



Staff Report for Committee of the Whole Meeting

Date of Meeting: July 3, 2018

Report Number: SRPRS.18.139

Department: Planning and Regulatory Services
Division: Development Engineering & Transportation

Subject: **SRPRS.18.139 – Pedestrian Crossover
Improvements on Estate Garden Drive at Snowy
Meadow Avenue**

Purpose:

The purpose of this report is to address concerns from area residents regarding pedestrian safety crossing Estate Garden Drive at Snowy Meadow Avenue and seek Council endorsement of staff's recommended remedial measures.

Recommendation(s):

- a) That staff be authorized to implement the pavement marking, signage, and crossing improvements recommended in staff report SRPRS.18.139 for the intersection of Estate Garden Drive at Snowy Meadow Avenue;
- b) That the amount of \$20,000 be approved to implement the works identified in Recommendation a) to staff report SRPRS.18.139;
- c) That a project be established for the Estate Garden Drive enhancements with the \$20,000 funded from the Cash to Capital Reserve Fund; and
- d) That Chapter 1116, Schedule 'A' (Parking Prohibited-Signs-Displayed) of the Municipal Code be amended by adding the following:

Highway: Estate Garden Drive

Side: Both

From and To: From a point 65m east of Snowy Meadow Avenue to a point 65m west of Snowy Meadow Avenue

Prohibited Time of Day: Anytime

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Contact Person:

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Report Approval:

Submitted by: Kelvin Kwan, Commissioner of Planning and Regulatory Services

Approved by: Neil Garbe, Chief Administrative Officer

All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), Town Solicitor (as required), Commissioner, and Chief Administrative Officer. Details of the reports approval are attached.

Background:

Transportation staff have received complaints from area residents regarding excessive speed and pedestrian safety at the intersection of Estate Garden Drive and Snowy Meadow Avenue (easterly leg). This “T”-intersection is adjacent to Mitchell Pond Park with a soccer pitch and a playground. Residents have expressed concerns with children crossing Estate Gardens Drive to access the park and playground.

Estate Garden Drive is an east-west local residential road that extends from Yonge Street westerly to the Town’s Grovewood Park natural area. It has a 20m right-of-way in the residential area west of Snowy Meadow Avenue and widens from 23m to 29m in the transition adjacent to Mitchell Pond Park. The pavement width on Estate Garden Drive also widens from a typical residential street pavement width of 8.5m increasing to 14m on the west side of this “T”-intersection and further widens to 16m with a 5.5m centre island median as it carries towards Yonge Street. A sidewalk is located on the north side of Estate Garden Drive. A sidewalk is also located on a portion of Estate Garden Drive on the south side from Yonge Street to Snowy Meadow Avenue. The average daily traffic volume on Estate Garden Drive is approximately 2000 vehicles. There is an existing traffic control signal at the intersection of Estate Garden Drive and Yonge Street approximately 194m east of Snowy Meadow Avenue.

Snowy Meadow Avenue is also a local residential street and is under a stop sign control at the approach to Estate Garden Drive. Snowy Meadow Avenue has a 20m right-of-way and an 8.5m pavement width. A sidewalk is located on the west side of the road. The average daily traffic volume on Snowy Meadow Avenue is about 700 vehicles.

Data Collection and Field Observations

Staff conducted a pedestrian crossing count on Estate Garden Drive at Snowy Meadow Avenue during an evening soccer game. In addition, turning movement counts were obtained from the Town’s database to assess warrants for potential all-way stop control or pedestrian crossover remedial measures.

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Also, staff assessed sightlines for motorists, motorist/pedestrian behaviour and pedestrian activity at the subject intersection.

A large number of pedestrians were observed to cross Estate Garden Drive between gaps in traffic during a soccer game in the late afternoon/early evening. The majority of north-south pedestrian crossings occurred at the west leg of the intersection demonstrating a desire line of pedestrian activity.

Data Analysis for Remedial Measures

Based on an analysis of vehicular operating speeds on Estate Garden Drive, staff would not recommend any physical measures for traffic calming such as speed humps for Estate Garden Drive in order to maintain efficient movement of emergency vehicles, transit, and winter maintenance services. The analysis found that motorists' speed compliance is reasonable along this stretch of Estate Garden Drive and consistent with most of the Town roads with a posted maximum 50 km/h speed limit.

An all-way stop warrant analysis, as per Ontario Traffic Manual (OTM) Book 5 – Regulatory Signs, was conducted at intersection of Estate Garden Drive and Snowy Meadow Avenue. The warrant requires a minimum vehicle volume of 350 vehicles/hour from all approaches and minimum side street volume split of 25% to justify an all-way stop control at a three-legged intersection. The subject intersection had a vehicle volume of 182 vehicles/hour and a 20% side road volume split.

There were no collisions at the intersection on file within the past three years that would be susceptible to correction by the installation of all-way stop controls. In order to implement an all-way stop controlled intersection based on collision thresholds, at least four intersection-related accidents per year over three consecutive years must occur.

The existing signalized intersection at the east (Yonge Street and Estate Garden Drive) is located approximately 195m from the subject intersection. OTM Book 5 recommends all-way stop controls to be located a minimum distance of 250m from other traffic control devices such as all-way stop signs or traffic signals.

Based on the assessment results, it was concluded that none of the minimum requirements necessary to warrant all-way stop controls at this intersection are satisfied.

As a result, staff focused on pedestrian and traffic volumes along Estate Garden Drive at Snowy Meadow Avenue to determine if a north-south pedestrian crossover at this intersection is warranted.

A pedestrian crossover assessment, as per Ontario Traffic Manual (OTM) Book 15 – Pedestrian Crossing Treatments, was conducted at intersection of Estate Garden Drive and Snowy Meadow Avenue. The assessment is a tool that takes into account eight-hour/four-hour pedestrian and vehicle volumes, distance of the site from another traffic

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control devices, and system connectivity. The technical criteria for the installation of a pedestrian crossover is shown in Table 1 along with the assessment results.

Table 1: Pedestrian Crossover Warrant Assessment for Estate Garden Drive at Snowy Meadow Avenue

Criteria/Standard	Threshold Value	Observed Value	Criteria Met (%)
Four-hour pedestrian volume	65	69	100 % met
Four-hour traffic volume	395	647	100 % met
Distance from nearest traffic control device	200 m	194 m	97 % met

Based on the warrant assessment, the intersection of Estate Garden Drive and Snowy Meadow Avenue fully satisfy two of the criteria and 97% of the last criteria. Although the pedestrian crossover criteria are not absolutely 100% met, the one outstanding criteria is at 97% of the threshold and can be argued to be substantially met. It should be noted that the soccer field is scheduled for league games every day from the second week of May to the end of September. The playground is busy regularly throughout the year. In addition, the sightlines along the curvature of Estates Garden Drive are sometimes blocked when cars are parked in the on-street lay-by spaces on the north side of the road. This creates part of the safety concerns at the subject intersection. Based on these factors, the intersection of Estate Garden Drive and Snow Meadow Avenue is recommended as a candidate for a pedestrian crossover.

Pedestrian Crossover as the recommended remedial measure

The appropriate type of pedestrian crossover treatment is selected based on four criteria:

1. Four-hour two-way vehicular volume of the roadway at the location of the crosswalk,
2. Posted speed limit of the roadway,
3. Total number of lanes for the roadway cross section, and
4. Presence of raised pedestrian refuge.

The four-hour vehicular volume for Estate Garden and Snowy Meadow was 647 vehicles. The posted speed limit is 50 km/h for the 2 lane road. There is no raised pedestrian refuge in the area. Based on the matrix of facility types in OTM Book 15, a Level 2 Type D pedestrian crossing treatment is warranted. The components of a Pedestrian Crossover Level 2 Type D include:

- Ladder Crosswalk: a combination of zebra crosswalk along with parallel crosswalk lines that enhance the delineation of pedestrian crosswalks;

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- Yield to Pedestrian Line: a line that is used to indicate the point at which a vehicle approaching a crosswalk must yield to pedestrians in a crosswalk;
- Pedestrian Crossover Left (Ra-4L) / Pedestrian Crossover Right (Ra-4R) Signs: rectangular white signs with a black figure on them that indicate to vehicles the presence of a crosswalk, these double sided signs are placed on both sides of the crosswalk; and
- Pedestrian Crossover Ahead Signs: a yellow diamond sign placed in advance of the crosswalk with an image of a Ra-4L/Ra-4R sign to indicate to motorists that they are approaching a crosswalk.

A clear area of 65m is required on each approach to the crosswalk in order to improve visibility and safety for the users of the pedestrian crosswalk. Attachment 1 provides an illustration of the recommended crosswalk and required signage.

Financial/Staffing/Other Implications:

The estimated cost for the implementation of a pedestrian crossover on the west leg of the Estate Garden Drive and Snowy Meadow Avenue intersection is up to \$20,000. The funding for the \$20,000 is recommended to come from the Cash to Capital Reserve Fund.

Relationship to the Strategic Plan:

The recommendations of this report are consistent with the Town's Strategic Plan to enhance community safety. It leads to achieving the objectives to build "strong connections in Richmond Hill" and "providing better choices for Town residents". The recommendations meet Goal One of the Town's Strategic Plan of providing "stronger connections in Richmond Hill by improving the function of buildings, streets, and neighborhoods".

Conclusion:

The implementation of a north-south pedestrian crossover at the west leg of the Estate Garden Drive and Snowy Meadow Avenue intersection is recommended to provide better access between the residential neighbourhood and the Mitchell Pond Park soccer field/playground. Based on the criteria established in the Ontario Traffic Manual Book 15, a Level 2 Type D pedestrian crossover consisting of zebra crossing pavement markings and appropriate signage is recommended as a remedial measure at the intersection of Estate Garden Drive and Snowy Meadow Avenue.

Attachments:

The following attached documents may include scanned images of appendixes, maps and photographs. If you require an alternative format please call contact person listed in this document.

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- Attachment 1: Pedestrian Crossover Remedial Measures at Estate Garden Drive and Snowy Meadow Avenue

Report Approval Details

Document Title:	SRPRS.18.139 - Pedestrian Crossover at Estate Garden Drive.docx
Attachments:	- SRPRS.18.139 - Attachment 1.pdf
Final Approval Date:	Jun 26, 2018

This report and all of its attachments were approved and signed as outlined below:

Dan Terzievski - Jun 25, 2018 - 4:05 PM

Kelvin Kwan - Jun 26, 2018 - 6:59 AM

David Dexter - Jun 26, 2018 - 7:58 AM

Neil Garbe - Jun 26, 2018 - 2:12 PM