

All-Way Stop Control - Greencrest Circuit and Holmfirth Terrace

Date: December 10, 2018
To: Scarborough Community Council
From: Acting Director, Traffic Management, Transportation Services
Wards: Ward 24 – Scarborough-Guildwood

SUMMARY

This staff report is about a matter for which the Community Council has delegated authority from City Council to make a final decision.

This report recommends that an All-Way Stop Control be installed at the intersection of Greencrest Circuit and Holmfirth Terrace as the existing conditions meet the warrant for the installation of such a traffic control device. This location currently has a stop control facing the westbound approach on Holmfirth Terrace. There is a private access on the west side of Greencrest Circuit, opposite Holmfirth Terrace.

RECOMMENDATIONS

The Acting Director, Traffic Management, Transportation Services recommends that:

1. Scarborough Community Council authorize all-way compulsory stop control at the intersection of Greencrest Circuit and Holmfirth Terrace.

FINANCIAL IMPACT

The financial cost of installing the subject recommended signs and pavement markings is approximately \$2,000.00. All costs associated with the necessary signage and markings installation are included within the Transportation Services 2019 Interim Operating Budget, within Cost Centres TP0397 and TP0398.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

As a result of a request from Councillor Paul Ainslie, Transportation Services staff reviewed the feasibility of installing a pedestrian crossover at the intersection of Greencrest Circuit and Holmfirth Terrace.

Existing Conditions

The following characteristics describe Greencrest Circuit and Holmfirth Terrace:

- This intersection is located east of Markham Road and south of Lawrence Avenue East.
- Greencrest Circuit and Holmfirth Terrace are two-lane collector roads with a regulatory speed limit of 40 km/h.
- Currently, westbound traffic on Holmfirth Terrace is required to stop at Greencrest Circuit.
- A plaza driveway is located on the west side of Greencrest Circuit, opposite Holmfirth Terrace.
- There are sidewalks on all sides of the subject intersection.
- The land use in the surrounding area consists of single family residential dwellings, multi-level residential buildings, and a commercial plaza.

Analysis

All-way Stop Control Warrant Study

A traffic study conducted at the intersection of Greencrest Circuit and Holmfirth Terrace during the morning and afternoon peak hours of a typical weekday (Tuesday, January 24, 2017), produced the following results:

All-Way Stop Control Warrant	A Total Approach Vehicle Volume	B Vehicle/Pedestrian Volume Crossing Major Road	C Unit Volume Split* Major/Minor Roads
Four-Hour Study Period Hourly Average	400	129	70/30
Warrant Requirements For Study Period Average For Collector Roads	≥ 375	≥ 150	≥ 30/70 or ≤ 70/30

* "Unit Volume Split": Major Road Volume - Vehicles only.
Minor Road Volume - Vehicles plus pedestrians crossing the major road.

For an all-way stop control to be numerically justified, the traffic volume requirements for the "Study Period Average" must be completely satisfied in Categories A and C, or Categories B and C.

As outlined in the table, the traffic volumes meet the requirements to install an all-way stop control at the intersection of Greencrest Circuit and Holmfirth Terrace. As such, Transportation Services staff recommend the installation of an all-way stop control at the intersection of Greencrest Circuit and Holmfirth Terrace.

Pedestrian Crossing Protection Warrant Studies

A detailed Warrant Study on Greencrest Circuit at Holmfirth Terrace was conducted during the peak eight hours of a typical weekday (Tuesday, January 24, 2017). The study provides an assessment of the need for traffic control signals or a pedestrian crossover based on vehicle turning movements, pedestrian volumes, and pedestrian delays, which are expressed in terms of percent compliance with accepted thresholds.

Traffic Control Signal Justification Study

Using traffic volumes recorded during the peak eight hours on Tuesday, January 24, 2017, the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	35%
Delay To Cross Traffic	39%
Collision Hazard	0%

For traffic control signals to be numerically justified, one of the “Minimum Vehicular Volume” or “Delay to Cross Traffic” or “Collision Hazard” warrants must be 100% satisfied, or both the “Minimum Vehicular Volume” and “Delay to Cross Traffic” warrants must be at least 80% satisfied. Our review of the Collision Hazard is based on the previous three-year (2014 – 2016) collision history available.

As outlined in the above table, the traffic volumes do not satisfy the requirements to install traffic control signals.

Pedestrian Crossing Protection Study

A traffic study conducted on Greencrest Circuit at Holmfirth Terrace during the peak eight hours of a typical weekday (Tuesday, January 24, 2017) produced the following results:

Pedestrian Crossing Protection Warrant	Compliance Level
Pedestrian Volumes	49%
Pedestrian Delays	92%

As outlined in the above table, the installation of a pedestrian crossover is not justified because both categories must be 100% met. During the eight hour study period, the pedestrian volumes and pedestrian delays were not justified for a Pedestrian Crossover.

If a Pedestrian Crossover were to be installed on Greencrest Circuit at Holmfirth Terrace, it would potentially lead to turning movement conflicts between vehicles stopped at the pedestrian crossover and vehicles accessing the commercial plaza driveway.

Collision History

A review of the collision records revealed that there has been no reported preventable collisions nor pedestrian related collisions on Greencrest Circuit at Holmfirth Terrace during the three-year period ending December 31, 2016.

In summary, staff recommend the installation of an all-way stop control at the intersection of Greencrest Circuit and Holmfirth Terrace as the technical requirements are met. This intersection does not meet the technical warrants for the installation of either traffic control signals or a pedestrian crossover.

CONTACT

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SIGNATURE

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ATTACHMENTS

1. Location Plan (All-Way Stop Control - Greencrest Circuit and Holmfirth Terrace)

