

Intersection Safety Review - Brimley Road and McNicoll Avenue

Date: May 27, 2024

To: Scarborough Community Council

From: Director, Traffic Management, Transportation Services

Wards: Ward 23, Scarborough North

SUMMARY

As the Toronto Transit Commission (TTC) operates a transit service on Brimley Road and on McNicoll Avenue, City Council approval of this report is required.

Scarborough Community Council directed Transportation Services to conduct a review of safety and operational concerns for road users at the intersection of Brimley Road and McNicoll Avenue. This report provides an overview of the assessments undertaken by Transportation Services.

Transportation Services is recommending an eastbound right turn on a red signal prohibition at Brimley Road and McNicoll Avenue, as well as other improvements to refresh/enhance the signs and pavement markings at the intersection.

RECOMMENDATIONS

The Director, Traffic Management, Transportation Services recommends that:

1. City Council prohibit eastbound right turns on a red signal at all times at the intersection of Brimley Road and McNicoll Avenue.

FINANCIAL IMPACT

All costs associated with the safety and operational improvements are included in the Transportation Services 2024 Operating Budget.

DECISION HISTORY

On February 16, 2024, Scarborough Community Council adopted Item 2024.SC11.17 (Safety Improvements at the Intersection of Brimley Road and McNicoll Avenue), directing Transportation Services to undertake an intersection safety review at the intersection of Brimley Road and McNicoll Avenue. The Community Council decision can be found at:

[Agenda Item History - 2024.SC11.17 \(toronto.ca\)](#)

COMMENTS

In response to the direction from Scarborough Community Council's adoption of the Item SC11.17, arising from a fatal collision involving a cyclist in January 2024, Transportation Services conducted an intersection safety review and studied operational and safety measures at the intersection of Brimley Road and McNicoll Avenue.

Existing Conditions

Brimley Road is characterized by the following conditions:

- It is a four-lane, north-south, major arterial roadway
- It operates two-way traffic on a pavement width of approximately 15 metres
- The daily two-way traffic volume is approximately 19,000 vehicles
- The speed limit is 50 km/h
- Heavy trucks are permitted at all times
- There is TTC service provided by 21 Brimley bus route
- There is sidewalk located on the east side of the street, and there is a multi-use two-way trail located on the west side

On Brimley Road, in the vicinity of McNicoll Avenue, parking is prohibited at all times on both sides of the street.

McNicoll Avenue is characterized by the following conditions:

- It is a four-lane, east-west, minor arterial roadway
- It operates two-way traffic on a pavement width of approximately 12.5 metres
- The daily two-way traffic volume is approximately 20,000 vehicles
- The speed limit is 50 km/h
- Heavy trucks are permitted at all times
- There is TTC service provided by 42 McNicoll bus route
- There is a sidewalk located on the north side of the street

On McNicoll Avenue, in the vicinity of Brimley Road, parking is prohibited at all times on both sides of the street.

The adjacent land use in the vicinity of Brimley Road and McNicoll Avenue is primarily residential. A hydro corridor runs along the south side of McNicoll Avenue, with a multi-use trail located within the corridor.

A map of the area is included in Attachment 1.

Collision Review

A review of the Toronto Police Service collision records, with specific emphasis on pedestrian, cyclist, and Killed or Seriously Injured (KSI) collisions at Brimley Road and McNicoll Avenue for the five-year period ending on February 29, 2024, was undertaken, which disclosed 83 collisions in total. Of these 83 collisions, none involved a pedestrian and three involved a cyclist. Of these three, two resulted in minimal injuries, while one, occurring on January 29, 2024, resulted in a cyclist fatality.

The three cyclist collisions are described in detail below:

- October 22, 2020 at 6:15 p.m. - A vehicle making a northbound right turn came into contact with a cyclist travelling westbound in the crossride, located on the south leg of the intersection. The cyclist sustained minimal injuries.
- October 27, 2020 at 7:30 a.m. - A southbound cyclist crossing on the west side of the intersection was stuck by a vehicle making an eastbound right turn. The cyclist sustained minimal injuries.
- January 29, 2024 at 1:45 p.m. - A vehicle making a westbound left turn struck an eastbound in the crossride, located on the south leg of the intersection. The cyclist was transported to hospital where they succumbed to their injuries.

Road Safety Review

Traffic Operations conducted a detailed safety review at the intersection of Brimley Road and McNicoll Avenue. This review included all aspects of the intersection's operation. The results of this review have been summarized as follows:

A. Signage

The existing signage at the intersection were generally found to be in good condition, appropriate and clearly visible to road users. Nonetheless, during the site investigation it was determined that installation of "Turning Traffic Must Yield to Pedestrians and Cyclists" sign would provide additional warning to northbound right turning traffic to look out for pedestrians and cyclists. This sign will be installed on the southeast corner of the intersection as soon as practicable.

B. Pavement markings

Pavement markings at the intersection were generally in good condition. However, zebra crosswalk markings are absent within all four pedestrian crosswalks. Accordingly, the installation of the zebra crosswalk markings will be scheduled as soon as practicable.

Furthermore, given the presence of the crossride on the south side of the intersection, staff recommend the installation of the enhanced pavement markings as per the current standards for signalized intersections with separate pedestrian crossing and crossrides.

C. Pavement quality

The pavement at the intersection of Brimley Road and McNicoll Avenue appears to be in good condition.

D. Sight lines

Sightlines at the intersection of Brimley Road and McNicoll Avenue were reviewed and there were no impediments identified for road users, except on the southwest corner. It was determined that the utility boxes and traffic signal controller cabinet situated on the southwest corner of the intersection could hinder the sightlines for eastbound motorists making a right turn on a red signal. This could result in potential conflict with pedestrians and cyclists. Recommendation 1 will mitigate this issue.

E. Sidewalks

Sidewalks on both sides of Brimley Road, as well as the sidewalk on the north side of McNicoll Avenue, were found to be in good condition.

F. Street lighting

Street lighting is the responsibility of Toronto Hydro. However, Transportation Services' review did note that there are streetlights provided along Brimley Road as well as McNicoll Avenue.

G. Geometric Safety Improvements

As noted above, the subject intersection is generally operating satisfactorily, however, it is recommended that in order to further improve safety for all road users and bring the intersection design up to current standards, the installation of tactile walking surface indicators (TWSI) be installed at all corners of the intersection. The southwest corner is already equipped with TWSI, but it does not extend across the full width of the dropped curb to include the crossride. These improvements may be incorporated in the City's "On-Street Bikeway Construction" planned for 2027.

H. Signal Hardware

The vehicle and pedestrian and bicycle signal displays at the intersection were found to be in good condition and clearly visible to intersection users.

I. Signal Timings

The mode of control for the traffic control signals at the intersection is fixed for the east-west and north-south traffic movements. The northbound, eastbound and westbound left turn signals are callable by a set back vehicle detector during the morning and afternoon peak hours. A minimum of three vehicles must be present on the left turn lane to activate the advance left arrow. As noted, an east-west crossride is provided on the south leg, this crossride is controlled by bicycle signals that operate concurrently with the vehicle and pedestrian signals.

Based on the pedestrian crossing distances, the signal timings provide sufficient time for pedestrians to cross at a comfortable walking speed. No pedestrians were observed having difficulty completing their crossings.

Transportation Services is recommending that Dynamic Leading Pedestrian Interval (LPI) and Dynamic Leading Bicycle Interval (LBI) phasing be implemented on the south leg of the intersection. The purpose of the LPI and LBI is to enhance the visibility of pedestrians and cyclists in the intersection and reinforce their right-of-way by giving them a head-start over turning vehicles. This feature will be programmed to operate during the off-peak periods and/or when the westbound advance green signal is not called during the peak hours. These upgrades are expected to be in place by Q4 2024.

J. Turn Prohibition

Currently there are no restrictions at this intersection. A site investigation was conducted by Transportation Services to review the intersection. During the course of our investigation, it was determined that given the presence of the crossride, potential conflicts with cyclists and pedestrians can occur for eastbound motorists turning right on a red signal. Though the fatal incident on January 29, 2024 did not occur during an east-west red signal, prohibiting right turns on red signal for eastbound traffic at all times will reduce the number of potential conflicts and improve the safety for all road users.

K. Left Turn Traffic Calming

As part of the capital planned construction program for the year 2027, consideration would be given to the implementation of Left Turn Traffic Calming for left turning motorists. These installations, which are currently only being installed as part of a pilot, encourage motorists to approach the crosswalk at a sharper angle instead of cutting across the intersection diagonally, resulting in slower turning speeds and better visibility of pedestrians and cyclists.

Conclusion

Based on staff findings the traffic control signals at the intersection of Brimley Road and McNicoll Avenue provide a safe and controlled crossing for all road users.

Notwithstanding, to improve pedestrian and cyclist safety and reduce the number of potential conflicts, Transportation Services recommends the following improvements:

- Prohibition of right turn on red signal for eastbound traffic
- Implementation of LPI and LBI on the south leg of the intersection
- Installation of enhanced pavement markings
- Installation of a warning sign - "Turning Traffic Must Yield to Pedestrians and Cyclists"

The Ward Councillor has been advised of the recommendation in this report.

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1: Map - Intersection Safety Review at Brimley Road and McNicoll Avenue

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