

## Road Alteration: Bridgeland Avenue at Caledonia Road

<b>Date:</b>	May 28, 2009
<b>To:</b>	North York Community Council
<b>From:</b>	Director, Transportation Services Division, North York District
<b>Wards:</b>	<b>Ward 15 – Eglinton Lawrence</b>
<b>Reference Number:</b>	<i>ny09048</i>

### **SUMMARY**

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To obtain approval for a Road Alteration By-law to facilitate the reconfiguration of the intersection of Bridgeland Avenue and Caledonia Road.

The proposed intersection reconfiguration will create free flow conditions for the heavier westbound and northbound traffic volumes, while requiring the lower eastbound traffic volume to stop at the intersection. This will result in minimizing driver confusion, improving the overall operations of the intersection, provide greater positive guidance for motorists and a more standardized intersection configuration.

Since the Toronto Transit Commission (TTC) operates a transit service on Caledonia Avenue and Bridgeland Avenue, City Council approval of this report is required. TTC staff has been consulted on the proposed intersection reconfiguration.

### **RECOMMENDATIONS**

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Transportation Services Division recommends that City Council:

1. Directs the City's Legal Division to introduce in City Council the appropriate "Road Alterations By-law" to permit the reconfiguration of the intersection as illustrated in Attachment 2.

2. Amend Schedule XVIII of By-law 31001, of the former City of North York, by deleting Caledonia Road as a through street, from the northerly limit of Lawrence Avenue to the northerly limit of Caledonia Road;
3. Amend Schedule XVIII of By-law 31001, of the former City of North York, by adding Caledonia Road as a through street, from the north limit of Lawrence Avenue West to the west limit of Bridgeland Avenue;
4. Amend Schedule XVIII of By-law 31001, of the former City of North York, by adding Bridgeland Avenue as a through street, from the west limit of Dufferin Street to the north limit of Caledonia Road;
5. Amend Schedule XIX of By-law 31001, of the former City of North York, to require eastbound traffic on Bridgeland Avenue to stop at Caledonia Road;
6. Amend Schedule XIII of By-law 31001, of the former City of North York, by deleting the northbound right turn lane designation for the easterly northbound lane on Caledonia Road from the southerly limit of Bridgeland Avenue to a point 30 m south thereof; and
7. Amend Schedule XIII of By-law 31001, of the former City of North York, by designating the westerly northbound lane on Caledonia Road from Bridgeland Avenue to a point 35 m south thereof for northbound left turns.

## **FINANCIAL IMPACT**

All costs associated with the reconfiguration of the intersection of Bridgeland Avenue and Caledonia Road, estimated at \$160,000.00, will be included as part of Transportation Services 2009 Capital Works Program, Safety and Operational Improvements Program.

## **ISSUE BACKGROUND**

Transportation Services Division has reviewed a request from Councillor Howard Moscoe on behalf of the businesses of Bridgeland Avenue to review the feasibility of installing an all way stop control at the intersection of Bridgeland Avenue and Caledonia Road.

## **COMMENTS**

Caledonia Road intersects Bridgeland Avenue as a 'T' intersection. Both roadways are classified as minor arterial roads and Caledonia Road consists of a four lane cross-section and Bridgeland Avenue is a two-lane roadway. Bridgeland Avenue terminates approximately 180 m west of Caledonia Road and connects to Dufferin Street approximately 1000 m to the east. The nearest traffic control signals are located approximately 700 m to the south at Caledonia Road and Orfus Road.

Currently, eastbound and westbound traffic on Bridgeland Avenue is required to stop and the northbound Caledonia Road traffic operates free flow through the intersection. The existing northbound curb lane is designated for right turning movements and the northbound median traffic lane is designated as a shared through and left turn lane. The regulatory speed limit on Bridgeland Avenue and Caledonia Road is 50 km/h. Both roadways have an Annual Average Daily Traffic volume of approximately 12,000 vehicles per day.

To assess existing traffic conditions at the Bridgeland Avenue and Caledonia Road intersection, an all way stop study was conducted utilizing updated vehicle and pedestrian volumes, assessed the existing roadway geometry and analyzed intersection collision statistics. The results of the study are as follows:

<b>Bridgeland Avenue and Caledonia Road</b>		<b>Actual</b>	<b>Required</b>	<b>Satisfied (YES/NO)</b>
<b>A</b>	<b>Collision History</b>	2/3 yrs	12/3 yrs	NO
<b>B1</b>	<b>Total Vehicle Volumes</b>	745	500/avg hr	YES
<b>B2</b>	<b>Combined Vehicle &amp; Pedestrian Volumes Crossing Major Road</b>	296	200/avg hr	YES
<b>B3</b>	<b>Percentage of Traffic on Major Road</b>	60	=70	YES
<b>Overall Warrant</b>				<b>YES</b>

In order for the all way stop to be warranted either Warrant A must be met or Warrant B1 or B2 with Warrant B3 must be achieved.

Although the installation of an all way stop control is warranted, our review has indicated that the majority of northbound traffic on Caledonia Road consists of right turn movements and the majority of the westbound traffic on Bridgeland Avenue consists of left turn movements. It was also observed that access to the property north of the intersection can be accessed using their existing driveway.

The following table illustrates the results of the turning movement study:

<b>TIME</b>	<b>NORTHBOUND</b>			<b>EASTBOUND</b>			<b>WESTBOUND</b>		
	<b>Left</b>	<b>Thru</b>	<b>Right</b>	<b>Left</b>	<b>Thru</b>	<b>Right</b>	<b>Left</b>	<b>Thru</b>	<b>Right</b>
7:30 - 9:30 A.M.	61	0	644	0	34	37	937	73	0
4:00 – 6:00 A.M.	28	0	814	0	72	68	924	33	0
7:30 – 6:00 P.M.	171	2757	2928	0	238	190	3061	249	0

In addition to the above a review of the three year collision history for this intersection has revealed that there have been two collisions at the intersection of Bridgeland Avenue and Caledonia Road of a type susceptible to correction by the installation of an all way stop control. The sight lines for both motorist and pedestrian were found to be clear and unobstructed for all approaches to the intersection. It should be noted that the pedestrian activity is minimal and the proposed modifications will not significantly affect their actions.

Given the high volume of free flow northbound right turn traffic, the installation of an all way stop control would increase the potential for rear-end collisions and therefore is not recommended.

However, in view of the above, a review of the geometric layout of the intersection was conducted to determine if a re-alignment of the intersection would resolve the residents concerns and improve the overall traffic flow. The review has indicated that the intersection modifications as identified in Attachment 2 will create free flow conditions for the heavier westbound and northbound traffic volumes, while requiring the lower eastbound traffic volume to stop at the intersection. Additionally, these changes to the intersection will not have an adverse affect on the adjacent property owners.

Councillor Howard Moscoe has been advised of the recommendations in this staff report.

## **CONTACT**

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## **SIGNATURE**

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Myles Currie, B.A.  
Director

## **ATTACHMENTS**

- Attachment 1: Map – Bridgeland Av at Caledonia Rd; Intersection Re-configuration  
(ny09048\_map1)
- Attachment 2: Map – Bridgeland Av at Caledonia Rd; Safety Operational Intersection  
Improvement (ny09048\_map2)