


The Corporation of the
City of Vaughan



**Environmental
Assessment
Study for Portage
Parkway (Part A
and B)**
Safety Review of Existing
Conditions

B000541

August 2015



CIMA
Partners in excellence

City of Vaughan

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1. Introduction

CIMA was retained by the Corporation of the City of Vaughan to conduct a Class Environmental Assessment (EA) Study of Portage Parkway for its widening from Applewood Crescent to Jane Street and extension from Jane Street to Creditstone Road covering a length of approximately 1.5 km.

The EA involves widening Portage Parkway to four lanes between Applewood Crescent and Jane Street and establishing a new four-lane road between Jane Street and Creditstone Road in accordance with the Municipal Class Environmental Assessment and preparation of the preliminary design.

This project follows the process outlined in the Municipal Class EA, June 2000 (as amended in 2007, and 2011). The work potentially involves widening for additional lanes and therefore planning for the project requires following a Schedule C Class EA process.

A safety performance review of the existing conditions for the portion of Portage Parkway between Applewood Crescent and Jane Street is one of the components of this study. The purpose of this report is to present a review of existing traffic safety throughout the study area. For this study, CIMA conducted the following tasks:

- + Collision analysis;
- + Field investigation; and
- + Study findings and Recommendations.

The findings of this report will assist the consulting team to formulate the problem statement as well as assist in development of alternative solutions and to ensure that any potential safety issues will be addressed in the design of the preferred alternative.

2. Study Area

Portage Parkway is an east-west collector between Weston Road and Jane Street and is located within the Vaughan Metropolitan Centre (VMC). The study area for this safety performance study comprises of the portion of Portage Parkway between Applewood Crescent and Jane Street. A map of the study area is illustrated in Figure 1.

The western section of the study area between Applewood Crescent and Edgeley Road consists of a four-lane urban cross section, and the rest of the roadway comprises of a two-lane urban cross section.

There are five intersections within the study area along Portage Parkway as demonstrated in Figure 1. Three of the intersections are signalized and two are un-signalized. The signalized intersections are located at Applewood Crescent, Edgeley Blvd., and Jane Street. The two un-signalized intersections are located at Buttermill Avenue, and Millway Avenue.

The land use surrounding the study area is essentially commercial. The current posted speed limit on Portage Parkway is 50 km/h.

The eastern portion of the study area, between Millway Avenue and Jane Street consists of a slight horizontal curve. Rest of the study area is generally straight. The west approach to the signalized intersection at Applewood Crescent is at a significant grade (downgrade in the eastbound direction) due to the existing overpass structure at Highway 400.



Figure 1 : Study Area Map

3. Analysis of Road User Collision History

Historical road user collision data were reviewed to gain an in-depth understanding of any collision patterns and potential contributing factors within the study area. Table 1 summarizes the total number of collisions within the study area between 2008 and 2013 as provided by the City.

Table 1: Total Number of Reported Collisions

Location at Portage Parkway	Total # of Reported Collisions
Applewood Crescent	1
Edgely Blvd.	5
Buttermill Avenue	1
Millway Avenue	3
Jane Street	1
Total	11

Figure 2 provides the summary of collisions by impact type.



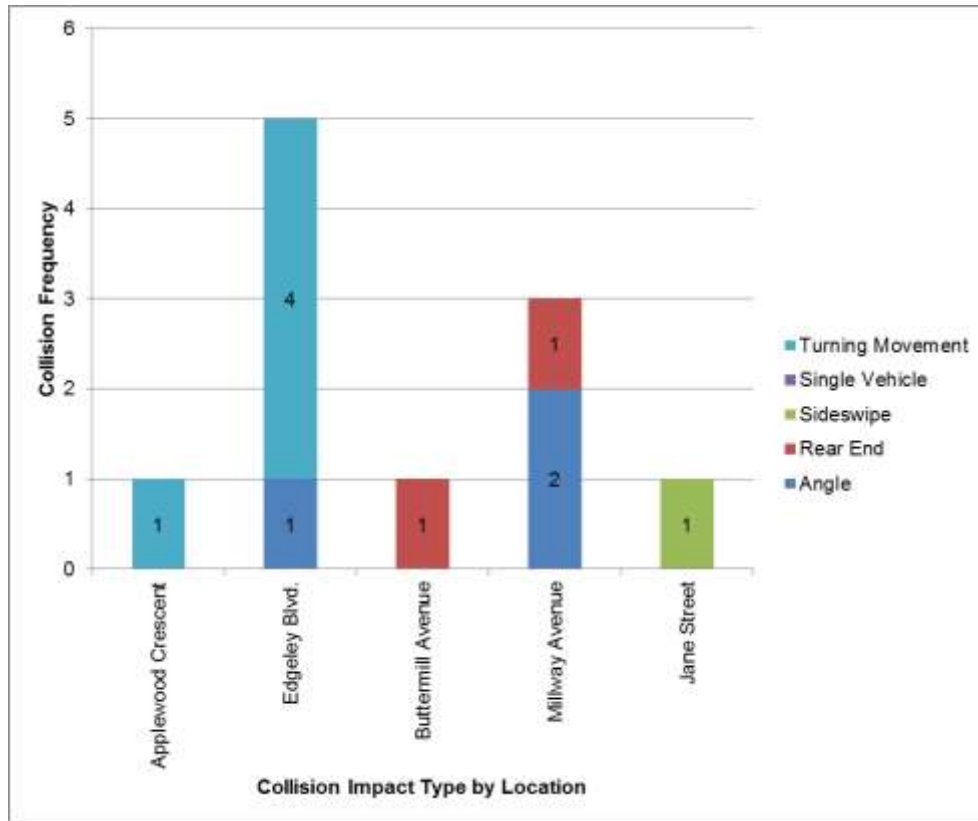


Figure 2 : Summary of Collisions by Impact Type

As can be seen in Table 1 and Figure 2, the study area experienced only eleven (11) collisions within the study area between 2008 and 2013. It should be noted that all reported collisions are of the type property damage only. The provided data did not reveal any particular trend. The only concern arising from the collision history that requires attention is four (4) turning movement collisions at the intersection of Portage Parkway and Edgeley Blvd.

4. Field Investigation

CIMA undertook a field investigation on Thursday July 2, 2015 during a.m. peak period. The focus of the field visit was to identify any contributing factors to collisions and/or potential safety risks unrelated to the collision data. During the field investigation, the study team closely observed conformance, consistency and conditions of site geometrics, traffic control devices, site operations, road user interactions and positive guidance, physical characteristics and traffic operations within the study area. The following presents identified deficiencies.

4.1 Applewood Crescent and Portage Parkway

4.1.1 Malfunctioning Pedestrian Signal Head

The existing traffic signal head located in the northwest quadrant of the intersection of Applewood Crescent and Portage Parkway contains a malfunctioning pedestrian signal head facing the

westbound pedestrians. The signal head does not display the pedestrian walk cycle, although the signal head works properly during the “Flashing Don’t Walk” (flashing hand) and “Don’t Walk” (stead hand) phases. The issue is illustrated in Figure 3. The photo on the right side was taken during the pedestrian walk cycle.



Figure 3 : Malfunctioning Pedestrian Signal Head

4.1.2 Missing Object Marker Signs on Guiderails

The existing guiderails located on both sides of the west approach of the intersection of Applewood Crescent and Portage Parkway contain missing Object Marker warning signs for the westbound traffic as demonstrated in Figure 4. The subject guiderails currently have extruders installed with available surface space for the installation of object marker signs (Wa-33L & Wa-33R) on either side of the guiderails.



Figure 4 : Missing Object Marker Signs

4.1.3 Limited Turning Radius for Heavy Vehicles

Heavy vehicles attempting to make a westbound right turn from Portage Parkway onto Applewood Crescent are forced to drive over the sidewalk and grass due to the limited available turning radius. We noted a few cases, when the rear wheels of large heavy vehicles climbed the curb and encroached onto the grassy boulevard close to the sidewalk. This situation creates a potential safety hazard for pedestrians on the northeast corner. Figure 5 demonstrates the eroded surface of the grassy boulevard due to repeated encroachment by trucks.





Figure 5 : Eroded Grassy Boulevard Resulting from Repeated Encroachment by Heavy Vehicles

4.2 Edgeley Boulevard and Portage Parkway

4.2.1 Improper Lane Use

The existing lane configuration at the intersection of Edgeley Boulevard and Portage Parkway in the east-west direction is not appropriate. On the west approach (eastbound direction), the intersection consists of two lanes. The left lane is designated as a shared straight through & left-turn lane and the right lane is designated as an exclusive right-turn lane. In order to accommodate this configuration, there is only one receiving lane on the east approach as required. The issue is that the right-turn lane is almost double the width of the left lane and can easily accommodate two lanes of vehicles as demonstrated in Figure 6.



Figure 6 : Lane Configuration

As a result, there are often two lanes of through vehicles and one lane of right turning traffic as demonstrated in left photo of Figure 6. However, there is only one receiving lane of normal width on the east approach as demonstrated in the right photo of Figure 6. This situation often creates a hazardous situation and potential of sideswipe collisions between two through lanes of vehicles that are destined to the same receiving lane.

Faded pavement markings along Portage Parkway and the wide exclusive right turn lane appear to be contributing factors to motorists being unaware of the existing lane configuration causing unsafe passing maneuvers within the intersection. A Right Lane Exits sign (Wa-56R) has been installed approximately 170 meters west of the intersection to inform the drivers of the exclusive right turn lane. However, this sign often becomes obstructed for motorists travelling in the eastbound direction along Portage Parkway. Heavy vehicles, entering and exiting a private driveway providing access to the loading bay of LOWE'S Home Improvement Warehouse, frequently obstructs this sign (installed in the close proximity of the eastside of the driveway) for the eastbound traffic causing motorists to miss the sign. The identified issue is illustrated in Figure 7.



Figure 7 : Obscured Right Lane Exits Sign

Similar problems exist for motorists travelling in the westbound direction along Portage Parkway towards Edgeley Boulevard. Existing wide lanes and limited pavement markings along the westbound approach of Portage Parkway provide motorists with the impression that it is a two-lane roadway, which leads to an increase in unsafe passing maneuvers within the intersection.

4.2.2 Limited Turning Radius for Heavy Vehicles

Heavy vehicles attempting to make a northbound right turn from Edgeley Boulevard onto Portage Parkway are forced to drive over the sidewalk and the grassy boulevard due to limited turning radius for heavy vehicles. This situation creates potential safety hazard for pedestrians on the southeast corner and is demonstrated in Figure 8. The left photo shows the eroded grassy boulevard (covered by gravel by the City's maintenance) due to repeated encroachment by trucks. The right photo shows the tyre marks on the pedestrian ramps at the crosswalks.





Figure 8 : Encroachment by Heavy Vehicles on Sidewalk

4.2.3 Pedestrian Crosswalks not Aligned with the Tactile Surface of Ramps

The tactile surface provided at some existing curb ramps (for accessibility) are not aligned with the crosswalks as demonstrated in Figure 9. These curb ramps do not provide pedestrians who are visually impaired a safe route to cross the signalized intersection with some directing pedestrians into the traffic creating hazardous condition as shown in Figure 9.

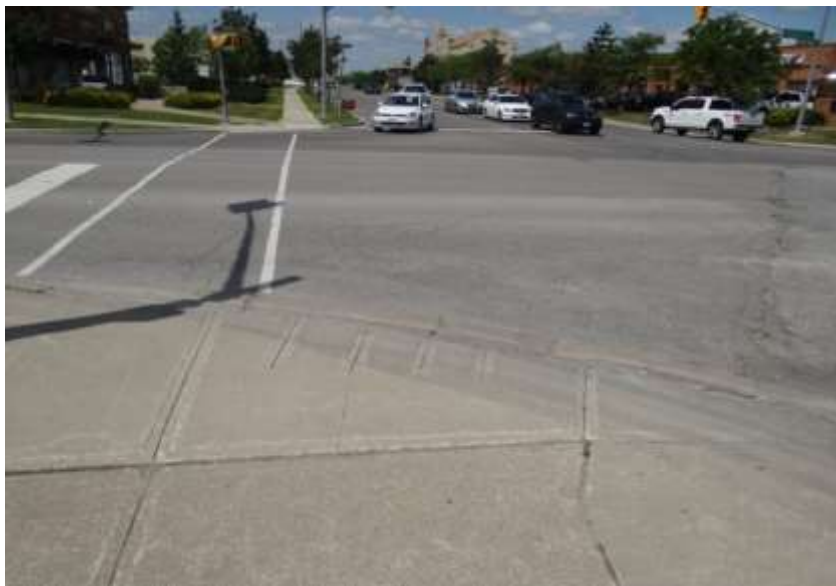


Figure 9: Tactile Surface at Curb Ramps not aligned with Crosswalks

4.3 Millway Avenue at Portage Parkway

4.3.1 Hidden All-Way Stop Sign

A Temporary Street Section Closed Sign installed upstream of the intersection of Portage Parkway and Millway Avenue in the eastbound direction (informing the closure of Millway Avenue) obstructs the existing STOP sign with ALL-WAY tab as demonstrated in Figure 10.



Figure 10: Obstructed STOP Sign in Eastbound Direction

4.4 Jane Street and Portage Parkway

4.4.1 Lack of Pedestrian Infrastructure

Pedestrian's desire paths along with existing pedestrian signal heads indicate significant pedestrian activity along east and west sides of Jane Street. Limited street lighting in the area and lack of sidewalks may place pedestrians at risk while travelling by foot along Jane Street.



Figure 11: Pedestrian Path on East Approach Looking North

4.4.2 Limited Access to Bus Stop

The bus stop located on the southeast corner of the intersection of Jane Street and Portage Parkway is not accessible. A painted crosswalk exists on the south approach. However, due to lack of a sidewalk on the east approach of the intersection, curb ramps for providing access to

wheelchairs/scooters etc. do not exist. In addition, a concrete pad or a pedestrian shelter is not available. The issue is illustrated in Figure 12.



Figure 12: No Curb Ramp, Sidewalk, Concrete Pad, and Shelter at the Bus Stop (Looking North)

It should be noted that the bus stop located on the northwest corner is provided with appropriate infrastructure as demonstrated in Figure 13.



Figure 13: Improved Bus Stop on the Northwest Corner (Looking South)

4.4.3 Missing Street Name Sign for Northbound Traffic

Existing street name sign in the northbound direction informing motorists of Portage Parkway is currently only located along the west side (adjacent to the left-turn lane) of Jane Street as demonstrated in Figure 14 making it difficult for motorists who are unfamiliar with the area to identify Portage Parkway.



Figure 14: Street Name Sign Only Located on the Left Side (Looking North)

5. Study Findings and Recommendations

From the analysis of collision history and our detailed field investigations, we suggest the following improvements based on the identified deficiencies.

5.1 Applewood Crescent at Portage Parkway

The following improvements are suggested at the intersection of Applewood Crescent at Portage Parkway:

- + Repair the malfunctioning pedestrian signal head located in the northwest quadrant of the intersection;
- + Install Object Marker Signs on Guiderails on both sides of the west approach of the intersection; and
- + Improve the turning radius for facilitating the westbound right turn movement for heavy vehicles.

5.2 Edgeley Boulevard at Portage Parkway

The following improvements are suggested at the intersection of Edgeley Boulevard at Portage Parkway:

- + Improve lane configuration of the intersection of Edgeley Boulevard and Portage Parkway by widening the portion of Portage Parkway east of Edgeley Boulevard to four lanes, which is the purpose of the proposed study. As a short-term remedy to the confusion caused to motorists due to current configuration, the pavement markings within this area can be improved in both directions. The existing Right Lane Exits sign (Wa-56R) can be moved to a point upstream of the noted private driveway providing access to the loading bay of LOWE'S Home Improvement Warehouse;
- + Improve the turning radius for facilitating the northbound right turn movement for heavy vehicles; and
- + Provide Accessibility for Ontarians with Disabilities Act (AODA) compatible pedestrian facilities (e.g. tactile surface provided at curb ramps should be aligned with crosswalks).

5.3 Millway Avenue at Portage Parkway

The following improvements are suggested at the intersection of Millway Avenue and Portage Parkway:

- + Increase the lateral offset of the temporary Street Section Closed Sign.

5.4 Jane Street and Portage Parkway

The following improvements are suggested at the intersection of Jane Street and Portage Parkway:

- + Improve pedestrian infrastructure at Jane Street and Portage Parkway including improvements to the bus stop located on the southeast corner of the intersection of Jane Street and Portage Parkway by providing appropriate sidewalk, curb ramps, shelter, and a concrete pad; and
- + Provide a Street Name Sign for the northbound traffic on the right side of Jane Street.

6. Concluding Remarks

The purpose of this study was to prepare a traffic safety report for existing conditions as part of the EA Study of Portage Parkway for its widening from Applewood Crescent to Jane Street. The report presents a list of safety concerns based mainly on the field investigation. The review of collision history did not reveal any major concerns. Recommendations proposed for the study area are also documented in the report. Major recommendations for the study area include: improvements to the lane configuration at the intersection of Edgeley Boulevard and Portage Parkway in the east-west direction and pedestrian infrastructure improvements at the intersection of Jane Street and Portage Parkway including provision of side walk with curb ramps, and improved bus stop.

As a result of our review of existing conditions it can be concluded that, aside of improvements recommended at the intersection of Applewood Crescent at Portage Parkway (already a 4-lane cross section) the rest of the recommended improvements can be addressed as part of the proposed widening of Portage Parkway.

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