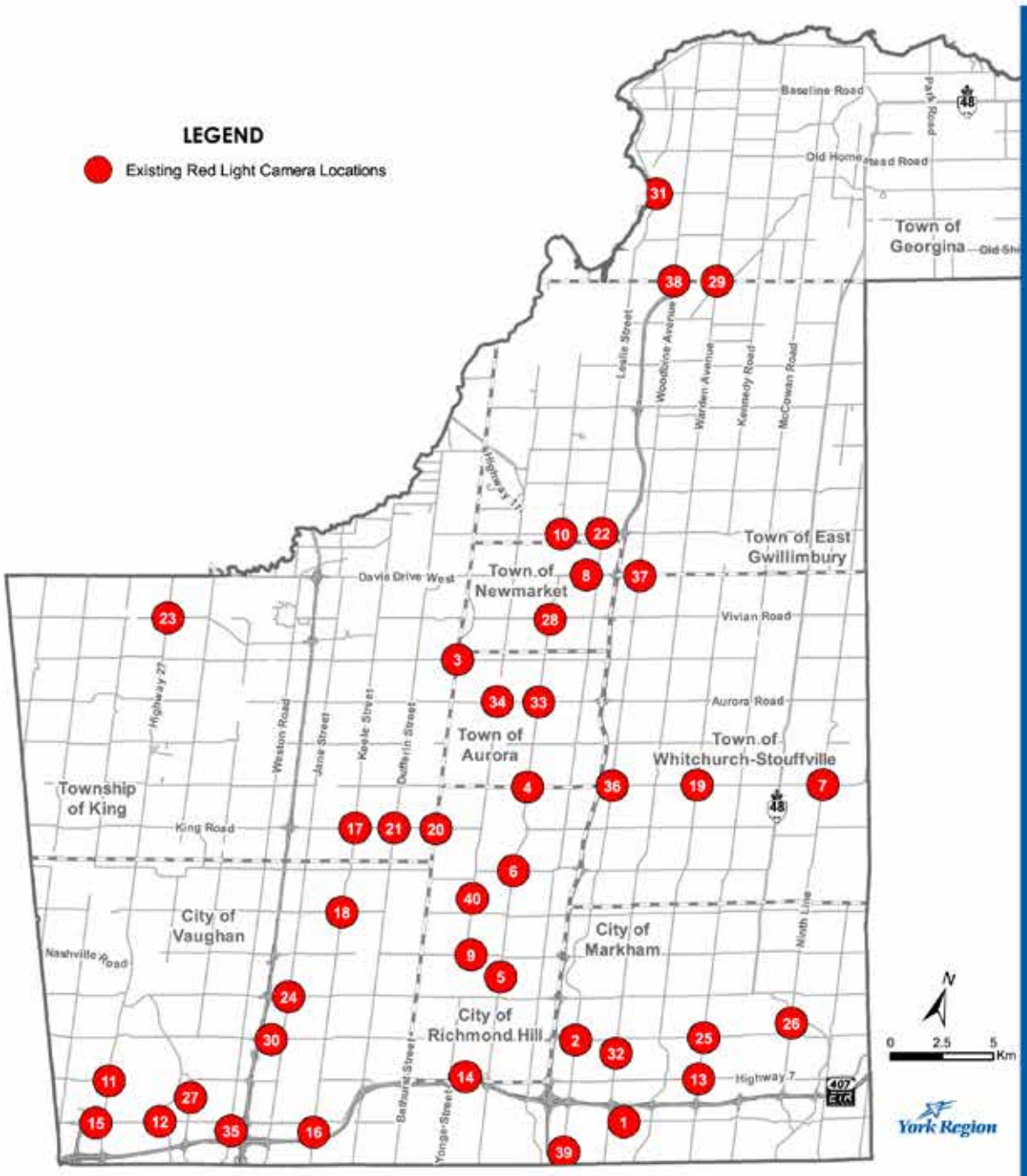
YORK REGION RIGHT-ANGLE COLLISION REDUCTION AT SIGNALIZED INTERSECTIONS

*Collision data is from YRP MVA reports

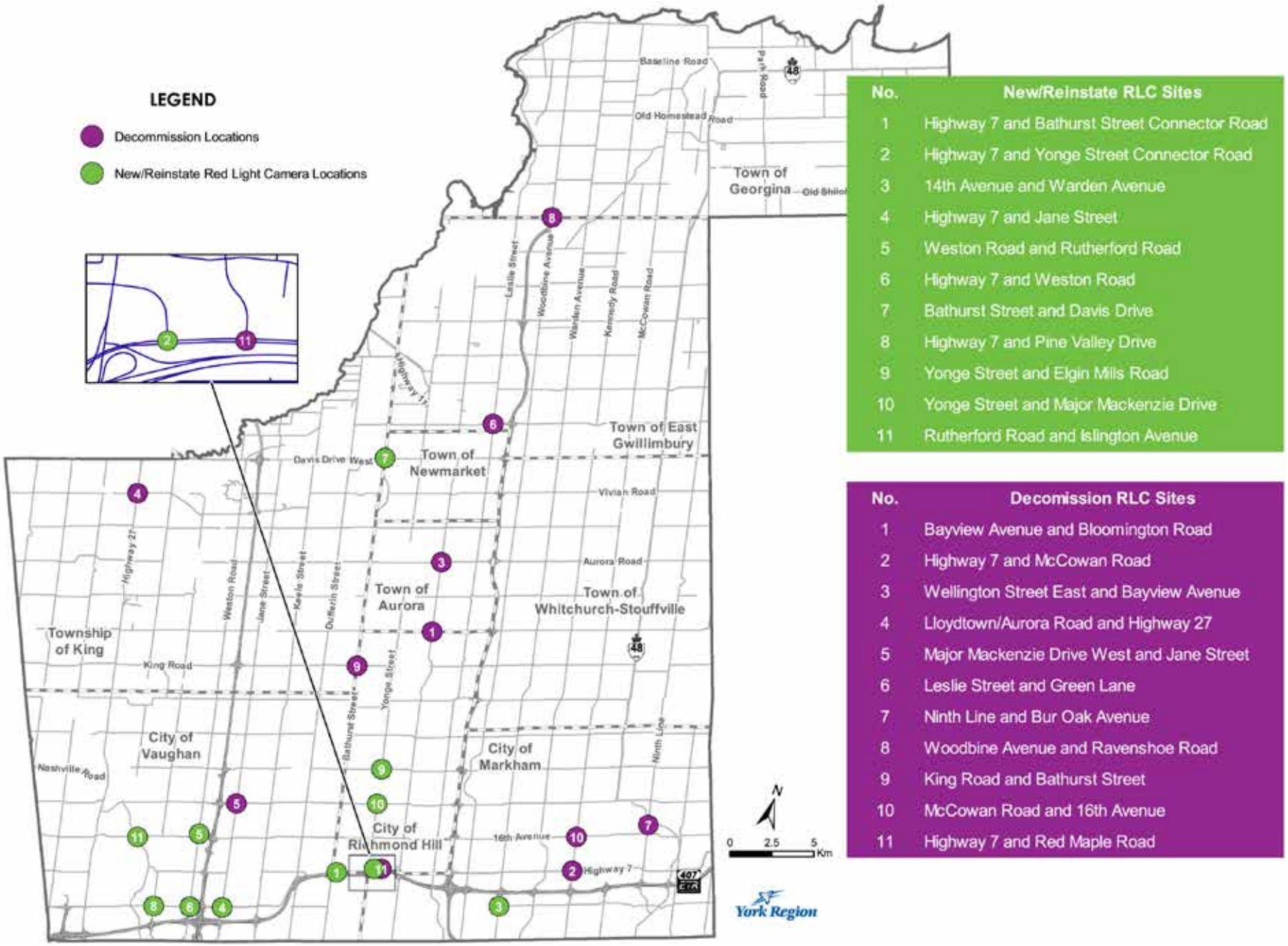
To determine which locations will most benefit from red light cameras, staff continue to monitor the performance of the program and will relocate some cameras to new locations to maximize program effectiveness. Red light camera locations are selected based on the following:

- Ranking locations with high right angle exposure using a risk analysis that takes into account volume, speed and road geometry
- Identify locations that experience high numbers of right angle collision types that a red light camera may reduce
- Performing conflict analysis through video observation to confirm red light running incidents at candidate locations
- Removing intersections that are part of major construction projects for prolonged periods, as red light cameras are not effective in construction areas

In 2019, five red light cameras were relocated, including reinstating two locations following completion of rapidway construction. Six red light cameras will be relocated in 2020 and 2021. The 29 existing red light camera locations, 11 decommission sites and 11 new or reinstated locations maps are shown on the following two pages.



No.	Existing RLC Sites
1	14th Avenue and Birchmount Road
2	16th Avenue and Woodbine Avenue
3	Bathurst Street and 18th Sideroad/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 Avenue and Ninth Line
8	Davis Drive and Ashton Road/Carlson Drive
9	Elgin Mills Road 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/Roybridge Gate
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
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 and Yonge Street
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
40	Yonge Street and Jefferson Forest Drive/Tower Hill Road



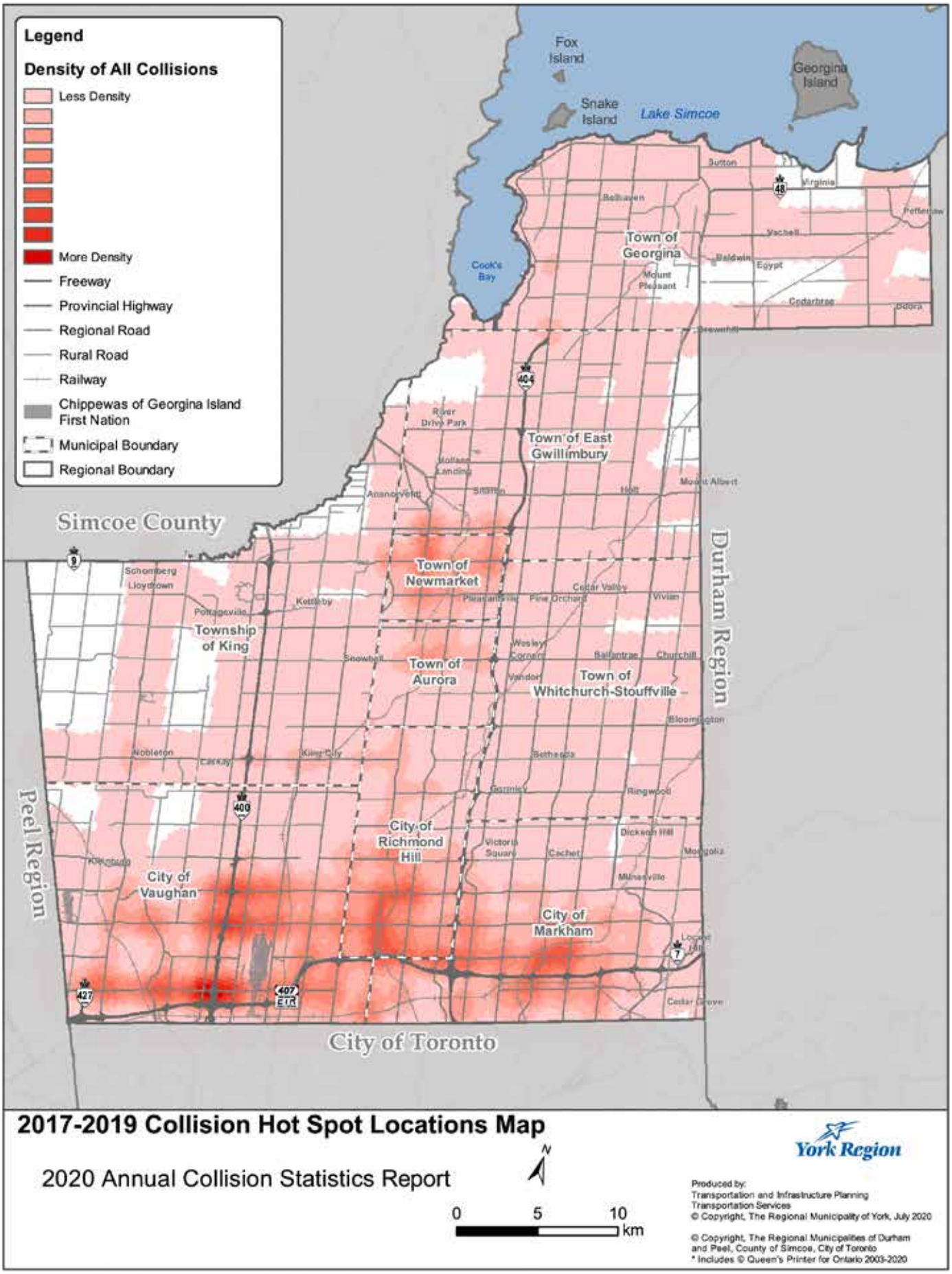
No.	New/Reinstate RLC Sites
1	Highway 7 and Bathurst Street Connector Road
2	Highway 7 and Yonge Street Connector Road
3	14th Avenue and Warden Avenue
4	Highway 7 and Jane Street
5	Weston Road and Rutherford Road
6	Highway 7 and Weston Road
7	Bathurst Street and Davis Drive
8	Highway 7 and Pine Valley Drive
9	Yonge Street and Elgin Mills Road
10	Yonge Street and Major Mackenzie Drive
11	Rutherford Road and Islington Avenue

No.	Decomission RLC Sites
1	Bayview Avenue and Bloomington Road
2	Highway 7 and McCowan Road
3	Wellington Street East and Bayview Avenue
4	Lloydtown/Aurora Road and Highway 27
5	Major Mackenzie Drive West and Jane Street
6	Leslie Street and Green Lane
7	Ninth Line and Bur Oak Avenue
8	Woodbine Avenue and Ravenshoe Road
9	King Road and Bathurst Street
10	McCowan Road and 16th Avenue
11	Highway 7 and Red Maple Road

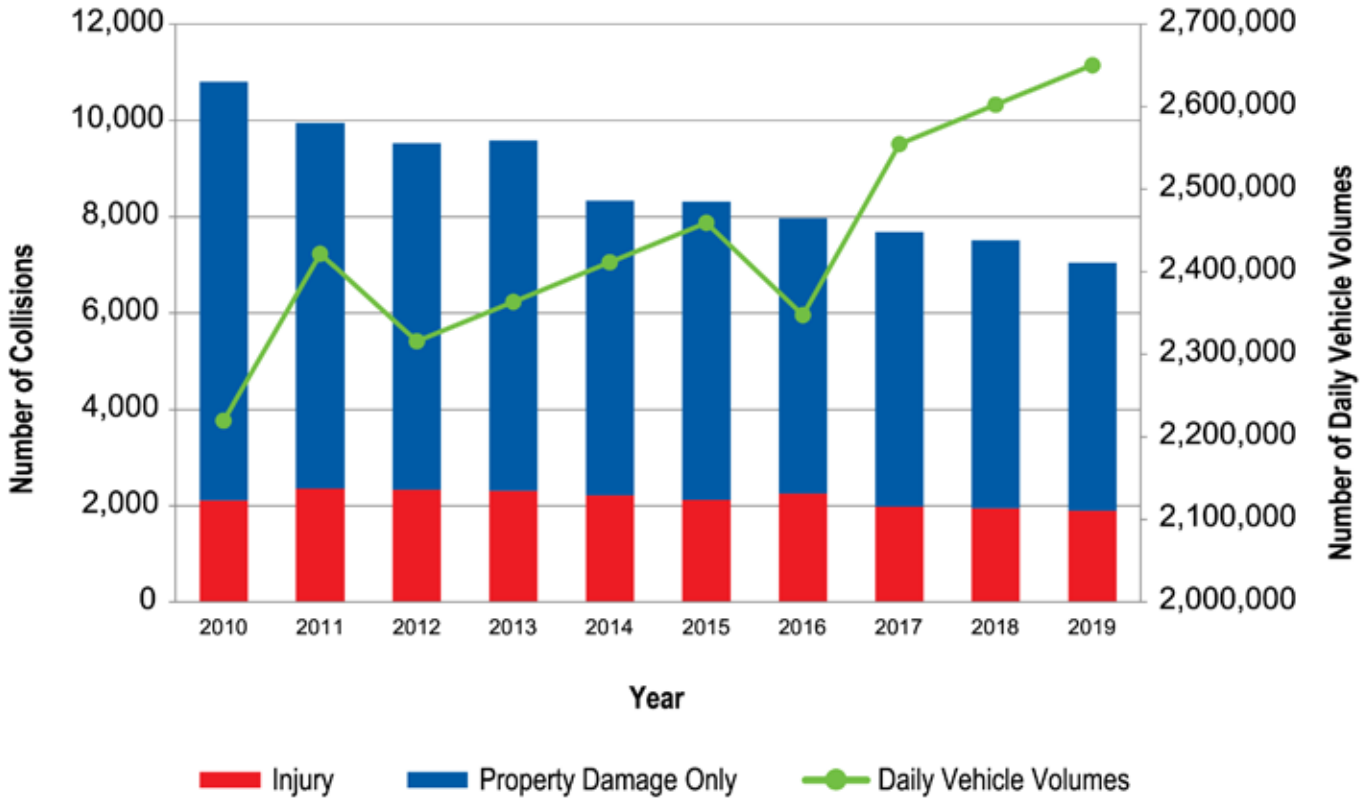
Collision Frequency and Severity

York Region's 2010 to 2019 collision statistics show a continuous decreasing trend in total collisions since 2010, with a 10-year low in number of motor vehicle accidents of just over 7,000 collisions in 2019. Despite a continued increasing trend in daily traffic volumes to over 2.65 million trips per day and a forecasted growth by 2% annually. Collisions with property damage only and no injuries, accounted for 73% of all collisions. Changes in reporting limits for minor collisions for damage from $1,000 to $2,000 in 2015 may have resulted in a reduced number of total collisions reported to the police.

A collision density map showing the locations of all reported motor vehicle accidents on Regional roads from 2017 to 2019 is shown on the following page.


Legend
Density of All Collisions
Less Density
More Density
Freeway
Provincial Highway
Regional Road
Rural Road
Railway
Chippewas of Georgina Island First Nation
Municipal Boundary
Regional Boundary
Fox Island
Georgina Island
Snake Island
Lake Simcoe
Cook's Bay
Town of Georgina
Town of East Gwillimbury
Town of Newmarket
Township of King
Town of Aurora
Town of Whitchurch-Stouffville
City of Richmond Hill
City of Vaughan
City of Markham
Simcoe County
Durham Region
Peel Region
City of Toronto
2017-2019 Collision Hot Spot Locations Map
2020 Annual Collision Statistics Report
N
0 5 10 km
York Region
Produced by:
Transportation and Infrastructure Planning
Transportation Services
© Copyright, The Regional Municipality of York, July 2020
© Copyright, The Regional Municipalities of Durham and Peel, County of Simcoe, City of Toronto
* Includes © Queen's Printer for Ontario 2003-2020

COLLISION FREQUENCY BETWEEN 2010 AND 2019



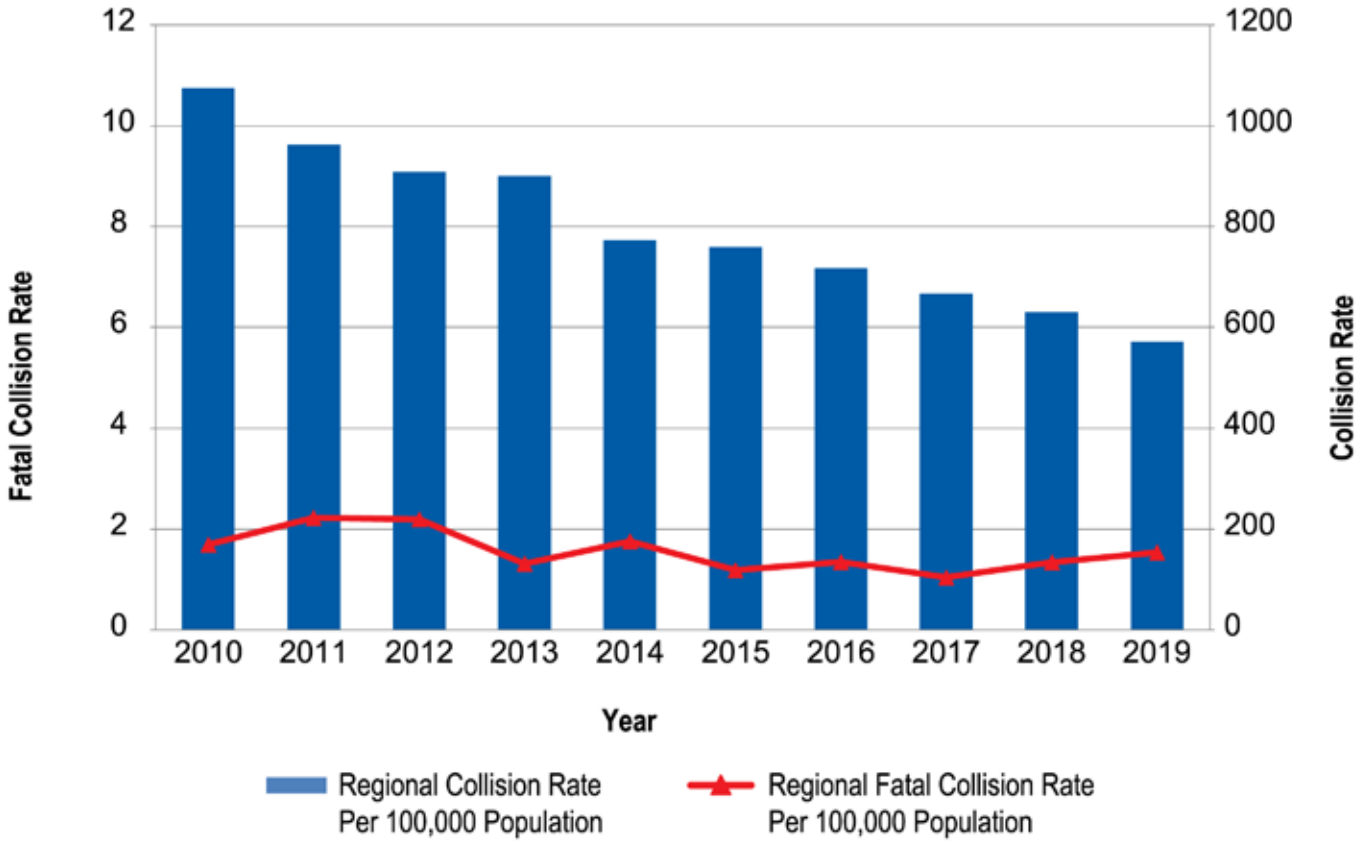
*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Injury collisions are decreasing

While total collision statistics show a decreasing trend, the number of injury collisions has also generally decreased since 2011, despite experiencing a spike in 2016 with over 2,200 injury collisions. In 2019, the number of injury collisions further dropped to a decade low, with less than 1,900 injury collisions.

The decrease in injury collisions can be partially attributed to advancements in vehicle safety features and technology, such as brake assist, forward collision warning, automated emergency braking, blind spot warning, lane departure warning, and lane keep assist, but also to strengthened legislation, increased fines and road safety programs.

FREQUENCY OF FATAL COLLISIONS, BETWEEN 2010 AND 2019

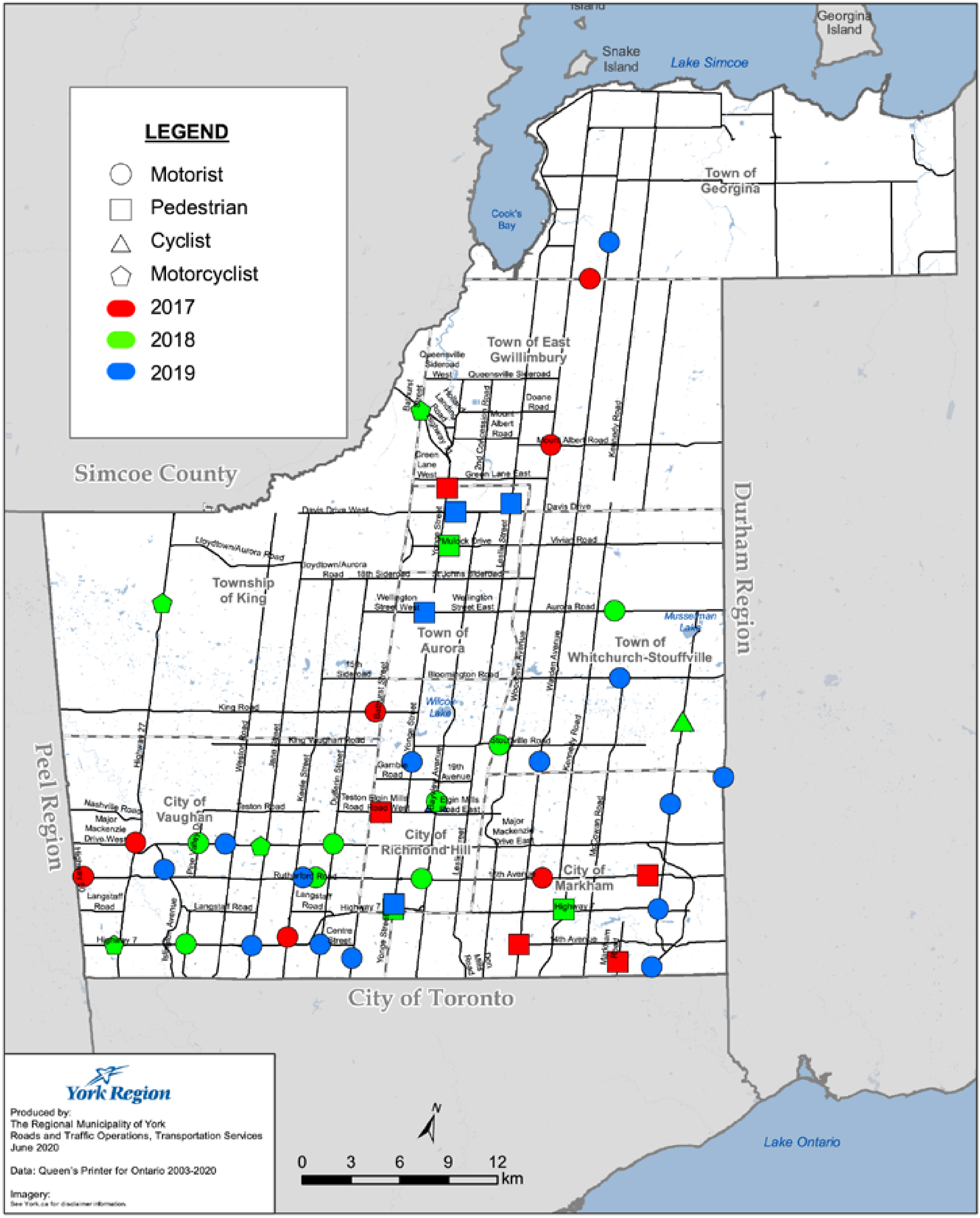


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Fatal collisions can spike in any given year

The number of fatal collisions continues to show fluctuations year-over-year. After the Region experienced a 10-year low in fatal collisions in 2017, with a total of 12 fatalities, numbers rose to 19 in 2019, the highest since 2012. Fatal collisions are events that have a tendency to spike in any given year. The 2017- 2019 fatal collision locations map is illustrated on the following page.

York Region | 2017-2019 Fatal Collision Locations



Top 10 High Collision Locations by Town/City

The 2017 to 2019 top ten collision frequency locations in York Region continued to be those situated at intersections along high volume arterial corridors, including Highway 7, Major Mackenzie Drive, Rutherford Road/16th Avenue, Davis Drive, Green Lane and Yonge Street. Eight of the top 10 locations were also noted as hot spots in last year's report.

These arterial roads are York Region's most travelled roadways providing a continuous link between York Region and Peel Region, Durham Region and Simcoe County, and connecting Regional roads to Highways 11, 427, 400, 404 and 407.

TOP 10 HIGHEST COLLISION FREQUENCY LOCATIONS, THREE-YEAR TOTAL, 2017-2019

Description (Rank in Previous Report)	Three-Year Injury Collisions	Three-Year Total Collisions
1. Highway 7 and Weston Road (1)	24	101
2. Highway 7 and Keele Street (4)	15	93
3. Yonge Street and Green Lane (2)	17	84
4. Islington Avenue and Rutherford Road (6)	24	83
5. Weston Road and Rutherford Road (3)	20	80
6. Major Mackenzie Drive East and Bayview Avenue (10)	23	80
7. Davis Drive West and Bathurst Street (8)	24	79
8. Yonge Street and Carrville Road/16th Avenue(7)	15	72
9. Yonge Street and Major Mackenzie Drive (11)	15	72
10. Highway 7 and Jane Street (13)	11	70

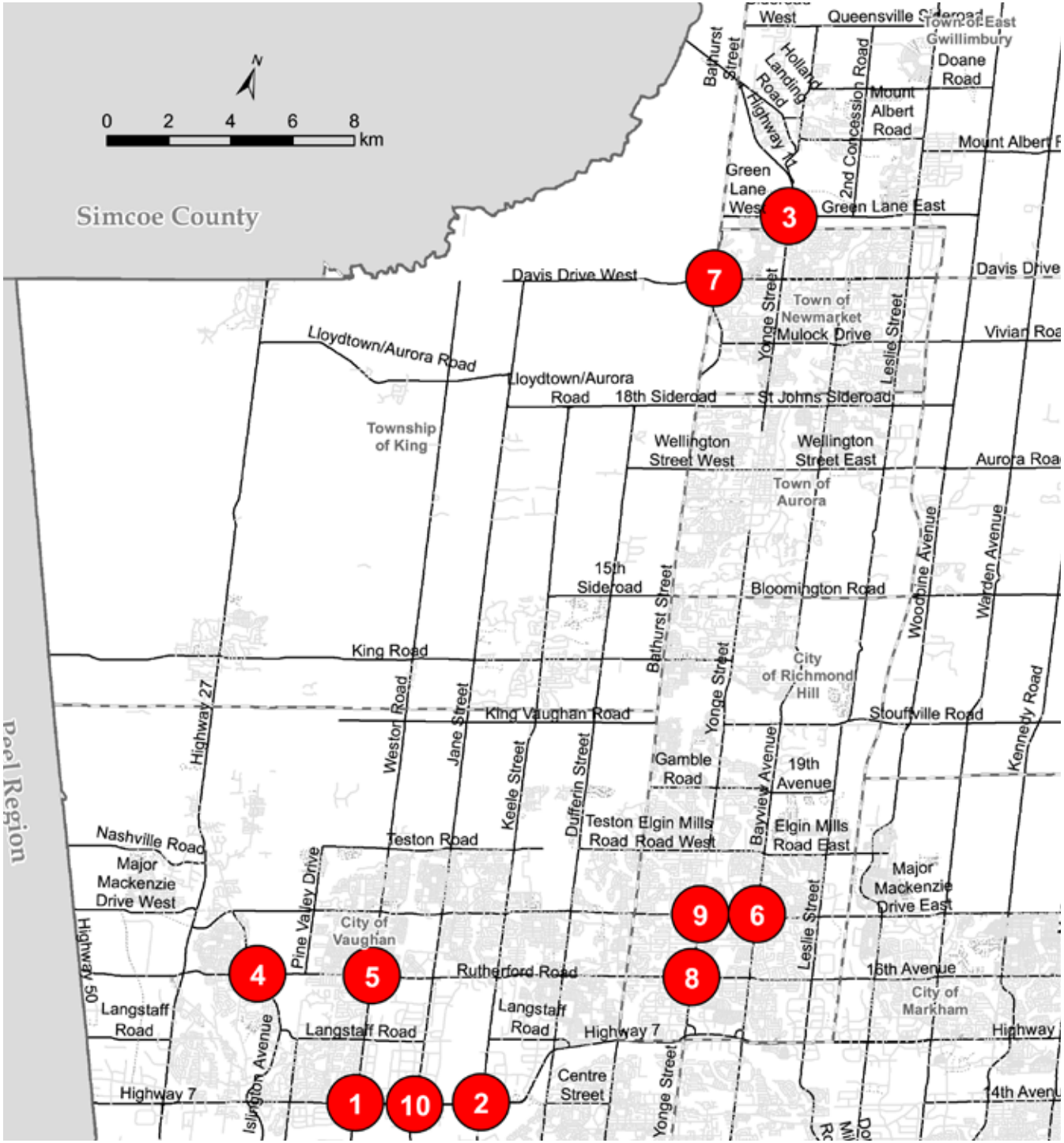
*Collision data is from YRP MVA reports

With the support of York Region Council, for the past few years York Region has invested millions of dollars on road capital projects along these most travelled roadways. Projects include road reconstruction, road widening, bus rapid transit lanes and vivaNext station construction, intersection upgrades and improvements to enhance traffic operations, to improve safety for all road users. York Region is investing $3.1billion in the Regional transportation network over the next 10 years.

Top Ten Collision Locations in York Region

The following maps illustrate the top ten collision locations in York Region and for each of the nine local municipalities for the three-year period 2017 to 2019.

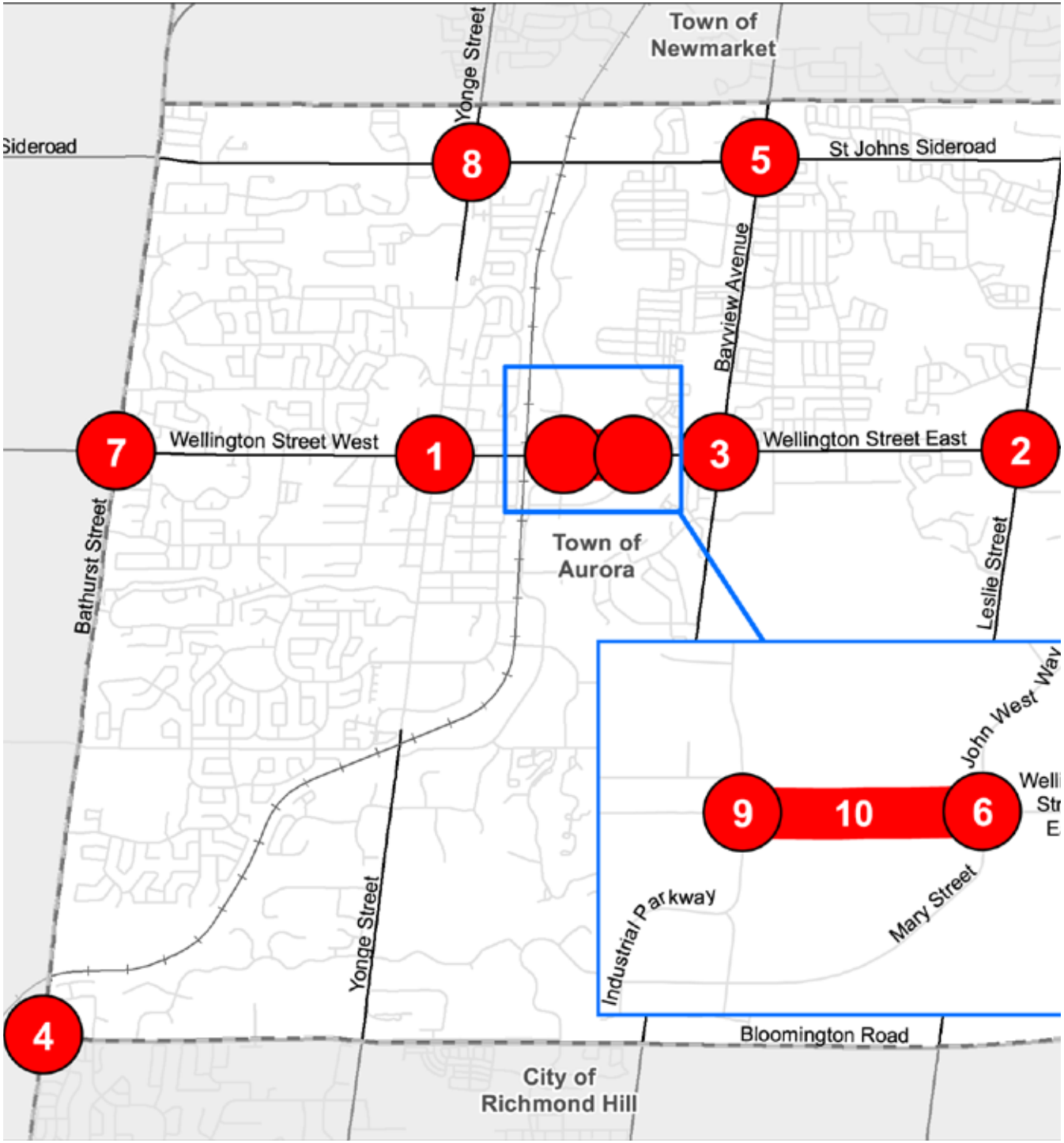
- York Region
- Town of Aurora
- Town of East Gwillimbury
- Town of Georgina
- Township of King
- City of Markham
- Town of Newmarket
- City of Richmond Hill
- City of Vaughan
- Town of Whitchurch-Stouffville



TOP 10 COLLISION LOCATIONS IN YORK REGION

1. Highway 7 and Weston Road (*101)
2. Keele Street and Highway 7 (*93)
3. Yonge Street and Green Lane East/ Green Lane West (*84)
4. Islington Avenue and Rutherford Road (*83)
5. Weston Road and Rutherford Road (*80)
6. Major Mackenzie Drive East and Bayview Avenue (*80)
7. Davis Drive West and Bathurst Street (*79)
8. Yonge Street and Carrville Road/ 16th Avenue (*72)
9. Yonge Street and Major Mackenzie Drive West/Major Mackenzie Drive East (*72)
10. Highway 7 at Jane Street (*70)

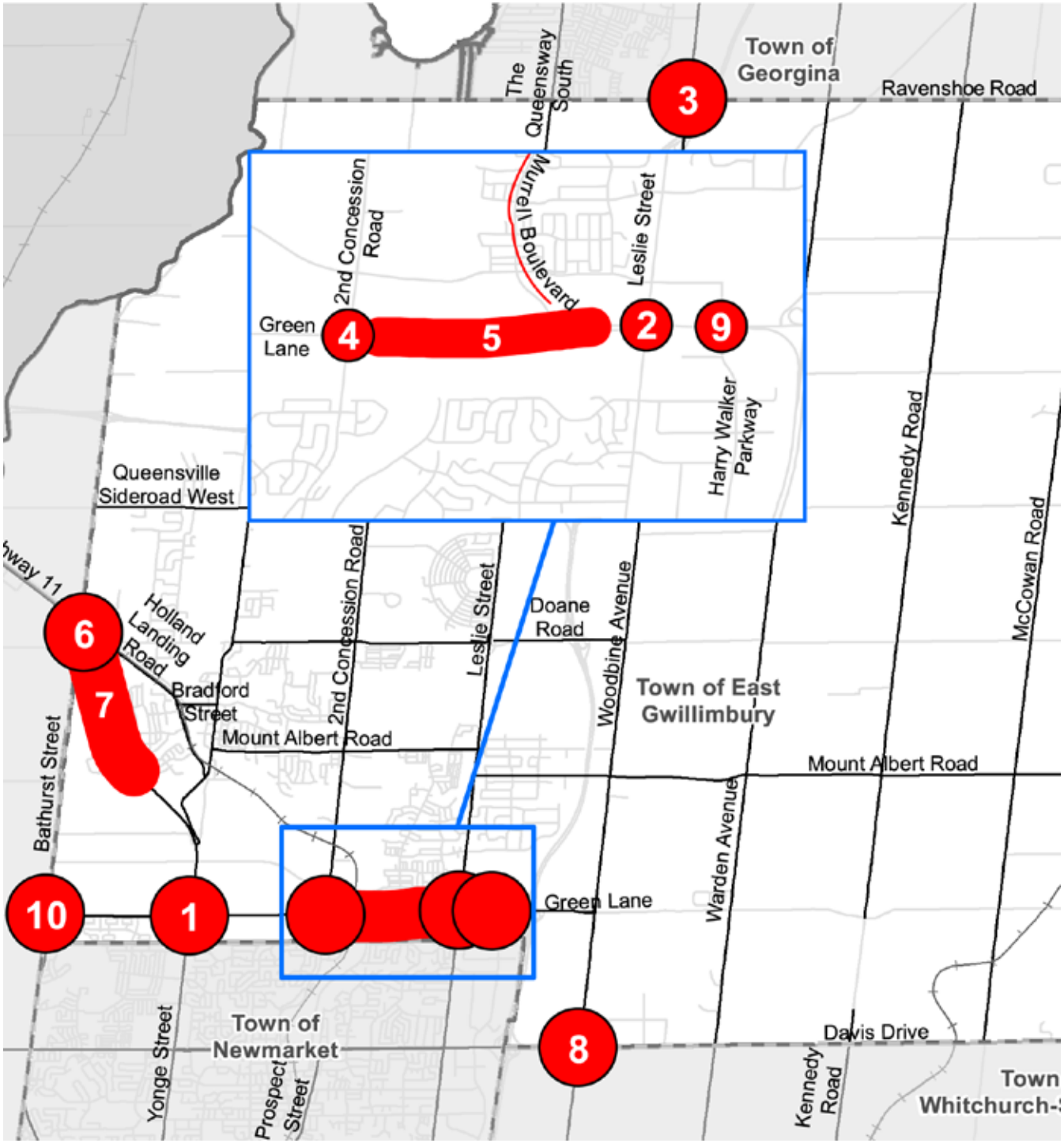
* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE TOWN OF AURORA

1. Yonge Street and Wellington Street East/West (*64)
2. Leslie Street and Wellington Street East (*42)
3. Wellington Street East amd Bayview Avenue (*37)
4. Bathurst Street and 15th Sideroad/ Bloomington Road (*37)
5. St John's Sideroad and Bayview Avenue (*34)
6. Wellington Street East and Mary Street/ John West Way (*31)
7. Wellington Street West and Bathurst Street (*31)
8. Yonge Street and St John's Sideroad (*28)
9. Wellington Street East and Industrial Parkway North/Industrial Parkway South (*23)
10. Wellington Street East between Industrial Parkway North/Industrial Parkway South and Mary Street/John West Way (*18)

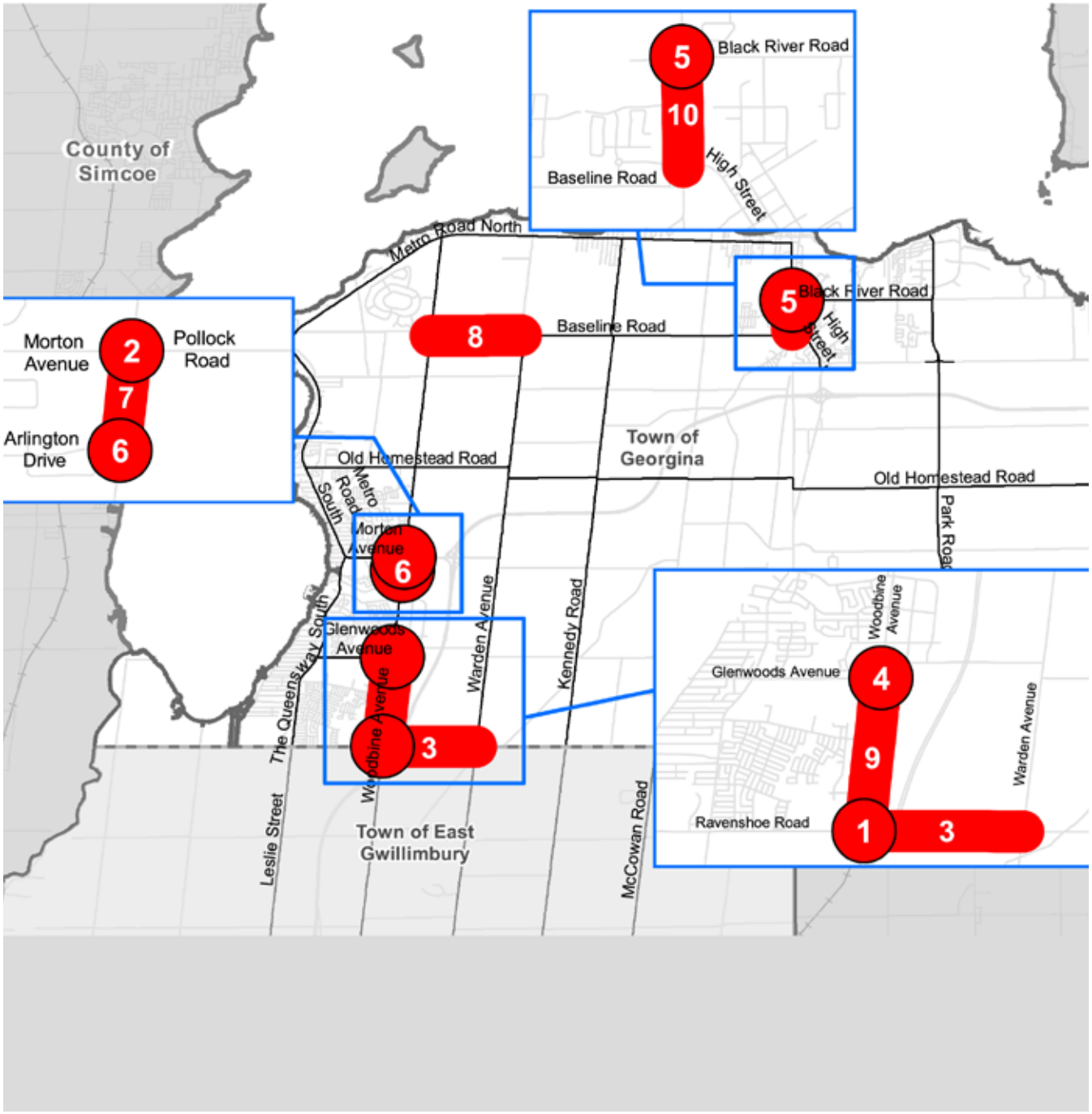
* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE TOWN OF EAST GWILLIMBURY

1. Yonge Street and Green Lane East/ Green Lane West (*84)
2. Leslie Street and Green Lane East (*62)
3. Woodbine Avenue and Ravenshoe Road (*60)
4. Green Lane East and Main Street North/ 2nd Concession Road (*50)
5. Green Lane East between East Gwillimbury GO Station and Old Green Lane (*27)
6. Highway 11 and Bathurst Street (*23)
7. Highway 11 between Sherwood Glen and Bathurst Street (*22)
8. Woodbine Avenue and Davis Drive (*20)
9. Green Lane East and Harry Walker Parkway (*17)
10. Green Lane West & Miller's Sideroad/ Bathurst Street (*15)

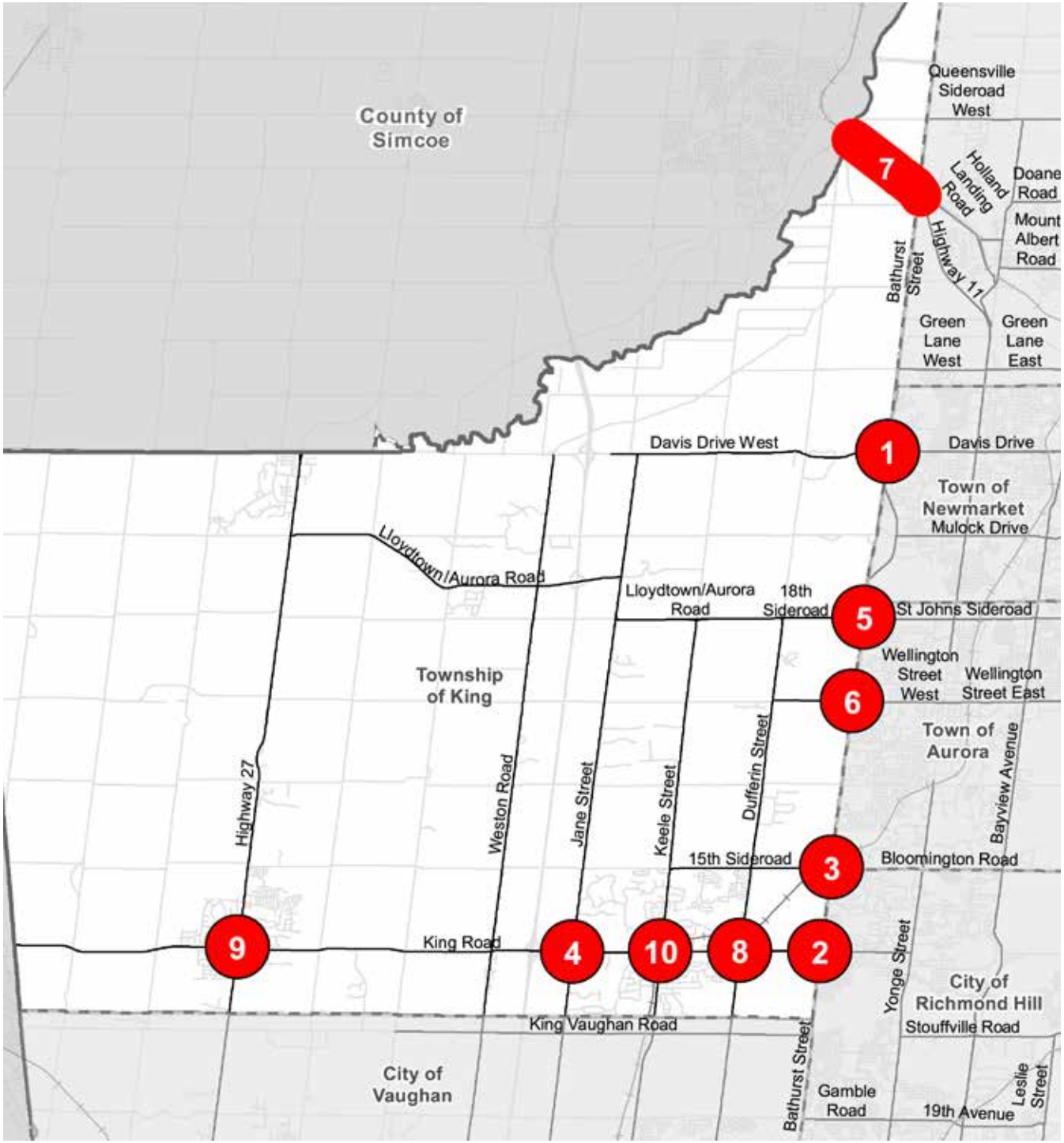
* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE TOWN OF GEORGINA

1. Woodbine Avenue and Ravenshoe Road (*60)
2. Woodbine Avenue and Morton Avenue/ Pollock Road (*22)
3. Ravenshoe Road between Woodbine Avenue and Warden Avenue (*21)
4. Woodbine Avenue and Glenwoods Avenue (south leg) (*11)
5. Dalton Road and Black River Road (*11)
6. Woodbine Avenue and Arlington Drive (*11)
7. Woodbine Avenue between Arlington Drive and Morton Avenue/Pollock Road (*11)
8. Baseline Road between Woodbine Avenue and Civic Centre Road (*11)
9. Woodbine Avenue between Ravenshoe Road and Glenwoods Avenue (*11)
10. Dalton Road between McDonough Avenue/ High Street and Black River Road (*10)

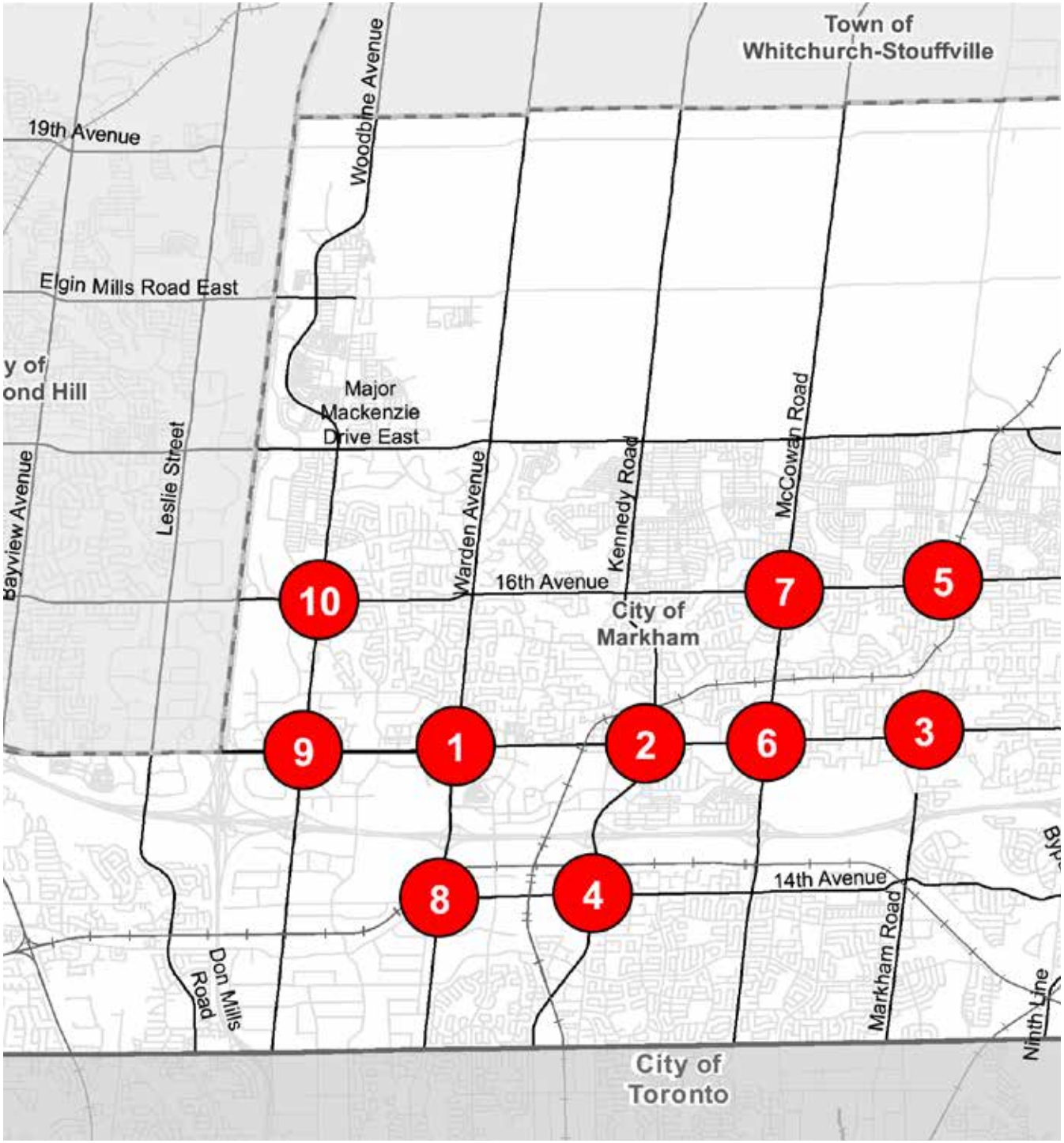
* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE TOWNSHIP OF KING

1. Davis Drive West and Bathurst Street (*79)
2. King Road and Bathurst Street (*38)
3. Bathurst Street and 15th Sideroad/ Bloomington Road (*37)
4. King Road and Jane Street (*37)
5. Bathurst Street and 18th Sideroad/St. John's Sideroad (*31)
6. Wellington Street West and Bathurst Street (*31)
7. Highway 11 between Bathurst Street and Kalvers Street (*30)
8. King Road and Dufferin Street (*27)
9. King Road and Highway 27 (*26)
10. Keele Street and King Road (*24)

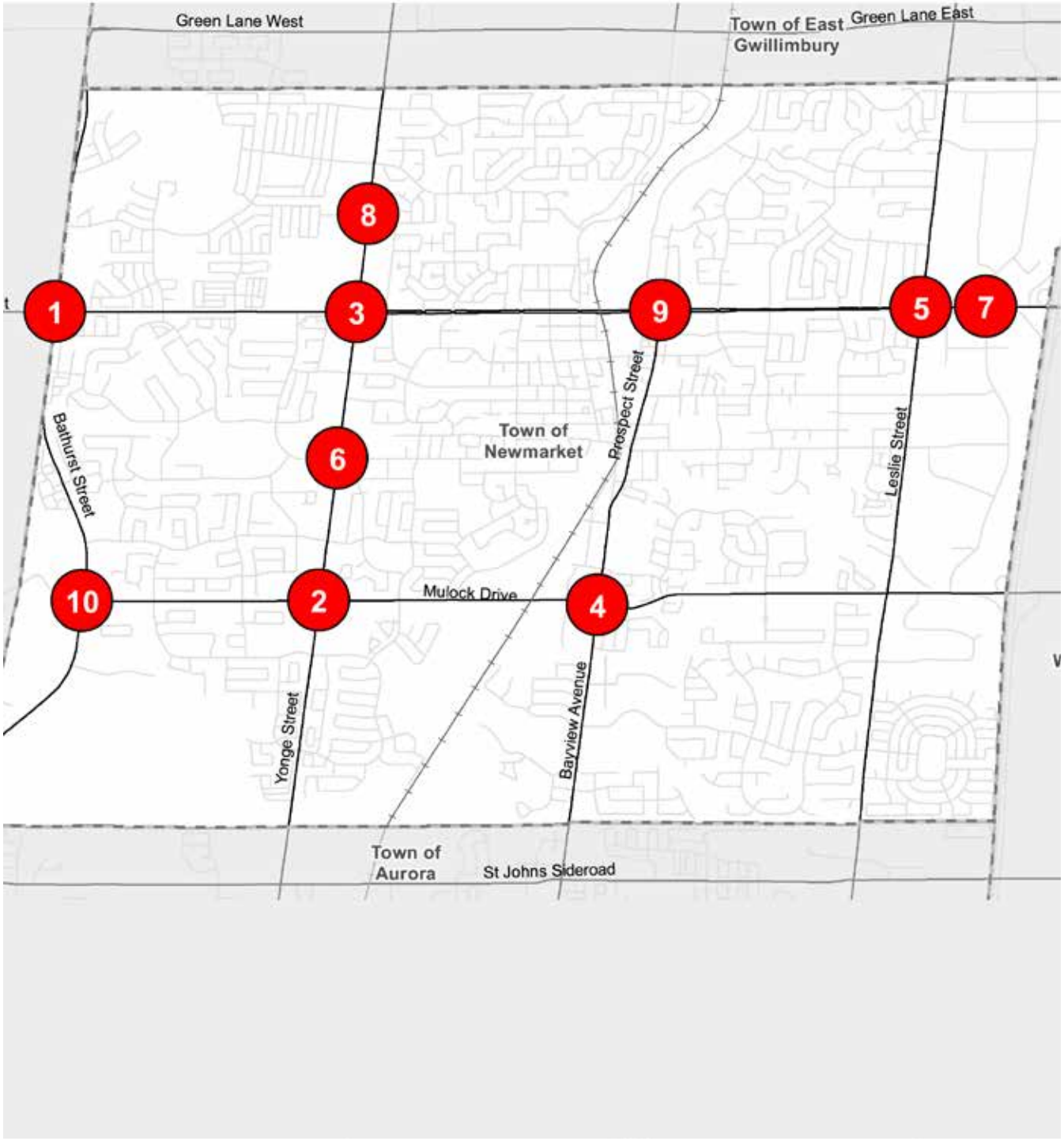
* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE CITY OF MARKHAM

1. Highway 7 at Warden Avenue (*66)
2. Highway 7 at Kennedy Road (*62)
3. Highway 7 and Main Street Markham South/Main Street Markham North (*61)
4. Kennedy Road and 14th Avenue (*58)
5. 16th Avenue and Main Street Markham North/Highway 48 (*57)
6. Highway 7 and McCowan Road (*57)
7. McCowan Road and 16th Avenue (*53)
8. Warden Avenue and 14th Avenue/ Alden Road (*52)
9. Highway 7 and Woodbine Avenue (*52)
10. 16th Avenue and Woodbine Avenue (*52)

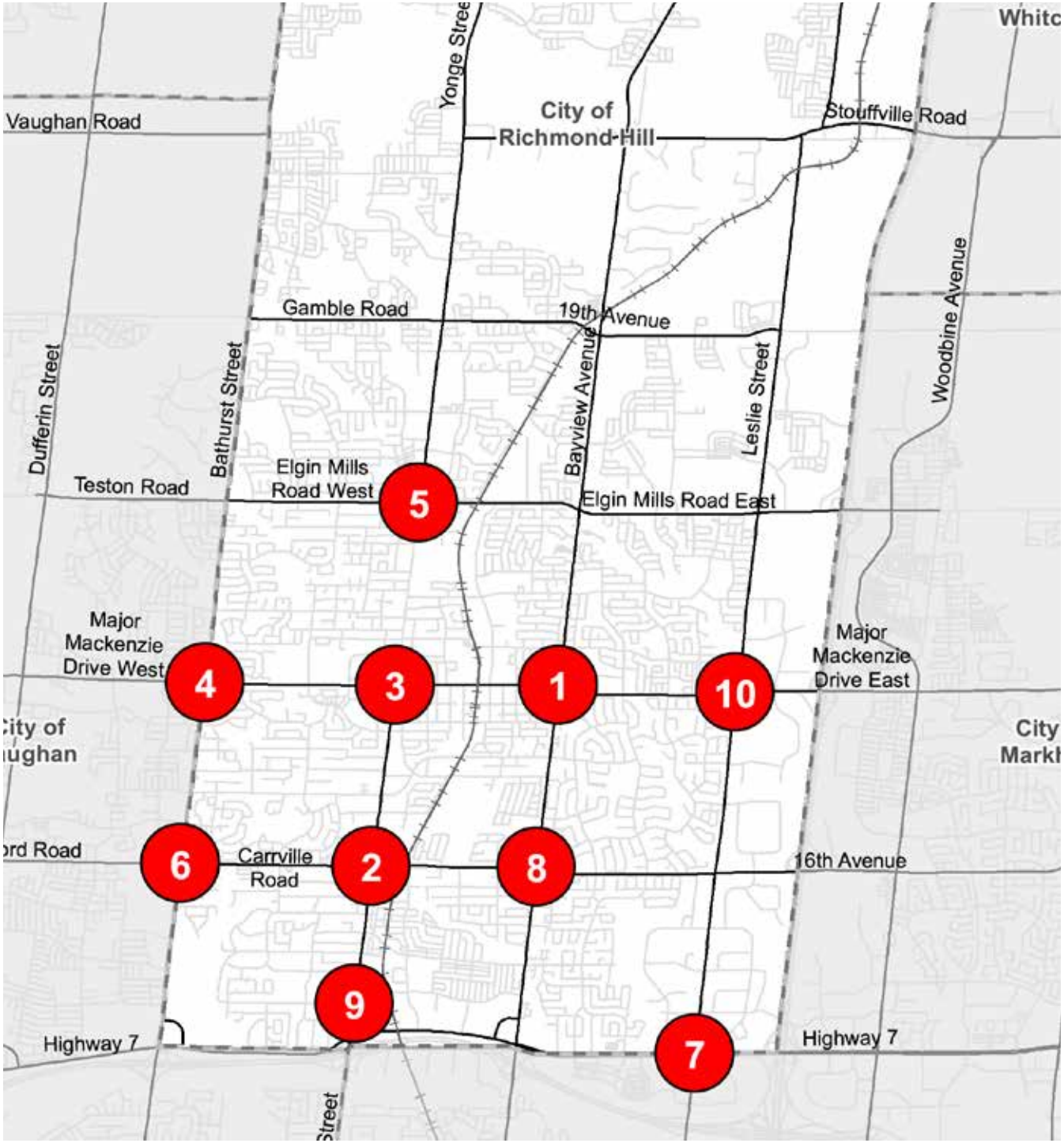
* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE TOWN OF NEWMARKET

1. Davis Drive West and Bathurst Street (*79)
2. Yonge Street and Mulock Drive (*61)
3. Yonge Street and Davis Drive/ Davis Drive West (*59)
4. Mulock Drive and Bayview Avenue/Prospect Street (*43)
5. Leslie Street and Davis Drive (*40)
6. Yonge Street and Eagle Street/ Eagle Street West (*37)
7. Davis Drive and Harry Walker Parkway/ Harry Walker Parkway South (*33)
8. Yonge Street and Kingston Road/ Dawson Manor Boulevard (*33)
9. Davis Drive and Lundy's Lane/ Prospect Street (*30)
10. Bathurst Street and Mulock Drive (*30)

* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE CITY OF RICHMOND HILL

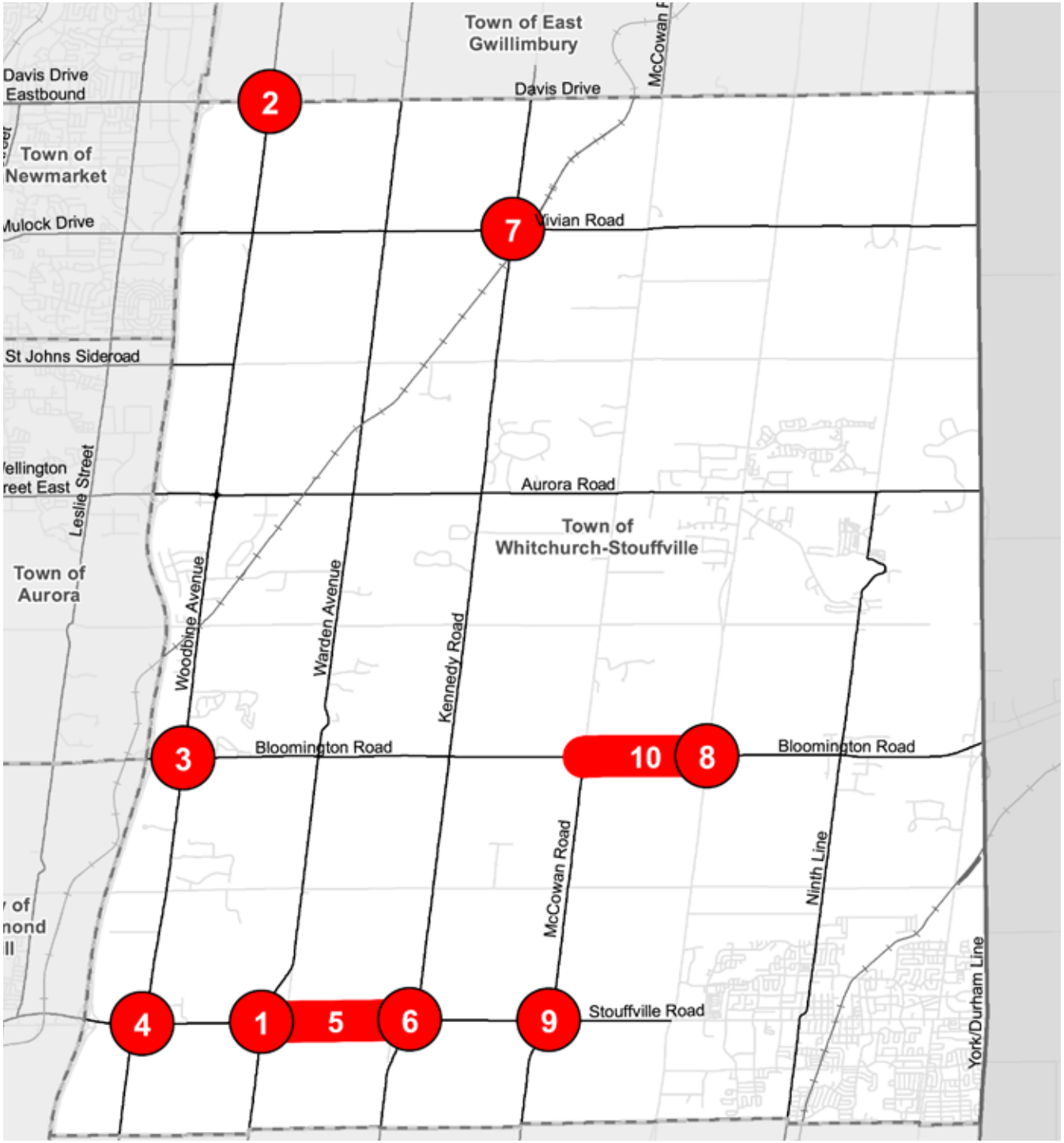
1. Major Mackenzie Drive East and Bayview Avenue (*80)
2. Yonge Street and Carrville Road/ 16th Avenue (*72)
3. Yonge Street and Major Mackenzie Drive West/Major Mackenzie Drive East (*72)
4. Major Mackenzie Drive West and Bathurst Street (*62)
5. Yonge Street and Elgin Mills Road West/ Elgin Mills Road East (*61)
6. Bathurst Street at Carrville Road/ Rutherford Road (*56)
7. Highway 7 and Leslie Street (*51)
8. Bayview Avenue and 16th Avenue (*49)
9. Yonge Street and Garden Avenue/ Highway 7 - Yonge Street Ramp (*46)
10. Leslie Street and Major Mackenzie Drive East (*42)

* Represents the number of collisions between 2017 and 2019

TOP 10 COLLISION LOCATIONS IN THE CITY OF VAUGHAN

1. Highway 7 and Weston Road (*101)
2. Keele Street and Highway 7 (*93)
3. Islington Avenue and Rutherford Road (*83)
4. Weston Road and Rutherford Road (*80)
5. Highway 7 and Jane Street (*70)
6. Rutherford Road and Sweetriver Boulevard (*69)
7. Highway 27 and Rutherford Road (*69)
8. Edgeley Boulevard/Interchange Way and Highway 7 (*69)
9. Major Mackenzie Drive West and Weston Road (*69)
10. Highway 7 and Pine Valley Drive (*66)

* Represents the number of collisions between 2017 and 2019



TOP 10 COLLISION LOCATIONS IN THE TOWN OF WHITCHURCH-STOUFFVILLE

1. Stouffville Road and Warden Avenue (*25)
2. Woodbine Avenue and Davis Drive (*20)
3. Woodbine Avenue and Bloomington Road (*18)
4. Woodbine Avenue and Stouffville Road (*18)
5. Stouffville Road between Warden Avenue and Kennedy Road (*18)
6. Kennedy Road and Stouffville Road (*17)
7. Kennedy Road and Vivian Road (*15)
8. Bloomington Road and Highway 48 (*14)
9. Stouffville Road and McCowan Road (*13)
10. Bloomington Road btwn McCowan Road and Highway 48 (*13)

* Represents the number of collisions between 2017 and 2019

TRANSPORTATION SERVICES

17250 Yonge Street, Newmarket, Ontario L3Y 6Z1
1-877-464-9675 ext. 75000
transportation@york.ca

York Region