



# INFORMATION REPORT

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	February 6, 2019
<b>SUBJECT/REPORT NO:</b>	City of Hamilton Annual Collision Report – 2017 (PW19012) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
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## Council Direction:

On June 5, 2017, Public Works Committee approved the Hamilton Strategic Road Safety Program 2017-2018 through Report PW17045.

As part of the report, the requirement for an annual enhanced Collision Analysis and Reporting Program was identified and approved.

## Information:

The Hamilton Strategic Road Safety Committee and Program were re-established by Council in August 2014. Since that time, the Public Works Department, Hamilton Police Services and Hamilton Public Health Services have been implementing various initiatives to improve roadway safety for all road users.

The City of Hamilton Annual Collision Report 2017, attached to Report PW19012 as Appendix "A", is the first 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

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**Subject: City of Hamilton Annual Collision Report – 2017  
(PW19012) (City Wide) – Page 2 of 9**

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Public Works Department, Hamilton Police Services, Hamilton Fire Department and Healthy and 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.

The report provides an analysis of collisions trends over a five-year span (2013-2017) and collision statistics for 2017.

The report is broken down into 13 sections as follows;

- Section 1 – Roadway Safety Initiatives
- Section 2 – Five Year Collision Trends – 2013 to 2017
- Section 3 – Collision Statistics - 2017
- Section 4 – Fatal Collisions - 2017
- Section 5 – Pedestrian and Cyclist Collisions - 2017
- Section 6 – Lincoln Alexander Parkway & Red Hill Valley Parkway 5 Year Collision Trends - 2013-2017
- Section 7 – Lincoln Alexander Parkway and Red Hill Valley Parkway Collision Statistics - 2017
- Section 8 – Network Screening
- Section 9 – Red Light Camera Statistics
- Section 10 – Hamilton Fire Statistics
- Section 11 – Hamilton Public Health Services Statistics
- Section 12 – Hamilton Police Services Statistics
- Section 13 – Action Items

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

**Five Year Collision Trends – 2013 to 2017**

Year	Total Collisions	Self-Reported Collisions	Police Reported Collisions	Injury Collisions	Property Damage Collisions	Fatal Collisions
2013	7533	4012	3521	1742	1765	14
2014	8102	4267	3835	1831	1988	16
2015	8398	4534	3864	1931	1919	14
2016	8263	4653	3610	1937	1662	11
2017	8802	5224	3578	1682	1880	16

An evaluation of the five-year collision data has identified that between 2013 and 2015, injury collisions were trending upwards by an increase of 5 percent each year. In 2016, the increase stabilized, and the number of injury collisions declined in 2017 by 13 percent (255 collisions). When compared to the previous upwards trend, the reduction of injury collisions is approximately 20 percent.

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. While it is too early to identify a direct correlation, the implementation of the Hamilton Strategic Road Safety Program appears to be having a positive impact.

#### General Collisions Statistics - 2017

A summary of the 2017 general collision statistics are as follows;

- 8,802 total collisions (5,224 self-reported and 3,578 Police reported);
- 1,682 collisions resulted in injuries and 16 collisions resulted in fatalities;
- Collisions occur most frequently on a Friday;
- Hours with the highest number of total collisions are 2:00 p.m. and 3:00 p.m.;
- Months with the highest number of total collisions are October and December;
- The most common collision type is single motor vehicle and most frequent driver action is lost control;
- There were 1,221 motorists between the ages of 21 and 30 that were involved in collisions, followed by 31-40 (978), 41-50 (917) and 51-60 (977);
- The most common age for a motorist to be involved in a collision is 24 years of age; and
- 19% of all collisions resulted in injuries and 0.18% of all collisions resulted in a fatality.

#### Fatal Collisions – 2017

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:

- 50% (8) of fatal collisions occurred on rural roadways and 50% (8) occurred on urban roadways;
- 25% (4) occurred within an intersection and 75% (12) occurred at midblock location;

- 6% (1) of fatal collisions occurred when it was raining, 6% (1) when it was snowing and 88% (14) during clear weather;
- 19% (3) occurred during wet road conditions, 6% (1) on loose snow and 75% (12) on dry roadways;
- 31% (5) of fatal collisions involved a single motor vehicle, 25% (4) occurred during head-on collisions, 25% (4) were pedestrian/vehicle collisions, 13% (2) were Angle collisions within intersections and 6% (1) was the result of a Sideswipe; and
- 44% (7) occurred when drivers lost control of the vehicle, 13% (2) driver disobeyed the traffic control, 13% (2) driver failed to yield the right-of-way, 6% (1) driver exceeding the speed limit, 6% (1) an improper lane change and 18% (3) identified as another driver's action or driving properly.

Based on the information, most fatal collisions occurred during clear, dry conditions at mid-block locations (75%). A review of the single motor vehicle collisions identified that four of the five collisions occurred under dark lighting conditions and all five collisions identified speed or loss of control as the contributing factor. A review of the pedestrian collisions identified that all four collisions occurred at mid-block locations with three of the four collisions a result of pedestrians crossing at uncontrolled locations.

#### **Pedestrian and Cyclist Collisions – 2017**

An analysis of the data identified that 90% of collisions involving pedestrians resulted in injuries with the majority occurring at signalized intersections. Motorists failing to yield the right of way, to the pedestrian, was the main contributing factor in 43% of pedestrian collisions.

An analysis of the data involving cyclists identified that 78% of collisions resulted in injuries and the majority occurred at locations with no traffic control.

Year	Pedestrian Collisions	Cyclists Collisions
2013	234 (5)	168 (1)
2014	235 (5)	157 (0)
2015	250 (7)	165 (1)
2016	278 (4)	179 (0)
2017	239 (4)	173 (0)

(x) Represents Number of Fatal Collisions

Lincoln M. Alexander Parkway (LINC) and the Red Hill Valley Parkway (RHVP)

An analysis of collisions between 2013 and 2017 identified that driver behavior is the predominant cause of collisions on the LINC and RHVP with vehicle speed or aggressive driving as contributing factors to drivers losing control of the vehicle.

Most of the collisions on the LINC occurred under clear weather and dry roadway conditions. The majority of collisions on the RHVP occurred under rain weather and wet roadway conditions. The most common collision type on the LINC is a rear-end collisions and on the RHVP are single motor vehicle collisions.

LINC Collisions – 2013 to 2017

	2013	2014	2015	2016	2017	Total
Total Collisions	135	138	135	144	159	711
Police Reported	74	65	72	59	62	332
Crossovers	2	6	7	4	2	21
Property Damage	32	27	22	21	31	133
Injury	42	37	50	38	30	197
Fatal	0	1	0	0	1	2

RHVP Collisions – 2013 to 2017

	2013	2014	2015	2016	2017	Total
Total Collisions	128	117	238	186	193	862
Police Reported	79	71	138	102	102	492
Crossovers	1	4	10	4	7	26
Property Damage	44	45	80	58	59	286
Injury	35	26	56	44	41	202
Fatal	0	0	2	0	2	4

**Subject: City of Hamilton Annual Collision Report – 2017  
(PW19012) (City Wide) – Page 6 of 9**

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In December 2014, Hamilton Police Services initiated an aggressive enforcement campaign which has resulted in over 10,000 infractions being issued with over 90% being speeding related violations.

#### Red Light Camera Program

In 2008, the City of Hamilton began installing Red Light Cameras at intersections as a measure to reduce the number of right-angle collisions which result in serious injury or fatalities. There are currently 24 Red Light Cameras installed across the City.

There has been a 49% reduction in right-angle collisions and 57% reduction in injury/fatal collisions at Red-Light Camera locations in the past three years compared to the three years prior to initiation of the program.

#### Red Light Camera Statistics

Location	Date Installed	Right Angle Collisions			Injury/Fatal Collisions		
		3 Yrs Before	2015-2017	% Change	3 Yrs Before	2015 - 2017	% Change
Stone Church @ Upper Wentworth	21-Jul-08	1	1	0%	0	0	0%
Mud @ Paramount	21-Jul-08	3	2	-33%	2	1	-50%
Cannon @ Hess	19-Aug-08	9	2	-78%	5	2	-60%
Burlington @ Gage	19-Aug-08	8	2	-75%	7	2	-71%
Dundurn @ King	17-Aug-09	13	3	-77%	7	1	-86%
Dundurn @ Main	17-Aug-09	5	1	-80%	5	0	-100%
Bay @ Main (EB)	12-Oct-10	4	8	+100%	2	4	+100%
Cannon @ Kenilworth	12-Oct-10	8	6	-25%	6	3	-50%
Bay @ Main (NB)	16-Oct-12	7	8	+14%	5	4	-20%
Main @ Sanford	16-Oct-12	3	3	0%	1	1	0%

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Brantdale @ Upper James	16-Oct-12	1	0	-100%	1	0	-100%
Longwood @ Main	12-Nov-13	4	1	-75%	1	1	0%
Mohawk @ Upper Gage	12-Nov-13	3	1	-67%	2	1	-50%
Mohawk @ Upper Wellington	05-Dec-14	6	2	-67%	5	1	-80%
Fennel @ Upper Gage	28-Nov-14	7	0	-100%	5	0	-100%
King @ Lawrence/RHVP	05-Dec-14	3	0	-100%	3	0	-100%
Mohawk @ Upper Wentworth*	13-Feb-15	3	1	67%	3	1	-67%
Main @ Wellington*	13-Feb-15	10	12	+20%	5	8	+60%
King @ Macklin*	07-Jan-15	6	0	-100%	5	0	-100%
All RLC Locations Combined		106	59	-49%	70	33	-57%

\*After collisions from 2016-2017 only

## Network Screening

In order to prioritize and identify locations for remedial action, a Network Screening program was developed. An analysis using the Network Screening program was completed utilizing data from the past five years to develop a list of the highest-ranking locations for safety improvement throughout the City. Network Screening is the comprehensive process of studying safety conditions on the entire road network. There are 12 road groups that can be compared and prioritized to ensure resources are being used on locations that have a greater potential to implement successful countermeasures.

**Subject: City of Hamilton Annual Collision Report – 2017  
(PW19012) (City Wide) – Page 8 of 9**

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Network Screening Results

Rank	Group	Description	Network Risk Indicator	Total Collisions	Collisions per Km	Fatal or Injury Collisions (Last 5 Years)
1	On ramp	Mud: Mud SB - EB off ramp - RHVP	86.209	39	91.1	8
2	Two Way	Highland Rd & Third Rd	72.694	7		5
3	Urban Road	Dundurn: Aberdeen – King	72.208	23	17.7	12
4	On ramp	King to RHVP NB loop on ramp	59.385	7	16.2	4
5	Off ramp	RHVP SB to King off ramp	56.834	8	16.7	2
6	Rural Road	Pritchard: Stone Church – Rymal	55.695	12	11.7	8
7	Rural Road	Rymal: Upper Sherman - Upper Gage	53.638	45	53.4	37
8	Rural Road	Jerseyville: Martin – Wilson	50.166	23	10.8	17
9	Urban Road	Barton: Wellington – Wentworth	48.300	44	51.3	16
10	Off ramp	SCRIP EB - SB ramp: Mud NB - SB off ramp – SCRIP	48.194	19	43.6	7
11	Urban Road	Stone Church: Upper Ottawa – Pritchard	48.076	38	20.7	27
12	Urban Road	Wilson: Fiddlers Green – Mohawk	42.368	45	24.2	30
13	Two way	10th Conc & Cooper	41.573	6		4
14	Urban Road	King: James – Catharine	41.234	23	68.2	12
15	Urban Road	SCRIP: Stone Church to RHVP off ramps	40.176	10	28.0	8

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### Next Steps and Action Items

The Annual Collision Report 2017 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.

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 simple and clear goal of zero fatalities or serious injuries on roadways. A Vision Zero lens will be applied to the design of streets in new neighbourhoods and redesign of streets in existing neighbourhoods to establish a safer environment for all road users.

A key outcome of the Annual Collision Report will be the development of a Vision Zero Action Plan. A parallel report has been prepared to outline key strategic roadway safety initiatives and actions.

### Appendices and Schedules Attached

Appendix “A” – City of Hamilton Annual Collision Report – 2017