

Committee of the Whole (2) Report

DATE: Tuesday, June 21, 2022

WARD(S): 1

TITLE: BLOCK 61 WEST TRAFFIC REVIEW

FROM:

Vince Musacchio, Deputy City Manager, Infrastructure Development

ACTION: FOR INFORMATION

Purpose

To inform Council on the study findings of the neighbourhood traffic study conducted for Block 61 West, also known as the Kleinburg-Nashville Community.

Report Highlights

- Staff undertook a neighbourhood traffic study for the Kleinburg-Nashville Community to assess the need for traffic measures throughout the Block and to assess if all-way stop-control is warranted at key intersections.
- The neighbourhood traffic study revealed that the Provincial Warrant for all-way stop control is currently not met at the studied intersections.
- As the community is partially assumed, per the subdivision agreement, it is the responsibility of the Owner to implement traffic calming measures to the City's satisfaction. The City can work with the Owner to implement traffic calming measures as appropriate.
- Traffic volumes and vehicle speeds throughout the Kleinburg-Nashville Community can continue to be monitored for speeding concerns and all-way stop control, while traffic measures can be installed, such as pavement markings, bike lanes and pedestrian crossovers (PXOs).

Recommendations

1. That this report be received for information.

Background

As the Kleinburg-Nashville Community becomes increasingly occupied, residents continue to express concerns with respect to vehicular speed, traffic volumes, and pedestrian safety.

The Kleinburg-Nashville Community provides a network of collector and local roads. This includes an east-west spine road known as East Corner's Boulevard, and a north-south spine road known as Barons Street, both of which are major collector roadways. East Corner's Boulevard connects with Huntington Road at its western terminus and intersects with Barons Street mid-block at a roundabout intersection. Barons Street connects with Major MacKenzie Drive West at the south, and traverses to the northern limit of the Block. Mactier Drive, a minor collector road, encircles the Block and operates generally north-south, connecting with Barons Street at the north and south of the Block, and connecting with East Corner's Boulevard at its eastern limit.

Currently, Barons Street provides a temporary all-way stop-control (until such time that the roundabout is constructed) at its intersections with Mactier Drive at the north, Mactier Drive/Moody Drive at the south, as well as at intersections with Richler Avenue and Danby Street. Two (2) roundabouts exist on East Corner's Boulevard, at the intersection of Barons Street and Mactier Drive. Pedestrian crossing opportunities are available at these two (2) points.

Mactier Drive operates with all-way stop-control at the north intersection with Barons Street, and at the south intersection with Barons Street. No other all-way stop-control exists between these two (2) intersections. A protected pedestrian crossing is present at the roundabout with East Corner's Boulevard. Staff have also observed the recent installation of an unprotected textured crossing across Mactier Drive at Rotondo Crescent.

To address enquiries and concerns from residents, a number of traffic measures have been installed in the Kleinburg-Nashville Community, including on Barons Street and East Corner's Boulevard. No traffic calming measures, including pavement markings, have been installed on Mactier Drive to-date as this roadway is still partially under construction. The following measures have been implemented/planned:

Barons Street

- Speed-Boards
 - Near Pope Francis Catholic Elementary School
 - Between Andreetta Drive and Cranbrook Crescent

- All-way stop control at the intersection of Barons and Danby Street and at the intersection of Richler Avenue
- In-Road flexi signs on Barons Street near Pope Francis Catholic Elementary School
- School speed zone area (40km/h) on Barons Street between Richler Avenue and Danby Street
- Neighborhood Watch signs
- Pavement marking treatments including bike lanes on Barons Street
- Pope Francis Catholic Elementary School is part of the Active School Travel Pilot project, working with the school boards and school administration to enhance road safety around school zone areas and shift culture to understand that road safety is a shared value and responsibility. Special pavement markings (Slow School Zone) are planned on Barons Street to support this project.
- 40km/h Area Neighborhood speed limit is planned to be implemented in Kleinburg-Nashville Community (Block 10) as part of the Phase 3 speed limit policy

East Corner's Boulevard

- Speed-Boards between Huntington Road and Barons Street
- Neighborhood Watch signs

The pavement markings and in-road flexible signs installed on Barons Street in May 2021 were subsequently monitored for their effect on vehicle speeds. Monitoring performed by staff in June 2021 revealed that these traffic calming measures have been effective in reducing overall vehicle speeds. However, staff have continued to receive a number of complaints and concerns from residents through 2021, including those related to vehicle speeds and pedestrian crossing opportunities on Mactier Drive, East Corner's Boulevard, and further concerns on Barons Street.

Understanding the continued concerns of the area residents, City staff have undertaken the neighbourhood traffic study for the Kleinburg-Nashville Community which investigated all-way stop-control at key intersections, as well as considered the installation of traffic calming measures and pedestrian crossovers (PXOs). In addition to the neighbourhood traffic study conducted by staff, the traffic consultant for the Kleinburg-Nashville Community also undertook an assessment of the available information.

Previous Reports/Authority

City Traffic By-law:

[Consolidated Traffic By-Law 284-94](#)

Analysis and Options

The neighbourhood traffic study indicates that the warrant criteria for all-way stop control are not met at the studied intersections

The neighbourhood traffic study involved collecting turning movement count data at key intersections where enquiries had been received by residents to assess the feasibility for all-way stop-control. Data was collected in October 2021, and the warrant analyses were conducted at four (4) intersections on Mactier Drive. The findings of the analyses reveal that the Provincial Warrant is currently not met at any of the studied intersections. The warrant results are as follows:

Intersection	Current Control	Potential Control	OTM Warrant Result
Mactier Dr & Pelee Ave / Hopewell St	2-way	all-way	Not met
Mactier Dr & Canard Dr	2-way	all-way	Not met
Mactier Dr & Tremblant Cres (south)	1-way	all-way	Not met
Mactier Dr & Rotondo Cres	1-way	all-way	Not met

This all-way stop-control warrant analysis is generally based on the thresholds established in Book 5 of the Ontario Traffic Manual. Based on the analysis, the warrant for all-way stop control is not met. The traffic consultant for the Kleinburg-Nashville Community also reviewed the City's assessment and concurred with its findings. Generally, all-way stop-control intersections should not be employed as a traffic calming device. The Ontario Traffic Manual details inappropriate use of all-way stop control, stating that all-way stop control should not be used under the following conditions:

- Where the protection of pedestrians, school children in particular is a prime concern. This concern can usually be addressed by other means (such as pedestrian crossovers)
- As a speed control device
- As a means of deterring the movement of through traffic in a residential area

When assessing the application of all-way stop control in the Kleinburg-Nashville Community, the Ontario Traffic Manual defines that the use of all-way stop control should not be used to address crossing safety, speed control, and/or traffic calming. The installation of all-way stop control when unwarranted as advised by the Ontario Traffic Manual may lead to driver violations and increased vehicle speeds due to the inconvenience all-way stop control introduces. Unwarranted all-way stop control may also provide pedestrians with a false sense of safety.

In particular, providing an all-way stop-control at the Mactier Drive and Pelee Avenue intersection may introduce safety concerns given the short separation distances between these intersections (less than 100m where OTM recommends a 250m separation). Furthermore, any drivers that may be using Pelee Avenue to bypass Barons Street will be required to stop at Mactier Drive by way of the existing two-way stop-sign and therefore an all-way stop-sign would not impact any bypass or cut-through behaviours on Pelee Avenue. Similarly, introducing an all-way stop-control at the Mactier Drive & Canard Drive intersection will result in a short separation distance to the stop-sign at Huntington Road on Mactier Drive (approximately 130m where OTM recommends 250m).

Traffic calming measures can be deployed on Mactier Drive which can discourage speeding and provide safer pedestrian crossing options

Since Mactier Drive is a recently constructed roadway, no traffic calming measures including pavement markings have been installed to-date. Traffic calming measures can be installed on Mactier Drive to discourage speeding while also improving cycling connectivity and formalizing on-street parking. Upon reviewing the potential traffic calming measures in the neighbourhood traffic study and in referencing the City's Neighbourhood Traffic Committee Policy and Procedure (Revised June 2010), the following measures are recommended for Mactier Drive:

- Pavement markings including centerlines and edge lines be implemented to artificially narrow the pavement width.
- "Pedestrian Ahead" signs be installed at appropriate locations. The signs are specifically recommended to be installed near the entrances of shared pedestrian and cyclist pathways to provide guidance to motorists that pedestrians may be in the area.
- Speed limit signs to be installed at the appropriate locations.
- Speed-Boards be installed at key locations to remind drivers to manage their speed in compliance with the posted speed limits.
- The approved bike lanes between Barons Street and Tremblant Crescent (south) and Barons Street and Huntington Road be implemented to complete the cycling network between Barons Street and the Multi-Use Path (MUP) on the east side of Mactier Drive, and between Barons Street and Huntington Road
- Pedestrian crossovers (PXOs) be installed at the appropriate locations per Book 15 of the Ontario Traffic Manual (Attachment 2). An unprotected pedestrian crossing has been installed across Mactier Drive at Rotondo Crescent which could provide an opportunity for a PXO.

Regarding the bike lanes, although the updated Pedestrian and Bicycle Master Plan (2020) would require separated cycling tracks for a road of this classification, volume and speed, as per the all ages and abilities framework, there is an opportunity to utilize the existing pavement width to provide dedicated lanes for cyclist through the implementation of on-road bike lanes (Attachment 3). Reduced speed limits would complement the on-road bike lanes. Beyond the connection with the Multi-Use Path (MUP) on Mactier Drive accessible at Tremblant Crescent, a parking lane could be provided on one (1) side of Mactier Drive (Attachment 3).

To facilitate safe pedestrian crossings, PXOs on Mactier Drive could be installed. The Ontario Traffic Manual involves a varying degree of warning measures and indicators to both drivers and pedestrians to facilitate safe crossings. These measures can be tailored to the specific road conditions or area context, and vehicular volumes, should a PXO be warranted. The measures can include the appropriate signage and pavement markings, including advanced warning signage, and flashing beacons.

Staff recommend that the above measures be implemented on Mactier Drive. The City will work with the Owner (Block developer) to install the measures, as applicable. Per the subdivision agreement section 21.2.16, “in the event that these traffic calming measures are found to be insufficient and/or ineffective by the City prior to the assumption of the municipal services on the Plan, then the Owner shall design and construct additional traffic calming measures and/or modify existing traffic calming measures to the satisfaction of the City.”. As such, it is the responsibility of the Owner to explore and install satisfactory traffic calming measures to address speeding and pedestrian safety concerns where Mactier Drive is unassumed.

Where implemented, traffic calming measures on Barons Street have been effective in reducing vehicle speeds and ensuring compliance

Pavement markings with bike lanes and in-road flexi-signs on Barons Street were completed in May, 2021. The before-after traffic data comparison shows that the speed on Barons Street (south of Mactier Drive/Moody Drive) reduced by 5 to 10 km/h. The June 2021 average speeds range from 38 km/h to 45 km/h. The 85th percentile speeds (the speed at which 85% of the vehicles are travelling at or below) range from 43 km/h to 48 km/h, which is in good compliance with the statutory 50 km/h speed limit. Given the pavement markings and other traffic calming measures have been effective on Barons Street, similar measures could be explored on Mactier Drive and East Corner’s Boulevard, as applicable.

Further concerns have been expressed regarding vehicle speeds and pedestrian safety on Barons Street nearby the Algoma Drive intersection

An elementary school is planned at the northwest corner of Algoma Drive and Barons Street. Residents have expressed concerns with respect to vehicle speeds and safe pedestrian crossing at this intersection. Staff note that this intersection was studied for all-way stop-control in 2021 and the Provincial Warrant criteria were not satisfied at the time. Given the school has not yet been constructed, staff do not anticipate any change to this finding.

It is recommended that through the development review of the school site, and as the school becomes operational that the all-way stop-control assessments can be performed with updated data to determine if this method of traffic control may be warranted at the Algoma Drive and Barons Street intersection. If the all-way stop-control warrant criteria are not satisfied once the school is operational, the installation of a PXO could be studied.

Residents have concerns regarding speeding on East Corner's Boulevard, and have requested that a safe pedestrian crossing be provided across East Corner's Boulevard at Danby Street, however this connection had previously been investigated and was not moved forward

Currently there are two (2) crossing opportunities across East Corner's Boulevard, including at Barons Street and Mactier Drive. There are no protected crossing opportunities between these intersections. Residents have requested that a safe pedestrian crossing opportunity be explored between East Corner's Park and Danby Street. While this location may be appropriate for a PXO when considering pedestrian desire lines (common or frequent routes for pedestrians between origins/destinations) the City will need to work with TC Energy to ensure that such a crossing is feasible and does not encumber TC Energy. Further study and coordination will be required.

Unwarranted all-way stop-control was installed by the Owner at the Algoma Drive and Nocturne Avenue intersection and should be removed or modified

Staff have observed that an all-way stop-control intersection was installed by the Owner at the Algoma Drive and Nocturne Avenue intersection. It is understood these stop-signs were initially installed for the purposes of managing construction vehicles and were maintained during occupancy. In studying this intersection, it has been found that the intersection does not warrant all-way stop-control per the Provincial Warrant criteria and ultimately should be removed. However, since pedestrian crosswalks have also

been constructed at this intersection alongside the all-way stop-control by the Owner, there may be an opportunity to convert the all-way stop-control to a PXO.

Traffic volumes and speeds can continue to be monitored as the Kleinburg-Nashville Community continues to become increasingly occupied

While none of the intersections studied warrant all-way stop-control at this time, the warrant analysis for all-way stop control could be re-assessed as the Kleinburg-Nashville Community becomes increasingly occupied and as the future school site at the intersection of Algoma Drive and Barons Street becomes operational. At such time, if the results indicate that all-way stop control is warranted, this method of traffic control could be installed at the appropriate intersections. Prior to these future monitoring events for all-way stop-control, any traffic calming measures that are implemented such as pavement markings, signage, and PXOs, could be monitored for their effectiveness in reducing vehicle speeds and providing safe crossing opportunities.

Financial Impact

There are no financial implications as a result of this report. The City can work with the Owner to install traffic measures where applicable.

Broader Regional Impacts/Considerations

There are no broader regional impacts or considerations as a result of this report.

Conclusion

In response to vehicle speeding and pedestrian safety enquiries and concerns expressed by residents in the Kleinburg-Nashville Community, a neighbourhood traffic study was completed to investigate the installation of all-way stop-control at key intersections, and the opportunity for implementing traffic control measures such as pavement markings, bike lanes and PXOs. Staff found that none of the studied intersections currently satisfy the Provincial Warrant criteria for all-way stop-control.

Pavement markings and other traffic calming measures could be implemented on Mactier Drive, and other areas identified on Barons Street and Algoma Drive could be recommended for the installation of PXOs and other traffic calming measures. Staff recommend continuing to monitor the Kleinburg-Nashville Community.

For more information, please contact:

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Attachments

1. Reference Map
2. Ontario Traffic Manual (OTM) Book 15 – Level 2 Type D Pedestrian Crossover
3. Typical Cross-Section Examples for Mactier Drive

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