



INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	December 2, 2019
SUBJECT/REPORT NO:	City of Hamilton Annual Collision Report - 2018 (PW19104) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	David Ferguson (905) 546-2424 Ext. 2433 Rodney Aitchison (905) 546-2424 Ext. 2067 Mike Field (905) 546-2424 Ext. 4576
SUBMITTED BY: SIGNATURE:	Edward Soldo Director, Transportation Operations & Maintenance Public Works Department

COUNCIL DIRECTION

The Public Works Committee approved the Hamilton Strategic Road Safety Program and Vision Zero Action Plan for 2019-2025 on February 4, 2019. A key component of the program is the development of an Annual Collision Report.

INFORMATION

The 2018 Annual Collision Report, attached to Report PW19104 as Appendix "A", is the second annual edition of a high-level review of motor vehicle collisions occurring on City of Hamilton roadways. The report is a collaborative effort between the Public Works Department, Hamilton Police Services, Hamilton Fire Department and the Healthy & Safe Communities Department (Public Health Services).

The statistics and analysis will provide the Hamilton Strategic Road Safety Committee with the information to identify priority roadway safety issues, develop technical initiatives to improve roadway safety and undertake public education campaigns, all of which will contribute to improving roadway safety and align with the principles of Vision Zero.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

SUBJECT: City of Hamilton Annual Collision Report - 2018 (PW19104) (City Wide)
– Page 2 of 8

The report provides an analysis of collisions trends over a five-year span (2014-2018) and collision statistics for 2018.

The report is broken down into 13 sections as follows:

- Section 1 – Roadway Safety Initiatives and Education Campaigns
- Section 2 – Five Year Collision Trends – 2014 to 2018
- Section 3 – Collision Statistics - 2018
- Section 4 – Fatal Collisions - 2018
- Section 5 – Pedestrian and Cyclist Collisions - 2018
- Section 6 – Lincoln M. Alexander Parkway and Red Hill Valley Parkway Five Year Collision Trends – 2014 to 2018
- Section 7 – Lincoln M. Alexander Parkway and Red Hill Valley Parkway Collision Statistics - 2018
- Section 8 – Network Screening
- Section 9 – Red Light Camera Program Statistics
- Section 10 – Hamilton Fire Collision Statistics
- Section 11 – Hamilton Police Services Collision Statistics
- Section 12 – Appendix

The following provides a summary of key statistics in the Annual Collision Report:

Five Year Collision Trends – 2014 to 2018

Year	Total Collisions	Self-Reported Collisions	Police Reported Collisions	Injury Collisions	Property Damage Collisions	Fatal Collisions
2014	8,101	4,266	3,835	1,831	1,988	16
2015	8,399	4,535	3,864	1,931	1,919	14
2016	8,265	4,653	3,612	1,938	1,663	11
2017	8,806	5,226	3,580	1,682	1,882	16
2018	9,281	5,891	3,390	1,551	1,827	11

An evaluation of the five-year collision data shows that injury collisions were trending upwards until they stabilized in 2016. In 2017, injury collisions dropped by 13% (256 collisions) compared to 2016, then a further 8% decline in 2018 (131 collisions) compared to 2017. Overall, injury collisions have declined 20% since peaking in 2016.

The decreasing trend in injury collision corresponds with the initiation of the Hamilton Strategic Road Safety Program, the implementation of various collision reduction safety measures and roadway safety education campaigns.

The trend also aligns with the primary aim of Vision Zero, to achieve a transportation system where no loss of life is acceptable and where traffic fatalities and injuries are preventable.

Collisions Statistics - 2018

A summary of the 2018 general collision statistics are as follows:

- 9,281 total collisions (5,891 self-reported and 3,390 Police reported);
- 1,551 collisions resulted in injuries and 11 collisions resulted in fatalities;
- Collisions occurred most frequently on a Friday;
- The hour with the highest number of total collisions was 5-6 p.m.;
- Months with the highest number of total collisions were January and November;
- The most common collision type was a rear-end motor collision and most frequent driver action was lost control;
- There were 1,159 motorists between the ages of 21 and 30 that were involved in collisions, followed by 1,059 (31-40), 957 (51-60) and 883 (41-50); and
- 17% of all collisions resulted in injuries and 0.12% resulted in a fatality.

Fatal Collisions – 2018

A review of motor vehicle collisions involving fatalities was undertaken to identify root causes and to identify potential mitigation strategies.

Fatal collisions have remained relatively constant over a five-year time period. The following provides an overview of fatal collision statistics in 2018:

- 18% (2) of fatal collisions occurred on rural roadways and 82% (9) occurred on urban roadways;
- 18% (2) of fatal collisions were cyclist collisions; one involved an impaired cyclist and the other involved a cyclist colliding with a turning truck;
- 27% (3) of fatal collisions involved pedestrians;
- 45% (5) occurred within an intersection and 55% (6) occurred at midblock locations;
- 9% (1) of fatal collisions occurred when it was raining and 91% (10) during clear weather;
- 27% (3) occurred during wet road conditions and 73% (8) on dry roadways;

- 9% (1) of fatal collisions involved a single motor vehicle, 9% (1) occurred during a head-on collision, 27% (3) were pedestrian/vehicle collisions, 45% (5) involved turning vehicles (two of the five were cyclist fatalities) and 9% (1) was the result of a rear-end collision; and
- 9% (1) occurred when the driver lost control of the vehicle, 9% (1) when the driver disobeyed traffic control, 18% (2) when the drivers failed to yield the right-of-way, and 27% (3) when drivers were exceeding the speed limit or driving too quickly for the conditions.

Based on the data, the majority of fatal collisions occurred during clear, dry conditions. A review of the collisions involving turning vehicles identified that four of the five collisions occurred under daylight conditions and two of the collisions identified driver impairment as a contributing factor. A review of the pedestrian fatalities identified that all three (3) occurred at intersections or were related to intersections. Two of the three pedestrians were crossing at controlled locations.

Pedestrian and Cyclist Collisions – 2018

There was a total of 245 collisions involving pedestrians in 2018. 219 (89%) caused non-fatal injuries while three (1.2%) resulted in fatalities. An analysis of the data identified that the majority of pedestrian collisions, 124 (50%), occurred at signalized intersections.

There was a total of 166 collisions involving cyclists in 2018. 135 (81%) caused non-fatal injuries while 2 (1.5%) resulted in fatalities. An analysis of the data involving cyclists identified that the majority of cyclist collisions, 74 (45%) occurred at locations with no traffic control.

Lincoln M. Alexander Parkway (LINC) and the Red Hill Valley Parkway (RHVP) Five Year Collision Trends

An analysis of collisions between 2014 and 2018 identified that following too close and losing control of the vehicle were the predominant causes of collisions on the LINC and RHVP, respectively.

Most of the collisions on the LINC occurred under dry roadway conditions (80%) while the majority of collisions on the RHVP occurred under wet roadway conditions (64%). The most common collision type was rear end collisions on the LINC and single motor vehicle collisions on the RHVP.

There has been an upward trend in the total number of collisions on the LINC (32%) and RHVP (100%) over the past five years. However, this can be attributed to the

SUBJECT: City of Hamilton Annual Collision Report - 2018 (PW19104) (City Wide)
– Page 5 of 8

increase in the number of self-reported collisions on the LINC (86%) and RHVP (208%) which are of low severity and do not involve personal injuries.

Recent measures to address safety on the RHVP include a speed limit change, additional enforcement, pavement resurfacing, roadway high-visibility delineation and a queue warning system.

LINC Collisions – 2014 to 2018

	2014	2015	2016	2017	2018	Total
Total Collisions	138	135	144	159	182	758
Self-Reported	73	64	86	98	136	457
Police Reported	65	71	58	61	46	301
Crossovers	2	1	0	1	1	5
Property Damage	27	22	21	31	19	120
Injury	37	50	38	30	27	182
Fatal	1	0	0	1	0	2

RHVP Collisions – 2014 to 2018

	2014	2015	2016	2017	2018	TOTAL
Total Collisions	117	238	186	193	235	969
Self - Reported	46	101	84	91	142	464
Police Reported	71	137	102	102	93	505
Crossovers	1	6	0	3	3	13
Property Damage	45	79	58	59	54	295
Injury	26	56	44	41	39	206
Fatal	0	2	0	2	0	4

SUBJECT: City of Hamilton Annual Collision Report - 2018 (PW19104) (City Wide)
– Page 6 of 8

Lincoln M. Alexander Parkway and Red Hill Valley Parkway Collision Statistics – 2018

The number of self-reported collisions continued to rise in 2018 with a 39% increase on the LINC and 56% increase on the RHVP. Police reported collisions decreased on both.

As well, there was a continuation in the trends for the majority of collisions on the LINC to occur under dry conditions (76%) and the majority of collisions on the RHVP to occur under wet roadway conditions (61%).

	LINC	RVHP
Day with highest number of total collisions	Friday	Monday/Tuesday
Month with highest number of total collisions	November	October
Hour with highest number of total collisions	5-6 p.m.	8-9 a.m.
Most common collision type	Rear End	Single Motor Vehicle
Most frequent driver action resulting in collision	Following Too Close	Lost Control

Network Screening

Network screening is the comprehensive process of evaluating safety conditions on the entire road network in the City of Hamilton. By comparing locations to other similar types within the group, a risk indicator is calculated. All locations are then grouped and sorted by the indicator. Where collision groups were found to be overrepresented, greater potential exists for the application of programs or techniques to reduce the number of collisions.

A Collision Countermeasure Program has been implemented to undertake safety audits of over-represented collision locations identified through the network screening process.

SUBJECT: City of Hamilton Annual Collision Report - 2018 (PW19104) (City Wide)
– Page 7 of 8

Network Screening Over-Representation Ranking: 2014-2018 (Top 15 Locations)

Rank	Group	Description	Network Risk Indicator	Total Collisions	Collisions per km	Fatal/Injury Collisions for 5 Years
1	Off-ramp	Stone Church Ramp EB - SB ramp: Mud NB - EB off ramp – Stone Church ramp	52.3	19	43.6	9
2	Two-way	Highland Road South and Third Road	50.6	7	N/A	4
3	On-ramp	Mud: Mud SB - EB off ramp - RHVP	35.7	31	72.4	7
4	Rural Road	Weirs Lane: Hwy 8 - Governors	35.1	13	5.9	3
5	Urban Road	Upper James: Rymal - Stone Church	34.5	70	69.5	45
6	Two-way	Eleventh Road and Mud	34.0	16	N/A	10
7	Rural Road	Rymal: Upper Sherman - Upper Gage	33.5	42	49.8	34
8	Two-way	Beechwood and Lottridge	32.8	7	N/A	7
9	Urban Road	Queenston: Nash - Centennial Parkway	32.5	59	72.3	31
10	Signal	North Service & QEW Off-Ramp	32.0	25	N/A	20
11	Urban Road	James: St Josephs - King	30.3	49	50.6	13
12	Rural Road	Rymal: Swayze - Upper Centennial	30.0	19	46.8	10
13	On-ramp	Queenston to RHVP SB loop on ramp	29.7	7	21.2	3
14	Urban Road	King: Paradise - Newton	28.7	22	28.8	12
15	Urban Road	King: James - Catharine	28.2	18	53.4	9

Red Light Camera Program Statistics

In 2008, the City of Hamilton began installing Red Light Cameras (RLC) at intersections as a measure to reduce the number of right-angle collisions which result in serious injury or fatalities. There are currently 29 RLC's installed across the City.

There has been a 53% reduction in right-angle collisions and 69% reduction in injury/fatal collisions at RLC locations in the past three years compared to the three years prior to initiation of the program.

Vision Zero

The 2018 Annual Collision Report provides a comprehensive statistical review of collisions on City of Hamilton roadways. This information will be utilized to identify roadway safety priorities, inform and focus technical and educational initiatives as identified in the Vision Zero Action Plan.

The Hamilton Strategic Road Safety Committee and its partners are committed to reducing the number of serious injury and fatal collisions on City of Hamilton roadways by integrating the goals and principles of Vision Zero. Vision Zero is a proactive approach to road safety, with the goal of zero fatalities or serious injuries on roadways.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report PW19104 – City of Hamilton Annual Collision Report - 2018