

Pedestrian Crossing Protection Review - Military Trail and Bobmar Road

Date: August 24, 2020
To: Scarborough Community Council
From: Acting Director, Traffic Management, Transportation Services
Wards: Ward 25 - Scarborough-Rouge Park

SUMMARY

As the Toronto Transit Commission (TTC) operates a bus service on Military Trail, City Council approval of this report is required.

This report recommends that City Council authorize the installation of a pedestrian crossover at the intersection of Military Trail and Bobmar Road following the installation of a sidewalk on the southwest side of Military Trail, as a minimum, between at least Bobmar Road and Gladys Road. Currently, as Military Trail is designated as a through highway, this intersection has a stop control facing the southbound approach on Military Trail and Bobmar Road.

Although, the technical warrants for the installation of a pedestrian crossover are not currently met, the installation of a pedestrian crossover is recommended contingent upon the installation of a sidewalk designed to allow safe accessible movements of pedestrians and those using assistive devices along both sides of Military Trail.

RECOMMENDATIONS

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

1. City Council not authorize the installation of traffic control signals at Military Trail and Bobmar Road.
2. City Council not authorize the installation of All-way stop control at Military Trail and Bobmar Road.
3. City Council authorize the installation of a pedestrian crossover on Military Trail at Bobmar Road, contingent upon and in conjunction with the installation of sidewalk facility on the southwest side of Military Trail.

FINANCIAL IMPACT

There would be no financial impact associated with the staff recommendation at this time.

However, at such time as the future sidewalk is installed along the south side of Military Trail, between at least Bobmar Road and Gladys Road, the estimated cost of installing a pedestrian crossover at this intersection is approximately \$100,000. This installation will be considered in a future budget, subject to availability of funding and competing priorities.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

Further to a request from former Councillor Jim Hart's office, Transportation Services staff reviewed the feasibility of installing traffic control signals, a pedestrian crossover, or all-way-stop control at the intersection of Military Trail and Bobmar Road.

Existing Conditions

The following characteristics describe Military Trail at Bobmar Road:

- Military Trail is a two way, two-lane minor arterial road that travels east to west with a regulatory speed limit of 40 km/h.
- The surrounding land-use mostly consists of a single home residential units and at the northwest corner of the intersection there is Highland Creek Public Elementary School.
- A municipal sidewalk separated by a grass boulevard is located on the north side of Military Trail. There is no sidewalk on the south side of Military Trail opposite the school.
- The TTC operates revenue bus service on Military Trail and there is a bus loading zone located 19 metres east and 12 metres west from Bobmar Road.
- Bobmar Road is a two-way, two lane local road that travels north to south with a regulatory speed limit of 40 km/h.
- Bobmar Road forms a "T-type", stop-controlled intersection on the north side of Military Trail.
- A municipal sidewalk separated by a grass boulevard is located on the east side of Bobmar Road.

Analysis

Pedestrian Crossing Protection Warrant Studies

Transportation Services staff conducted Pedestrian Crossing Protection Warrant Justification studies at the intersection of Military Trail and Bobmar Road. The studies provide an assessment of the need for traffic control signal, pedestrian crossover, and all-way-stop control. The need for these devices is based on recent field traffic studies determining existing pedestrian volumes, vehicle volumes, pedestrian delays, and conflicts. The results of the field studies and warrant justification studies are provided below.

Traffic Control Signal Justification Study

Using traffic volumes recorded during the peak eight hours on Wednesday, January 09, 2019, the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	8%
Delay To Cross Traffic	22%
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.

The warrant Collision Hazard is based on three years collision history review starting from January 01, 2016 to December 31, 2018.

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

Pedestrian Crossover Warrant Studies

The table below summarizes results of traffic volumes collected during the peak eight hours of a typical weekday on Wednesday, January 09, 2019.

Type A - Pedestrian Crossover Warrant	Compliance Level
Pedestrian Volumes	14%
Pedestrian Delays	14%

For a Pedestrian Crossover to be numerically justified, both the "Pedestrian Volumes" and "Pedestrian Delays" warrants must be 100% satisfied. As outlined above, the pedestrian volumes and delays do not satisfy the requirements to install a Pedestrian Crossover at this intersection at this time.

The minimum required pedestrian volume to meet the Pedestrian Volume Warrant is 375 pedestrian, however only 54 pedestrians (14%) were observed crossing the road over the eight hour study period. Also, 130 pedestrian delays (>10 seconds) are required to meet the Pedestrian Delay Warrant, however total of 18 pedestrian delays (14%) were observed crossing the road.

All-Way Stop Control Warrant Study

A traffic study conducted at the intersection of Military Trail and Bobmar Road during the morning and afternoon peak hours of a typical weekday on Wednesday, January 09, 2019 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
Peak Eight-Hour Study Period Hourly Average	502	**34	93/7
Warrant Requirements For Study Period Average For Minor Arterial Road	≥ 500	≥ 200	≥ 30/70 or ≤ 70/30

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

** This study has been evaluated using the updated warrant calculations as adopted by City Council on July 16, 2019 in the Vision Zero 2.0 Road Safety Plan report. The results of our studies indicate that the technical warrant for the installation of all-way stop control is not met.

For 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 above table, the traffic volumes do not meet the requirements to Install all-way stop at the subject intersection at this time.

A review of the three year collision history records from January 01, 2016 to December 31, 2018 revealed that there were zero reported collisions at the subject intersection that could have potentially been prevented if all-way stop control was installed.

Collision History

A review of Toronto Police Service collision records for the three-year period for January 01, 2016 to December 31, 2018 are summarized below.

Three-Year Collision Information	Number of Reported Collisions (By Year)			
	2016	2017	2018	Total
Collisions Potentially Preventable if a Traffic Control Signal, Pedestrian Crossover, or All-Way Stop Control was Installed	0	0	0	0
Other	1	1	0	2

In addition to the numerical justification for a pedestrian crossover, other factors relevant were also considered, including road width, operating speeds, adjacent land uses, presence of transit stops and distance between existing controlled crossings.

Although the numerical requirements of the pedestrian crossover warrants are not met, based on an assessment of relevant factors, mentioned in the above paragraph and by applying engineering judgement, Transportation Services staff recommend the installation of a pedestrian crossover, contingent upon the installation of the required sidewalk, at Military Trail and Bobmar Road.

Councillor Jennifer McKelvie has been advised of the recommendations of this staff report.

CONTACT

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SIGNATURE

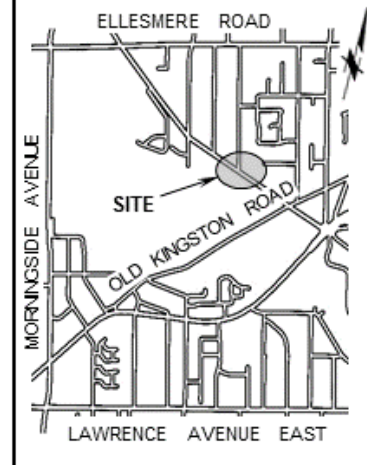
Roger Browne, M.A.Sc., P.Eng.,
Acting Director,
Traffic Management
Transportation Services

ATTACHMENTS

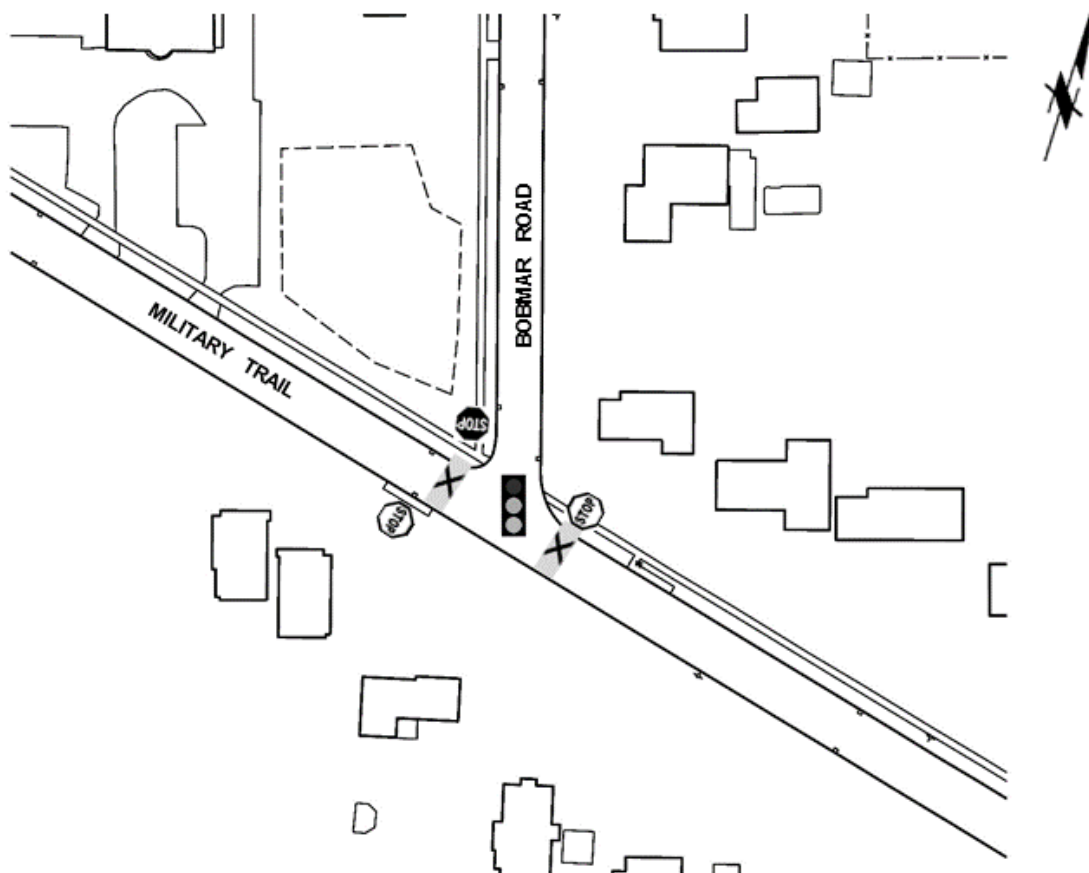
1. Drawing No. D18-9196169, dated February 2020

LEGEND

-  EXISTING STOP SIGN
-  REQUESTED STOP SIGN
-  REQUESTED TRAFFIC CONTROL SIGNAL
-  REQUESTED PEDESTRIAN CROSSOVER



KEY MAP



LOCATION MAP



TRANSPORTATION SERVICES

TRAFFIC OPERATIONS
Area 1 - Scarborough

SCALE:	N.T.S.	PEDESTRIAN CROSSING PROTECTION REVIEW - MILITARY TRAIL AND BOBMAR ROAD	FILE NUMBER: D18-9196169	
DATE:	FEB., 2020		ATTACHMENT	WARD
DRAFTING:	O.K.		1	25