THE CITY OF WINDSOR
ONTARIO, CANADA

2017 Road Safety Report

May 22, 2018

Office of the City Engineer

Operations Department

Transportation Planning Division

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Executive Summary

This report provides statistical data on all reported collisions on roads under the jurisdiction of the City of Windsor for the 2017 calendar year. The intent of this report is to provide factual information to agencies and individuals involved in road safety in the City in order to provide a sound basis for road-safety related decisions, as well as to provide a source of data to allow the evaluation of the performance of ongoing safety-related programs, policies, and strategies.

Comparisons with provincial averages are given in cases where provincial statistics are available.

This report reflects only reported collisions on City of Windsor roads. Unreported collisions, collisions on roads under the jurisdiction of other agencies (e.g. provincial highways) and collisions on private property are not included.

Overall Trends

In 2017, there were a total of 4,464 reported collisions on roads under the jurisdiction of the City of Windsor, consisting of 5 fatal collisions, 1,412 injury collisions, and 3,047 property damage only collisions. The overall number of collisions on City of Windsor roads for 2017 compared with recent years is shown in Table E-1 and Figure E-1.

Collision record-keeping procedures changed beginning with the 2006 calendar year. As a result of these changes, collision database records from 2005 and earlier are not directly comparable with records from 2006 and later. Because of this, yearly totals are given beginning with 2006.

Table E-1: Number of Collisions by Year – City-wide

Year	Collisions			
	Fatality	Injury	Property Damage Only	Total
2006	6	1,015	3,339	4,360
2007	4	860	3,598	4,462
2008	7	846	3,344	4,197
2009	3	809	2,760	3,572
2010	2	963	2,922	3,887
2011	3	825	2,802	3,630
2012	7	889	2,738	3,634
2013	4	928	2,860	3,792
2014	2	904	2,996	3,902
2015	6	1,162	3,105	4,273
2016	3	1,272	2,939	4,214
2017	5	1,412	3,047	4,464

Figure E-1: Number of Collisions by Year – City-wide

Year-over-year, the total number of collisions increased by 5.9% from 2016 to 2017. The number of injury and fatality collisions increased by 11.1% over the same period.

Areas of Special Focus

Alcohol Involvement

For 2017, alcohol was found to be involved in 2.17% of collisions, as shown in Figure E-2. This percentage is slightly below the 5-year City of Windsor average of 2.28% and significantly below historical percentages.

In 2017, 40% of fatal collisions in the City of Windsor (2 collisions) involved drivers with alcohol-related driver conditions. On average, alcohol was involved in 40% percent of fatal collisions in the five-year period of 2013 through 2017.

These results suggest that the overall number of drivers with alcohol-related conditions is relatively small and continues to decline, but these drivers are significantly over-represented in fatal collisions.
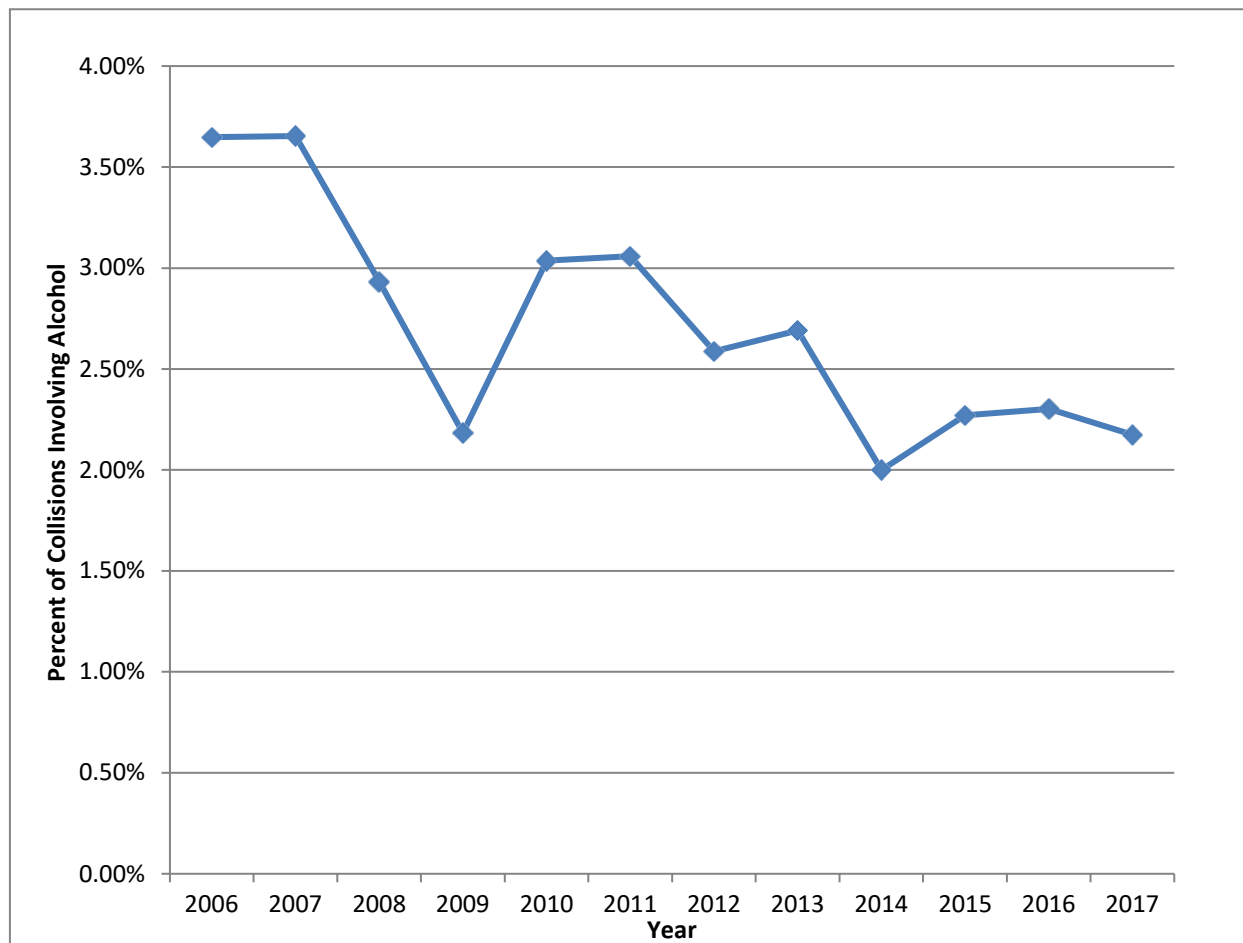
Figure E-2: Alcohol-Related Collisions by Year

Inattentive Driving

In 2017, 15.3% of all City of Windsor collisions involved drivers reported as "inattentive", as shown in Figure E-3. This represents a major decrease from historical levels but an increase over 2015-2016 levels. Readers are cautioned that the following factors affect the data for inattentive driving:

- In early 2013, the criteria for determining when to classify a driver as inattentive were made stricter.
- Driver inattention in collisions is likely under-reported, since drivers are unlikely to self-report that they were engaged in illegal cell phone use, texting, or other distracting activities at the time of the crash.
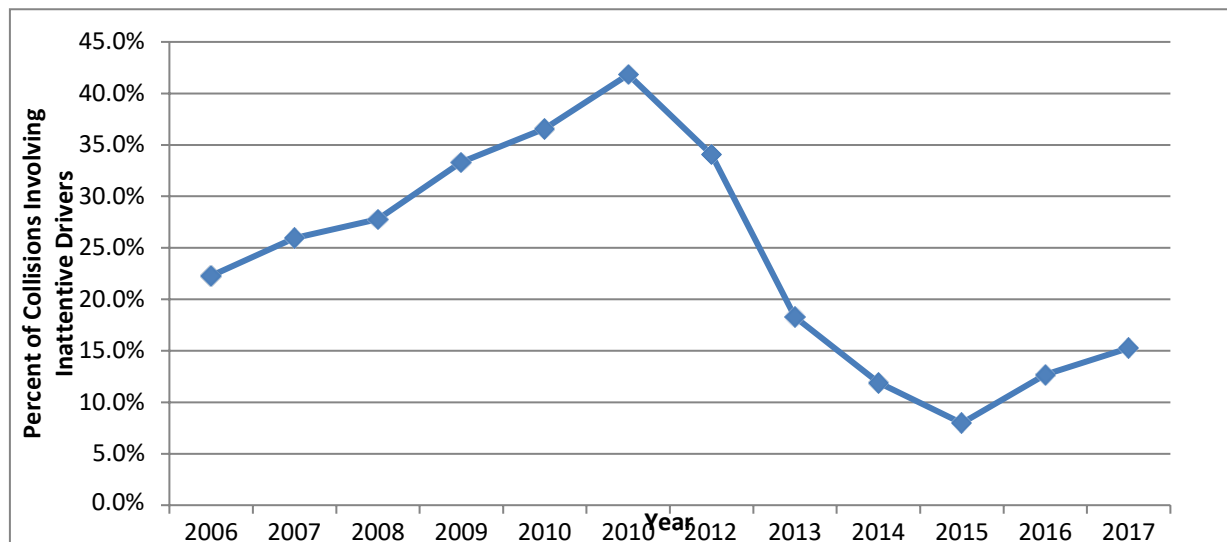
Figure E-2: Inattentive-Related Collisions by Year

Severe Collisions

In 2017, 37 people were killed or seriously injured (5 fatalities, 32 major injuries) in reported collisions on roads under the jurisdiction of the City of Windsor. This number is slightly below the 2013-2017 average of 37.4 fatalities and serious injuries per year. Motor vehicle drivers were the group with the largest proportion of fatalities or serious injuries (49% of all fatalities and serious injuries), as shown in Figure E-2 (note: in the figure, "motor vehicle" does not include motorcycles, mopeds, or e-bikes).
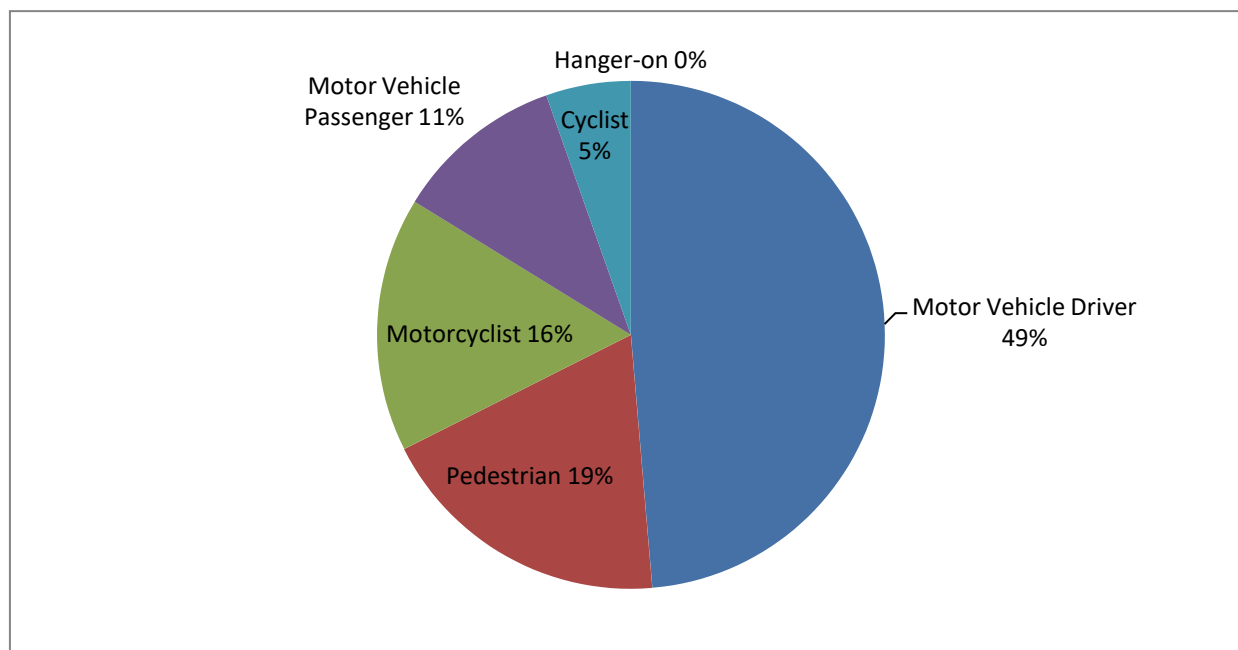
Figure E-2: 2017 Fatalities and Major Injuries by Victim Category

High Collision Locations

Based on a five-year collision history (2013 through 2017), mid-block sections and signalized intersections were ranked based on collision rate and unsignalized intersections were ranked based on total number of collisions. The 25 locations with the highest ranking for each category are listed in Table E-2 for signalized intersections, Table E-3 for unsignalized intersections, and Table E-4 for mid-block locations.

Table E-2: 2013-2017 Collision Locations - Signalized Intersections

CompKey	Intersection	Collisions 2013-2017	Annual Average Daily Traffic - All Legs [vehicles per day]	Collisions per Million Vehicles Entering Intersection	Rank
289476	County Road 42 @ Lauzon Pky	87	47,500	2.01	1
286972	Wyandotte St W @ Pelissier St	58	43,100	1.47	2
289240	Lauzon Pky @ Tecumseh Rd E	147	119,700	1.35	3
289253	Tecumseh Rd E @ Forest Glade Dr	72	59,700	1.32	4
297610	E C Row Expy W/B @ Banwell Rd	131	111,800	1.28	5
289026	Lauzon Rd @ Lauzon Line (W) & McHugh St (E)	34	29,200	1.28	6
288383	Grand Marais Rd E @ Central Ave & Plymouth Dr	93	80,600	1.26	7
286694	Tecumseh Rd E @ Howard Ave	113	98,000	1.26	8
284919	Huron Church Rd @ University Ave W	25	22,100	1.24	9
285400	Northwood St @ Dominion Blvd	55	49,000	1.23	10
285994	Provincial Rd @ Walker Rd	96	85,900	1.22	11
288691	Central Ave @ E C Row Collector South & E C Row E/B On Ramp	71	64,300	1.21	12
289247	Lauzon Pky @ South Service Rd E (W) & Twin Oaks Dr (E)	48	46,100	1.14	13
286931	Park St W @ Pelissier St	11	10,600	1.14	14
287465	Tecumseh Rd E @ Walker Rd	114	112,700	1.11	15
289145	McHugh St @ Banwell Rd & McNorton St	37	36,600	1.11	16
288803	Wyandotte St E @ Lauzon Rd	56	55,700	1.10	17
289245	Lauzon Pky @ Forest Glade Dr	88	88,100	1.09	18
286691	Tecumseh Rd E @ McDougall St	67	67,200	1.09	19
288674	Temple Dr @ Central Ave & North Service Rd E	81	82,900	1.07	20
284934	Huron Church Rd @ College Ave	98	101,300	1.06	21
286980	Wyandotte St E @ McDougall St	54	56,400	1.05	22
285166	College Ave @ Campbell Ave	31	32,500	1.05	23
287843	Seminole St @ Walker Rd	58	61,200	1.04	24
285490	Labelle St @ Dominion Blvd	47	49,600	1.04	25
	Average – all signalized intersections			**0.56**	

Table E-3: 2013-2017 Collision Locations - Unsignalized Intersections

CompKey	Intersection	Collisions 2013-2017	Rank
286606	Ouellette Pl @ Dougall Ave	71	1
287346	Riverside Dr E @ Devonshire Rd	28	2
285645	Norfolk St @ Dominion Blvd	27	3
286985	Wyandotte St E @ Marentette Ave	26	4
286261	Dougall Ave @ E C Row E/B Off Ramp	25	5
286987	Wyandotte St E @ Langlois Ave	23	6
287104	Erie St E @ Parent Ave	23	6
286274	Beals St W @ Dougall Ave	22	8
288404	South National St @ Jefferson St	22	8
287324	Hanna St W @ Ouellette Ave & Hanna St E	21	10
286513	Lappan Ave @ Walker Rd	20	11
289474	County Road 42 @ 9th Con Rd	20	11
284762	Sandwich @ Riverside Dr & University Ave W & Rosedale Ave	19	13
286316	Howard Ave @ South Cameron Blvd	19	13
287328	Hanna St E @ McDougall St	19	13
285412	Dougall Ave @ South Cameron Blvd	18	16
286984	Wyandotte St E @ Louis Ave	18	16
287464	Tecumseh Rd E @ Turner Rd	18	16
285262	Tecumseh Rd W @ McKay Ave	17	19
287306	Shepherd St E @ Parent Ave	17	19
289241	Lauzon Pky @ Enterprise Way	17	19
285627	West Grand Blvd @ Bruce Ave	16	22
286343	E C Row Ave E @ Conservation Dr	16	22
286588	Ouellette Ave @ Hildegarde St - West	16	22
284905	Detroit St @ Peter St	15	25
285073	Riverside Dr W @ Campbell Ave	15	25
285923	Division Rd @ Riberdy Rd	15	25
286693	Tecumseh Rd E @ Highland Ave	15	25
286981	Wyandotte St E @ Mercer St	15	25
287259	Ellis St E @ McDougall St	15	25
288086	Tecumseh Rd E @ Chandler Rd	15	25
288672	Essex Way @ Quality Way	15	25
289259	Lauzon Rd @ Hawthorne Dr	15	25

Table E-4: 2013-2017 Collision Locations - Midblocks

CompKey	Street Name	From	To	Collisions 2013-2017	Annual Average Daily Traffic [vehicles per day]	Length [m]	Collisions per million vehicle-km	Rank
166826	Pitt St W	Bruce Ave	Janette Ave	1	350	103	15.21	1
165251	Pelissier St	Maiden Lane W	Wyandotte St W	7	2,400	126	12.65	2
163876	Chatham St E	Ouellette Ave	Goyeau St	7	2,100	175	10.44	3
127450	Pelissier St	Wyandotte St W	Elliott St W	13	2,400	286	10.39	4
128050	Victoria Ave	Park St W	Wyandotte St W	14	2,500	307	9.98	5
165249	Pelissier St	University Ave W	Park St W	5	2,100	143	9.14	6
167723	Chatham St W	Bruce Ave	Janette Ave	1	600	100	9.10	7
165224	Janette Ave	University Ave W	Park St W	4	1,700	145	8.92	8
127447	Pelissier St	Elliott St W	Erie St W	7	1,900	236	8.55	9
127007	Lincoln Rd	Riverside Dr E	Assumption St	4	1,100	247	8.06	10
166921	Parent Ave	Brant St	Wyandotte St E	4	2,550	111	7.74	11
166919	Parent Ave	Assumption St	Brant St	4	2,550	112	7.67	12
127496	Pitt St W	Ouellette Ave	Ferry St	4	2,100	136	7.66	13
126588	Glengarry Ave	Wyandotte St E	Tuscarora St	6	4,400	112	6.69	14
126576	Gladstone Ave	Riverside Dr E	Assumption St	2	700	242	6.46	15
127494	Pitt St E	Ouellette Ave	Goyeau St	5	2,600	169	6.25	16
165250	Pelissier St	Park St W	Maiden Lane W	4	2,250	168	5.79	17
164144	George Ave	Reginald St	Alice St	11	4,300	245	5.73	18
163869	Bruce Ave	University Ave W	Park St W	4	2,700	143	5.68	19
126581	Gladstone Ave	Ottawa St	Ellis St E	3	1,400	208	5.64	20
127408	Parent Ave	Niagara St	Erie St E	10	4,500	220	5.53	21
126506	Florence Ave	Menard St	Paulina Crt	2	980	206	5.43	22
166649	Erie St E	Pierre Ave	Hall Ave	5	4,950	103	5.38	23
127407	Parent Ave	Wyandotte St E	Tuscarora St	4	3,600	113	5.37	24
165241	Victoria Ave	University Ave W	Park St W	4	2,900	143	5.28	25
Average Mid-block Collision Rates by Road Classification					**Scenic Parkway**		**0.43**	
					Collector		**1.06**	
					Arterial		**0.85**	
					Expressway		**0.49**	

Notes:
1. Local streets, streets without volume information, and very short (<100 m) road sections are not included in this table.

Summary of Key Statistics

The key findings of the report are summarized in Table E-5 below. Up and down arrows indicate an increase or decrease, respectively, from the 2013 through 2017 five-year average. The colour of the arrow is green if the 2017 value is better than the five-year average, red if worse, and black if close in value (less than 5% difference) or is not clearly favourable or unfavourable.

Table E-5: Key Statistics with Comparisons to 5-Year Averages

Category	Measure	City of Windsor		
		5-Year Average	**Percentage Difference**	**2017**
Overall Collisions	Total Collisions – All Severities	4,129	⬆ +8%	**4,464**
Injury Collisions [Note 2]	Total Injury Collisions	1,136	⬆ +24%	**1,412**
	Total Persons Injured	1,514	⬆ +25%	**1,890**
	Persons Injured per 1,000 population [Note 1]	6.98	⬆ +24%	**8.64**
Fatal Collisions	Total Fatal Collisions	4.0	⬆ +25%	**5**
	Total Fatalities	4.0	⬆ +25%	**5**
	Fatalities per 100,000 population [Note 1]	1.84	⬆ +24%	**2.29**
Alcohol	Total Alcohol-Related Collisions	94	➡ +3%	**97**
	% of Collisions Involving Alcohol	2.28%	⬇ -5%	**2.17%**
	% of Drivers with Alcohol-Related Driver Conditions [Note 1]	0.96%	⬇ -29%	**0.68%**
	Fatal Collisions with Alcohol-Related Driver Conditions	1.6	⬆ +25%	**2**

Category	Measure	City of Windsor		
		5-Year Average	**Percentage Difference**	**2017**
	% of Fatal Collisions Involving Alcohol	40%	➡ +0%	**40%**
Driver Inattention	Total Inattentive Drivers in Collisions	552	⬆ +25%	**689**
	% of Collisions Involving Inattention	13.1%	⬆ +17%	**15.3%**
	% of Drivers Reported as Inattentive [Note 1]	6.1%	⬆ +16%	**7.1%**
Driver Actions	% of Drivers Reported as Driving Properly [Note 1]	43%	➡ +0%	**43%**
	Most Common Improper Action (where known) [Note 1]	Following Too Close		**Following Too Close**
Driver Condition	% of Drivers Reported as Normal Condition [Note 1]	72%	⬇ -2%	**71%**
Cyclist Collisions	Total Cyclist Collisions (All Severities)	85.4	⬇ -23%	**66**
	Total Cyclist Injury Collisions	70.4	⬇ -25%	**53**
	Total Cyclist Fatal Collisions	0.2	⬇ -100%	**0**
	% of Cyclists Reported as Riding Properly	43%	⬆ +9%	**47%**
	% of Cyclists Wearing Helmets (where known)	18%	⬆ +11%	**20%**
	Most Common Improper Action – Cyclist (where known)	Failed to Yield Right-of-Way		**Failed to Yield Right-of-Way**

Category	Measure	City of Windsor		
		5-Year Average	Percentage Difference	2017
	Most Common Improper Action – Driver (where known)	Failed to Yield Right-of-Way		**Failed to Yield Right-of-Way**
Pedestrian Collisions	Total Pedestrian Collisions (All Severities)	85	⬆ +5%	**89**
	Total Pedestrian Injury Collisions	80	➡ +3%	**82**
	Total Pedestrian Fatal Collisions	1.2	⬇ -20%	**1**
	Most Common Improper Action – Driver	Failed to Yield Right-of-Way		**Failed to Yield Right-of-Way**

Notes:
1. Comparison with Provincial statistics available – see Table E-6.
2. Police reporting practices for motor vehicle collision injuries changed in 2014. Readers should exercise caution in comparing injury statistics from before this date to statistics after this date.

Comparison – City of Windsor vs. Other Jurisdictions

Table E-6 gives a summary of the performance of the City of Windsor compared to the Province of Ontario for measures where provincial statistics were available. Up, down, and horizontal arrows indicate that the City of Windsor value is higher than, lower than, or within 5% of the overall value for the Province of Ontario, and the arrow is coloured green or red, respectively, if Windsor compares favourably or unfavourably with the Province overall; a black arrow indicates that the measure is either close in value or is not clearly favourable or unfavourable. The most recent year of statistics available for Ontario is 2014; five-year provincial averages were based on 2009 through 2014.

Table E-6: Summary – City of Windsor vs. Province of Ontario

Category	Measure	Province of Ontario 5-year Average	Windsor vs. Ontario	City of Windsor 5-year Average
Injury Collisions	Persons injured per 1,000 population	3.99	↑ +75%	6.98
Fatal Collisions	Fatalities per 100,000 population	4.49	↓ -59%	1.84
Inattentive Drivers	% of drivers reported as inattentive	13.1%	↓ -47%	6.1%
Alcohol	% of drivers with alcohol-related driver conditions	1.50%	↓ -36%	0.96%
Driver Actions	% of drivers reported as driving properly	49%	↓ -12%	43%
	Most common improper action (where known)	Following Too Close		Following Too Close
Driver Condition	% of drivers reported as normal condition	75%	→ -4%	72%

1   Introduction

1.1   Background

This annual report provides statistical data on all reported collisions on roads under the jurisdiction of the City of Windsor. The intent of this report is to provide factual information to agencies and individuals involved in road safety in the City in order to provide a sound basis for road-safety related decisions, as well as to provide a source of data to allow the evaluation of the performance of ongoing safety-related programs, policies, and strategies.

1.2   Limitations and Disclaimer

This report is based on collision data provided by the Windsor Police Service from MVA (motor vehicle accident) reports. For this reason, the analysis and conclusions in this report are based on reported collisions only, including both self-reported collisions and collisions investigated by police at the scene. **Unreported collisions are not reflected in the analysis.**

This report examines only collisions on roads under the jurisdiction of the City of Windsor. Collisions on roads under provincial jurisdiction (e.g. King's Highways) or privately-owned roads (e.g. the Ambassador Bridge) have not been examined for this report.

As this report reflects only collision data provided by the Windsor Police Service, it does not include collisions that were investigated by or reported to other police services (e.g. collisions on boundary roads where LaSalle Police or the Ontario Provincial Police responded).

> *"Traffic collisions frequently involve complex interactions between human behaviour, vehicle characteristics, and environmental conditions. The factor or factors responsible for causing a collision are not always the most obvious nor are they always readily apparent. Caution should be exercised in drawing conclusions from the statistics presented in this report and conclusions should be drawn only with appropriate qualifications and supportive information."*
> (Regional Municipality of Waterloo, 2012)

1.3   Population Projections

A number of statistics in this report are given on a per capita (or per 1,000 or 100,000 population) basis. To translate numbers of collisions, injuries, fatalities, etc. to per capita values, an estimate of the City of Windsor population is required.

Population estimates were provided by the City of Windsor Planning Department. The population values used for the remainder of this report are given in Table 1.

Table 1: City of Windsor Population Estimates

Year	Population	Source
2006	216,473	Census
2007	215,357	Estimate
2008	214,240	Estimate
2009	213,124	Estimate
2010	212,007	Estimate
2011	210,891	Census
2012	214,024	Estimate
2013	214,895	Estimate
2014	215,819	Estimate
2015	216,768	Estimate
2016	217,716	Estimate
2017	218,645	Estimate

1.4   Road Network Changes

In December 2010, a number of road sections (primarily along Huron Church Road and the E. C. Row Expressway) were transferred from the City of Windsor to the Province of Ontario.

As noted in Section 1.2, this report considers only collisions on roads under the jurisdiction of the City of Windsor. With the transfer of these road sections to the Province, these road sections are reflected in statistics for years through 2010, but not in statistics given in this report for 2011 and beyond.

The effect of this change on overall statistics given is considered minor; there were 42 collisions on these transferred sections in 2013, which represent 1.1% of the total number of collisions in that year.

2   Trends in City of Windsor Collision Data

From 2016 to 2017, the total number of collisions increased by 5.9%, which is greater than the 5-year trend from 2013 through 2017 of a 3.5% increase per year, on average. The total number of injury and fatality collisions increased by 11.1% from 2016 to 2017, which was greater than the 5-year trend of a 10.4% increase per year, on average. As can be seen in Figure 1, both the number of injury collisions and the number of total collisions have been increasing steadily since approximately 2014.
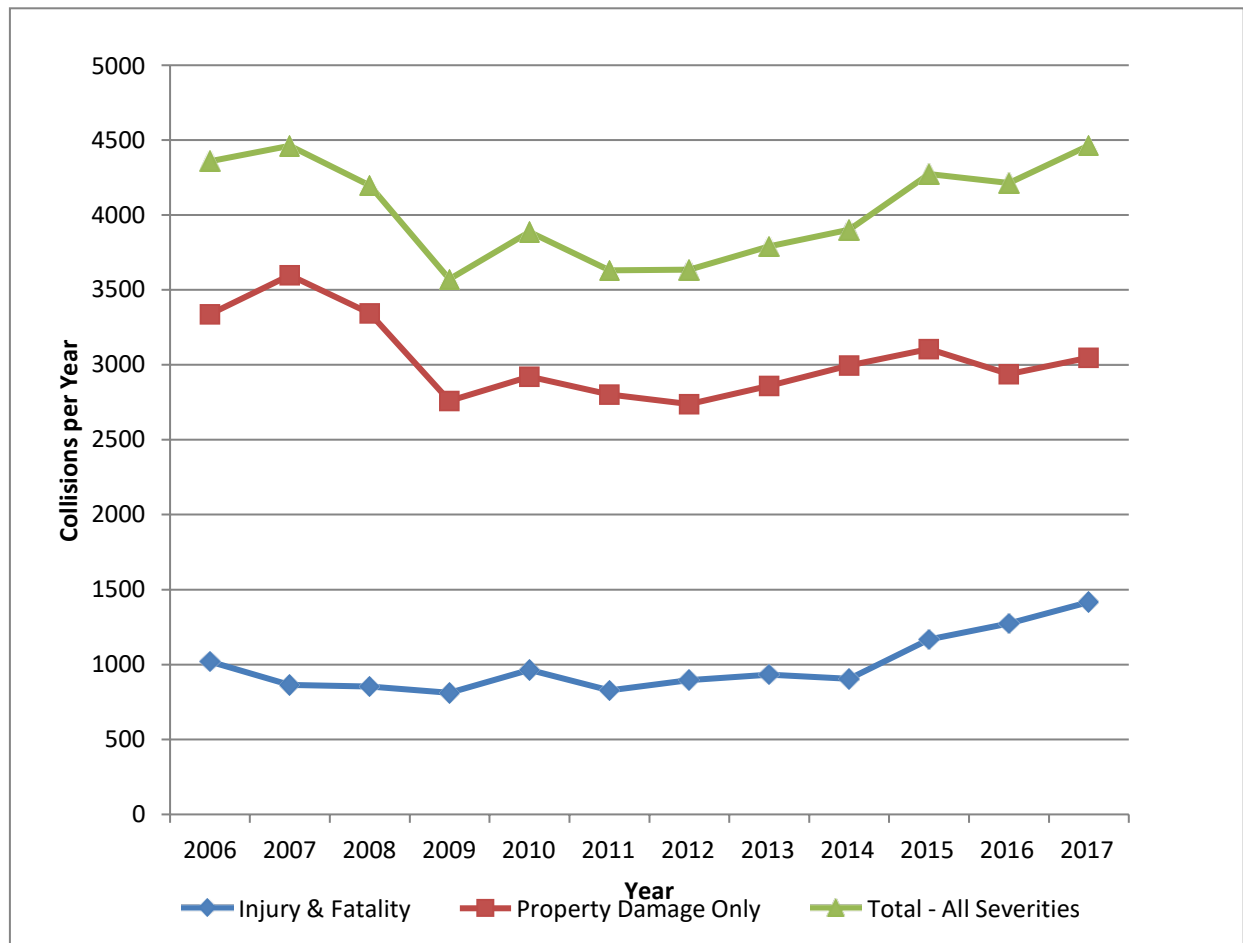
Figure 1: Number of Collisions by Year – City-wide

Table 2: Number of Collisions by Year – City-wide

Year	Collisions			
	Fatality	**Injury**	**Property Damage Only**	**Total**
2006	6	1,015	3,339	4,360
2007	4	860	3,598	4,462
2008	7	846	3,344	4,197
2009	3	809	2,760	3,572
2010	2	963	2,922	3,887
2011	3	825	2,802	3,630
2012	7	889	2,738	3,634
2013	4	928	2,860	3,792
2014	2	904	2,996	3,902
2015	6	1,162	3,105	4,273
2016	3	1,272	2,939	4,214
2017	5	1,412	3,047	4,464

Overall, the number of collisions in 2017 was significantly below the peak occurring in 1994, the worst year recorded in City of Windsor annual collision reports (22 fatal, 1,303 injury, 4,090 PDO, 8,578 total). (City of Windsor, 2005)

Starting in late 2014, a provincially-mandated change in Windsor Police Service collision reporting practices meant that some collisions that would have previously been classified as "property damage only" were classified as injury collisions (with the injury or injuries classified as "minimal"). This change is likely responsible for some of the increase in injury collisions between 2014 and 2015. Because of this change in practices, caution should be exercised when comparing collision statistics from 2014 and earlier with statistics from 2015 and later. The change did not affect the total number of reported collisions.

2.1   Injuries and Fatalities per Capita

Rates for collision injuries and fatalities relative to the City of Windsor population are given in Table 13 and shown graphically in Figure 2.

Table 3: Injury and Fatality Rates Relative to Population

Year	Population	Total Collisions	Persons Injured	Persons Injured per 1000 population	Fatalities	Fatalities per 100,000 population
2006	216,473	4,360	1,382	6.38	6	2.77
2007	216,473	4,462	1,128	5.21	6	2.77
2008	216,473	4,197	1,123	5.19	6	2.77
2009	216,473	3,572	1,066	4.92	3	1.39
2010	216,473	3,887	1,209	5.58	2	0.92
2011	216,473	3,630	1,022	4.72	3	1.39
2012	214,024	3,634	1,149	5.37	7	3.27
2013	214,895	3,792	1,207	5.62	4	1.86
2014	215,819	3,902	1,190	5.51	2	0.93
2015	216,768	4,273	1,590	7.34	6	2.77
2016	217,716	4,214	1,695	7.79	3	1.38
2017	218,645	4,464	1,890	8.64	5	2.29
5-year average – 2013 to 2017				**6.98**		**1.84**
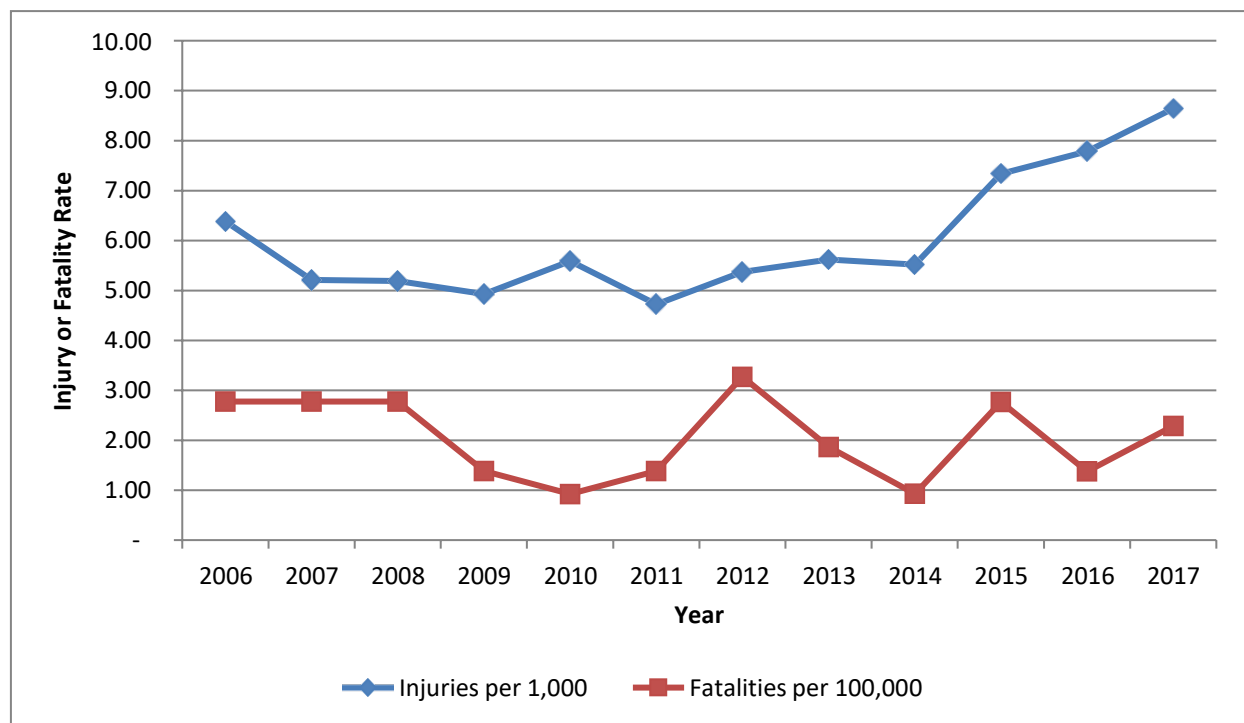
Figure 2: Injury and Fatality Rates Relative to Population

2.2 Annual and Daily Variation

2.2.1 Annual Variation by Month

The variation in collisions over the year is summarized in Table 4 and illustrated in Figure 3. In general, the collision rate was higher than average in May and September through December, and lower than average in February through August with the exception of May.

Table 4: 2017 Collisions by Month

Month	Collisions	% of Year	% of average month
January	371	8.3%	100%
February	306	6.9%	82%
March	354	7.9%	95%
April	326	7.3%	88%
May	378	8.5%	102%
June	356	8.0%	96%
July	343	7.7%	92%
August	345	7.7%	93%
September	395	8.8%	106%
October	388	8.7%	104%
November	434	9.7%	117%
December	468	10.5%	126%
Total	**4,464**		
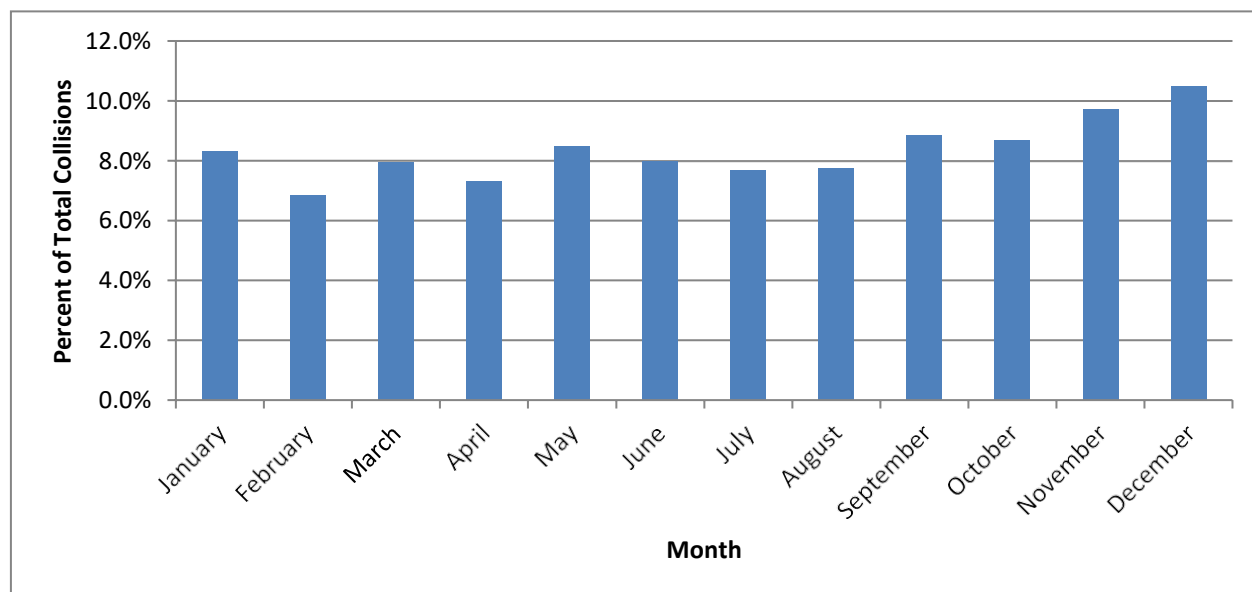
Figure 3: 2017 Collisions by Month

2.2.2 Daily Variation by Hour

A breakdown of collisions by hour of day is given in Table 5. This data is shown graphically in Figure 4, along with traffic volume variation (based on the average of the traffic patterns recorded at the detector stations along the E. C. Row Expressway) as a comparator.

Table 5: 2017 Collisions by Hour of Day

Hour	Collisions	% of Day
0:00 - 1:00	127	2.8%
1:00 - 2:00	44	1.0%
2:00 - 3:00	39	0.9%
3:00 - 4:00	33	0.7%
4:00 - 5:00	22	0.5%
5:00 - 6:00	23	0.5%
6:00 - 7:00	80	1.8%
7:00 - 8:00	110	2.5%
8:00 - 9:00	214	4.8%
9:00 - 10:00	194	4.3%
10:00 - 11:00	190	4.3%
11:00 - 12:00	268	6.0%
12:00 - 13:00	289	6.5%
13:00 - 14:00	300	6.7%
14:00 - 15:00	353	7.9%
15:00 - 16:00	448	10.0%
16:00 - 17:00	381	8.5%
17:00 - 18:00	389	8.7%
18:00 - 19:00	258	5.8%
19:00 - 20:00	190	4.3%
20:00 - 21:00	133	3.0%
21:00 - 22:00	142	3.2%
22:00 - 23:00	138	3.1%
23:00 - 0:00	99	2.2%
Total	4,464	
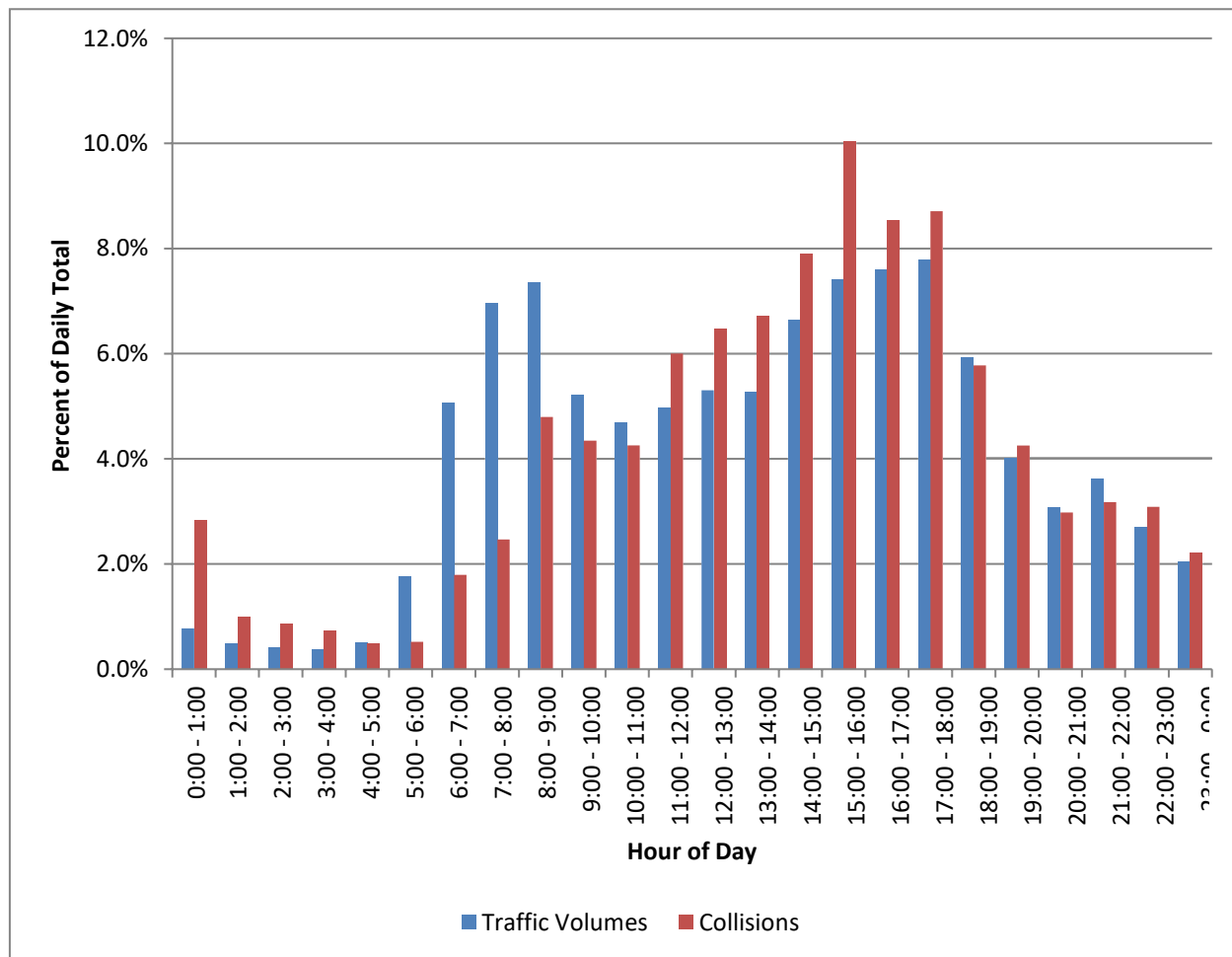
Figure 4: 2017 Collisions by Hour of Day

2.3 Characteristics of Collisions

2.3.1 Impact Type

The impact types for 2017 City of Windsor collisions are summarized in Table 6 and illustrated graphically in Figure 5. Rear-end collisions were the most frequent collision type (32%).

Table 6: 2017 Collisions by Impact Type

Type	Collisions	% of Total
Rear End	1,415	32%
Turning	937	21%
Angle	548	12%
Sideswipe	466	10%
SMV Other	423	9%
SMV Unattended	420	9%
Other	191	4%
Approaching	64	1%
Unknown	-	0%
Total	**4,464**	**100%**
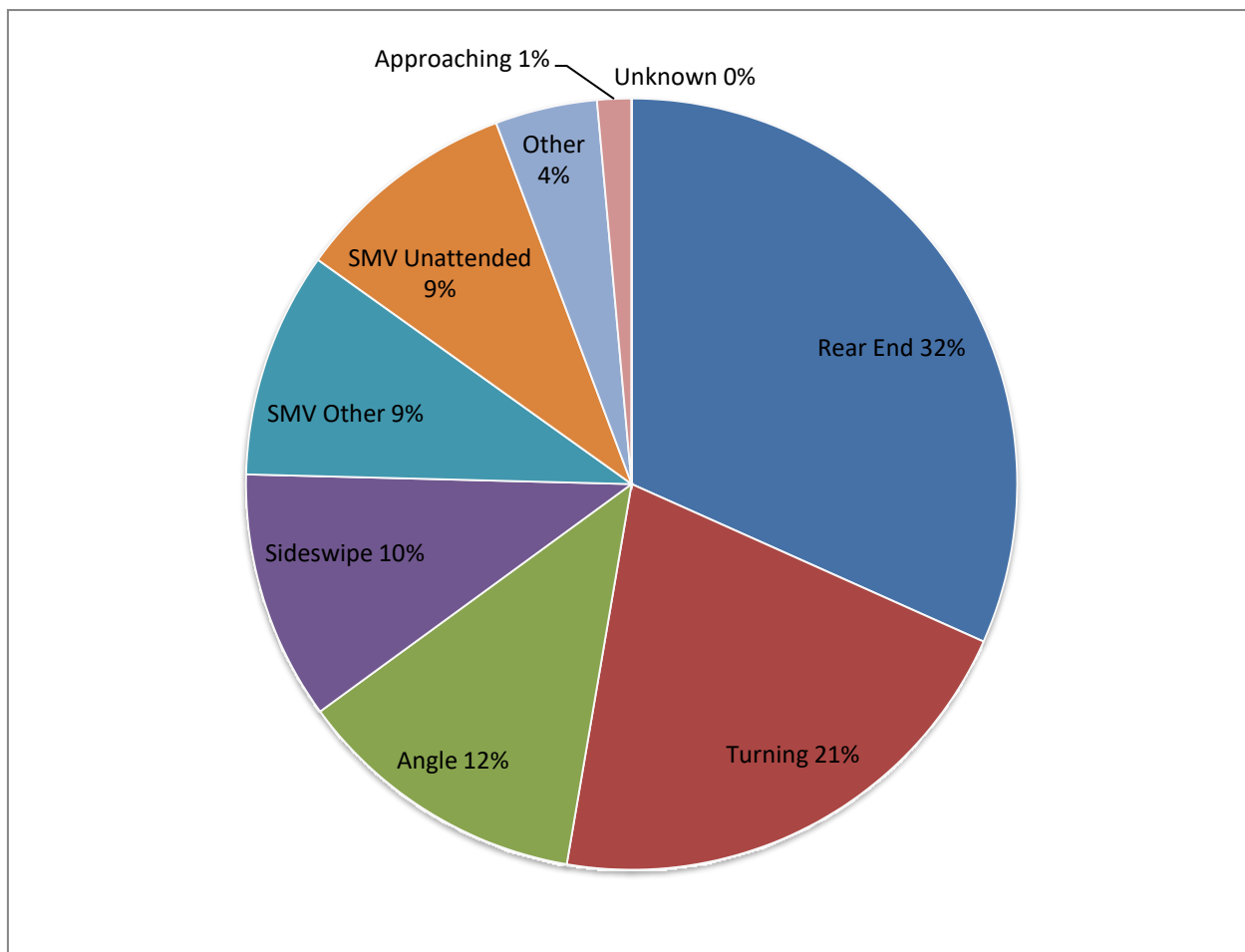
Figure 5: 2017 Collisions by Impact Type

3   Areas of Special Focus

3.1   Alcohol Involvement

For 2017, alcohol was found to be involved in 2.17% of collisions. This percentage is slightly below the 5-year City of Windsor average of 2.28% and significantly below historical percentages. (City of Windsor, 2005)

In 2017, 40% of fatal collisions in the City of Windsor (2 collisions) involved drivers with alcohol-related driver conditions. On average, alcohol was involved in 40% percent of fatal collisions in the five-year period of 2013 through 2017.

A comparison of 2017 with previous years is given in Table 7 and Figure 6. "Alcohol-related collisions" include collisions with driver conditions "had been drinking", "ability impaired – alcohol", and "ability impaired – alcohol over 0.08".

Table 7: Alcohol-Related Collisions by Year

Year	Total Collisions	Total Alcohol-Related Collisions	% of Total Collisions Involving Alcohol	Fatal Collisions	Fatal Alcohol-Related Collisions	% of Fatal Collisions Involving Alcohol
2006	4,360	159	3.65%	6	1	17%
2007	4,462	163	3.65%	4	-	0%
2008	4,197	123	2.93%	7	2	29%
2009	3,572	78	2.18%	3	-	0%
2010	3,887	118	3.04%	2	-	0%
2011	3,630	111	3.06%	3	-	0%
2012	3,634	94	2.59%	7	3	43%
2013	3,792	102	2.69%	4	1	25%
2014	3,902	78	2.00%	2	1	50%
2015	4,273	97	2.27%	6	2	33%
2016	4,214	97	2.30%	3	2	67%
2017	4,464	97	2.17%	5	2	40%
2013 through 2017	**20,645**	**471**	**2.28%**	**20**	**8**	**40%**
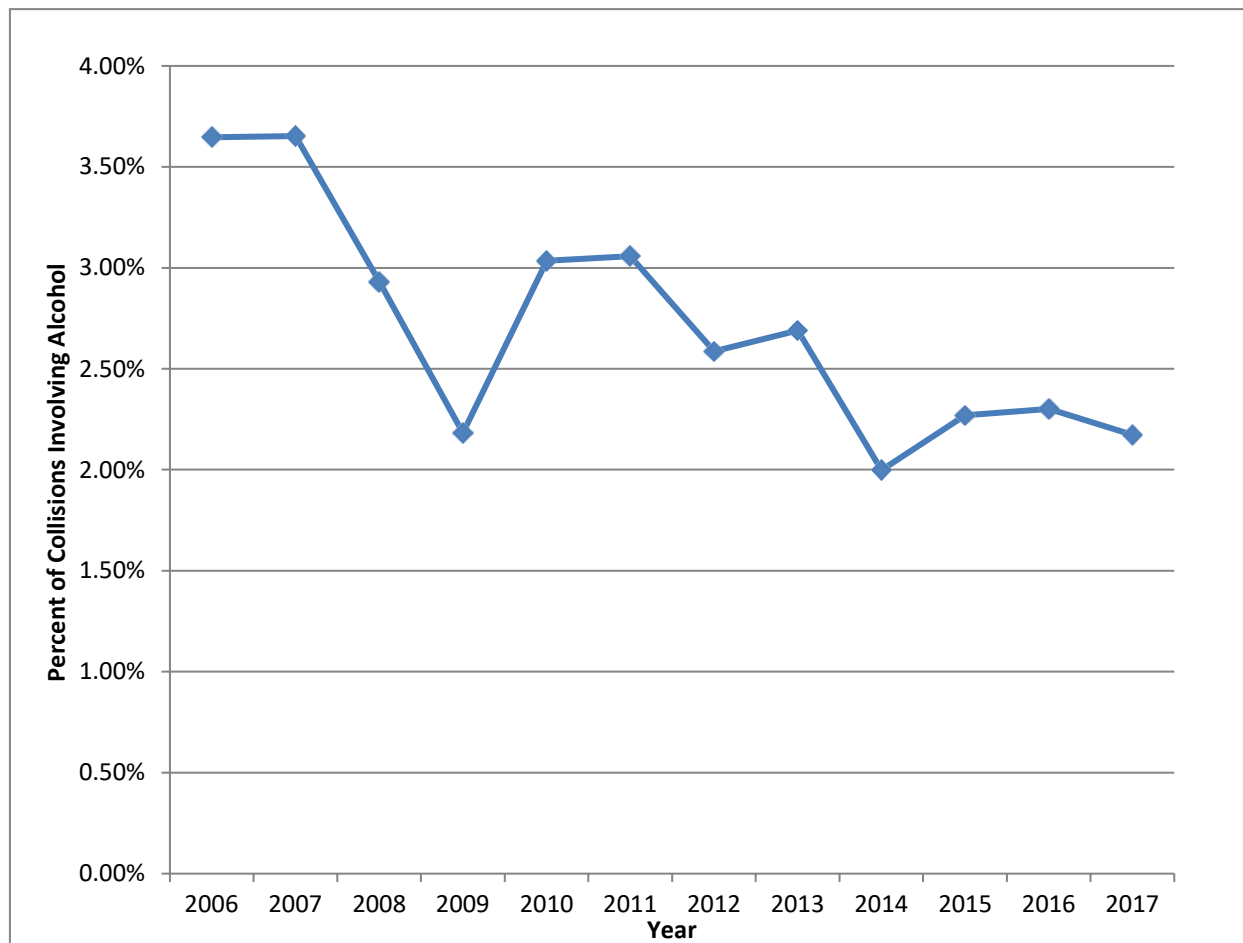
Figure 6: Alcohol-Related Collisions by Year

3.2   Inattentive Drivers

Note: for "inattentive" collisions, results from 2013 are not directly comparable to previous years – details are provided below.

In 2017, 15.3% of all City of Windsor collisions involved drivers reported as "inattentive". This represents a major decrease from historical levels but an increase over 2015-2016 levels, as shown in Table 8 and Figure 7.

This major change from 2012 to 2013 appears to be the result of changes in police collision reporting practices. The Windsor Police Service confirmed that, beginning in 2013, they now use stricter criteria for determining when to classify a driver as "inattentive". This change in police practice appears to be the most significant reason for the marked difference between 2013 statistics and previous years.

The "inattentive" driver condition includes conditions that would be considered "distracted driving" under the Highway Traffic Act as well as conditions that would not be considered distracted driving.

It should be noted that driver inattention in collisions is likely underreported, since drivers are unlikely to self-report that they were engaged in illegal cell phone use, texting, or other distracting activities at the time of the crash. Therefore, the actual rate of inattentive driving in collisions may be higher than the statistics below indicate.

Table 8: Inattentive-Related Collisions by Year

Year	Total Collisions	Total Inattention-Related Collisions	% of Total Collisions Involving Inattentive Drivers	Fatal Collisions	Fatal Inattention-Related Collisions	% of Fatal Collisions Involving Inattentive Drivers
2006	4,360	971	22.3%	6	-	0.00%
2007	4,462	1,157	25.9%	4	-	0.00%
2008	4,197	1,165	27.8%	7	-	0.00%
2009	3,572	1,190	33.3%	3	-	0.00%
2010	3,887	1,422	36.6%	2	-	0.00%
2010	3,630	1,518	41.8%	3	-	0.00%
2012	3,634	1,238	34.1%	7	-	0.00%
2013	3,792	692	18.2%	4	-	0.00%
2014	3,902	464	11.9%	2	-	0.00%
2015	4,273	340	8.0%	6	-	0.00%
2016	4,214	534	12.7%	3	1	33.33%
2017	4,464	681	15.3%	5	-	0.00%
2013 through 2017	20,645	2,711	13.1%	20	1	5.00%
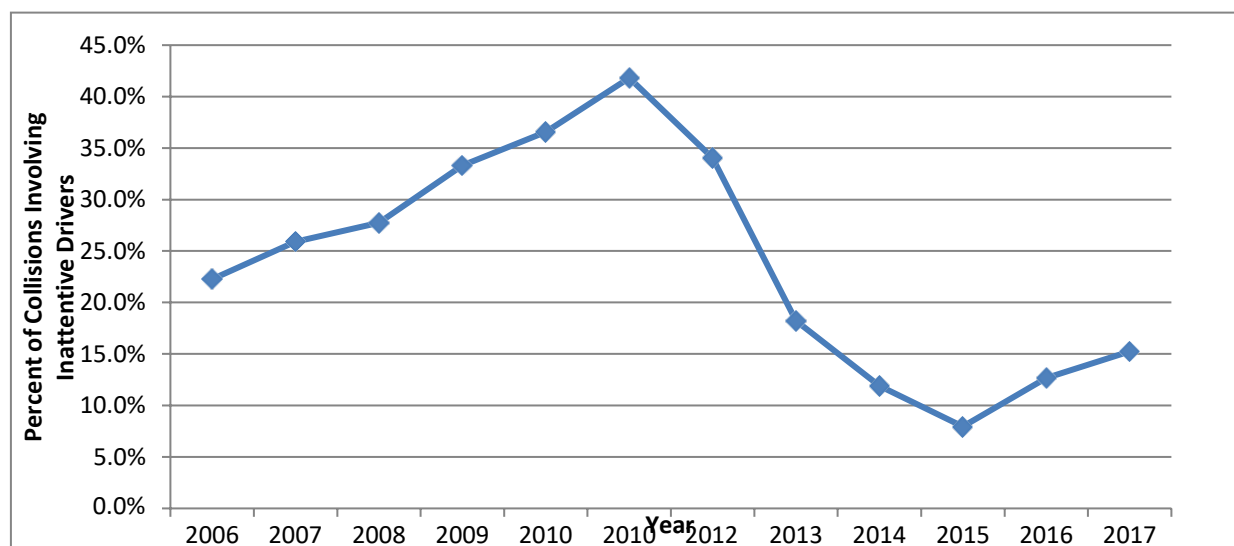
Figure 7: Inattentive-Related Collisions by Year

4   Fatal and Major Injury Collisions

Collisions that involve life-ending or life-altering injuries are of special concern. This section addresses collisions that involved the injury classifications "fatal injury" or "major injury" as reported on the MVA report.

4.1   Involved Persons

In 2017, 37 people were killed or seriously injured (5 fatalities, 32 major injuries) in reported collisions on roads under the jurisdiction of the City of Windsor. This number is slightly below the 2013-2017 average of 37.4 fatalities and major injuries per year. Motor vehicle drivers were the group with the largest proportion of fatalities or major injuries (49% of all fatalities and major injuries). Table 9 and Figure 8 and 9 summarize the fatalities and major injuries by victim category for the past five years.

Table 9: Fatalities and Major Injuries by Year and Victim Category

Year	Fatalities and Major Injuries						
	Motor Vehicle Driver	Pedestrian	Motor-cyclist	Motor Vehicle Passenger	Cyclist	Hanger-on	Total
2013	11	10	7	6	4	0	38
2014	16	7	1	4	5	1	34
2015	12	10	9	3	5	0	39
2016	13	9	7	5	4	1	39
2017	18	7	6	4	2	0	37
Percent (2017)	49%	19%	16%	11%	5%	0%	100%

Notes:

1. In the table above, "motor vehicle" does not include motorcycles, mopeds, or e-bikes
2. "Motorcyclist" includes motorcycle riders and passengers as well as moped riders and passengers
3. "Motor vehicle passenger" includes bus passengers
4. "Cyclist" includes bicycle riders and passengers as well as e-bike riders and passengers
5. "Hangers-on" are persons hanging on to the outside of a vehicle
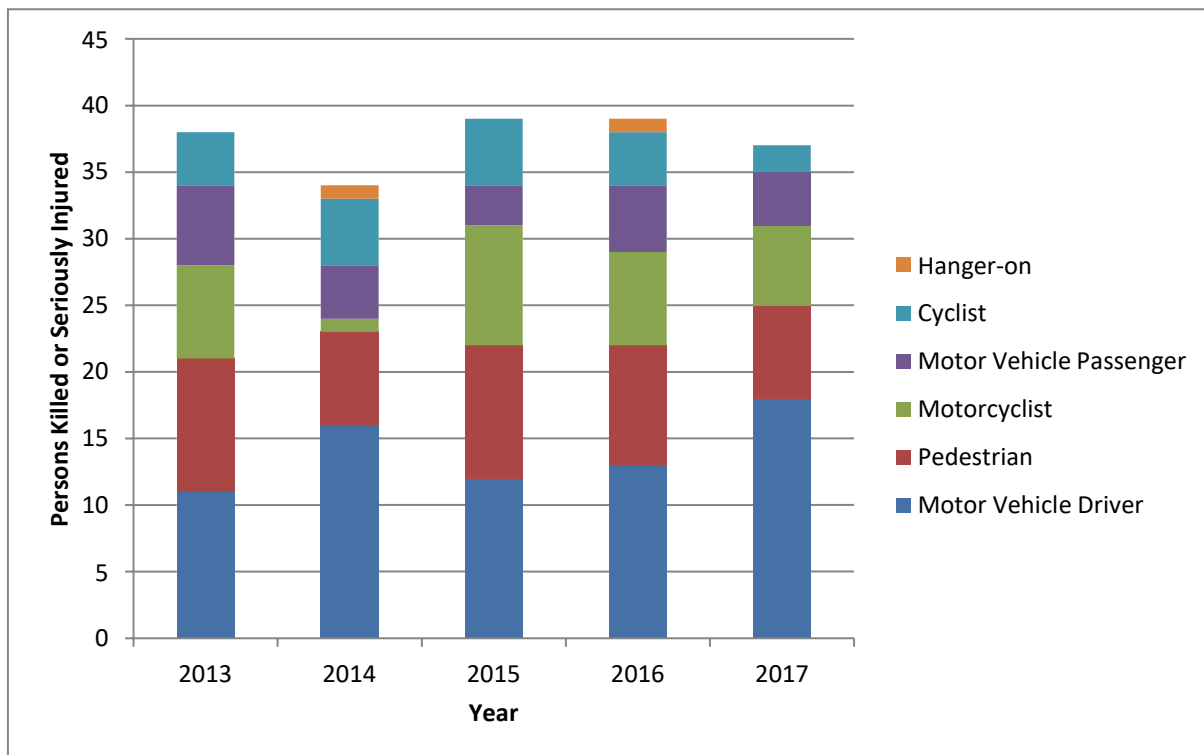
Figure 8: Fatalities and Major Injuries by Year and Victim Type
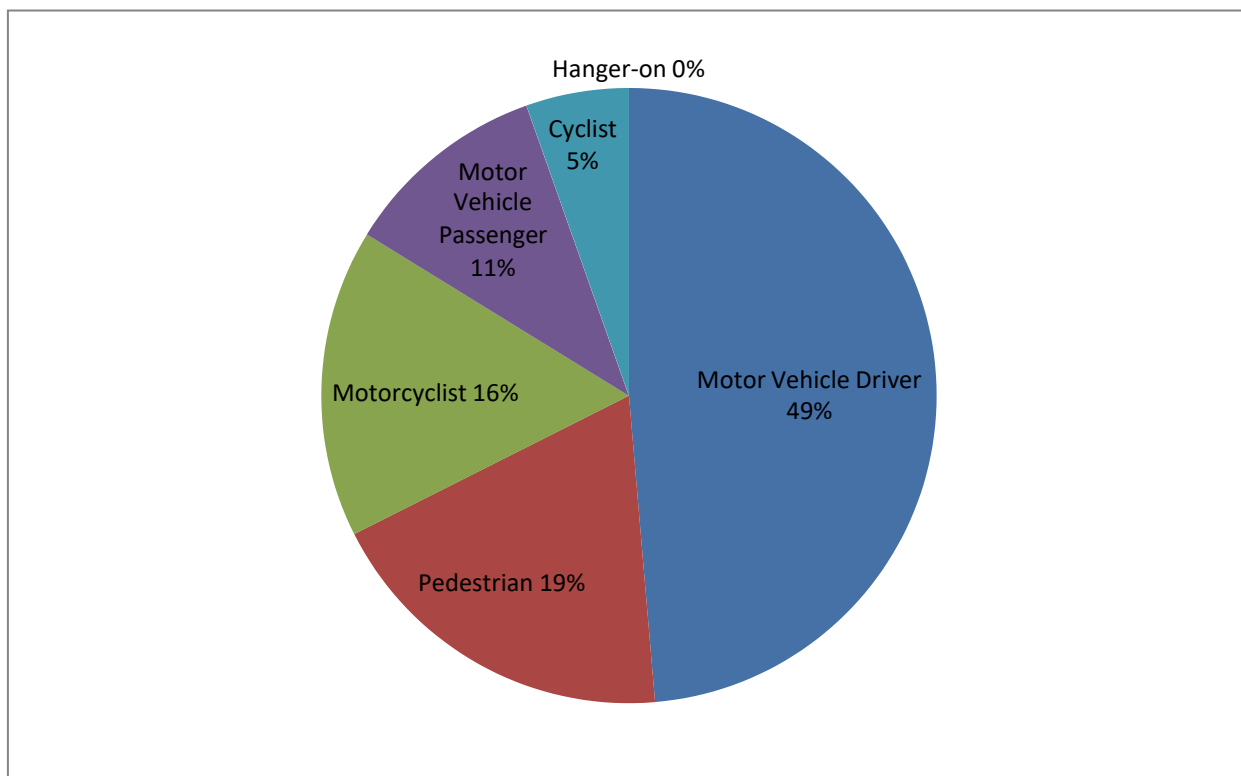
Figure 9: 2017 Fatalities and Serious Injuries

4.2   Locations

Locations that experienced two or more collisions with major injuries or fatalities are summarized in Table 10 for intersections and Table 11 for midblock locations.

Table 10: Locations with 2 or More Major Injury or Fatality Collisions (2013-2017) – Intersections

CompKey	Intersection	Control	2013-2017 Fatalities and Major Injuries	
			Major Injuries or Fatalities	Involved Collisions
288678	Central Ave @ E C Row W/B On Ramp & E C Row W/B Off Ramp	Signalized	5	4
289593	Walker Rd @ E C Row W/B On Ramp & E C Row Collector North	Signalized	4	3
284937	Huron Church Rd @ Tecumseh Rd W	Signalized	2	2
286691	Tecumseh Rd E @ McDougall St	Signalized	2	2
286985	Wyandotte St E @ Marentette Ave	Unsignalized	2	2
287756	Ontario St @ Pillette Rd	Unsignalized	2	2
288473	Tecumseh Rd E @ Roseville Garden Dr	Signalized	2	2

Table 11: Locations with 2 or More Major Injury or Fatality Collisions (2013-2017) – Midblocks

Geo_ID	Street	From	To	2013-2017 Fatalities and Major Injuries	
				Major Injuries or Fatalities	Collisions
127741	Sandwich St	Brock St	Chippawa St	2	2
161398	E C Row E/B Off Ramp	E C Row Expy E/B	E C Row E/B Off Ramp	2	2
204314	E C Row Expy E/B	Dougall Ave	Howard Ave	2	2

5   Drivers

5.1   Driver Actions

The apparent driver actions for all drivers involved in 2017 City of Windsor collisions are summarized in Table 12. In cases where drivers were not driving properly and a specific driver action could be determined, the category with the highest percentage of collisions was "following too close".

Table 12: 2017 Drivers in Collisions by Driver Action

Driver Action	Drivers	% of Total
Driving Properly	4,226	43%
Unknown or No Info	1,410	14%
Other	993	10%
Following Too Close	943	10%
Failed to Yield Right-of-Way	792	8%
Lost Control	523	5%
Disobeyed Traffic Control	275	3%
Improper Lane Change	215	2%
Improper Turn	162	2%
Speed Too Fast for Condition	101	1%
Improper Passing	55	1%
Exceeding Speed Limit	24	0%
Wrong Way on One-Way Road	10	0%
Speed Too Slow	1	0%
Total	**9,730**	**100%**

The information in Table 12 is displayed graphically in Figure 10 along with Ontario-wide statistics for comparison. (Ontario Ministry of Transportation, 2017) While the categories "driving properly," "unknown or no info," and "other" are quite different between the City of Windsor and the province overall, it is unclear whether this is caused by a meaningful difference in actual collision experience in the two regions or whether it is merely the result of different practices when preparing MVA reports in the City of Windsor versus other parts of Ontario.
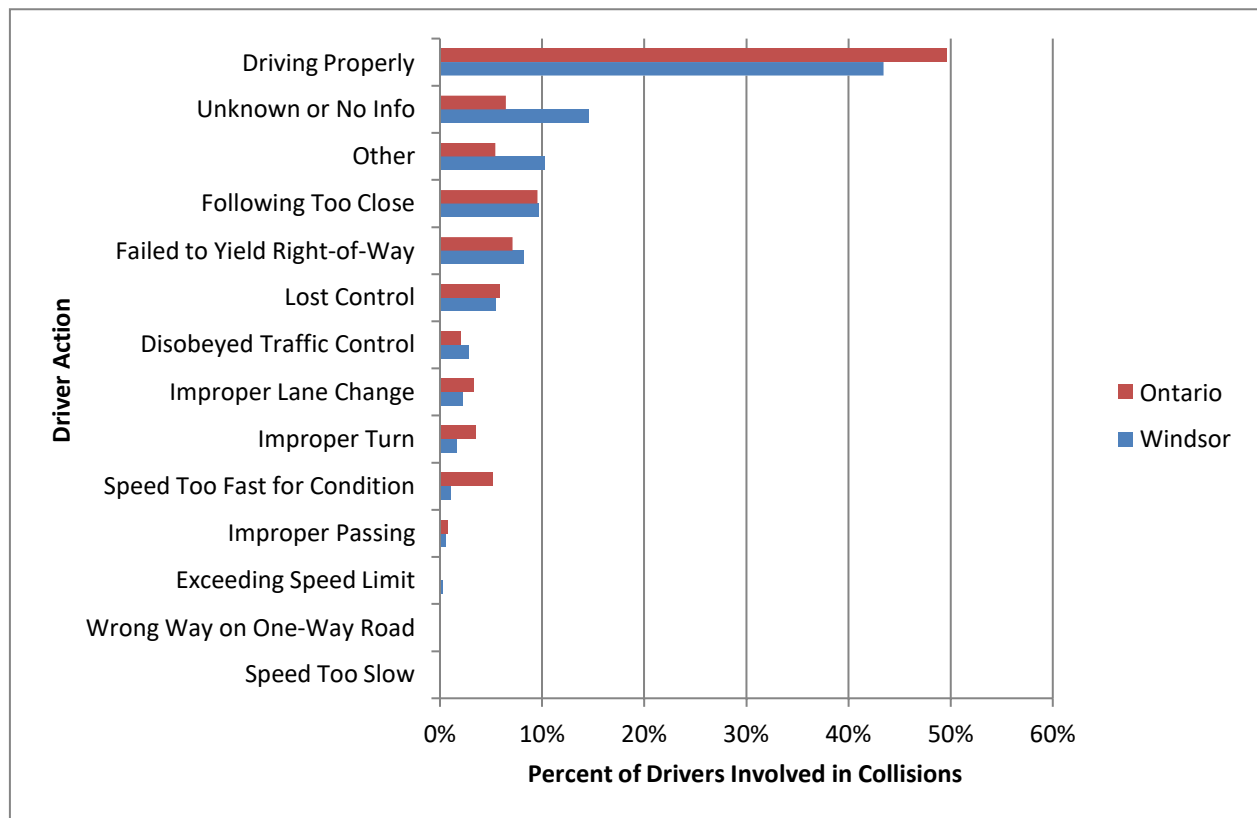
Figure 10: 2017 Drivers in Collisions by Action Type

5.2   Condition of Drivers

The reported condition of drivers in 2017 City of Windsor collisions is summarized in Table 13. The majority of drivers were classified as "normal" (70%); this is lower than the percentage Ontario-wide (75%). It is unclear how much of this difference between City of Windsor experience and the experience in Ontario overall can be attributed to the difference in the percentage of drivers with unknown conditions (Windsor: 21%, Ontario: 10%). (Ontario Ministry of Transportation, 2017)

Table 13: 2017 Drivers in Collisions by Condition

Driver Condition	Drivers	Percent
Normal	6,851	70.4%
Unknown or No Info	2,062	21.2%
Inattentive	689	7.1%
Subtotal: Alcohol-Related Conditions	*66*	*0.7%*
Ability Impaired, alcohol (over 0.08)	29	0.3%
Had Been Drinking	22	0.2%
Ability Impaired, alcohol	15	0.2%
Fatigue	25	0.3%
Medical or Physical Disability	25	0.3%
Ability Impaired, drugs	8	0.1%
Other	4	0.0%
Total	**9,730**	**100.0%**

The information in Table 13 is displayed graphically in Figure 11 along with Ontario-wide statistics for comparison. (Ontario Ministry of Transportation, 2017)
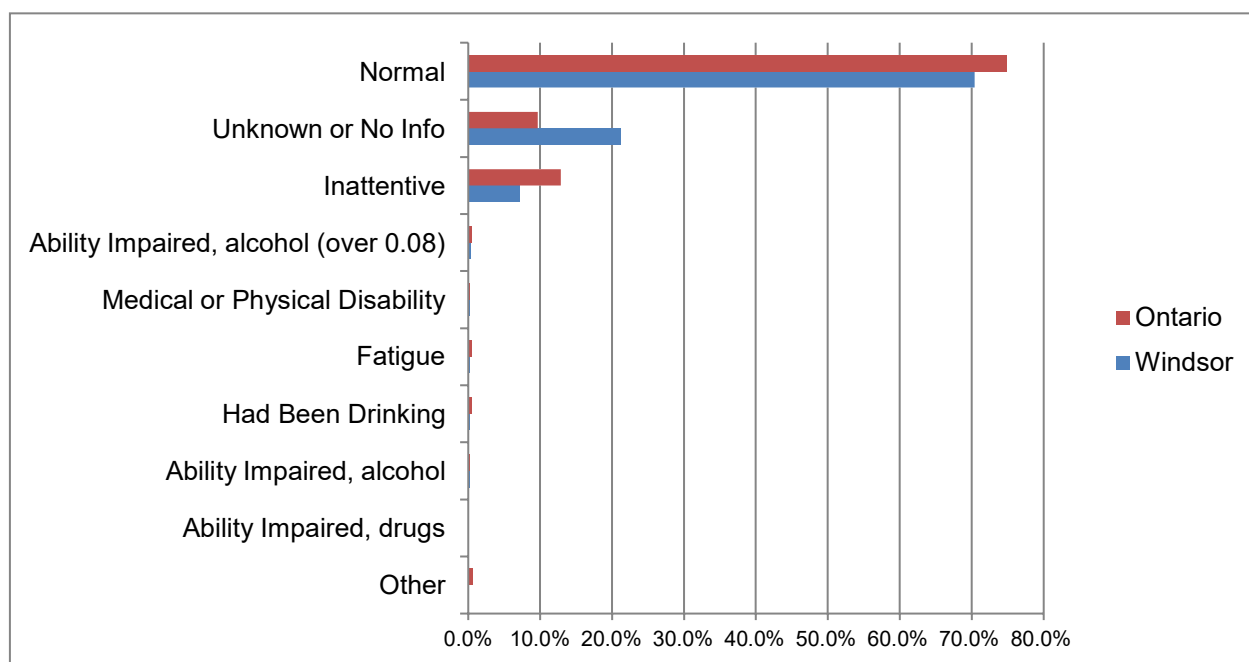
Figure 11: 2017 Drivers in Collisions by Condition

6   Cyclists

6.1   Note – Data Limitations

As stated in Section 1.2, this report deals only with collisions reported via Windsor Police Service MVA report forms. Because of this, the information in this section addresses only cyclist collisions that also involved at least one motor vehicle. Single rider collisions or

collisions between cyclists and/or electric power assisted bicycles ("e-bikes") and pedestrians would not be reported via MVA report forms and are not reflected in this report.

E-bikes are not considered motor vehicles for collision reporting purposes. Therefore, as for conventional bicycles, this section does not reflect e-bike collisions except for cases where a motor vehicle was involved.

Standard MVA report forms do not currently differentiate between e-bikes and conventional bicycles. Therefore, the information in this section reflects both e-bikes and conventional bicycles.

6.2 General

In 2017, there were 66 collisions involving cyclists on City of Windsor roads. These collisions are broken down by severity in Table 14.

Table 14: 2017 Cyclist Collisions

Severity	Collisions	Percent
Property Damage Only	13	20%
Injury	53	80%
Fatality	0	0%
Total	66	100%

6.3 Cyclist Actions

Cyclist actions in 2017 City of Windsor collisions are summarized in Table 15 and Figure 12. Overall, cyclists were found to be riding properly in 47% of collisions. In cases where the cyclist was not riding properly and a specific cyclist action was identified, the most common cyclist action was "failed to yield right of way."

Table 15: 2017 Cyclist Collisions by Cyclist Action

Cyclist Action	Collisions	Percent
Driving properly	31	47%
Other	17	26%
Failed to yield right-of-way	11	17%
Improper turn	3	5%
Disobeyed traffic control	2	3%
Following too close	1	2%
Lost control	1	2%
Unknown	0	0%
Exceeding speed limit	0	0%
Speed too fast for condition	0	0%
Speed too slow	0	0%
Improper passing	0	0%
Wrong way on one-way road	0	0%
Improper lane change	0	0%
Total	66	100%
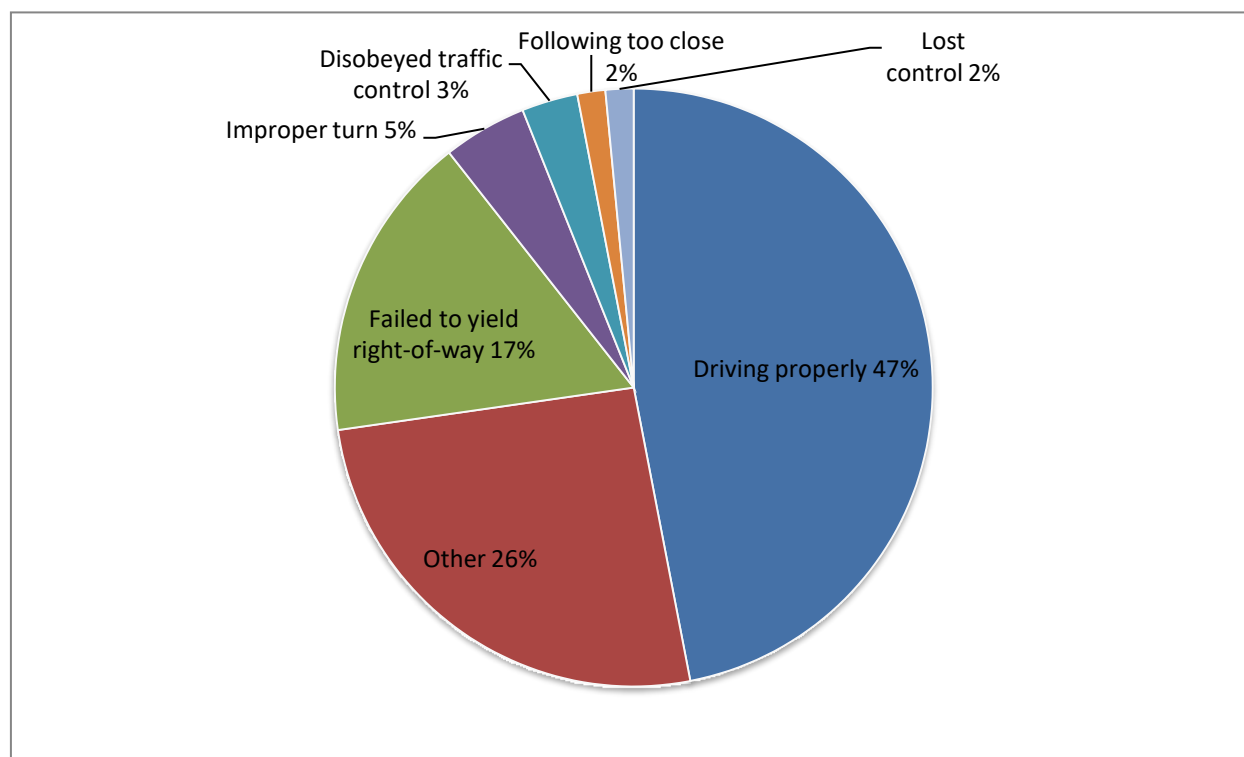
Figure 12: 2017 Cyclist Collisions by Cyclist Action

6.4 Drivers' Actions in Cyclist Collisions

Driver actions in 2017 City of Windsor cyclist collisions are summarized in Table 16 and Figure 13. Overall, drivers were found to be driving properly in 59% of collisions. In cases

where the driver was not driving properly, the most common driver action was "failed to yield right of way."

Table 16: 2017 Cyclist Collisions by Driver Action

Driver Action	Collisions	Percent
Driving properly	39	59%
Failed to yield right-of-way	18	27%
Other	4	6%
Improper turn	3	5%
Unknown	1	2%
Improper lane change	1	2%
Following too close	0	0%
Exceeding speed limit	0	0%
Speed too fast for condition	0	0%
Speed too slow	0	0%
Disobeyed traffic control	0	0%
Improper passing	0	0%
Lost control	0	0%
Wrong way on one-way road	0	0%
Total	**66**	**100%**
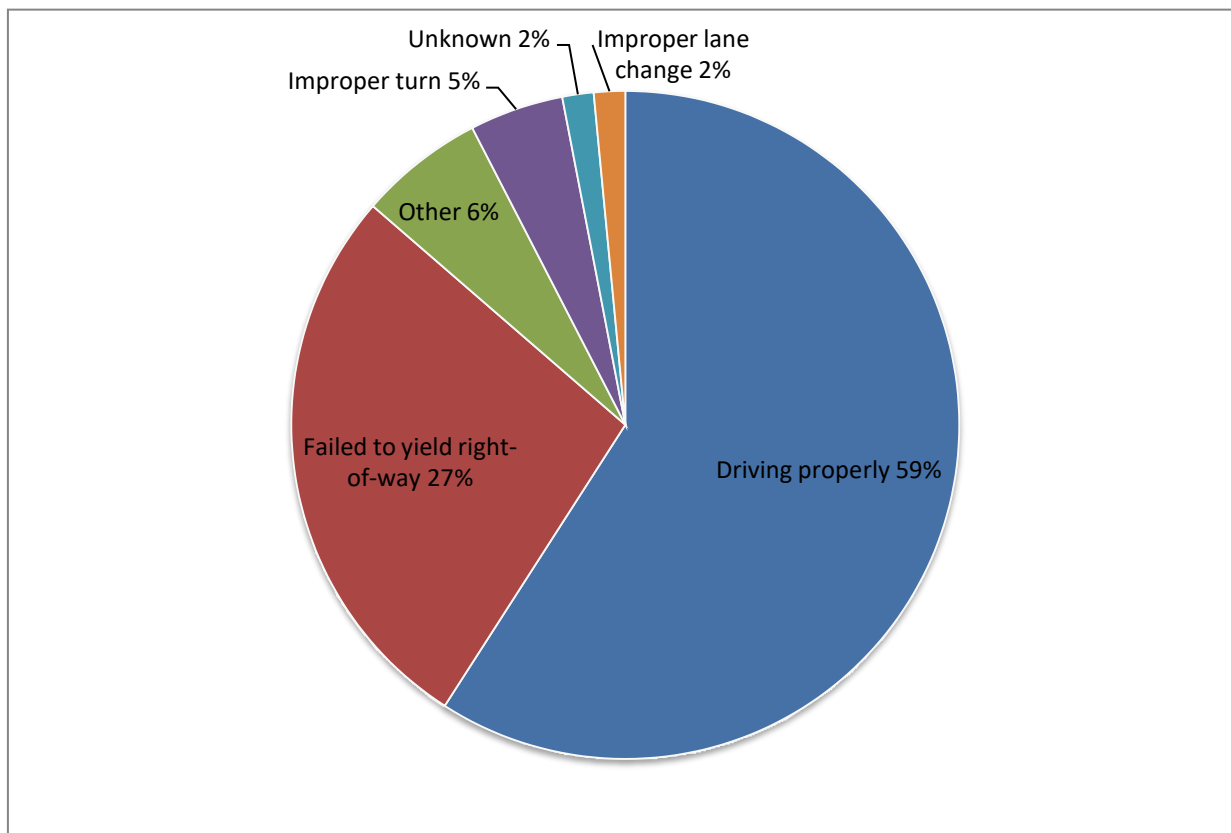
Figure 13: 2017 Cyclist Collisions by Driver Action

6.5 Locations of Cyclist Collisions

The locations of collisions involving cyclists are summarized in Table 17 and Figure 14. In 2017, 71% of cyclist collisions either occurred at intersections or were intersection related. When this value is considered along with the 15% of collisions that occurred at private driveways, 86% of collisions occurred at points of conflict between bicycle and motor vehicle traffic.

Table 17: 2017 Cyclist Collisions by Location Type

Location	Collisions	Percent
At Intersection	36	55%
Intersection Related	11	17%
At/Near Private Drive	10	15%
Non-intersection	9	14%
Unknown or No Info	0	0%
At Railway Crossing	0	0%
Underpass or Tunnel	0	0%
Overpass or Bridge	0	0%
Other	0	0%
Total	**66**	**100%**
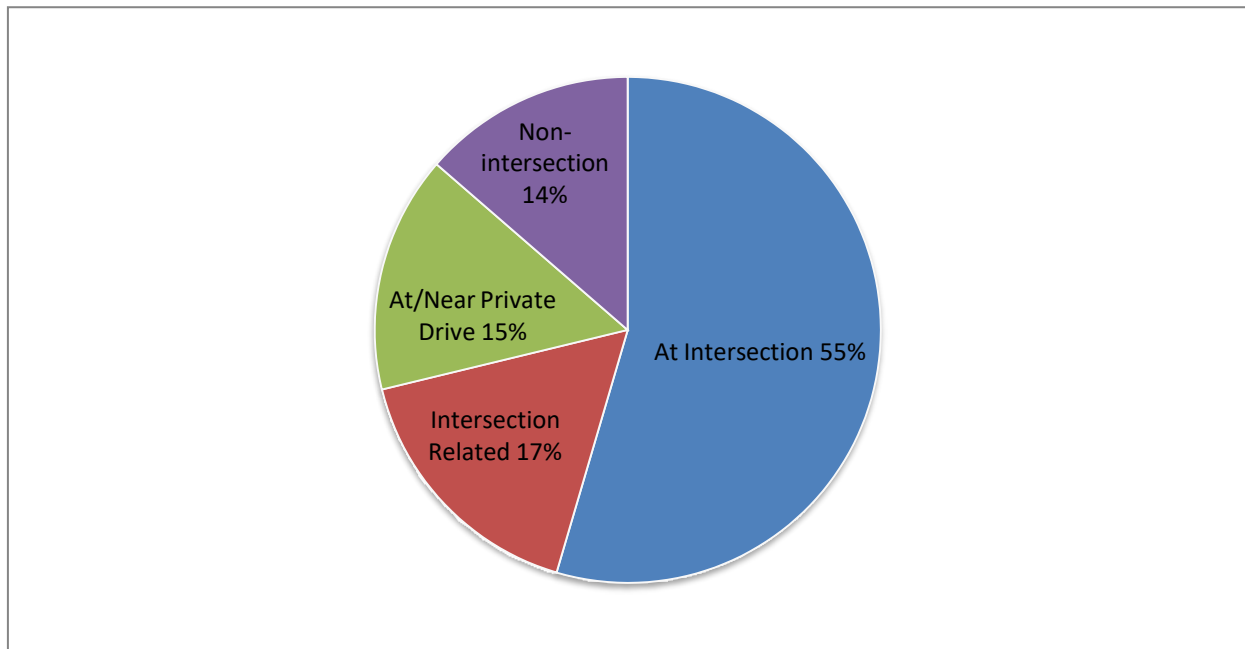
Figure 14: 2017 Cyclist Collisions by Location Type

Location rankings based on number of cyclist collisions in 5 years (2013 through 2017) are provided in Table 18 and Table 19.

Table 18: 2013-2017 Cycling Collision Locations - Intersections

CompKey	Intersection	Control	Cyclist Collisions 2013-2017	Rank
289240	Lauzon Pky @ Tecumseh Rd E	Signalized	5	1
286690	Tecumseh Rd E @ Windsor Ave	Unsignalized	4	2
287328	Hanna St E @ Mcdougall St	Unsignalized	4	2
285123	Wyandotte St W @ Campbell Ave	Signalized	3	4
285262	Tecumseh Rd W @ Mckay Ave	Unsignalized	3	4
285263	Tecumseh Rd W @ Crawford Ave	Signalized	3	4
286705	Tecumseh Rd E @ Hall Ave	Signalized	3	4
286706	Tecumseh Rd E @ Moy Ave	Unsignalized	3	4
286972	Wyandotte St W @ Pelissier St	Signalized	3	4
286973	Wyandotte St W @ Ouellette Ave & Wyandotte St E	Signalized	3	4
286976	Wyandotte St E @ Goyeau St	Signalized	3	4
287497	Ypres Ave @ Walker Rd	Signalized	3	4
288134	Tecumseh Rd E @ Arthur Rd	Unsignalized	3	4
289016	Tranby Ave @ Lauzon Rd & Lauzon Pky	Signalized	3	4
	Tie (31 locations)		2	15
	Tie (179 locations)		1	46

Table 19: 2013-2017 Cycling Collision Locations - Intersections

CompKey	Street	From	To	Cyclist Collisions 2013-2017	Rank	On-Road Cycling Facility
167107	Tecumseh Rd W	South Pacific Ave	Municipal Lane	4	1	None (Future Bike Lane)
164299	Wyandotte St E	Aylmer Ave	Louis Ave	3	2	**Bike Lane**
292626	Tecumseh Rd E	Serbian Centre Access Road	East Park Dr	3	2	None
127943	Tecumseh Rd W	Ouellette Ave	Pelissier St	2	4	None
168115	Campbell Ave	Leduc St	Tecumseh Rd W	2	4	None (Future Signed Route)
169469	Drouillard Rd	Seminole St	Reginald St	2	4	None (Future Bike Lane)
169471	Drouillard Rd	Alice St	Milloy St	2	4	None (Future Bike Lane)
169884	Tecumseh Rd E	Howard Ave	Marentette Ave	2	4	None
169898	Wyandotte St E	Sterling Cres	George Ave	2	4	**Bike Lane**
169921	Tecumseh Rd E	Larkin Rd	Central Ave	2	4	None
171317	Rhodes Dr	Electricity Dr	Pillette Rd	2	4	None (Future Bike Lane)
	Tie (122 locations)			1	12	Varies

*Note: future facility types are as per the Bicycle Use Master Plan*

6.6 Helmet Use

Safety equipment usage was reported for 51 cyclists in collisions in 2017. A summary of the equipment used by the cyclist is given in Table 20 and Figure 15. 20% of cyclists in collisions were reported as wearing a helmet. As can be seen in Figure 16, this rate of helmet use is lower than 2016, but higher than historical usage rates.

Table 20: 2017 Cyclist Safety Equipment Usage

Safety Equipment - Cyclists	Persons	Percent
No equipment available	20	39%
Unknown or no info	15	29%
Helmet	10	20%
Equipment not used but available	6	12%
Other safety equipment used	0	0%
Total	51	100%

Note: this table only includes cases where cyclist safety equipment usage was reported.
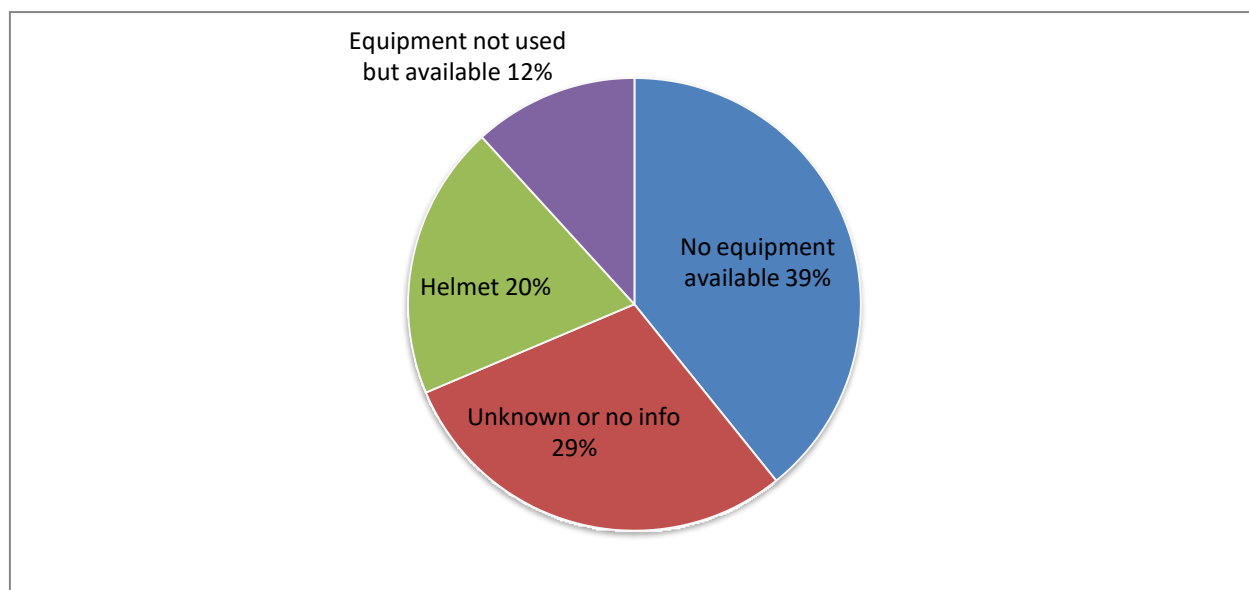
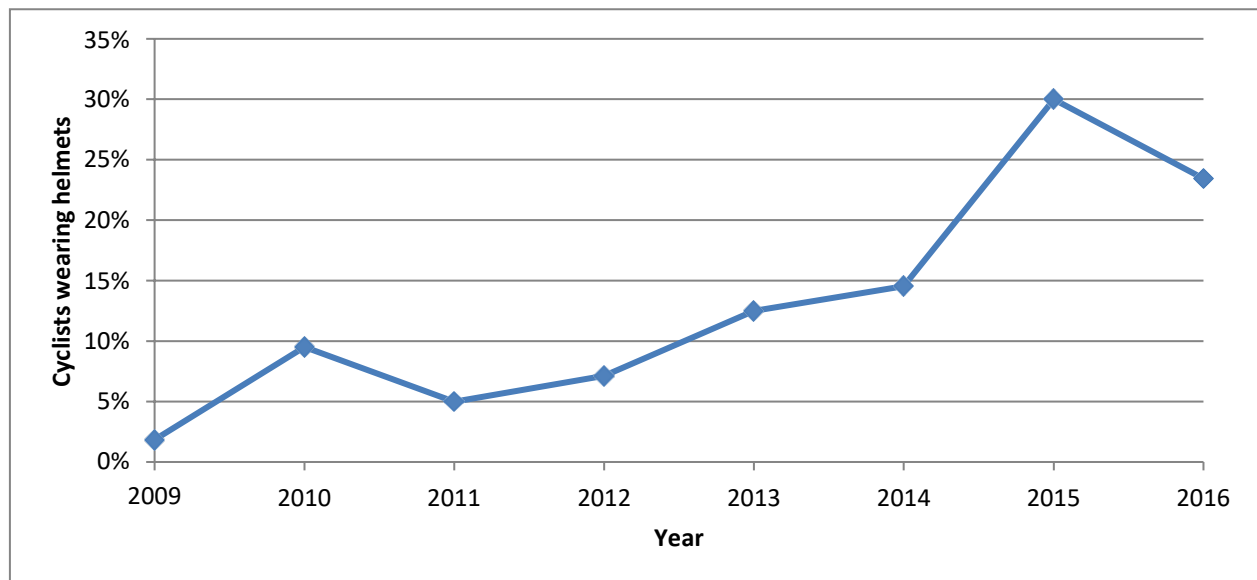**Figure 15: 2017 Cyclist Safety Equipment Usage**

Figure 16: Reported Helmet Usage by Year

7   Pedestrians

7.1   Note – Data Limitations

As stated in Section 1.2, this report deals only with collisions reported via Windsor Police Service MVA report forms. Because of this, the information in this section addresses only pedestrian collisions that also involved at least one motor vehicle. Collisions between cyclists and pedestrians would not be reported via MVA report forms and are not reflected in this report.

E-bikes are not currently considered motor vehicles for collision reporting purposes. Therefore, as for conventional bicycles, this section does not reflect collisions between e-bikes and pedestrians except for cases where a motor vehicle was involved.

7.2   General

Overall, there were 89 reported collisions involving pedestrians on City of Windsor roads in 2017. These collisions are broken down by severity in Table 21.

Table 21: 2017 Pedestrian Collisions

Severity	Collisions	Percent
Property Damage Only	6	7%
Injury	82	92%
Fatality	1	1%
Total	**89**	**100%**

7.3   Pedestrian Actions

Pedestrian actions in 2017 City of Windsor collisions are summarized in Table 22 and Figure 17. The most frequent action was "crossing with right-of-way", which occurred in 47% of pedestrian collisions.

Table 22: 2017 Pedestrian Collisions by Pedestrian Action

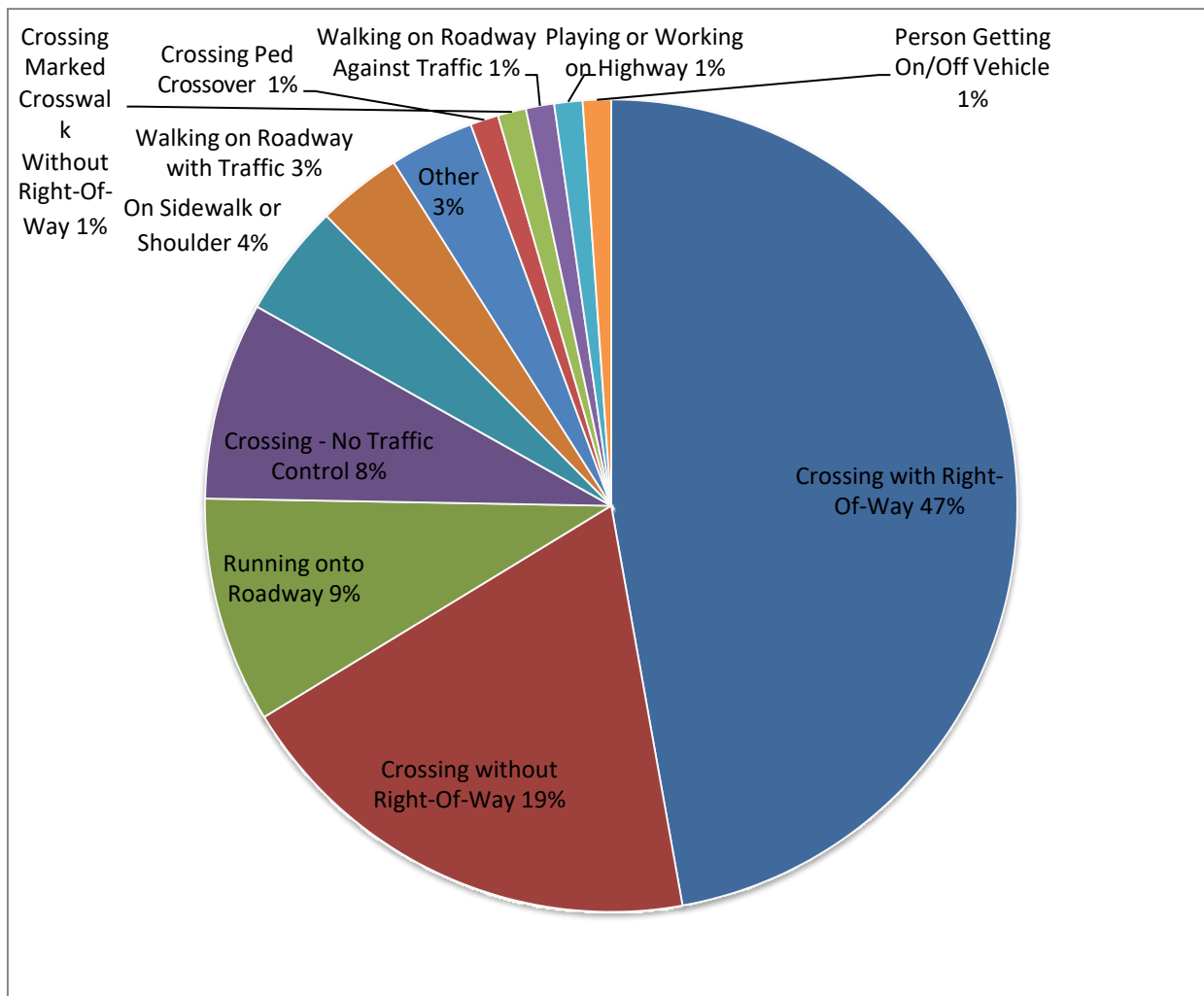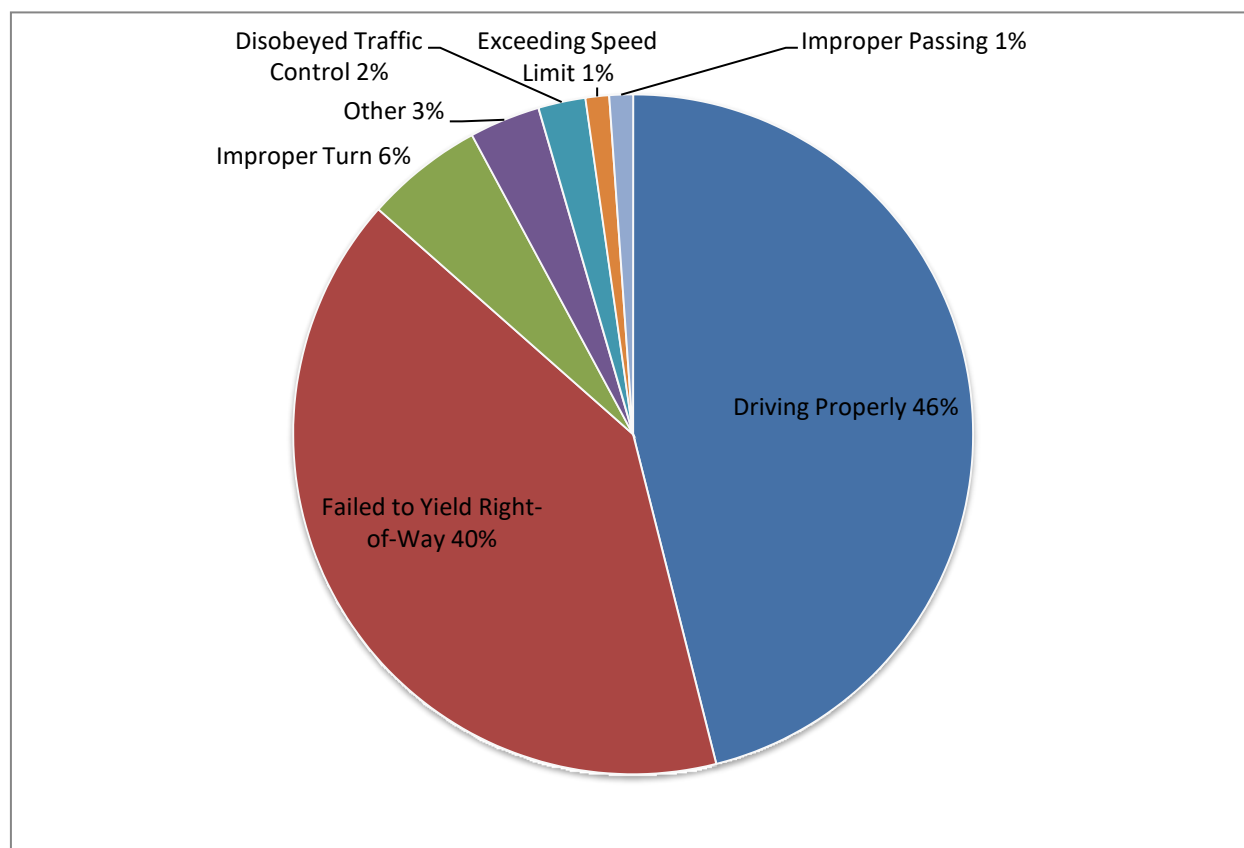| Pedestrian Action	Collisions	Percent
Crossing with Right-Of-Way	42	47%
Crossing without Right-Of-Way	17	19%
Running onto Roadway	8	9%
Crossing - No Traffic Control	7	8%
On Sidewalk or Shoulder	4	4%
Walking on Roadway with Traffic	3	3%
Other	3	3%
Crossing Ped Crossover	1	1%
Crossing Marked Crosswalk Without Right-Of-Way	1	1%
Walking on Roadway Against Traffic	1	1%
Playing or Working on Highway	1	1%
Person Getting On/Off Vehicle	1	1%
Unknown or No Info	0	0%
Coming from Behind Parked Vehicle or Object	0	0%
Person Getting On/Off School Bus	0	0%
Pushing/Working on Vehicle	0	0%
Total	**89**	100%

Figure 17: 2017 Pedestrian Collisions by Pedestrian Action

7.4 Drivers' Actions in Pedestrian Collisions

Driver actions in 2017 collisions involving pedestrians are summarized in Table 23 and Figure 18. In cases where the driver was not driving properly, the most common driver action was "failed to yield right-of-way" (40% of collisions).

Table 23: 2017 Pedestrian Collisions by Driver Action

| Driver Action	Collisions	Percent
Driving Properly	41	46%
Failed to Yield Right-of-Way	36	40%
Improper Turn	5	6%
Other	3	3%
Disobeyed Traffic Control	2	2%
Exceeding Speed Limit	1	1%
Improper Passing	1	1%
Unknown or No Info	0	0%
Following Too Close	0	0%
Speed Too Fast for Condition	0	0%
Speed Too Slow	0	0%
Lost Control	0	0%
Wrong Way on One-Way Road	0	0%
Improper Lane Change	0	0%
Total	**89**	100%

Figure 18: 2017 Pedestrian Collisions by Driver Action

7.5   Location of Pedestrian Collisions

The locations of collisions involving pedestrians are summarized in Table 24 and Figure 19. In 2017, 67% of pedestrian collisions either occurred at intersections or were intersection related.

Table 24: 2017 Pedestrian Collisions by Location Type

Collision Location	Collisions	Percent
Intersection	48	54%
Midblock	24	27%
Intersection related	12	13%
Midblock - near private drive	5	6%
Unknown or No Info	0	0%
Railway	0	0%
Underpass/Tunnel	0	0%
Overpass/Bridge	0	0%
Other	0	0%
Total	**89**	**100%**
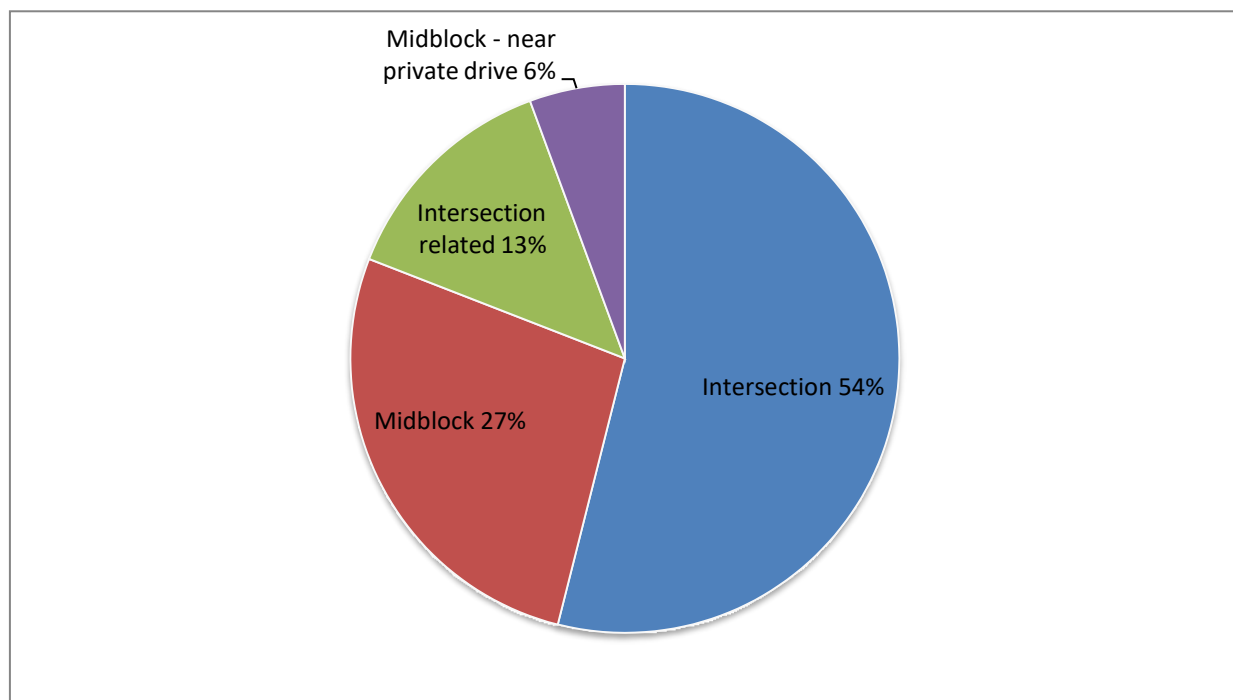
Figure 19: 2017 Pedestrian Collisions by Location Type

Location rankings based on number of pedestrian collisions in 5 years (2013 through 2017) are provided in Table 25 and Table 26.

Table 25: 2013-2017 Pedestrian Collision Locations - Intersections

CompKey	Intersection	Control	Pedestrian Collisions 2013-2017	Rank
286973	Wyandotte St W @ Ouellette Ave & Wyandotte St E	Signalized	11	1
287089	Erie St E @ Goyeau St	Signalized	6	2
286985	Wyandotte St E @ Marentette Ave	Unsignalized	5	3
286932	Park St W @ Ouellette Ave & Park St E	Signalized	4	4
286980	Wyandotte St E @ McDougall St	Signalized	4	4
289248	Tecumseh Rd E @ Annie St	Signalized	4	4
285123	Wyandotte St W @ Campbell Ave	Signalized	3	7
286691	Tecumseh Rd E @ McDougall St	Signalized	3	7
286909	University Ave W @ Church St	Signalized	3	7
286972	Wyandotte St W @ Pelissier St	Signalized	3	7
286981	Wyandotte St E @ Mercer St	Unsignalized	3	7
286982	Wyandotte St E @ Glengarry Ave	Signalized	3	7
287683	Wyandotte St E @ Raymo Rd	Signalized	3	7
287868	Seminole St @ Pillette Rd	Signalized	3	7
288473	Tecumseh Rd E @ Roseville Garden Dr	Signalized	3	7
289026	Lauzon Rd @ Lauzon Line (W) & Mchugh St (E)	Signalized	3	7
	Tie (39 locations)		2	17
	Tie (137 locations)		1	56

Table 26: 2013-2017 Pedestrian Collision Locations - Midblocks

Geo_ID	Street	From	To	Pedestrian Collisions 2013-2017	Rank
126329	Dougall Ave	Tecumseh Rd W	Wear St	2	1
127398	Ouellette Ave	Wyandotte St W	Tuscarora St	2	1
127400	Ouellette Ave	Tecumseh Rd E	Eugenie St E	2	1
127450	Pelissier St	Wyandotte St W	Elliott St W	2	1
127945	Tecumseh Rd E	Hickory Rd	Drouillard Rd	2	1
165271	Ouellette Ave	Hanna St E	Tecumseh Rd E	2	1
165286	Goyeau St	Elliott St E	Erie St E	2	1
169592	Tecumseh Rd E	Walker Rd	Factoria Rd	2	1
169629	Tecumseh Rd E	Forest Glade Dr	Clover Ave	2	1
169881	Tecumseh Rd E	McDougall St	Mercer St	2	1
169884	Tecumseh Rd E	Howard Ave	Marentette Ave	2	1
292083	Walker Rd	Plaza Access Rd-Home Depot/Walker	Plaza Access Rd-Canadian Tire/Walker	2	1
	Tie (122 locations)			1	13

7.6   Pedestrian Condition

The condition of the pedestrians at the time of the collision is summarized in Table 277 and Figure 2020. The condition of the majority of the pedestrians was reported as "normal" (80%).

Table 27: 2017 Pedestrian Collisions by Pedestrian Condition

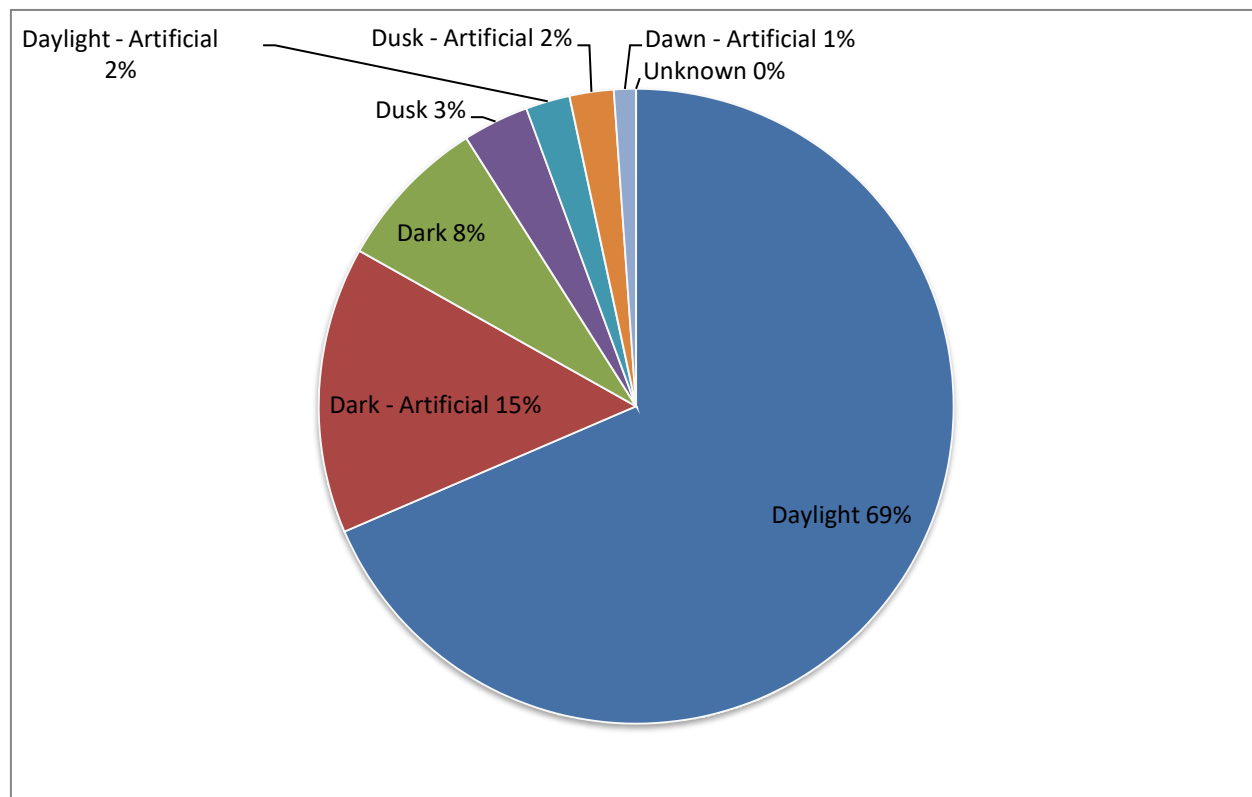| Pedestrian Condition	Collisions	Percent
Normal	71	80%
Inattentive	12	13%
Had Been Drinking	3	3%
Other	2	2%
Medical or Physical Disability	1	1%
Unknown or No Info	0	0%
Ability Impaired, alcohol (over .08)	0	0%
Ability Impaired, alcohol	0	0%
Ability Impaired, drugs	0	0%
Fatigue	0	0%
Total	**89**	100%
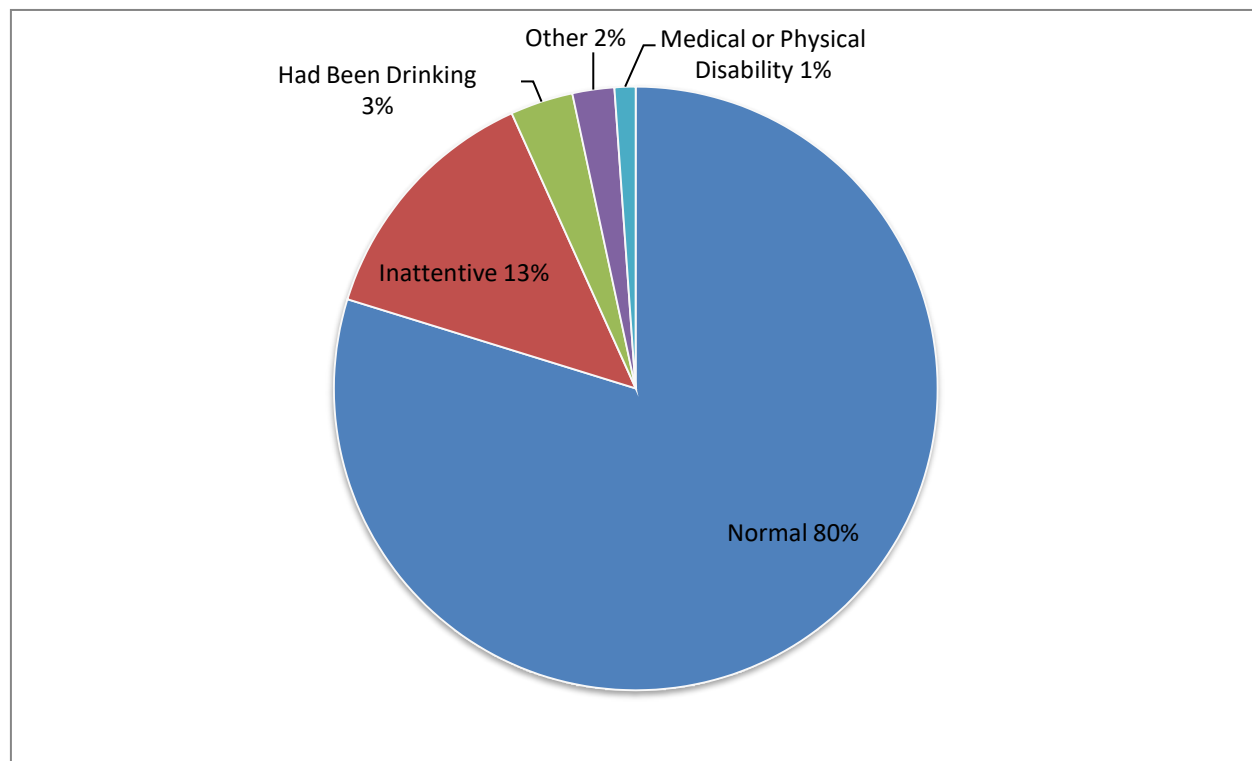
Figure 20: 2017 Pedestrian Collisions by Pedestrian Condition

7.7   Lighting Condition

Lighting condition for pedestrian collisions is summarized in Table 288 and Figure 211. In the majority of cases, the pedestrian collisions occurred during daylight conditions (69%).

Table 28: 2017 Pedestrian Collisions by Lighting Condition

Lighting Condition	Collisions	Percent
Daylight	61	69%
Dark - Artificial	13	15%
Dark	7	8%
Dusk	3	3%
Daylight - Artificial	2	2%
Dusk - Artificial	2	2%
Dawn - Artificial	1	1%
Unknown	0	0%
Dawn	0	0%
Other	0	0%
Total	**89**	**100%**

Figure 21: 2017 Pedestrian Collisions by Lighting Condition
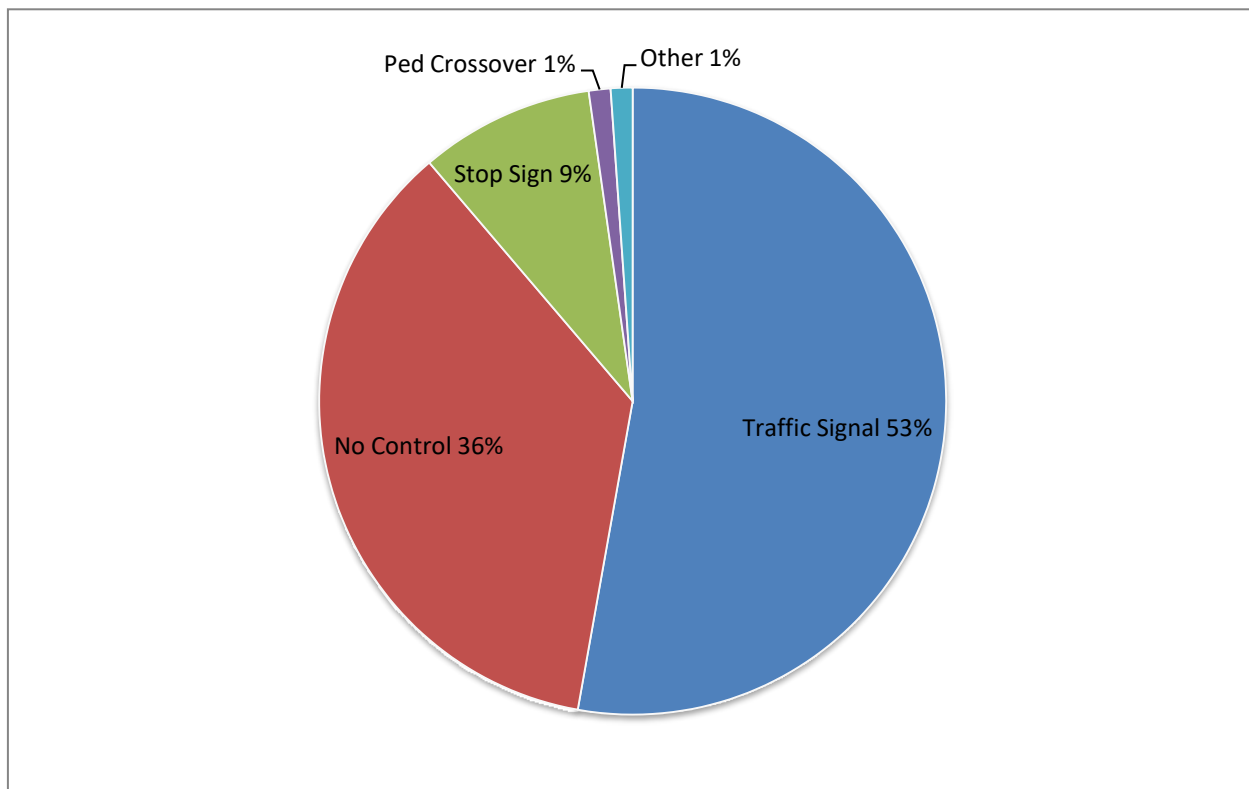
7.8   Type of Traffic Control

The type of traffic control that was present at pedestrian collision locations is summarized in Table 299 and Figure 222. The majority of pedestrian collisions (53%) occurred at traffic signals.

Table 29: 2017 Pedestrian Collisions by Traffic Control Type

Traffic Control	Collisions	Percent
Traffic Signal	47	53%
No Control	32	36%
Stop Sign	8	9%
Ped Crossover	1	1%
Other	1	1%
Unknown	0	0%
Yield Sign	0	0%
Police Control	0	0%
School Guard	0	0%
School Bus	0	0%
Traffic Gate	0	0%
Traffic Controller	0	0%
Total	**89**	**100%**

**Figure 22: 2017 Pedestrian Collisions by Traffic Control Type**

8   Environment

8.1   Weather and Light Conditions

Environmental conditions for 2017 City of Windsor collisions are summarized in Table 3030 and Figure 233. Overall, the majority of collisions (82%) occurred in clear conditions.

Table 30: 2017 Collisions by Environmental Condition

| Environmental Condition	Collisions	Percent
Clear	3,656	82%
Rain	555	12%
Snow	219	5%
Fog, mist, smoke, dust	21	0%
Freezing Rain	7	0%
Other	4	0%
Drifting Snow	1	0%
Strong Wind	1	0%
Unknown or No Info	-	0%
Total	4,464	100%
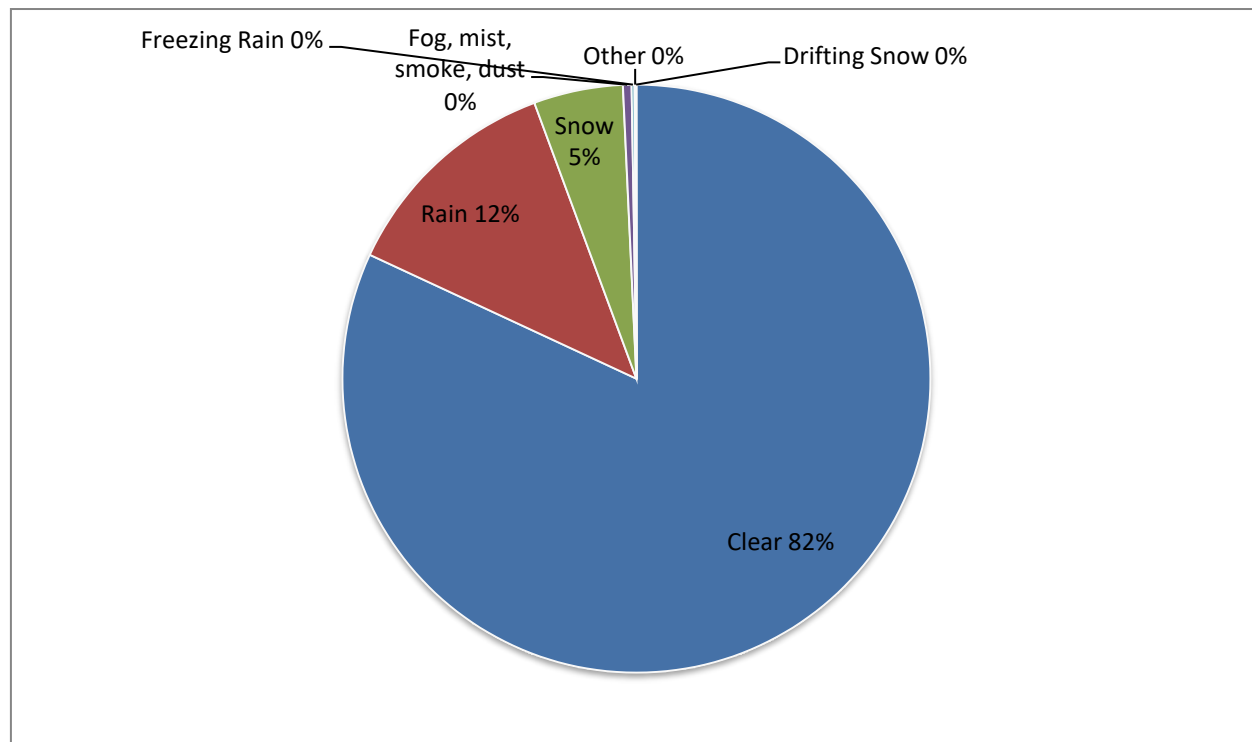
Figure 23: 2017 Collisions by Environmental Condition

Lighting conditions for 2017 City of Windsor collisions are summarized in Table 311 and Figure 244. The majority of collisions (76%) occurred during daylight. In the table below, "artificial" refers to artificial lighting (typically streetlights).

Table 31: 2017 Collisons by Lighting Condition

| Lighting Condition	Collisions	Percent
Daylight	3,384	76%
Dark	707	16%
Dark - Artificial	224	5%
Dusk	52	1%
Dusk - Artificial	35	1%
Daylight - Artificial	33	1%
Dawn - Artificial	21	0%
Dawn	6	0%
Other	2	0%
Unknown	-	0%
Total	**4,464**	**100%**
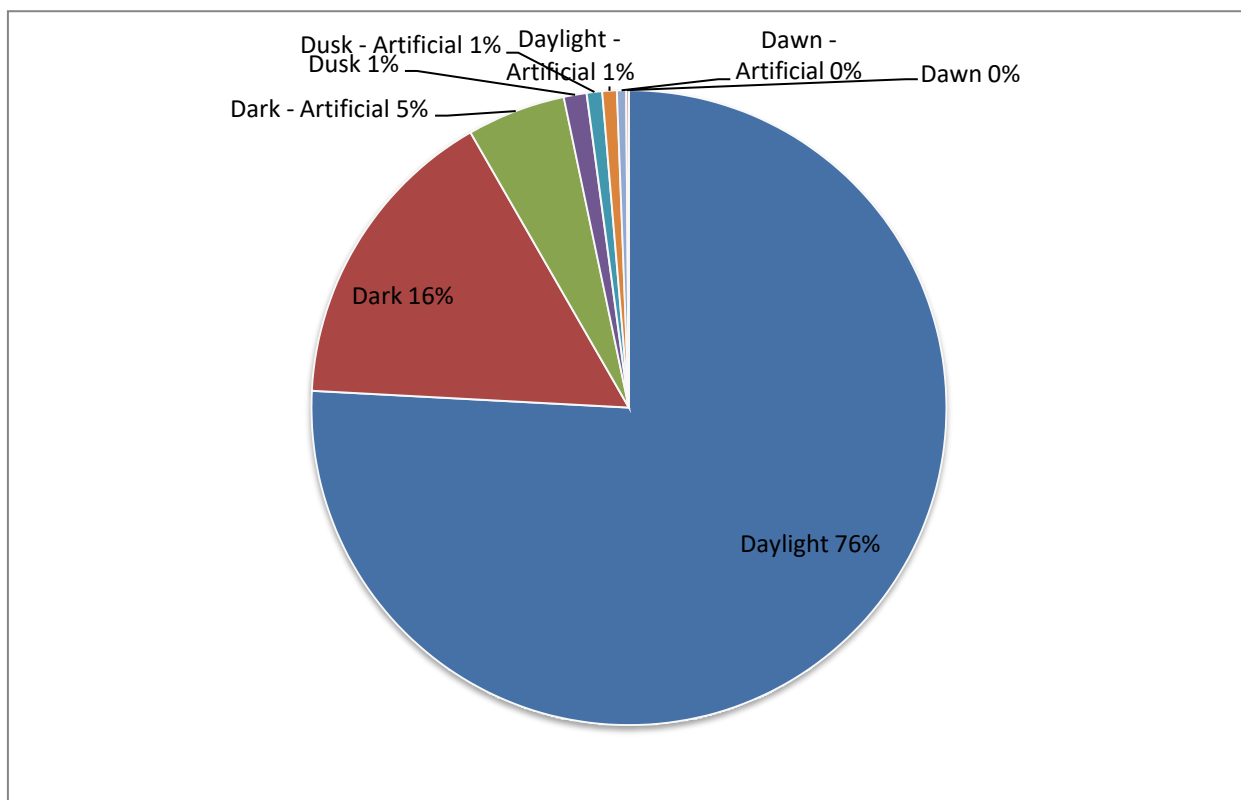
Figure 24: 2017 Collisions by Lighting Condition

8.2   Road Surface

Road surface conditions for 2017 City of Windsor collisions are given in Table 322 and Figure 255. Overall, the majority of collisions (77%) occurred on a dry road surface.

Table 32: 2017 Collisions by Road Surface Condition

Surface Condition	Collisions	Percent
Dry	3,439	77%
Wet	712	16%
Loose Snow	242	5%
Ice	29	1%
Packed Snow	17	0%
Slush	11	0%
Unknown or No Info	7	0%
Other	4	0%
Spilled Liquid	2	0%
Loose Sand or Gravel	1	0%
Mud	-	0%
Total	**4,464**	**100%**
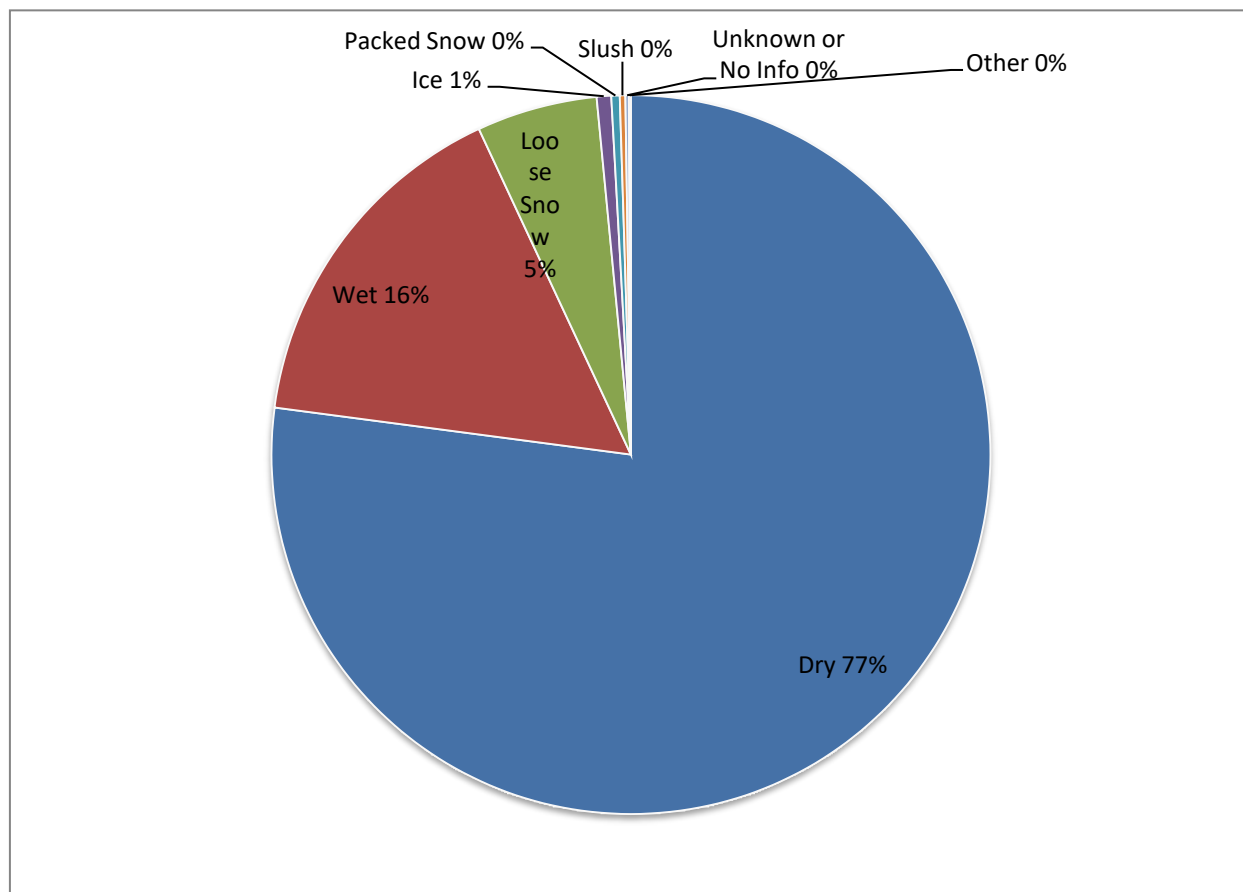
Figure 25: 2017 Collisions by Road Surface Condition

8.3 Winter Weather Collisions

For reporting purposes, "winter weather collisions" are defined as collisions that occur during winter months (defined for Windsor as November through March) during winter weather conditions, defined as follows:

- Environmental Condition at the time of the collision (as noted in the MVA report for the collision) is not "clear", or
- Road Surface Condition at the time of collision (as noted in the MVA report) is "wet", "loose snow", "slush", "packed snow", or "ice"

Based on these criteria, City of Windsor winter weather collisions by year are summarized in Table 33.

**Table 33: Winter Weather Collisions by Year**

Year	Total Collisions	Total Winter Weather Collisions	% of Total Collisions In Winter Weather Conditions	Fatal Collisions	Fatal Collisions in Winter Weather Conditions	% of Fatal Collisions In Winter Weather Conditions
2006	4,360	580	13.3%	6	2	33%
2007	4,462	788	17.7%	4	2	50%
2008	4,197	872	20.8%	7	-	0%
2009	3,572	586	16.4%	3	1	33%
2010	3,887	617	15.9%	2	1	50%
2011	3,630	636	17.5%	3	-	0%
2012	3,634	490	13.5%	7	-	0%
2013	3,792	544	14.3%	4	1	25%
2014	3,902	638	16.4%	2	-	0%
2015	4,273	310	7.3%	6	1	17%
2016	4,214	273	6.5%	3	-	0%
2017	4,464	636	14.2%	5	-	0%
2013 through 2017	**20,645**	**2,401**	**11.6%**	**20**	**2**	**10.00%**

8.4   Pavement Markings

Pavement marking conditions for 2017 City of Windsor collisions are summarized in Table 344 and Figure 266. In the majority of cases, pavement markings were either present and visible (80%) or were on roadways where pavement markings were not provided (19%).

Table 34: 2017 Collisions by Pavement Marking Condition

Marking Condition	Collisions	Percent
Exists	3,593	80%
Non-Existent	841	19%
Obscured	19	0%
Unknown or No Info	9	0%
Faded	2	0%
Total	4,464	100%
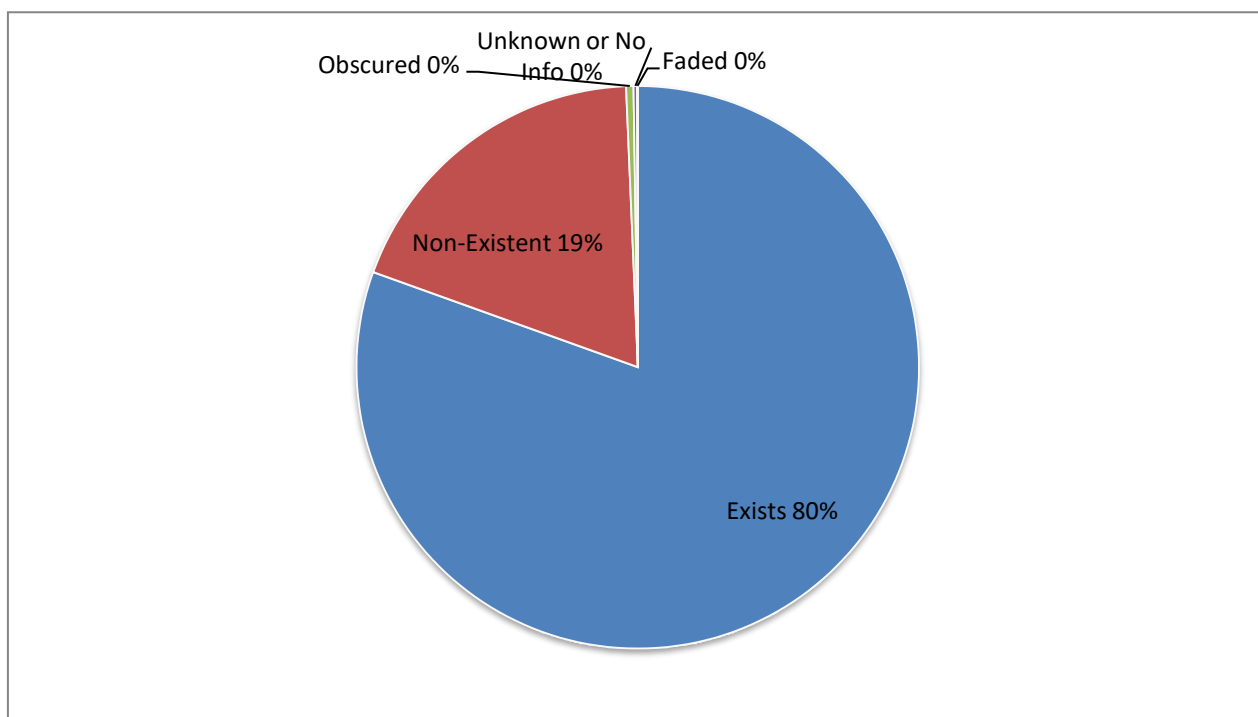
Figure 26: 2017 Collisions by Pavement Marking Condition

8.5   Road Characteristics

Roadway characteristics for 2017 City of Windsor collisions are summarized in Table 355 and Figure 277. The majority of collisions (67%) occurred on undivided two-way roads.

Table 35: 2017 Collisions by Road Character

Road Character	Collisions	Percent
Undivided - Two Way	3,806	85%
Undivided - One Way	263	6%
Divided - No Barrier	187	4%
Divided with Restraining Barrier	187	4%
Unknown or No Info	10	0%
Ramp	9	0%
Express Lane	2	0%
Collector Lane	-	0%
Transfer Lane	-	0%
Total	4,464	100%
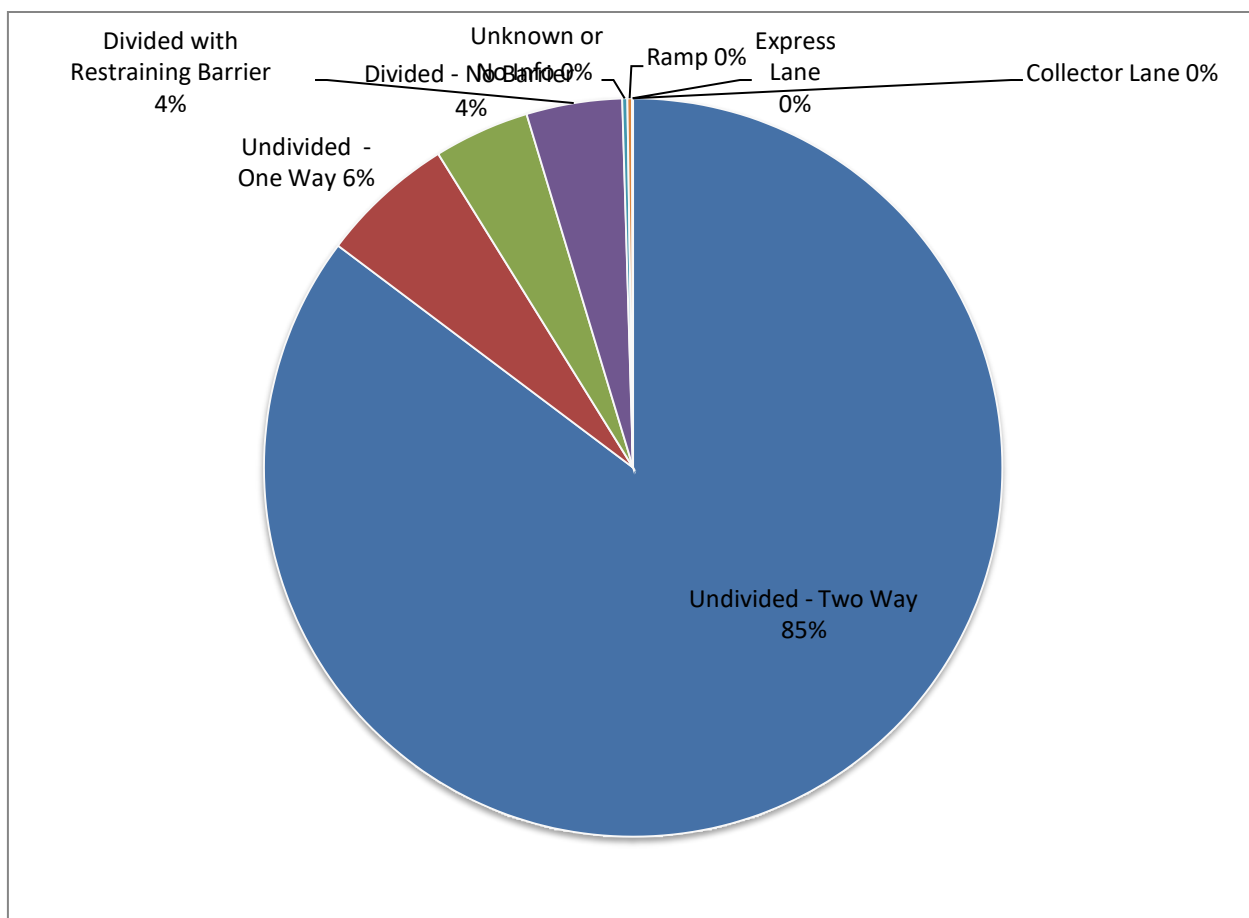
Figure 27: 2017 Collisions by Road Character

8.6   Traffic Control Condition

In 2017, 2,990 collisions on City of Windsor roads occurred where some form of traffic control (e.g. signals, stop sign, or crossing guard) was present. The condition of the traffic control for these collisions is summarized in Table 366 and Figure 288. In the majority of cases (99%), the traffic control was reported as functioning.

Table 36: 2017 Collisions by Traffic Control Condition

Traffic Control Condition	Collisions	Percent
Functioning	2,959	99%
Not Functioning	26	1%
Unknown or No Info	3	0%
Obscured	1	0%
Missing/Damaged	1	0%
Total	2,990	100%

Note: only includes collisions where traffic control was present

Not Functioning 1%

Unknown or No Info
0%

Functioning 99%
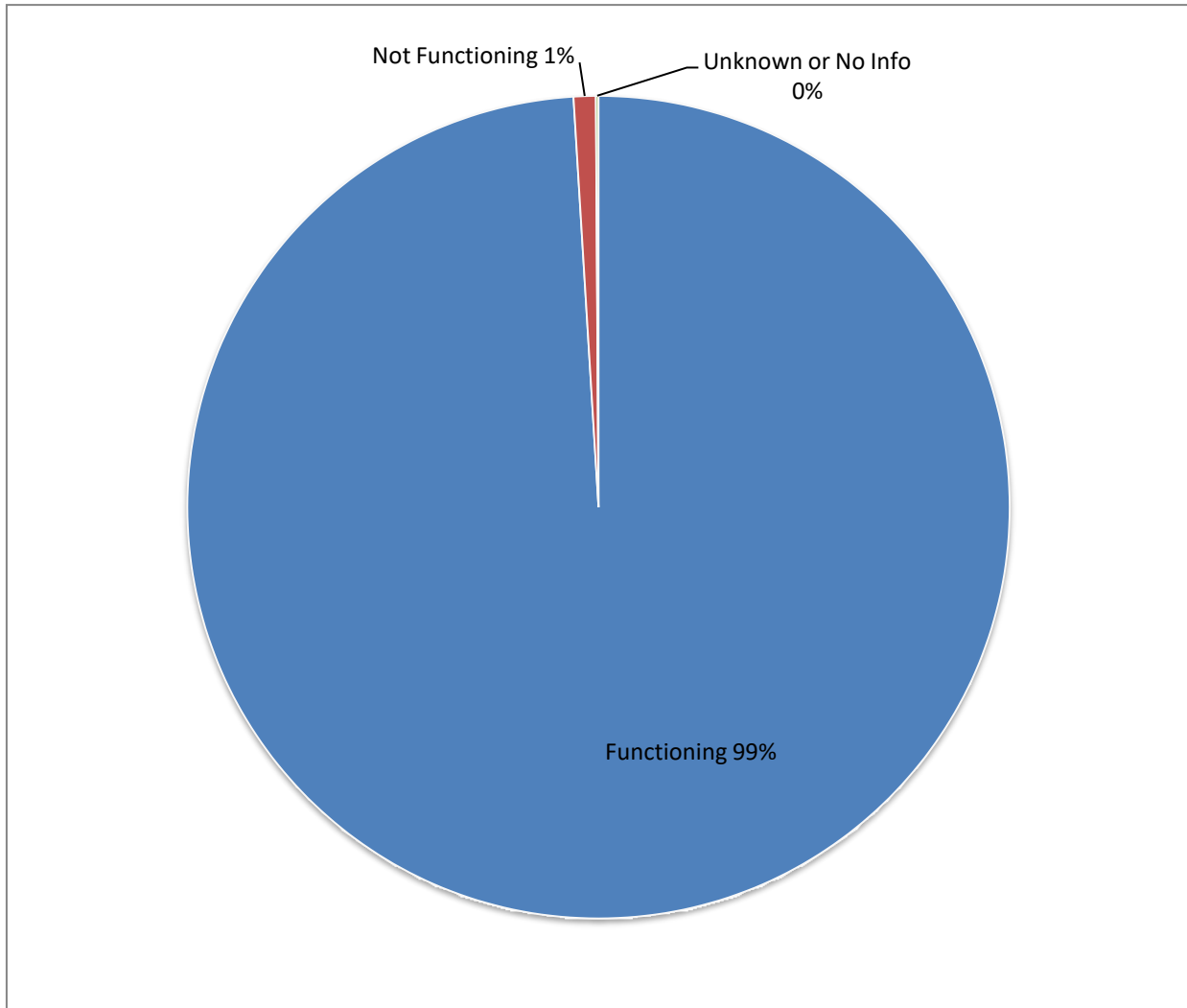
**Figure 28: 2017 Collisions by Traffic Control Condition**

9   Location

9.1   General

A summary of the general classes of locations for 2017 City of Windsor collisions is given in Table 377 and Figure 299. The majority of collisions (59%) were at intersections or were intersection-related.

Table 37: 2017 Collisions by Location Type

Location	Collisions	Percent
Intersection	1,256	28%
Intersection Related	1,362	31%
Subtotal - Intersection & Intersection-Related	*2,618*	*59%*
Midblock	1,072	24%
Midblock - Private Driveway	763	17%
Subtotal - All Midblock	*1,835*	*41%*
Railway	8	0%
Other	2	0%
Overpass/Bridge	1	0%
Underpass/Tunnel	-	0%
Total	**4,464**	**100%**
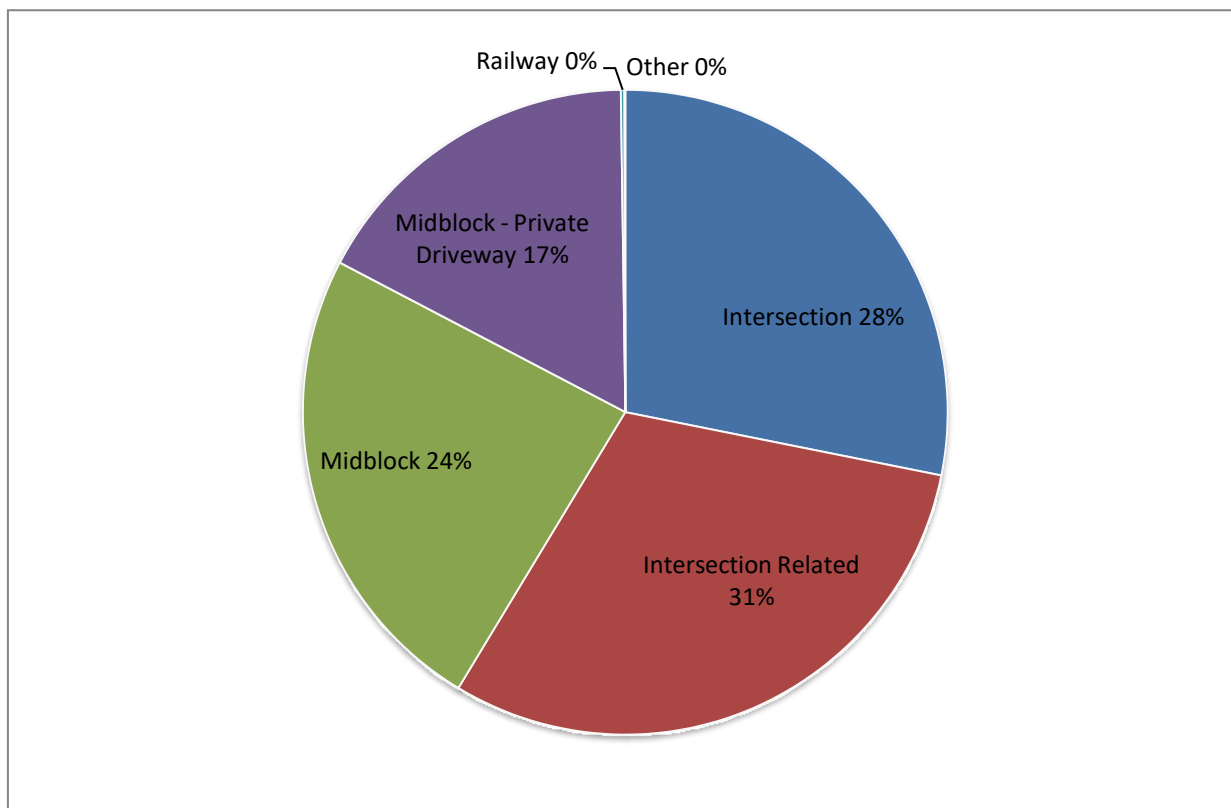
Figure 29: 2017 Collisions by Location Type

9.2   Intersection

9.2.1   Signalized

The 25 signalized intersections with the highest collision rates (based on collisions from 2013 through 2017) are listed in Table 388. For this period, the average collision rate for signalized intersections was found to be 0.56 collisions per million vehicles entering.

Table 38: 2013-2017 Collision Locations - Signalized Intersections

CompKey	Intersection	Collisions 2013-2017	Annual Average Daily Traffic - All Legs [vehicles per day]	Collisions per Million Vehicles Entering Intersection	Rank
289476	County Road 42 @ Lauzon Pky	87	47,500	2.01	1
286972	Wyandotte St W @ Pelissier St	58	43,100	1.47	2
289240	Lauzon Pky @ Tecumseh Rd E	147	119,700	1.35	3
289253	Tecumseh Rd E @ Forest Glade Dr	72	59,700	1.32	4
297610	E C Row Expy W/B @ Banwell Rd	131	111,800	1.28	5
289026	Lauzon Rd @ Lauzon Line (W) & McHugh St (E)	34	29,200	1.28	6
288383	Grand Marais Rd E @ Central Ave & Plymouth Dr	93	80,600	1.26	7
286694	Tecumseh Rd E @ Howard Ave	113	98,000	1.26	8
284919	Huron Church Rd @ University Ave W	25	22,100	1.24	9
285400	Northwood St @ Dominion Blvd	55	49,000	1.23	10
285994	Provincial Rd @ Walker Rd	96	85,900	1.22	11
288691	Central Ave @ E C Row Collector South & E C Row E/B On Ramp	71	64,300	1.21	12
289247	Lauzon Pky @ South Service Rd E (W) & Twin Oaks Dr (E)	48	46,100	1.14	13
286931	Park St W @ Pelissier St	11	10,600	1.14	14
287465	Tecumseh Rd E @ Walker Rd	114	112,700	1.11	15
289145	McHugh St @ Banwell Rd & McNorton St	37	36,600	1.11	16
288803	Wyandotte St E @ Lauzon Rd	56	55,700	1.10	17
289245	Lauzon Pky @ Forest Glade Dr	88	88,100	1.09	18
286691	Tecumseh Rd E @ McDougall St	67	67,200	1.09	19
288674	Temple Dr @ Central Ave & North Service Rd E	81	82,900	1.07	20
284934	Huron Church Rd @ College Ave	98	101,300	1.06	21
286980	Wyandotte St E @ McDougall St	54	56,400	1.05	22
285166	College Ave @ Campbell Ave	31	32,500	1.05	23
287843	Seminole St @ Walker Rd	58	61,200	1.04	24
285490	Labelle St @ Dominion Blvd	47	49,600	1.04	25
	Average – all signalized intersections			**0.56**	

9.2.2 Unsignalized

The 25 unsignalized intersections with the highest number of collisions (based on collisions from 2013 through 2017) are listed in Table 399. Due to an absence of traffic volume data at unsignalized intersections, an average collision rate for unsignalized intersections could not be calculated.

Table 39: 2013-2017 Collision Locations - Unsignalized Intersections

CompKey	Intersection	Collisions 2013-2017	Rank
286606	Ouellette Pl @ Dougall Ave	71	1
287346	Riverside Dr E @ Devonshire Rd	28	2
285645	Norfolk St @ Dominion Blvd	27	3
286985	Wyandotte St E @ Marentette Ave	26	4
286261	Dougall Ave @ E C Row E/B Off Ramp	25	5
286987	Wyandotte St E @ Langlois Ave	23	6
287104	Erie St E @ Parent Ave	23	6
286274	Beals St W @ Dougall Ave	22	8
288404	South National St @ Jefferson St	22	8
287324	Hanna St W @ Ouellette Ave & Hanna St E	21	10
286513	Lappan Ave @ Walker Rd	20	11
289474	County Road 42 @ 9th Con Rd	20	11
284762	Sandwich @ Riverside Dr & University Ave W & Rosedale Ave	19	13
286316	Howard Ave @ South Cameron Blvd	19	13
287328	Hanna St E @ McDougall St	19	13
285412	Dougall Ave @ South Cameron Blvd	18	16
286984	Wyandotte St E @ Louis Ave	18	16
287464	Tecumseh Rd E @ Turner Rd	18	16
285262	Tecumseh Rd W @ McKay Ave	17	19
287306	Shepherd St E @ Parent Ave	17	19
289241	Lauzon Pky @ Enterprise Way	17	19
285627	West Grand Blvd @ Bruce Ave	16	22
286343	E C Row Ave E @ Conservation Dr	16	22
286588	Ouellette Ave @ Hildegarde St - West	16	22
284905	Detroit St @ Peter St	15	25
285073	Riverside Dr W @ Campbell Ave	15	25
285923	Division Rd @ Riberdy Rd	15	25
286693	Tecumseh Rd E @ Highland Ave	15	25
286981	Wyandotte St E @ Mercer St	15	25
287259	Ellis St E @ McDougall St	15	25
288086	Tecumseh Rd E @ Chandler Rd	15	25
288672	Essex Way @ Quality Way	15	25
289259	Lauzon Rd @ Hawthorne Dr	15	25

9.3 Mid-Block

Five years of collision data (2013 through 2017) were reviewed for each road section City-wide. Where traffic volumes were available, mid-block sections were ranked by collision rate, expressed in units of collisions per million vehicle-kilometres travelled. Average collision rates are given by road classification; an average rate could not be calculated for local streets due to a lack of traffic volume data for these streets.

For very short road sections, a small number of collisions can artificially cause a very high collision rate that is not representative of the roadway as a whole. To address this, midblock sections less than 100 metres in length have not been included in Table 4040.

Table 40: 2013-2017 Collision Locations - Midblocks

CompKey	Street Name	From	To	Collisions 2013-2017	Annual Average Daily Traffic [vehicles per day]	Length [m]	Collisions per million vehicle-km	Rank
166826	Pitt St W	Bruce Ave	Janette Ave	1	350	103	15.21	1
165251	Pelissier St	Maiden Lane W	Wyandotte St W	7	2,400	126	12.65	2
163876	Chatham St E	Ouellette Ave	Goyeau St	7	2,100	175	10.44	3
127450	Pelissier St	Wyandotte St W	Elliott St W	13	2,400	286	10.39	4
128050	Victoria Ave	Park St W	Wyandotte St W	14	2,500	307	9.98	5
165249	Pelissier St	University Ave W	Park St W	5	2,100	143	9.14	6
167723	Chatham St W	Bruce Ave	Janette Ave	1	600	100	9.10	7
165224	Janette Ave	University Ave W	Park St W	4	1,700	145	8.92	8
127447	Pelissier St	Elliott St W	Erie St W	7	1,900	236	8.55	9
127007	Lincoln Rd	Riverside Dr E	Assumption St	4	1,100	247	8.06	10
166921	Parent Ave	Brant St	Wyandotte St E	4	2,550	111	7.74	11
166919	Parent Ave	Assumption St	Brant St	4	2,550	112	7.67	12
127496	Pitt St W	Ouellette Ave	Ferry St	4	2,100	136	7.66	13
126588	Glengarry Ave	Wyandotte St E	Tuscarora St	6	4,400	112	6.69	14
126576	Gladstone Ave	Riverside Dr E	Assumption St	2	700	242	6.46	15
127494	Pitt St E	Ouellette Ave	Goyeau St	5	2,600	169	6.25	16
165250	Pelissier St	Park St W	Maiden Lane W	4	2,250	168	5.79	17
164144	George Ave	Reginald St	Alice St	11	4,300	245	5.73	18
163869	Bruce Ave	University Ave W	Park St W	4	2,700	143	5.68	19
126581	Gladstone Ave	Ottawa St	Ellis St E	3	1,400	208	5.64	20
127408	Parent Ave	Niagara St	Erie St E	10	4,500	220	5.53	21
126506	Florence Ave	Menard St	Paulina Crt	2	980	206	5.43	22

CompKey	Street Name	From	To	Collisions 2013-2017	Annual Average Daily Traffic [vehicles per day]	Length [m]	Collisions per million vehicle-km	Rank
166649	Erie St E	Pierre Ave	Hall Ave	5	4,950	103	5.38	23
127407	Parent Ave	Wyandotte St E	Tuscarora St	4	3,600	113	5.37	24
165241	Victoria Ave	University Ave W	Park St W	4	2,900	143	5.28	25
					Scenic Parkway		0.43	
	Average Mid-block Collision Rates by Road Classification				Collector		1.06	
					Arterial		0.85	
					Expressway		0.49	

Notes:
1. Local streets, streets without volume information, and very short (<100 m) road sections are not included in this table.

10 Conclusions

The key findings of the report are summarized in Table 41 below. Up and down arrows indicate an increase or decrease, respectively, from the 2013 through 2017 five-year average. The colour of the arrow is green if the 2017 value is better than the five-year average, red if worse, and black if close in value (less than 5% difference) or is not clearly favourable or unfavourable.

Table 41: Key Statistics with Comparisons to 5-Year Averages

Category	Measure	City of Windsor		
		5-Year Average	Percentage Difference	2017
Overall Collisions	Total Collisions – All Severities	4,129	↑ +8%	**4,464**
Injury Collisions [Note 2]	Total Injury Collisions	1,136	↑ +24%	**1,412**
	Total Persons Injured	1,514	↑ +25%	**1,890**
	Persons Injured per 1,000 population [Note 1]	6.98	↑ +24%	**8.64**
Fatal Collisions	Total Fatal Collisions	4.0	↑ +25%	**5**
	Total Fatalities	4.0	↑ +25%	**5**
	Fatalities per 100,000 population [Note 1]	1.84	↑ +24%	**2.29**
Alcohol	Total Alcohol-Related Collisions	94	→ +3%	**97**
	% of Collisions Involving Alcohol	2.28%	↓ -5%	**2.17%**
	% of Drivers with Alcohol-Related Driver Conditions [Note 1]	0.96%	↓ -29%	**0.68%**
	Fatal Collisions with Alcohol-Related Driver Conditions	1.6	↑ +25%	**2**
	% of Fatal Collisions Involving Alcohol	40%	→ +0%	**40%**

Category	Measure	City of Windsor		
		5-Year Average	**Percentage Difference**	**2017**
Driver Inattention	Total Inattentive Drivers in Collisions	552	⬆ +25%	**689**
	% of Collisions Involving Inattention	13.1%	⬆ +17%	**15.3%**
	% of Drivers Reported as Inattentive [Note 1]	6.1%	⬆ +16%	**7.1%**
Driver Actions	% of Drivers Reported as Driving Properly [Note 1]	43%	➡ +0%	**43%**
	Most Common Improper Action (where known) [Note 1]	Following Too Close		**Following Too Close**
Driver Condition	% of Drivers Reported as Normal Condition [Note 1]	72%	⬇ -2%	**71%**
Cyclist Collisions	Total Cyclist Collisions (All Severities)	85.4	⬇ -23%	**66**
	Total Cyclist Injury Collisions	70.4	⬇ -25%	**53**
	Total Cyclist Fatal Collisions	0.2	⬇ -100%	**0**
	% of Cyclists Reported as Riding Properly	43%	⬆ +9%	**47%**
	% of Cyclists Wearing Helmets (where known)	18%	⬆ +11%	**20%**
	Most Common Improper Action – Cyclist (where known)	Failed to Yield Right-of-Way		**Failed to Yield Right-of-Way**
	Most Common Improper Action – Driver (where known)	Failed to Yield Right-of-Way		**Failed to Yield Right-of-Way**

Category	Measure	City of Windsor		
		5-Year Average	Percentage Difference	2017
Pedestrian Collisions	Total Pedestrian Collisions (All Severities)	85	↑ +5%	**89**
	Total Pedestrian Injury Collisions	80	→ +3%	**82**
	Total Pedestrian Fatal Collisions	1.2	↓ -20%	**1**
	Most Common Improper Action – Driver	Failed to Yield Right-of-Way		**Failed to Yield Right-of-Way**

Notes:

3. Comparison with Provincial statistics available – see Table 42.
4. Police reporting practices for motor vehicle collision injuries changed in 2014. Readers should exercise caution in comparing injury statistics from before this date to statistics after this date.

Table 42 gives a summary of the performance of the City of Windsor compared to the Province of Ontario for measures where provincial statistics were available. Up, down, and horizontal arrows indicate that the City of Windsor value is higher than, lower than, or within 5% of the overall value for the Province of Ontario, and the arrow is coloured green or red, respectively, if Windsor compares favourably or unfavourably with the Province overall; a black arrow indicates that the measure is either close in value or is not clearly favourable or unfavourable. The most recent year of statistics available for Ontario is 2014; five-year provincial averages were based on 2009 through 2014.

Table 42: Summary - City of Windsor vs. Province of Ontario

Category	Measure	Province of Ontario 5-year Average	Windsor vs. Ontario	City of Windsor 5-year Average
Injury Collisions	Persons injured per 1,000 population	3.99	↑ +75%	6.98
Fatal Collisions	Fatalities per 100,000 population	4.49	↓ -59%	1.84
Inattentive Drivers	% of drivers reported as inattentive	13.1%	↓ -47%	6.1%
Alcohol	% of drivers with alcohol-related driver conditions	1.50%	↓ -36%	0.96%

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Category	Measure	Province of Ontario 5-year Average	Windsor vs. Ontario	City of Windsor 5-year Average
Driver Actions	% of drivers reported as driving properly	49%	⬇ -12%	43%
	Most common improper action (where known)	Following Too Close		Following Too Close
Driver Condition	% of drivers reported as normal condition	75%	➡ -4%	72%

The majority of 2017 City of Windsor collisions (59%) occurred at intersections or were intersection related. The worst locations for each category are given in Table 43.

Table 43: High Collision Locations

Category	Location	Collisions (2013 – 2017)	Collision Rate
Signalized Intersections	County Road 42 & Lauzon Pky.	87	2.01 collisions per million vehicles entering
Unsignalized Intersections	Dougall Ave. & Ouellette Pl.	71	N/A
Mid-Block Sections [Note 1]	Pelissier St. (Maiden Lane W to Wyandotte St. W)	7	12.65 collisions per million vehicle-kilometres
Fatal and Major Injury Collisions	Central Avenue & E.C. Row Expy. Westbound Ramps	4 (fatal or major injury collisions only)	N/A
Cyclist Collisions	Lauzon Pky. & Tecumseh Rd E	5 (cyclist collisions only)	N/A
Pedestrian Collisions	Wyandotte St. & Ouellette Ave.	11 (pedestrian collisions only)	N/A

Notes:

1. Omits one location that experienced a single collision but a higher collision rate (due to very low traffic volumes and short street length).

11 Consultations

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- Windsor Police Service
- Office of the City Solicitor – Risk Management
- Office of the City Engineer – Planning
- Office of the City Engineer – Traffic Operations
- Office of the City Engineer – Engineering

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