CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF SEPTEMBER 27, 2021

Item 32, Report No.39, of the Committee of the Whole, which was adopted without amendment by the Council of the City of Vaughan on September 27, 2021.

32. ENDORSING NATIONAL TEEN DRIVER SAFETY WEEK AND REQUESTING THE MINISTRY OF TRANSPORTATION TO REVIEW MEASURES IMPACTING NEWLY LICENSED DRIVERS

The Committee of the Whole recommends approval of the recommendations contained in the resolution of Councillor Yeung Racco and Regional Councillor Rosati dated September 14, 2021.

Member's Resolution

Submitted by Councillor Yeung Racco and Regional Councillor Rosati

Whereas, City of Vaughan Council is concerned about the continued occurrence of serious motor vehicle collisions involving newly licensed drivers and drivers under the age of 18; and

Whereas, a shocking and tragic collision involving a 16-year old driver occurred on May 16th, 2021 on Athabasca Avenue in the City of Vaughan, resulting in the fatality of two young children; and

Whereas, City of Vaughan Council deferred the Resolution titled “Raising the Legal Age for a Licensed Driver from 16 to 18” on June 1, 2021 to a September Committee of the Whole meeting for further review and research; and

Whereas, the Province of Ontario has legislative authority over driver licensing, highways, automobile insurance, and the enforcement and prosecution of the federal criminal law; and

Whereas, the Ontario Ministry of Transportation administers the Highway Traffic Act, R.S.O. 1990, c. H.8; and

Whereas, the Ontario Ministry of Transportation published the “Ontario Road Safety Annual Report 2018”, being the most recent report issued, containing statistics that demonstrate that the percentage of young, licensed drivers, ages 17 to 20, that were involved in vehicle collisions is higher than any other age group; and

Whereas, York Region published “2020 Traveller Safety Report” which provided that, based on collision data from the York Regional Police motor vehicle accident reports, drivers below the age of 25 have a higher at-fault collision rate and higher fatality rate in collisions than any other age group; and

…/2

Whereas, the Canadian Council of Motor Transport Administrators published "Canada's Road Safety Strategy 2025" and identifies drivers that are either under the age of 25 or have less than two years of driving experience as a 'risk group' based on several contributing factors, some including distracted driving, impaired driving, speeding, passive safety, and road infrastructure; and

Whereas, City of Vaughan Council wishes to see change effected to Ontario's driving laws under the Highway Traffic Act, R.S.O. 1990, c. H.8, with respect to newly licensed drivers; and

Whereas, Parachute, a Canadian charity, has launched a national awareness campaign to help educate Canadians on road safety and increase awareness on preventing serious and fatal injuries caused by motor vehicle accidents; and

Whereas, National Teen Driver Safety Week, hosted by Parachute and supported by many other Canadian jurisdictions, is a week dedicated to educating the youth about road safety and raise awareness of risks associated with driving to help prevent youth fatalities on the road across Canada.

It is therefore recommended:

1. That City of Vaughan Council request for the Ministry of Transportation of Ontario to undertake a review of the Highway Traffic Act, R.S.O. 1990, c. H.8 with respect to measures impacting newly licensed drivers, such as implementing additional training and penalty provisions, to achieve greater education, and awareness of road safety and increase accountability and responsibility of new and young drivers through the legislative framework; and
2. That City of Vaughan Council unanimously endorse National Teen Driver Safety Week, to be held October 17 to 23, 2021; and
3. That the City Clerk forward a copy of this resolution to the Premier, the Minister of Transportation, the Minister of Municipal Affairs and Housing, all municipalities in Ontario, the York Regional Police, the Ontario Safety League, the Ontario Association of Chiefs of Police, and Parachute.

MEMBER'S RESOLUTION

Committee of the Whole (1) Report

DATE: Tuesday, September 14, 2021

TITLE: ENDORSING NATIONAL TEEN DRIVER SAFETY WEEK AND REQUESTING THE MINISTRY OF TRANSPORTATION TO REVIEW MEASURES IMPACTING NEWLY LICENSED DRIVERS

FROM:
Councillor Sandra Yeung Racco
Regional Councillor Gino Rosati

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Attachments

1. Ontario Road Safety Annual Report 2018, page 34
2. York Region's 2020 Traveller Safety Report, page 21
3. Canada's Road Safety Strategy 2025 by Canadian Council of Motor Transport Administrators, page 7-8
4. National Teen Driver Safety Week by Parachute

ATTACHMENT 1

Ontario Road Safety Annual Report 2018

Ministry of Transportation

Ontario

Ontario Road Safety Annual Report 2018

This document is available online at: ontario.ca/orsar.

If you are seeking information on driving and road safety in Ontario, visit the Ministry of Transportation website at ontario.ca/transportation.

The Official Ministry of Transportation (MTO) Driver's Handbook is available online. You can also purchase copies at DriveTest centres, select ServiceOntario centres, online at Publications Ontario (ontario.ca/publications), or from a retail store near you.

For more information on the data in this publication, please contact the **Research and Evaluation Office** Safety Program Development Branch at 416-235-3585.

Produced by:

Research and Evaluation Office
Safety Program Development Branch
Ministry of Transportation
87 Sir William Hearst Avenue, Room 212
Toronto, Ontario M3M 0B4

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Foreword

Foreword

Ontario's roads continue to be among the safest in North America. In 2018, Ontario ranked number one in road safety.

Ontario's fatality rate of 0.58 per 10,000 licensed drivers was the lowest in all of North America. For 22 years in a row, our province has ranked in the top five for road safety among all North American jurisdictions.

The number of traffic fatalities on Ontario roads was 602.

What is the Ontario Road Safety Annual Report (ORSAR)?

Road safety is a priority for the Ontario government. As technology, vehicles, and people's attitudes evolve over time, so do transportation needs and demands. With shifting economic and demographic factors, new road safety challenges can arise.

ORSAR allows the Ontario government to monitor its progress in improving road safety year-by-year. The report provides valuable data and helps guide the government in making decisions related to road safety priorities.

ORSAR is used by the Ministry of Transportation (MTO) for policy and program analysis and development, road safety research, public education and performance measurement. ORSAR data is also used by road safety and injury prevention organizations, transportation associations, research institutions, police services and other ministries and governments.

To help the government address and meet new challenges, ORSAR provides valuable insights about long-term and emerging trends in Ontario and across other jurisdictions in North America.

To produce ORSAR, MTO collects data from several different sources, including police services, other ministries, and the Office of the Chief Coroner.

Although Ontario's roads consistently rank among the safest in North America, on average one person is killed on Ontario's roads every 15 hours. By continuing to work with our road safety partners and monitoring trends captured in ORSAR, Ontario will continue to develop new and innovative road safety strategies that will help save lives and keep our roads among the safest in the world.

Key Road Safety Findings for Ontario in 2018

For more than two decades, Ontario has measured road safety by calculating the number of collision-related fatalities for every 10,000 licensed drivers.

In Ontario, the fatality rate per 10,000 licensed drivers in 2018 was 0.58. The actual number of fatalities was 602.

The fatality rate places Ontario first in all of North America in 2018.

The number of serious injuries on Ontario's roads was 1,701, a decrease of 35% over the past decade.

Road Safety in Ontario: 2017 vs. 2018

Category	2017	2018
Number of Fatalities	617	602
Fatality Rate per 10,000 Licensed Drivers	0.61	0.58

Top Priority Road Safety Issues

Road safety is a challenge that requires commitment to build on our efforts year after year. We can take pride in milestone achievements, but keep in mind that they are milestones—the challenge is always to do more, to save more lives.

In recent years, the Ontario government has led the way by working with many road safety partners, including police, public health and safety organizations in the public, corporate and not-for-profit sectors. With support from these partners, Ontario has developed and introduced numerous pieces of legislation aimed at making our roads safer each year by reducing collisions, injuries, and fatalities.

Recent legislation, regulations and new measures include:

- Legislative and regulatory framework for school bus stop arm camera evidence
- Increasing penalties for pedestrian-related offences
- Establishing higher fines and increased penalties for distracted driving
- Extending the Reduced Suspension with Ignition Interlock program to repeat offenders
- New rules for drug-impaired driving that mirror existing sanctions for alcohol-impaired driving
- Extending zero-tolerance rules for drugs and alcohol to commercial drivers
- Increased penalties for various infractions
- Entry-Level Training for Class A drivers
- Laws to enhance the administration of justice by creating new sanctions for fine defaulters
- Reclassification of vehicles designed to travel on the highway from roadbuilding machine to commercial motor vehicle
- Regulation of tow trucks through the provincial commercial vehicle safety regime

ORSAR 2018 indicates that our legislative initiatives, combined with strong enforcement and education, are achieving results, while at the same time demonstrating that there is also room for improvement.

Pedestrians

Pedestrians fatally injured increased from 114 in 2017 to 134 in 2018, up 18%. Over the last decade, there has been a gradual increase in pedestrian fatalities as a proportion of all fatalities; in 2009, pedestrians represented 20% of all road users killed and in 2018, they represented 22%.

Large Truck Fatalities

There were 95 fatalities in collisions involving large trucks in 2018, down from 141 in 2017, a decrease of 33%. In addition, 5% of the examined large trucks involved in fatal crashes had an apparent defect that may have contributed to the crash.

Inattentive Driving

The number of people killed in Ontario in collisions involving an inattentive driver decreased from 107 in 2017 to 86 in 2018, down 20%. Inattentive driving was a factor in 14% of all fatalities on Ontario roads in 2018.

Drinking and Driving

Compared to the previous year, the number of drinking and driving fatalities decreased from 133 in 2017 to 130 in 2018, down 2%. Ontario's drinking and driving fatality rate was 0.12 per 10,000 licensed drivers, a reduction of 83% from 0.72 in 1988.

Drugs and Driving

The number of fatalities attributed to drugs other than alcohol increased from 75 in 2017 to 89 in 2018, up 19%.

Speeding/Street Racing

The number of people killed in Ontario in speed-related collisions decreased from 114 in 2017 to 109 in 2018, down by 4%.

Senior Driver Fatalities

Fatalities among senior drivers age 80 and over increased by 12% from 25 in 2017 to 28 in 2018. The number of licensed senior drivers (80+) has increased two-fold over the past 20 years, from approximately 137,000 in 1999 to more than 330,000 in 2018.

Young Driver Fatalities

Fatalities among young drivers ages 16–19 decreased from 21 in 2017 to 15 in 2018, down 29%.

Occupant Protection (Seat Belts)

Although a Transport Canada survey shows Ontario has a 96% seatbelt usage rate—about 1 in every 5 vehicle occupants killed on our roads were unbelted. In 2018, 90 vehicle occupants were killed while not wearing seat belts, up from 87 in 2017, which is a 3% increase.

Motorcyclists and Cyclists

Motorcycle rider fatalities decreased from 69 in 2017 to 66 in 2018, down by 4%. Bicycling fatalities increased from 14 in 2017 to 23 in 2018, up 64%.

Looking Ahead: Next Steps

Ontario has achieved reductions in fatalities and serious injuries, despite annual increases in the number of licensed drivers.

Road safety is a challenge that evolves with growing populations, new technologies and urban and rural development. The future brings new priorities that we are committed to address. These include:

- drug-impaired driving as an emerging issue
- speeding and aggressive driving
- sharing the road with vulnerable road users, such as pedestrians and cyclists
- senior drivers and driver fitness given an aging population and health issues
- all-terrain vehicle safety
- automated vehicle safety
- new and emerging vehicle safety

Social marketing has been an important means to educate the public and help save lives. It aims to change behaviours and attitudes, to promote safety awareness and make our streets safer.

Ontario aims to be among many jurisdictions that emphasize proactive, preventative measures, particularly education and awareness initiatives that reduce risky driving behaviour.

At a Glance: Situations with the Highest Road Fatalities

Category	Number of Fatalities	Percentage of Total Fatalities*
Pedestrians	134	22%
Drinking and Driving	130	22%
Speed-Related	109	18%
Large Trucks	95	16%
Unbelted Occupants	90	15%
Drug-Involved	89	15%
Inattentive Driving	86	14%
Motorcyclists	66	11%
Senior Drivers	28	5%
Cyclists	23	4%
Young Drivers	15	2%

* Many fatal crashes involve more than one of the factors listed. These percentages do not total 100.

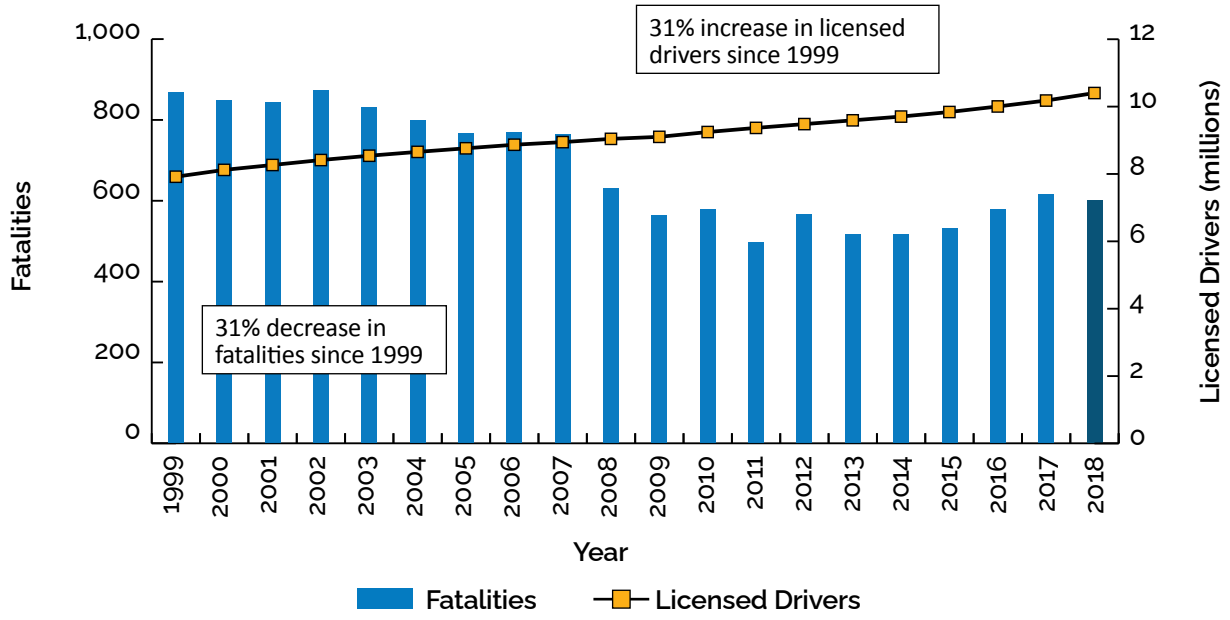
Conclusion

ORSAR 2018 confirms that Ontario continues to be a leader in road safety.

We continue to work closely with our road safety partners and support police in their efforts to crack down on unsafe drivers and driving practices. As we review the findings of this year's report, we will strive to achieve better results and more milestones and make Ontario's roads the safest in the world.

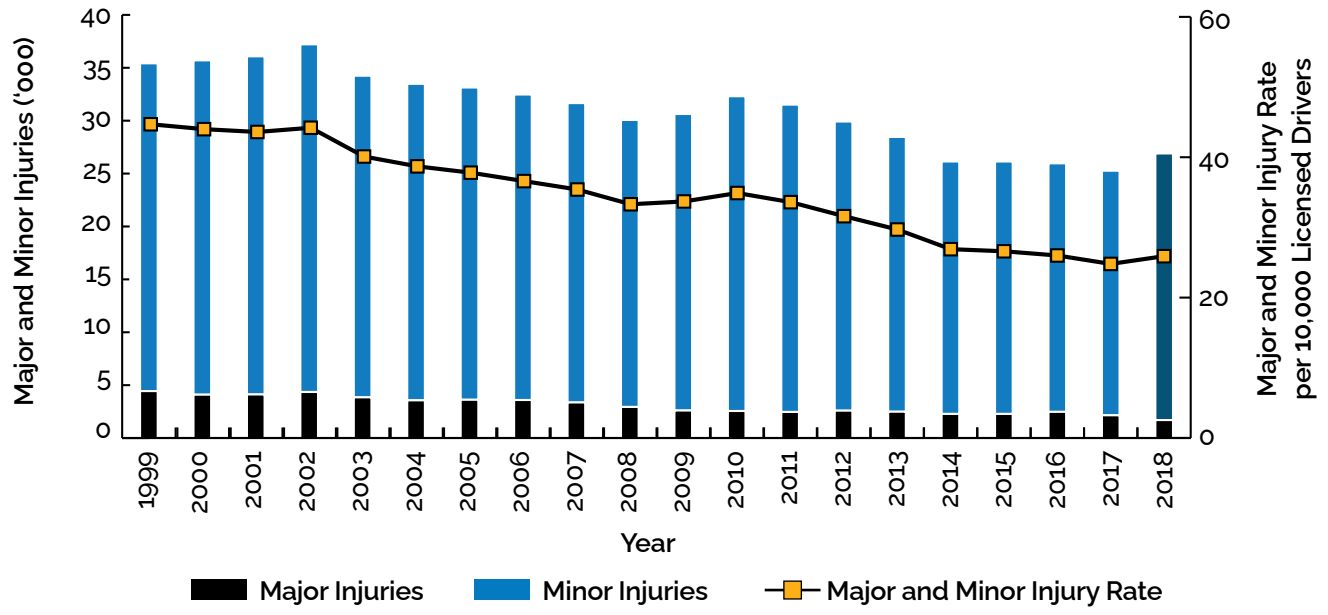
Key Road Safety Statistical Trends

Number of Fatalities and Licensed Drivers, 1999–2018



Between 1999 and 2018, the number of licensed drivers increased by 31%. In contrast, the number of fatalities decreased by 31% over this 20-year period.

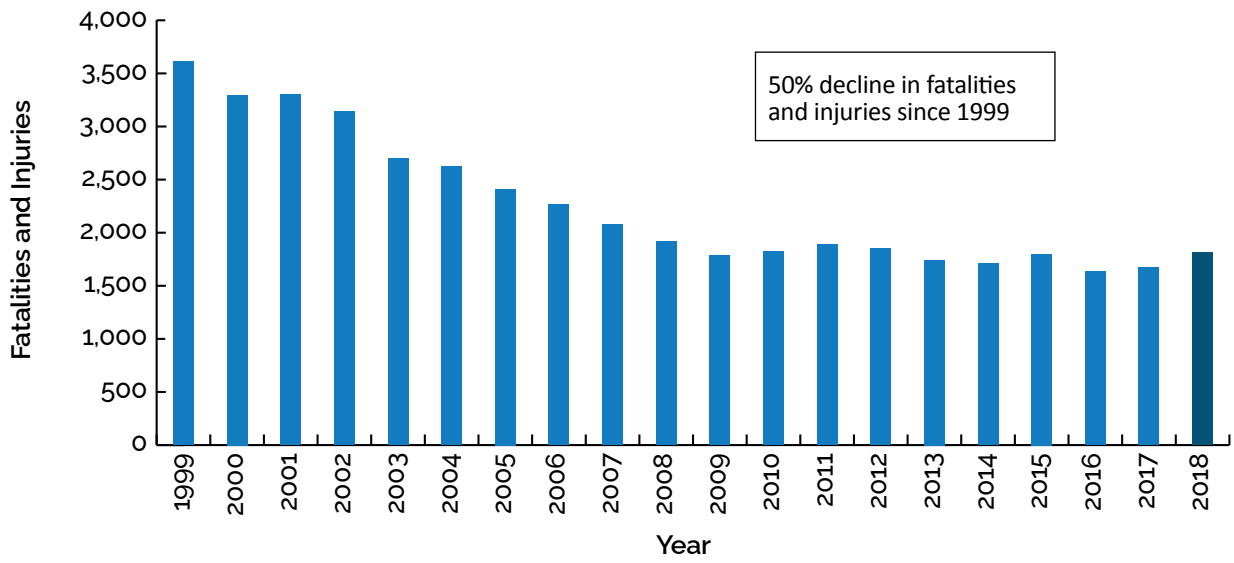
Number and Rate of Major and Minor Injuries, 1999–2018



In 2018, 50,973 people were injured (including major, minor and minimal injuries) in motor vehicle crashes, 33,089 fewer than in 1999.

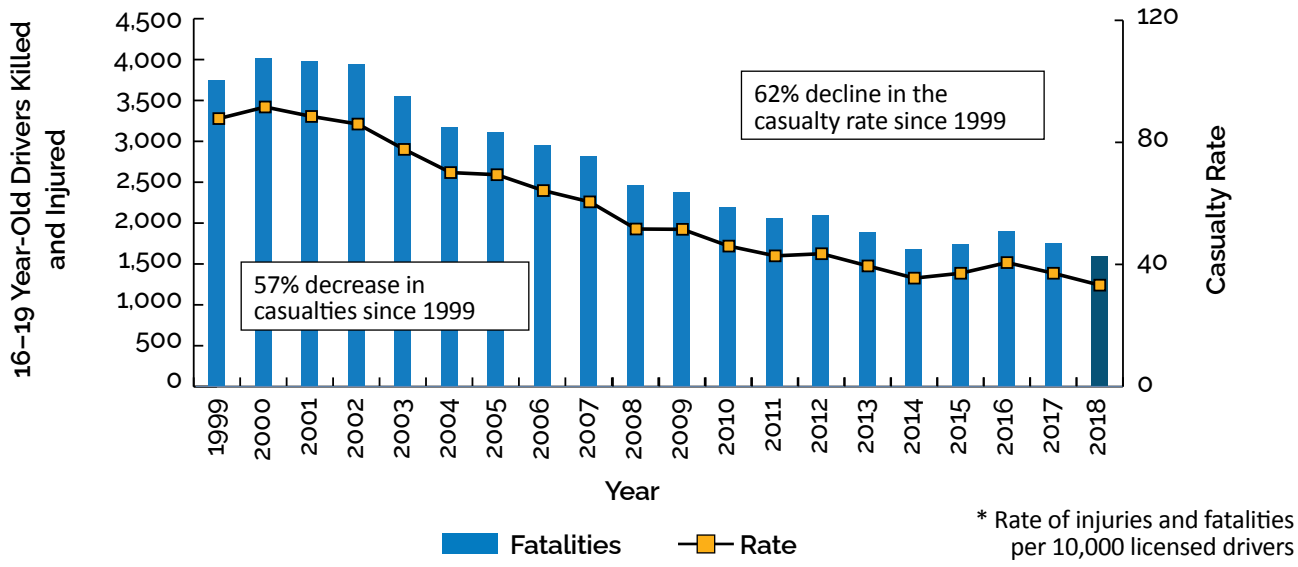
Fatality and Injury Trends for Different Age Groups

Number of Persons Age 0–9 Killed and Injured, 1999–2018



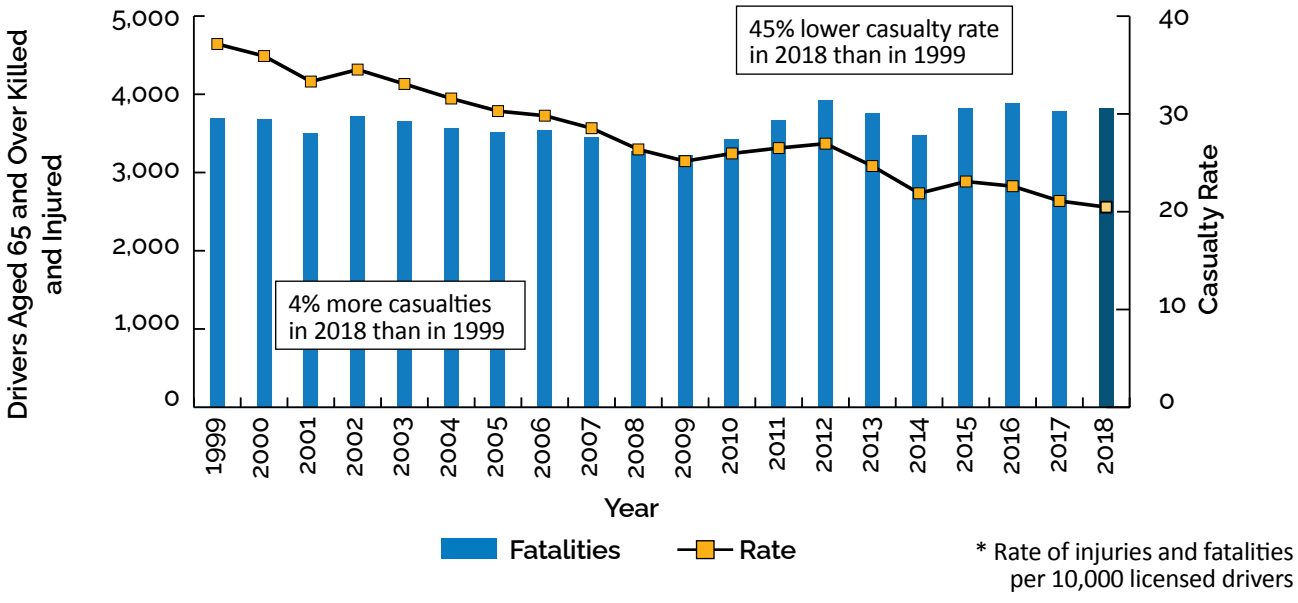
Between 1999 and 2018, the number of traffic fatalities and injuries among children aged 0–9 has dropped steadily, leading to an overall decline of 50%.

Number and Rate* of Drivers 16–19 Years Old Killed and Injured, 1999–2018



From 1999–2018, the number of 16–19 year old driver casualties (deaths or injuries) declined, with a 57% decrease in the number killed/injured and a 62% decrease in the casualty rate. Over the same time period, the number of licensed drivers aged 16–19 increased by 13%, from 426,643 to 480,401.

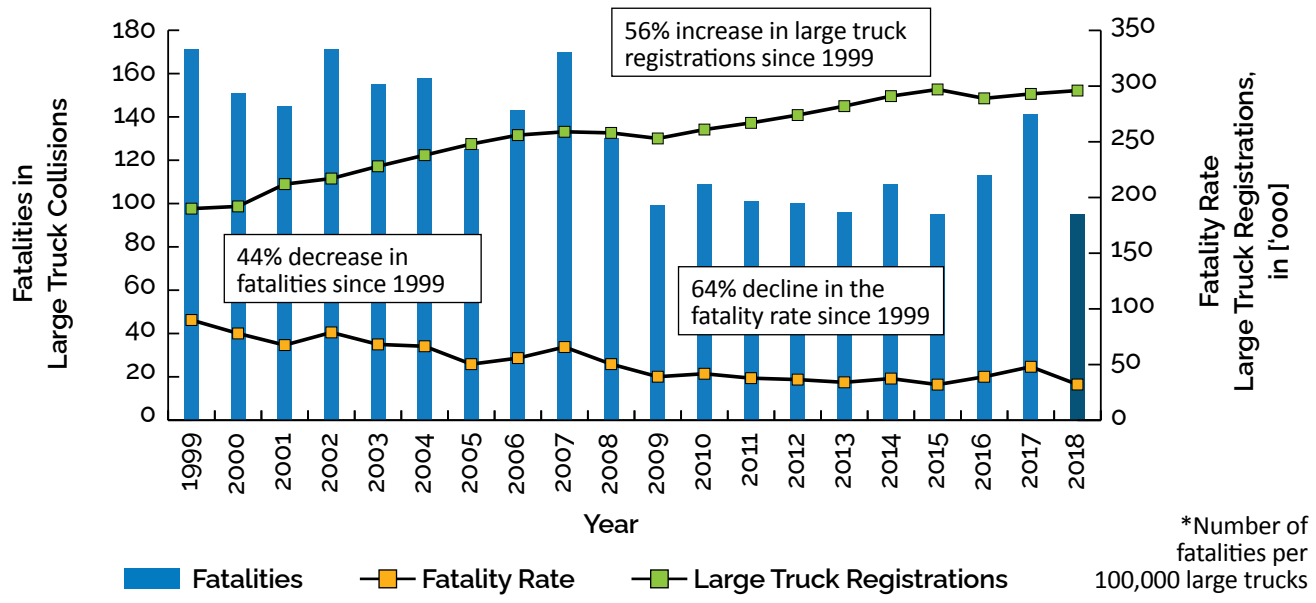
Number and Rate* of Drivers Aged 65 and Over Killed and Injured, 1999–2018



The number of drivers aged 65 and over killed and injured increased by 4% between 1999 and 2018. However, the population of drivers age 65 and over has been increasing more rapidly, therefore, the casualty rate per 10,000 licensed drivers has decreased by 45%.

Large Trucks

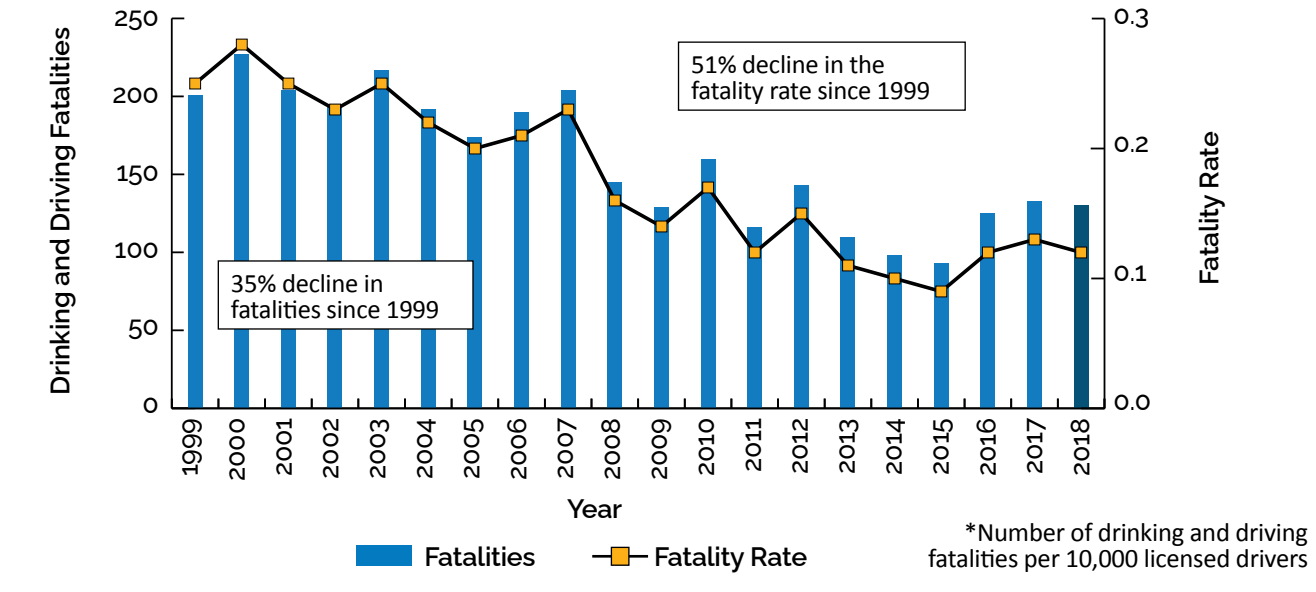
Number and Rate* of Fatalities in Large Truck Collisions; Large Truck Registrations, 1999–2018



Between 1999 and 2018, the number of large trucks registered in Ontario increased by 56%. The number of large truck fatalities decreased by 44% from 171 in 1999 to 95 in 2018.

Drinking and Driving

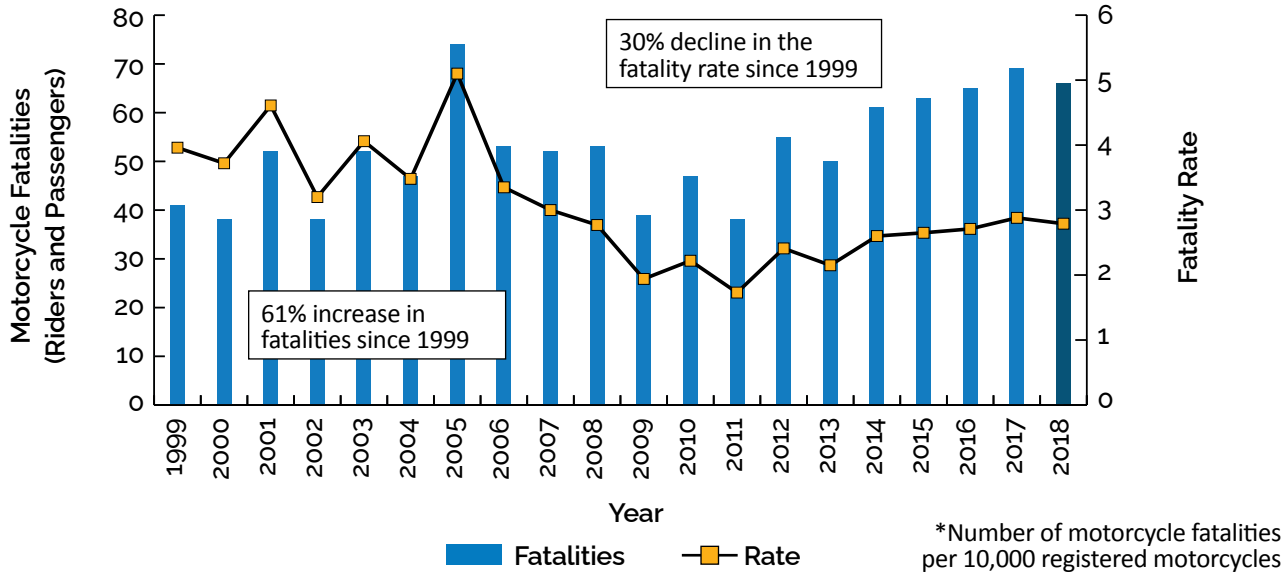
Number and Rate* of Drinking and Driving Fatalities, 1999–2018



Both the number of drinking and driving fatalities and the fatality rate per 10,000 licensed drivers have declined dramatically from 1999, by 35% and 51% respectively.

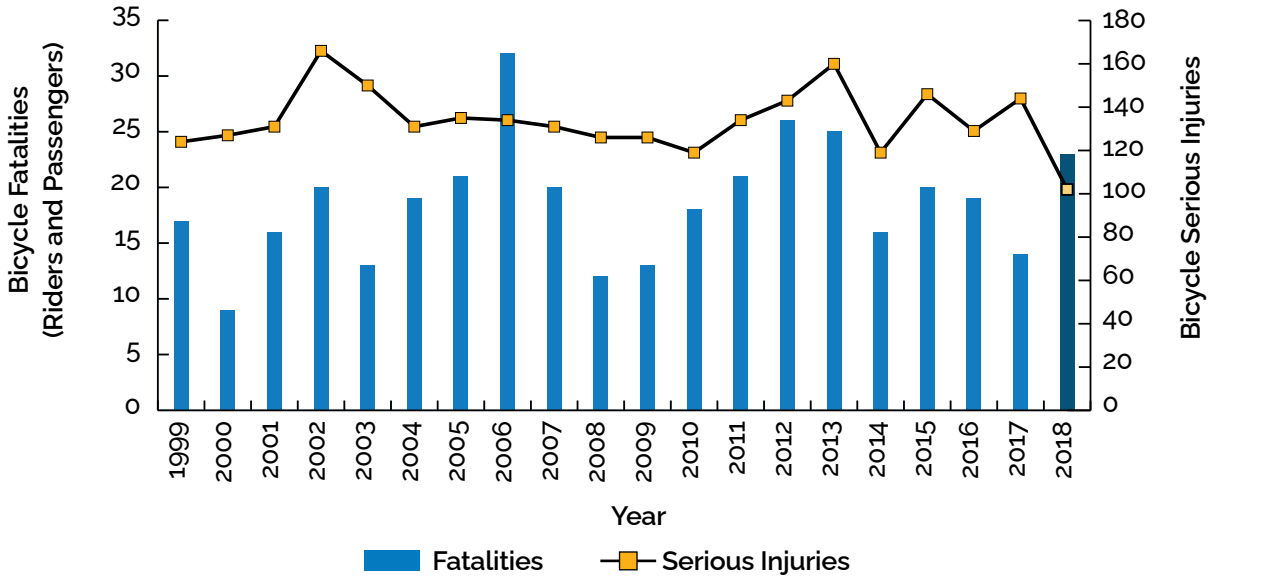
Vulnerable Road Users

Number and Rate* of Motorcycle Fatalities, 1999–2018



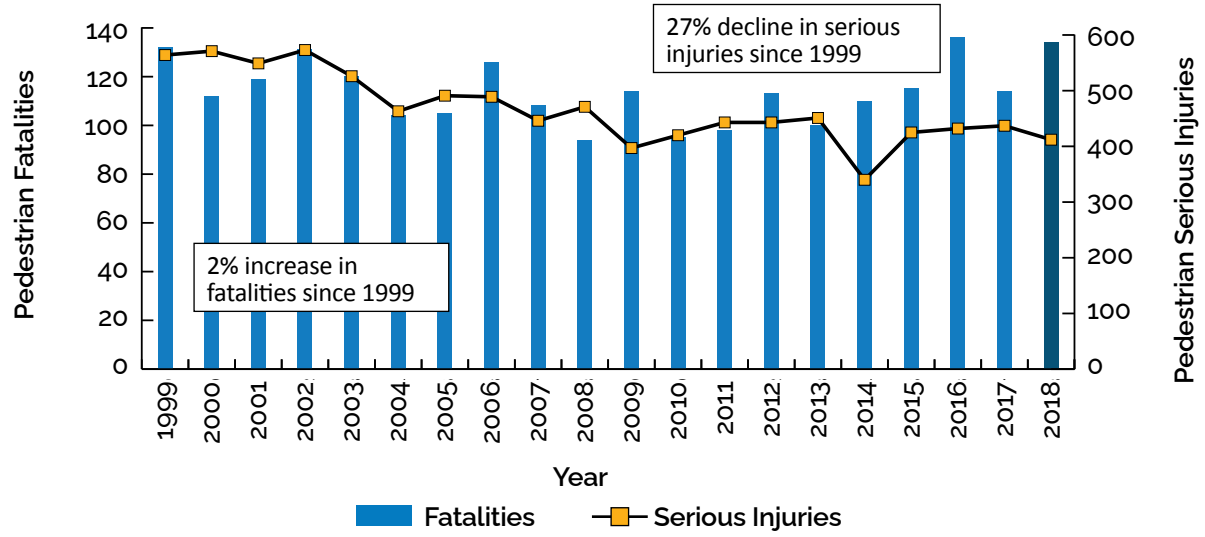
Motorcycle registrations decreased 1.4% from 239,983 in 2017 to 236,602 in 2018. In the same time period, motorcycle rider fatalities decreased from 69 in 2017 to 66 in 2018. Over the long term, between 1999 and 2018, there has been a 30% decline in the fatality rate per 10,000 motorcycle registrations.

Number of Bicycle Fatalities and Serious Injuries, 1999–2018



Between 1999 and 2018, the number of bicycle rider fatalities fluctuated between a high of 32 in 2006 and a low of 9 in 2000. There were 23 bicycle rider fatalities in 2018.

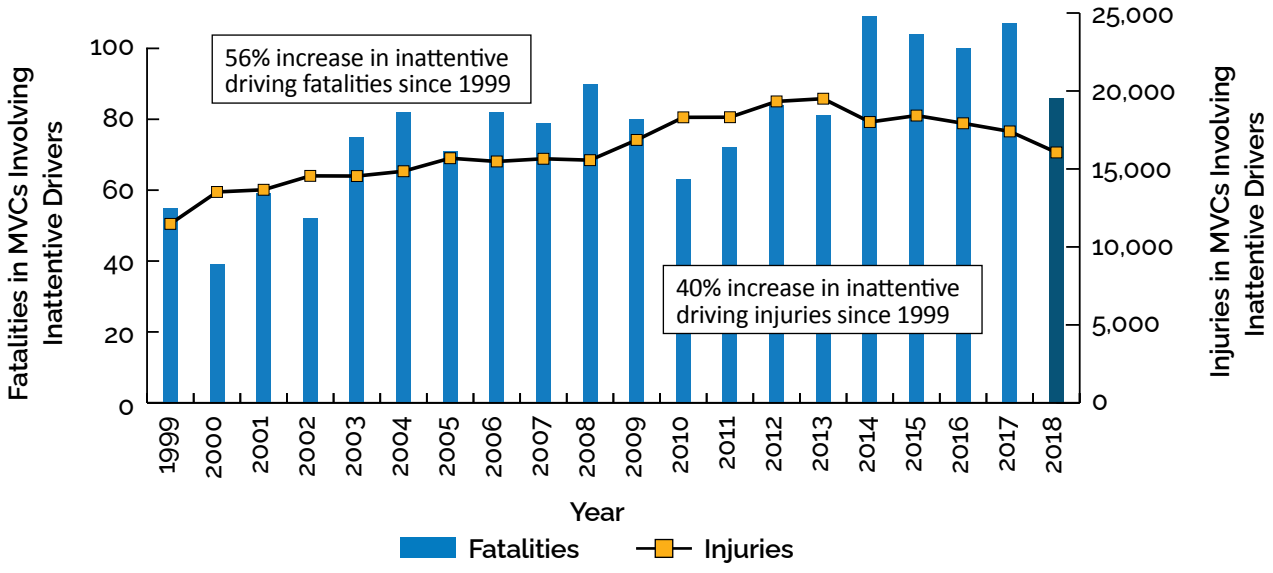
Number of Pedestrian Fatalities and Serious Injuries, 1999–2018



Between 1999 and 2018, the number of pedestrian fatalities was highest in 2016 with 136, and reached its lowest level in two decades in 2008 with 94. The number of pedestrian fatalities increased from 114 in 2017 to 134 in 2018, up by 18%. The number of pedestrian serious injuries decreased by 6% in 2018 compared with 2017.

Inattentive Driving*

Number of Inattentive Driving Fatalities and Injuries, 1999–2018



The number of fatalities in collisions involving an inattentive driver increased from 55 in 1999 to 86 in 2018; this represents an increase of 56%. During the same time period, the number of injuries in collisions involving an inattentive driver increased from 11,478 in 1999 to 16,059 in 2018, an increase of 40%.

* *An inattentive driver is defined as a driver operating a motor vehicle without due care and attention or placing less concentration on driving. Other examples of inattentive driving could include: changing radio stations, consuming food, reading, and talking on a phone.*

1. Overview

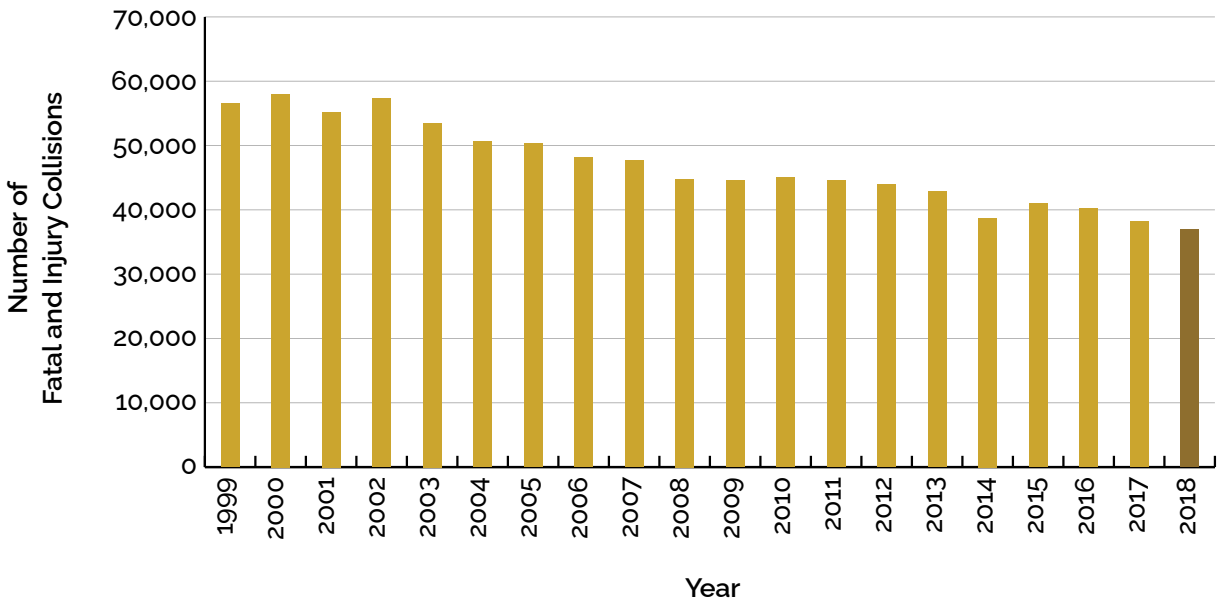
1. Overview

This section provides a synopsis of key road safety statistics such as the total number of traffic fatalities, injuries, collisions, licensed drivers and registered vehicles.

The primary measure of road user safety in Ontario is the number of fatalities for every 10,000 licensed drivers. In 2018, Ontario's fatality rate of 0.58 per 10,000 licensed drivers continues to position Ontario as a road safety leader in Canada and in North America.

The information on hospitalizations and other statistics in this section is a stark reminder of the human and economic cost of motor vehicle collisions, both in terms of lives lost, pain and suffering, and the impact on Ontario's health care system, which affects everyone in Ontario.

FIGURE 1 **Total Number of Fatal and Injury Collisions in Ontario, 1999–2018**



1A Synopsis

Selected Statistics: 2018	
Total Reportable Collisions	214,852
Total Drivers Involved in Collisions	391,036
Total Vehicles Involved in Collisions	403,984
Fatal Collisions	556
Personal Injury Collisions	36,331
Property-Damage Collisions	177,965
Persons Killed	602
Drivers Killed (excludes All-Terrain Vehicle and Snow Vehicle Drivers)	358
Drivers Killed (Impaired or Had Been Drinking)	98
Passengers Killed	104
Pedestrians Killed	134
Other Road Users Killed	6
Persons Injured	50,973
Estimated Ontario Population (2018)	14,318,545
Licensed Drivers	10,402,985
Registered Motor Vehicles	9,824,804
Estimated Vehicle Kilometres Travelled (in millions)	147,521
Number of Persons Killed in Motor Vehicle Collisions per 100,000 People in Ontario	4.20
Number of Persons Killed in Motor Vehicle Collisions per 100 Million Kilometres Travelled	0.41
Collision Rate per 100 Million Kilometres Travelled	145.64
Fatal Collision Rate per 100 Million Kilometres Travelled	0.38
Number of Persons Killed in Motor Vehicle Collisions per 10,000 Licensed Drivers	0.58

1B Health Perspective

TABLE 1.1: Selected Diagnoses of Motor Vehicle Collision Injuries Hospitalized in Ontario, Fiscal Year 2018/2019

Selected Diagnoses	Hospital Admissions	Hospital Days of Stay
Fracture of head	109	571
Fracture of neck and trunk	1,028	9,822
Fracture of upper limb	377	2,080
Fracture of lower limb	1,127	11,988
Fractures involving multiple body regions	5	174
Dislocation, sprains and strains	80	450
Dislocations, sprains, and strains involving multiple body regions	2	2
Intracranial injury	736	11,672
Internal injury of chest, abdomen, and pelvis	455	4,292
Open wound of head, neck, or trunk	46	158
Open wound of upper limb	8	61
Open wound of lower limb	45	756
Open wounds involving multiple body regions	2	4
Other diagnosis	1,111	15,123
Total Admissions and Days	5,131	**57,153**

Source: Ministry of Health, Health Solutions Delivery Branch, Health Data Decision Support Unit.

TABLE 1.2: Selected Surgical Procedures for Motor Vehicle Collision Injuries Hospitalized in Ontario, Fiscal Year 2018/2019

Selected Procedure	Hospital Admissions	Hospital Days of Stay
Head, brain, and cerebral meninges	84	3,448
Spinal cord, spinal canal, and meninges	10	83
Nose, mouth, and pharynx	18	122
Chest wall, pleura, mediastinum, and diaphragm	0	0
Bone marrow and spleen	128	1,801
Kidney	6	83
Facial bones and joints	47	437
Reduction of fracture/dislocation with or without fixation (excluding head or facial bones)	1,606	19,218
Repair joint structures (excluding head or facial bones)	3	7
Skin and subcutaneous tissue	57	529
Other diagnostic and therapeutic interventions	3,172	31,425
Sub-total of surgical admissions and days	**5,131**	**57,153**
No interventions performed—surgical procedures	**N/A**	**N/A**

Source: Ministry of Health, Health Solutions Delivery Branch, Health Data Decision Support Unit.

N/A: Data not available


If only everything about home ownership could be this fast.
Front St W

2. The People

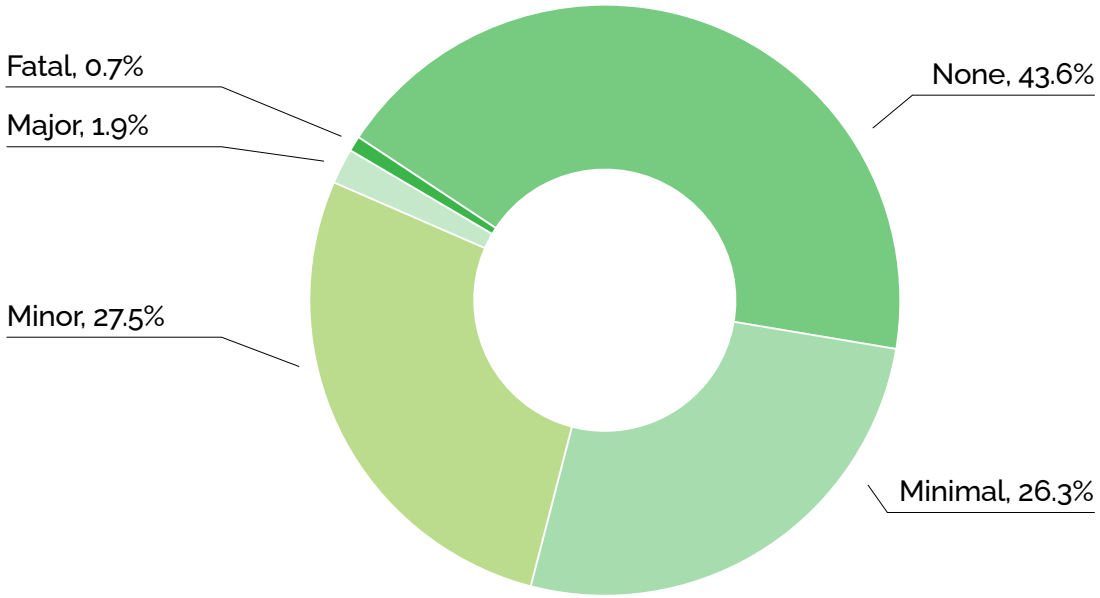
2. The People

This section highlights traffic fatalities and injuries by severity and characteristics of the road users involved. A few examples of road user characteristics identified in this chapter include: driver action and condition at the time of collision, pedestrian action and condition, and seat belt usage. Key historical road safety data—covering a period of more than 80 years—is also provided to assist in analyzing long-term safety trends in Ontario.

There was a decrease in the number of traffic fatalities from 617 in 2017 to 602 in 2018; the number of serious injuries decreased from 2,152 in 2017 to 1,701 in 2018. During the same time period, the number of licensed drivers increased by 222,961, from 10,180,024 in 2017 to 10,402,985 in 2018.

Out of 928 drivers involved in fatal collision, 124 were drinking drivers, 80 drivers' ability was impaired by drugs, 82 drivers were coded as inattentive, and 105 were speeding (e.g., above speed limit or driving too fast for conditions). Despite the fact that about 96% of Ontario drivers use seat belts, 90 vehicle occupants who were fatally injured were not using seat belts at the time of the collision.

FIGURE 2 **Persons Involved in Fatal and Injury Collisions by Severity of Injury, 2018**



2A People in Collisions

TABLE 2.1: Category of Involved Person by Severity of Injury in Fatal and Personal Injury Collisions, 2018

Category of Involved Person	Severity of Injury					Total
	None	Minimal	Minor	Major	Fatal	
Driver	27,193	14,906	14,812	636	271	**57,818**
Passenger*	12,214	6,304	6,249	333	104	**25,204**
Pedestrian	89	1,742	2,199	412	134	**4,576**
Bicyclist	25	692	899	102	23	**1,741**
Bicycle Passenger	3	3	7	3	0	**16**
All-Terrain Vehicle Driver **	1	3	14	6	2	**26**
All-Terrain Vehicle Passenger **	0	1	3	0	0	**4**
Snow Vehicle Driver	1	4	4	1	0	**10**
Snow Vehicle Passenger	0	0	1	0	0	**1**
Motorcycle Driver	42	259	770	182	64	**1,317**
Motorcycle Passenger	1	10	62	15	2	**90**
Moped Driver	1	5	17	1	0	**24**
Moped Passenger	0	0	1	0	0	**1**
Hanger On	5	13	21	4	2	**45**
Other	330	129	142	6	0	**607**
Total	**39,905**	**24,071**	**25,201**	**1,701**	**602**	**91,480**

* Includes bus passengers

** In this table, all-terrain vehicles include two-wheel, three-wheel, and four-wheel vehicles. HTA (Highway Traffic Act) reportable collisions. For more information on special vehicles, see Chapter 6.

Fatal: Person killed immediately or within 30 days of the motor vehicle collision.

Major: Person admitted to hospital. Also, includes person admitted for observation.

Minor: Person went to hospital and was treated in the emergency room but was not admitted.

Minimal: Person did not go to hospital when leaving the scene of the collision. Includes minor abrasions, bruises and complaint of pain.

None: Uninjured person.

TABLE 2.2: Category of Persons Killed by Age Groups, 2018

Category of Person	Age Groups																Total
	0–4	5–9	10–15	16	17	18	19	20	21–24	25–34	35–44	45–54	55–64	65–74	75+	UK	
Driver	0	0	0	1	1	6	7	5	25	37	45	40	41	24	38	1	**271**
Passenger*	3	4	5	3	3	1	2	2	9	19	10	8	12	8	15	2	**106**
Pedestrian	1	1	1	0	0	1	4	1	8	10	12	9	25	23	37	1	**134**
Bicyclist	0	0	0	0	1	1	0	1	1	1	4	4	2	4	4	0	**23**
Bicycle Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
All-Terrain Vehicle Driver	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	**2**
All-Terrain Vehicle Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Snow Vehicle Driver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Snow Vehicle Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Motorcycle Driver	0	0	0	0	0	0	0	1	6	17	8	16	12	2	2	0	**64**
Motorcycle Passenger	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	**2**
Moped Driver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Moped Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total	**4**	**5**	**6**	**5**	**5**	**9**	**13**	**10**	**50**	**84**	**79**	**78**	**92**	**61**	**97**	**4**	**602**

* Includes hangers on

UK = Unknown

HTA (Highway Traffic Act) reportable collisions. For more information on special vehicles, see Chapter 6.

TABLE 2.3: Category of Persons Injured by Age Groups, 2018

Category of Person	Age Groups																Total
	0–4	5–9	10–15	16	17	18	19	20	21–24	25–34	35–44	45–54	55–64	65–74	75+	UK	
Driver	0	0	6	88	451	523	518	634	2,916	6,521	5,278	5,304	4,328	2,310	1,452	25	**30,354**
Passenger*	894	725	1,023	272	359	312	326	304	1,096	1,866	1,205	1,280	1,231	853	708	521	**12,975**
Pedestrian	79	79	299	82	80	89	108	119	420	745	435	526	488	340	285	179	**4,353**
Bicyclist	2	17	161	47	49	33	29	27	175	334	223	212	190	94	43	57	**1,693**
Bicycle Passenger	0	1	2	1	0	0	0	0	5	5	4	7	4	0	0	27	**56**
All-Terrain Vehicle Driver	0	0	3	3	1	1	0	0	3	5	4	0	0	3	0	0	**23**
All-Terrain Vehicle Passenger	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	**4**
Snow Vehicle Driver	0	0	3	1	0	0	0	1	3	1	0	0	0	0	0	0	**9**
Snow Vehicle Passenger	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Motorcycle Driver	0	0	1	15	8	14	17	30	85	283	200	259	196	86	15	2	**1,211**
Motorcycle Passenger	2	0	3	1	3	2	2	1	8	11	11	17	18	3	0	8	**90**
Moped Driver	0	0	0	1	0	1	1	0	2	7	2	5	4	0	0	0	**23**
Moped Passenger	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**1**
Other	2	0	1	2	1	1	5	4	4	19	25	30	36	19	23	8	**180**
Total	**979**	**822**	**1,505**	**513**	**952**	**976**	**1,006**	**1,120**	**4,717**	**9,800**	**7,387**	**7,640**	**6,495**	**3,708**	**2,526**	**827**	**50,973**

* Includes hangers on

UK = Unknown

HTA (Highway Traffic Act) reportable collisions. For more information on special vehicles, see Chapter 6.

TABLE 2.4: Sex of Driver by Class of Collision 2018

Sex of Driver	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Male	732	40,581	188,720	**230,033**
Female	184	25,518	108,940	**134,642**
Unknown*	12	1,905	24,444	**26,361**
Total	**928**	**68,004**	**322,104**	**391,036**

* This includes situations where the enforcement officer is unable to make a determination, e.g., hit and run.

Fatal Collision: A motor vehicle collision in which at least one person sustains bodily injury resulting in death within 30 days of the collision.

Personal Injury Collision: A motor vehicle collision in which at least one person involved sustains bodily injury not resulting in death.

Property Damage: A motor vehicle collision in which no person sustains bodily injury, but in which there is damage to any public property or damage to motor vehicle or its load.

The minimum reportable level for property-damage-only collision rose from $1000 to $2000 on September 1, 2015.

See Appendix for further explanation of Collision Self-Reporting.

TABLE 2.5: Driver Condition by Class of Collision, 2018

Condition of Driver	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Normal	512	50,497	257,041	**308,050**
Had Been Drinking	31	407	1,105	**1,543**
Ability Impaired—Alcohol over 0.08	83	526	1,320	**1,929**
Ability Impaired—Alcohol	10	297	655	**962**
Ability Impaired—Drugs*	80	156	307	**543**
Fatigue	10	592	1,327	**1,929**
Medical/Physical Disability	22	575	601	**1,198**
Inattentive	82	11,352	28,851	**40,285**
Other**	62	1,060	3,222	**4,344**
Unknown***	36	2,542	27,675	**30,253**
Total	**928**	**68,004**	**322,104**	**391,036**

* Beginning in February 2011, all drivers killed in motor vehicle collisions were tested for the presence of drugs. Therefore, data may not be comparable to previous years.

** Driver condition is not defined above.

*** This includes situations where the enforcement officer is unable to make a determination, e.g., hit-and-run.

Had Been Drinking: Driver had consumed alcohol but his/her physical condition was not legally impaired.

Ability Impaired Alcohol over .08: Driver had consumed alcohol and upon testing was found to have a blood alcohol level in excess of .08 grams of alcohol per 100 millilitres of blood.

Ability Impaired Alcohol: Driver had consumed sufficient alcohol to warrant being charged with a drinking and driving offence.

Inattentive: Driver was operating a motor vehicle without due care and attention or placing less than full concentration on driving, e.g., changing radio stations, consuming food, reading, talking on phone or two-way radio, using headphones.

TABLE 2.6: Driver Age by Driver Condition in all Collisions, 2018*

Driver Age	Driver Condition						Total
	Normal	Had Been Drinking	Impaired Alcohol over .08	Ability Impaired Alcohol	Other	Unknown	
Under 16	212	1	0	0	88	10	**311**
16	805	8	2	1	249	20	**1,085**
17	3,803	8	11	3	1,110	90	**5,025**
18	4,676	18	21	10	1,195	79	**5,999**
19	5,506	38	30	12	1,307	88	**6,981**
20	6,214	52	56	13	1,354	120	**7,809**
21-24	28,713	229	314	130	5,275	469	**35,130**
25-34	66,735	491	635	342	10,284	1,171	**79,658**
35-44	56,182	268	354	192	7,700	939	**65,635**
45-54	56,433	202	257	129	7,213	869	**65,103**
55-64	44,673	141	177	92	5,884	719	**51,686**
65-74	22,274	58	57	28	3,712	359	**26,488**
75 & over	11,037	23	14	8	2,721	232	**14,035**
Unknown	787	6	1	2	1,216	24,079	**26,091**
Total	**308,050**	**1,543**	**1,929**	**962**	**49,308**	**29,244**	**391,036**

* Includes bicyclists, drivers of all-terrain vehicles, etc.

TABLE 2.7: Recorded Occurrence of Driver Condition in Drivers Killed, 2018*

Recorded Occurrence	Number of Drivers	%
Normal	84	23.3
Had Been Drinking	24	6.7
Ability Impaired—Alcohol over 0.08	73	20.3
Ability Impaired—Alcohol	1	0.3
Ability Impaired—Drugs**	77	21.4
Fatigue	5	1.4
Medical/Physical Disability	19	5.3
Inattentive	27	7.5
Other	36	10.0
Unknown	14	3.9
Total	**360**	**100.0**

* Total includes drivers of all vehicle types killed in HTA reportable collisions.

** Beginning in February 2011, all drivers killed in motor vehicle collisions were tested for the presence of drugs. Therefore, data may not be comparable to previous years.

TABLE 2.8: Apparent Driver Action by Class of Collision, 2018

Apparent Driver Action	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Driving Properly	422	33,371	188,482	**222,275**
Following Too Close	10	6,123	28,023	**34,156**
Speed Too Fast	55	600	1,024	**1,679**
Speed Too Fast for Conditions	50	2,708	11,162	**13,920**
Speed Too Slow	1	33	101	**135**
Improper Turn	26	3,505	9,665	**13,196**
Disobey Traffic Control	40	3,099	4,635	**7,774**
Fail to Yield Right of Way	55	7,284	14,291	**21,630**
Improper Passing	12	466	2,081	**2,559**
Lost Control	133	4,965	14,723	**19,821**
Wrong Way on One Way Road	3	52	123	**178**
Improper Lane Change	16	1,282	9,553	**10,851**
Other*	94	2,852	12,640	**15,586**
Unknown	11	1,664	25,601	**27,276**
Total	**928**	**68,004**	**322,104**	**391,036**

* Includes actions such as hit-and-run, driving on the wrong side of the road, improper parking and illegally parked.

The tables on the next two pages include only seat belt usage in collisions in which there were fatalities and personal injuries. Property-damage-only collisions are excluded.

TABLE 2.9: Seat Belt Usage by Severity of Driver Injury in Fatal and Personal Injury Collisions, 2018

Safety Equipment Used	Severity of Injury					Total
	Fatal	Major	Minor	Minimal	Not Injured	
Seat Belt Used	164	457	13,142	13,307	24,597	**51,667**
Other Equipment*	27	97	1,122	1,090	1,563	**3,899**
Equipment Not Used	70	55	193	52	32	**402**
No Safety Equipment	0	1	13	10	29	**53**
Use Unknown	10	26	342	447	972	**1,797**
Total	**271**	**636**	**14,812**	**14,906**	**27,193**	**57,818**

* Other equipment includes use of airbags. Combined use of seat belt with airbag deployment is unknown.

TABLE 2.10: Seat Belt Usage by Severity of Passenger* Injury in Fatal and Personal Injury Collisions, 2018

Safety Equipment Used	Severity of Injury					Total
	Fatal	Major	Minor	Minimal	Not Injured	
Seat Belt Used	64	191	4,958	5,051	9,395	**19,659**
Child Safety Seat Used Incorrectly	2	2	18	14	51	**87**
Child Safety Seat Used Correctly	3	7	264	344	1,304	**1,922**
Other Equipment**	8	59	436	425	704	**1,632**
Equipment Not Used	20	41	181	58	33	**333**
No Safety Equipment	7	11	236	202	398	**854**
Use Unknown	2	27	193	243	397	**862**
Total	**106**	**338**	**6,286**	**6,337**	**12,282**	**25,349**

* Includes hangers on and excludes passengers in parked vehicles.

** Other equipment includes use of airbags. Combined use of seat belt with airbag deployment is unknown.

TABLE 2.11: Restraint Use for Children (0–4 Years) Killed in Collisions, 2014–2018

Year Used	Child Restraint Used Correctly	Child Restraint Used Incorrectly	Lap/Lap & Shoulder Belt	Restraint Not Available	Available Not Used	Use Unknown	Total
2014	0	1	0	0	0	0	**1**
2015	6	0	0	0	1	1	**8**
2016	1	0	0	0	0	0	**1**
2017	4	0	0	0	0	2	**6**
2018	1	2	0	0	0	0	**3**

TABLE 2.12: Restraint Use for Children (0–4 Years) Involved in Fatal and Personal Injury Collisions by Severity of Injury, 2018

	Injury Level		
Restraint Used	**Major / Fatal %**	**Minimal/Minor %**	**No Injuries %**
Child Restraint Used Correctly	26.1	47.8	58.2
Child Restraint Used Incorrectly	17.4	2.7	2.0
Lap/Lap-Shoulder Belt	8.7	42.0	31.6
Not Available	0.0	1.0	2.6
Available/Not Used	8.7	0.5	0.2
Other	21.7	4.1	3.6
Unknown	17.4	1.8	1.9
Total	**100**	**100**	**100**

TABLE 2.13: Pedestrian Condition by Severity of Injury, 2018

Condition of Pedestrian	Killed	Injured
Normal	60	3,356
Had Been Drinking	6	151
Ability-Impaired Alcohol over .08	14	9
Ability-Impaired Alcohol	0	33
Ability-Impaired Drugs	10	21
Fatigue	0	4
Medical or Physical Defect	5	67
Inattentive	28	604
Other	11	108
Unknown	0	0
Total	**134**	**4,353**

TABLE 2.14: Apparent Pedestrian Action by Severity of Injury, 2018

Apparent Pedestrian Action	Killed	Injured
Crossing Intersection With Right of Way	26	2,272
Crossing Intersection Without Right of Way	27	574
Crossing Intersection No Traffic Control	25	242
Crossing Pedestrian Crossover	2	166
Crossing Marked Crosswalk Without Right of Way	4	119
Walking on Roadway With Traffic	12	91
Walking on Roadway Against Traffic	3	49
On Sidewalk or Shoulder	10	232
Playing or Working on Highway	2	40
Coming from Behind Parked Vehicle or Object	1	54
Running onto Roadway	2	183
Getting On/Off School Bus*	0	6
Getting On/Off Vehicle	0	43
Pushing/Working on Vehicle	0	15
Other	20	267
Total	**134**	**4,353**

* Calendar Year

TABLE 2.15: Category of Persons Killed and Injured, 1990–2018

Year	Ontario Population (Est.)**	Driver		Passenger*		Pedestrian		All Others		Persons Killed In All Classes		Persons Injured In All Classes	
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Number	Rate Per 100,000	Number	Rate Per 100,000
1990	9,743,300	540	55,073	321	33,606	154	5,839	105	7,057	1,120	11.5	120,652	1,238.3
1991	10,084,900	542	48,021	298	30,230	157	5,352	105	6,916	1,102	10.9	101,575	1,007.2
1992	10,098,600	548	49,259	317	30,567	140	5,177	85	6,022	1,090	10.8	90,519	896.4
1993	10,813,200	595	49,628	296	30,584	146	5,181	98	5,756	1,135	10.5	91,025	841.8
1994	10,927,800	508	49,632	273	29,570	127	5,344	91	5,484	999	9.1	91,149	834.1
1995	11,100,000	527	49,916	276	29,440	126	5,261	70	4,955	999	9.0	90,030	811.1
1996	11,320,456	459	49,614	270	28,997	144	5,336	55	4,458	928	8.2	89,572	791.2
1997	11,500,329	474	47,861	224	27,915	133	5,154	68	4,597	899	7.8	88,405	768.7
1998	11,675,497	437	47,088	222	26,422	121	4,978	74	4,704	854	7.3	85,527	732.5
1999	11,513,700	452	47,943	221	26,774	132	4,894	63	4,451	868	7.5	83,192	722.5
2000	11,695,110	437	48,068	243	27,206	112	5,190	57	4,544	849	7.3	84,062	718.8
2001	11,966,960	430	45,758	224	26,510	119	5,063	72	4,451	845	7.1	85,009	710.4
2002	12,027,900	450	47,909	227	26,742	131	4,990	65	4,551	873	7.3	81,782	679.9
2003	12,293,700	425	44,212	216	24,563	120	4,758	70	10,659	831	6.8	84,192	684.8
2004	12,407,300	433	41,608	191	22,396	104	4,505	71	9,370	799	6.4	77,879	627.7
2005	12,558,669	377	41,199	183	21,268	105	4,709	101	4,674	766	6.1	73,008	581.3
2006	12,705,328	383	39,633	169	20,005	126	4,729	91	4,426	769	6.1	68,793	541.5
2007	12,803,861	396	38,913	186	19,112	108	4,636	75	4,505	765	6.0	67,166	524.6
2008	12,932,297	343	36,219	124	17,679	94	4,454	70	4,391	631	4.9	62,743	485.2
2009	13,072,700	277	35,403	113	18,224	114	4,522	60	4,413	564	4.3	62,743	480.0
2010	13,223,800	299	35,959	115	19,152	95	4,621	70	4,782	579	4.4	62,562	473.1
2011	13,263,500	237	35,517	92	16,835	98	4,857	71	4,810	498	3.8	62,019	467.6
2012	13,410,100	236	35,254	127	16,044	113	4,604	92	5,099	568	4.2	61,001	454.9
2013	13,551,000	246	35,163	92	15,575	100	4,290	80	4,542	518	3.8	59,570	439.6
2014	13,685,200	251	32,105	71	13,742	110	4,053	85	4,181	517	3.8	54,081	395.2
2015	13,789,600	237	32,630	91	14,465	115	4,641	88	5,023	531	3.9	56,759	411.6
2016	13,976,320	254	32,044	98	14,287	136	4,694	91	4,468	579	4.1	55,493	397.1
2017	14,072,615	316	31,045	90	13,141	114	4,317	97	3,916	617	4.4	52,419	372.5
2018	14,318,545	271	30,354	104	12,886	134	4,353	93	3,380	602	4.2	50,973	356.0

* Excludes motorcycle passengers, who are included with "All Others".

** Source: StatCan

TABLE 2.16: Sex of Driver Population by Age Groups 2018

Sex of Driver	Age Groups							Total
	16–19	20–24	25–34	35–44	45–54	55–64	65+	
Male	253,208	460,534	953,429	874,205	927,804	919,721	974,118	**5,363,019**
Female	227,193	398,627	894,994	870,625	893,324	861,175	894,028	**5,039,966**
Total	**480,401**	**859,161**	**1,848,423**	**1,744,830**	**1,821,128**	**1,780,896**	**1,868,146**	**10,402,985**

TABLE 2.17: Driver Population by Age Groups, 1990–2018

Year	Age Groups							Total
	16–19	20–24	25–34	35–44	45–54	55–64	65+	
1990	322,542	629,478	1,666,474	1,467,699	964,925	728,380	669,385	**6,448,883**
1991	319,584	627,931	1,673,502	1,501,765	1,018,365	736,652	696,432	**6,574,231**
1992	314,685	623,707	1,665,433	1,528,726	1,082,883	745,759	727,568	**6,688,761**
1993	326,389	621,934	1,655,573	1,566,083	1,136,365	758,840	758,244	**6,823,428**
1994	358,817	622,704	1,645,962	1,611,972	1,190,442	770,882	783,181	**6,983,960**
1995	360,847	614,094	1,621,989	1,659,749	1,240,072	782,871	806,396	**7,086,018**
1996	361,571	612,060	1,608,567	1,717,050	1,297,289	805,486	856,144	**7,258,167**
1997	394,512	624,532	1,611,708	1,789,110	1,360,555	837,606	919,584	**7,537,607**
1998	412,589	634,053	1,593,744	1,845,474	1,415,258	872,426	954,212	**7,727,756**
1999	426,643	642,808	1,576,673	1,895,323	1,475,588	907,235	994,044	**7,918,314**
2000	438,170	659,331	1,582,207	1,935,150	1,540,499	939,838	1,026,179	**8,121,374**
2001	449,853	671,424	1,580,758	1,946,713	1,577,920	990,745	1,049,203	**8,266,616**
2002	458,627	686,561	1,580,837	1,945,944	1,612,219	1,053,877	1,075,439	**8,413,504**
2003	457,049	704,720	1,575,345	1,940,896	1,653,604	1,105,726	1,104,215	**8,541,555**
2004	453,157	719,861	1,567,346	1,929,418	1,698,350	1,157,824	1,129,641	**8,655,597**
2005	447,954	727,529	1,557,476	1,912,898	1,748,335	1,206,374	1,161,644	**8,762,210**
2006	461,058	736,575	1,550,313	1,888,582	1,793,515	1,252,613	1,185,309	**8,867,965**
2007	466,979	739,555	1,547,980	1,851,780	1,835,315	1,296,295	1,207,493	**8,945,397**
2008	478,950	744,491	1,553,552	1,808,597	1,875,742	1,339,948	1,241,006	**9,042,286**
2009	462,718	746,486	1,554,266	1,763,704	1,906,532	1,388,094	1,280,138	**9,101,938**
2010	478,342	765,075	1,572,436	1,740,128	1,927,499	1,441,906	1,319,881	**9,245,267**
2011	482,743	777,981	1,591,669	1,722,950	1,931,679	1,477,896	1,382,691	**9,367,609**
2012	481,601	790,157	1,610,128	1,710,796	1,924,202	1,509,382	1,454,653	**9,480,919**
2013	478,625	797,813	1,631,668	1,697,225	1,916,064	1,549,142	1,521,952	**9,592,489**
2014	473,531	803,311	1,656,912	1,686,188	1,903,892	1,591,871	1,588,339	**9,704,044**
2015	470,988	810,225	1,691,690	1,681,667	1,889,058	1,641,338	1,654,505	**9,839,471**
2016	468,061	821,656	1,737,393	1,691,167	1,875,312	1,688,950	1,721,205	**10,003,744**
2017	474,413	834,220	1,784,989	1,709,735	1,849,234	1,734,881	1,792,552	**10,180,024**
2018	480,401	859,161	1,848,423	1,744,830	1,821,128	1,780,896	1,868,146	**10,402,985**

TABLE 2.18: Driver Licence Class by Sex, 2018

Licence Class	Driver Sex				Total	%
	Male	%	Female	%		
A	114,644	2.14	2,424	0.05	**117,068**	1.13
AB	4,853	0.09	727	0.01	**5,580**	0.05
ABM	2,355	0.04	186	0.00	**2,541**	0.02
ABM1	8	0.00	3	0.00	**11**	0.00
ABM2	152	0.00	30	0.00	**182**	0.00
AC	33,555	0.63	1,115	0.02	**34,670**	0.33
ACM	11,808	0.22	239	0.00	**12,047**	0.12
ACM1	153	0.00	4	0.00	**157**	0.00
ACM2	1,525	0.03	58	0.00	**1,583**	0.02
AM	25,770	0.48	223	0.00	**25,993**	0.25
AM1	315	0.01	1	0.00	**316**	0.00
AM2	3,120	0.06	53	0.00	**3,173**	0.03
B	18,208	0.34	16,829	0.33	**35,037**	0.34
BM	4,691	0.09	996	0.02	**5,687**	0.05
BM1	20	0.00	18	0.00	**38**	0.00
BM2	316	0.01	192	0.00	**508**	0.00
C	11,475	0.21	1,866	0.04	**13,341**	0.13
CM	2,149	0.04	102	0.00	**2,251**	0.02
CM1	32	0.00	1	0.00	**33**	0.00
CM2	353	0.01	39	0.00	**392**	0.00
D	121,665	2.27	11,200	0.22	**132,865**	1.28
DE	88	0.00	14	0.00	**102**	0.00
DEM	22	0.00	2	0.00	**24**	0.00
DEM1	0	0.00	0	0.00	**0**	0.00
DEM2	2	0.00	0	0.00	**2**	0.00
DF	3,652	0.07	386	0.01	**4,038**	0.04
DFM	992	0.02	60	0.00	**1,052**	0.01
DFM1	21	0.00	1	0.00	**22**	0.00
DFM2	182	0.00	4	0.00	**186**	0.00
DM	39,195	0.73	1,173	0.02	**40,368**	0.39
DM1	250	0.00	11	0.00	**261**	0.00
DM2	3,295	0.06	175	0.00	**3,470**	0.03
E	1,186	0.02	1,621	0.03	**2,807**	0.03
EM	131	0.00	29	0.00	**160**	0.00
EM1	2	0.00	0	0.00	**2**	0.00
EM2	9	0.00	2	0.00	**11**	0.00
F	8,160	0.15	6,001	0.12	**14,161**	0.14

TABLE 2.18: Driver Licence Class by Sex, 2018 (continued)

Licence Class	Driver Sex				Total	%
	Male	%	Female	%		
FM	1,255	0.02	282	0.01	**1,537**	0.01
FM1	21	0.00	4	0.00	**25**	0.00
FM2	285	0.01	102	0.00	**387**	0.00
G	3,803,648	70.92	4,142,565	82.19	**7,946,213**	76.38
G1	297,366	5.54	386,095	7.66	**683,461**	6.57
G1M	101	0.00	23	0.00	**124**	0.00
G1M1	488	0.01	80	0.00	**568**	0.01
G1M2	1,258	0.02	301	0.01	**1,559**	0.01
G2	386,796	7.21	380,888	7.56	**767,684**	7.38
G2M	301	0.01	63	0.00	**364**	0.00
G2M1	526	0.01	65	0.00	**591**	0.01
G2M2	3,449	0.06	464	0.01	**3,913**	0.04
GM	398,090	7.42	68,799	1.37	**466,889**	4.49
GM1	4,077	0.08	957	0.02	**5,034**	0.05
GM2	49,476	0.92	13,173	0.26	**62,649**	0.60
M	707	0.01	150	0.00	**857**	0.01
M1	102	0.00	16	0.00	**118**	0.00
M2	719	0.01	154	0.00	**873**	0.01
Other	0	0.00	0	0.00	**0**	0.00
Total	**5,363,019**	**100.00**	**5,039,966**	**100.00**	**10,402,985**	**100.00**

TABLE 2.19: Licensed Drivers, Total Collisions, Persons Killed and Injured, 1935–2018

Year	Licensed Drivers	Total Collisions	Persons Killed	Persons Injured
1935	707,457	**10,648**	560	9,839
1936	755,765	**11,388**	546	10,251
1937	802,765	**13,906**	766	12,092
1938	866,729	**13,715**	640	11,683
1939	899,572	**13,710**	652	11,638
1940	937,551	**16,921**	716	13,715
1941	986,773	**18,167**	801	14,275
1942	961,883	**13,490**	567	10,205
1943	919,457	**11,025**	549	8,628
1944	905,650	**11,004**	498	8,373
1945	971,852	**13,458**	598	9,804
1946	1,087,445	**17,356**	688	12,228
1947	1,144,291	**22,293**	734	13,056
1948	1,209,408	**27,406**	740	14,970
1949	1,278,584	**34,472**	830	17,469
1950	1,366,388	**43,681**	791	19,940
1951	1,461,538	**54,920**	949	22,557
1952	1,556,559	**58,515**	1,010	23,643
1953	1,656,259	**65,866**	1,082	24,353
1954	1,747,567	**62,509**	1,045	24,607
1955	1,856,845	**63,219**	1,111	26,246
1956	1,967,789	**71,399**	1,180	28,626
1957	2,088,551	**76,302**	1,279	30,414
1958	2,176,417	**76,884**	1,112	30,106
1959	2,270,246	**81,518**	1,187	31,602
1960	2,355,567	**87,186**	1,166	34,436
1961	2,414,615	**85,577**	1,268	37,146
1962	2,469,425	**94,231**	1,383	41,766
1963	2,555,015	**104,919**	1,421	47,801
1964	2,694,023	**111,232**	1,424	54,560
1965	2,739,138	**128,462**	1,611	60,917
1966	2,821,648	**139,781**	1,596	65,210
1967	3,004,654	**145,008**	1,719	67,280
1968	3,128,509	**155,127**	1,586	71,520
1969	3,247,979	**169,395**	1,683	74,902
1970	3,422,892	**141,609**	1,535	75,126
1971	3,563,197	**158,831**	1,769	84,650
1972	3,688,541	**189,494**	1,934	95,181
1973	3,841,628	**193,021**	1,959	97,790

TABLE 2.19: Licensed Drivers, Total Collisions, Persons Killed and Injured, 1935–2018 (continued)

Year	Licensed Drivers	Total Collisions	Persons Killed	Persons Injured
1974	3,972,980	**204,271**	1,748	98,673
1975	4,160,623	**213,689**	1,800	97,034
1976	4,315,925	**211,865**	1,511	83,736
1977	4,562,903	**218,567**	1,420	95,664
1978	4,725,546	**186,363**	1,450	94,979
1979	4,858,351	**197,196**	1,560	101,321
1980	4,993,531	**196,501**	1,508	101,367
1981	5,123,177	**198,372**	1,445	100,321
1982	5,247,198	**187,943**	1,138	92,815
1983	5,380,259	**181,999**	1,204	91,706
1984	5,513,911	**194,782**	1,132	97,230
1985	5,660,422	**189,750**	1,191	109,169
1986	5,817,799	**187,286**	1,102	108,839
1987	5,978,105	**203,431**	1,229	121,089
1988	6,118,112	**228,398**	1,237	118,158
1989	6,290,424	**247,038**	1,286	120,652
1990	6,448,883	**220,188**	1,120	101,575
1991	6,574,231	**213,669**	1,102	90,519
1992	6,688,761	**224,249**	1,090	91,025
1993	6,823,428	**228,834**	1,135	91,149
1994	6,983,960	**226,996**	999	90,030
1995	7,086,018	**219,085**	999	89,572
1996	7,258,167	**215,024**	929	88,445
1997	7,537,607	**221,500**	899	85,527
1998	7,727,756	**213,356**	854	83,192
1999	7,918,314	**221,962**	868	84,062
2000	8,121,374	**240,630**	849	85,009
2001	8,266,616	**234,004**	845	81,782
2002	8,413,504	**244,642**	873	84,192
2003	8,541,555	**246,463**	831	77,879
2004	8,655,597	**231,548**	799	73,008
2005	8,762,210	**230,258**	766	71,850
2006	8,867,965	**216,247**	769	68,793
2007	8,945,397	**233,487**	765	67,175
2008	9,042,286	**229,196**	631	62,743
2009	9,101,938	**216,315**	564	62,562
2010	9,245,267	**215,533**	579	64,514

TABLE 2.19: Licensed Drivers, Total Collisions, Persons Killed and Injured, 1935–2018 (continued)

Year	Licensed Drivers	Total Collisions	Persons Killed	Persons Injured
2011	9,367,609	**177,039**	498	62,019
2012	9,480,919	**172,868**	568	61,001
2013	9,592,489	**188,999**	518	59,570
2014	9,704,044	**217,557**	517	54,081
2015	9,839,471	**221,411**	531	56,759
2016	10,003,744	**208,404**	579	55,493
2017	10,180,024	**209,085**	617	52,419
2018	10,402,985	**214,852**	602	50,973

TABLE 2.20: Driver Age Groups—Number Licensed, Collision Involvement and Percent Involved in Collisions, 2018

Driver's Age	Drivers Licensed			Drivers Involved in Collisions*			% of Drivers of Each Age Involved in Collisions		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 16	0	0	**0**	45	8	**53**	N/A	N/A	**N/A**
16	45,331	42,818	**88,149**	591	415	**1,006**	1.30	0.97	**1.14**
17	59,944	55,481	**115,425**	2,909	2,038	**4,947**	4.85	3.67	**4.29**
18	68,635	60,900	**129,535**	3,672	2,268	**5,940**	5.35	3.72	**4.59**
19	79,298	67,994	**147,292**	4,430	2,499	**6,929**	5.59	3.68	**4.70**
20	86,322	73,249	**159,571**	5,023	2,726	**7,749**	5.82	3.72	**4.86**
21–24	374,212	325,378	**699,590**	21,746	13,083	**34,829**	5.81	4.02	**4.98**
25–34	953,429	894,994	**1,848,423**	49,449	29,490	**78,939**	5.19	3.29	**4.27**
35–44	874,205	870,625	**1,744,830**	39,390	25,677	**65,067**	4.51	2.95	**3.73**
45–54	927,804	893,324	**1,821,128**	40,684	23,840	**64,524**	4.38	2.67	**3.54**
55–64	919,721	861,175	**1,780,896**	33,721	17,468	**51,189**	3.67	2.03	**2.87**
65–74	615,858	577,617	**1,193,475**	16,793	9,448	**26,241**	2.73	1.64	**2.20**
75 & over	358,260	316,411	**674,671**	8,830	5,101	**13,931**	2.46	1.61	**2.06**
Unknown*	0	0	**0**	38,903	0	**38,903**	N/A	N/A	**N/A**
Total	**5,363,019**	**5,039,966**	**10,402,985**	**266,186**	**134,061**	**400,247**	**4.96**	**2.66**	**3.85**

* This table includes people in the driver's position of parked vehicles and excludes drivers of some vehicles such as bicycles, snow and off-road vehicles, etc.

3. The Collision

3. The Collision

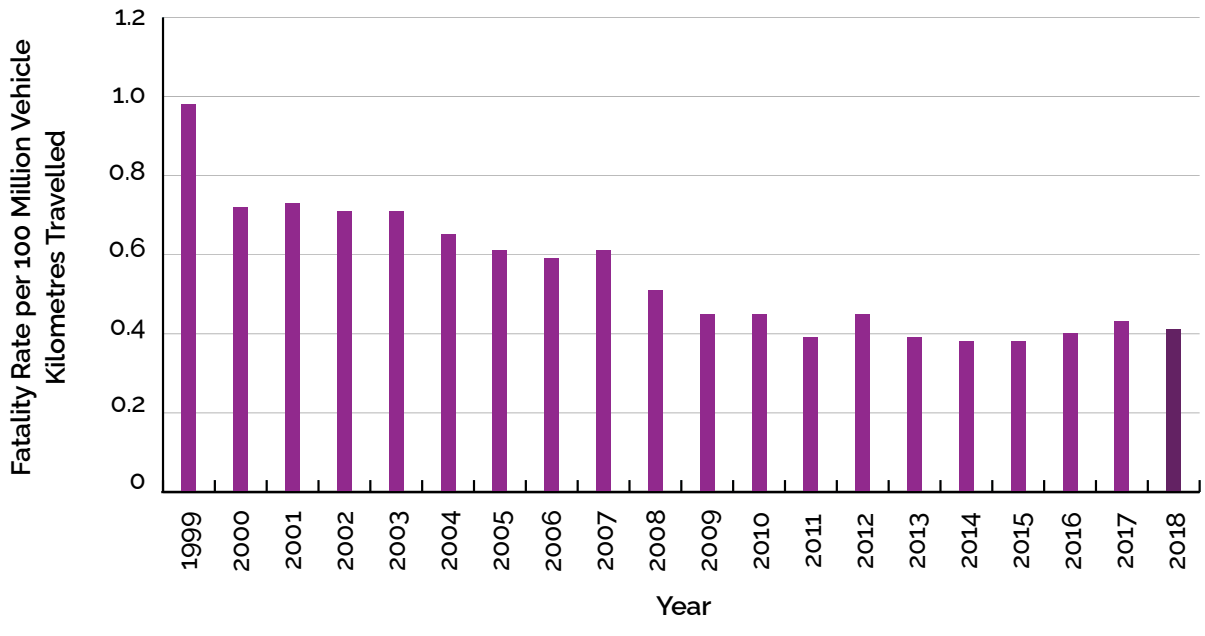
This section profiles the types of collisions that occur on Ontario's roads. To prevent motor vehicle collisions, we need to understand the context in which they occur, including hour of occurrence, day, month, collision type, location, and environmental factors. Identifying these contributing factors is an important step toward reducing collisions on Ontario's roads.

The number of fatal collisions decreased from 566 in 2017 to 556 in 2018, down by 10. The number of injury collisions decreased from 37,677 in 2017 to 36,331 in 2018, down by 1,346. The number of property damage collisions for 2018 was 177,965.

As of September 2015, the collision reporting threshold for property-damage-only collisions has increased from $1,000 to $2,000.

The fatality rate per 100 million kilometres travelled in Ontario decreased from 0.43 in 2017 to 0.41 in 2018.

FIGURE 3 Fatality Rate per 100 Million Vehicle Kilometres Travelled in Ontario, 1999–2018



3A Types of Collisions

TABLE 3.1: Class of Collision 1988–2018

Year	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
1988	1,076	76,724	150,598	**228,398**
1989	1,106	77,852	168,080	**247,038**
1990	959	65,912	153,317	**220,188**
1991	956	59,242	153,471	**213,669**
1992	942	58,889	164,418	**224,249**
1993	987	58,932	168,915	**228,834**
1994	875	58,525	167,596	**226,996**
1995	860	58,273	159,952	**219,085**
1996	816	57,791	156,417	**215,024**
1997	807	56,121	164,572	**221,500**
1998	768	55,441	157,147	**213,356**
1999	763	55,764	165,435	**221,962**
2000	737	57,279	182,614	**240,630**
2001	733	54,479	178,792	**234,004**
2002	770	56,516	187,356	**244,642**
2003	754	52,757	192,952	**246,463**
2004	718	49,948	180,882	**231,548**
2005	684	49,584	179,990	**230,258**
2006	692	47,411	168,144	**216,247**
2007	683	47,014	185,790	**233,487**
2008	574	44,219	184,403	**229,196**
2009	516	44,054	171,745	**216,315**
2010	534	44,430	170,569	**215,533**
2011	466	44,076	132,497	**177,039**
2012	505	43,484	128,879	**172,868**
2013	470	42,408	146,121	**188,999**
2014	484	38,240	178,833	**217,557**
2015	479	40,508	180,424	**221,411**
2016	527	39,685	168,192	**208,404**
2017	566	37,677	170,842	**209,085**
2018	556	36,331	177,965	**214,852**

TABLE 3.2: Collision Rate per One Million Kilometres Travelled, 1988–2018

Year	Collision Rate	Year	Collision Rate	Year	Collision Rate
1988	3.2	1999	2.5	2010	1.66*
1989	3.2	2000	2.0	2011	1.39**
1990	3.0	2001	2.0*	2012	1.36**
1991	2.9	2002	2.0*	2013	1.43**
1992	3.1	2003	2.1*	2014	1.61**
1993	3.0	2004	1.9*	2015	1.59**
1994	2.9	2005	1.8*	2016	1.48**
1995	2.8	2006	1.66*	2017	1.45*
1996	2.7	2007	1.87*	2018	1.46*
1997	2.7	2008	1.84*		
1998	2.5	2009	1.72*		

* Based on Statistics Canada estimates of Vehicle Kilometres Travelled.

** Based on Westbay Research Inc. estimates for CCMTA.

TABLE 3.3: Motor Vehicles Involved in Collisions Based on Initial Impact, 2018

Motor Vehicle in Collision Involving	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Moveable Objects:				
Other Motor Vehicles	586	54,786	278,914	**334,286**
Unattended Vehicles	12	500	12,502	**13,014**
Pedestrian	126	4,011	178	**4,315**
Cyclist	24	1,709	434	**2,167**
Railway Train	1	6	15	**22**
Street Car	0	17	21	**38**
Farm Tractor	1	26	92	**119**
Domestic Animal	0	22	611	**633**
Wild Animal	4	329	11,721	**12,054**
Other Moveable Objects	6	436	740	**1,182**
Sub-total	**760**	**61,842**	**305,228**	**367,830**
Fixed Objects:				
Cable Guide Rail	4	51	408	**463**
Concrete Guide Rail	6	358	1,682	**2,046**
Steel Guide Rail	6	215	1,002	**1,223**
Pole (Utility Tower)	7	408	1,750	**2,165**
Pole (Sign/Parking Meter)	3	128	1,203	**1,334**
Fence/Noise Barrier	0	29	269	**298**
Culvert	1	31	57	**89**
Bridge Support	2	18	94	**114**
Rock Face	2	29	71	**102**

TABLE 3.3: Motor Vehicles Involved in Collisions Based on Initial Impact, 2018 (continued)

Motor Vehicle in Collision Involving	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Snow Bank or Drift	0	37	287	**324**
Ditch	10	478	1,592	**2,080**
Curb	3	268	1,098	**1,369**
Crash Cushion	0	42	47	**89**
Building or Wall	1	32	171	**204**
Water Course	0	1	5	**6**
Construction Marker	0	5	65	**70**
Tree, Shrub, or Stump	5	195	654	**854**
Other Fixed Object	4	84	818	**906**
Sub-total	**54**	**2,409**	**11,273**	**13,736**
Other Events:				
Ran Off Road	70	1,642	4,846	**6,558**
Skidding/Sliding	46	1,930	8,580	**10,556**
Jack-knifing	0	17	142	**159**
Load Spill	0	4	72	**76**
Fire/Explosion	0	1	86	**87**
Submersion	1	2	3	**6**
Rollover	4	183	343	**530**
Debris on Road	0	99	1,193	**1,292**
Debris off Vehicle	0	103	1,218	**1,321**
Other Non-Collision Event	13	506	1,314	**1,833**
Sub-total	**134**	**4,487**	**17,797**	**22,418**
Total	**948**	**68,738**	**334,298**	**403,984**

TABLE 3.4: Initial Impact Type by Class of Collision, 2018

Initial Impact Type	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Approaching	104	958	1,649	**2,711**
Angle	58	4,426	11,388	**15,872**
Rear End	40	9,645	53,166	**62,851**
Sideswipe	20	2,047	25,506	**27,573**
Turning Movement	54	8,279	33,363	**41,696**
With Unattended Motor Vehicle	8	352	10,512	**10,872**
Single Motor Vehicle	272	10,442	37,734	**48,448**
Other	0	182	4,647	**4,829**
Unknown	0	0	0	**0**
Total	**556**	**36,331**	**177,965**	**214,852**

3B Time and Environment

TABLE 3.5: Month of Occurrence by Class of Collision, 2018

Month of Occurrence	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
January	48	8.6	3,064	8.4	18,140	10.2	**21,252**	**9.9**
February	33	5.9	2,478	6.8	14,336	8.1	**16,847**	**7.8**
March	31	5.6	2,401	6.6	12,246	6.9	**14,678**	**6.8**
April	32	5.8	2,507	6.9	13,304	7.5	**15,843**	**7.4**
May	46	8.3	3,026	8.3	13,687	7.7	**16,759**	**7.8**
June	50	9.0	3,262	9.0	13,972	7.9	**17,284**	**8.0**
July	47	8.5	3,347	9.2	13,602	7.6	**16,996**	**7.9**
August	59	10.6	3,184	8.8	13,191	7.4	**16,434**	**7.6**
September	54	9.7	3,313	9.1	13,707	7.7	**17,074**	**7.9**
October	58	10.4	3,376	9.3	16,077	9.0	**19,511**	**9.1**
November	62	11.2	3,533	9.7	19,600	11.0	**23,195**	**10.8**
December	36	6.5	2,840	7.8	16,103	9.0	**18,979**	**8.8**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**

TABLE 3.6: Day of Week by Class of Collision, 2018

Day of Occurrence	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Monday	82	14.7	5,096	14.0	24,933	14.0	**30,111**	**14.0**
Tuesday	89	16.0	5,446	15.0	27,537	15.5	**33,072**	**15.4**
Wednesday	74	13.3	5,458	15.0	27,084	15.2	**32,616**	**15.2**
Thursday	75	13.5	5,719	15.7	28,649	16.1	**34,443**	**16.0**
Friday	92	16.5	6,117	16.8	30,704	17.3	**36,913**	**17.2**
Saturday	83	14.9	4,632	12.7	21,803	12.3	**26,518**	**12.3**
Sunday	61	11.0	3,863	10.6	17,255	9.7	**21,179**	**9.9**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**

TABLE 3.7: Hour of Occurrence by Class of Collision, 2018

Hour of Occurrence A.M.	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
12 to 1 a.m.	19	3.4	554	1.5	2,709	1.5	**3,282**	**1.5**
1 to 2 a.m.	15	2.7	400	1.1	1,897	1.1	**2,312**	**1.1**
2 to 3 a.m.	14	2.5	316	0.9	1,693	1.0	**2,023**	**0.9**
3 to 4 a.m.	13	2.3	275	0.8	1,465	0.8	**1,753**	**0.8**
4 to 5 a.m.	9	1.6	248	0.7	1,270	0.7	**1,527**	**0.7**
5 to 6 a.m.	18	3.2	435	1.2	2,372	1.3	**2,825**	**1.3**
Sub-total	**88**	**15.8**	**2,228**	**6.1**	**11,406**	**6.4**	**13,722**	**6.4**
6 to 7 a.m.	32	5.8	977	2.7	5,215	2.9	**6,224**	**2.9**
7 to 8 a.m.	17	3.1	1,563	4.3	7,620	4.3	**9,200**	**4.3**
8 to 9 a.m.	22	4.0	1,984	5.5	10,889	6.1	**12,895**	**6.0**
9 to 10 a.m.	20	3.6	1,696	4.7	8,828	5.0	**10,544**	**4.9**
10 to 11 a.m.	19	3.4	1,673	4.6	8,028	4.5	**9,720**	**4.5**
11 to 12 noon	24	4.3	1,949	5.4	8,998	5.1	**10,971**	**5.1**
Sub-total	**134**	**24.1**	**9,842**	**27.1**	**49,578**	**27.9**	**59,554**	**27.7**
Hour of Occurrence P.M.								
12 to 1 p.m.	27	4.9	2,150	5.9	10,240	5.8	**12,417**	**5.8**
1 to 2 p.m.	27	4.9	2,157	5.9	9,977	5.6	**12,161**	**5.7**
2 to 3 p.m.	24	4.3	2,403	6.6	11,475	6.4	**13,902**	**6.5**
3 to 4 p.m.	28	5.0	2,898	8.0	13,989	7.9	**16,915**	**7.9**
4 to 5 p.m.	27	4.9	2,906	8.0	15,149	8.5	**18,082**	**8.4**
5 to 6 p.m.	32	5.8	3,069	8.4	15,898	8.9	**18,999**	**8.8**
Sub-total	**165**	**29.7**	**15,583**	**42.9**	**76,728**	**43.1**	**92,476**	**43.0**
6 to 7 p.m.	37	6.7	2,410	6.6	11,862	6.7	**14,309**	**6.7**
7 to 8 p.m.	30	5.4	1,898	5.2	8,246	4.6	**10,174**	**4.7**
8 to 9 p.m.	26	4.7	1,386	3.8	6,438	3.6	**7,850**	**3.7**
9 to 10 p.m.	30	5.4	1,298	3.6	5,583	3.1	**6,911**	**3.2**
10 to 11 p.m.	24	4.3	949	2.6	4,542	2.6	**5,515**	**2.6**
11 to 12 midnight	22	4.0	737	2.0	3,582	2.0	**4,341**	**2.0**
Sub-total	**169**	**30.4**	**8,678**	**23.9**	**40,253**	**22.6**	**49,100**	**22.9**
Unknown	0	0.0	0	0.0	0	0.0	**0**	**0.0**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**

TABLE 3.8: Statutory Holidays, Holiday Weekends—Persons Killed and Injured in Fatal Collisions, 2018

Statutory Holiday*	Number of Fatal Collisions	Drivers		Passengers		Others		Total	
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Easter Weekend	3	2	5	2	4	0	0	**4**	**9**
Victoria Day	1	1	0	0	1	0	0	**1**	**1**
Canada Day	9	7	2	2	8	0	0	**9**	**10**
Civic Holiday	10	6	7	4	6	2	0	**12**	**13**
Labour Day	7	5	2	1	0	1	0	**7**	**2**
Thanksgiving Day	8	7	2	4	1	1	0	**12**	**3**
Christmas/ Boxing Day	4	2	1	2	2	1	0	**5**	**3**

* Actual length may vary depending on the calendar year. For certain holidays, it might include the whole weekend.

TABLE 3.9: Light Condition by Class of Collision, 2018

Light Condition	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Daylight	287	51.6	25,901	71.3	127,174	71.5	**153,362**	**71.4**
Dawn	16	2.9	600	1.7	3,398	1.9	**4,014**	**1.9**
Dusk	15	2.7	1,132	3.1	5,479	3.1	**6,626**	**3.1**
Darkness	237	42.6	8,688	23.9	41,757	23.5	**50,682**	**23.6**
Other	1	0.2	10	0.0	157	0.1	**168**	**0.1**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**

TABLE 3.10: Visibility by Class of Collision, 2018

Visibility	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Clear	457	82.2	29,337	80.7	141,653	79.6	**171,447**	**79.8**
Rain	50	9.0	3,831	10.5	15,653	8.8	**19,534**	**9.1**
Snow	34	6.1	2,217	6.1	15,563	8.7	**17,814**	**8.3**
Freezing Rain	1	0.2	378	1.0	2,294	1.3	**2,673**	**1.2**
Drifting Snow	2	0.4	167	0.5	777	0.4	**946**	**0.4**
Strong Wind	2	0.4	91	0.3	525	0.3	**618**	**0.3**
Fog, Mist, Smoke, or Dust	6	1.1	221	0.6	1,033	0.6	**1,260**	**0.6**
Other	4	0.7	89	0.2	467	0.3	**560**	**0.3**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**

3C The Collision Location

TABLE 3.11: Road Jurisdiction by Class of Collision, 2018

Road Jurisdiction	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Municipal (Excluding Township Road)	227	21,455	101,648	**123,330**
Provincial Highway	140	6,238	35,535	**41,913**
Township	40	1,199	6,117	**7,356**
County or District	74	1,545	7,441	**9,060**
Regional Municipality	72	5,802	26,836	**32,710**
Federal	3	83	332	**418**
Other	0	9	56	**65**
Total	**556**	**36,331**	**177,965**	**214,852**

TABLE 3.12: Road Jurisdiction for All Collisions, 2009–2018

Road Jurisdiction*	Year									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Municipal	137,616	137,548	100,183	97,951	106,385	129,316	134,198	123,544	121,796	123,330
Provincial	35,800	33,816	36,857	34,411	39,500	39,978	38,872	38,174	39,781	41,913
Township	7,295	6,665	6,358	6,296	6,442	6,128	6,182	6,788	6,933	7,356
County or District	11,444	11,638	11,852	11,178	11,524	12,066	9,918	9,447	9,171	9,060
Regional Municipality	23,622	25,360	21,318	22,562	24,677	29,470	31,600	29,926	30,892	32,710
Federal	426	415	385	393	395	490	530	447	415	418
Other	112	91	86	77	76	109	111	78	97	65
Total	**216,315**	**215,533**	**177,039**	**172,868**	**188,999**	**217,557**	**221,411**	**208,404**	**209,085**	**214,852**

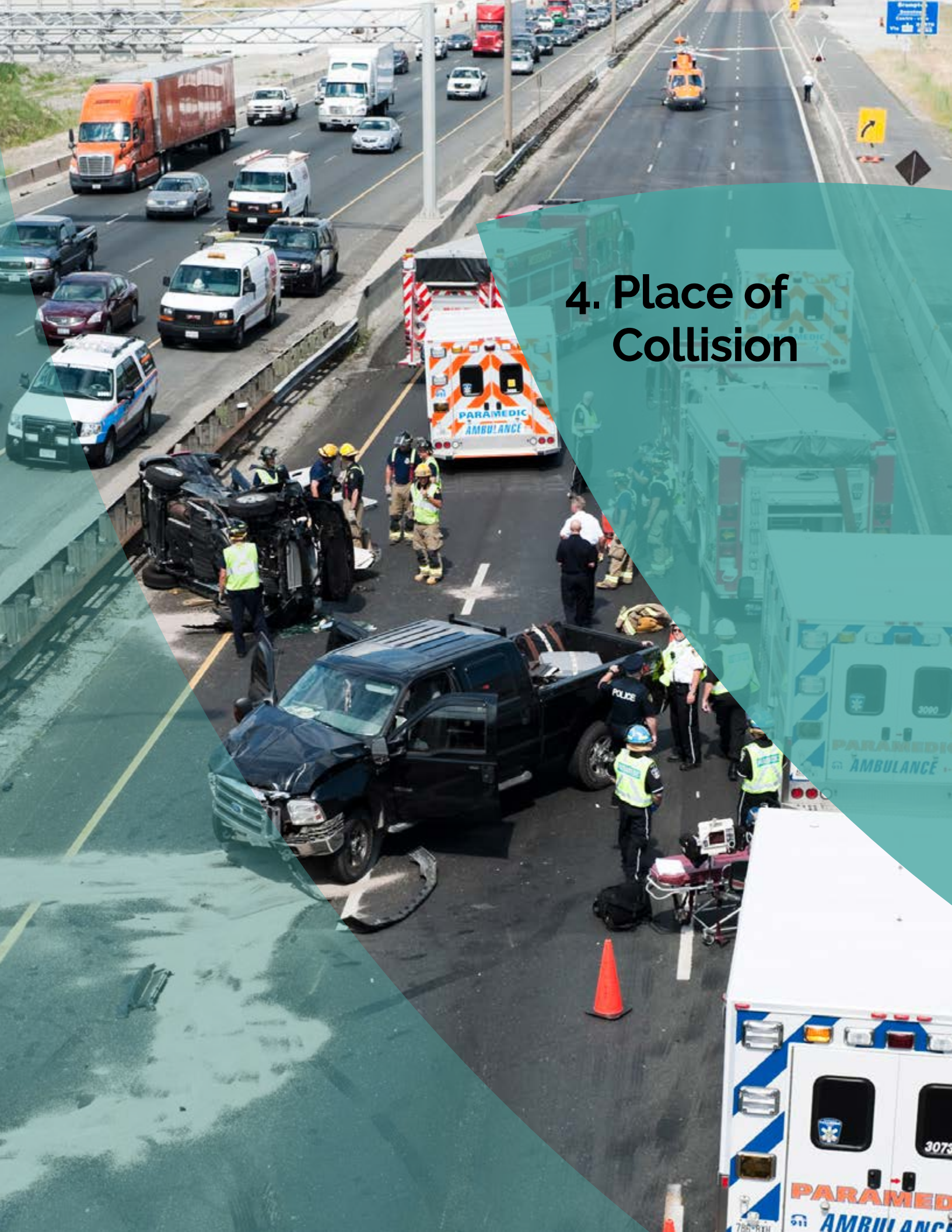
* Collisions may not be comparable across the different years due to transfer of highways between jurisdictions.

TABLE 3.13: Collision Location by Class of Collision, 2018

Road Location	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Non-intersection	351	63.1	14,492	39.9	93,195	52.4	**108,038**	**50.3**
Intersection-Related	74	13.3	8,310	22.9	37,108	20.9	**45,492**	**21.2**
At Intersection	99	17.8	10,869	29.9	32,073	18.0	**43,041**	**20.0**
At/Near Private Drive	25	4.5	2,465	6.8	14,508	8.2	**16,998**	**7.9**
At Railway	1	0.2	35	0.1	218	0.1	**254**	**0.1**
Underpass or Tunnel	1	0.2	19	0.1	68	0.0	**88**	**0.0**
Overpass or Bridge	3	0.5	74	0.2	341	0.2	**418**	**0.2**
Other	2	0.4	67	0.2	454	0.3	**523**	**0.2**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**

TABLE 3.14: Road Surface Condition by Class of Collision, 2018

Road Surface Condition	Class of Collision						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Dry	410	73.7	26,184	72.1	125,101	70.3	**151,695**	**70.6**
Wet	98	17.6	6,715	18.5	28,601	16.1	**35,414**	**16.5**
Loose Snow	16	2.9	1,112	3.1	8,214	4.6	**9,342**	**4.3**
Slush	5	0.9	591	1.6	3,945	2.2	**4,541**	**2.1**
Packed Snow	9	1.6	526	1.4	4,425	2.5	**4,960**	**2.3**
Ice	14	2.5	1,036	2.9	6,924	3.9	**7,974**	**3.7**
Mud	0	0.0	2	0.0	29	0.0	**31**	**0.0**
Loose Sand or Gravel	1	0.2	91	0.3	267	0.2	**359**	**0.2**
Spilled Liquid	0	0.0	11	0.0	12	0.0	**23**	**0.0**
Other	3	0.5	63	0.2	447	0.3	**513**	**0.2**
Total	**556**	**100.0**	**36,331**	**100.0**	**177,965**	**100.0**	**214,852**	**100.0**



4. Place of Collision

4. Place of Collision

This section identifies the location of collisions in Ontario and provides a breakdown of the various classes of collision, the number of persons killed or injured and the number of motor vehicle registrations by municipality and county. The location of collisions provides vital information to MTO and local road authorities about the safety of Ontario's roads and highways.

Comparing the number of collisions and injuries within specific municipalities over the years may help to highlight trends in road safety over time. This information helps MTO and local authorities to prioritize their infrastructure projects, enforcement activities, and education campaigns.

Changes to the names and boundaries of municipalities due to amalgamation or annexation may mean that the statistics found in Table 4.1 may not be comparable from year to year. Information about population numbers by Ontario's municipalities can be found at the Statistics Canada website at statcan.gc.ca. These figures can be used to determine per capita fatality or injury rates by municipality for comparison purpose.

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
ONTARIO TOTAL	**214,847**	**556**	**36,331**	**177,960**	**602**	**50,973**	**10,060,109***
Algoma							
Blind River T	19	0	7	12	0	11	
Elliot Lake C	57	1	5	51	1	6	
Huron Shores M	6	0	0	6	0	0	
Macdonald, Meredith & Aberdeen Addl TP	6	0	0	6	0	0	
Sault Ste. Marie C	982	4	178	800	4	280	
Provincial Highway	310	4	43	263	7	79	
Other Areas	85	1	10	74	1	10	
Algoma Total	**1,465**	**10**	**243**	**1,212**	**13**	**386**	**124,723**
Brant							
Brantford C	1,624	3	257	1,364	3	338	
Provincial Highway	242	2	48	192	2	70	
Other Areas	557	8	108	441	8	162	
Brant Total	**2,423**	**13**	**413**	**1,997**	**13**	**570**	**112,444**
Bruce							
Arran-Elderslie M	80	1	6	73	1	11	
Brockton M	214	1	35	178	1	54	
Huron-Kinloss TP	60	0	7	53	0	14	
Kincardine M	127	0	18	109	0	22	
Saugeen Shores T	195	1	25	169	1	32	
South Bruce Peninsula T	83	0	13	70	0	30	
Provincial Highway	229	0	39	190	0	75	
Other Areas	154	0	19	135	0	23	
Bruce Total	**1,142**	**3**	**162**	**977**	**3**	**261**	**79,095**
Chatham-Kent							
Provincial Highway	177	2	41	134	2	55	
Other Areas	1,382	3	262	1,117	3	377	
Chatham-Kent Total	**1,559**	**5**	**303**	**1,251**	**5**	**432**	**95,921**
Cochrane							
Black River-Matheson TP	11	0	0	11	0	0	
Cochrane T	40	0	3	37	0	3	
Hearst T	42	0	3	39	0	4	
Iroquois Falls T	20	0	4	16	0	4	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Kapuskasing T	79	0	10	69	0	11	
Timmins C	571	0	97	474	0	135	
Provincial Highway	203	2	36	165	2	55	
Other Areas	6	0	2	4	0	2	
Cochrane Total	**972**	**2**	**155**	**815**	**2**	**214**	**94,548**
Dufferin							
Amaranth TP	89	0	20	69	0	31	
East Garafraxa TP	92	0	17	75	0	22	
East Luther Grand Valley TP	31	0	8	23	0	10	
Melancthon TP	87	0	19	68	0	26	
Mono T	138	1	34	103	1	49	
Mulmur TP	115	0	20	95	0	28	
Orangeville T	306	0	39	267	0	57	
Shelburne T	75	0	9	66	0	11	
Provincial Highway	211	1	50	160	2	77	
Other Areas	0	0	0	0	0	0	
Dufferin Total	**1,144**	**2**	**216**	**926**	**3**	**311**	**60,560**
Durham							
Ajax T	1,088	2	298	788	2	421	
Brock TP	135	3	21	111	3	38	
Clarington M	669	2	166	501	2	235	
Oshawa C	2,116	5	485	1,626	5	680	
Pickering C	880	3	237	640	4	339	
Scugog TP	240	2	60	178	3	88	
Uxbridge TP	237	4	51	182	4	73	
Whitby T	1,329	0	285	1,044	0	389	
Provincial Highway	2,267	6	359	1,902	11	554	
Other Areas	0	0	0	0	0	0	
Durham Total	**8,961**	**27**	**1,962**	**6,972**	**34**	**2,817**	**504,023**
Elgin							
Aylmer T	88	0	10	78	0	15	
Bayham M	80	0	14	66	0	19	
Central Elgin M	164	2	28	134	2	37	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Dutton-Dunwich M	54	0	10	44	0	14	
Malahide TP	110	1	20	89	1	31	
Southwold TP	74	0	13	61	0	19	
St. Thomas C	324	0	57	267	0	73	
West Elgin M	53	0	4	49	0	5	
Provincial Highway	159	3	26	130	3	39	
Other Areas	0	0	0	0	0	0	
Elgin Total	**1,106**	**6**	**182**	**918**	**6**	**252**	**87,703**
Essex							
Amherstburg T	212	1	31	180	1	45	
Essex T	147	0	27	120	0	38	
Kingsville T	193	1	24	168	1	36	
Lakeshore T	369	6	60	303	8	87	
LaSalle T	215	0	40	175	0	54	
Leamington M	277	1	42	234	1	58	
Tecumseh T	232	1	31	200	1	37	
Windsor C	4,252	6	1,479	2,767	6	1,970	
Provincial Highway	357	0	62	295	0	99	
Other Areas	2	0	1	1	0	1	
Essex Total	**6,256**	**16**	**1,797**	**4,443**	**18**	**2,425**	**306,168**
Frontenac							
Central Frontenac TP	95	0	14	81	0	19	
Frontenac Islands TP	15	0	0	15	0	0	
Kingston C	1,764	5	324	1,435	5	428	
North Frontenac TP	23	0	5	18	0	6	
South Frontenac TP	259	0	41	218	0	57	
Provincial Highway	317	3	44	270	4	72	
Other Areas	0	0	0	0	0	0	
Frontenac Total	**2,473**	**8**	**428**	**2,037**	**9**	**582**	**124,810**
Grey							
Chatsworth TP	74	1	9	64	1	12	
Georgian Bluffs TP	125	0	22	103	0	32	
Grey Highlands M	191	0	33	158	0	47	
Hanover T	96	0	13	83	0	15	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Meaford M	120	0	16	104	0	18	
Owen Sound C	319	0	40	279	0	52	
Southgate TP	86	1	18	67	1	24	
The Blue Mountains T	100	0	13	87	0	18	
West Grey M	285	0	35	250	0	49	
Provincial Highway	366	4	72	290	4	125	
Other Areas	0	0	0	0	0	0	
Grey Total	**1,762**	**6**	**271**	**1,485**	**6**	**392**	**88,796**
Haldimand-Norfolk							
Provincial Highway	243	7	64	172	8	125	
Other Areas	1,224	11	211	1,002	12	326	
Haldimand-Norfolk Total	**1,467**	**18**	**275**	**1,174**	**20**	**451**	**114,607**
Haliburton							
Algonquin Highlands TP	10	0	1	9	0	1	
Dysart et al TP	107	1	14	92	1	16	
Highlands East M	49	0	8	41	0	9	
Minden Hills TP	105	0	14	91	0	19	
Provincial Highway	176	0	25	151	0	33	
Other Areas	0	0	0	0	0	0	
Haliburton Total	**447**	**1**	**62**	**384**	**1**	**78**	**26,851**
Halton							
Burlington C	1929	4	288	1637	4	396	
Halton Hills T	633	0	101	532	0	135	
Milton T	1397	4	235	1158	4	328	
Oakville T	1891	4	254	1633	4	324	
Provincial Highway	2937	2	317	2618	2	488	
Other Areas	0	0	0	0	0	0	
Halton Total	**8,787**	**14**	**1,195**	**7,578**	**14**	**1,671**	**424,001**
Hamilton							
Hamilton C	7527	11	1385	6131	11	1943	
Provincial Highway	1349	0	155	1194	0	226	
Other Areas	0	0	0	0	0	0	
Hamilton Total	**8,876**	**11**	**1,540**	**7,325**	**11**	**2,169**	**359,553**

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Hastings							
Bancroft T	41	0	3	38	0	3	
Belleville C	759	1	134	624	1	185	
Centre Hastings M	24	0	2	22	0	2	
Deseronto T	8	0	2	6	0	3	
Faraday TP	20	0	1	19	0	1	
Hastings Highlands M	53	0	8	45	0	12	
Madoc TP	10	0	0	10	0	0	
Marmora and Lake M	34	1	2	31	1	3	
Stirling-Rawdon TP	44	0	7	37	0	8	
Tweed M	68	0	4	64	0	4	
Tyendinaga TP	118	1	23	94	1	41	
Provincial Highway	559	4	72	483	4	113	
Other Areas	544	4	74	466	4	98	
Hastings Total	**2,282**	**11**	**332**	**1,939**	**11**	**473**	**138,345**
Huron							
Ashfield-Colborne-Wawanosh TP	78	0	8	70	0	13	
Bluewater M	60	0	12	48	0	17	
Central Huron M	105	1	15	89	2	19	
Goderich T	72	0	10	62	0	12	
Howick TP	62	0	2	60	0	2	
Huron East M	90	1	11	78	1	15	
Morris-Turnberry M	73	1	7	65	1	13	
North Huron TP	58	0	2	56	0	4	
South Huron M	71	2	16	53	2	23	
Provincial Highway	154	1	18	135	1	30	
Other Areas	0	0	0	0	0	0	
Huron Total	**823**	**6**	**101**	**716**	**7**	**148**	**59,241**
Kawartha Lakes							
Kawartha Lakes C	972	3	193	776	3	280	
Provincial Highway	261	2	46	213	2	81	
Other Areas	0	0	0	0	0	0	
Kawartha Lakes Total	**1,233**	**5**	**239**	**989**	**5**	**361**	**81,225**

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Kenora							
Dryden C	113	0	11	102	0	11	
Kenora C	216	0	11	205	0	12	
Red Lake M	20	0	1	19	0	1	
Sioux Lookout M	34	0	4	30	0	5	
Provincial Highway	430	5	41	384	7	66	
Other Areas	69	0	10	59	0	11	
Kenora Total	**882**	**5**	**78**	**799**	**7**	**106**	**59,803**
Lambton							
Brooke-Alvinston TP	53	0	5	48	0	5	
Dawn-Euphemia TP	41	0	1	40	0	1	
Enniskillen TP	53	0	4	49	0	7	
Petrolia T	35	0	6	29	0	6	
Plympton-Wyoming T	67	1	17	49	1	30	
Point Edward V	28	0	2	26	0	2	
Sarnia C	869	1	127	741	1	179	
St. Clair TP	134	3	13	118	4	16	
Warwick TP	43	1	6	36	1	6	
Provincial Highway	185	0	21	164	0	25	
Other Areas	77	2	16	59	2	25	
Lambton Total	**1,585**	**8**	**218**	**1,359**	**9**	**302**	**108,307**
Lanark							
Beckwith TP	57	0	10	47	0	15	
Carleton Place T	86	0	20	66	0	26	
Lanark Highlands TP	105	1	11	93	1	13	
Mississippi Mills T	150	0	21	129	0	27	
Montague TP	41	0	4	37	0	4	
Perth T	87	0	14	73	0	17	
Smiths Falls ST	158	0	16	142	0	24	
Tay Valley TP	62	1	8	53	1	12	
Provincial Highway	173	1	37	135	1	58	
Other Areas	77	0	13	64	0	19	
Lanark Total	**996**	**3**	**154**	**839**	**3**	**215**	**70,738**

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Leeds & Grenville							
Athens TP	31	0	4	27	0	5	
Augusta TP	85	0	12	73	0	18	
Brockville C	302	0	47	255	0	61	
Edwardsburgh/ Cardinal TP	72	1	14	57	1	20	
Elizabethtown-Kitley TP	110	0	18	92	0	24	
Front of Yonge TP	19	0	1	18	0	1	
Gananoque ST	71	0	6	65	0	8	
Leeds and the Thousand Islands TP	89	0	20	69	0	23	
Merrickville-Wolford V	42	0	6	36	0	7	
North Grenville M	184	0	27	157	0	42	
Prescott ST	39	0	6	33	0	7	
Rideau Lakes TP	136	1	17	118	1	27	
Provincial Highway	453	4	57	392	6	127	
Other Areas	9	0	0	9	0	0	
Leeds & Grenville Total	**1,642**	**6**	**235**	**1,401**	**8**	**370**	**100,501**
Lennox & Addington							
Addington Highlands TP	12	0	1	11	0	1	
Greater Napanee T	196	0	42	154	0	52	
Loyalist TP	143	2	27	114	3	38	
Stone Mills TP	97	0	6	91	0	6	
Provincial Highway	246	4	35	207	4	55	
Other Areas	0	0	0	0	0	0	
Lennox & Addington Total	**694**	**6**	**111**	**577**	**7**	**152**	**40,057**
Manitoulin							
Central Manitoulin M	10	0	1	9	0	1	
Provincial Highway	186	0	19	167	0	26	
Other Areas	99	1	14	84	1	18	
Manitoulin Total	**295**	**1**	**34**	**260**	**1**	**45**	**17,528**
Middlesex							
Adelaide-Metcalfe TP	125	0	22	103	0	33	
London C	7,416	10	784	6,622	10	1,119	
Lucan Biddulph TP	45	1	15	29	1	23	
Middlesex Centre M	339	3	46	290	3	93	
North Middlesex M	124	1	21	102	1	30	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Southwest Middlesex M	132	1	22	109	1	34	
Strathroy-Caradoc TP	278	1	46	231	1	64	
Provincial Highway	537	0	65	472	0	85	
Other Areas	261	1	54	206	1	67	
Middlesex Total	**9,257**	**18**	**1,075**	**8,164**	**18**	**1,548**	**338,370**
Muskoka							
Bracebridge T	156	0	14	142	0	16	
Georgian Bay TP	12	0	1	11	0	1	
Gravenhurst T	87	0	9	78	0	11	
Huntsville T	228	1	22	205	1	29	
Lake Of Bays TP	27	0	5	22	0	5	
Muskoka Lakes TP	139	0	16	123	0	20	
Provincial Highway	383	3	29	351	4	40	
Other Areas	5	0	1	4	0	1	
Muskoka Total	**1,037**	**4**	**97**	**936**	**5**	**123**	**74,490**
Niagara							
Fort Erie T	263	1	33	229	1	45	
Grimsby T	160	1	22	137	1	32	
Lincoln T	193	0	19	174	0	25	
Niagara Falls C	1,194	1	149	1,044	1	187	
Niagara-On-The-Lake T	227	1	38	188	1	55	
Pelham T	151	0	27	124	0	36	
Port Colborne C	146	0	25	121	0	30	
St. Catharines C	1,500	5	167	1,328	5	224	
Thorold C	235	1	21	213	1	32	
Wainfleet TP	33	0	6	27	0	8	
Welland C	581	2	53	526	2	66	
West Lincoln TP	142	0	31	111	0	48	
Provincial Highway	1,425	5	163	1,257	5	247	
Other Areas	0	0	0	0	0	0	
Niagara Total	**6,250**	**17**	**754**	**5,479**	**17**	**1,035**	**372,475**
Nipissing							
Bonfield TP	3	0	0	3	0	0	
East Ferris TP	30	0	3	27	0	11	
Mattawa T	8	0	1	7	0	1	
North Bay C	689	2	116	571	2	151	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
West Nipissing M	75	0	10	65	0	11	
Provincial Highway	567	5	81	481	8	118	
Other Areas	43	0	2	41	0	2	
Nipissing Total	**1,415**	**7**	**213**	**1,195**	**10**	**294**	**93,557**
Northumberland							
Alnwick-Haldimand TP	95	0	19	76	0	24	
Brighton M	82	1	15	66	1	19	
Cobourg T	221	0	21	200	0	27	
Cramahe TP	47	1	10	36	1	15	
Hamilton TP	101	0	21	80	0	29	
Port Hope M	159	2	26	131	2	41	
Trent Hills M	157	2	23	132	2	32	
Provincial Highway	347	1	48	298	1	71	
Other Areas	15	1	4	10	1	6	
Northumberland Total	**1,224**	**8**	**187**	**1,029**	**8**	**264**	**89,666**
Ottawa							
Ottawa C	12,217	21	2,396	9,800	22	3,142	
Provincial Highway	1,678	2	205	1,471	2	271	
Other Areas	0	0	0	0	0	0	
Ottawa Total	**13,895**	**23**	**2,601**	**11,271**	**24**	**3,413**	**607,562**
Oxford							
East Zorra-Tavistock TP	96	0	15	81	0	21	
Ingersoll T	100	0	13	87	0	15	
Norwich TP	180	0	26	154	0	42	
Tillsonburg T	140	0	19	121	0	28	
Woodstock C	624	2	96	526	2	136	
Zorra TP	189	3	34	152	3	57	
Provincial Highway	402	0	54	348	0	73	
Other Areas	235	2	40	193	2	63	
Oxford Total	**1,966**	**7**	**297**	**1,662**	**7**	**435**	**106,804**
Parry Sound							
Magnetawan M	8	0	1	7	0	1	
Mcdougall M	28	0	10	18	0	11	
Nipissing TP	5	0	0	5	0	0	
Parry Sound T	115	0	14	101	0	15	
Perry TP	9	0	3	6	0	4	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Powassan M	20	0	1	19	0	1	
Provincial Highway	647	3	91	553	5	121	
Other Areas	162	2	19	141	3	31	
Parry Sound Total	**994**	**5**	**139**	**850**	**8**	**184**	**64,761**
Peel							
Brampton C	7,646	21	1,081	6,544	24	1,474	
Caledon T	1,027	2	184	841	2	282	
Mississauga C	7,544	12	845	6,687	13	1,052	
Provincial Highway	4,749	8	701	4,040	8	1,005	
Other Areas	0	0	0	0	0	0	
Peel Total	**20,966**	**43**	**2,811**	**18,112**	**47**	**3,813**	**903,686**
Perth							
North Perth M	156	0	28	128	0	38	
Perth East TP	211	1	34	176	1	49	
Perth South TP	108	2	17	89	3	33	
St. Marys ST	46	0	9	37	0	9	
Stratford C	454	2	62	390	2	97	
West Perth M	89	3	11	75	3	18	
Provincial Highway	194	4	30	160	4	51	
Other Areas	0	0	0	0	0	0	
Perth Total	**1,258**	**12**	**191**	**1,055**	**13**	**295**	**67,855**
Peterborough							
Asphodel-Norwood TP	42	0	13	29	0	17	
Cavan-Monaghan TP	78	0	15	63	0	22	
Douro-Dummer TP	93	1	11	81	1	12	
Galway-Cavendish-Harvey TP	81	0	9	72	0	9	
Havelock-Belmont-Methuen TP	57	0	2	55	0	2	
North Kawartha TP	27	1	4	22	1	7	
Otonabee-South Monaghan TP	71	0	14	57	0	19	
Peterborough C	1,308	0	221	1,087	0	310	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Smith-Ennismore-Lakefield TP	177	2	28	147	3	50	
Provincial Highway	308	1	56	251	1	89	
Other Areas	2	0	1	1	0	1	
Peterborough Total	**2,244**	**5**	**374**	**1,865**	**6**	**538**	**130,246**
Prescott & Russell							
Alfred and Plantagenet TP	118	0	22	96	0	28	
Casselman V	32	0	3	29	0	3	
Clarence-Rockland C	239	0	32	207	0	39	
East Hawkesbury TP	53	3	12	38	3	21	
Hawkesbury T	153	0	21	132	0	28	
Russell TP	116	1	24	91	1	37	
The Nation M	135	0	29	106	0	43	
Provincial Highway	150	0	26	124	0	66	
Other Areas	75	1	22	52	1	27	
Prescott & Russell Total	**1,071**	**5**	**191**	**875**	**5**	**292**	**100,993**
Prince Edward							
Provincial Highway	47	1	7	39	1	9	
Other Areas	285	1	32	252	1	37	
Prince Edward Total	**332**	**2**	**39**	**291**	**2**	**46**	**26,558**
Rainy River							
Atikokan T	13	0	0	13	0	0	
Fort Frances T	115	0	11	104	0	13	
Provincial Highway	165	0	14	151	0	19	
Other Areas	54	0	2	52	0	3	
Rainy River Total	**347**	**0**	**27**	**320**	**0**	**35**	**25,636**
Renfrew							
Admaston-Bromley TP	30	0	5	25	0	6	
Arnprior T	67	0	6	61	0	8	
Bonnechere Valley TP	36	0	6	30	0	6	
Brudenell, Lyndoch and Raglan TP	28	0	2	26	0	2	
Deep River T	15	0	1	14	0	1	
Greater Madawaska TP	49	0	7	42	0	8	
Horton TP	37	0	5	32	0	9	

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Laurentian Hills T	8	0	3	5	0	3	
Laurentian Valley TP	117	0	21	96	0	25	
Madawaska Valley TP	47	1	4	42	1	9	
McNab-Braeside TP	61	0	8	53	0	8	
North Algona Wilberforce TP	43	0	4	39	0	6	
Pembroke C	187	0	31	156	0	37	
Petawawa T	113	0	12	101	0	15	
Renfrew T	50	0	6	44	0	11	
Whitewater Region TP	62	0	8	54	0	8	
Provincial Highway	474	5	76	393	5	130	
Other Areas	47	1	3	43	1	5	
Renfrew Total	**1,471**	**7**	**208**	**1,256**	**7**	**297**	**112,034**
Simcoe							
Adjala-Tosorontio TP	153	1	22	130	1	29	
Barrie C	2,349	6	296	2,047	6	430	
Bradford West Gwillimbury T	465	4	51	410	4	78	
Clearview TP	293	2	35	256	2	65	
Collingwood T	243	0	28	215	0	47	
Essa TP	295	0	59	236	0	84	
Innisfil T	487	2	96	389	2	132	
Midland T	243	0	40	203	0	56	
New Tecumseth T	354	0	63	291	0	93	
Orillia C	439	2	69	368	2	81	
Oro-Medonte TP	163	2	21	140	2	40	
Penetanguishene T	56	0	5	51	0	5	
Ramara TP	87	0	22	65	0	26	
Severn TP	129	1	21	107	1	29	
Tay TP	52	0	11	41	0	14	
Tiny TP	115	1	21	93	1	26	
Wasaga Beach T	234	1	26	207	1	40	
Provincial Highway	1,805	7	283	1,515	8	451	
Other Areas	314	6	54	254	6	86	
Simcoe Total	**8,276**	**35**	**1,223**	**7,018**	**36**	**1,812**	**451,007**

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Stormont, Dundas & Glengarry							
Cornwall C	737	0	106	631	0	136	
North Dundas TP	110	0	20	90	0	27	
North Glengarry TP	151	1	22	128	1	28	
North Stormont TP	69	1	7	61	1	9	
South Dundas TP	85	0	16	69	0	23	
South Glengarry TP	87	1	11	75	1	15	
South Stormont TP	92	0	17	75	0	21	
Provincial Highway	272	2	44	226	2	71	
Other Areas	2	0	1	1	0	1	
Stormont, Dundas & Glengarry Total	**1,605**	**5**	**244**	**1,356**	**5**	**331**	**103,818**
Sudbury							
Chapleau TP	9	0	0	9	0	0	
Espanola T	25	0	4	21	0	6	
French River M	7	0	0	7	0	0	
Greater Sudbury C	2,661	6	442	2,213	6	626	
Markstay-Warren M	4	0	0	4	0	0	
Provincial Highway	565	5	93	467	6	140	
Other Areas	35	1	0	34	1	1	
Sudbury Total	**3,306**	**12**	**539**	**2,755**	**13**	**773**	**202,394**
Thunder Bay							
Greenstone M	17	0	1	16	0	1	
Manitouwadge TP	5	0	1	4	0	1	
Marathon T	11	0	0	11	0	0	
Neebing M	5	0	1	4	0	1	
Nipigon TP	37	0	0	37	0	0	
Oliver Paipoonge M	43	0	8	35	0	11	
Shuniah M	30	0	3	27	0	3	
Terrace Bay TP	5	0	0	5	0	0	
Thunder Bay C	1,852	3	252	1,597	3	348	
Provincial Highway	1,485	11	204	1,270	12	302	
Other Areas	125	0	7	118	0	11	
Thunder Bay Total	**3,615**	**14**	**477**	**3,124**	**15**	**678**	**152,640**

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
Timiskaming							
Englehart T	7	0	0	7	0	0	
Kirkland Lake T	87	0	18	69	0	20	
Temiskaming Shores C	90	1	11	78	2	12	
Provincial Highway	218	3	44	171	3	62	
Other Areas	41	0	6	35	0	7	
Timiskaming Total	**443**	**4**	**79**	**360**	**5**	**101**	**41,851**
Toronto							
Toronto C	39,473	65	6,808	32,600	65	9,464	
Provincial Highway	8,404	6	1,484	6,914	7	2,186	
Other Areas	0	0	0	0	0	0	
Toronto Total	**47,877**	**71**	**8,292**	**39,514**	**72**	**11,650**	**1,307,215**
Waterloo							
Cambridge C	2,017	1	473	1,543	1	632	
Kitchener C	3,621	2	773	2,846	2	1,048	
North Dumfries TP	207	1	56	150	1	85	
Waterloo C	1,729	2	356	1,371	2	489	
Wellesley TP	89	1	22	66	1	27	
Wilmot TP	217	0	60	157	0	96	
Woolwich TP	424	1	103	320	1	149	
Provincial Highway	1,581	1	253	1,327	1	361	
Other Areas	0	0	0	0	0	0	
Waterloo Total	**9,885**	**9**	**2,096**	**7,780**	**9**	**2,887**	**405,889**
Wellington							
Centre Wellington TP	350	2	52	296	2	78	
Erin T	118	0	20	98	0	28	
Guelph C	1,723	2	286	1,435	2	398	
Guelph/Eramosa TP	259	4	45	210	6	72	
Mapleton TP	135	4	20	111	4	40	
Minto T	87	1	14	72	1	29	
Puslinch TP	180	0	28	152	0	33	
Wellington North TP	136	0	18	118	0	34	
Provincial Highway	701	2	107	592	2	158	
Other Areas	0	0	0	0	0	0	
Wellington Total	**3,689**	**15**	**590**	**3,084**	**17**	**870**	**185,932**

TABLE 4.1: Place of Collision—Class of Collision, Persons Killed, Injured and Motor Vehicle Registrations, 2018 (continued)

Place of Collision	Total Collisions	Class of Collision			Persons		Motor Vehicle Registrations
		Fatal	Personal Injury	Property Damage	Killed	Injured	
York							
Aurora T	449	0	92	357	0	135	
East Gwillimbury T	330	1	85	244	1	128	
Georgina T	296	0	61	235	0	82	
King TP	426	4	89	333	5	150	
Markham T	2,685	6	685	1,994	6	935	
Newmarket T	620	2	133	485	2	169	
Richmond Hill T	1,644	4	462	1,178	4	643	
Vaughan C	3,756	7	842	2,907	7	1,162	
Whitchurch Stouffville T	326	3	79	244	3	119	
Provincial Highway	2,619	8	353	2,258	9	553	
Other Areas	1	0	0	1	0	0	
York Total	**13,152**	**35**	**2,881**	**10,236**	**37**	**4,076**	**815,122**

* This number does not match the vehicle population in Table 5.5; it does not include 11,859 vehicles that are not associated with a county or region in Ontario.

Legend:

C = City

T = Town

TP = Township

M = Municipality

ST = Separated Town

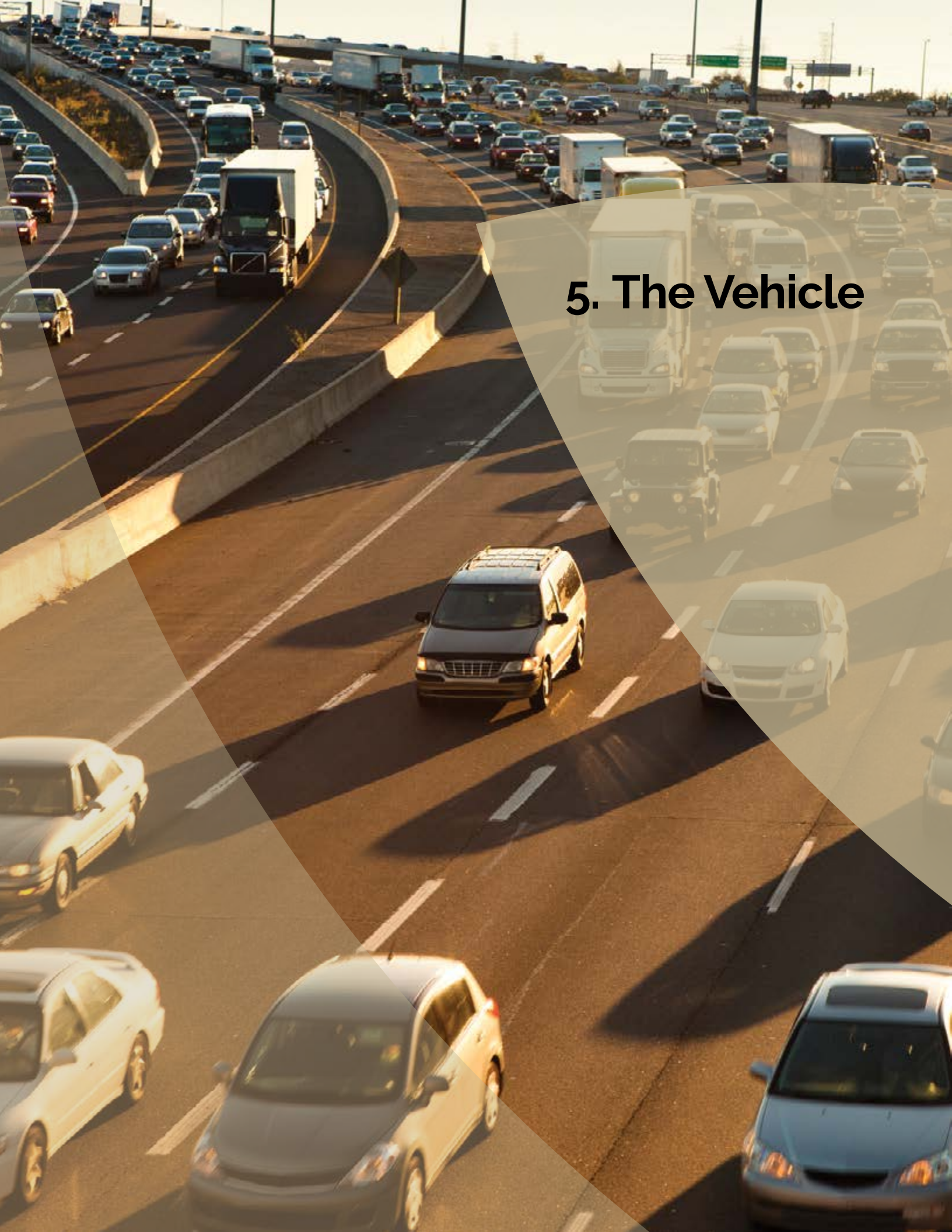
V = Village

Other Areas:

Includes jurisdictions with less than 1,500 population and/or experienced amalgamations/annexation, or name change after 1992.

Table 4.1 is not comparable to previous years.

The figures above do not include 5 property-damage only collisions whose locations were unknown.



5. The Vehicle

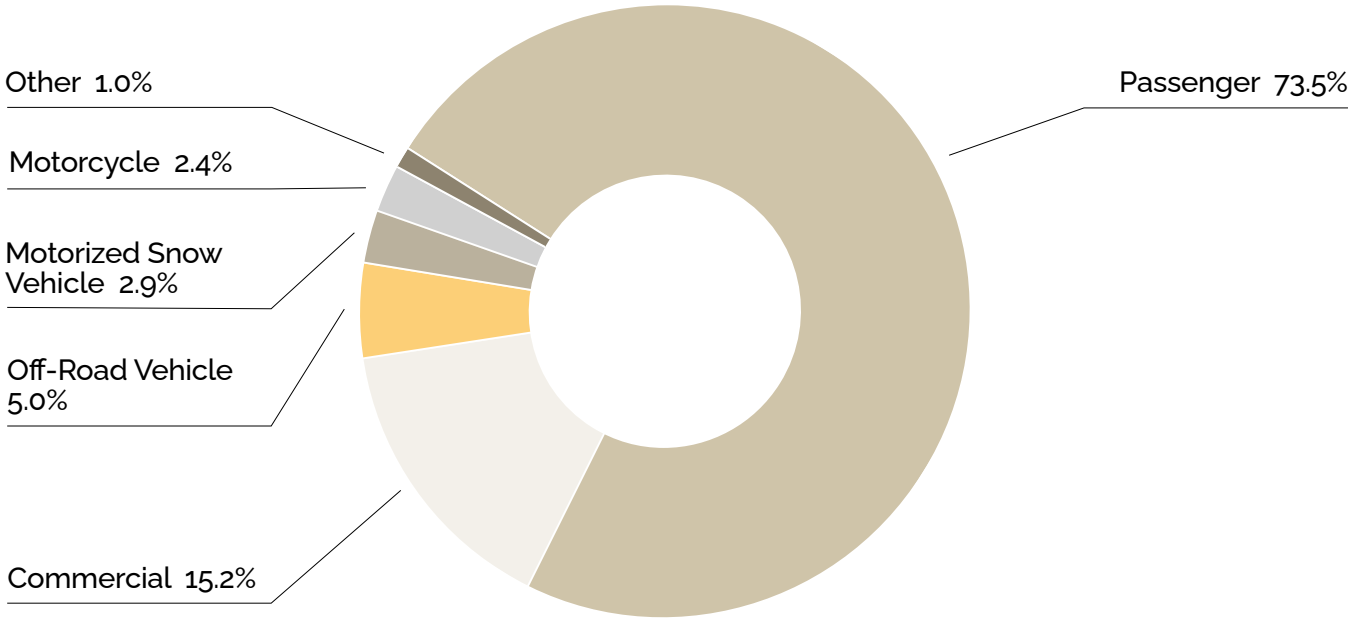
5. The Vehicle

This section examines the types of vehicles involved in motor vehicle collisions in Ontario.

In 2018, passenger vehicles made up about 74% of the vehicle population in Ontario; they also represented 78% of all vehicles involved in collisions.

Only about 1% of all motor vehicles involved in collisions had apparent mechanical defects.

FIGURE 5 **Vehicle Population by Vehicle Class in Ontario, 2018**



5A Vehicles in Collisions

TABLE 5.1: Vehicles Involved in Collisions, 2018

Type of Vehicle	Number of Vehicles Involved in Collisions			Total
	Fatal	Personal Injury	Property Damage	
Passenger Car	549	51,709	248,551	**300,809**
Passenger Van	40	2,988	12,110	**15,138**
Motorcycle & Moped	69	1,312	612	**1,993**
Pick-up Truck	114	6,063	32,583	**38,760**
Delivery Van	16	778	4,254	**5,048**
Tow Truck	1	126	565	**692**
Truck	107	2,166	12,944	**15,217**
Bus	9	649	2,522	**3,180**
School Vehicle	6	176	1,036	**1,218**
Off-Road Vehicle	2	26	39	**67**
Snowmobile	0	10	18	**28**
Snow Plow	0	40	363	**403**
Emergency Vehicle	3	213	1,269	**1,485**
Farm Vehicle	1	51	172	**224**
Construction Equipment	0	26	170	**196**
Motor Home	1	8	68	**77**
Railway Train	1	7	18	**26**
Street Car	2	71	47	**120**
Bicycle	24	1,819	489	**2,332**
Other	1	54	160	**215**
Other Non-Motor Vehicle	0	133	1,139	**1,272**
Unknown	2	313	15,169	**15,484**
Total	**948**	**68,738**	**334,298**	**403,984**

TABLE 5.2: Condition of Vehicle by Class of Collision, 2018

Condition of Vehicle	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
No Apparent Defect	873	65,467	303,328	**369,668**
Service Brakes Defective	1	61	208	**270**
Steering Defective	0	15	63	**78**
Tire Puncture or Blow Out	2	46	208	**256**
Tire Tread Insufficient	4	54	129	**187**
Headlamps Defective	1	19	93	**113**
Other Lamps or Reflectors Defective	0	6	43	**49**
Engine Controls Defective	1	10	70	**81**
Wheels or Suspension Defective	0	33	197	**230**
Vision Obscured	0	11	38	**49**
Trailer Hitch Defective	0	2	22	**24**
Other Defects	8	237	1,660	**1,905**
Unknown	58	2,777	28,239	**31,074**
Total	**948**	**68,738**	**334,298**	**403,984**

TABLE 5.3: Model Year of Vehicle by Class of Collision, 2018

Model Year of Vehicle	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
2019	2	299	1,736	**2,037**
2018	48	3,793	21,190	**25,031**
2017	80	5,672	31,968	**37,720**
2016	58	5,158	28,063	**33,279**
2015	59	4,968	24,383	**29,410**
2014	47	4,384	21,892	**26,323**
2013	59	4,457	21,590	**26,106**
2012	43	4,164	19,416	**23,623**
2011	33	3,599	17,787	**21,419**
2010	41	3,850	18,917	**22,808**
2009 and earlier	449	25,222	108,505	**134,176**
Unknown	29	3,172	18,851	**22,052**
Total	**948**	**68,738**	**334,298**	**403,984**

TABLE 5.4: Insurance Status of Vehicle by Class of Collision, 2018

Insurance	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Insured	897	66,470	312,231	**379,598**
Not Insured	29	681	1,674	**2,384**
Unknown	22	1,587	20,393	**22,002**
Total	**948**	**68,738**	**334,298**	**403,984**

5B Putting the Vehicle in Context

TABLE 5.5: Vehicle Population by Type of Vehicle, 2018

Vehicle Class	Vehicle Population
Passenger	7,397,114
Motorcycle	236,602
Moped	517
Commercial*	1,537,352
Bus	22,637
School Bus	12,033
Motorized Snow Vehicle	294,836
Off-Road Vehicle	507,718
Road Building Machinery	0
Permanent Apparatus	2,757
Farm Trucks	60,402
Total	**10,071,968**

* Excludes vehicles registered under the PRORATE-P program (78,872 vehicles).

TABLE 5.6: Selected Types of Vehicles by Model Year, 2019 and earlier

Vehicle Class	Model Year											Total
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009 and earlier	
Passenger	113,630	601,589	631,340	563,730	561,388	500,814	506,066	455,705	409,909	459,142	2,593,801	**7,397,114**
Motorcycle	460	7,166	9,076	9,186	9,813	9,749	9,683	8,912	8,191	7,724	156,642	**236,602**
Moped	0	2	0	2	1	1	4	4	0	8	495	**517**
Commercial*	27,313	154,886	152,219	130,102	99,460	89,324	75,751	74,164	86,684	80,925	629,683	**1,600,511**
Bus	1,491	2,448	2,892	2,460	2,066	2,184	2,734	2,451	2,113	2,266	11,565	**34,670**
Motorized Snow Vehicle	4,209	7,889	8,070	9,748	7,722	5,624	4,994	5,237	5,269	5,526	230,548	**294,836**
Off-Road Vehicle	2,215	18,520	20,537	19,661	15,400	18,378	16,747	15,730	15,281	10,245	355,004	**507,718**
Total	**149,318**	**792,500**	**824,134**	**734,889**	**695,850**	**626,074**	**615,979**	**562,203**	**527,447**	**565,836**	**3,977,738**	**10,071,968**

* Excludes vehicles registered under the PRORATE-P program (78,872 vehicles).

TABLE 5.7: Vehicle Damage Level by Class of Collision, 2018

Damage	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
None	60	5,469	12,497	**18,026**
Light	93	16,383	131,040	**147,516**
Moderate	137	20,125	120,180	**140,442**
Severe	169	15,955	32,076	**48,200**
Demolished	459	7,441	6,992	**14,892**
Unknown	30	3,365	31,513	**34,908**
Total	**948**	**68,738**	**334,298**	**403,984**

Vehicle Damage

None: No visible damage.

Light: Slight or superficial damage. Includes scratches, small dents, minor cracks in glass that do not affect safety or performance of vehicle.

Moderate: Unsafe conditions result from damage. Vehicle must be repaired to make its condition meet requirements of law. Vehicle can be driven off-road or limited distance but doing so would be unsafe.

Severe: Vehicle cannot be driven. Requires towing. Would normally be repaired.

Demolished: Vehicle damaged to the extent that repairs would not be feasible.

6. Special Vehicles

6. Special Vehicles

This section examines vehicles of special interest, including motorcycles, school buses, large trucks, snowmobiles, off-road vehicles and bicycles.

The ministry is continuously monitoring the safety of special vehicle types as many fatalities and injuries result from collisions that occur off road and involve off-road vehicles and snowmobiles. The safety of other vehicle types such as bicycles, motorcycles, school buses or large trucks is always in the centre of public scrutiny.

6A Motorcycles

TABLE 6.1: Motorcyclists* Killed and Injured, 2009–2018

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
2009	38	1,236	1	425
2010	45	1,230	2	462
2011	36	1,326	2	478
2012	54	1,338	1	478
2013	47	1,250	3	431
2014	56	1,177	5	313
2015	57	1,583	6	159
2016	60	1,498	5	156
2017	65	1,372	4	141
2018	64	1,211	2	89

* Excludes hangers-on, moped drivers and passengers.

TABLE 6.2: Selected Factors Relevant to Fatal Motorcycle Collisions, 2018

Factors (not mutually exclusive)	%
Unlicensed Motorcycle Drivers	6.9
Under 25 Years Old	10.6
Alcohol Used	
Ability Impaired Alcohol > .08	19.0
Had Been Drinking	12.7
Unknown	5.0
Helmet Not Worn (Fatalities)	8.0
Motorcycle Driver Error	
Speed Too Fast/Lost Control	28.8
Other Error	36.4
Single Vehicle Collisions	40.3
Day/Night	61.2/ 34.3
Weekend	37.3

6B School Vehicles

TABLE 6.3: Pupils Transported Daily, Total Number of School Vehicles Involved in Collisions—School Years 2013/2014–2017/2018

School Year	Pupils Transported Daily	Total Number of School Vehicles in Collisions
2013/2014	834,228	**1,445**
2014/2015	837,173	**1,293**
2015/2016	828,508	**1,037**
2016/2017	836,032	**1,064**
2017/2018	850,747	**1,075**

TABLE 6.4: Collisions Involving School Vehicles by Type and Nature of Collision, 2017/2018

School Vehicle Type	Nature of Collision				Total Number of Collisions	Five-Year Total (2013/2014–2017/2018)
	Fatal	Pupil Injury	Non-Pupil Injury	Property Damage		
School Bus	3	40	90	866	**999**	**5,513**
School Van	0	0	0	16	**16**	**89**
Other School Vehicles	0	3	7	40	**50**	**274**
Total	**3**	**43**	**97**	**922**	1,065	5,876

TABLE 6.5: Pupil Injury by Collision Event and Vehicle Type, 2017/2018 (Number of Persons)

School Vehicle Type	Collision Event						Total		Five-Year Total (2013/2014–2017/2018)	
	Crossing Road		Within School Vehicle		Other					
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
School Bus	0	0	0	60	0	1	**0**	**61**	**0**	**363**
School Van	0	0	0	4	0	0	**0**	**4**	**0**	**15**
Other School Vehicles	0	0	0	0	0	0	**0**	**0**	**0**	**7**
Total	**0**	**0**	**0**	**64**	**0**	**1**	0	65	0	385

6C Large Trucks

TABLE 6.6: Number of Persons Killed in Collisions Involving Trucks, 2014–2018

Year	Persons Killed in Truck Collisions			
	Where Truck Driver Not Driving Properly	% Where Truck Driver Not Driving Properly	All Truck Collisions	% of Total Deaths
2014	36	33.0	109	**21.1**
2015	31	32.6	95	**17.9**
2016	37	32.7	113	**19.5**
2017	46	32.6	141	**22.9**
2018	35	36.8	95	**15.8**
Total	**185**	**33.5**	**553**	**19.4**

TABLE 6.7: Number of Trucks in All Classes of Collisions, 2018

Truck Types	Class of Collision			Total
	Fatal	Personal Injury	Property Damage	
Straight Truck	37	922	5,687	**6,646**
Straight Truck & Trailer	8	115	581	**704**
Tractor Only	2	163	1,582	**1,747**
Tractor & Semi-Trailer	49	820	4,195	**5,064**
"A-C" Train Double	5	15	110	**130**
"B" Train Double	2	23	148	**173**
Other/Unknown	5	234	1,206	**1,445**
Total	**108**	**2,292**	**13,509**	**15,909**

TABLE 6.8: Registered Trucks, 2018

Driver Licence Required	Registered Trucks
G	1,383,503
D	45,026
A*	250,854**
Total	**1,679,383**

* Tractor/trailer combination only.

** Includes vehicles registered under the PRORATE-P program (78,872 vehicles).

TABLE 6.9: Selected Factors Relevant to Fatal Truck Collisions, 2018

Factors in Fatal Collisions:	%
Drivers	
Alcohol Involved	0
Driving Properly	65
Collisions	
Single Vehicle	21
Weather Condition—Clear	86
Daylight	72
Vehicles	
Vehicle Defect Present*	5

* Excludes unknown category.

6D Off-Road Vehicles

TABLE 6.10: Drivers of Off-Road Vehicles Killed and Injured by Collision Location*, 2014–2018

Location	Killed					Injured				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
On-Highway	8	10	15	8	9	106	86	91	117	127
Off-Highway	3	8	15	13	6	106	123	125	116	147
Total	**11**	**18**	**30**	**21**	**15**	**212**	**209**	**216**	**233**	**274**

* Beginning with the 2004 ORSAR edition, the ORV statistics include casualties of all "on-highway" and "off-highway" collisions, and not only HTA-reportable collisions. As a result, provided statistics are not comparable with the statistics provided in earlier editions of ORSAR.

TABLE 6.11A: Passengers of Off-Road Vehicles Killed and Injured, by Collision Location*, 2014–2018

Location	Killed					Injured				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
On-Highway	0	0	0	1	2	63	63	47	42	44
Off-Highway	0	1	1	1	2	51	83	72	54	49
Total	**0**	**1**	**1**	**2**	**4**	**114**	**146**	**119**	**96**	**93**

* Beginning with the 2004 ORSAR edition, the ORV statistics include casualties of all "on-highway" and "off-highway" collisions, and not only HTA-reportable collisions. As a result, provided statistics are not comparable with the statistics provided in earlier editions of ORSAR.

TABLE 6.11B: Pedestrians Killed and Injured by Off-Road Vehicles, by Collision Location*, 2014–2018

Location	Killed					Injured				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
On-Highway	0	0	0	0	0	0	5	9	3	0
Off-Highway	0	0	0	0	0	2	4	4	1	3
Total	**0**	**0**	**0**	**0**	**0**	**2**	**9**	**13**	**4**	**3**

* Beginning with the 2004 ORSAR edition, the ORV statistics include casualties of all "on-highway" and "off-highway" collisions, and not only HTA-reportable collisions. As a result, provided statistics are not comparable with the statistics provided in earlier editions of ORSAR.

TABLE 6.12: Registered Off-Road Vehicles, 2014–2018

Year	Vehicles Registered
2014	423,822
2015	442,499
2016	462,636
2017	485,596
2018	507,718

TABLE 6.13: Selected Factors Relevant to All Off-Road Vehicle Collisions, 2018

Factors	%
Drivers Under 25 Years of Age	38
Alcohol Used	22
Speeding	22
Helmet Not Worn	36
Daytime	76
Two-Wheeled	16
Three-Wheeled	1
Four-Wheeled	82

6E Motorized Snow Vehicles

TABLE 6.14: Drivers of Motorized Snow Vehicles* Killed and Injured by Collision Location—Riding Seasons 2013/2014–2017/2018

	Killed					Injured				
Location	13/14	14/15	15/16	16/17	17/18	13/14	14/15	15/16	16/17	17/18
On-Highway	9	3	1	7	2	61	26	19	31	34
Off-Highway	10	14	10	19	16	122	107	90	112	117
Total	**19**	**17**	**11**	**26**	**18**	**183**	**133**	**109**	**143**	**151**

* Beginning with the 2004 ORSAR edition, the motorized snow vehicle (MSV) statistics include casualties of all "on-highway" and "off-highway" collisions, and not only HTA-reportable collisions. As a result, provided statistics are not comparable with the statistics provided in earlier editions of ORSAR.

TABLE 6.15A: Passengers of Motorized Snow Vehicles* Killed and Injured by Collision Location—Riding Seasons 2013/2014–2017/2018

Location	Killed					Injured				
	13/14	14/15	15/16	16/17	17/18	13/14	14/15	15/16	16/17	17/18
On-Highway	1	0	0	0	0	27	5	2	10	3
Off-Highway	1	1	1	2	0	71	16	12	14	12
Total	**2**	**1**	**1**	**2**	**0**	**98**	**21**	**14**	**24**	**15**

* Beginning with the 2004 ORSAR edition, the motorized snow vehicle (MSV) statistics include casualties of all "on-highway" and "off-highway" collisions, and not only HTA-reportable collisions. As a result, provided statistics are not comparable with the statistics provided in earlier editions of ORSAR.

TABLE 6.15B: Pedestrians Killed and Injured by Motorized Snow Vehicles* by Collision Location—Riding Seasons 2013/2014–2017/2018

Location	Killed					Injured				
	13/14	14/15	15/16	16/17	17/18	13/14	14/15	15/16	16/17	17/18
On-Highway	1	0	0	0	0	2	4	0	3	0
Off-Highway	1	0	1	0	0	4	4	2	3	2
Total	**2**	**0**	**1**	**0**	**0**	**6**	**8**	**2**	**6**	**2**

* Beginning with the 2004 ORSAR edition, the motorized snow vehicle (MSV) statistics include casualties of all "on-highway" and "off-highway" collisions, and not only HTA-reportable collisions. As a result, provided statistics are not comparable with the statistics provided in earlier editions of ORSAR.

TABLE 6.16: Registered Motorized Snow Vehicles, 2014–2018

Year	Registered Motorized Snow Vehicles
2014	308,578
2015	306,509
2016	304,590
2017	309,199
2018	294,836

TABLE 6.17: Selected Factors Relevant to All Motorized Snow Vehicle Collisions—Riding Season 2017/2018

Factors	%
Unlicensed Operators	7
Rider Error; Speed too Fast	20
Alcohol Used	12
Surface Condition; Icy or Packed Snow	51

6F Bicycles

Note: The following three tables consider bicycles involved in HTA-reportable* collisions only.

TABLE 6.18: Bicyclists* Killed and Injured, 2014–2018

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
2014	16	1,785	0	288
2015	20	2,295	0	138
2016	19	2,302	0	99
2017	14	1,932	0	61
2018	23	1,693	0	56

* Includes hangers-on.

TABLE 6.19: Age of Bicyclists Involved in Collisions by Light Condition, 2018

Light Condition	Age Groups						Total
	0–5	6–15	16–30	31–60	61+	Unknown	
Daylight	3	206	553	710	219	175	**1,866**
Dawn	0	1	11	16	3	2	**33**
Dusk	0	13	24	22	6	8	**73**
Dark	0	13	136	153	15	32	**349**
Other	0	1	0	0	0	0	**1**
Unknown	0	0	0	0	0	0	**0**
Total	**3**	**234**	**724**	**901**	**243**	**217**	**2,322**

TABLE 6.20: Selected Factors Relevant to All Bicycle Collisions, 2018

Factors	%
Driving Properly (Bicyclist)	55
Driving Properly (Motor Vehicle Driver)	45
Intersection Related	67
Going Ahead (Bicyclist)	86
Alcohol Related (Bicyclist)	2
No Apparent Vehicle Defect (Bicycle)	90
Clear Visibility	92
Weekend	19

7. Conviction, Offence and Suspension Data

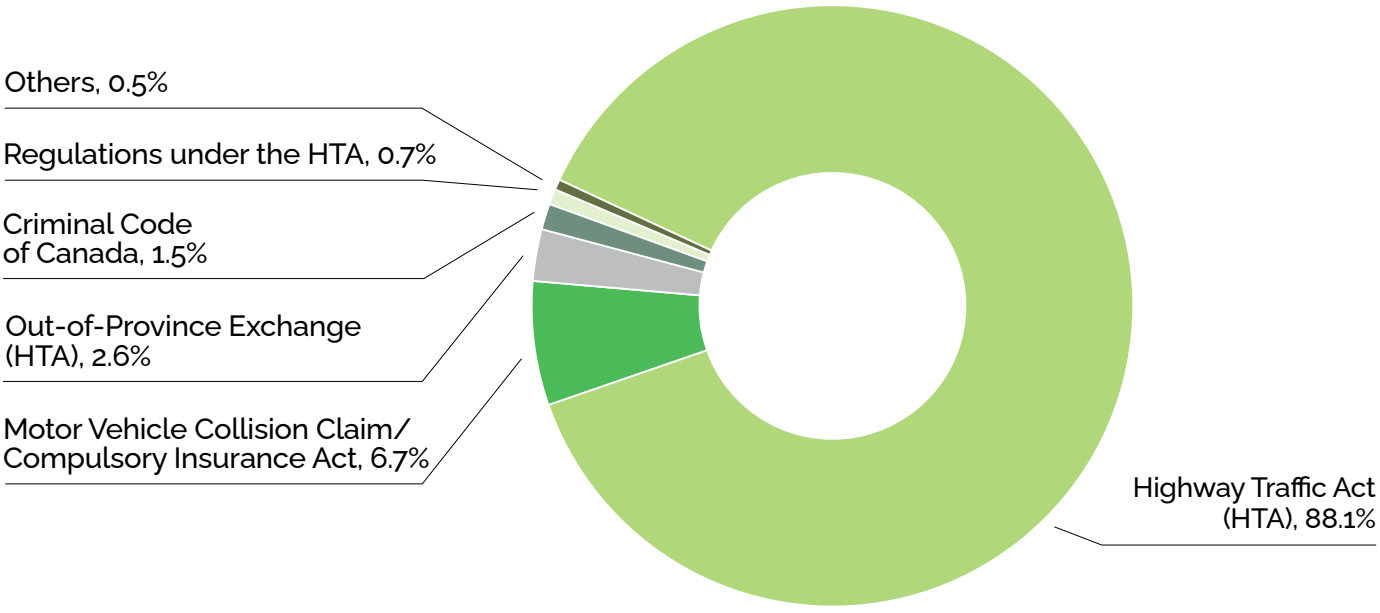
7. Conviction, Offence and Suspension Data

This section presents conviction, offence and suspension data related to motor vehicle use in Ontario. Convictions are summarized by legislation and conviction type.

In 2018, nearly 90% of motor vehicle convictions were related to *Highway Traffic Act* (HTA) offences and 2% were related to the Criminal Code of Canada (e.g., drinking and driving, dangerous driving, fail to remain).

In the last decade, the number of Administrative Driver's Licence Suspensions (ADLS) for drinking and driving has dropped from approximately 17,000 to approximately 12,500 occurrences annually.

FIGURE 7 **Motor Vehicle Convictions in Ontario by Type, 2018**



7A Conviction Data

TABLE 7.1: Summary of Motor Vehicle-Related Convictions, 2018

Convictions*	Number
Highway Traffic Act (HTA)	872,114
Regulations under the HTA	6,456
Criminal Code of Canada**	14,858
Municipal By-Law***	3
Motor Vehicle Collision Claim/Compulsory Insurance Act	66,080
Motorized Snow Vehicles Act	1,560
Off-Road Vehicles Act	1,229
Out-of-Province Exchange (HTA)	26,126
Others****	2,045
Total	**990,471**

* Includes manually recorded convictions.

** This figure does not include 230 convictions for young offenders under the Criminal Code.

*** In previous years a large portion of convictions under HTA Regulations were allocated to convictions under Municipal By-Law.

****Others may include acts not listed above, such as Motor Vehicle Safety Act, Government Traffic Act, etc.

TABLE 7.2: Motor Vehicle Convictions Related to the Highway Traffic Act, 2018

Convictions	Number
Equipment	47,458
Administrative*	172,979
Seat Belt (Driver & Passenger)**	14683
Other Non-Pointable Convictions ***	56,104
Speeding	431,986
Other Pointable Convictions (2–4 pts)	128,370
Other Pointable Convictions (5–7 pts)	8,299
Driving While Suspended	12,235
Total	**872,114**

* Non-moving, weight, vehicle registration, licence renewal, etc.

** Failure to wear seat belt convictions registered against passengers over 16 are no longer included.

*** Now includes some out-of-province convictions.

TABLE 7.3: Motor Vehicle Convictions Related to the Criminal Code, 2018*

Convictions	Number
Alcohol Related**	11,745
Criminal Negligence	16
Fail to Remain at Collision	341
Fail to Stop for Police Officer	483
Driving While Disqualified	1,801
Dangerous Driving	1,202
Motor Manslaughter	0
Total	**15,588**

* Does not include 230 convictions for young offenders.

** Includes some out-of-province convictions.

7B Offence Data

TABLE 7.4: Number of Driver* Convictions for Criminal Code of Canada Offences** 2010–2018

Conviction Type	2010	2011	2012	2013	2014	2015	2016	2017	2018
Criminal Negligence	9	4	2	1	0	0	0	0	0
Fail to Remain	420	353	185	222	164	144	144	151	144
Dangerous Driving	967	856	566	513	453	464	479	540	557
Impaired Driving	6,540	5,710	4,222	3,892	3,413	3,422	3,387	3359	3229
Blood/Alcohol over .08	6,070	6,117	4,942	4,367	4,382	4,171	3,955	3905	3893
Fail to Provide Breath Sample	1,138	934	598	530	472	426	423	419	380
Driving While Disqualified	2,163	2,138	1,291	1,222	1,085	1,043	1,053	980	996
Motor Manslaughter	1	0	0	2	0	0	0	0	0
Undefined	417	341	283	248	232	245	230	295	0
Total	**17,725**	**16,453**	**12,089**	**10,997**	**10,201**	**9,915**	**9,671**	**9,649**	**9,199**

* The same driver may be represented in this table more than once.

** Includes offences and registered convictions that occurred in the same year.

TABLE 7.5: Administrative Driver's Licence Suspensions*, Monthly Suspensions Issued, 2009–2018

Suspensions	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	1,368	1,298	1,154	1,071	994	911	996	1,017	990	912
February	1,401	1,140	1,219	1,230	1,028	895	1,039	1,009	1,009	965
March	1,502	1,252	1,332	1,236	1,339	1,104	1,199	1,060	1,076	1,062
April	1,391	1,363	1,304	1,284	1,117	1,078	1,124	1,130	1,152	979
May	1,533	1,486	1,342	1,212	1,233	1,244	1,221	1,212	989	1,072
June	1,373	1,296	1,360	1,265	1,273	1,149	1,146	1,150	1,044	1,109
July	1,489	1,454	1,475	1,338	1,175	1,156	1,319	1,181	1,219	1,139
August	1,482	1,400	1,281	1,393	1,235	1,354	1,190	1,171	1,129	1,072
September	1,458	1,360	1,303	1,359	1,179	1,061	1,073	1,034	1,059	1,044
October	1,412	1,416	1,354	1,285	1,173	1,154	1,201	1,144	1,043	1,002
November	1,656	1,344	1,313	1,314	1,155	1,237	1,199	1,104	1,056	1,017
December	1,374	1,411	1,467	1,523	1,174	1,302	1,227	1,240	1,271	1,239
Total	**17,439**	**16,220**	**15,904**	**15,510**	**14,075**	**13,645**	**13,934**	**13,452**	**13,037**	**12,612**

* See Appendix for a more detailed explanation of Administrative Driver's Licence Suspensions.

7C Suspension Data

TABLE 7.6: Demerit Point Suspensions by Driver Age, 2018

Driver Age	Demerit Point Suspensions			
	Novice First Accumulation	Novice Second Accumulation	Regular First Accumulation	Regular Second Accumulation
16	0	0	0	0
17	0	0	0	0
18	4	1	0	0
19	16	5	2	0
20–24	84	25	90	4
25–34	79	21	224	10
35–44	35	8	110	7
45–54	20	6	64	0
55–64	11	3	25	2
65–74	1	0	7	1
75 +	0	0	3	0
Total	**250**	**69**	**525**	**24**

8. Appendix

8A Glossary

Ability-Impaired Alcohol:
Driver had consumed a sufficient amount of alcohol to warrant being charged with a drinking and driving offence.

Ability-Impaired—Alcohol over 0.08:
Ability-Impaired, Alcohol: Driver had consumed alcohol and upon testing was found to have a blood-alcohol level in excess of 80 milligrams per 100 millilitres of blood.

Administrative Driver's Licence Suspension (ADLS):
This program, designed to reduce drinking and driving, started November 29, 1996. Under this program, provincial law permits the immediate suspension of a driver's licence for 90 days upon evidence gathered by a police officer that the driver (a) was shown to have a concentration of alcohol in excess of 80 milligrams per 100 millilitres of blood, or (b) the driver failed or refused to provide a breath or blood sample.

Alcohol Involved:
This category includes drivers reported as "Had Been Drinking", with "BAC > 80 mg/100mL" or with "Ability-Impaired by Alcohol".

Class G1 Driver's Licence:
A holder of a Class G1 driver's licence:

- must have a zero blood-alcohol concentration while driving;
- must have an accompanying driver who is a fully licensed driver (Class A, B, C, D, E, F or G) with at least four years' driving experience and has a blood-alcohol concentration less than 0.05;
- must have the accompanying driver as the only passenger in the front seat with the G1 driver;
- unless accompanied by a licensed driving instructor, must not drive on Ontario's "400-series" highways or on high-speed expressways such as the Queen Elizabeth Way, the Don Valley Parkway, E.C. Row Expressway and the Conestoga Parkway;
- must ensure the number of passengers in the vehicle is limited to the number of working seat belts;
- must not drive between the hours of midnight and 5 a.m.;
- may drive a Class G vehicle only.

The G1 licence period lasts at minimum 12 months. It can be reduced to eight months by successfully completing an approved driver education course. For information about approved courses, call ServiceOntario at 1-800-268-4686. At the end of the G1 licence period, drivers must pass a road test before proceeding to the G2 licence period.

Class G2 Driver's Licence:
A holder of a Class G2 driver's licence:

- must have a zero blood-alcohol concentration while driving;
- is allowed to drive any motor vehicle that requires a Class G driver's licence on the road;
- must ensure the number of passengers in the vehicle is limited to the number of working seat belts;
- for the first six months, G2 drivers aged 19 and under cannot carry more than one passenger aged 19 and under between midnight and 5 a.m.

- after the first six months, G2 drivers aged 19 and under cannot carry more than three passengers aged 19 and under between midnight and 5 a.m.*

The G2 licence period lasts a minimum 12 months. After completing, drivers are eligible to take a comprehensive test to qualify for full licence privileges.

* These passenger restrictions do not apply if the G2 driver is accompanied by a full "G" licensed driver (with at least four years of driving experience) in the front seat, or if the passengers are immediate family members.

Class M1 Motorcycle Driver's Licence:

A holder of a Class M1 motorcycle driver's licence:

- may operate a motorcycle, limited-speed motorcycle (motor scooter) or motor-assisted bicycle (moped) for the purposes of training;
- must have a zero blood-alcohol content while driving;
- is only allowed to drive during daylight hours (one-half hour before sunrise to one-half hour after sunset);
- must not ride on highways with speed limits of more than 80 km/h except highways 11, 17, 61, 69, 71, 101, 102, 144, 655;
- must not carry passengers.

The M1 licence period lasts at least 60 days, and the licence is valid for 90 days. M1 drivers must pass the M1 road test before proceeding to the M2 licence period. Alternatively, during the M1 period, they may take an approved motorcycle or motor scooter safety course that includes a road test, instead of the ministry road test.

Class M2 Motorcycle Driver's Licence:
A holder of a Class M2 motorcycle driver's licence:

- must have a zero blood-alcohol concentration while driving.

After completing the M2 licence period, drivers will be eligible to take a comprehensive test to qualify for full licence privileges. Drivers may take an approved M2 Exit motorcycle safety course that includes a road test, instead of the ministry road test.

Class M2/M with L Condition:
A Class M2 or M with L Condition is a motorcycle licence that restricts the licence holder to operating mopeds or limited-speed motorcycles.

Conviction:
Registered when a person pleads guilty to, or is found guilty of, an offence related to a motor vehicle under any Act of the Ontario Legislature or its accompanying regulations, under the Parliament of Canada or any accompanying order, or under any municipal by-law.

Driver:
Unless specified otherwise, any person, whether licensed or not, considered to be in care and control of a vehicle at the time of a collision.

Fatal Collision:
A motor vehicle collision in which at least one person sustains bodily injuries resulting in death. Prior to January 1, 1982, fatal collision statistics included deaths attributed to injuries sustained in the collision, for up to one year after the collision. Since that date, only deaths occurring within 30 days of the collision have been included.

Had Been Drinking:
Driving after having consumed an amount of alcohol not considered sufficient to be legally impaired or with a measured blood-alcohol count of greater than zero but less than 80 milligrams per 100 millilitres of blood. As of May 1, 2009, a blood-alcohol concentration from 0.05 to 0.08 results in a 3-day, 7-day, or 30-day roadside driver's licence suspension for first, second, or third-time occurrences, respectively. Immediately prior to that date, a blood-alcohol concentration from 0.05 to 0.08 resulted in a 12-hour suspension.

Hangers-on:
Hangers-on are persons hanging onto a moving motor vehicle's fenders, bumpers, doors or other parts of the vehicle and not located inside; for example riding in back of a pick-up.

Highway:
A common and public highway, street, avenue, etc., any part of which is intended for public use or used by the general public for the passage of vehicles, and including the area between the property lines.

Inattentive:
Driver was operating a motor vehicle without due care and attention or placing less than full concentration on driving, e.g., changing radio stations, consuming food, reading, talking on the phone or two-way radio, using headphones.

Kilometres Travelled:
Prior to 2000, vehicle fleet mileage was estimated on the basis of taxed gasoline and motor fuel sales. Starting in 2000, vehicle kilometres travelled are based on estimates provided by Statistics Canada and Transport Canada.

Limited-Speed Motorcycle (Motor Scooter):
A limited-speed motorcycle is also known as a "motor scooter."

Motor scooters can be either electric or gas powered with a "step-through" design and have a maximum speed of 70 km/h. Most motor scooters have automatic transmissions, with a maximum engine displacement of 50 cubic centimeters.

Major Injury:
A non-fatal injury severe enough to require that the injured person be admitted to hospital, even if for observation only.

Minimal Injury:
A non-fatal injury, including minor abrasions and bruises, which does not necessitate the injured person going to a hospital.

Minor Injury:
A non-fatal injury requiring medical treatment at a hospital emergency room, but not requiring hospitalization of the involved person.

Motor-Assisted Bicycle (Moped):
A motor-assisted bicycle is also known as a "moped". Mopeds have pedals that can be operated at all times. Mopeds can be either electric or piston powered and have a maximum speed of 50 km/h.

Mopeds have a piston displacement of not more that 50 cubic centimetres.

Motor Vehicle Collision:
Any incident in which bodily injury or damage to property is sustained as a result of the movement of a motor vehicle, or of its load while a motor vehicle is in motion.

Off-Highway Collisions:
A collision that occurs off a public highway. It can include collisions located on or adjacent to trails and paths, on the surface of a frozen lake or river, or in a private parking lot.

On-Highway Collisions:
A motor vehicle collision that occurs on the highway between the property lines.

Pedestrian:
Any person not riding in or on a vehicle involved in a motor vehicle collision.

Personal Injury Collision:
A motor vehicle collision in which at least one person involved sustains bodily injuries not resulting in death.

Property-Damage Collision:
A motor vehicle collision in which no person sustains bodily injury, but in which there is damage to any public property or damage to private property** including damage to the motor vehicle or its load.

Reportable Collision:
Any collision involving injury or damage to private property in excess of a monetary value prescribed by regulation.**

Self-Reporting of a Collision:
Under the *Highway Traffic Act* [s.199 (1.1)], when one is in a collision in which there is only property damage (no injury or death, and, among other conditions, no criminal activities such as impaired driving) the involved person(s) may report the collision immediately by proceeding with one's vehicle to a Collision Reporting Centre. Self-Reporting of a collision was introduced on January 1, 1997.

Suspension:
Withdrawal of a driver's privilege to operate a motor vehicle for a prescribed period of time.

** The minimum reportable level for property-damage-only collisions is $2,000 as of September 1 2015. Prior to that date, the minimum reportable level for PDO collisions was $1,000 from January 1, 1998 to August 31, 2015.

8B Acknowledgements

The Ministry of Transportation would like to acknowledge the following agencies and individuals for their assistance:

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Health Data Decision Support Unit

Ministry of Education
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Ministry of Transportation

87 Sir William Hearst Ave.
Main Floor, Room 212
Toronto, Ontario M3M 0B4

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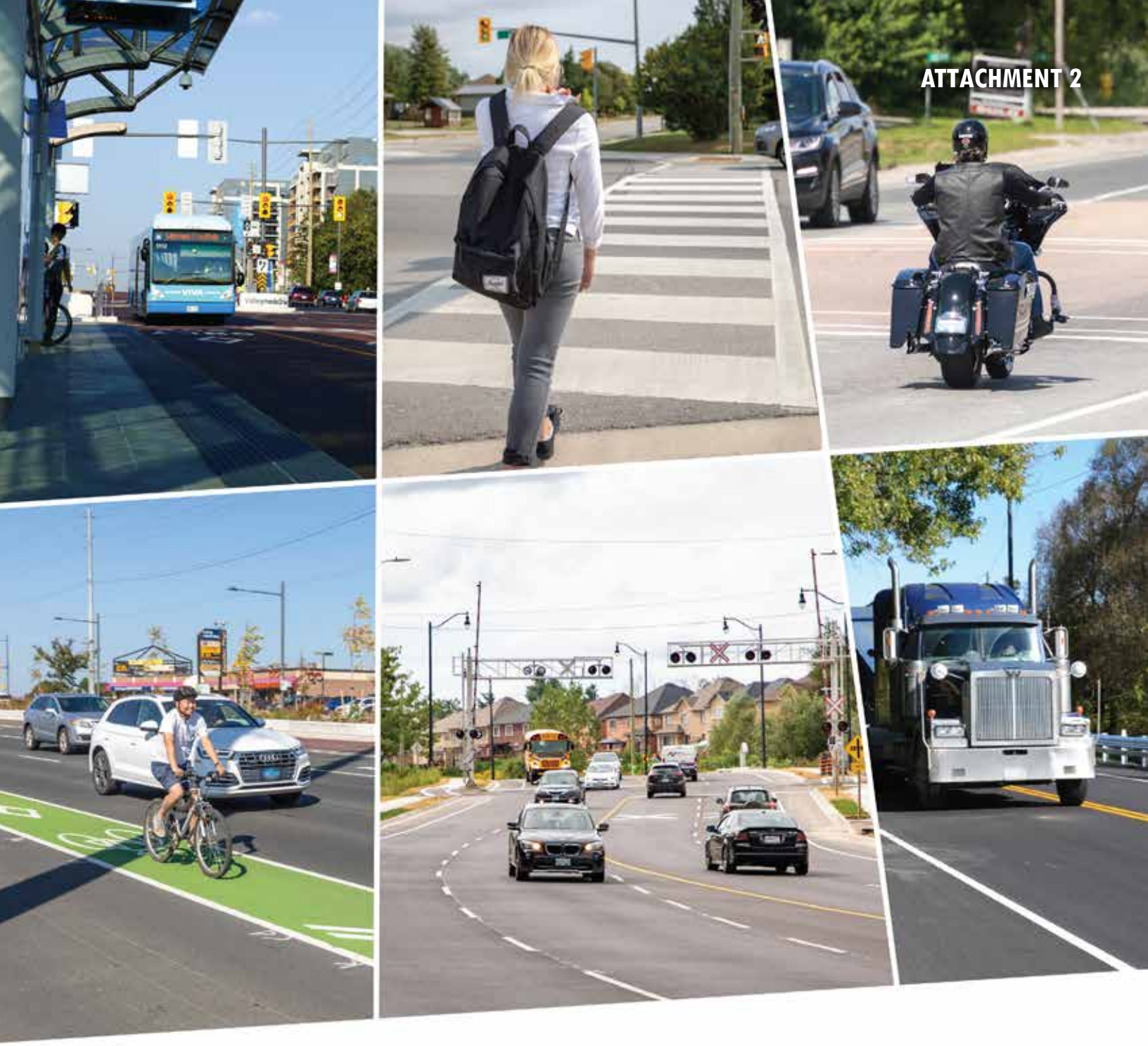
Main Floor, Room 212
Toronto, Ontario M3M 0B4

Ontario



ATTACHMENT 2

2020 TRAVELLER SAFETY REPORT

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

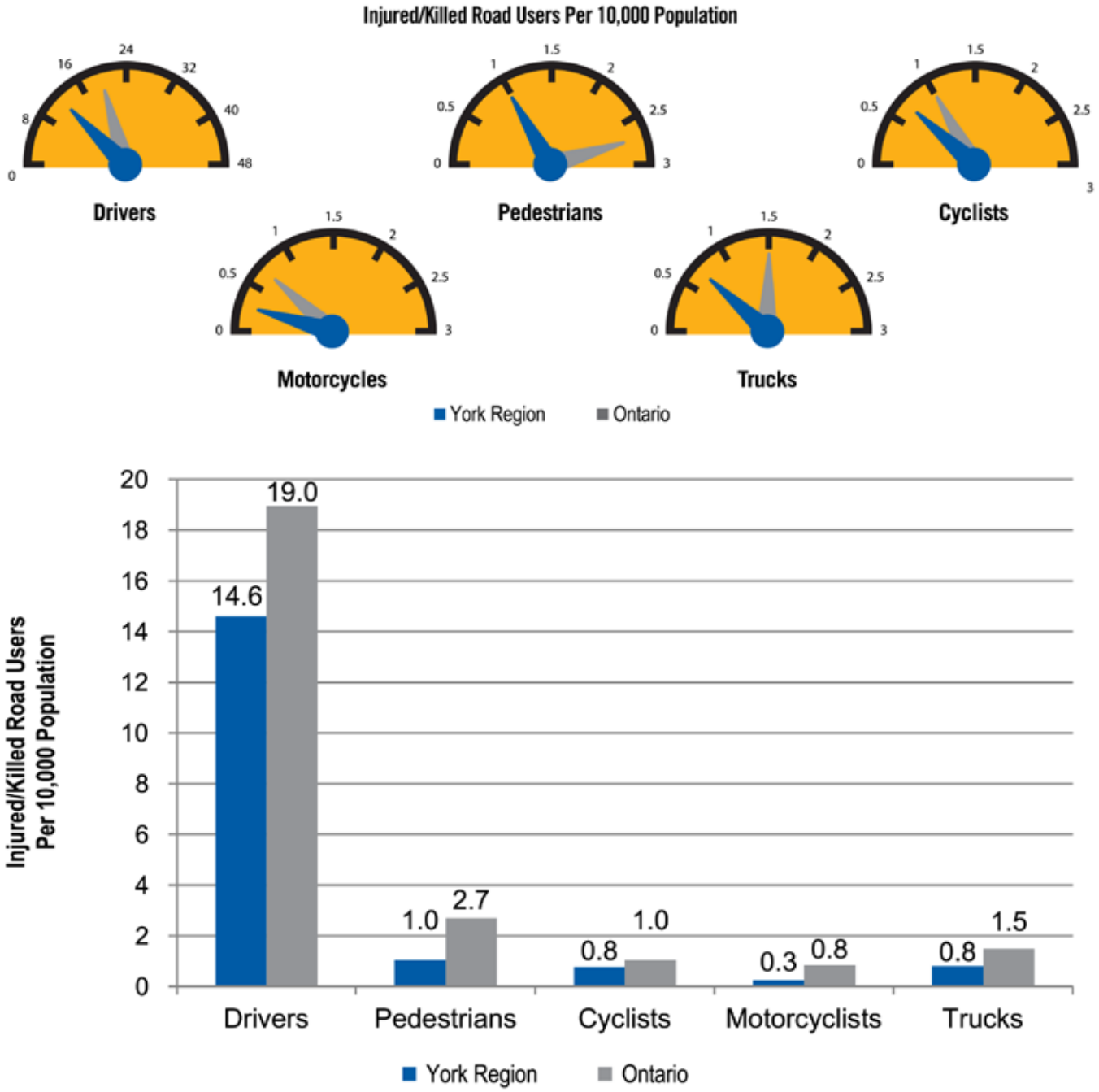
Prepared by:
Corridor Control and Safety,
Communications, Community Engagement and Marketing,
Transportation Services

York Region

Table of Contents

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%

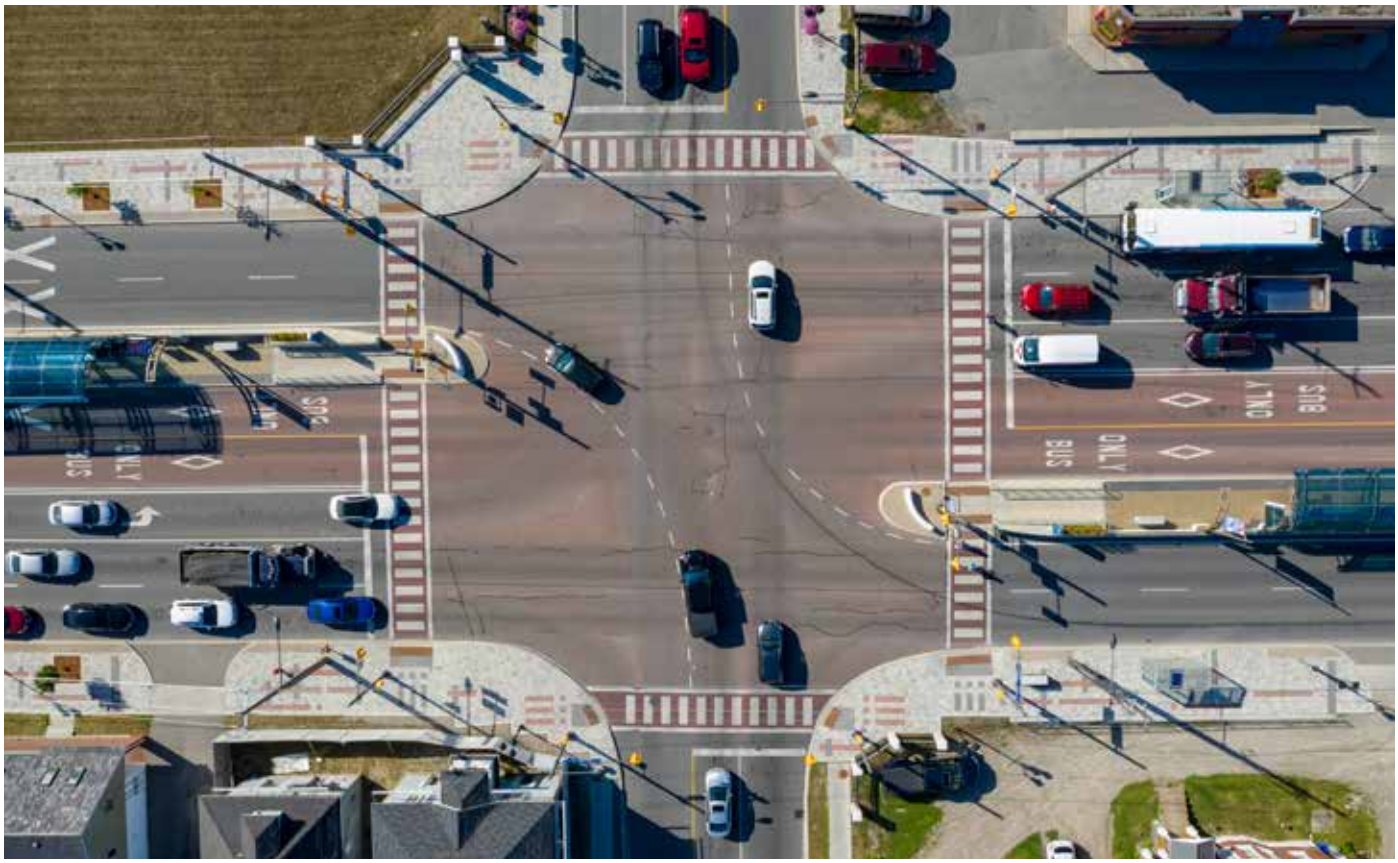
Total collisions involving all public and private transit vehicles combined increased marginally by approximately 3% annually, while transit operations in the Region, including number of service hours and kilometres travelled, has increased over the past decade. The collision rate of exclusively YRT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

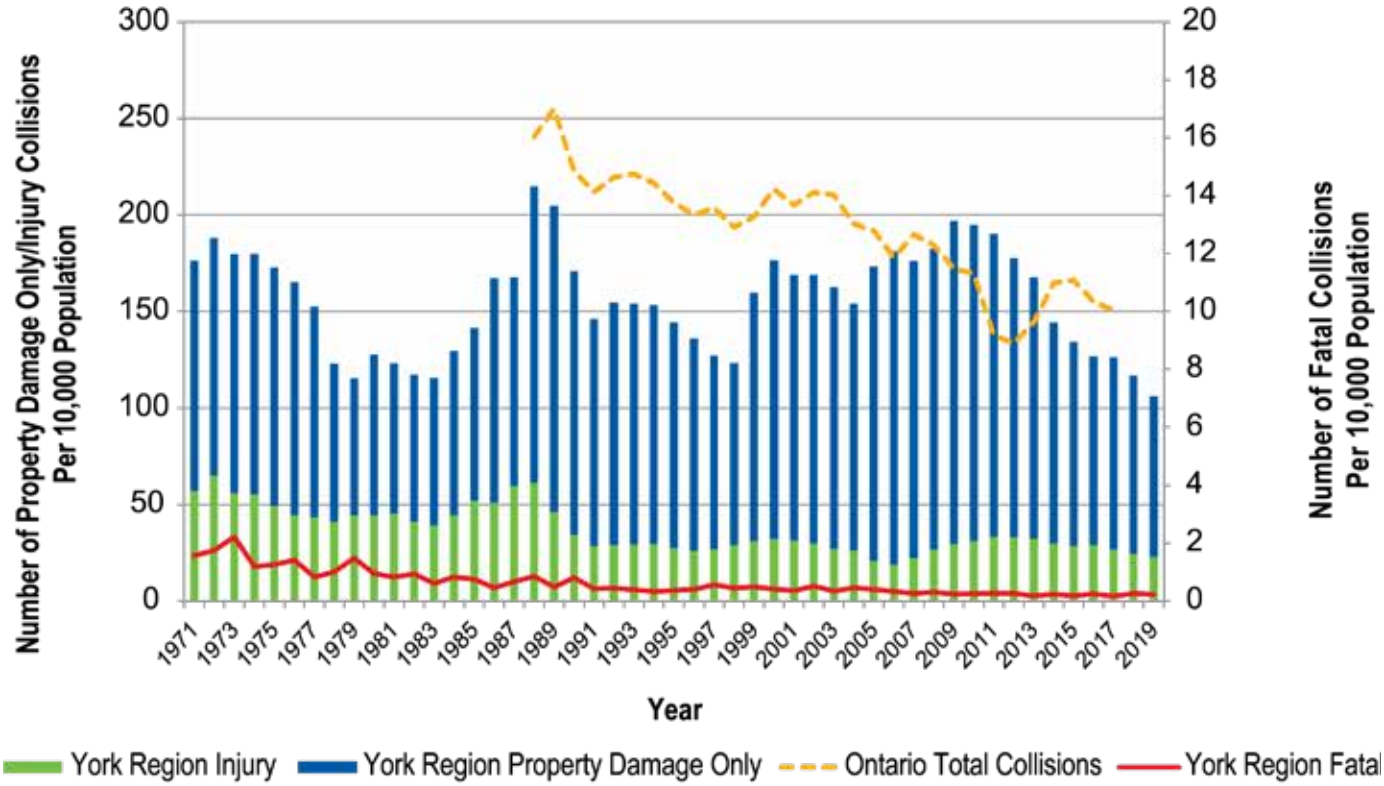
The 2020 Traveller Safety Report provides a detailed breakdown of the traveller experience on Regional roads using collision statistics and other data, such as traffic volume, weather and population. Collision data was analyzed using motor vehicle accident reports from YRP to identify issues for specific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

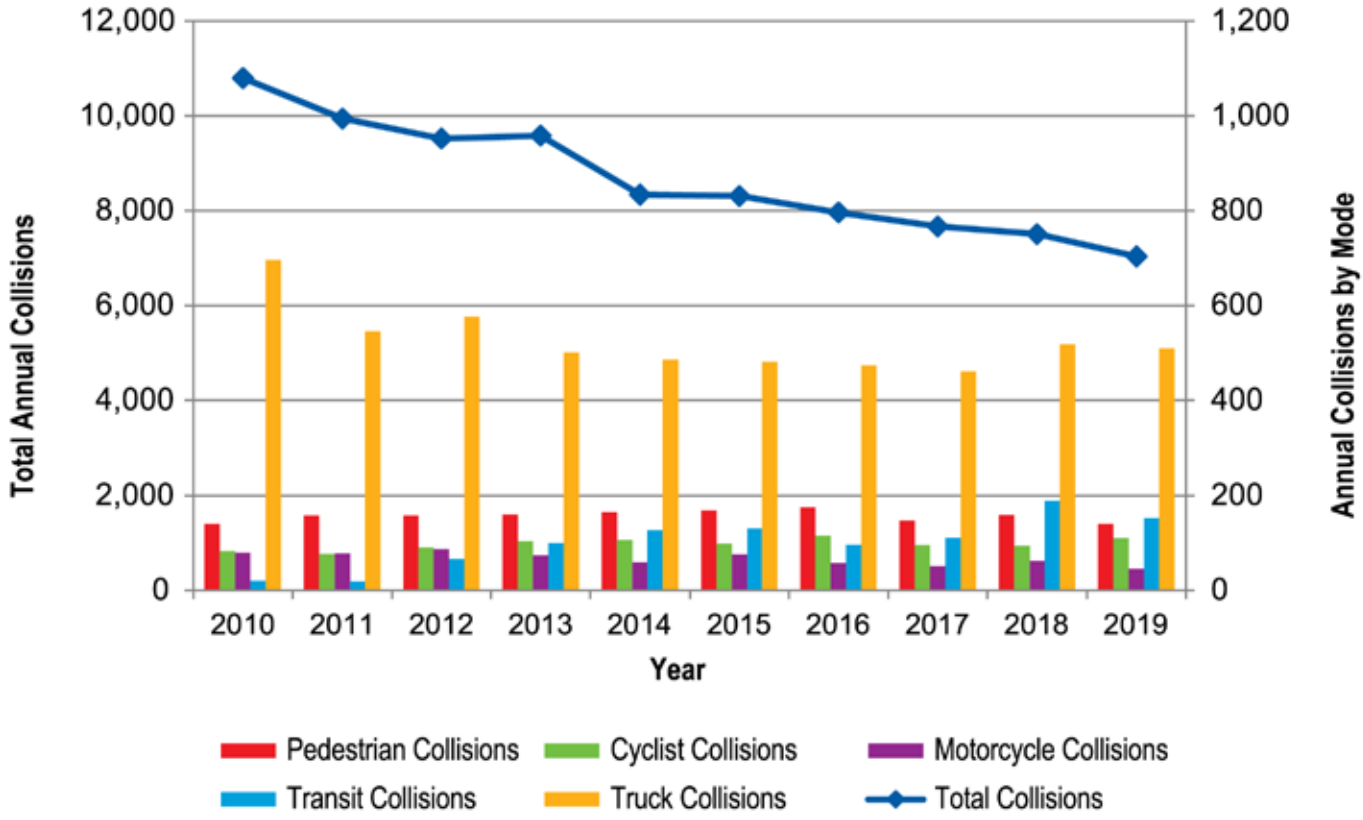
Statistics	2017	2018	2019	Change (2018-2019)
Most Frequently Recorded Improper Driving Action	Following Too Close	Following Too Close	Following Too Close	-
Location with Highest Number of Collisions	Highway 7 and Weston Road	HIghway 7 and Weston Road	HIghway 7 and Weston Road	-
Midblock with Highest 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.

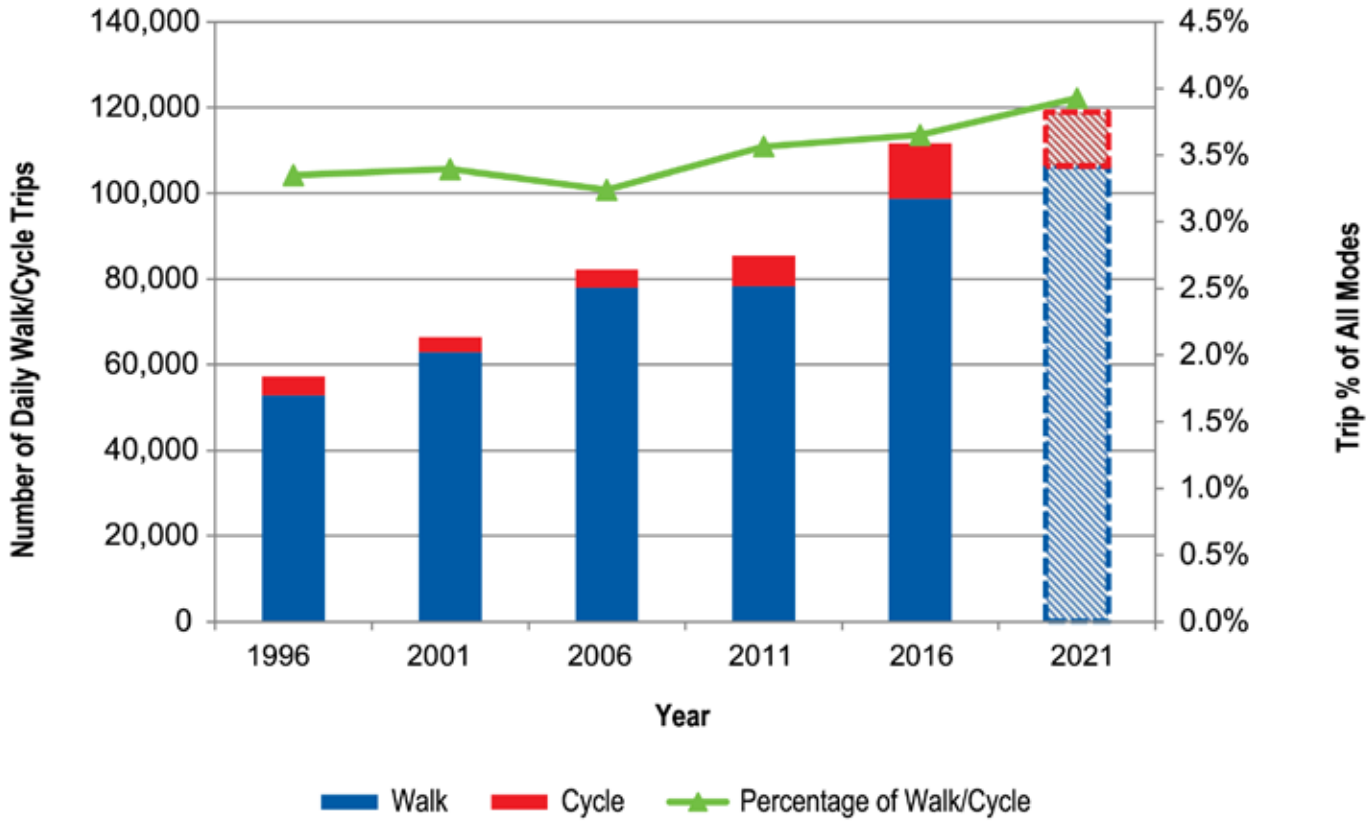
ANNUAL COLLISIONS BY ROAD USER MODES, 2010-2019



*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



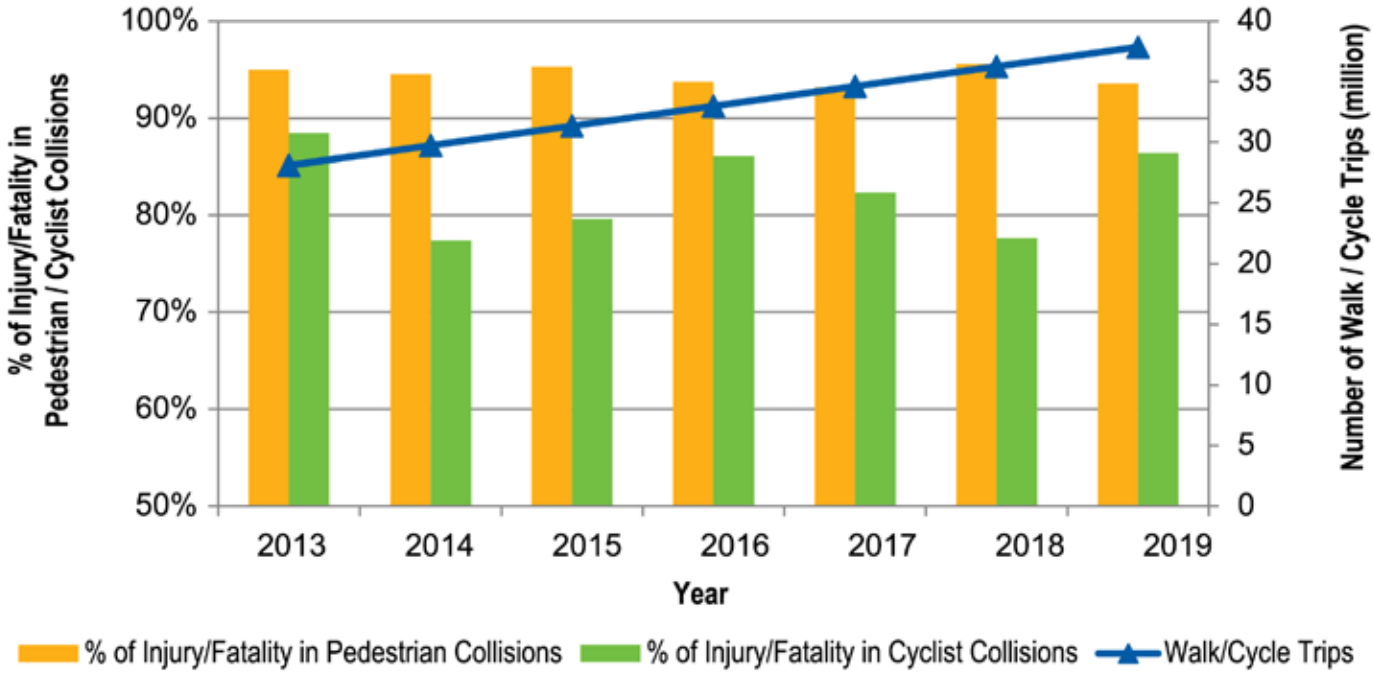
*Number of trips is based on TTS studies

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.

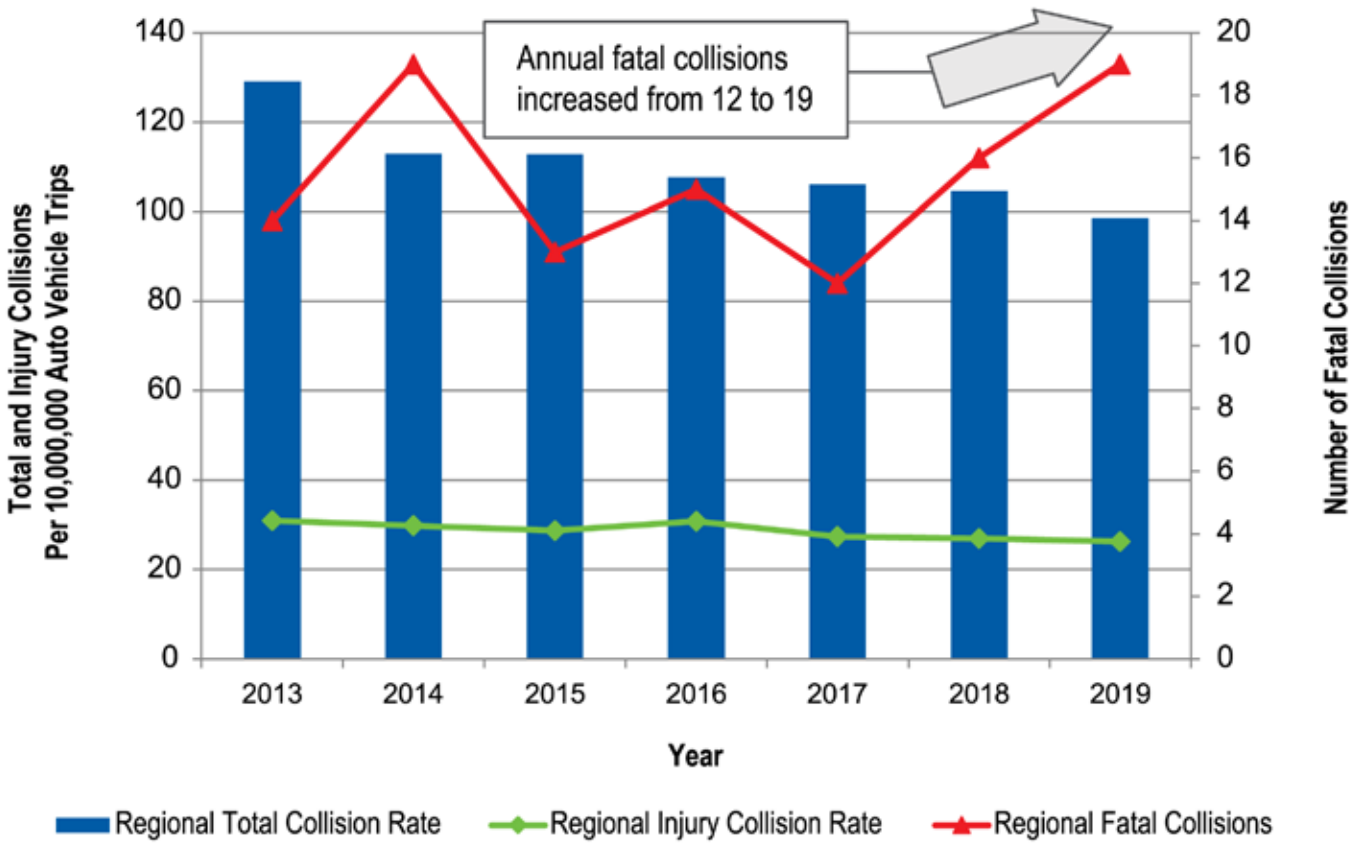
Key trends observed include:

- 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.

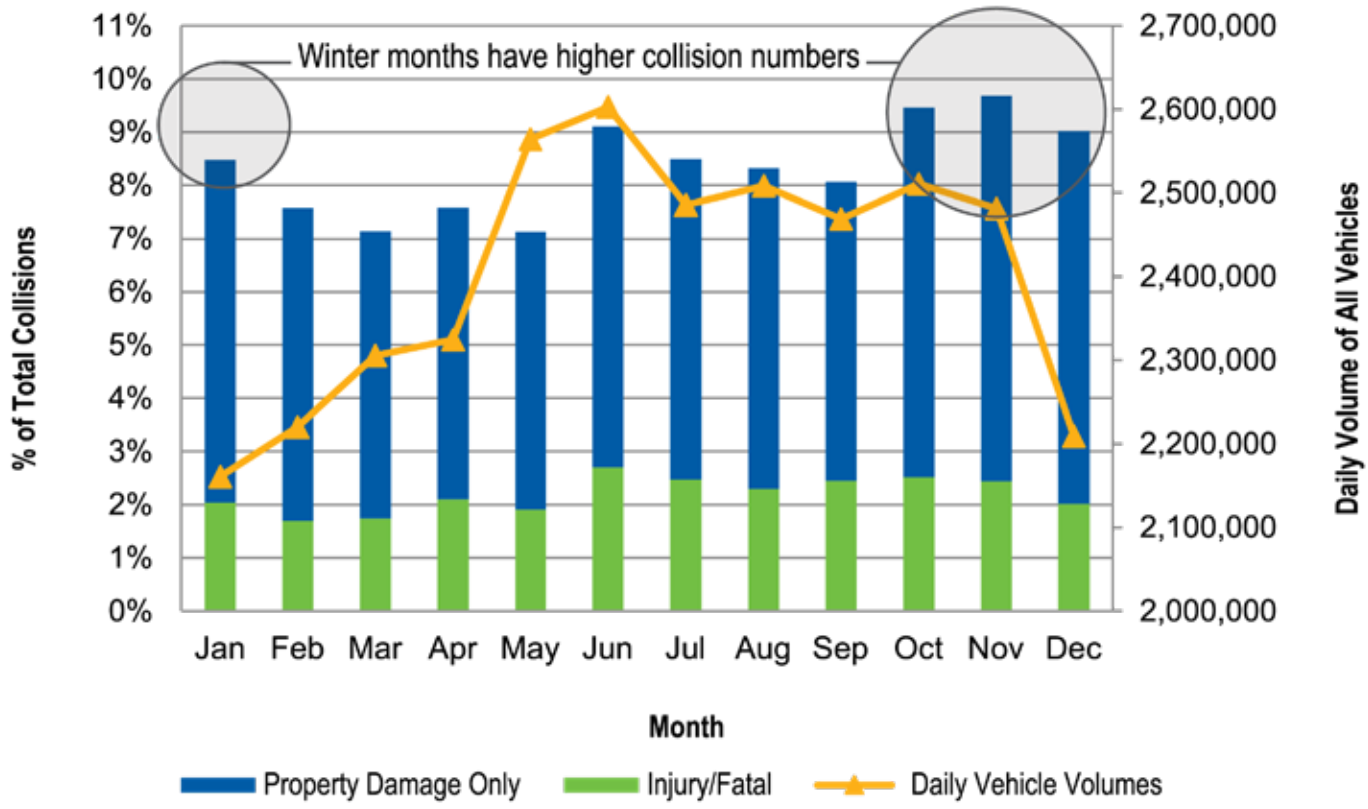
June 2019 had the highest number of injury/fatal collisions and the third highest in collisions overall. Also, June had the highest daily vehicle volumes as weather conditions were favourable and summer vacations had not begun.

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.

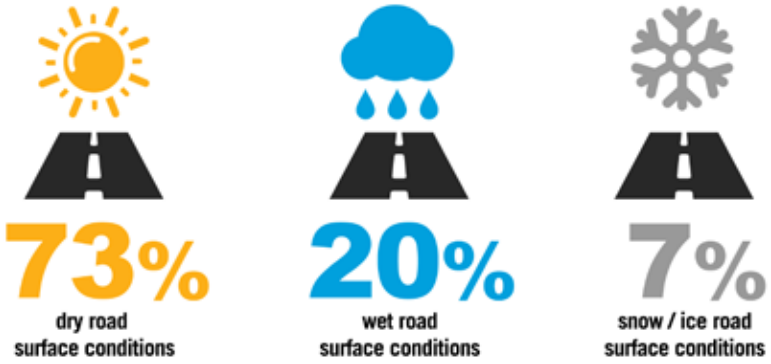
During the spring months, which have the lowest number of collisions, drivers typically continue to drive in winter driving mode even though weather conditions are getting more favourable for road users.

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

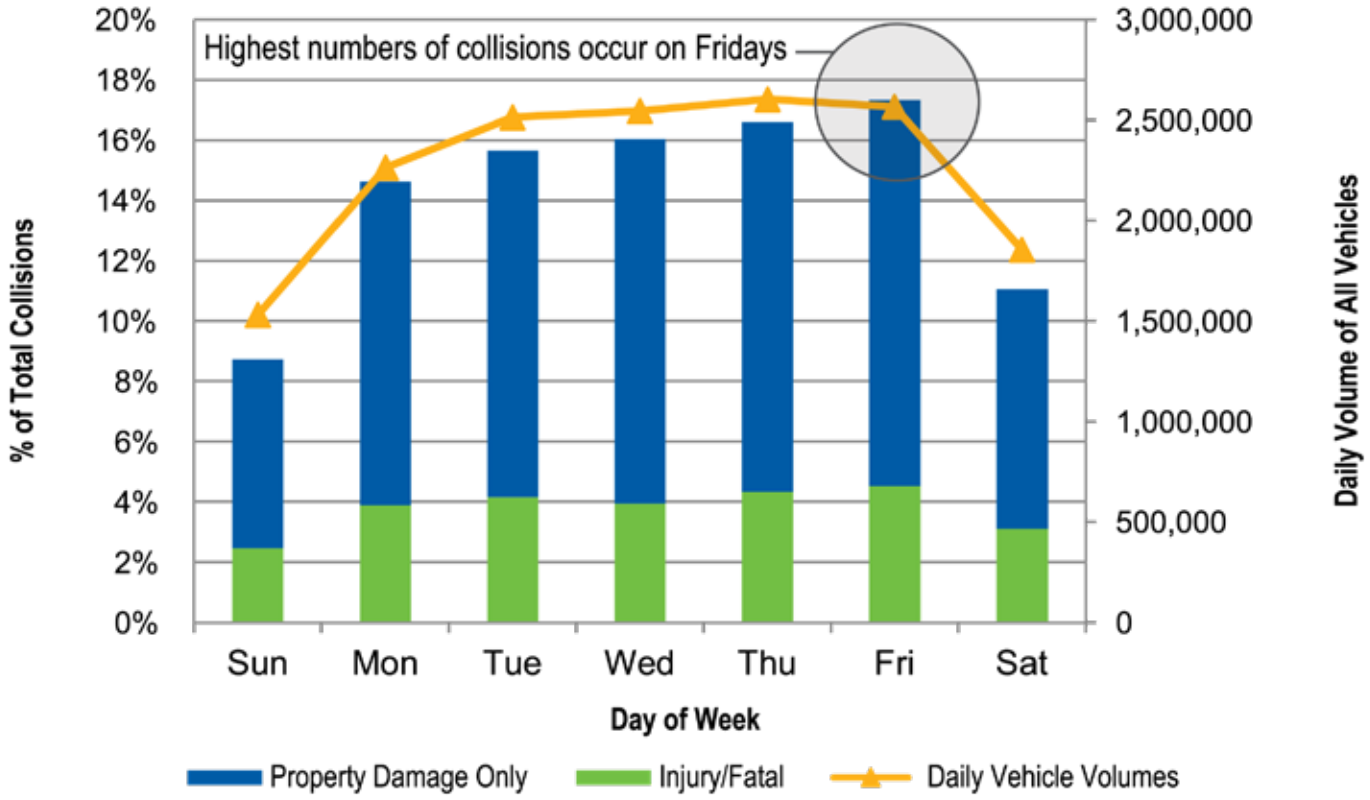
During all winter weather months (November to April), collision rates on snowy days were significantly higher than those with no rain or snow. April had the highest daily collision numbers on snowy days. During the warm months (May to September), without snow events, daily collision rates on rainy days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

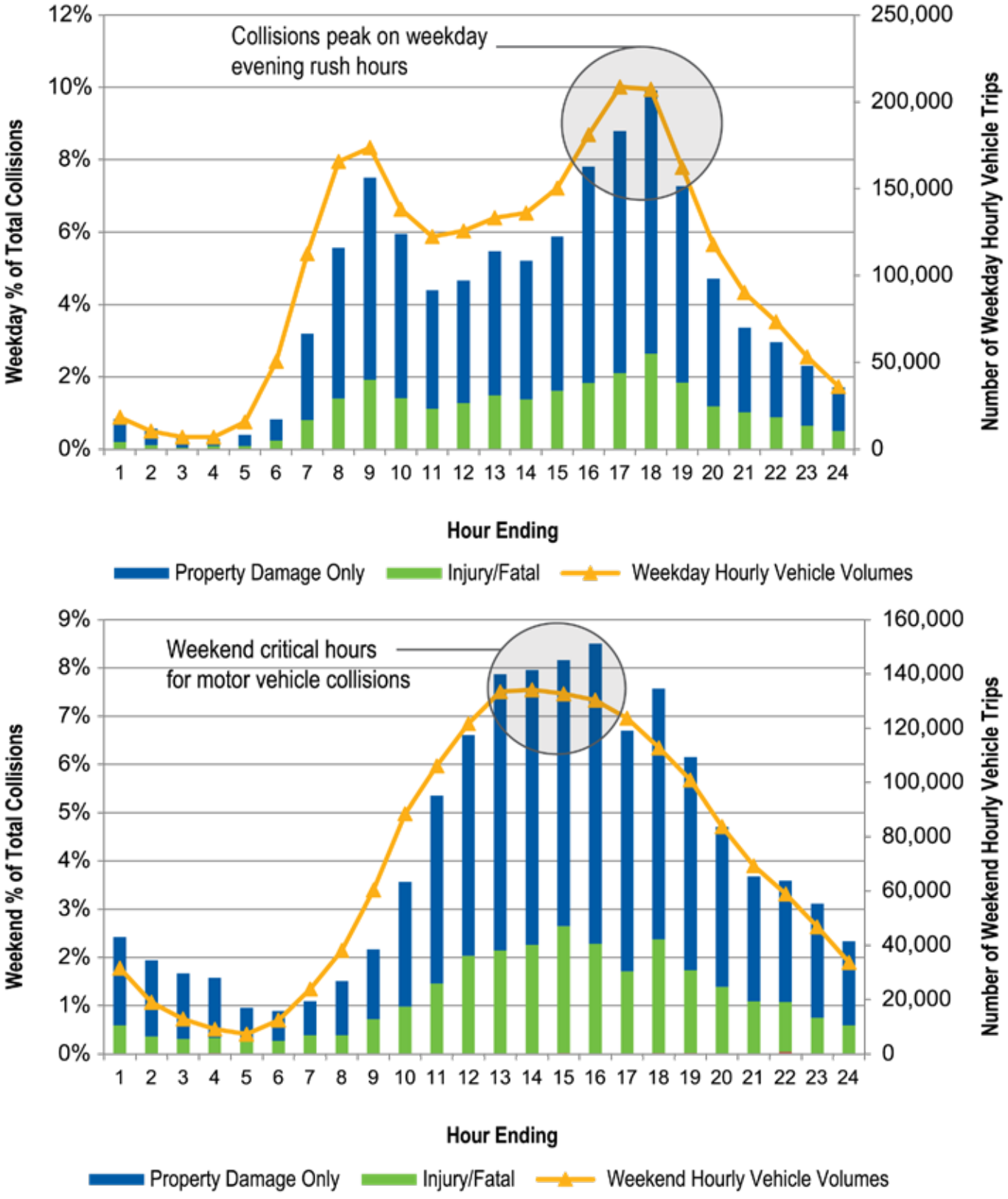
COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019



*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

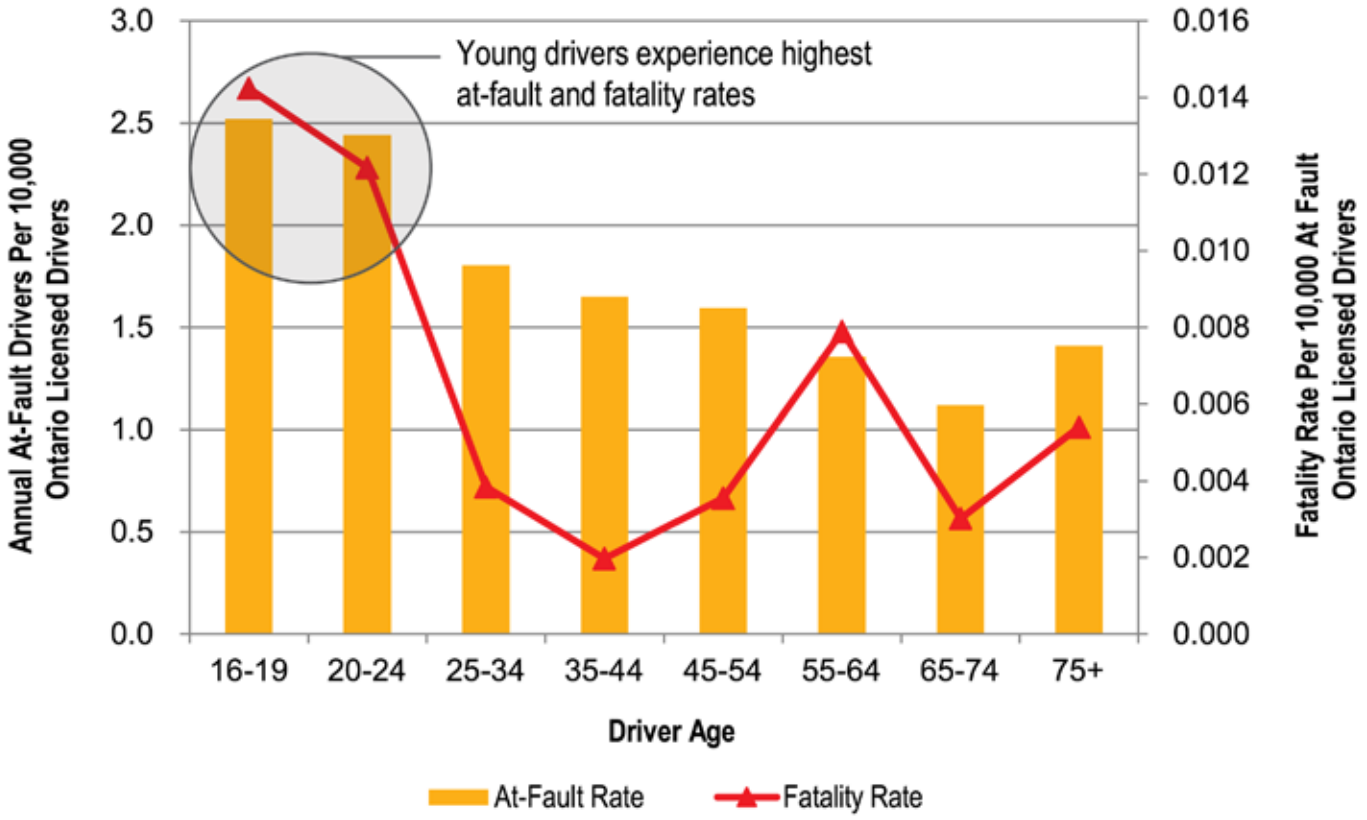


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data.

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



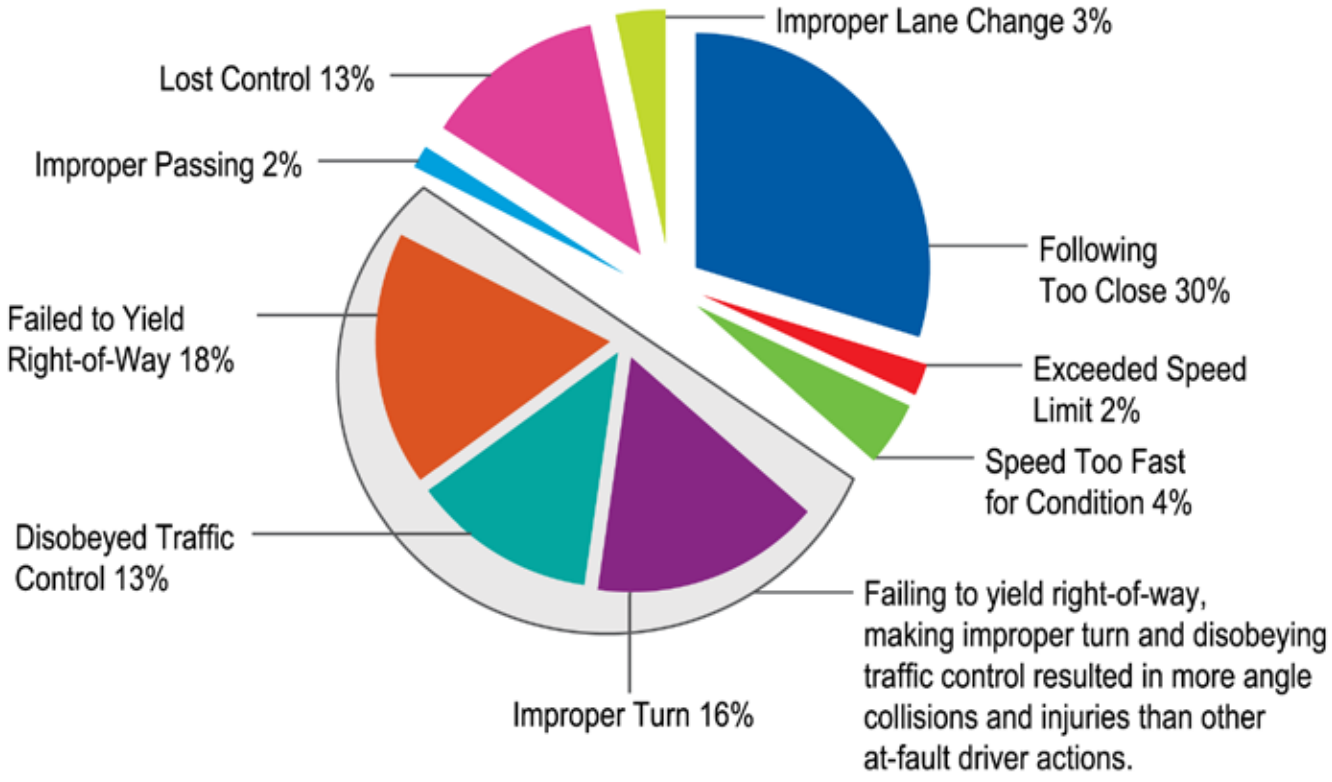
*Collision data is from YRP MVA reports
*Licensed drivers statistics and age distribution is from MTO 2016 Ontario Road Safety Annual Report

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

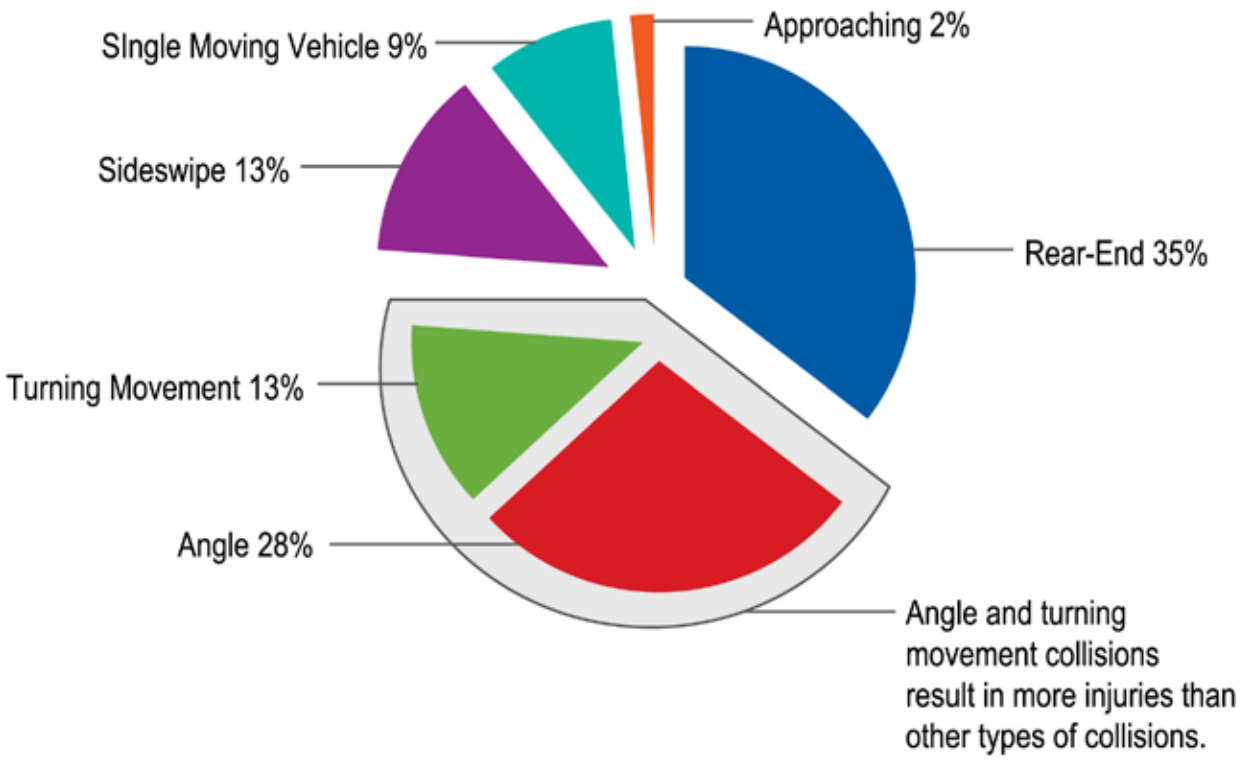
DRIVER ACTIONS IN COLLISIONS, 2017-2019



*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

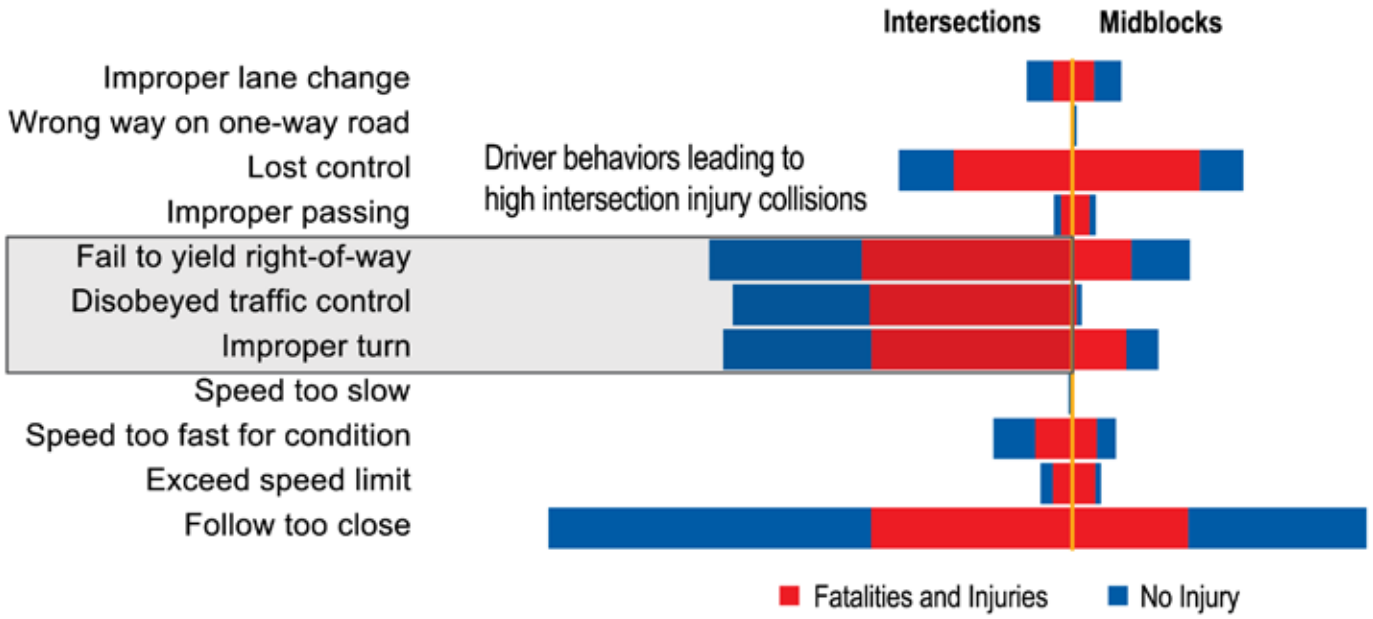
Following too close driver behaviour often leads to rear-end collisions (35%), which was the most common collision impact type. Rear-end collisions are declining and may soon be overtaken by angle collisions as the predominant type. Angle collisions (28%) also experienced a declining trend although not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

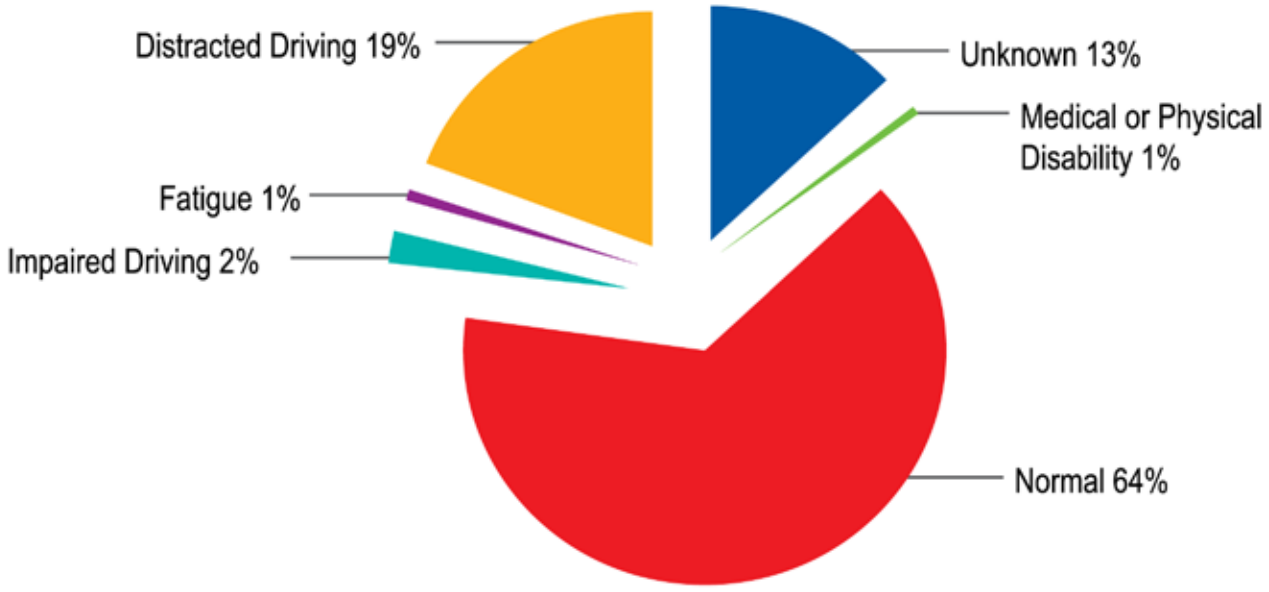
After following too close, fail to yield right-of-way (16%), making an improper turn (14%) and disobeying traffic control (12%) were the other major unsafe driver actions at intersections. 58% of collisions caused by these resulted in injuries or fatalities compared to only 38% of collisions caused by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

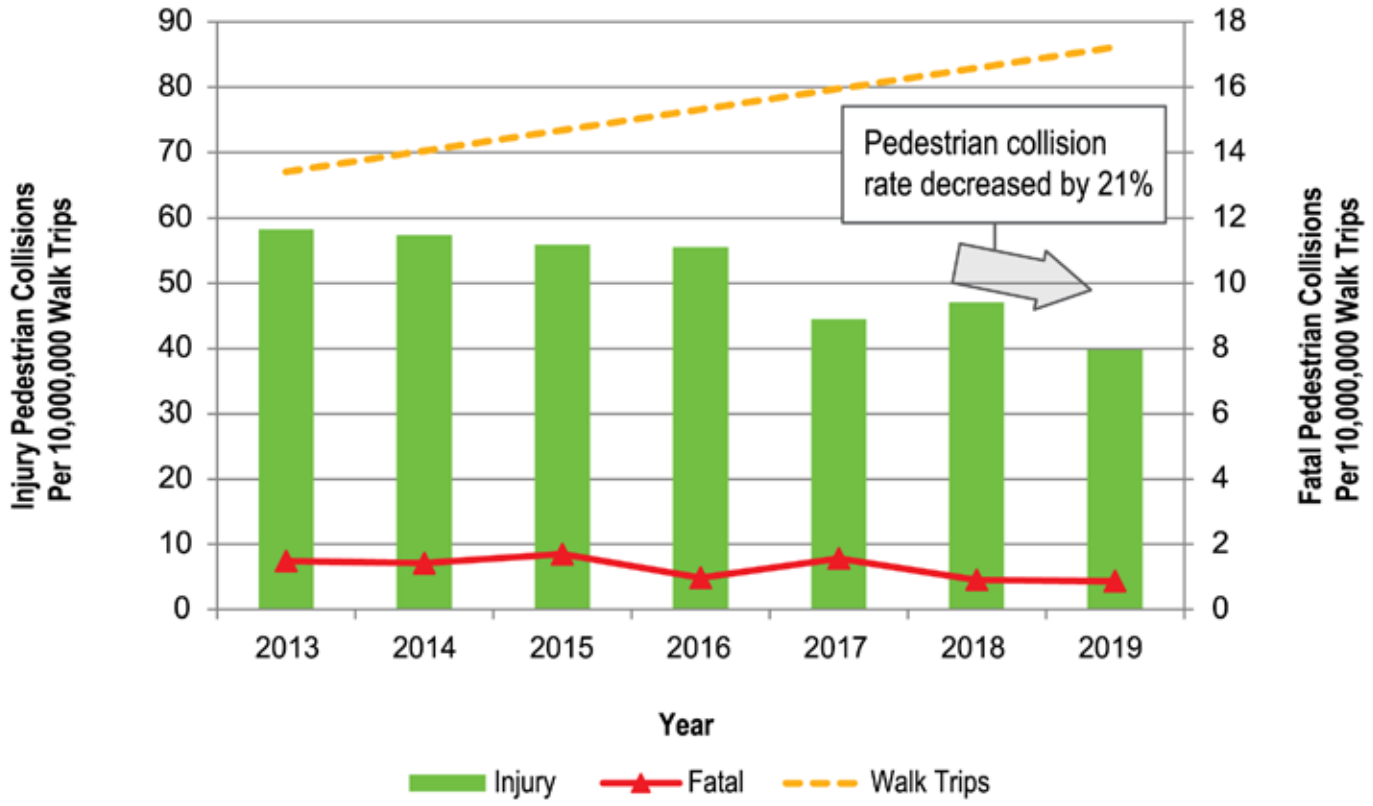
Despite the new law, 19% of at-fault drivers were still driving distracted, based on YRP MVA reports. According to the Canadian Automobile Association (CAA):

- 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:

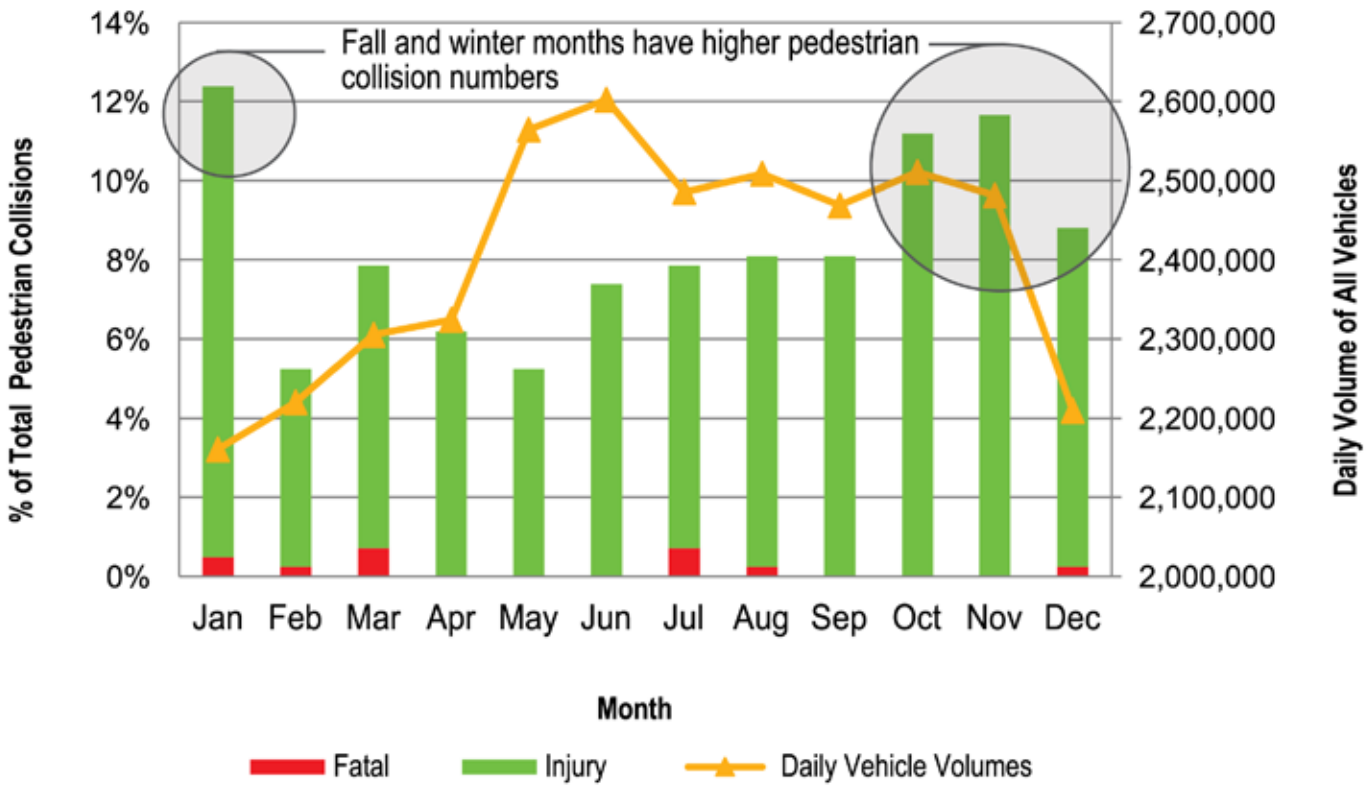
- Almost all pedestrian collisions (94%) resulted in pedestrian injury or death
- Young pedestrians were more likely to get injured in collisions, and senior pedestrians over 75 years old were most likely to be fatally injured than other age groups
- Pedestrian safety is affected by environmental factors 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

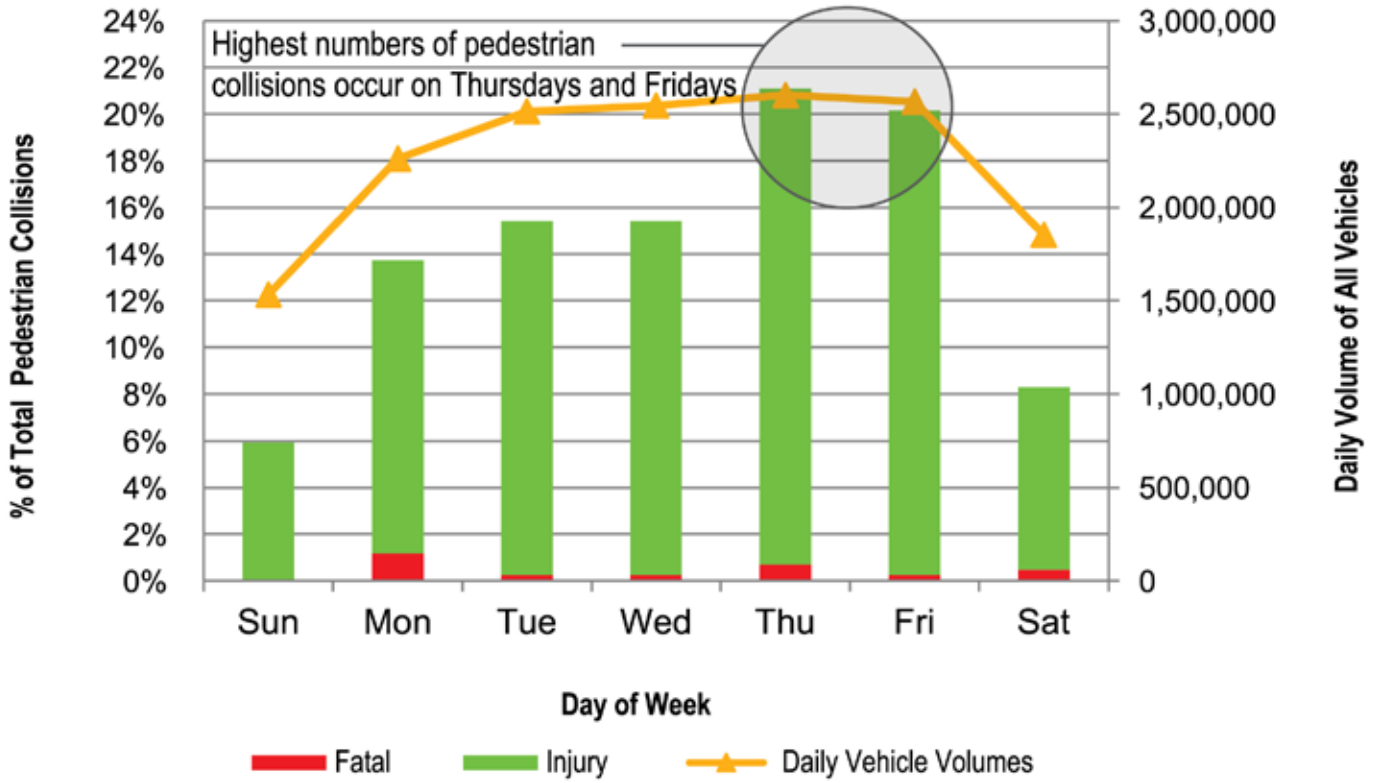


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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.

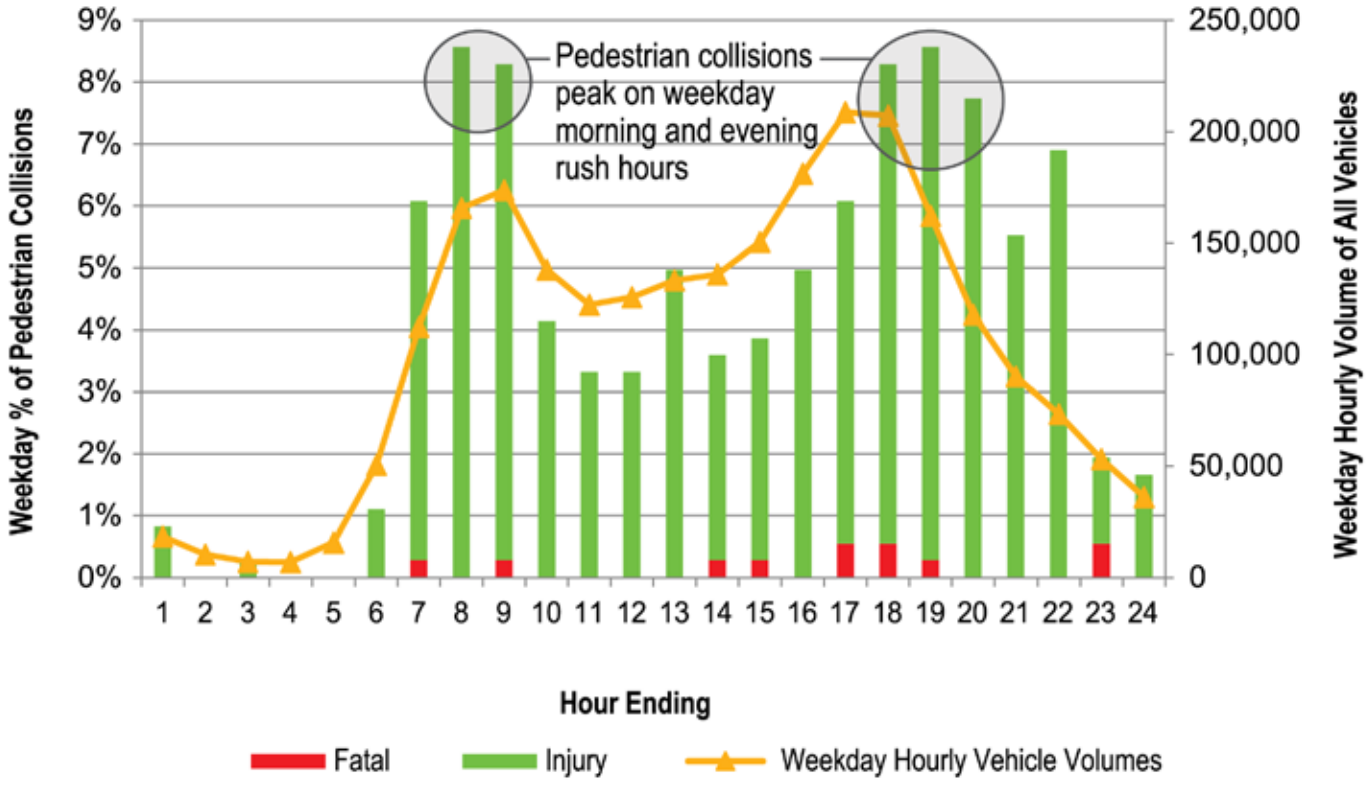
PEDESTRIAN COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019

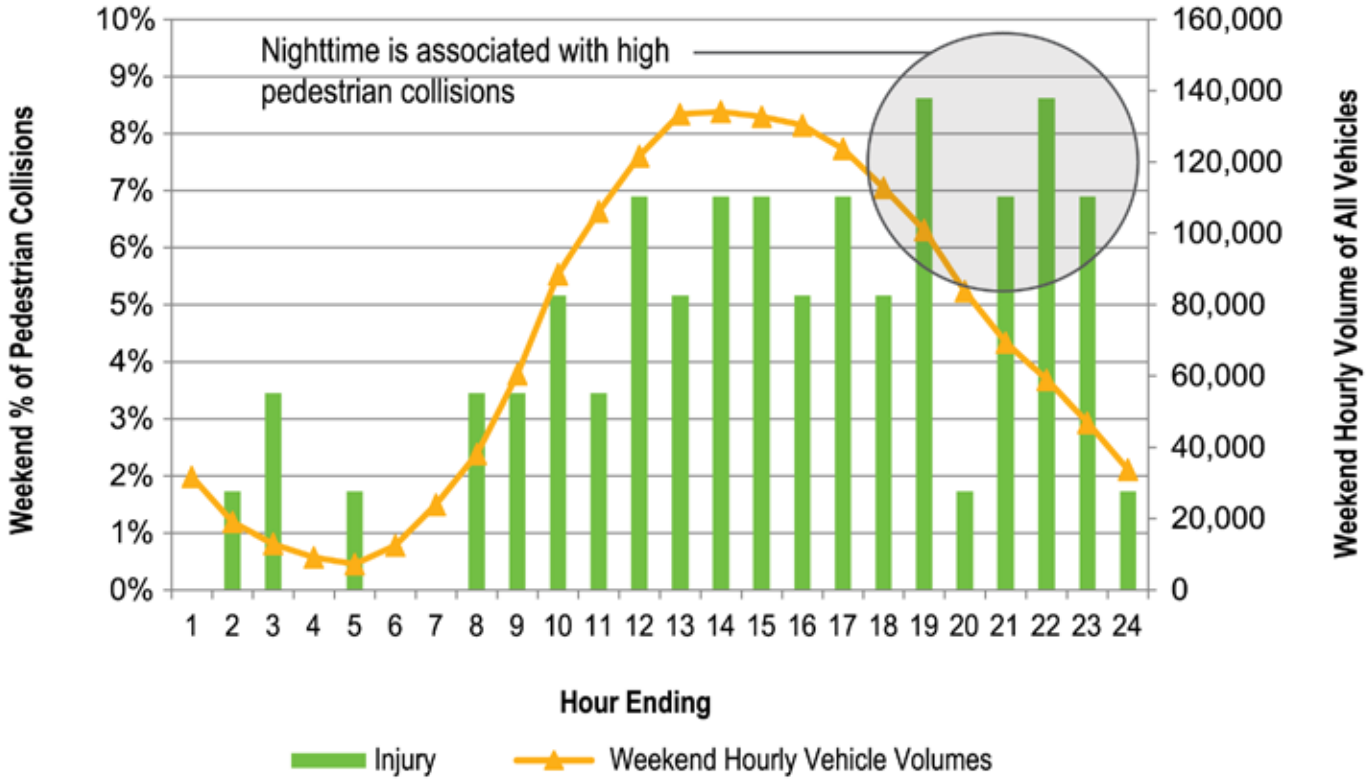


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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.

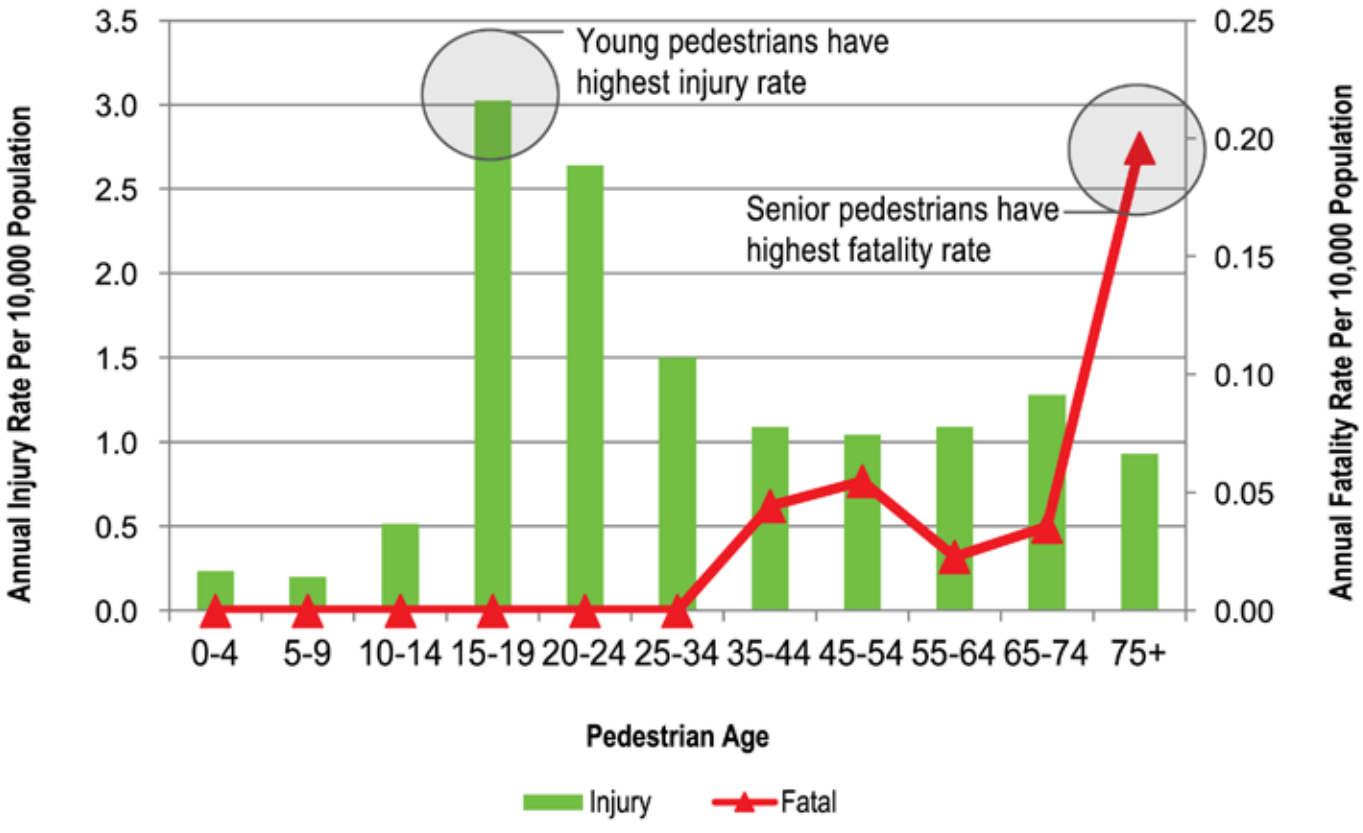
The highest number of pedestrian collisions occurred between 7:00 a.m. and 9:00 a.m., and 5:00 p.m. and 7:00 p.m. on weekdays when traffic and pedestrian volumes are typically highest, with vehicle and walk trips being made to go to work in the morning and home in the evening. Pedestrian collisions were 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.

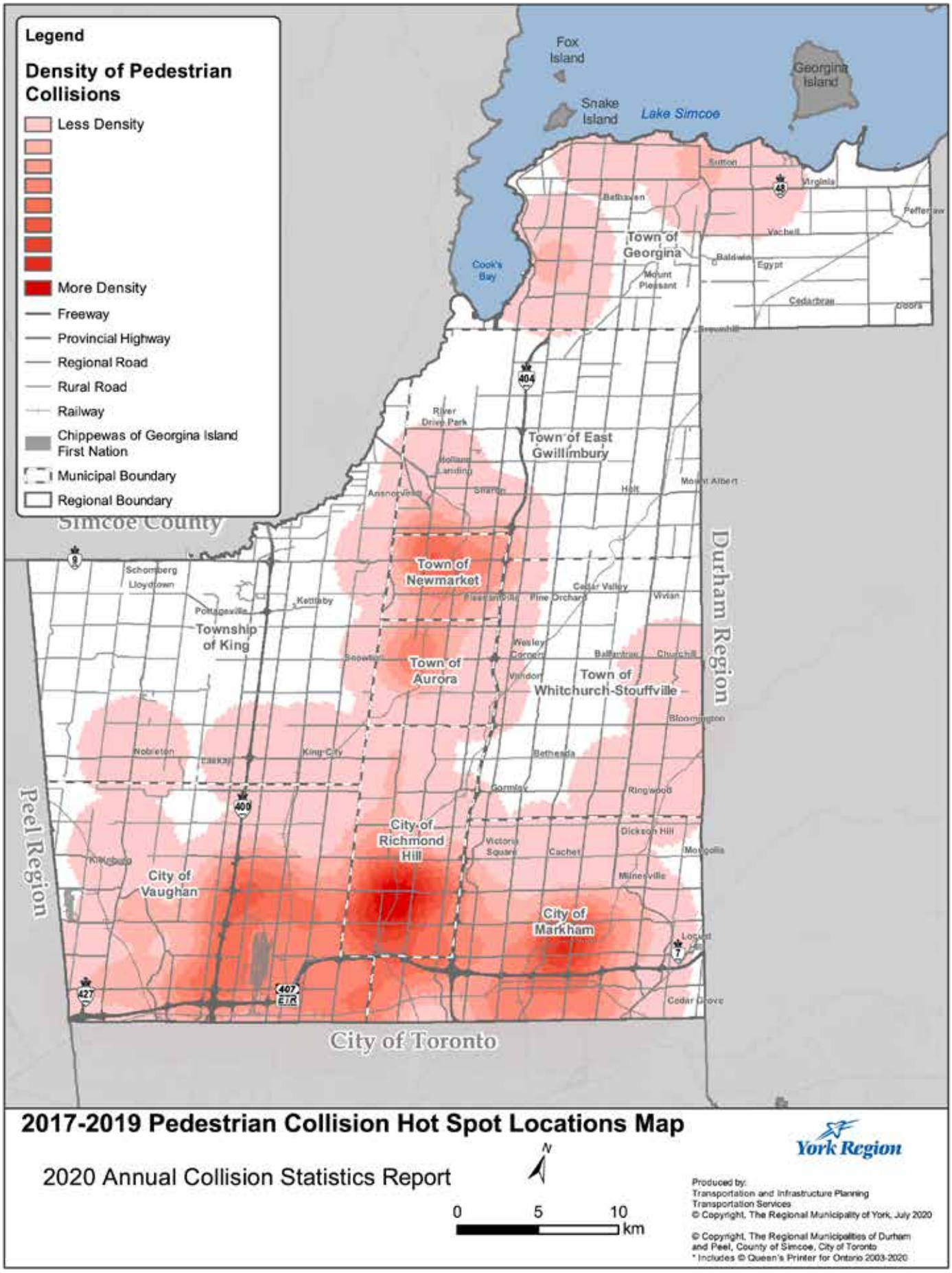
Pedestrian Collision Locations

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
400
427
407 ETR
2017-2019 Pedestrian 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
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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

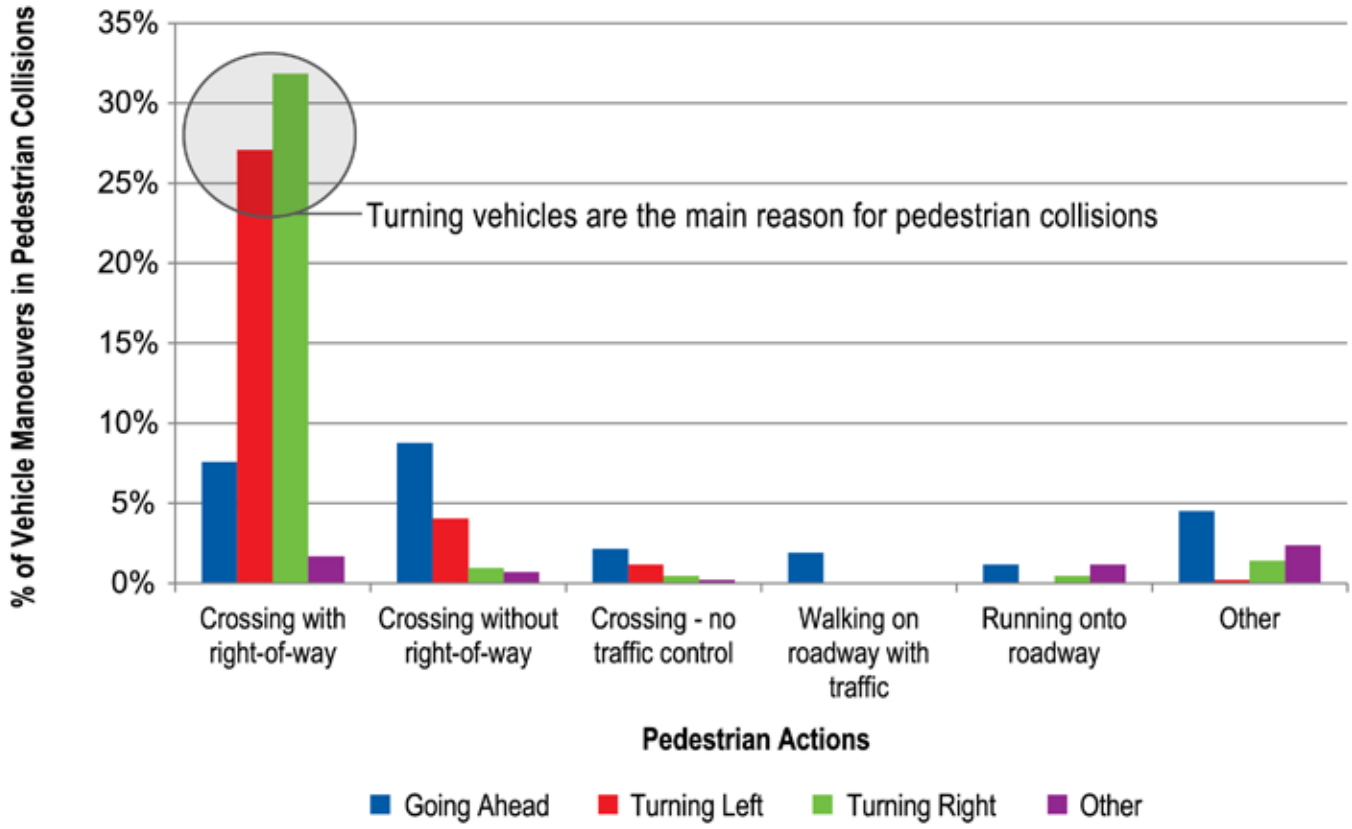
Driver and Pedestrian Actions

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

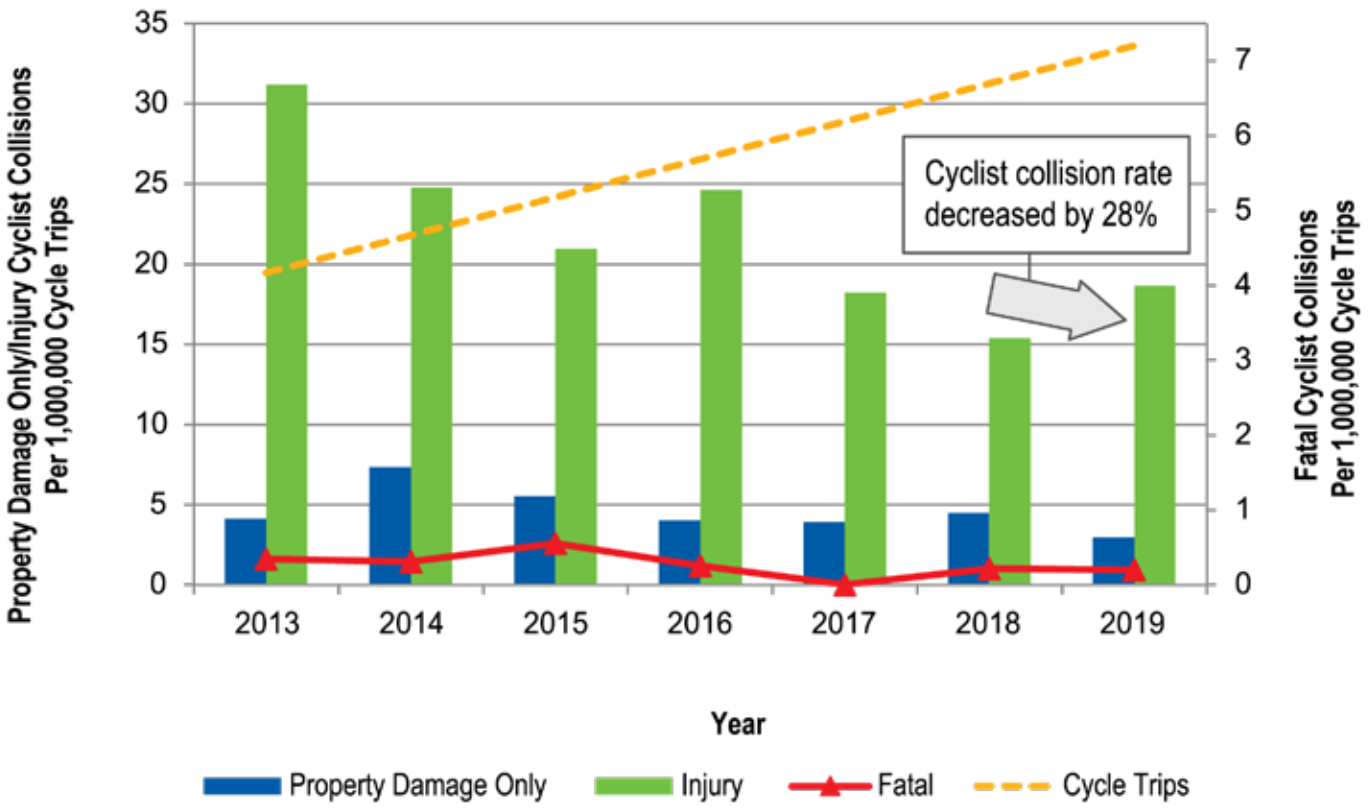
Improving pedestrian safety remains a priority and York Region is currently piloting short-term safety measures, including leading pedestrian intervals (pedestrian gets a head start in crossing the road), right turn on red signal restrictions, fully-protected left turns and advisory signage, to help 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.

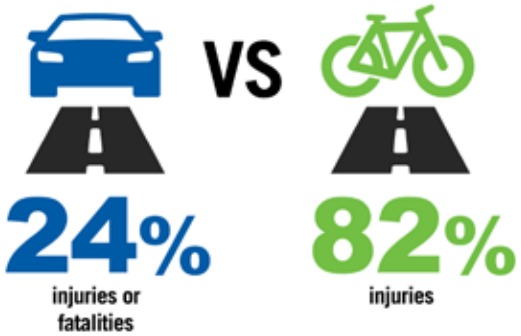
Cyclists ↓ 28%

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

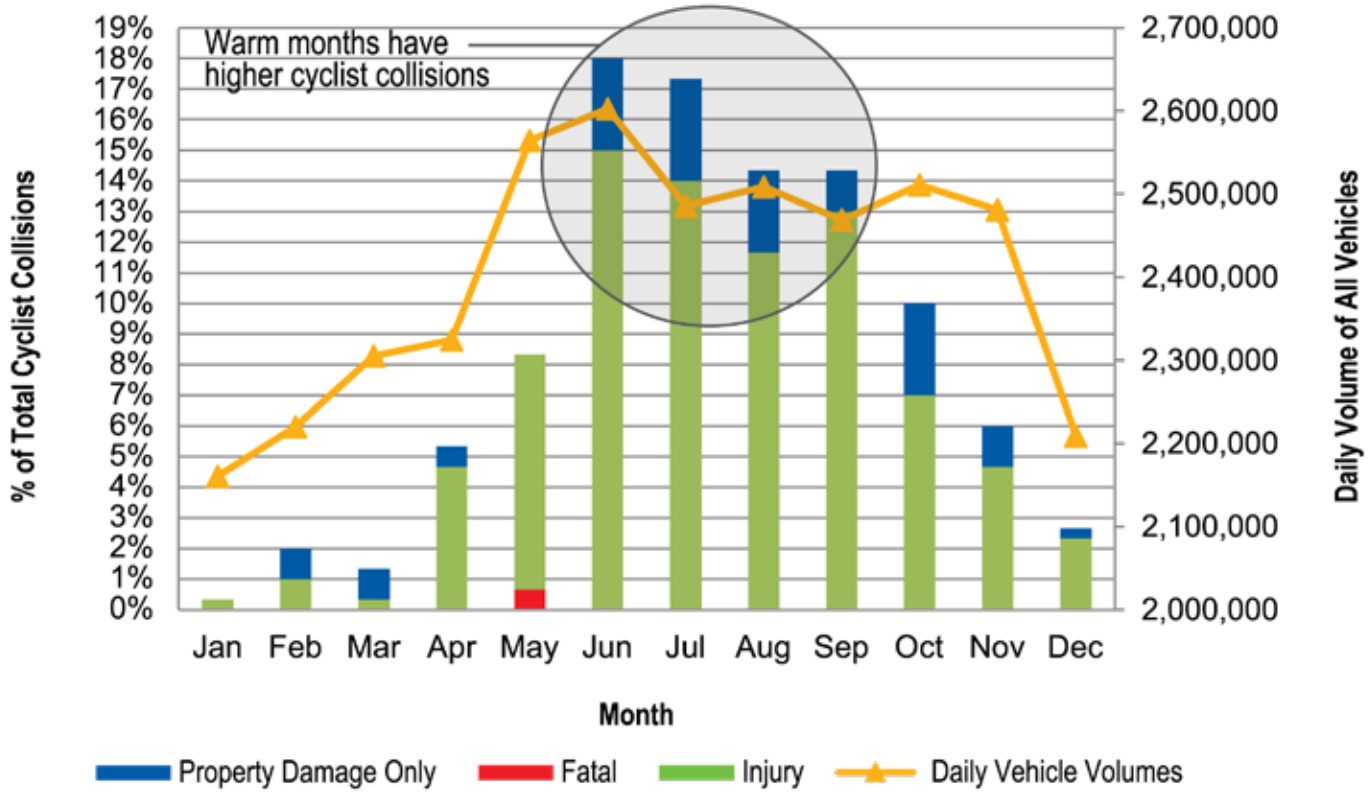
Through the york.ca/cycling web page and various initiatives, the Region continues to provide cycling safety education and promote safe cycling.

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

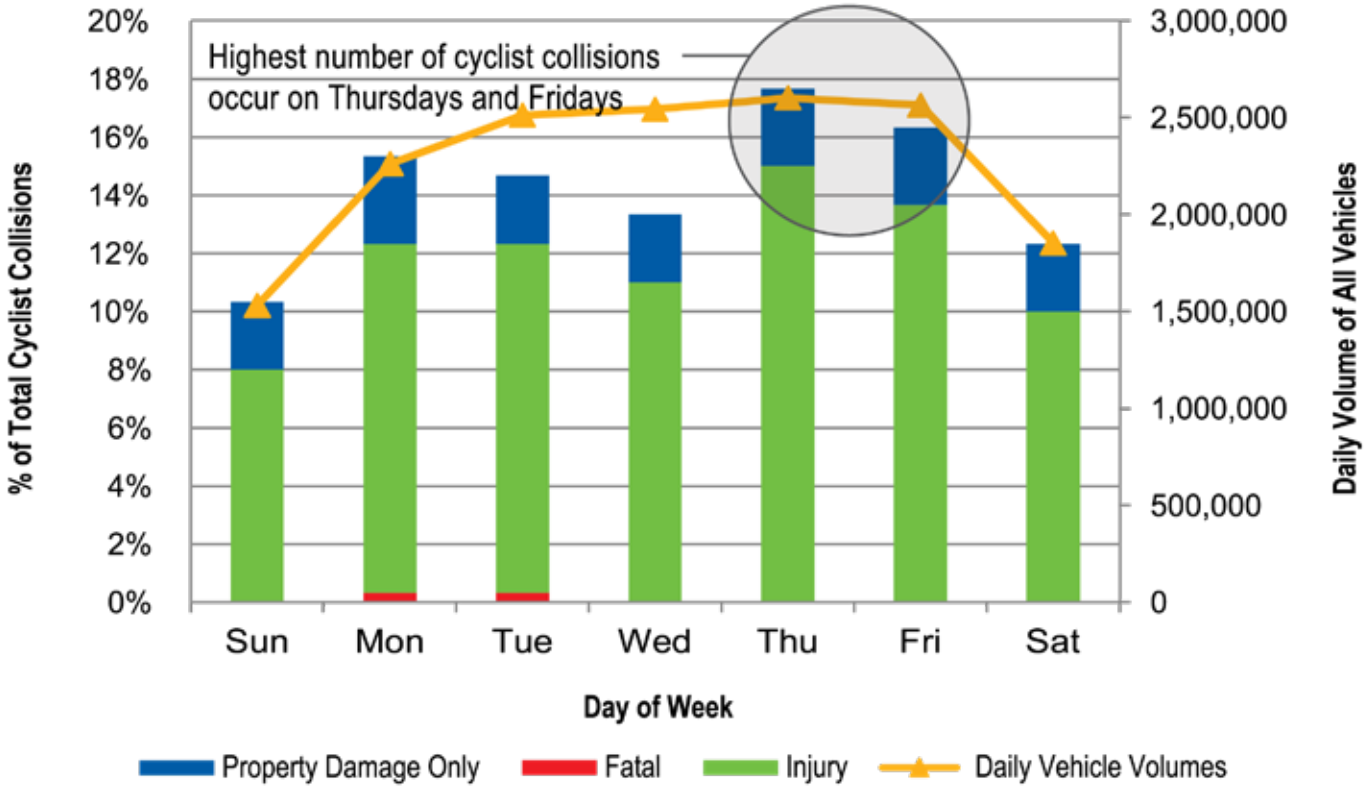
CYCLIST COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*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).

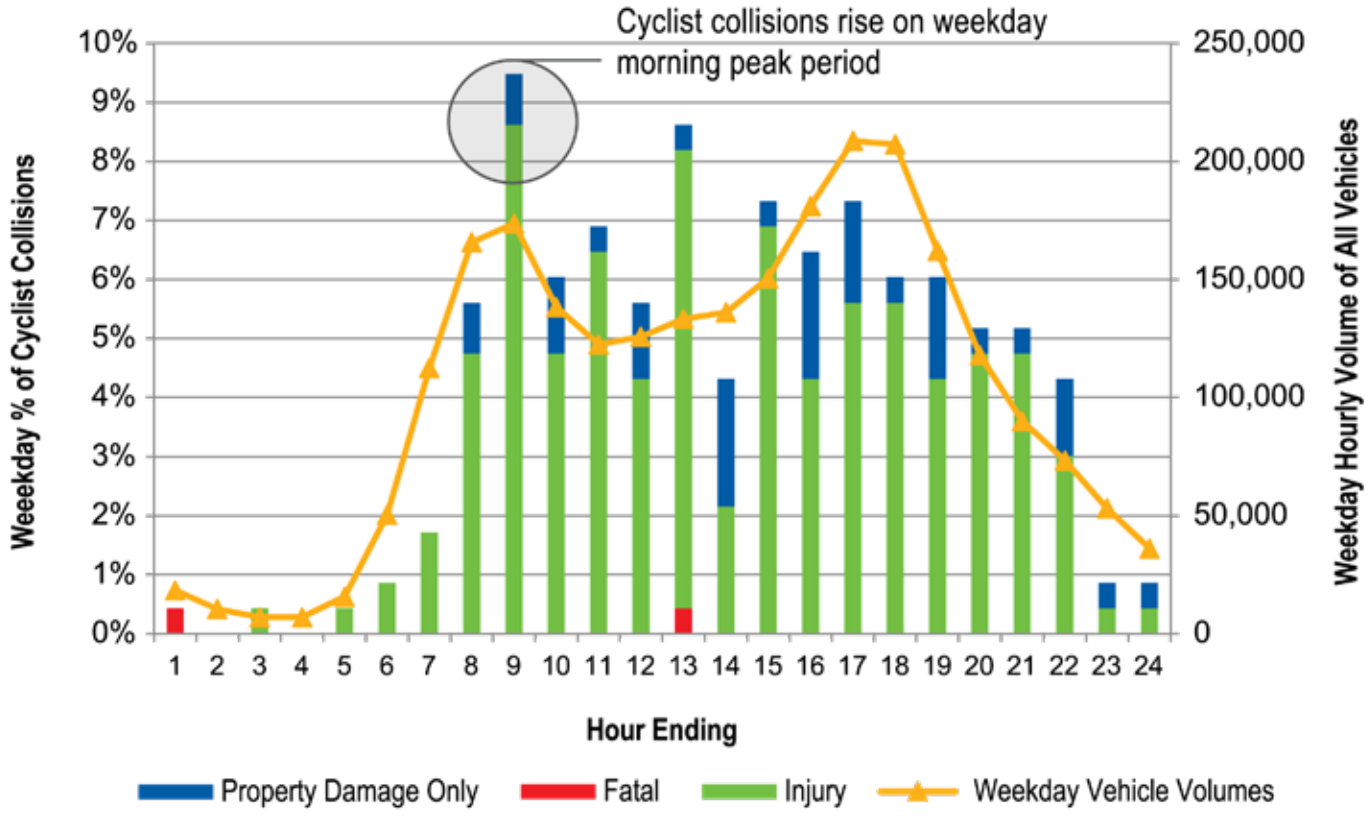
CYCLIST COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019

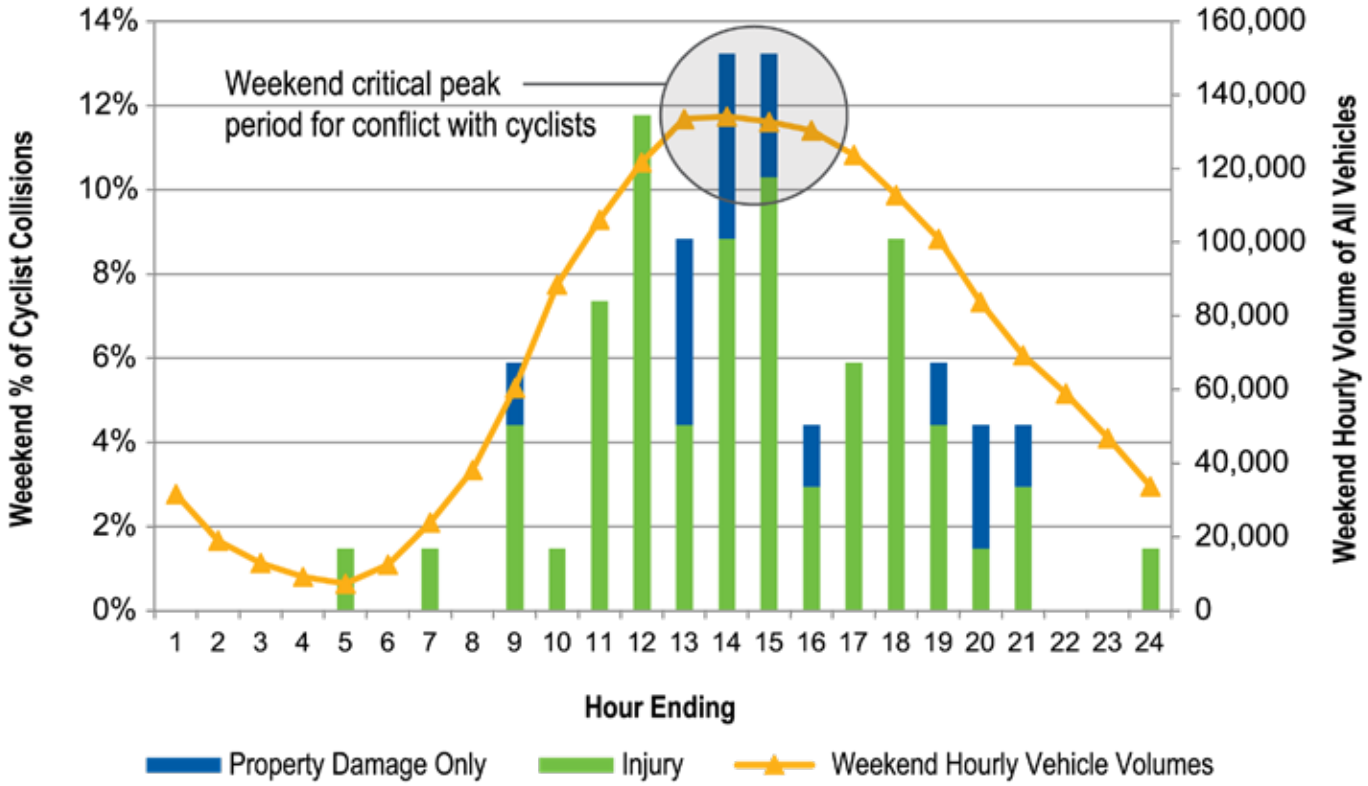


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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



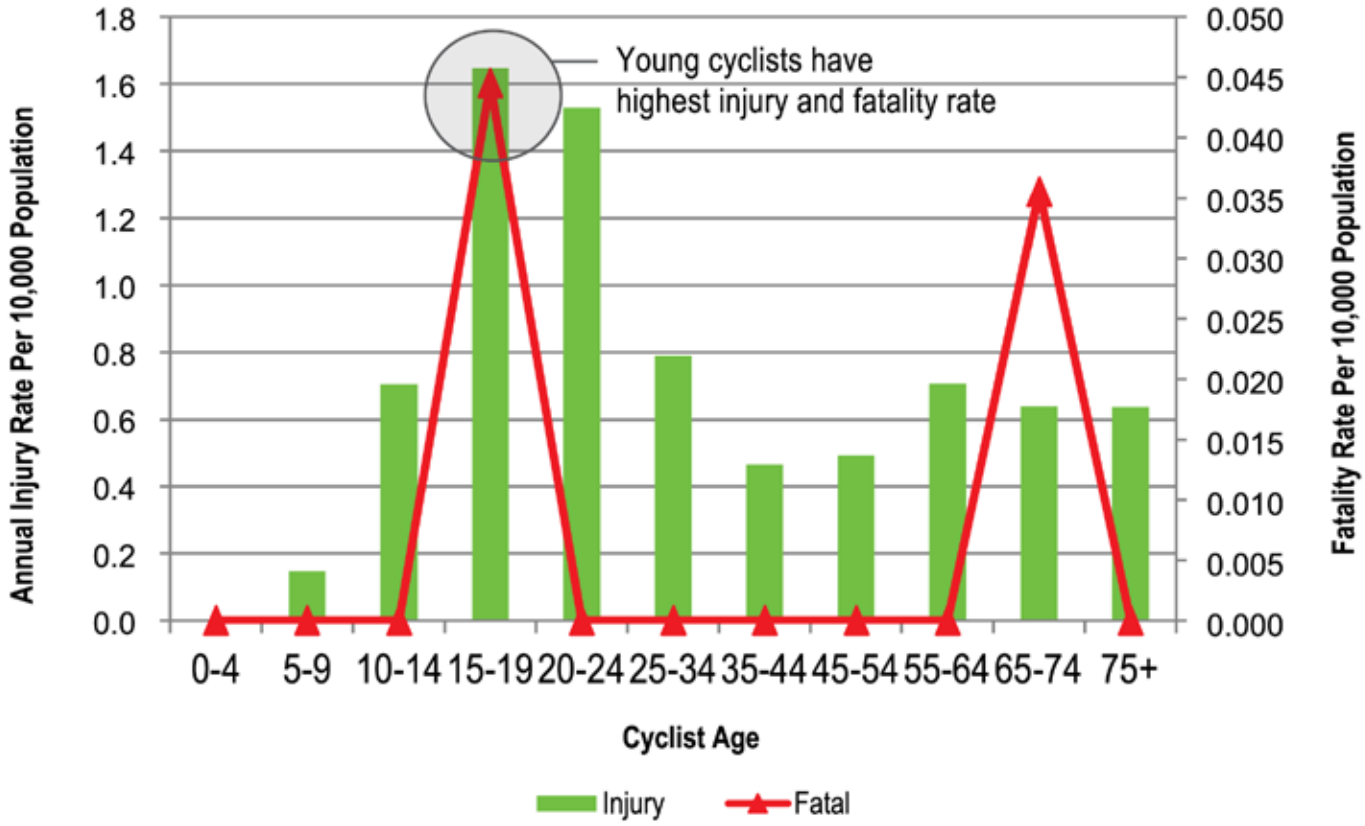


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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



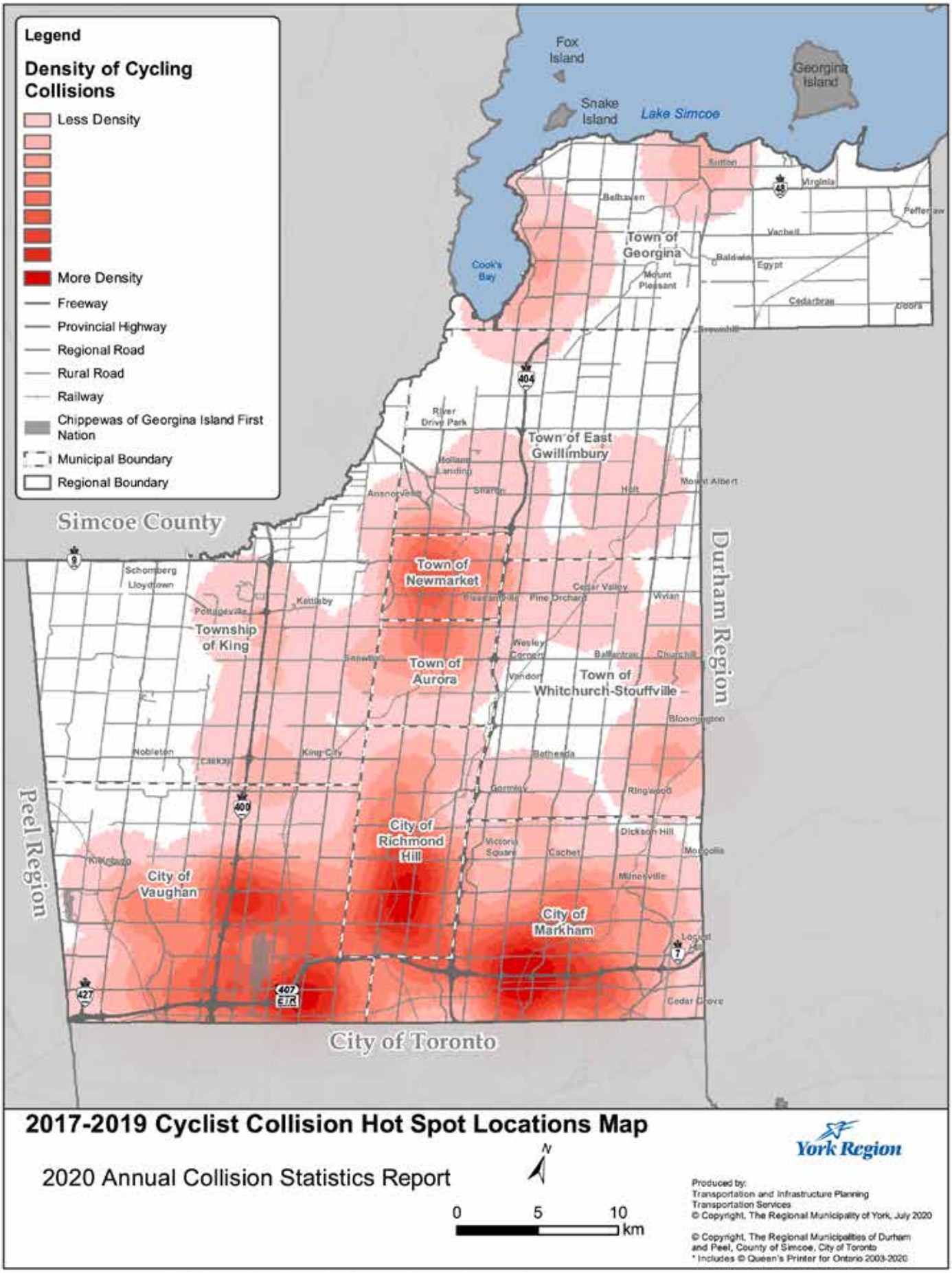
*Collision data is from YRP MVA reports
*Population data is from Statistics Canada

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
N
0
5
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km
York Region
Produced by:
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

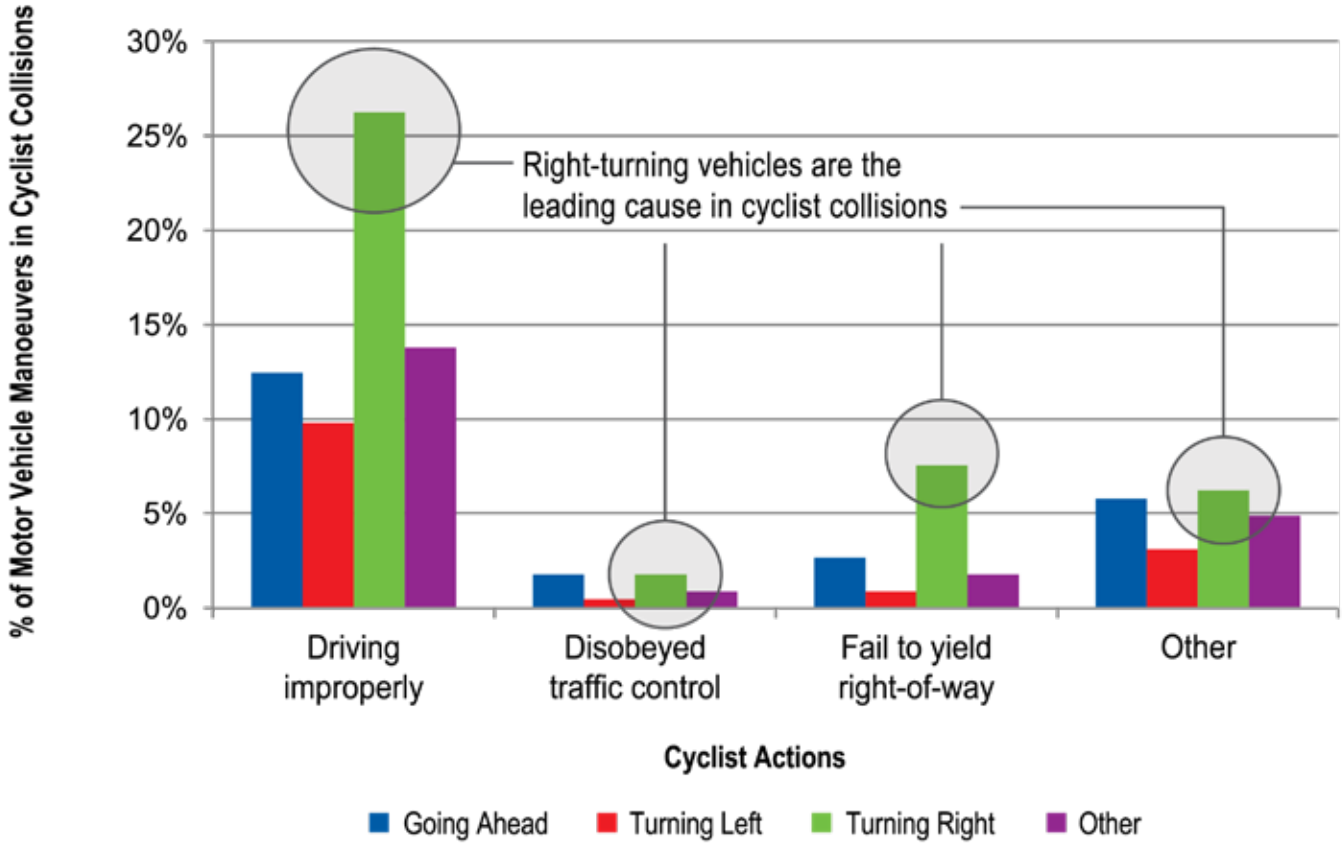
Driver and Cyclist Actions

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

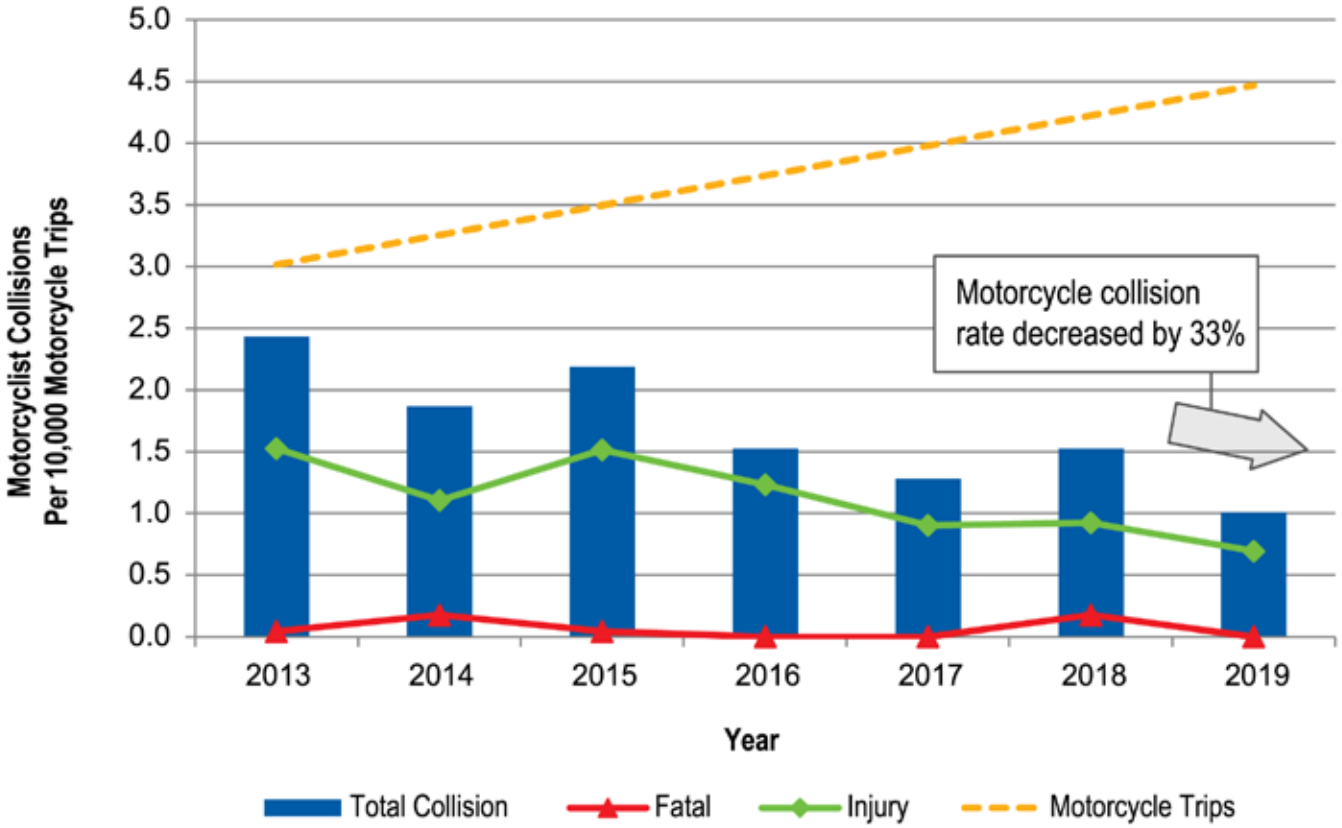
Overall, 42% of cyclist collisions involved vehicles making right turns and only 16% involved left-turning vehicles. Most of these collisions occurred when cyclists were crossing with right-of-way. For the collisions where cyclists are at fault due to disobeying traffic control, fail to yield right-of-way,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

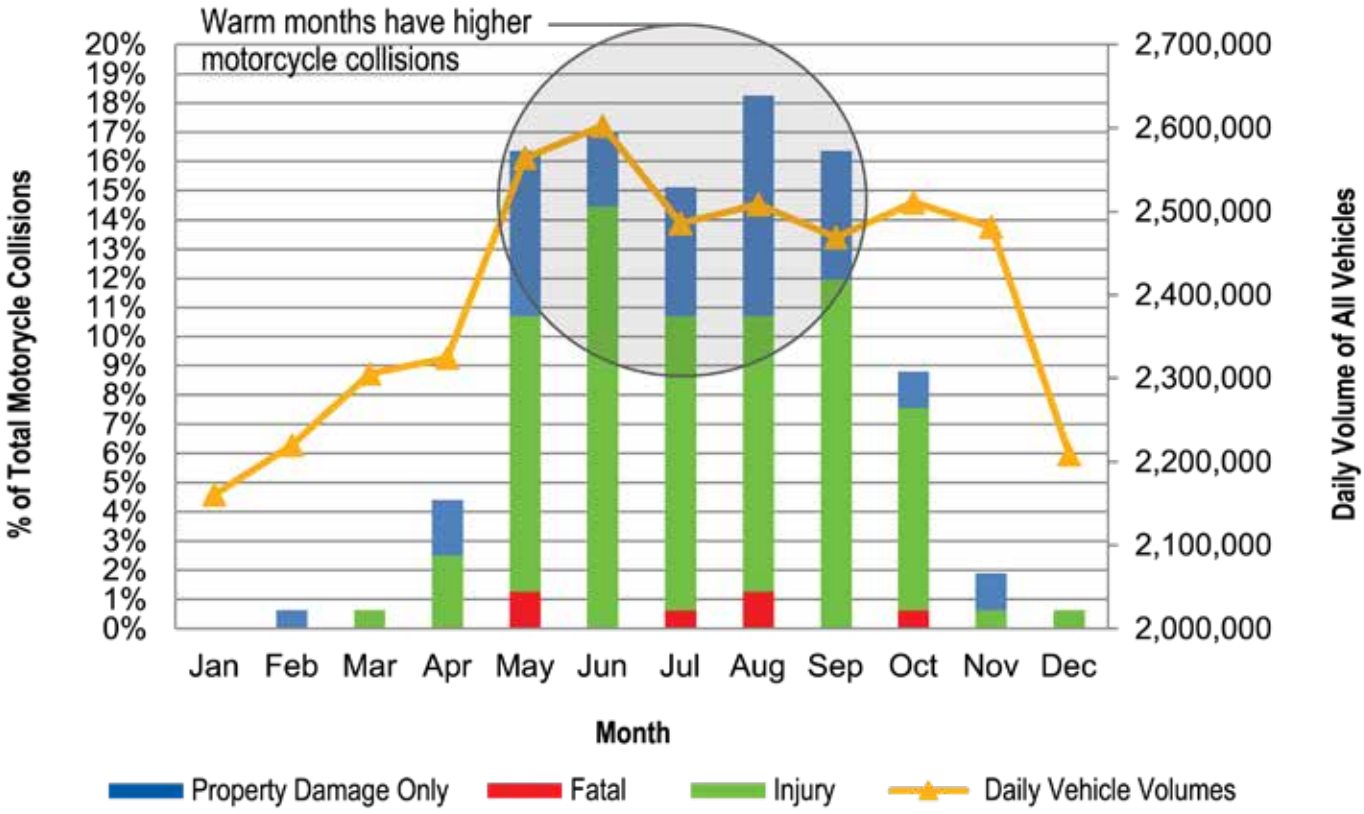
Measures continue to be put in place to address motorcycle safety including:

- 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.

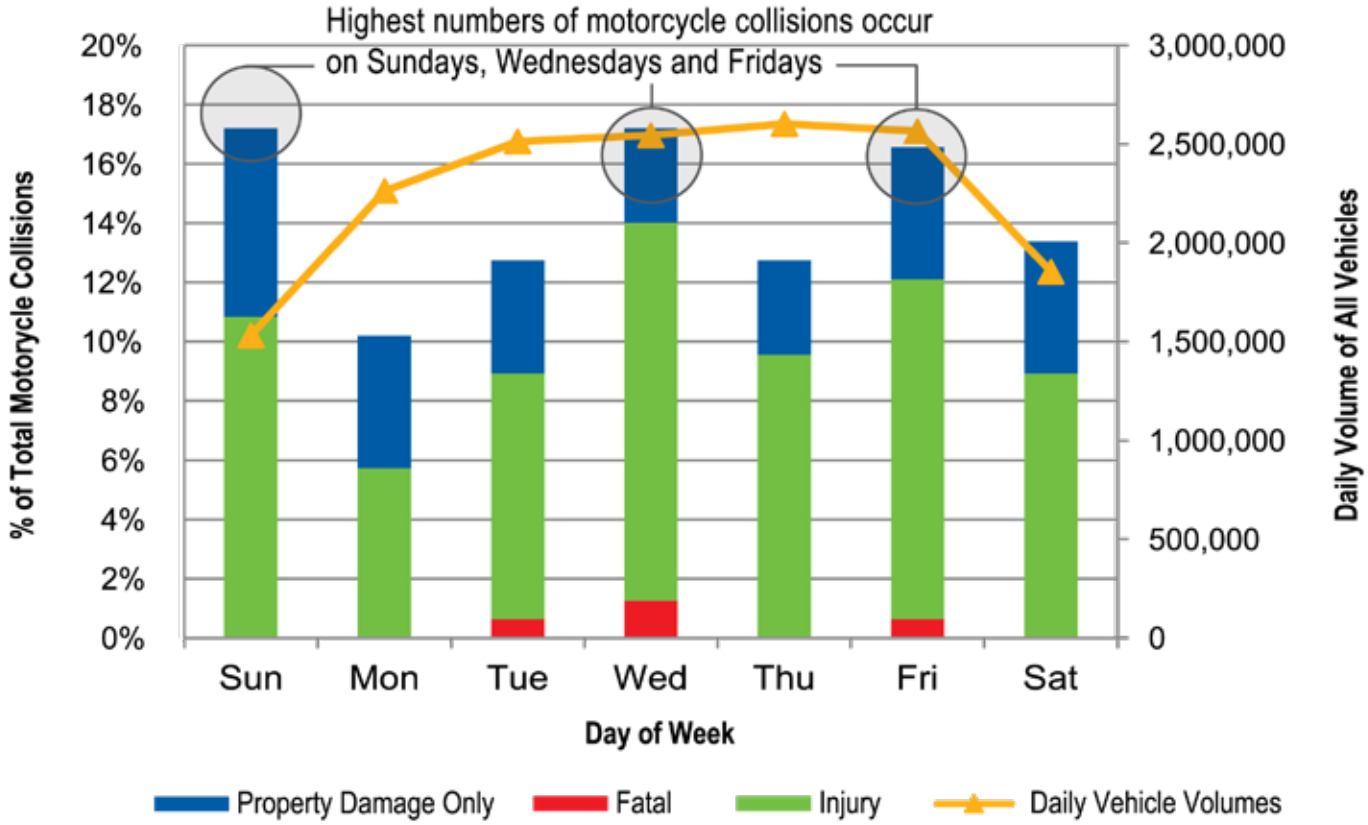
MOTORCYCLE COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*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.

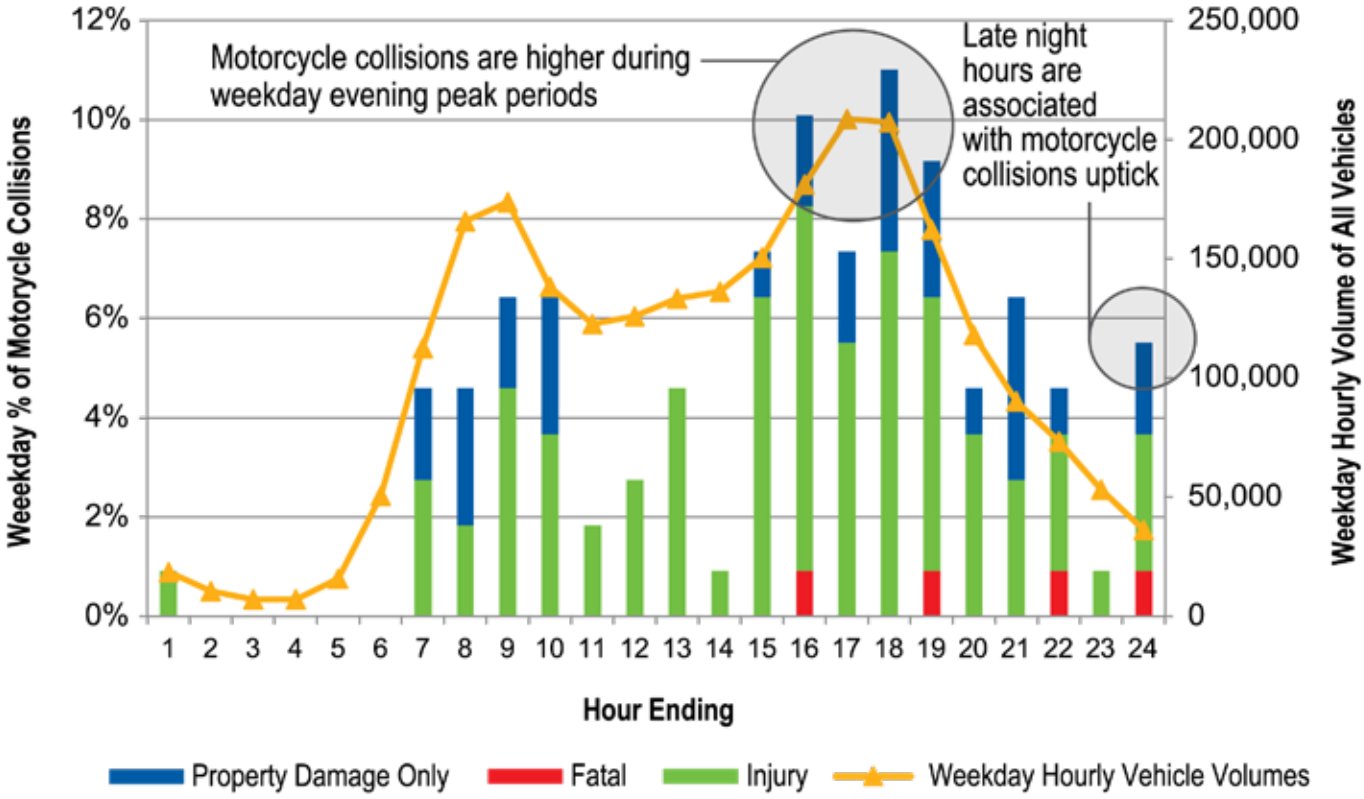
MOTORCYCLE COLLISIONS BY DAY-OF-WEEK, THREE-YEAR AVERAGE, 2017-2019

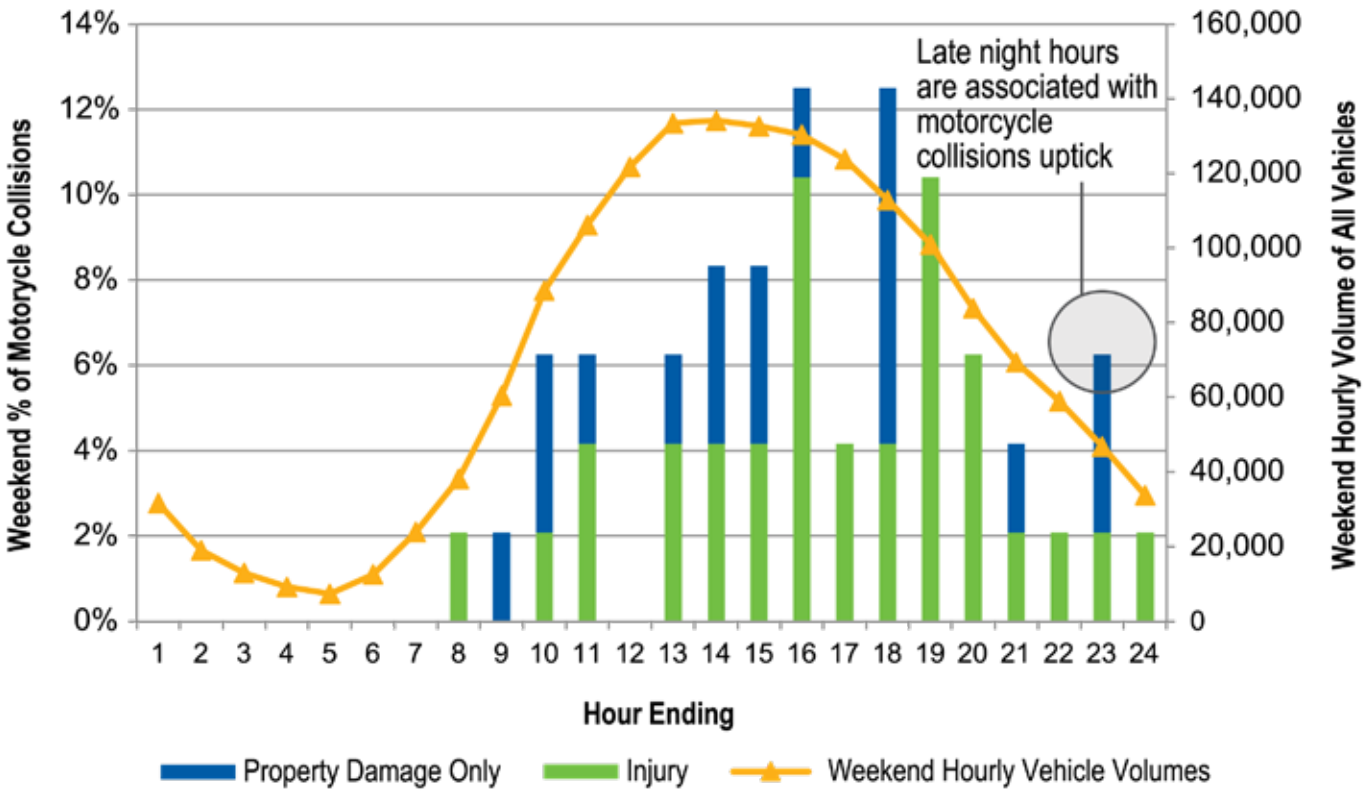


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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

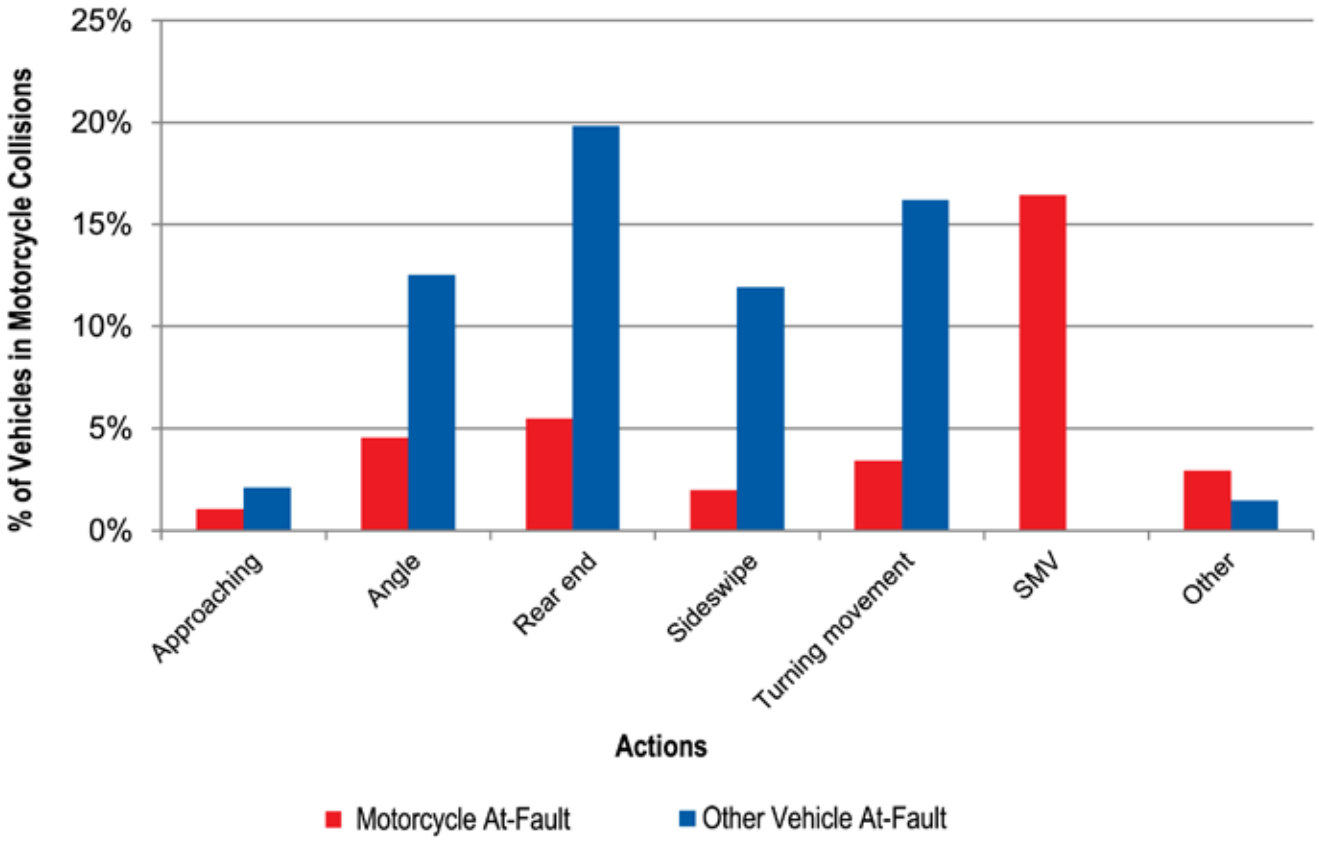




*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

Driver Actions and Impact Types

MOTORCYCLE COLLISION IMPACT TYPES AND DRIVER ACTIONS

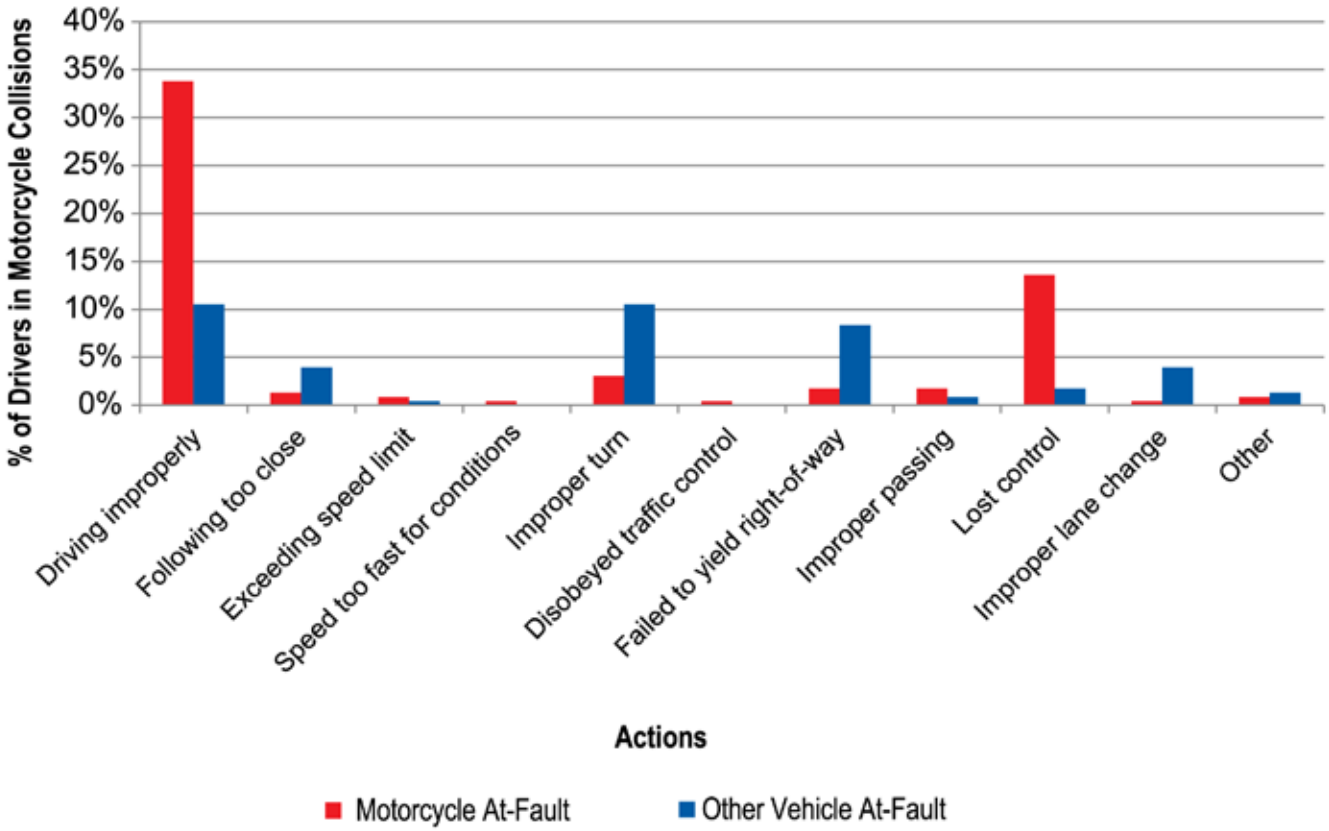


*Collision data is from YRP MVA reports

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.

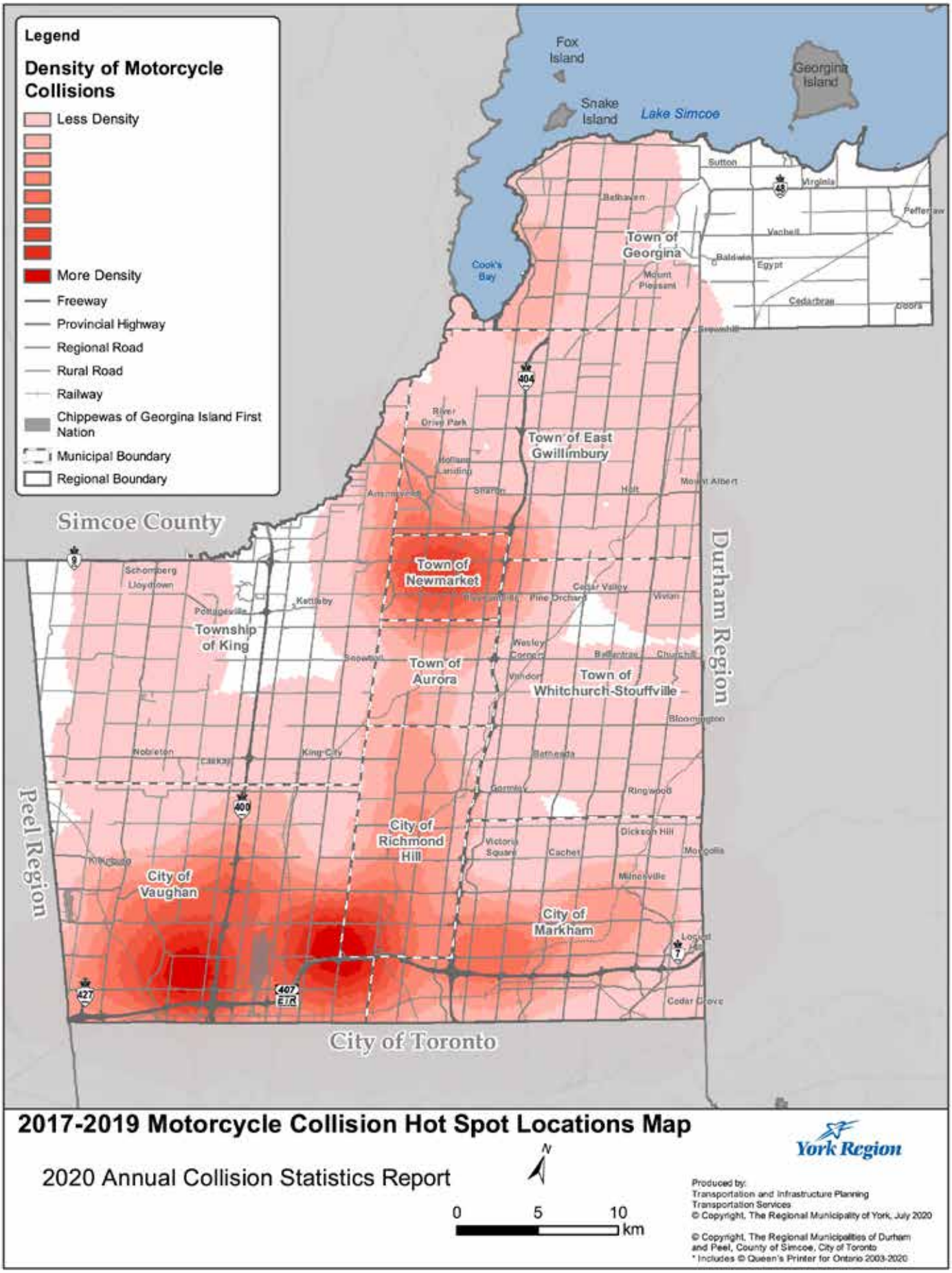
DRIVER ACTIONS IN MOTORCYCLE COLLISIONS



*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
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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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407 ETR
Cedar Grove
City of Toronto
2017-2019 Motorcycle Collision Hot Spot Locations Map
2020 Annual Collision Statistics Report
N
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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.

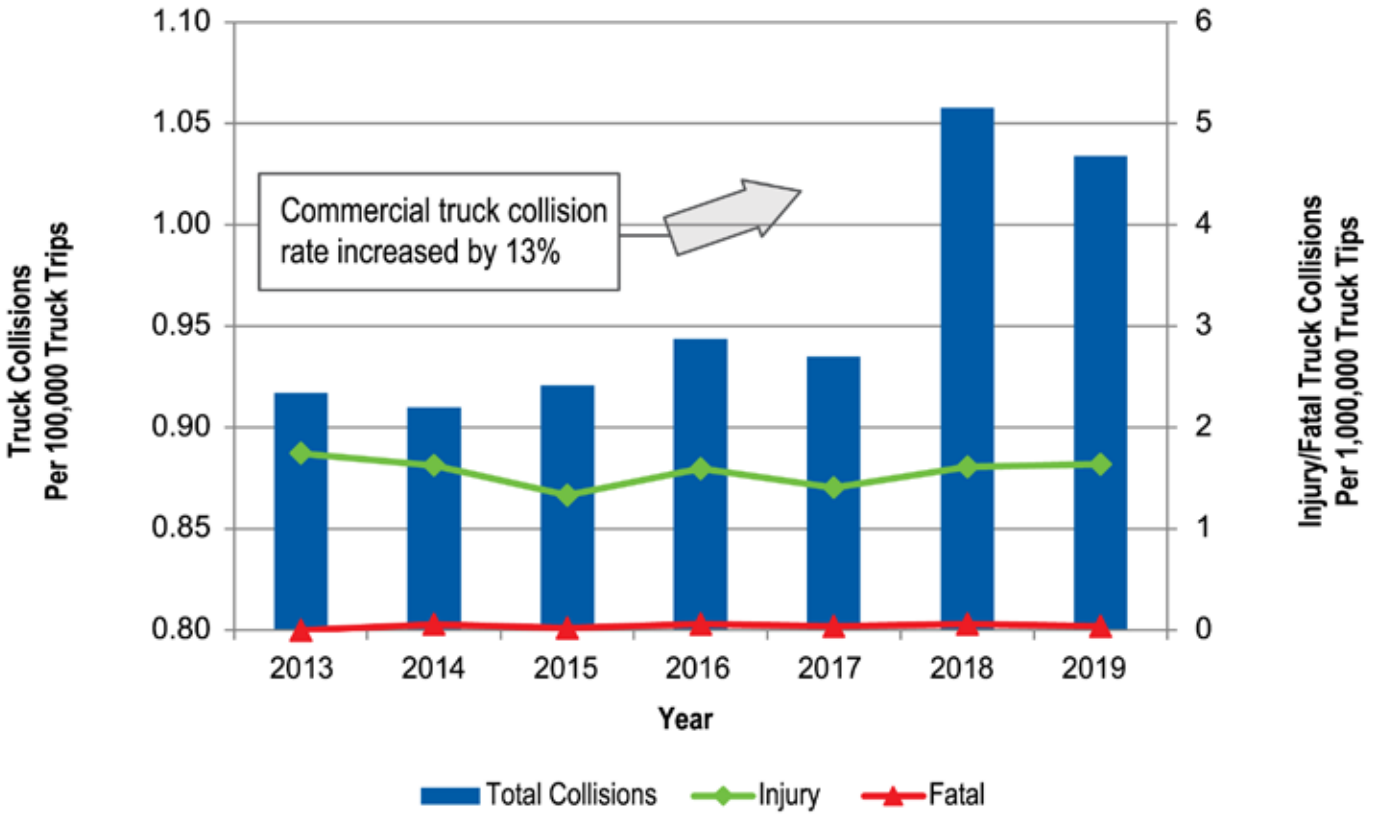
TOP 10 HIGHEST MOTORCYCLE COLLISION FREQUENCY LOCATIONS, 10-YEAR TOTAL, 2010-2019

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.

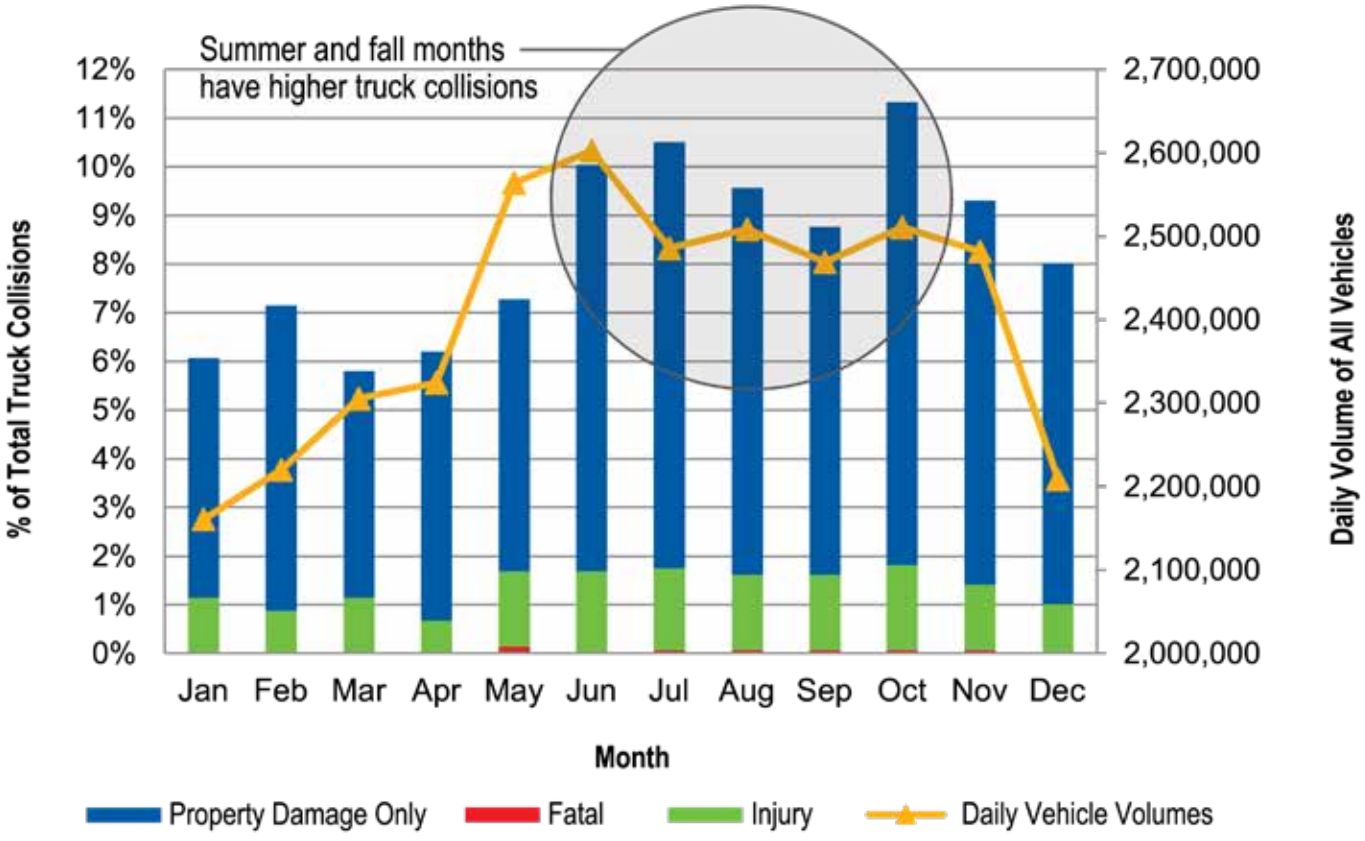
Key trends observed include:

- 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.

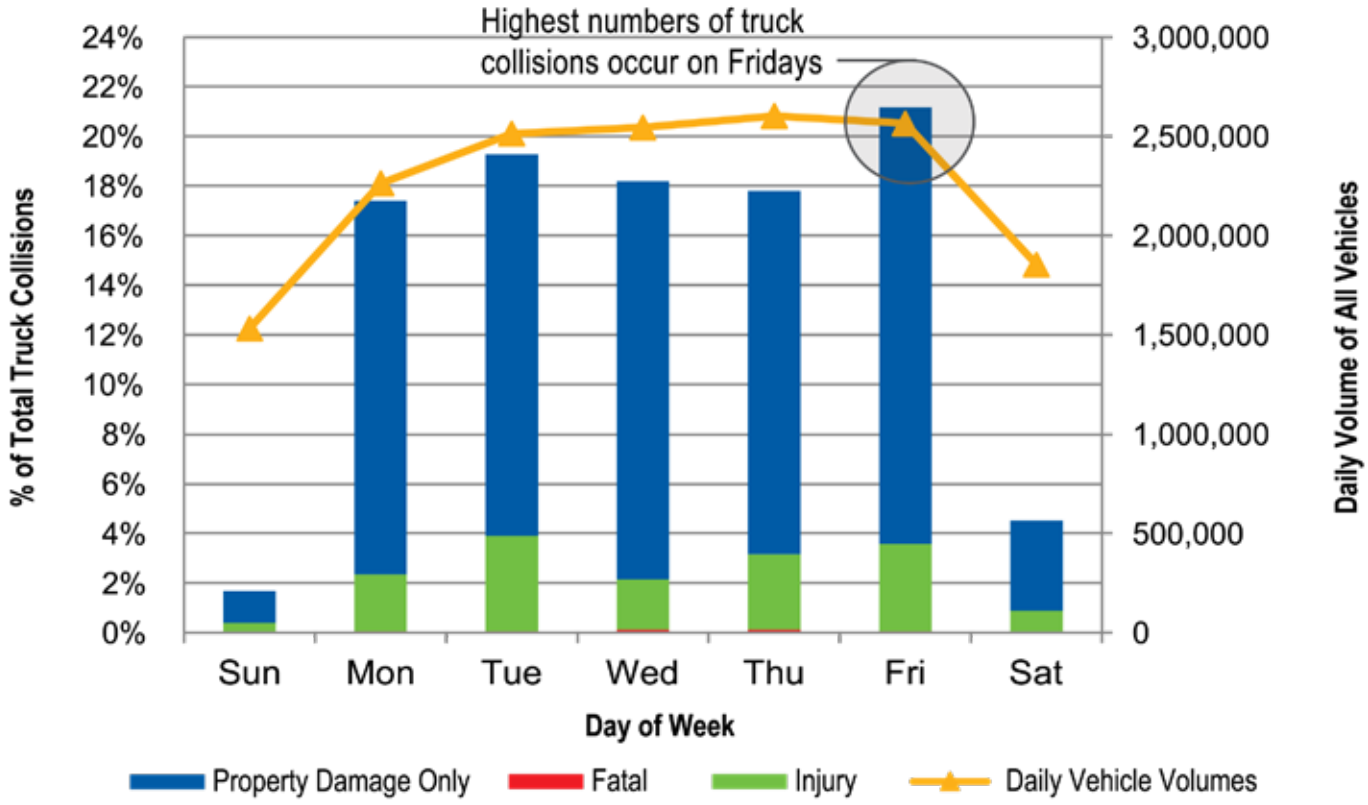
TRUCK COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*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

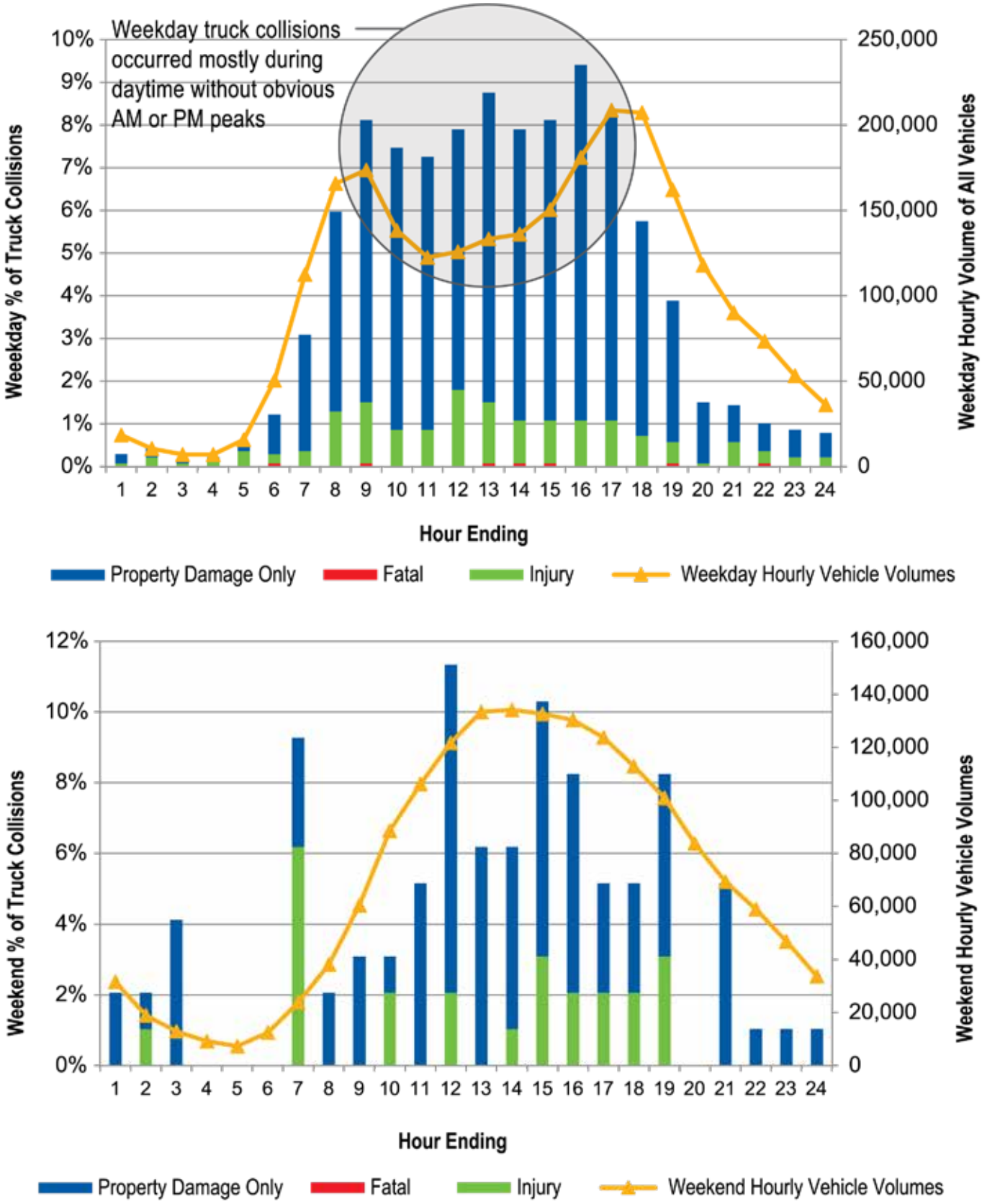


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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.

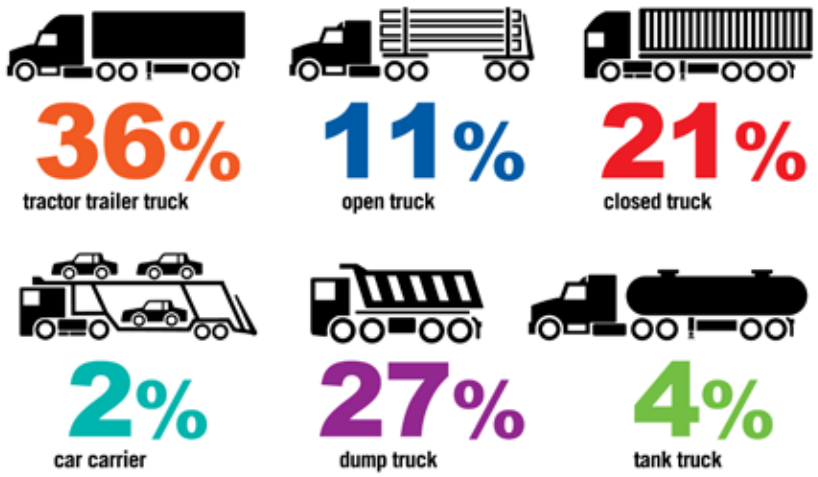
On weekends, truck collision distribution generally followed traffic volumes, with a spike in early morning (6:00 a.m. to 7:00 a.m.).

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



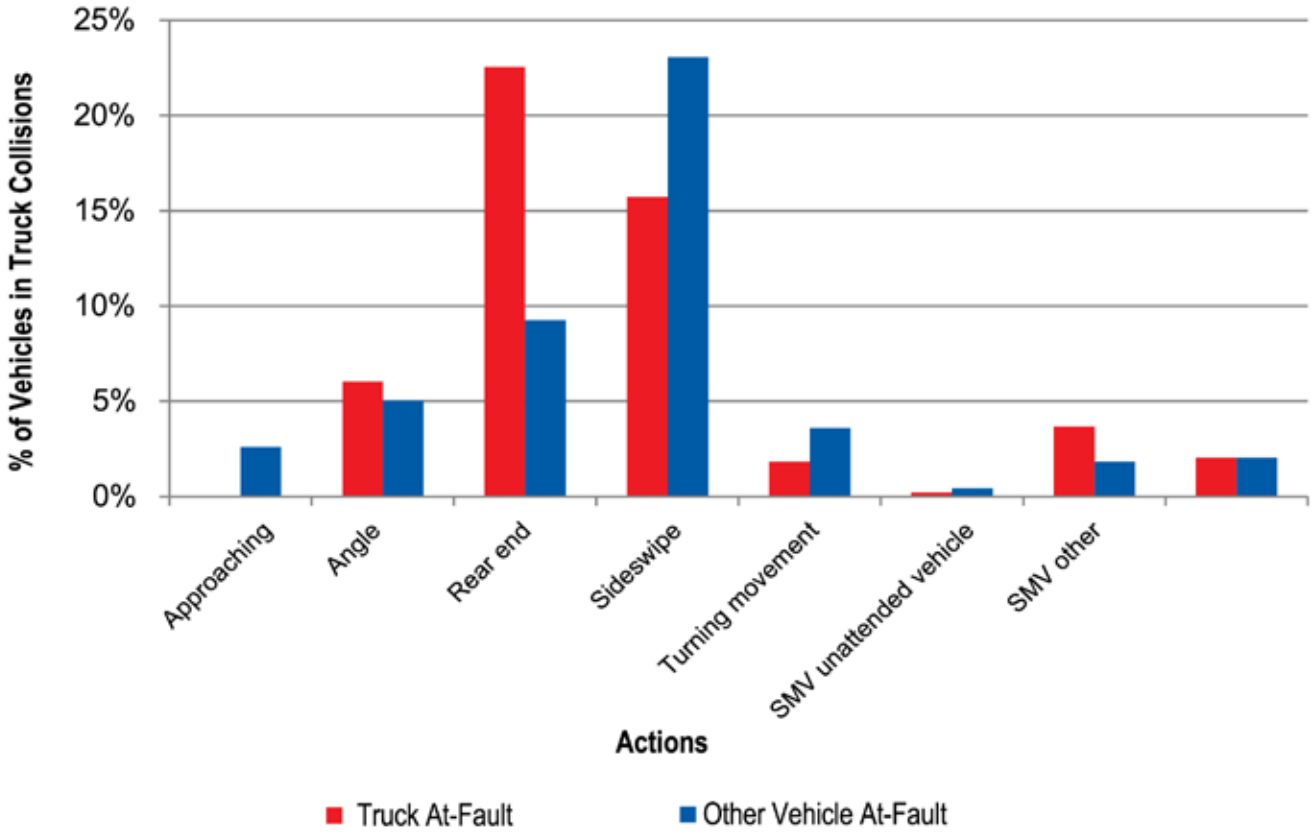
*The collision data is from YRP MVA reports.

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

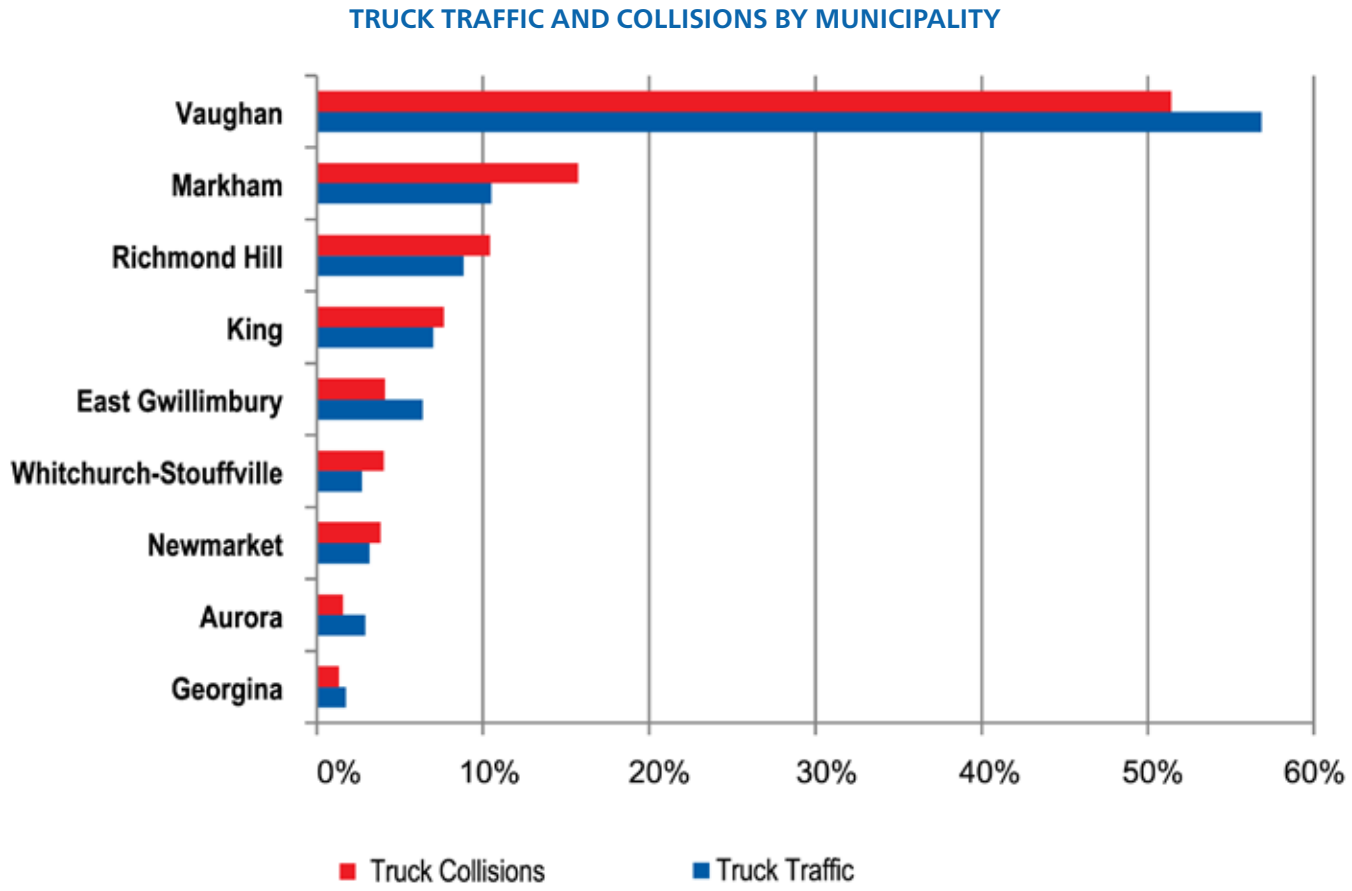


*Collision data is from YRP MVA reports

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

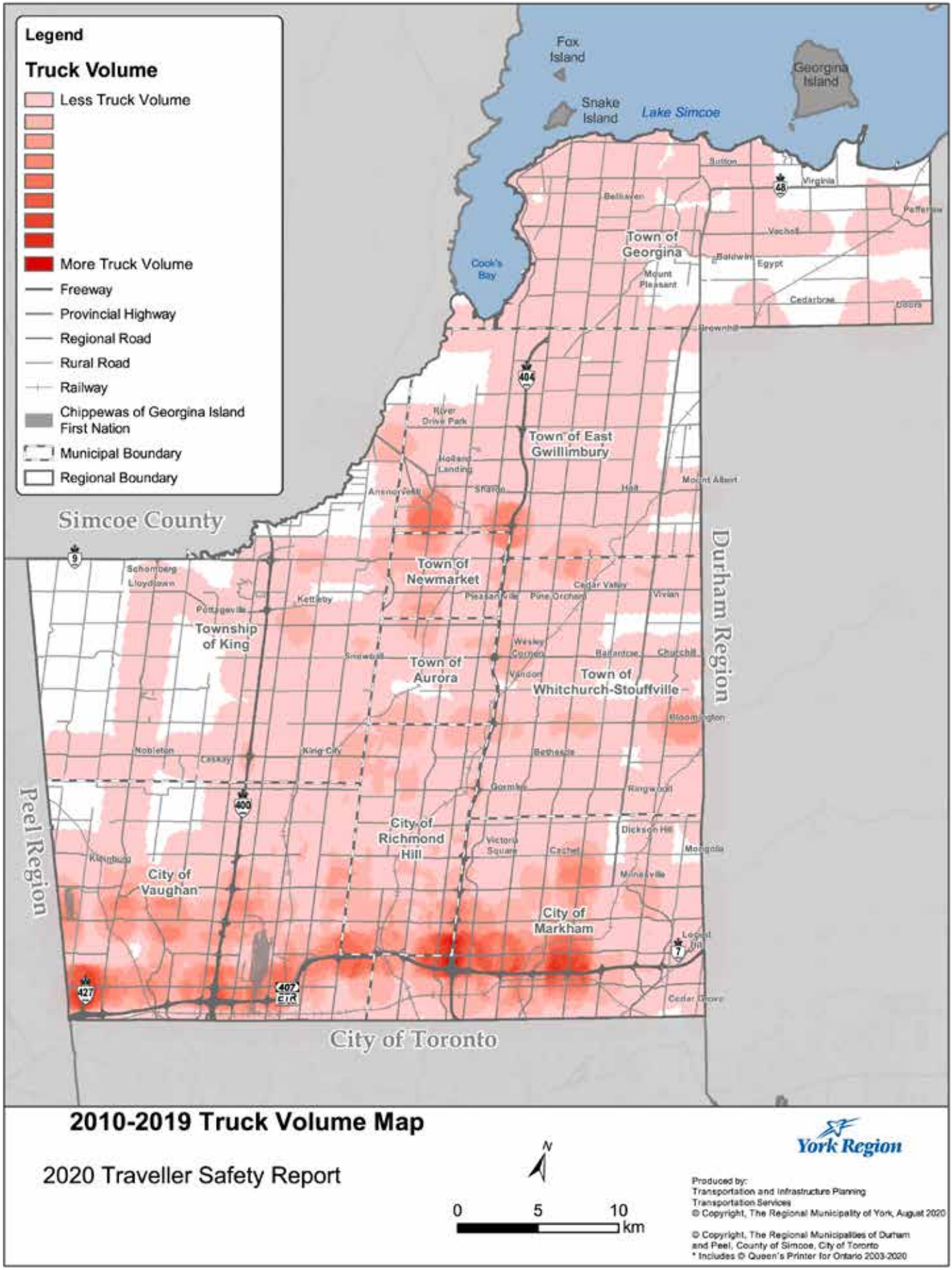


*Truck traffic data is from MTO 2016 Commercial Vehicle Study

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
© Copyright, The Regional Municipality of York, August 2020
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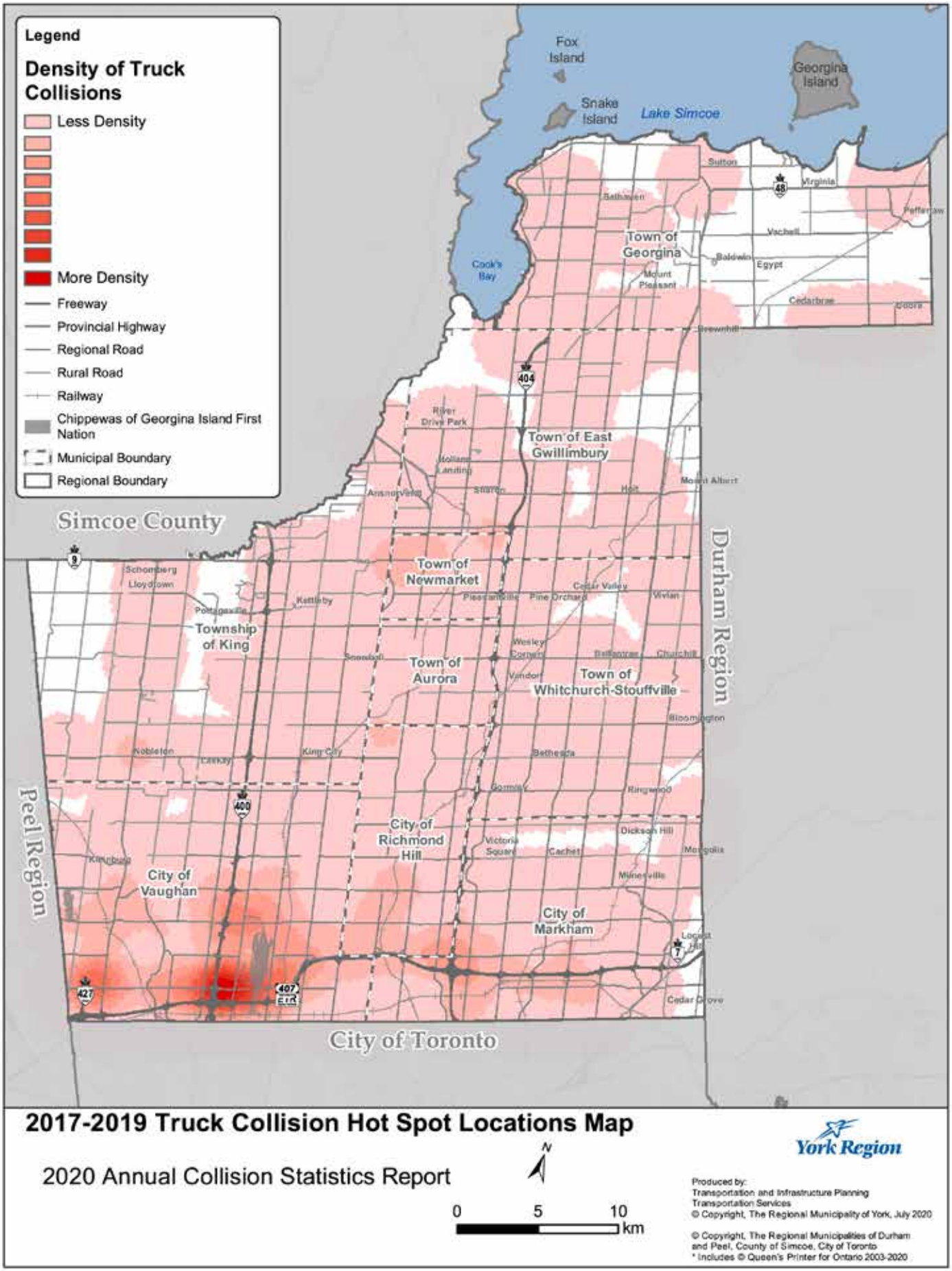
* Includes © Queen's Printer for Ontario 2003-2020


Legend
Density of Truck 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
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
N
0
5
10
km
York Region
Produced by:
Transportation and Infrastructure Planning
Transportation Services
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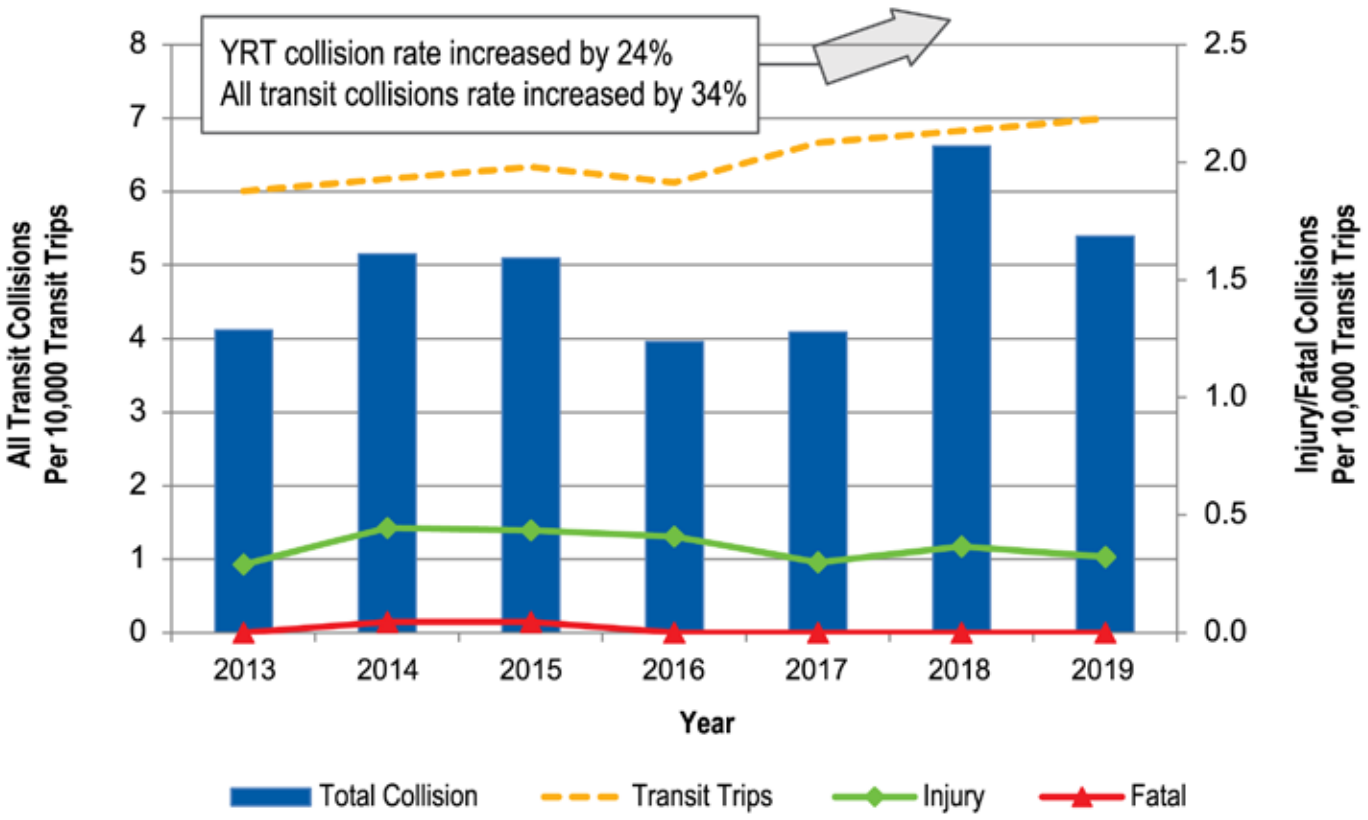
* Includes © Queen's Printer for Ontario 2003-2020

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%.

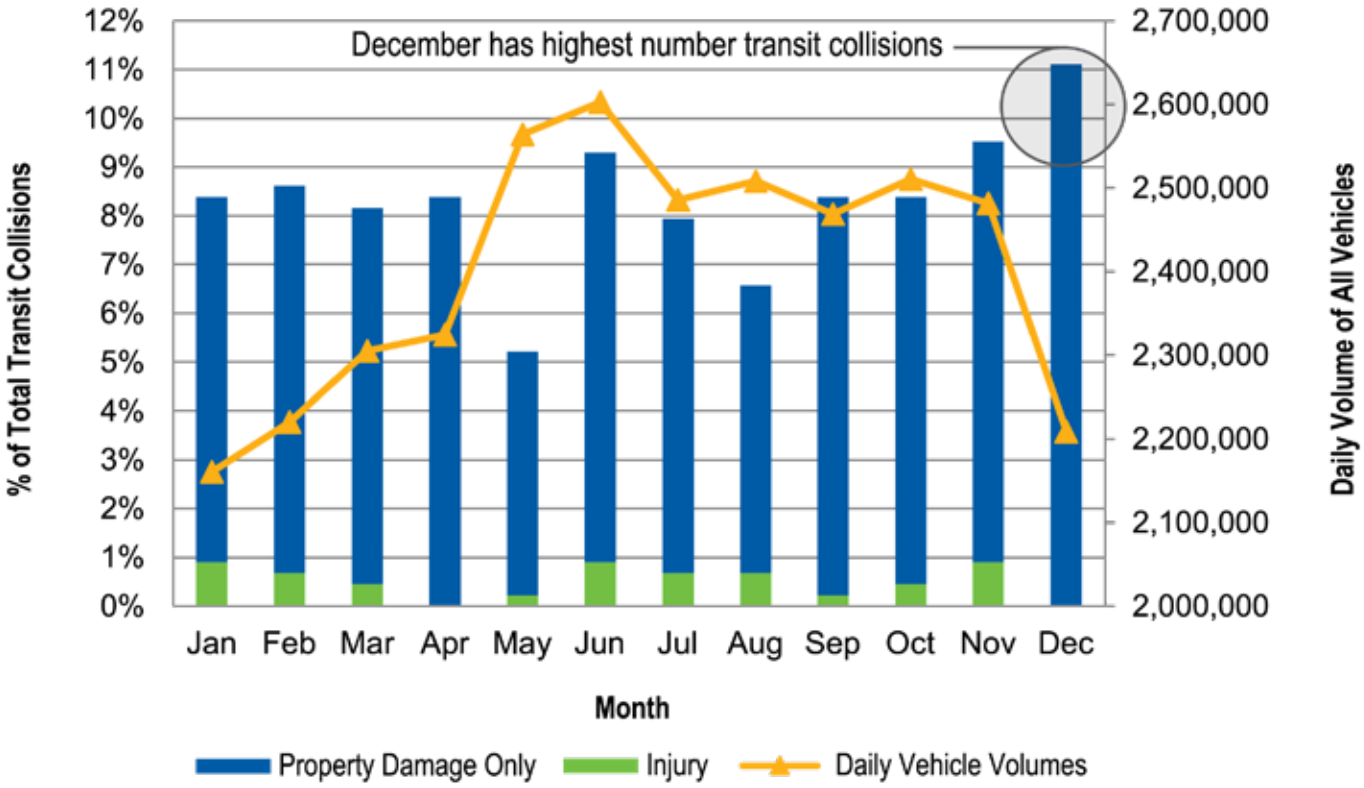
Key trends observed include:

- 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.

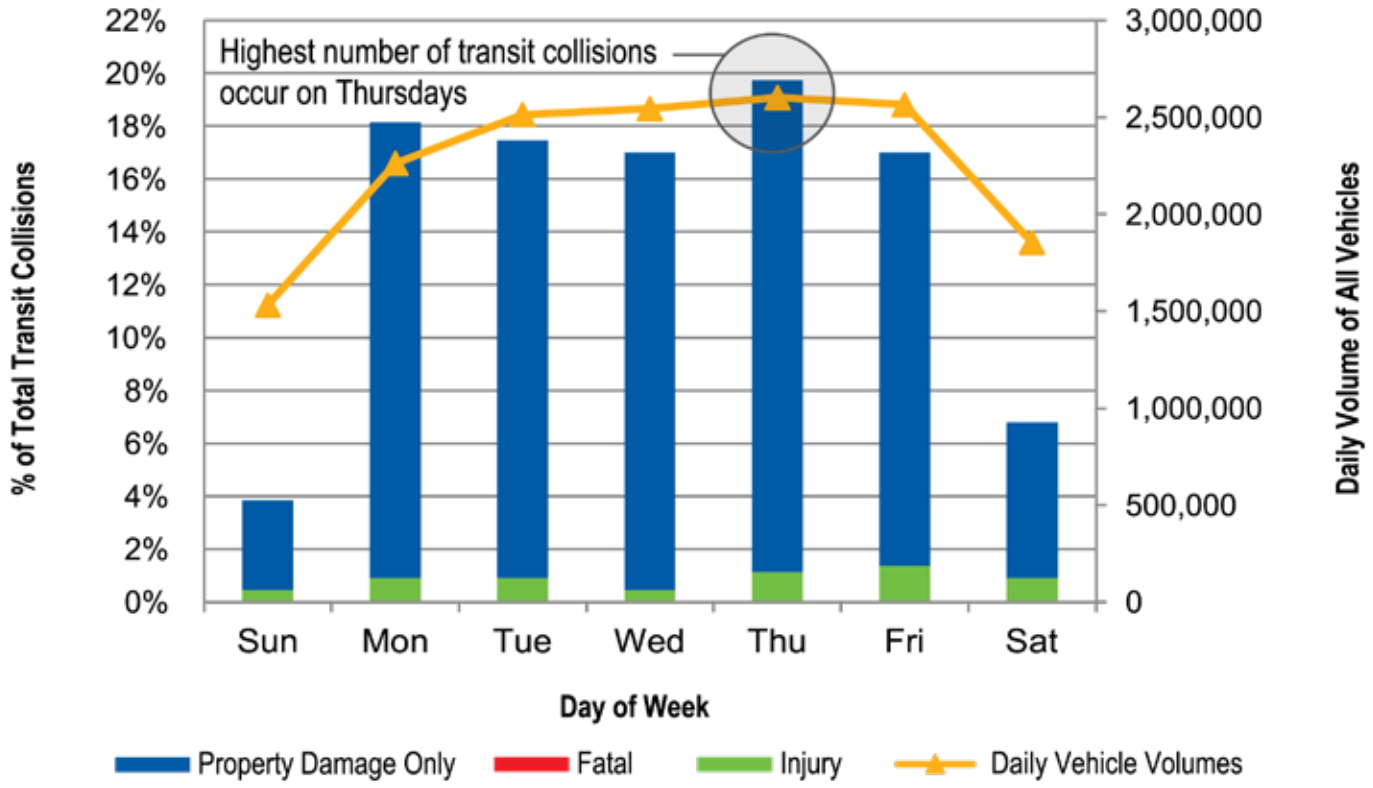
TRANSIT COLLISIONS BY MONTH, THREE-YEAR AVERAGE, 2017-2019



*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

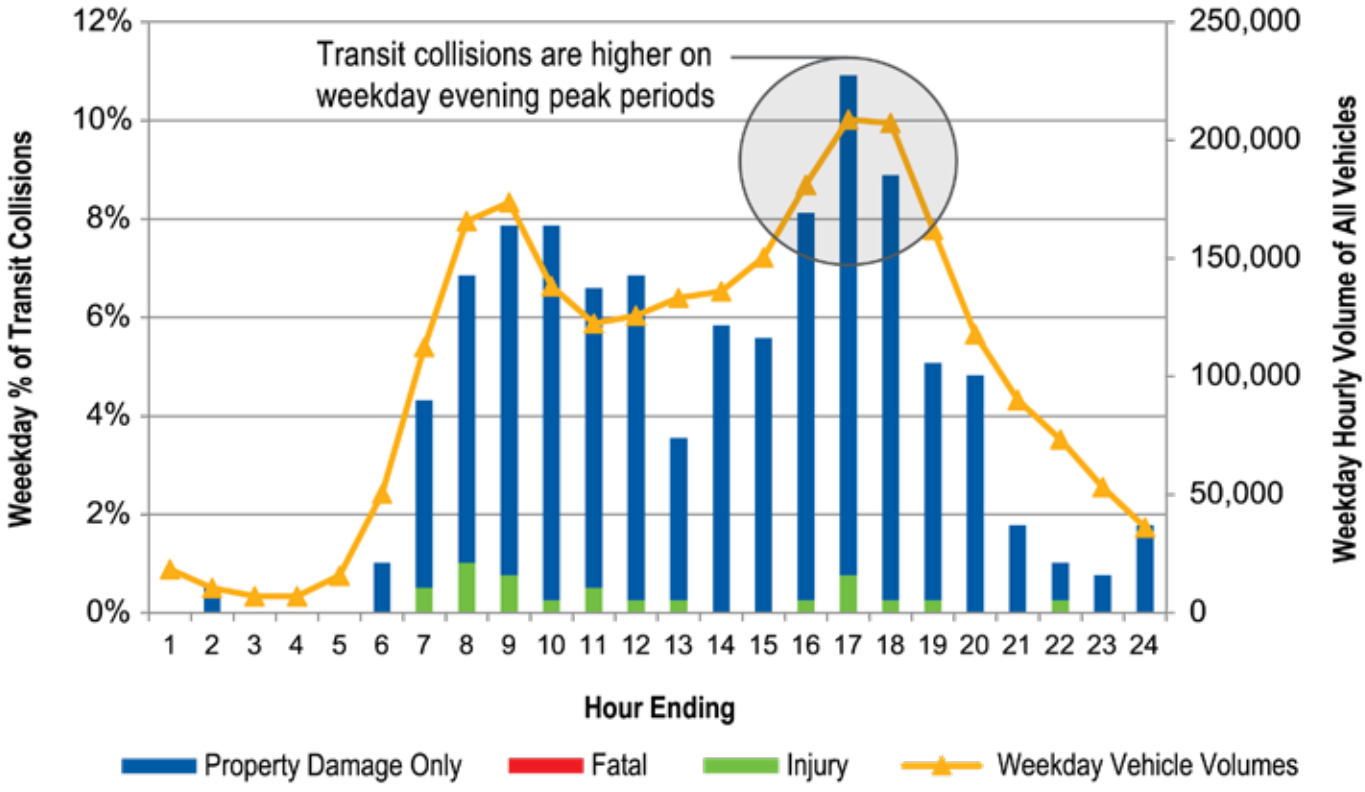


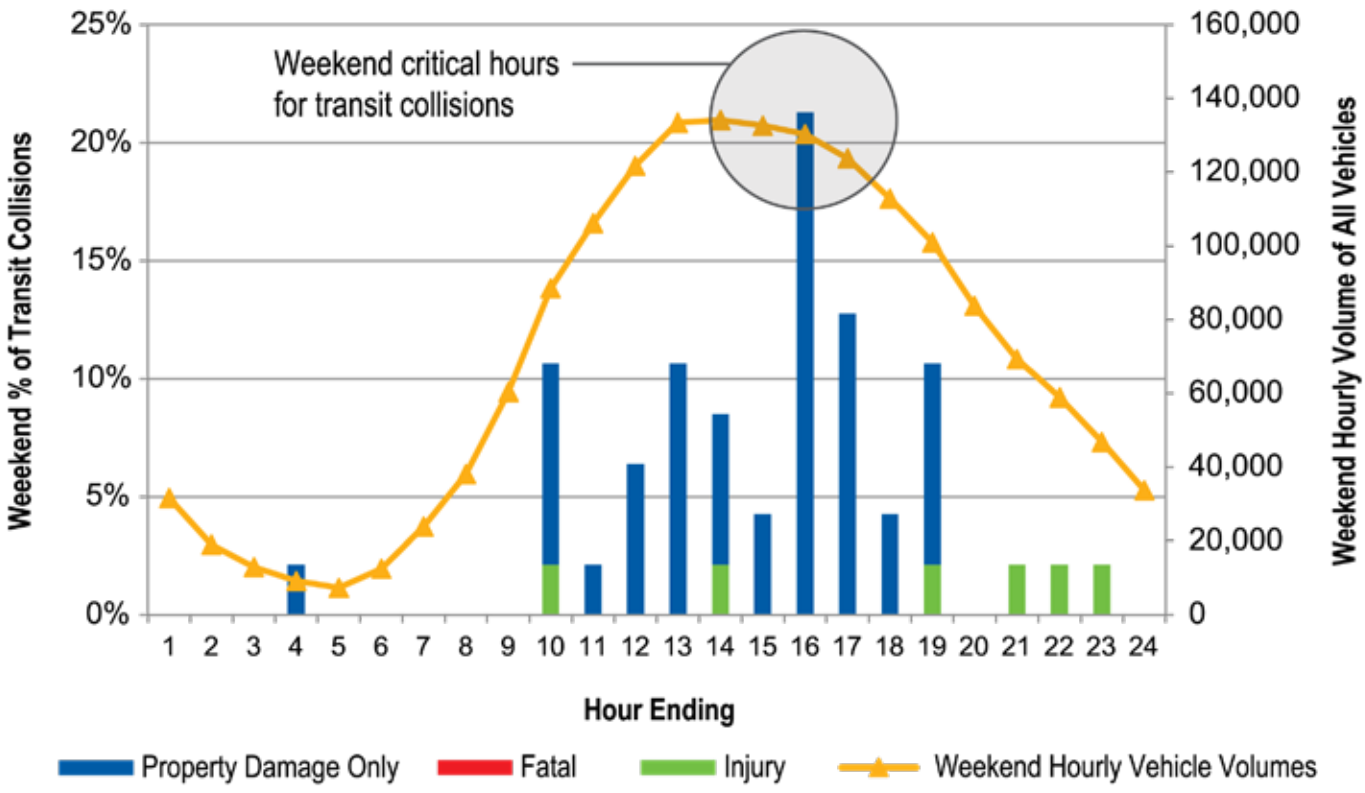
*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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

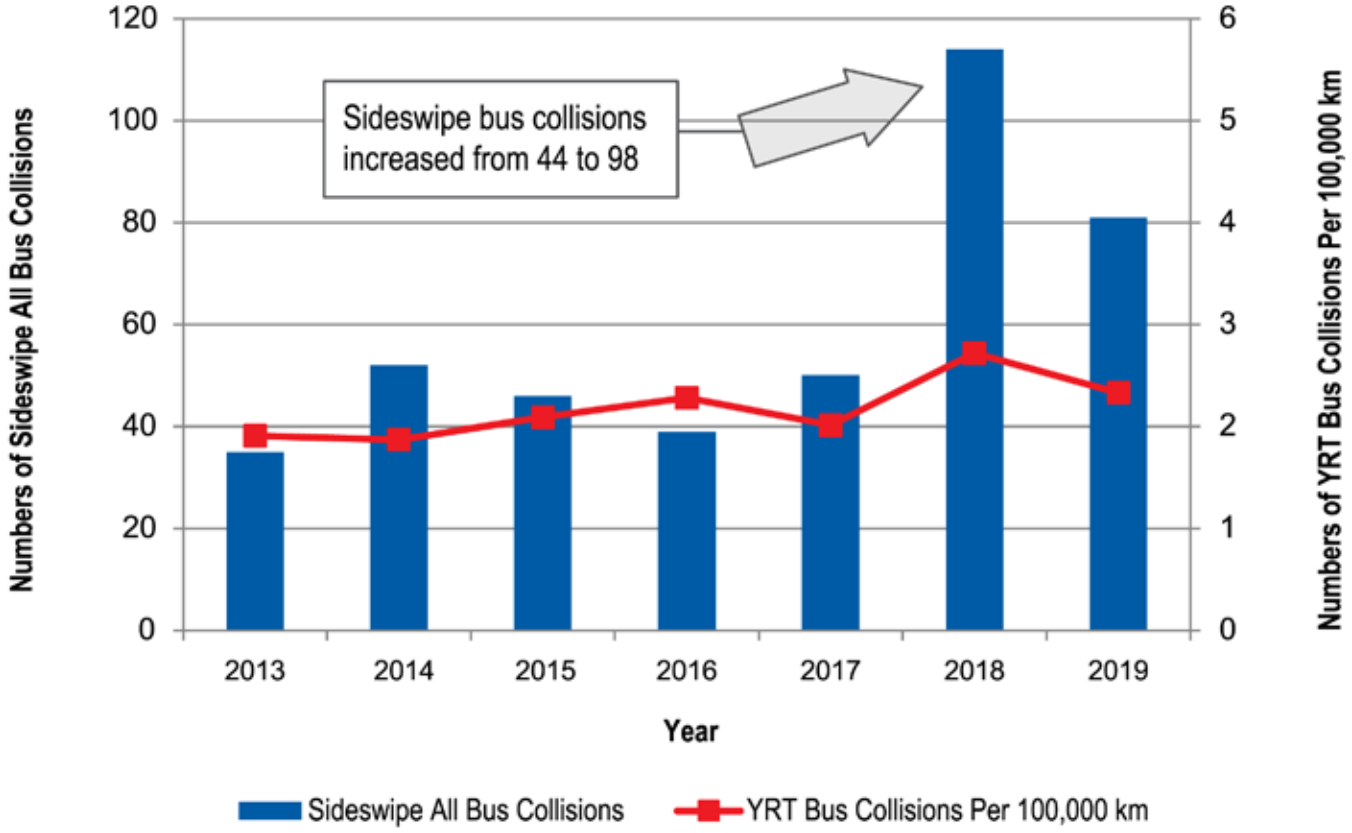
Impact Types and Driver Actions

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.

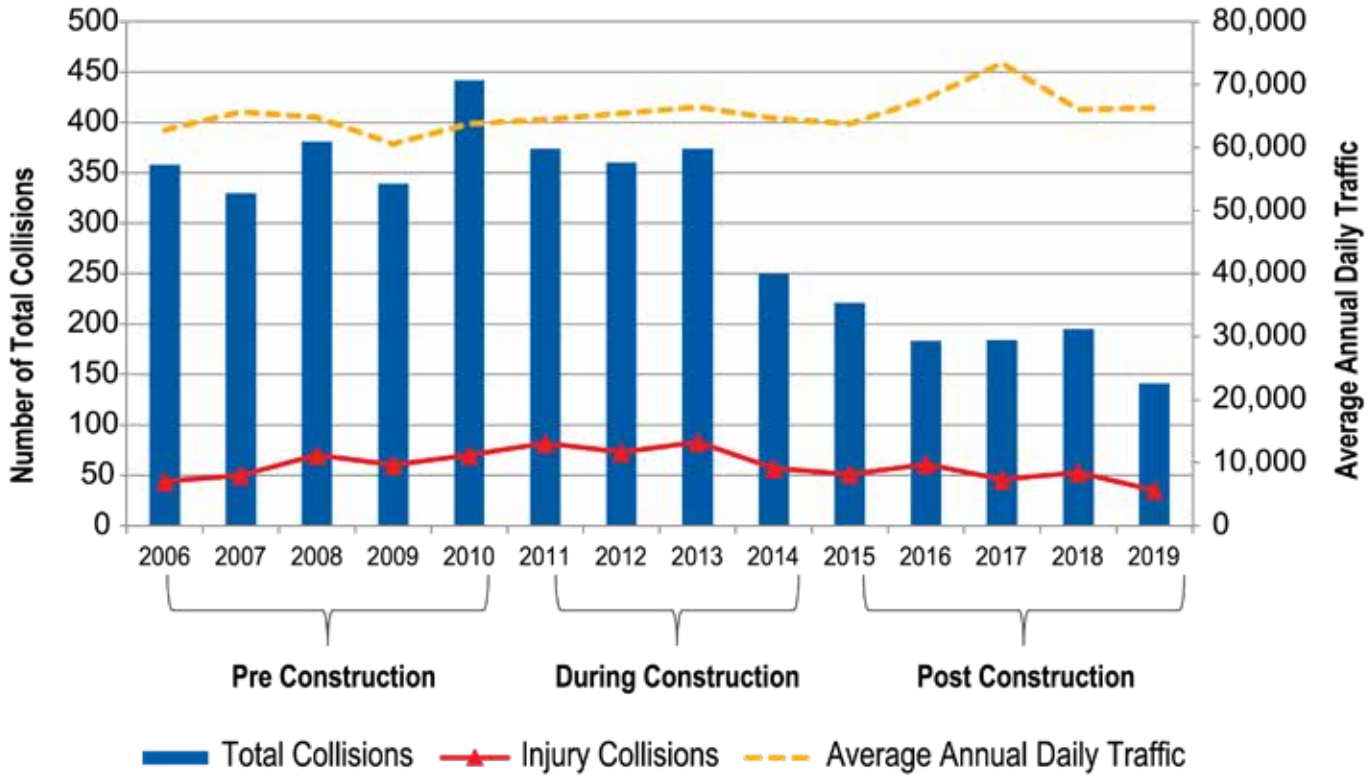
COLLISIONS HAVE REDUCED BY 50% FOLLOWING THE IMPLEMENTATION OF RAPIDWAYS

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

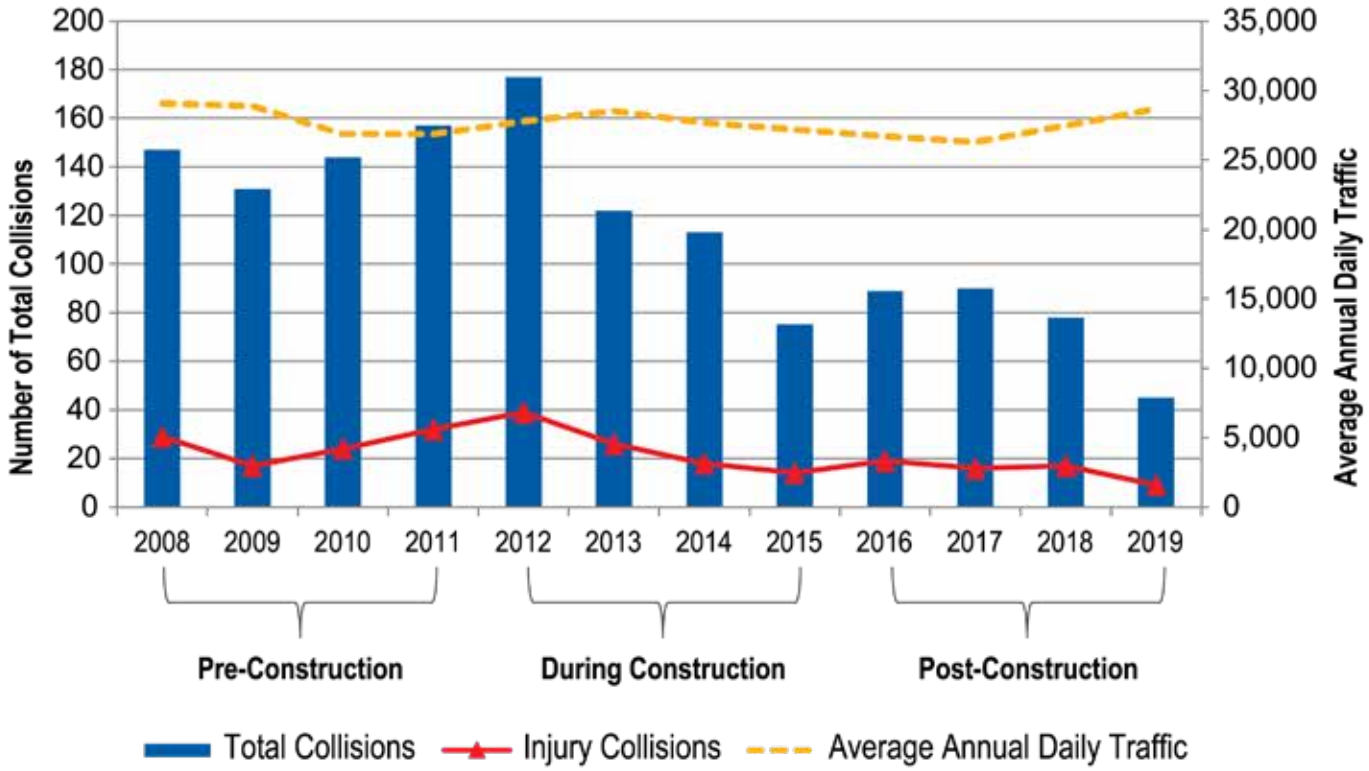


*Collision data is from YRP MVA reports
*Timelines of bus rapidway construction is from YRT website

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

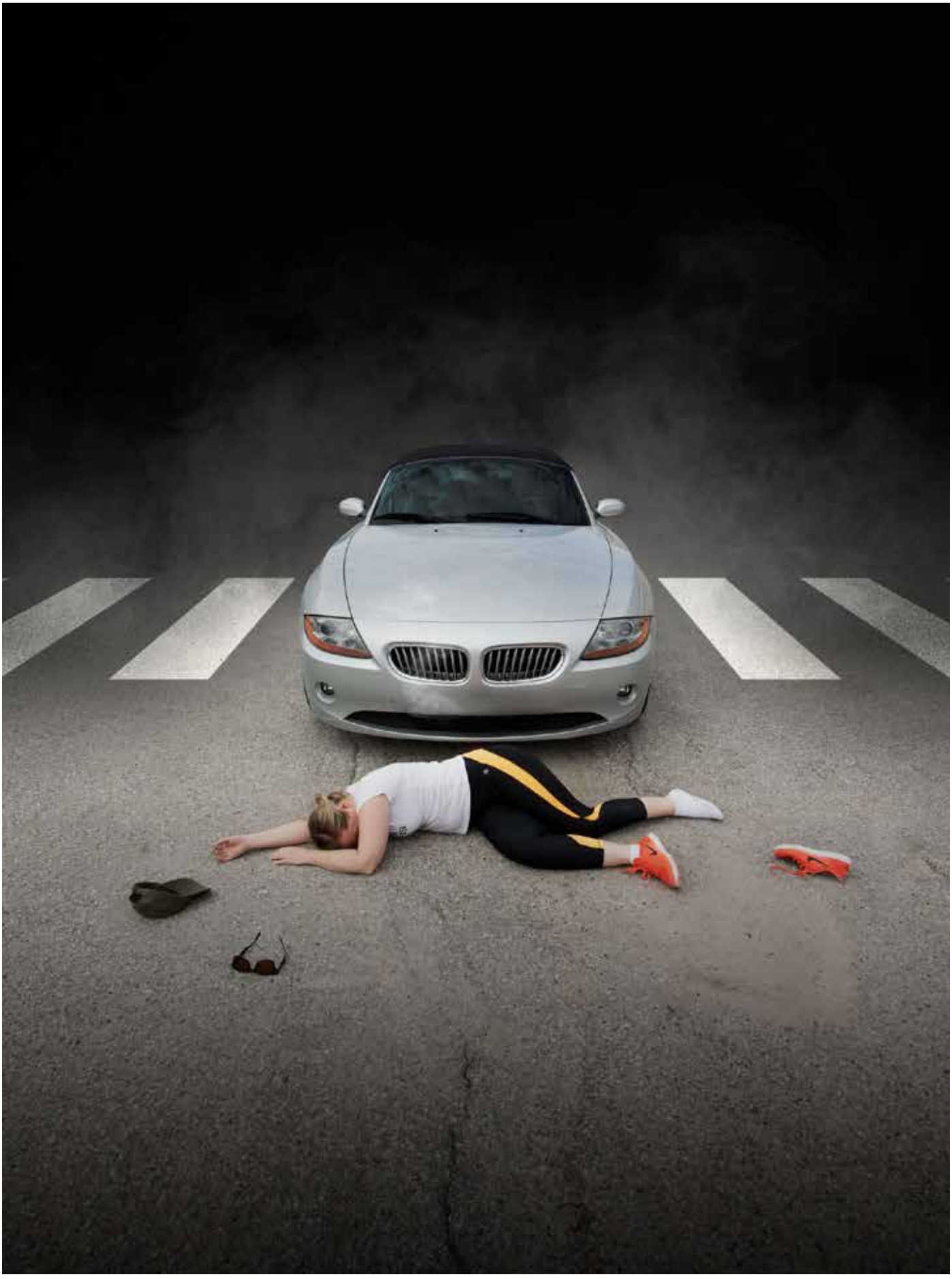
The number of collisions on the segment of Davis Drive featuring the rapidway decreased by 48% since completion of the rapidway. Number of injuries has also reduced by 40%. The average AADT of this corridor varied between 26,279 and 29,065 and there is no significant change between pre-, during and post-construction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

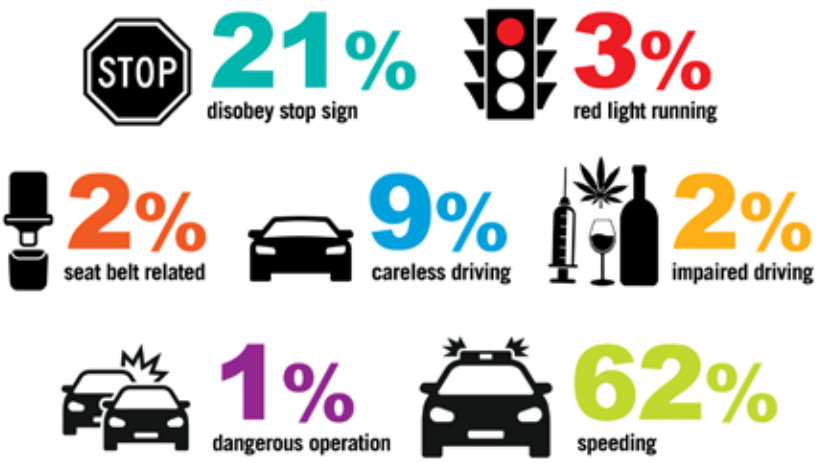
Recognizing that changing driver behaviour is crucial to improving road safety, York Region has been targeting top traffic offences with campaigns and programs. As per York Region Police Annual Statistical Reports from 2017 to 2019, the top traffic offence was speeding, accounting for over 62% of all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

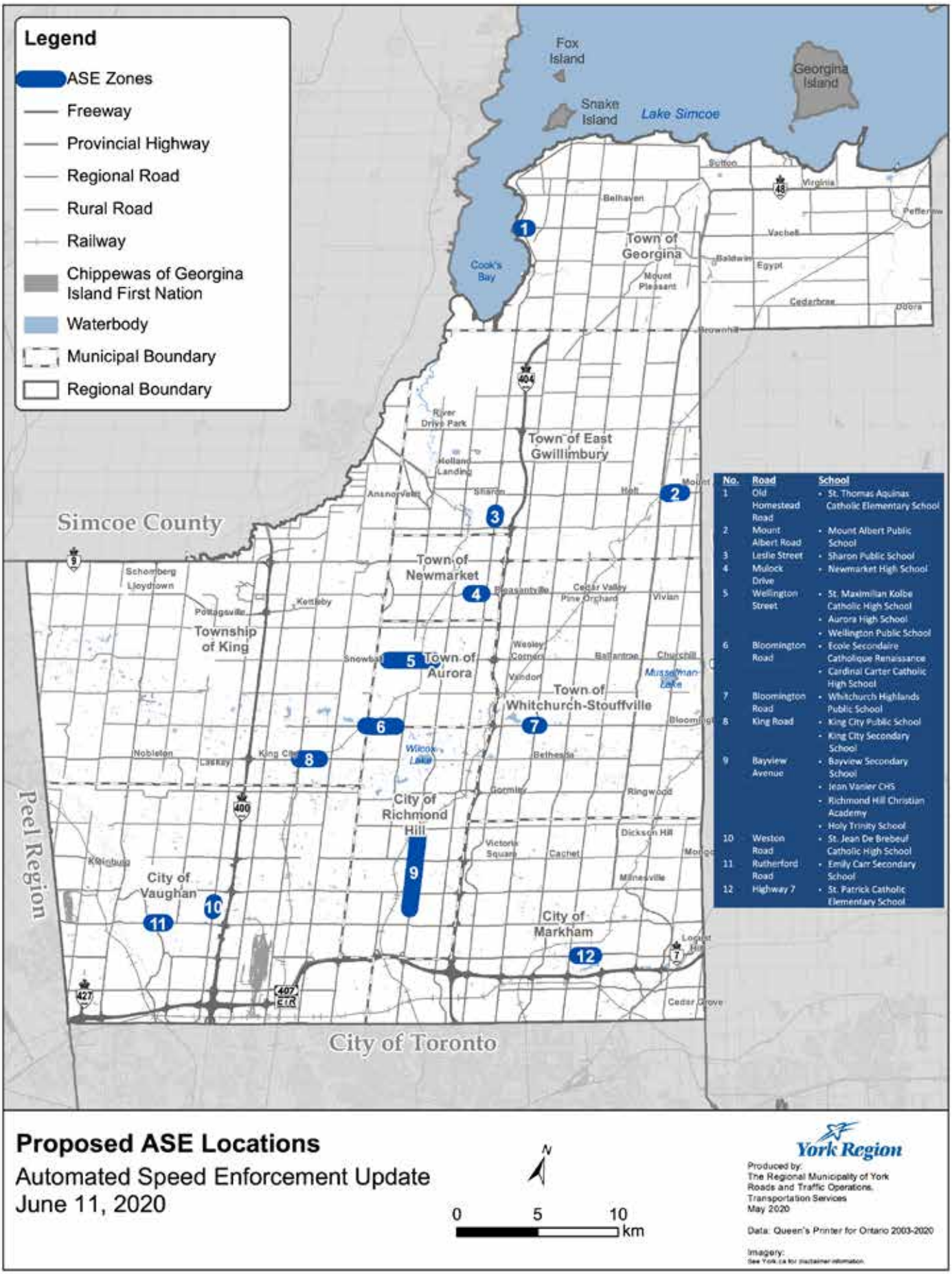
Speeding around schools puts the lives of the most vulnerable at risk. Throughout the year, York Region has implemented various measures to slow motorists down around schools. In 2012, Regional Council designated Community Safety Zones on Regional roads adjacent to all schools. The Community Safety Zone 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

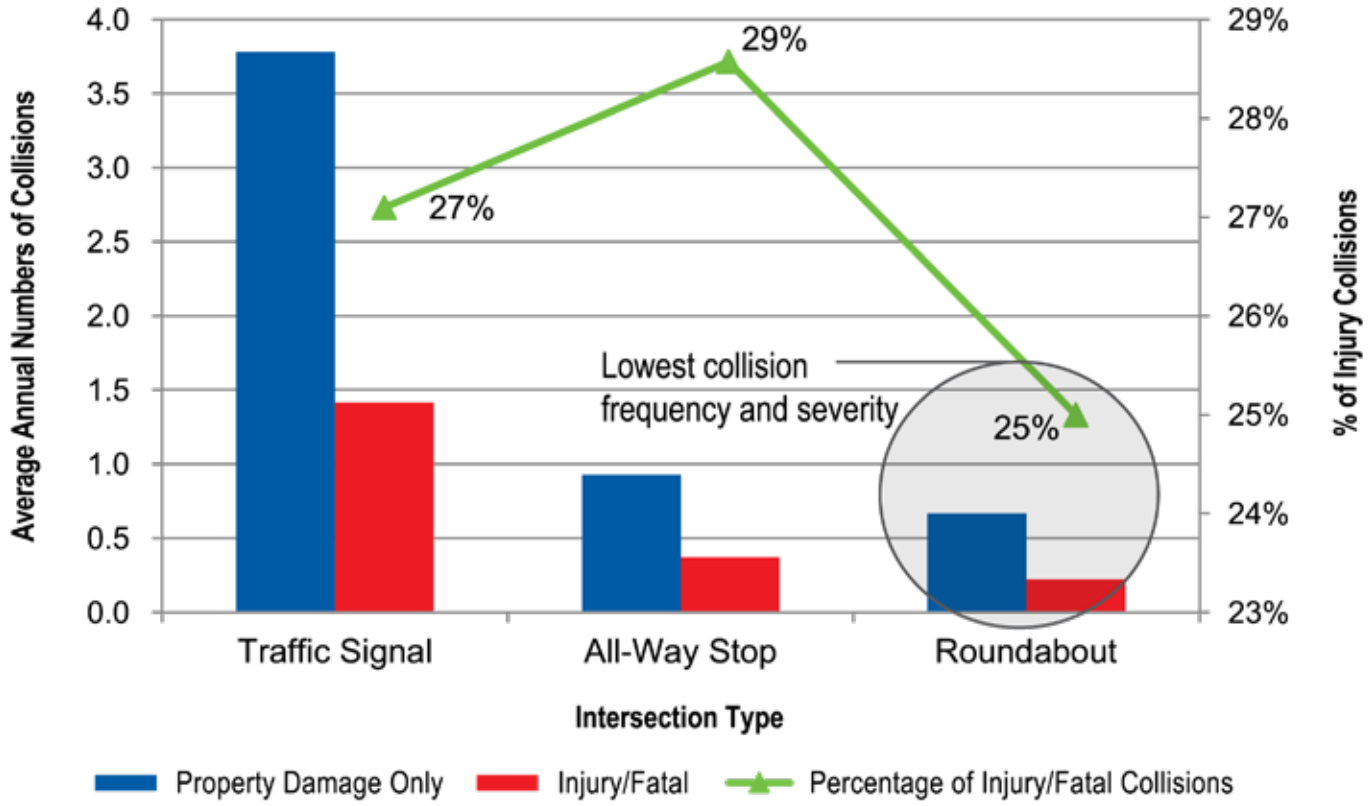
Superior safety performance and cost effectiveness

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.

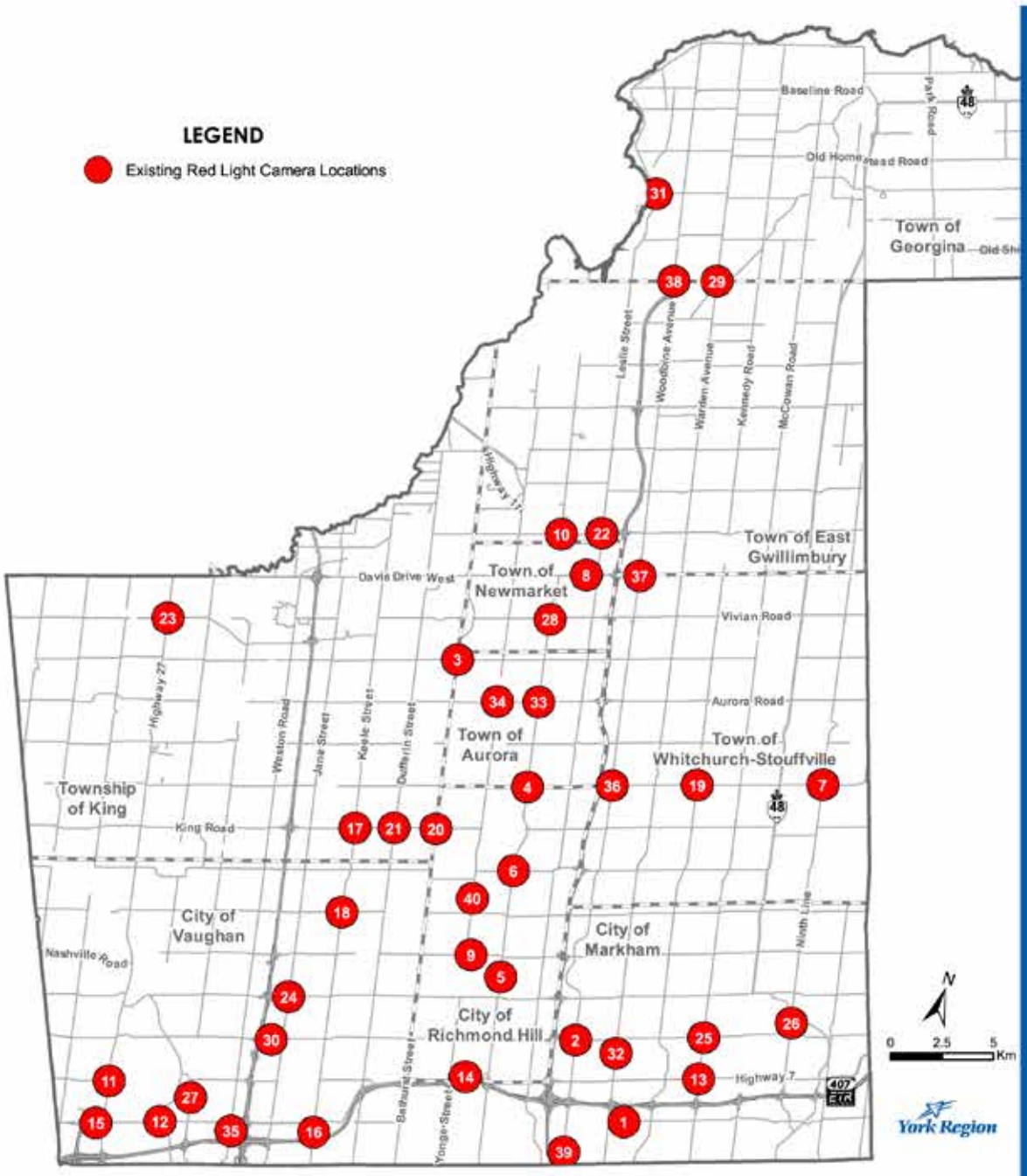
YORK REGION RIGHT-ANGLE COLLISION REDUCTION AT SIGNALIZED INTERSECTIONS

*Collision data is from YRP MVA reports

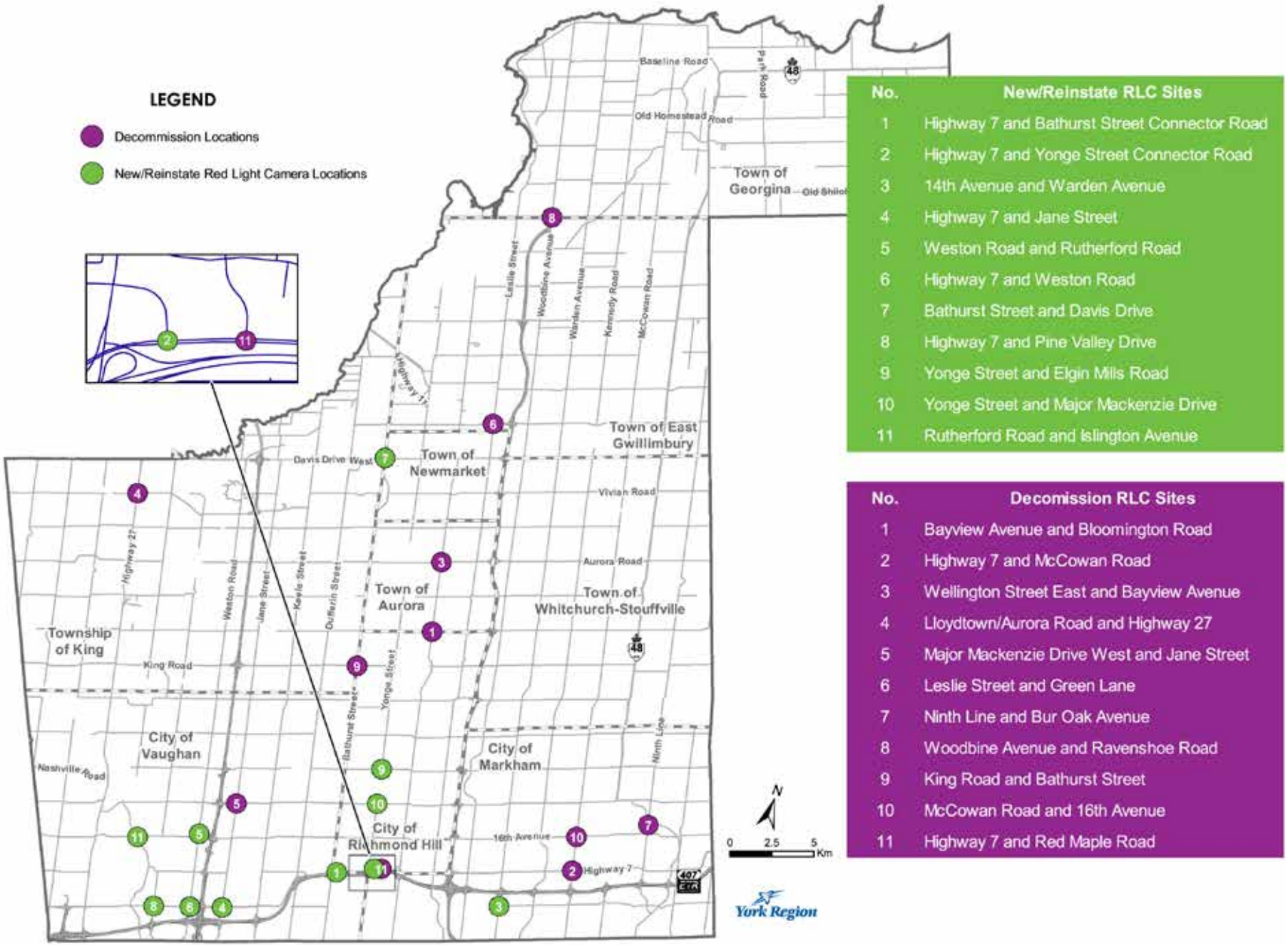
To determine which locations will most benefit from red light cameras, staff continue to monitor the performance of the program and will relocate some cameras to new locations to maximize program effectiveness. Red light camera locations are selected based on the following:

- 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



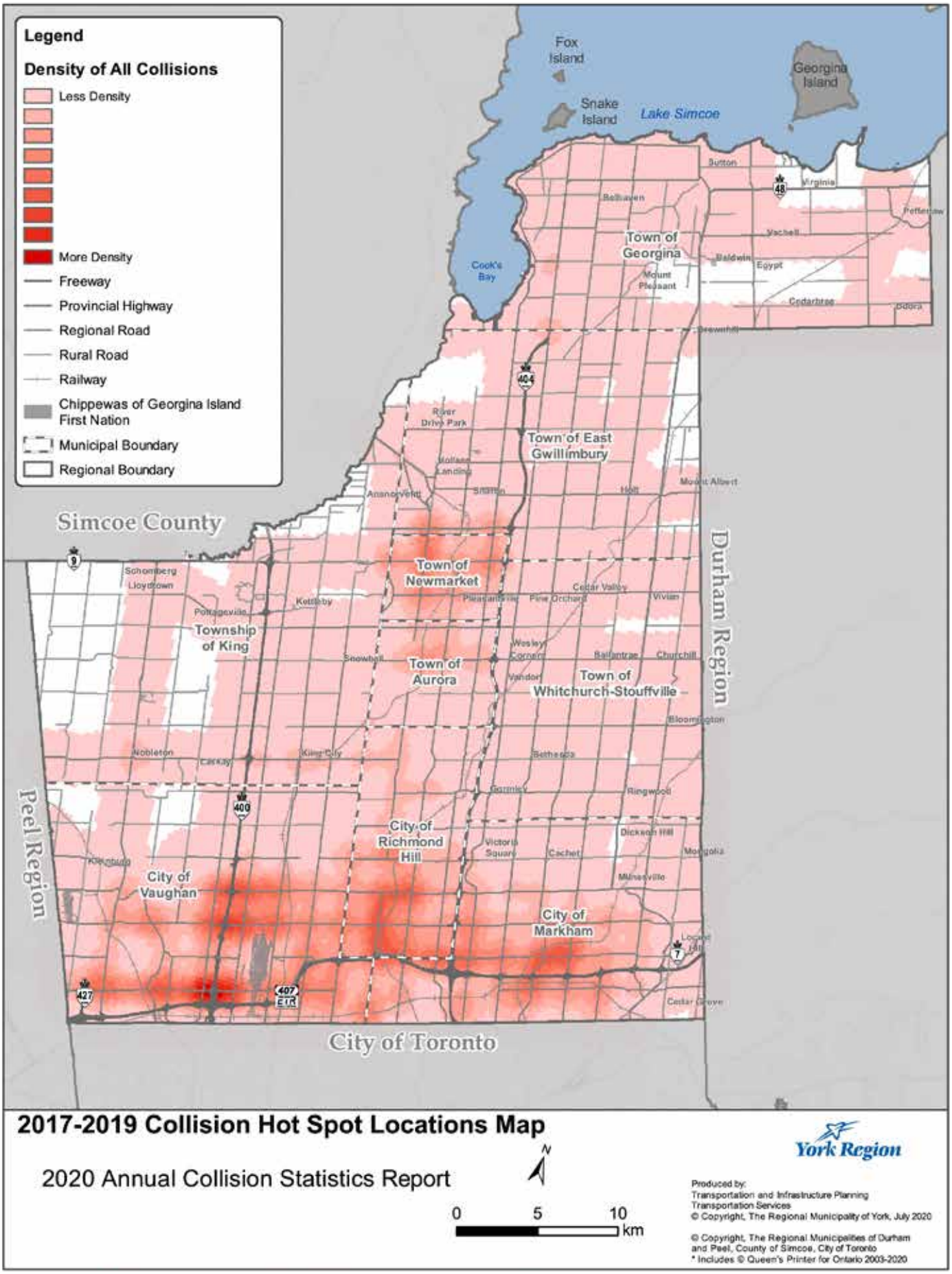
No.	New/Reinstate RLC Sites
1	Highway 7 and Bathurst Street Connector Road
2	Highway 7 and Yonge Street Connector Road
3	14th Avenue and Warden Avenue
4	Highway 7 and Jane Street
5	Weston Road and Rutherford Road
6	Highway 7 and Weston Road
7	Bathurst Street and Davis Drive
8	Highway 7 and Pine Valley 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
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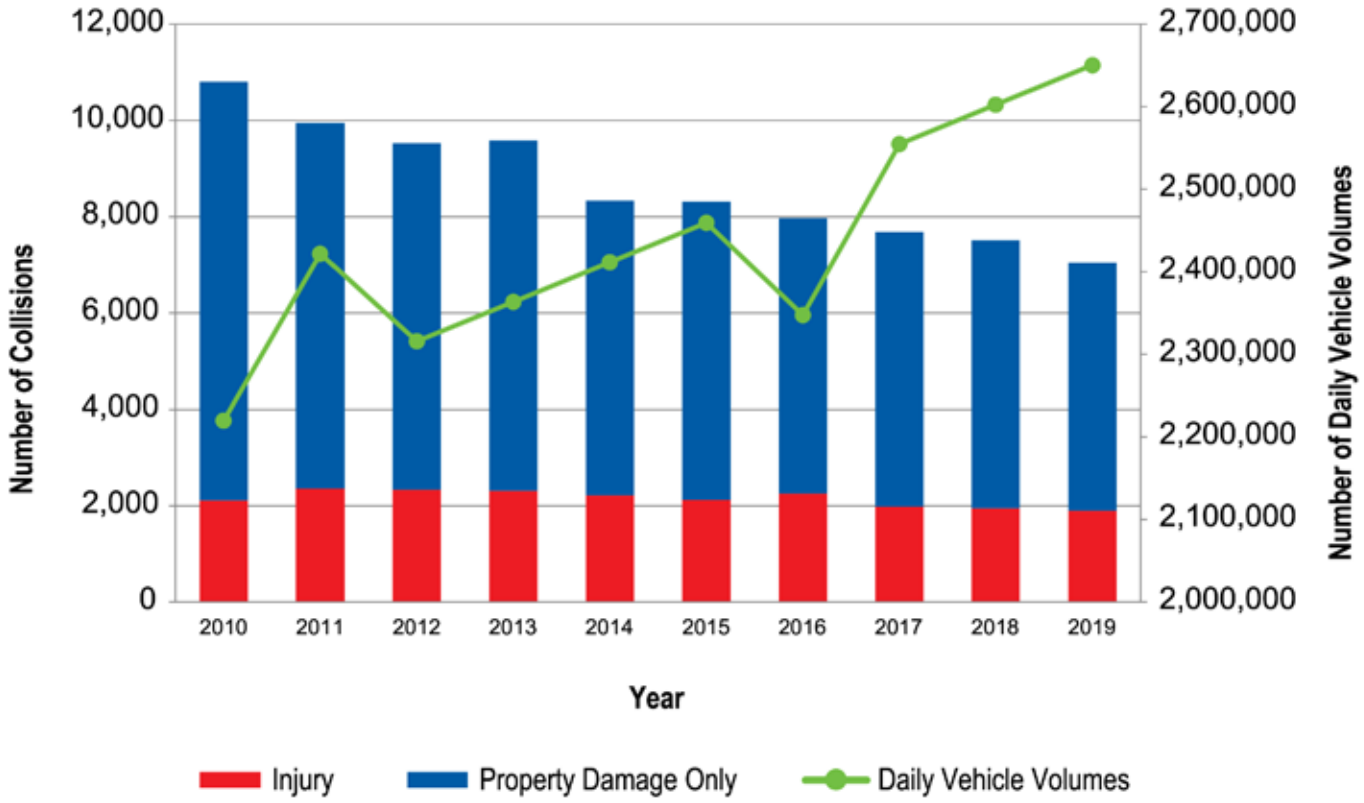
COLLISION FREQUENCY BETWEEN 2010 AND 2019



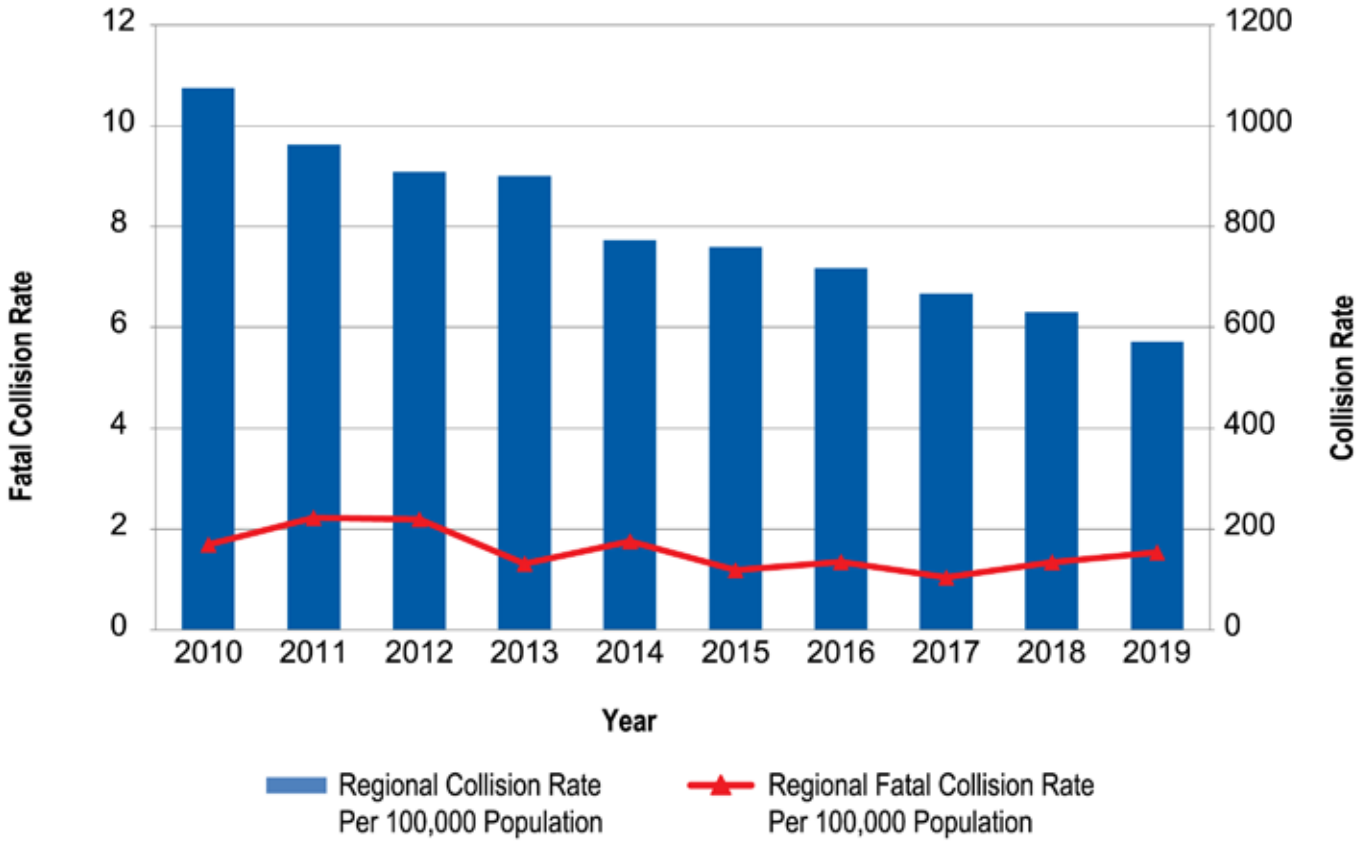
*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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

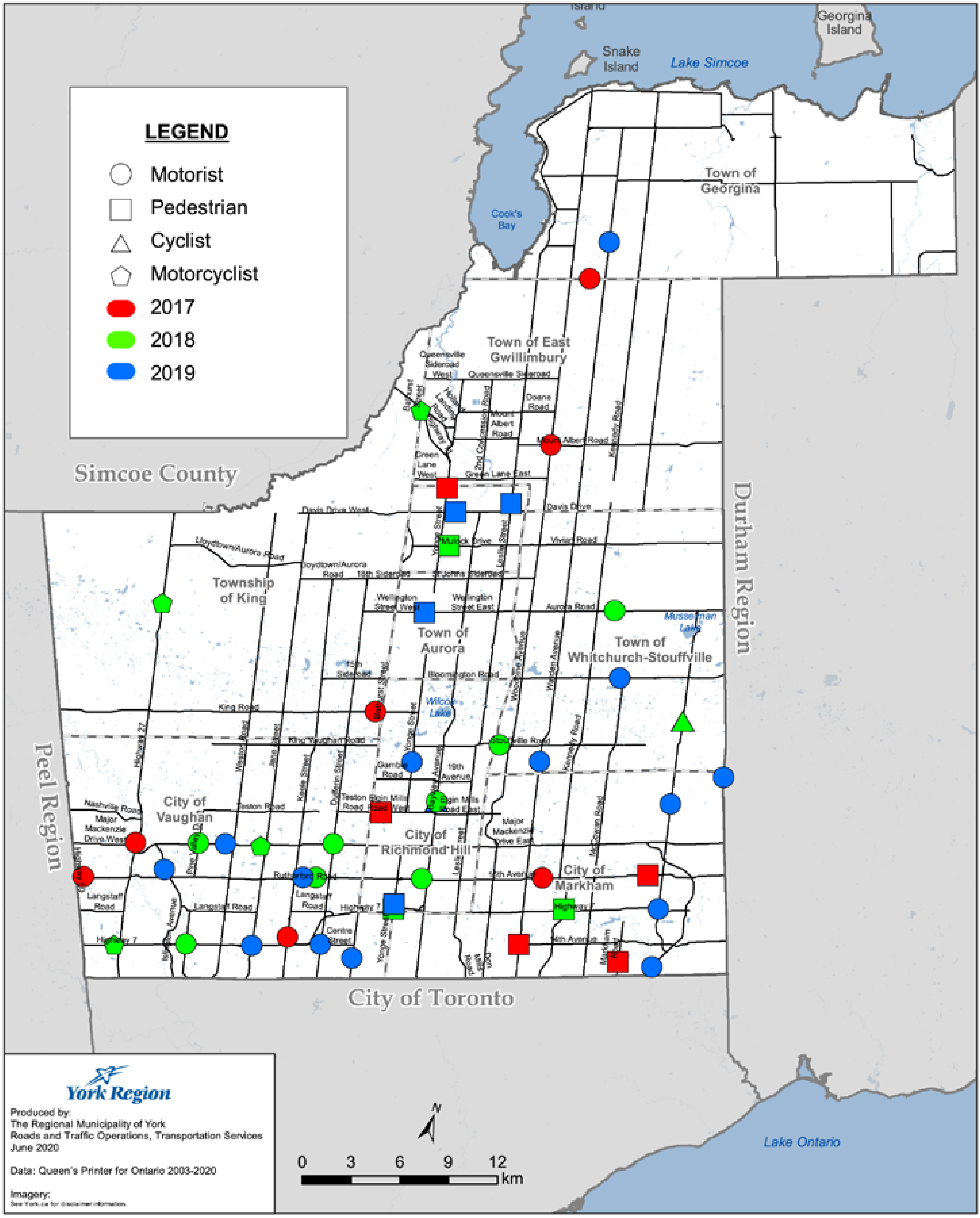


*Collision data is from YRP MVA reports
*Number of trips is based on TTS studies and the Region's PCS data

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

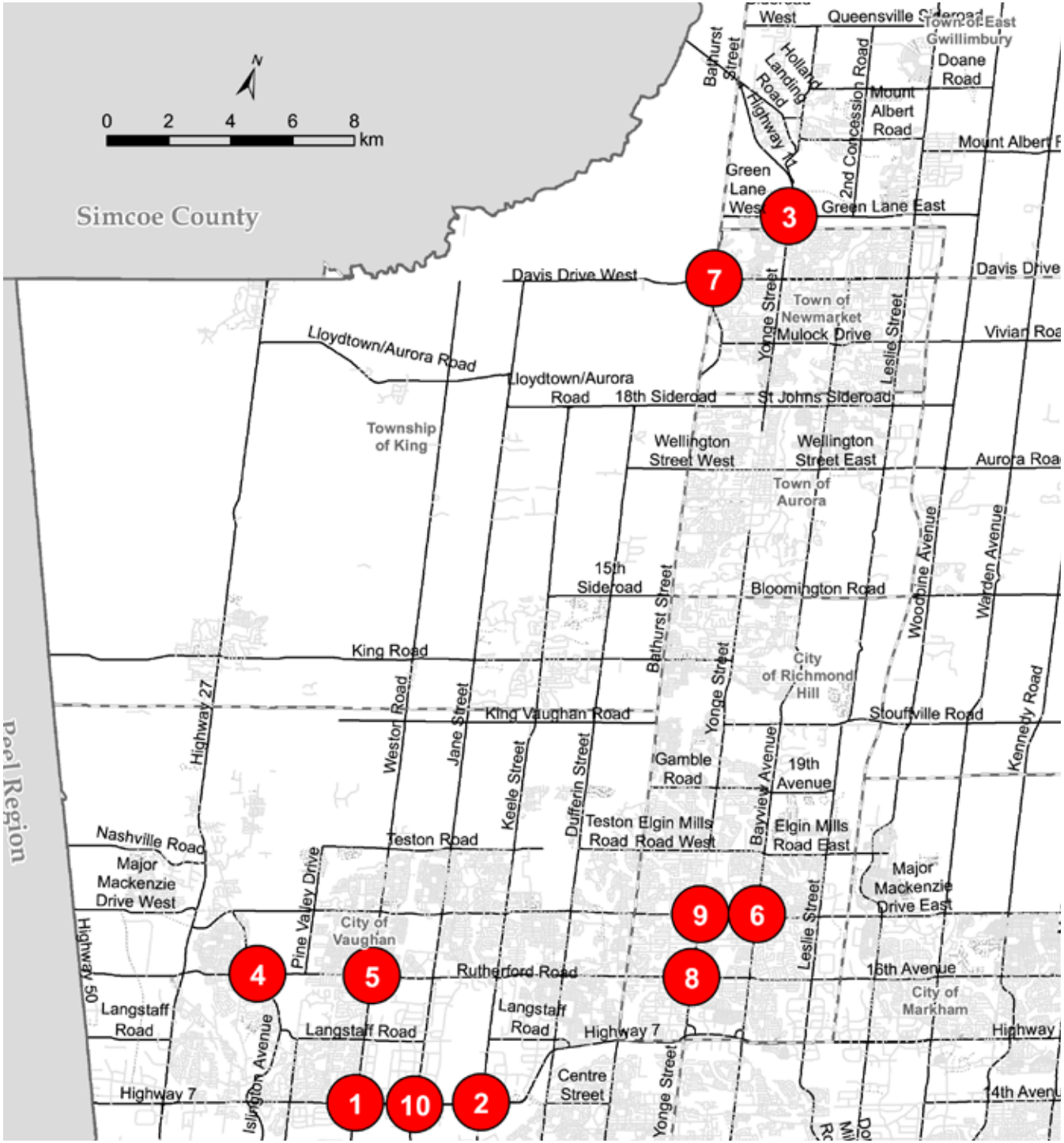
*Collision data is from YRP MVA reports

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.

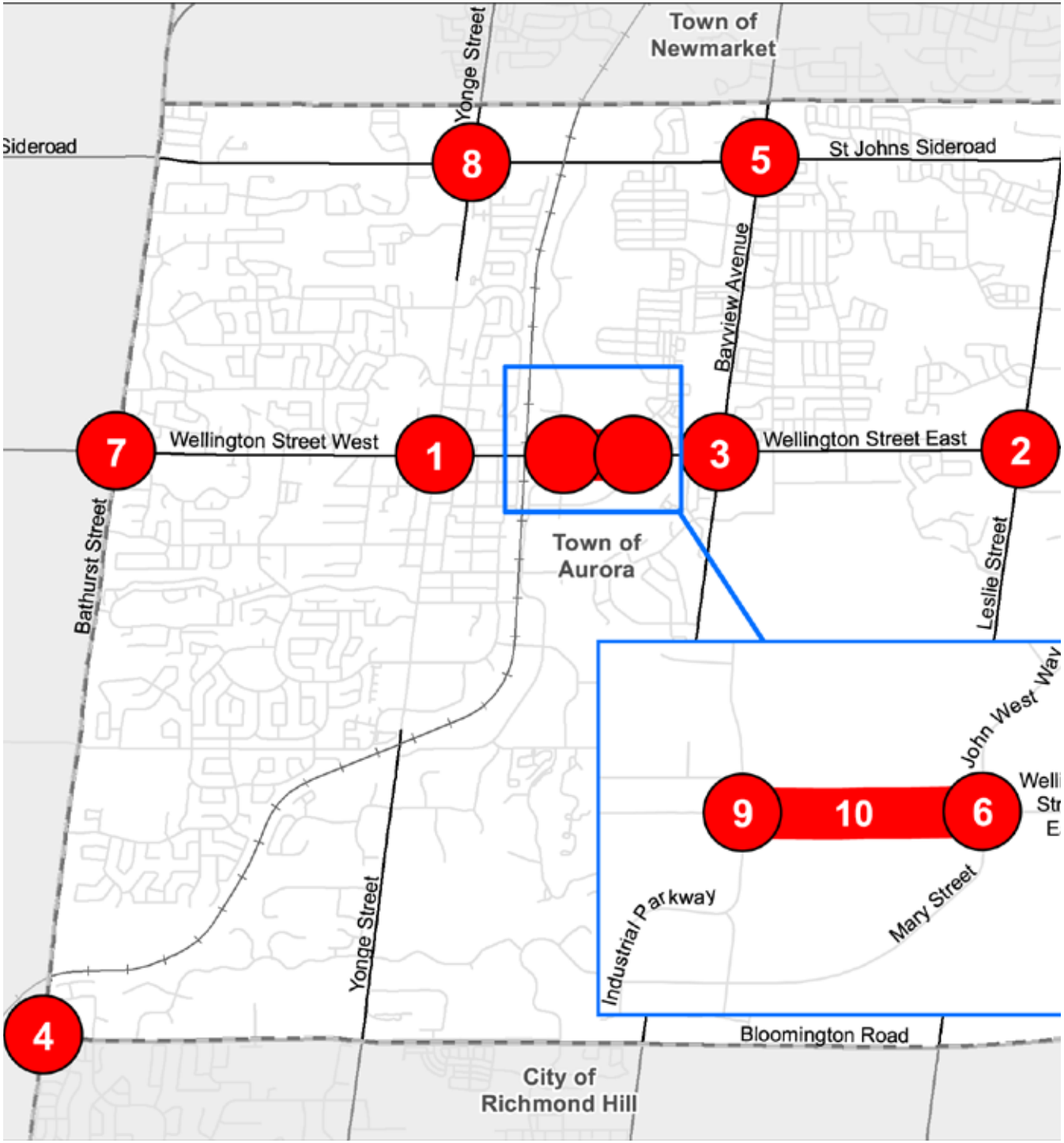
- York Region
- Town of Aurora
- Town of East Gwillimbury
- Town of Georgina
- Township of King
- City of Markham
- Town of Newmarket
- City of Richmond Hill
- City of Vaughan
- Town of Whitchurch-Stouffville



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)

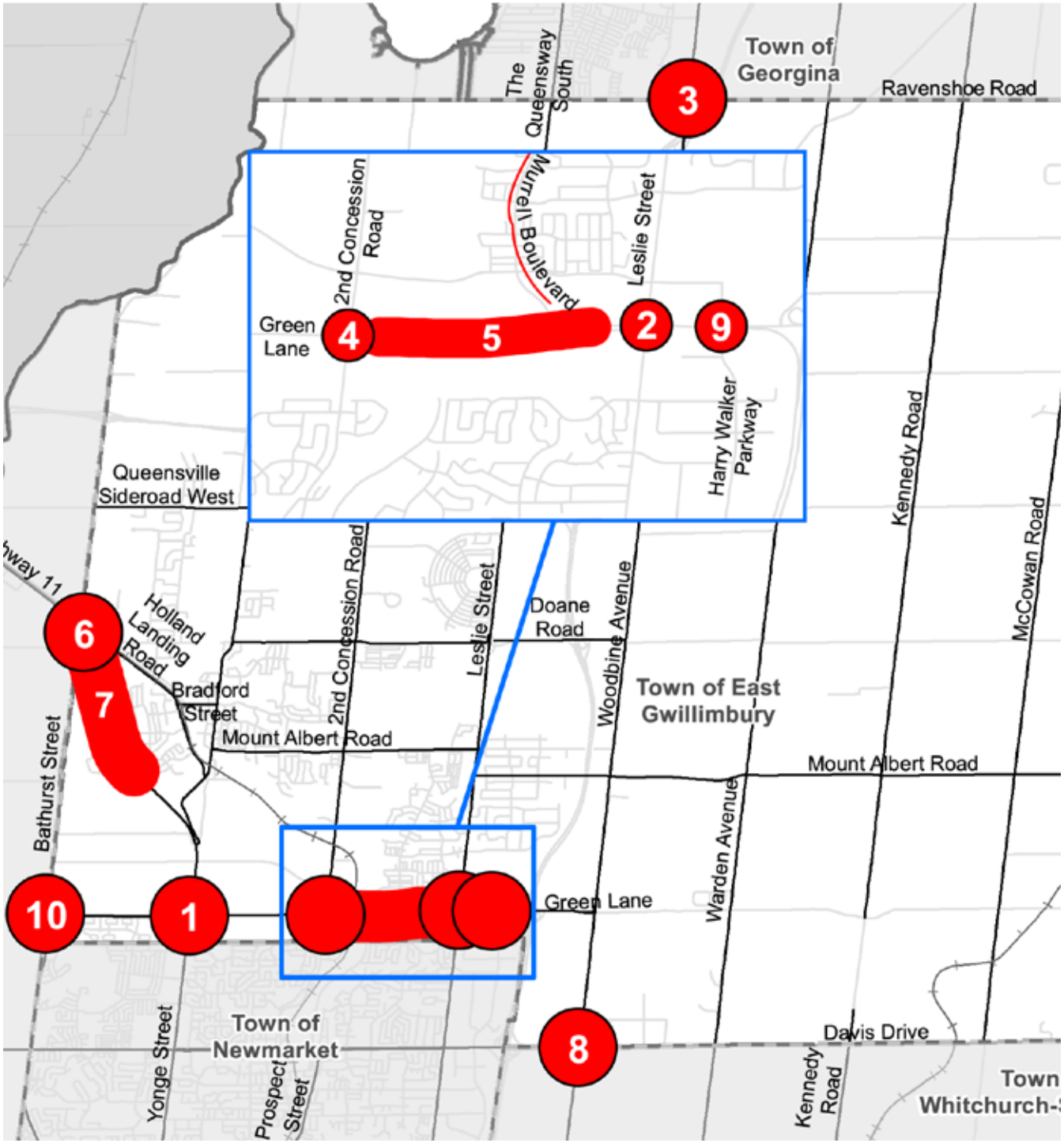
* Represents the number of collisions between 2017 and 2019



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)

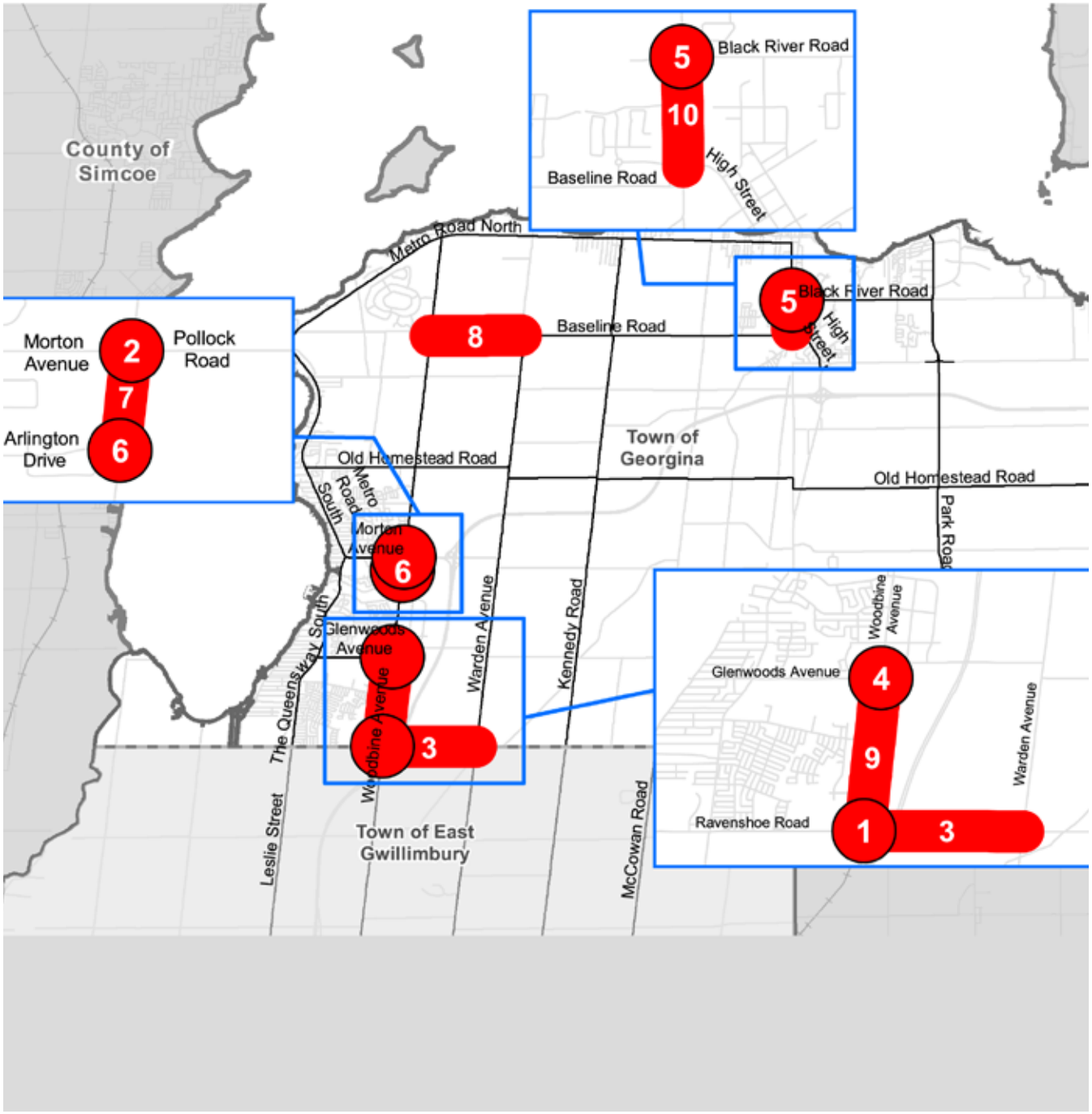
* Represents the number of collisions between 2017 and 2019



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)

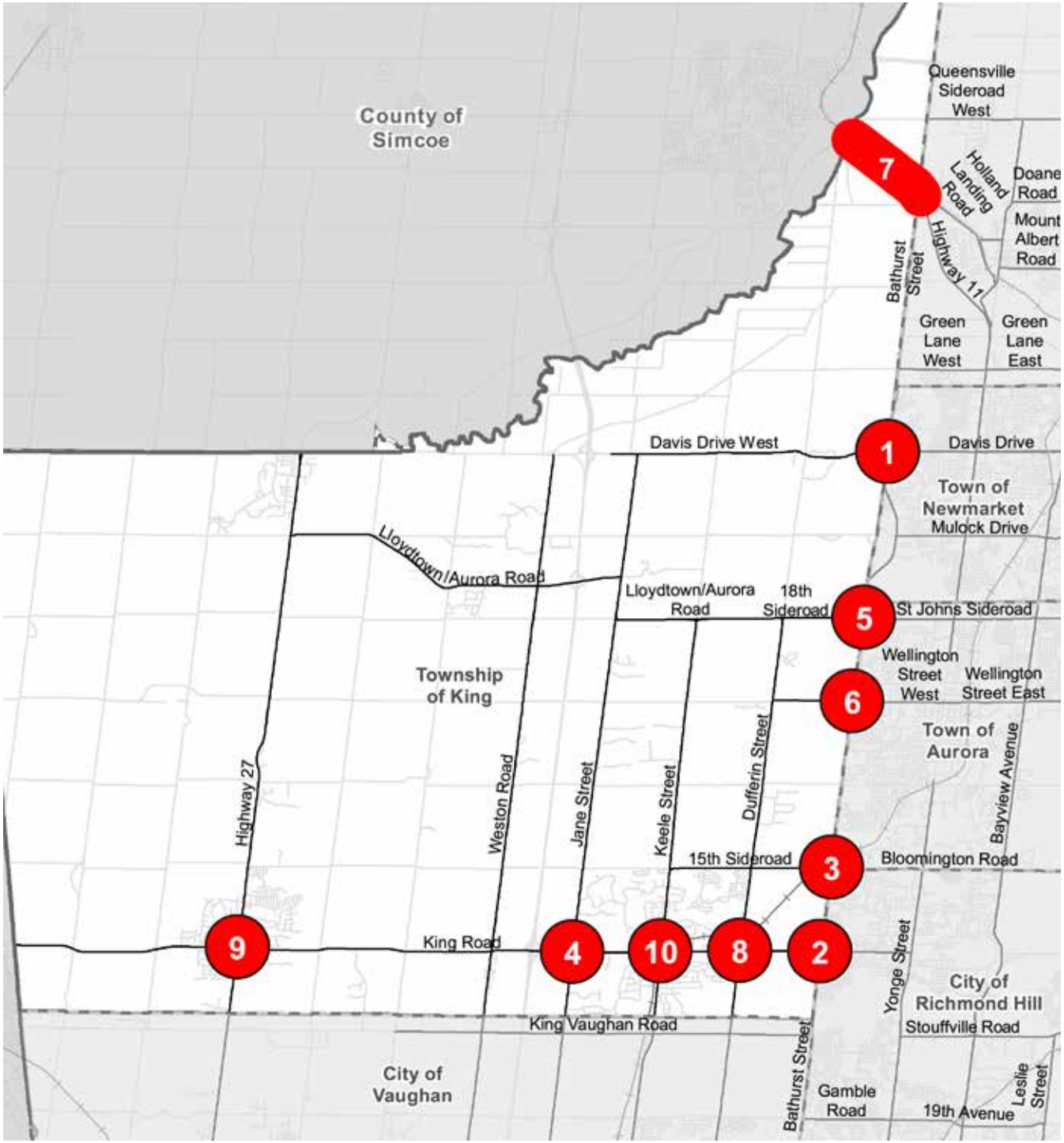
* Represents the number of collisions between 2017 and 2019



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)

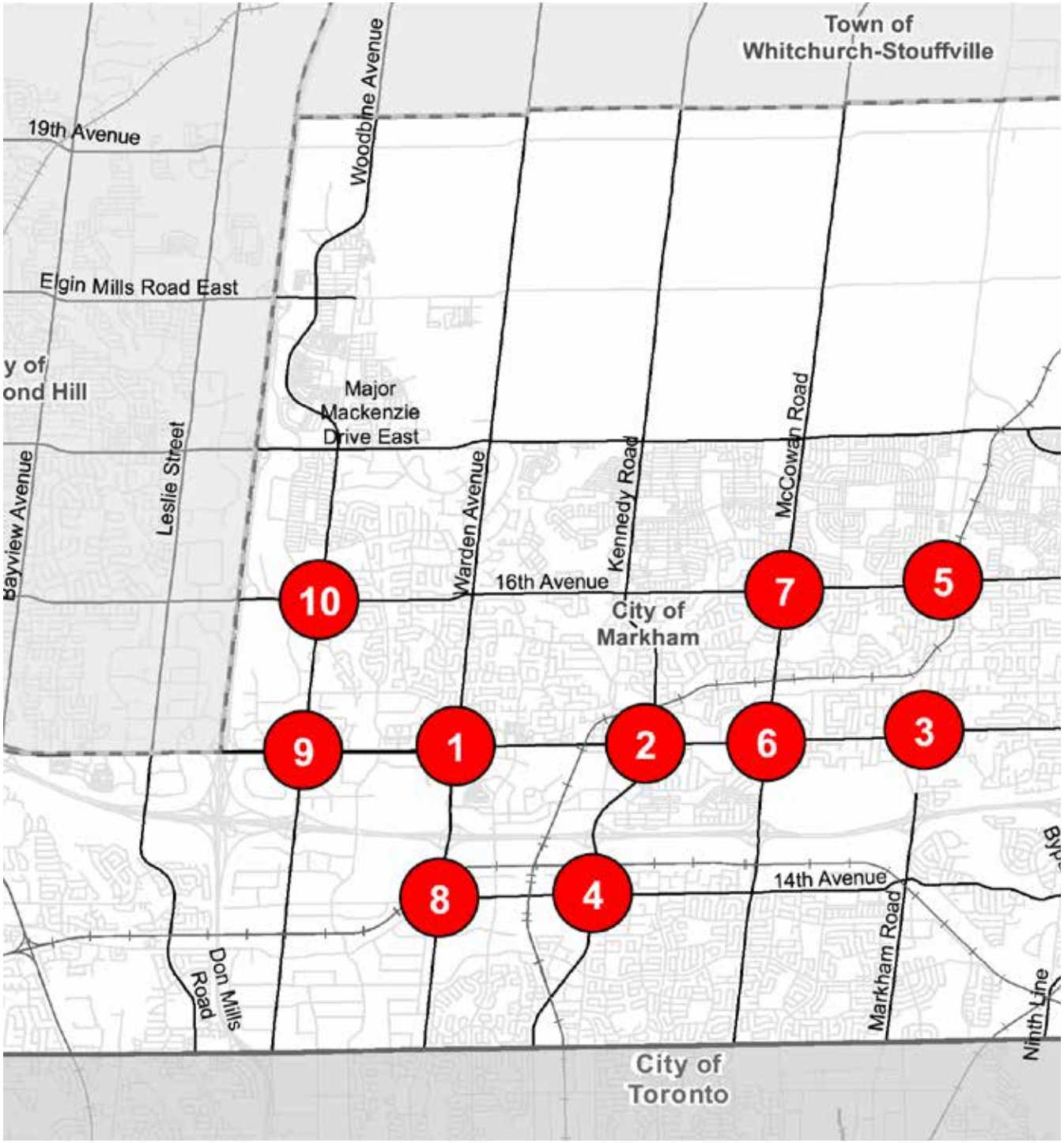
* Represents the number of collisions between 2017 and 2019



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)

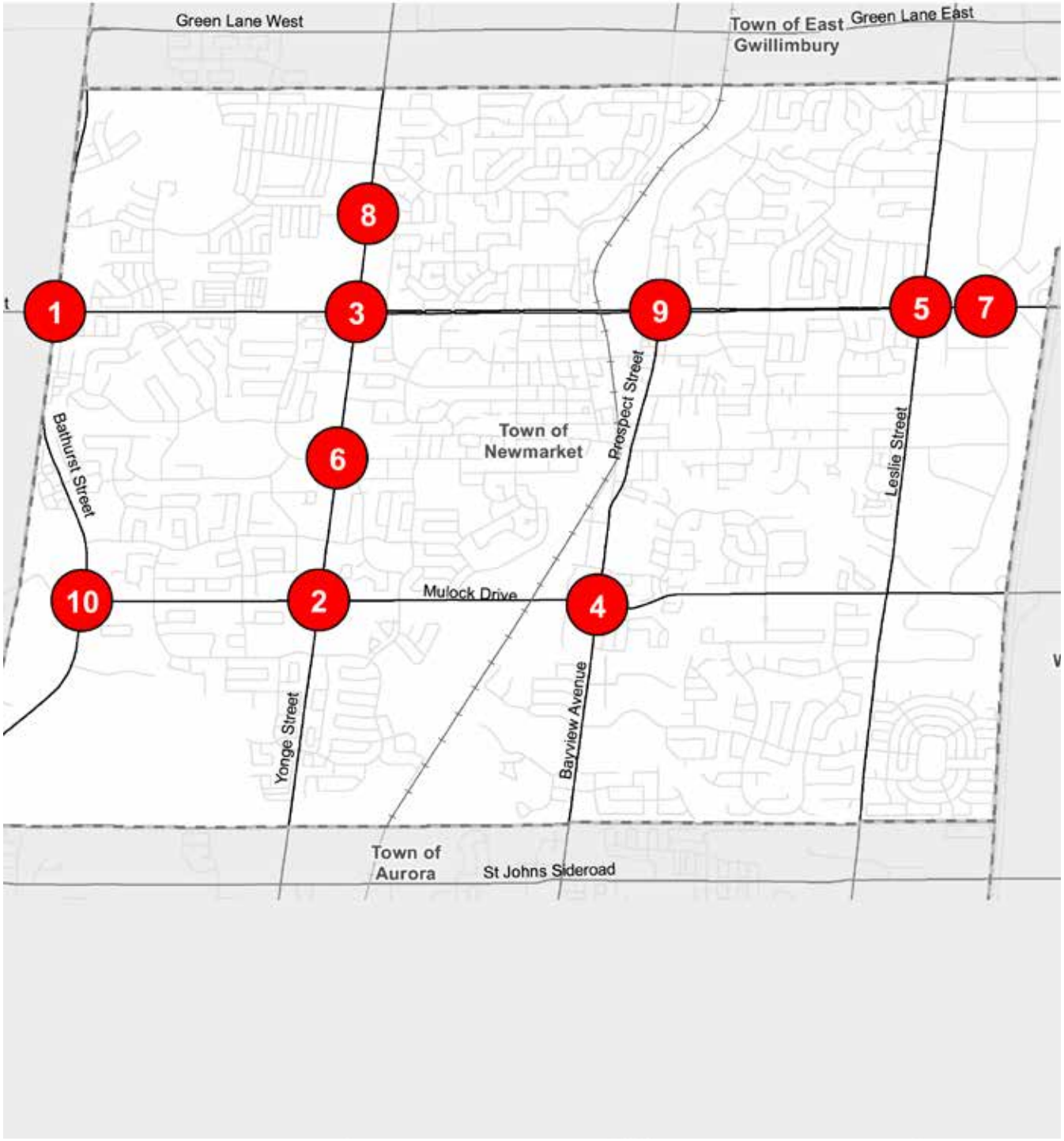
* Represents the number of collisions between 2017 and 2019



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)

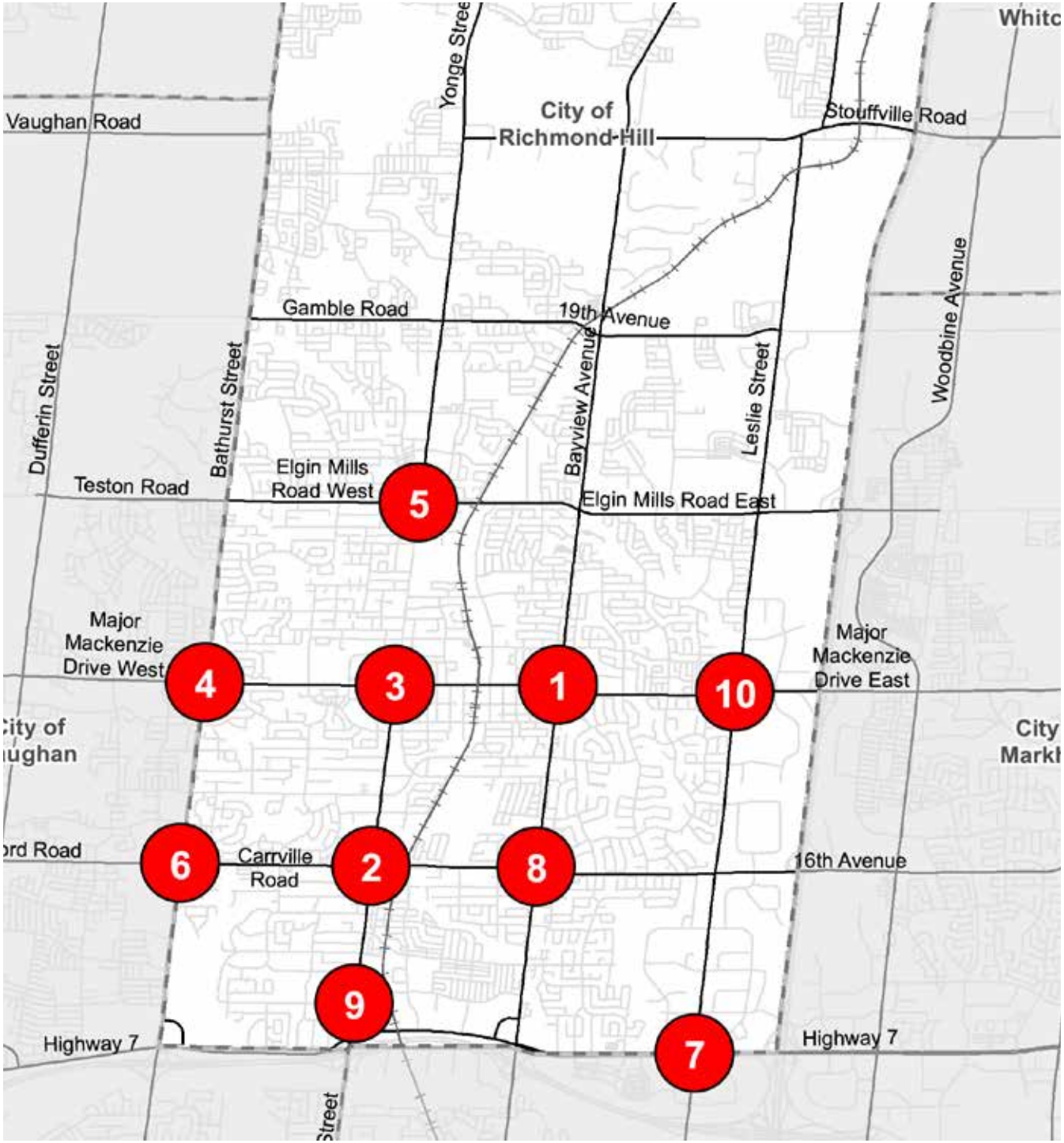
* Represents the number of collisions between 2017 and 2019



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

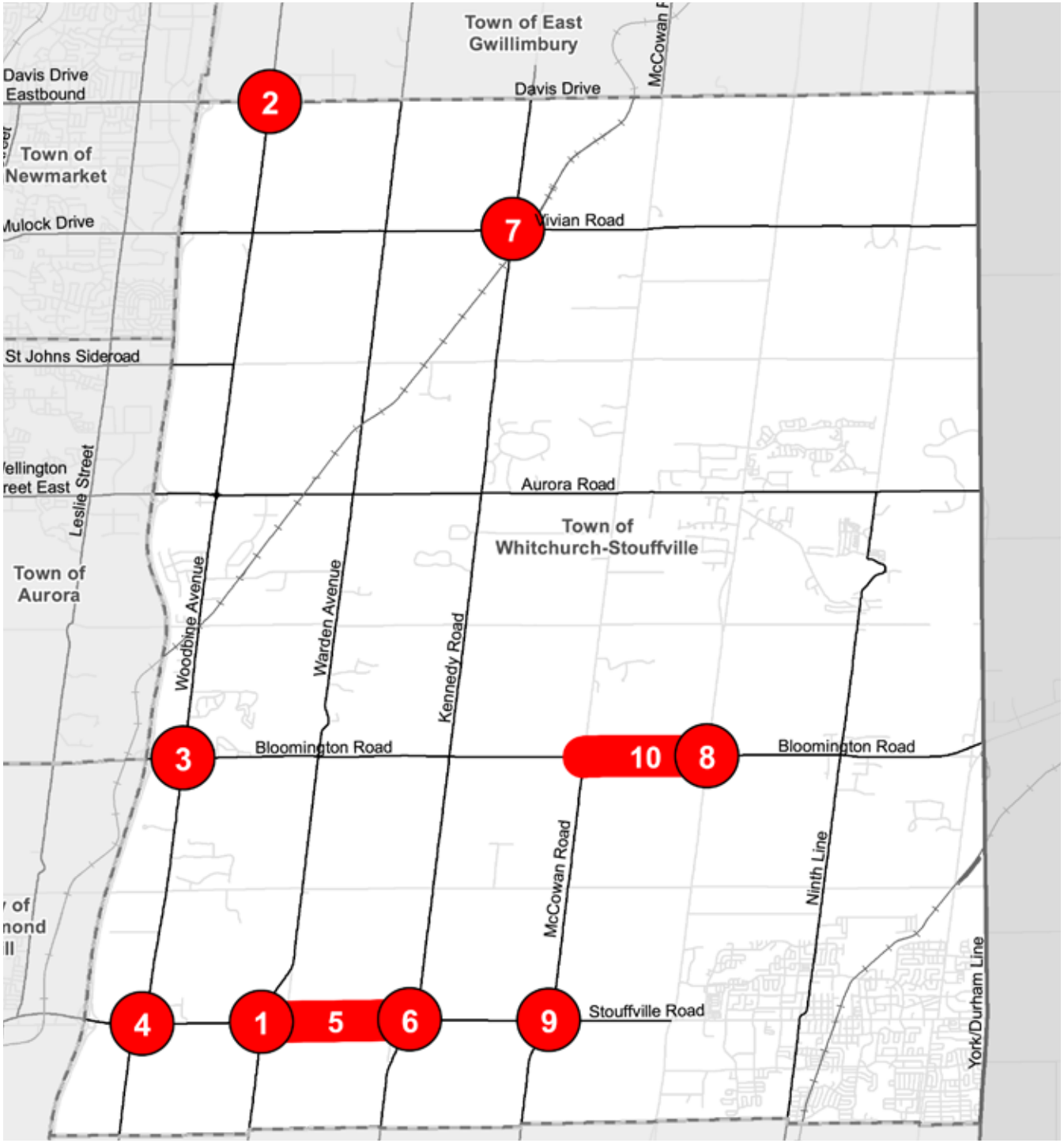
1. Major Mackenzie Drive East and Bayview Avenue (*80)
2. Yonge Street and Carrville Road/ 16th Avenue (*72)
3. Yonge Street and Major Mackenzie Drive West/Major Mackenzie Drive East (*72)
4. Major Mackenzie Drive West and Bathurst Street (*62)
5. Yonge Street and Elgin Mills Road West/ Elgin Mills Road 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

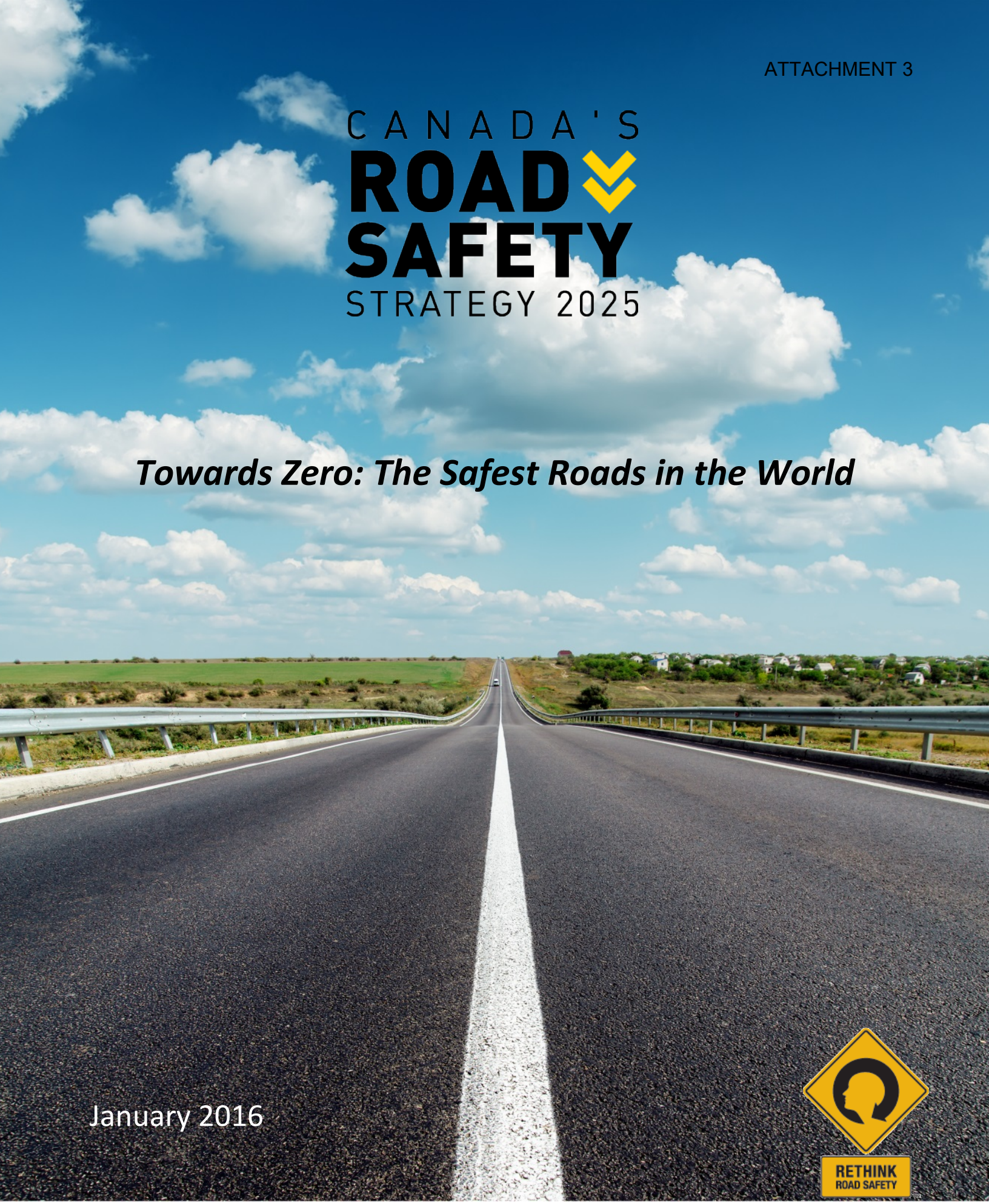
17250 Yonge Street, Newmarket, Ontario L3Y 6Z1
1-877-464-9675 ext. 75000
transportation@york.ca

York Region

ATTACHMENT 3

CANADA'S ROAD SAFETY STRATEGY 2025

Towards Zero: The Safest Roads in the World



January 2016

RETHINK ROAD SAFETY

rethinkroadsafety.ca

CCMTA | CCATM
Canadian Council of Motor Transport Administrators
Conseil canadien des administrateurs en transport motorisé

TABLE OF CONTENTS

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1 EXECUTIVE SUMMARY

Road Safety Strategy (RSS) 2025 is similar to its predecessors in a number of ways. It retains the long-term vision of *Making Canada's roads the safest in the world* but combines this with the vision of *Towards Zero*. As well, a number of principles key to the strategy's success have been aligned with international best practices in road safety. These principles include adopting the Safe System Approach, having a 10-year strategy and providing an inventory of proven and promising best practices to address key risk groups and contributing factors. RSS 2025 continues with a flexible approach to allow for jurisdictions to implement road safety programs that meet their own specific needs.

The RSS 2025 strategy is intended to encourage road safety stakeholders from all levels of government as well as private sector and non-governmental stakeholders to collaborate in making Canada's roads the safest in the world and unite efforts to reach our long-term vision of zero fatalities and serious injuries on our roads.

2 INTRODUCTION

Each year in Canada, about 2,000 people are killed and 165,000 are injured, (10,000 seriously), while using our road transportation system and costs society $37 billion (2.2% of Canadian GDP) annually (1). Addressing road crash casualties is a challenge that each country in the world is facing. Making improvements to our road system of users, infrastructure and vehicles can reduce the number of Canadians that will die or be injured on our roads.

Canada is one of the first countries in the world to adopt a national road safety strategy and to date, three national strategies have been implemented. Road Safety Vision (RSV) 2001, was Canada's inaugural national road safety strategy adopted by the Council of Ministers Responsible for Transportation and Highway Safety in 1996. The progress made during RSV 2001 can be measured by the 10% decrease in fatalities and 16% decline in serious injuries despite steady increases in the road user population (2).

In 2001, the second strategy, Road Safety Vision (RSV) 2010 was approved by the Council of Ministers. The vision and strategic objectives of this second road safety strategy were based on RSV 2001 and a decision was made to include an overall national target and sub-targets. The quantitative targets were intended to provide road safety stakeholders with key road safety indicators, against which the impact of intervention efforts could be measured. The national target called for a 30% decrease in the average number of road users killed and seriously injured during the 2008-2010 period compared to 1996-2001 baseline figures. The proposed reductions in sub-targets ranged from 20% to 40% and addressed the specific areas of occupant protection, impaired driving, commercial vehicle safety, vulnerable road users, speed and intersection safety, rural roadways, young drivers and high-risk drivers. It was expected that the achievement of these sub-targets would further reduce Canada's road fatality total to fewer than 2,100 by 2010. Although the 30% reduction in fatalities and serious injuries was not achieved by 2010, it was achieved soon after in 2011 (3).

Road Safety Strategy (RSS) 2015 was launched in 2011 as Canada's third national strategy and built upon the previous road safety vision and strategic objectives. RSS 2015 approached road safety in a different way introducing the safer systems concept as a holistic way to tackle road user, vehicle and road infrastructure issues and moved away from having established numerical targets.

A significant shift in this strategy was the introduction of a framework of best practices, consisting of a multi-cell matrix of key risk groups and contributing factors, along with an inventory of road safety initiatives that jurisdictions could adopt to address their specific jurisdictional priorities. Canadian jurisdictions were encouraged to develop their own road safety plans and to adopt interventions from the inventory to reduce fatalities and serious injuries, to meet their individual needs depending on their suitability, feasibility and acceptability.

In 2013, the number of fatalities and serious injuries on Canada's roads both decreased by 21% when compared to the 2006-2010 baseline period. When vehicle kilometres travelled are factored in, the reduction in fatality and serious injury rates are similar. According to the United Nations' World Health Organization, "the best-performing countries have road fatality rates of around 5-7 killed per 100,000 population" (4). In 2012, Canada had a rate of 6.0 fatalities per 100,000 population (5). In 2012, Canada's ranking among Organization for Economic Cooperation and Development (OECD) member countries was 13th based on fatalities per billion vehicle kilometres traveled (6).

Canada continues to see progress and the downward trends in fatalities and serious injuries during the 2011 to 2013 period are promising but there is a need to remain diligent and strive to remain focussed on making greater gains in improving Canada's level of road safety.

3 ROAD SAFETY STRATEGY 2025

Road Safety Strategy (RSS) 2025 is Canada's fourth national road safety strategy. The updated strategy is guided by the principles outlined in the report entitled*: Towards Zero: Ambitious Road Safety Targets and the Safe System Approach.* (7) Many of the Organization for Economic Cooperation and Development (OECD) countries with leading road safety records have modeled their road safety performance on this multidisciplinary approach and it has come to be recognized as an international best practice in road safety.

The purpose of the strategy is to continue our national effort in addressing important road safety issues in Canada by providing a framework for governments and other road safety stakeholders to establish their own road safety plans, objectives, and interventions to eliminate road crashes which result in serious injuries or fatalities.

3.1 The Vision

The vision for Road Safety Strategy 2025 is "*Towards Zero: Having the safest roads in the world*". This towards zero approach is coupled with Canada's long standing goal of "Having the safest roads in the world". It is based on an international best practice first adopted by Sweden in 1997, where Vision Zero was approved by their parliament and has permeated their approach to transportation ever since. This highly effective and innovative approach by Sweden has resulted in one of the lowest traffic-related fatality rates world-wide and its proven track record has resulted in other countries and municipal governments initiating similar approaches.

The Towards Zero vision is not a target to be achieved by a certain date but rather it is aspirational in nature. This vision will continue beyond the RSS 2025's timelines and highlights the desire for the best road safety outcomes for all Canadian jurisdictions, provincial, territorial or municipal.

3.2 Strategic Objectives

The following strategic objectives form the cornerstone of RSS 2025 and focus on safer road users, road infrastructure and vehicles:

- Raising public awareness and commitment to road safety,
- Improving communication, cooperation and collaboration among stakeholders,
- Enhancing legislation and enforcement,
- Improving road safety information in support of research and evaluation,
- Improving the safety of vehicles and road infrastructure, and
- Leveraging technology and innovation.

3.3 Principles

The development of the strategy is based on the following key guiding principles:

Adopt a safe system approach

The Safe System Approach (SSA) is a means by which many countries leading in road safety are achieving their visions of eliminating deaths and serious injuries. SSA has the following principles:

- Ethics: human life and health are paramount and take priority over mobility and other objectives of the road traffic system (i.e., life and health can never be exchanged for other benefits within the society);
- Responsibility: providers and regulators of the road traffic system share responsibility with users;
- Safety: road traffic systems should take account of human fallibility and minimize both the opportunities for errors and the harm done when they occur; and
- Mechanisms for change: providers and regulators must do their utmost to guarantee the safety of all citizens; they must cooperate with road users; and all three must be ready to change to achieve safety.

It is recognized that Canadian jurisdictions will implement the SSA in a manner that is appropriate to their environment.

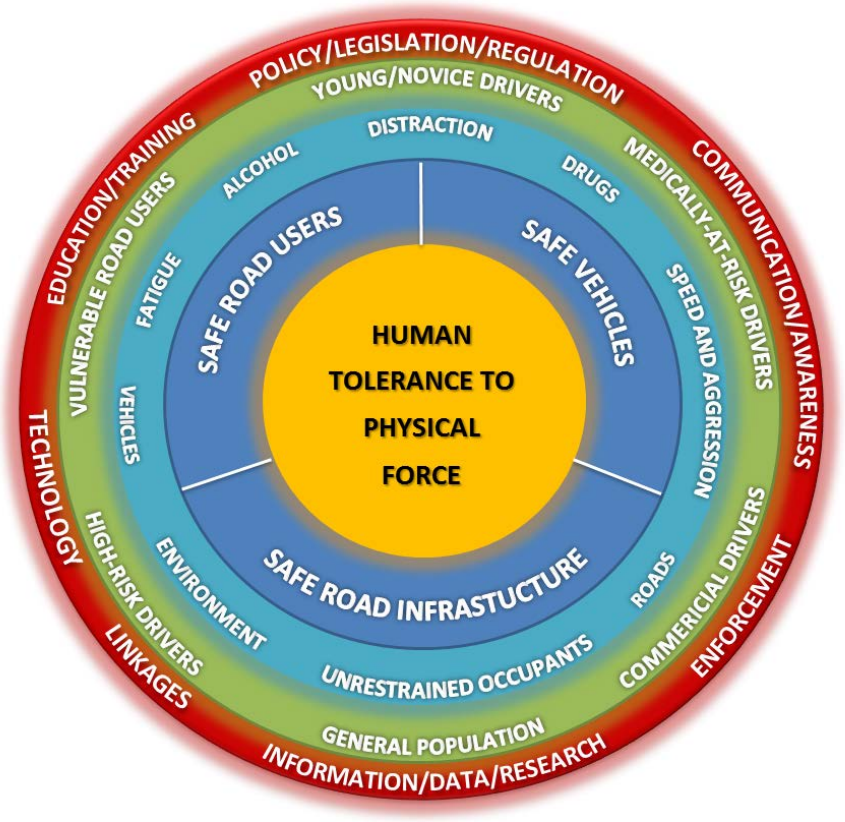

Figure 1.1 .Source: This diagram is Canadian version adapted from the 2009 WHO report on the Global Status on Road Safety which was in turn modified from work commissioned by the Government of Western Australia.

Downward trend towards zero

RSS 2025 seeks to achieve directional downward trends in the rate-based number of fatalities and serious injuries rather than in the actual numbers of fatalities and serious injuries. These trends will be measured at the national level annually using multi-year rolling averages to smooth out short-term fluctuations since year-over-year reductions may not be practical or attainable.

Two rate-based indicators commonly used internationally are fatalities and serious injuries per 100,000 population (World Health Organization, 2014) and fatalities and serious injuries per billion kilometres travelled (Organization for Economic Cooperation and Development and International Transport Forum, 2012). In Canada, the rate-based indicators will be:

1. fatalities and serious injuries per billion kilometres travelled, and
2. fatalities and serious injuries per one hundred thousand population.

Although the strategy does not include hard quantitative targets, it does not preclude individual jurisdictions or organizations from establishing their own targets when there is government, law enforcement and/or road safety stakeholder support for doing so.

Best practices

It is important that Canadian jurisdictions have the ability to adopt road safety initiatives without having to research best practices individually. As such, core to the strategy is an inventory of best practices interventions that have been used by the leading road safety countries and found to be effective in reducing fatalities and serious injuries. In order to support national consistency and allow jurisdictions to reference the best practices for their own road safety plans, the CCMTA has developed an on-line inventory at roadsafetystrategy.ca.

4 RISK GROUPS, CONTRIBUTING FACTORS AND INTERVENTIONS

The following key risk groups and contributing factors have been identified based on emerging trends and research and analysis conducted over Canada's last three road safety strategies.

4.1 Key Risk Groups

The key risk groups are defined as follows:

Risk Group	Definition
Young/Novice Drivers	Drivers who are under the age of 25 or have less than 2 years driving experience.
Medically at Risk Drivers	Drivers with physical or cognitive impairments which affect a person's ability to operate vehicles safely.
Vulnerable Road Users	Pedestrians, motorcyclists, cyclists and persons in personal mobilized devices (e.g., motorized wheelchairs and scooters).
Commercial Drivers	Drivers of heavy commercial vehicles (e.g., vehicles over 4,586 kg or passenger transportation).
High Risk Drivers	Repeat offenders with a pattern of illegal driving behaviours (e.g., recurring incidences of alcohol/drug impaired driving, traffic violations, collision involvement, or suspended/prohibited drivers).
General Population	Road users who benefit from strategies, interventions, regulations, and legislation introduced to make roads, vehicles and road users safer.

4.2 Key Contributing Factors

The key factors contributing to collisions are defined as follows:

Contributing Factor	Definition
Distracted Driving	Distracted driving occurs when a driver's attention is diverted from the driving task by secondary activities (e.g., eating, talking to passengers, talking or texting on electronic communication devices (ECDs) such as cell phones and smart phones).
Alcohol Impaired Driving	Physical or cognitive impairment of a road user which is caused by the consumption of alcohol.
Drug Impaired Driving	Physical or cognitive impairment of a road user which is caused by the consumption of psychotropic drugs (e.g., cannabis, prescription drugs, narcotics, etc.).
Fatigue Impaired Drivers	Fatigue is a general state caused by lack of sleep, time of day, time on task, or task monotony which diminishes the ability to drive by altering alertness and vigilance.
Speed and Aggressive Drivers	Includes driving at speeds beyond posted legal limits or driving too fast for road conditions and driver behaviours which are deemed illegal or outside socially acceptable norms which put other road users at risk (e.g., tailgating, improper passing, failure to signal, etc.).
Unrestrained Occupants	Includes factors pertaining to proper restraint use by all road users (e.g., seat belts, child safety seats, booster seats).
Environmental Factors	Includes factors that may affect the likelihood or severity of crash occurrence (e.g. weather conditions, wildlife on road).
Road Infrastructure	Includes factors that may affect the likelihood or severity of crash occurrence (e.g., roadway configuration, road construction, road surface condition, road and roadside design, lighting and signage).
Vehicle Factors	Includes factors related to vehicle design (e.g., crash avoidance, crashworthiness), maintenance, recalls, aftermarket vehicle equipment, commercial vehicles, unusual vehicles, automated vehicles, new and emerging vehicle technologies.

It should be noted that there may be significant overlap in these risk groups and contributing factors (e.g., high risk drivers and alcohol impaired driving) and that their priority may change over time. Jurisdictions are encouraged to monitor emerging issues and use appropriate interventions as needed to ensure their initiatives are effective and innovative. A visual of the matrix can be found on the Road Safety Strategy 2025 website.

4.3 Road Safety Interventions

For each risk group and contributing factor, there may be more than one intervention for promoting safer road users, safer infrastructure and safer vehicles. A combination of interventions could result in even greater improvements to safety.

The interventions are categorized as follows:

Intervention Type	Definition
Policy/Legislation/ Regulation	Includes evidence-based jurisdictional policies, laws, and regulations intended to improve road user behaviour and the safety of the road infrastructure and vehicles.
Education/ Training	Includes activities that provide knowledge and/or test the capacity of a person to demonstrate appropriate behaviour with respect to road safety (e.g., proactive and remedial education, driver training, child restraint training).
Communication/ Awareness	Includes any activities that contribute to increased awareness and knowledge of key road safety issues by the general public or target audience that may lead to safer road user behaviour. (e.g., ad campaigns, social media, etc.).
Enforcement	Includes activities carried out by enforcement agencies in order to apprehend offenders and to raise the perceived likelihood of being apprehended (e.g., enhanced Check Stops, Selective Traffic Enforcement Programs (STEP), intelligence-based enforcement, automated enforcement, commercial vehicle inspections).
Information/Data/ Research	Includes capturing and compiling complete, uniform and timely data (e.g., crash, trauma, exposure) to expedite the identification of emerging trends/issues for the further development of evidence-based road safety interventions. This also includes the evaluation of road safety measures and the monitoring of road safety indicators over time.
Technology	Includes using technology and innovation to improve the safety of the driver (e.g., installment of alcohol ignition interlock, speed and red light cameras); vehicle (e.g., electronic stability control, side curtains and airbags) and infrastructure. (e.g., Intelligent Transportation Systems, roundabouts).

Intervention Type	Definition
Linkages	Includes the establishment of linkages between jurisdictional, national or international governmental and non-governmental organizations with a vested interest in road safety. This will foster partnerships, knowledge sharing and best practice guidelines, and improve cooperation and collaboration among key road safety stakeholders (e.g., police, health professionals, etc.).

The CCMTA's on-line inventory of best practices contains "proven practices" for reducing or preventing fatalities and injuries. In addition to these, many other potentially good initiatives have been reviewed but are considered too "young" to demonstrate effectiveness in reducing fatalities and serious injuries and hence are considered to be "promising". These proven and promising practices can be at found at roadsafetystrategy.ca.

4.3.1 Road User Initiatives

The inventory includes a number of road user interventions that have been proven to be effective or at least are considered to be promising in addressing the challenges of dealing with those who drink and drive, speed or drive aggressively, refrain from buckling up, or drive while distracted.

4.3.2 Road Infrastructure Initiatives

The road infrastructure elements are diverse and depending on the initiative, can address rural and urban situations, focusing on the road and the roadside. The objective of infrastructure initiatives is to reduce the likelihood and/or the severity of a collision recognizing that despite best efforts, human errors will occur. Many of these initiatives have been evaluated and, as such, their effect on fatalities and serious injuries after implementation has been proven. The inventory also includes promising initiatives.

4.3.3 Vehicle Initiatives

Road safety advances for vehicle safety may be realized through innovative measures adopted by the vehicle manufacturers as well as the passing of Canada Motor Vehicle Safety Standards (CMVSS). Adoption of new vehicle technologies (e.g., electronic stability control, brake assist) can also be advanced through consumer demand for safety improvements based on New Car Assessment Programs.

4.3.4 Proven and Promising Initiatives Assessment Tool

CCMTA has developed an assessment tool to determine whether initiatives are proven or promising by identifying:

- characteristics of initiatives being considered;
- performance measures, where available;
- evaluations or cost benefit/cost-effective analysis, where available; and
- initiatives that address the various risk groups and contributing factors.

The assessment tool used to evaluate initiatives can be referenced in Appendix A. The initiatives are intended to be used by CCMTA and its member jurisdictions and other stakeholders as a reference for the development of their own policy and programs.

5 MANAGEMENT AND GOVERNANCE OF THE STRATEGY

5.1 Updating and ownership

As custodian of the RSS 2025, the CCMTA, working through the jurisdictions and its committees, task forces, and working groups, will be responsible for maintaining, updating and reporting on the strategy. Given the strategy's approach, these up-dates may include progress on new research projects, identifying new initiatives, key risk groups or contributing factors.

It is recommended that each jurisdiction develop its own provincial/territorial action plans, and in creating these plans, utilize the appropriate strategies that have been proven effective in Canada and elsewhere.

5.2 Ten year timeframe

A 10-year timeframe was chosen for RSS 2025 for the following reasons:

- CCMTA's experience with past RSSs has shown that a longer timeframe is essential to set the strategy up for success by allowing for policies to be introduced and implemented over a longer time period;
- an extended timeframe takes into account the reality that collision data collection can take up to 2-3 years, making it difficult to identify road safety trends in a 5-year period.

A mid-term review of the strategy will be scheduled after the fifth year of RSS 2025 (i.e. 2020). In order to keep the strategy's 10-year approach relevant and front and centre for all stakeholders, annual reporting on progress and evaluations of road safety initiatives is essential.

5.3 Reporting

CCMTA will produce a report (based on Transport Canada's annual fatality and serious injury data) on progress using rate-based indicators for fatalities and serious injury rates as well as key risk groups and contributing factors. Additionally, CCMTA will also report on qualitative measures on an annual basis.

6. REFERENCES

1. Transport Canada, 2015 *Draft Report on the Social Costs of Collisions in Canada, 1996-2012*.
2. Transport Canada, 2004, *Road Safety Vision 2010, 2002 Annual Report*.
3. Canadian Council of Motor Transport Administrators, *Road Safety Vision 2010, Final Report*, November 2013
4. OECD and International Transport Forum, Transport Research Centre, Towards Zero: Ambitious Road Safety Targets and the Safe System Approach. 2008.
5. Transport Canada (2015a) Canadian Motor Vehicle Collision Statistics: 2013.
6. Organization for Economic Cooperation and Development and International Transport Forum, *Road Safety Annual Report 2014*.
7. Organization for Economic Cooperation and Development and International Transport Forum (2008), Transport Research Centre, Towards Zero: Ambitious Road Safety Targets and the Safe System Approach.

APPENDIX A: ASSESSMENT TOOL FOR IDENTIFYING BEST PRACTICES

SECTION ONE: Recommended Initiative
Initiative Title:
Synopsis:
Applicable uses according to target group:
Applicable uses according to causal factor:
Applicable uses according to strategies:

SECTION TWO: Performance Measures	Yes	No
Were any evaluations, cost/benefit analyses, or cost effectiveness analyses conducted?		
If yes, please indicate the author, title, source, and/or web-link where the cost-benefit/cost-effective analyses can be located.	**Works Cited**	
	Scope of the Problem	
	Evidence	

SECTION THREE: Evidence		LEGEND	EVALUATION
How would you rate the research-based evidence that might support this initiative?	Demonstrated to be effective by one or more high-quality evaluations with consistent results (systemic review, multi-centre studies)	☆☆☆☆☆	
	Demonstrated to be effective in certain situations	☆☆☆☆	
	Likely to be effective based on balance of evidence from high-quality evaluations or other sources	☆☆☆	
	Effectiveness still undetermined; different methods of implementing this countermeasure produce different results	☆☆	
	Limited or poor-quality evaluation evidence (descriptive studies, case studies, expert opinion, studies of poor methodological quality)	☆	

SECTION FOUR: Scoring and Recommendation	PROVEN Must have at least 4-5 stars for question 3	PROMISING Must have at least 2-3 stars for questions 3	NOT ACCEPTED No evaluations, cost/benefit analyses, or cost effectiveness analyses
It is recommended that this initiative be attributed the following rating with respect to including it into the RSS 2025 on-line inventory.			

NTDSW 2021 Backgrounder

What is National Teen Driver Safety Week?

As Canada's national injury prevention organization, Parachute is proud to present the ninth annual National Teen Driver Safety Week (NTDSW), an awareness week designed to build public awareness of teen driver safety issues and encourage communities to be part of the solution. Parachute's goal is for Canadians to have a long life, lived to the fullest. NTDSW provides the tools to take this important messaging to the community. Our messages and resources allow stakeholders and partners to prioritize teen driver safety issues in their communities, engage people in the conversation about teen driver safety and create change around this big issue.

National Teen Driver Safety Week 2021: October 17 to 23

Parachute is excited to hold our ninth annual NTDSW from October 17 to 23, 2021, where we hope to keep the great momentum going from the 2020 campaign. Keeping with the same theme, this year the primary focus is on the critical issue of **speeding among teens**. Our additional messaging is around drug-impaired, drunk, distracted and aggressive driving, and rail safety. We will encourage teens, parents and community partners to join the conversation on social media, using the hashtags **#SpeedIsNoGame** and **#NTDSW2021**.

Similar to NTDSW 2020, this year, due to physical distancing restrictions and limits on in-person gatherings, we will be holding a **virtual campaign**. Please visit parachute.ca/ntdsw or email info@parachute.ca for more information on how you can participate in NTDSW 2021.

Teen Driver Safety: The Facts

Road crashes are the third-leading cause of death among young people ages 15 to 24 in Canada[1,2] and transport injuries for youth and young adults cost the Canadian economy $990 million in a single year[3]. Knowing the risk factors and high-risk behaviours will help you identify countermeasures to keep teen drivers safe.

- Speeding means driving faster than the speed limit, but also driving too fast for road conditions. Nearly a quarter of fatal collisions in Canada involve excessive speed or driving too fast for conditions[4]
- Young drivers (aged 16 to 24) killed in a collision are more likely to be speeding at the time of the crash than other age groups[5]
- Speeding is a factor in one third of teen driver deaths in Canada[6]
- Speeding among young drivers is more prevalent at night and when there are other teen passengers in the vehicle[7]

- Excessive speeders, those who drive 25 km/h or more over the speed limit, are more likely to be young and male[2]
- Drivers who speed excessively are at higher risk for crashes and are associated with other risky behaviours such as drinking and not wearing a seatbelt[2]
- Crashes at higher speeds cause more severe injuries than crashes at lower speeds[8]. The force created by high-speed crashes can be too much for seatbelts, airbags and the vehicle structure to protect drivers and passengers.
- Pedestrians struck by a driver at higher speeds are less likely to survive than when struck at lower speeds. At 30 km/h, the risk of pedestrian fatality is 5 per cent. At 50 km/h, the risk of fatality is nearly six times higher, at 29 per cent.
- Teens drivers killed in a crash are more likely than any other age group to test positive for cannabis[9]
- Alcohol is a factor in almost half of fatal crashes among 16- to 25-year-olds[10]
- Drivers under 25 are more likely than any other age group to use a device while driving[11], increasing the risk of a collision.
- Trespassing on a railway is illegal and is a leading factor in railway-related deaths and injuries. In 2020, 67 per cent of all rail incidents involving trespassers were fatal and 33 per cent resulted in serious injury.[12]

Teen Driver Safety and Vision Zero

No speeding deaths are acceptable on our roads. Strategies and policies that have proven to be effective prevention against speeding include safe street design, automated speed enforcement, and safer speed limits[13]. Efforts such as NTDSW seek to advocate and educate in support of these evidence-based approaches.

Learn more about the Vision Zero approach to road safety at parachute.ca/visionzero

#SpeedIsNoGame #NTDSW2021

Help us prevent the tragedy of serious injury and death in car crashes.

For more information, visit parachute.ca/ntdsw

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[1] Parachute. (2021). *Potential lost, potential for change: The cost of injury in Canada 2021.* https://parachute.ca/en/professional-resource/cost-of-injury-in-canada/

[2] Statistics Canada. *Table 13-10-0394-01 Leading causes of death, total population, by age group*. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310039401

[3] Parachute. (2021). *Potential lost, potential for change: The cost of injury in Canada 2021.* https://parachute.ca/en/professional-resource/cost-of-injury-in-canada/

[4] TIRF. (2018). *Sharing the road: key factors in fatal crashes in Canada.* https://tirf.ca/TIRFCAD18EE

[5] TIRF. (2018). *Collisions Among Fatally Injured Drivers of Different Age Groups, 2000-2014*. http://tirf.ca/wp-content/uploads/2018/08/Collisions-Among-Fatally-Injured-Drivers-of-Different-Age-Groups-2000-2014-7.pdf.

[6] TIRF. (2015). *Trends Among Fatally Injured Teen Drivers, 2000-2012*. https://tirf.ca/wp-content/uploads/2017/01/Trends-Among-Fatally-Injured-Teen-Drivers-2000-2012_11_V6.pdf.
[7] Ferguson, S. A. (2013). *Speeding-related fatal crashes among teen drivers and opportunities for reducing the risks*. Governors Highway Safety Association. https://www.ghsa.org/sites/default/files/2016-11/GHSA Teen SpeedingFinal.pdf.
[8] World Health Organization. (2008). *Speed management: a road safety manual for decision-makers and practitioners.* https://www.who.int/publications/i/item/speed-management-a-road-safety-manual-for-decision-makers-and-practitioners.
[9] TIRF. (2019). *Marijuana Use Among Drivers in Canada, 2000-2016*. https://tirf.ca/wp-content/uploads/2019/11/Marijuana-Use-Among-Drivers-in-Canada-2000-2016-8.pdf.
[10] Brown, S. W., Vanlaar, W. G. M., & Robertson, R. D. (2017). Alcohol and Drug-Crash Problem in Canada 2015 Report. *Ottawa, ON: The Traffic Injury Research Foundation of Canada*. https://ccmta.ca/web/default/files/PDF/2015_Alcohol_and_Drug_Crash_Problem_Report.FINAL_EN.pdf
[11] CCMTA. (2018). *Use of Electronic Communication Devices by Canadian Drivers: Combined Urban/Rural Sites (2016-2017).* https://www.ccmta.ca/web/default/files/PDF/2016-2017_Urban-Rural_ECD_Use_Survey_Report_-_JUNE_2018.pdf
[12] Transportation Safety Board of Canada. (2020). *Rail transportation occurrences in 2020.* https://www.tsb.gc.ca/eng/stats/rail/2020/sser-ssro-2020.html
[13] Vision Zero Network. (n.d.). *Vision Zero success depends on managing speed for safety*. https://visionzeronetwork.org/resources/safety-over-speed/