



**STAFF REPORT
ACTION REQUIRED**

**Traffic Control Signals and Highway Alterations –
Bikeway Network Trail Projects**

Date:	May 27, 2010
To:	Public Works and Infrastructure Committee
From:	General Manager, Transportation Services
Wards:	Wards 8, 10, 23, 25, 37, 38, 39, 41 and 43.
Reference Number:	P:\2010\ClusterB\TRA\TIM\pw10013tim

SUMMARY

Seven new bikeway trail projects are being designed and constructed this year as part of the Recreational Infrastructure Canada (RInC) program and Ontario Recreation (Ontario REC) program. The construction of these trail projects located in three major corridors (Finch Hydro Corridor, Gattineau Hydro Corridor and CN Leaside Rail Corridor) will result in approximately 30 kilometres of new trails and 4 kilometres of upgraded trails across the North York and Scarborough Districts. Providing safe and convenient roadway crossings along these trails is essential to the successful operation of the trail system. Accordingly, Transportation Services is requesting authority to install thirteen (13) mid-block traffic control signals at arterial and collector road crossings along these three corridors. In addition, authority is sought for highway alterations to enhance safety at five (5) uncontrolled crossing locations where the bikeway trails cross local and collector roads.

This report is being submitted to the Public Works and Infrastructure Committee because the Bikeway Network is a city-wide project and the traffic control signals and highway alterations that are being recommended for these bikeway trail projects span two Community Council districts – North York and Scarborough.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that City Council:

1. Approve the installation of traffic control signals at the following locations along the Gatineau and Finch Hydro Corridors and the CN Leaside Rail Corridor Bikeway Trails, as shown in Appendices 1-A to 1-F:
 - a. Pharmacy Avenue, approximately 115 metres north of Rannock Street;
 - b. Warden Avenue, approximately 260 metres north of Bertrand Avenue;
 - c. Bellamy Road, approximately 100 metres south of Jarwick Drive;
 - d. Markham Road, approximately 290 metres south of Brimorton Drive;
 - e. Scarborough Golf Club Road, approximately 190 metres south of Ellesmere Road;
 - f. Norfinch Drive, approximately 525 metres north of Finch Avenue West;
 - g. York Gate Boulevard, approximately 345 metres north of Finch Avenue West;
 - h. Bathurst Street, approximately 65 metres south of Kenton Drive;
 - i. Grantbrook Street, approximately 60 metres north of Blake Avenue ;
 - j. Talbot Road, approximately 23 metres north of Blake Avenue;
 - k. Midland Avenue, approximately 215 metres south of McNicoll Avenue;
 - l. Kennedy Road, approximately 195 metres south of McNicoll Avenue; and
 - m. Lawrence Avenue East, approximately 130 metres east of Leslie Street.
2. Approve the highway alterations to narrow the pavement width to 7.0 metres at the following mid-block crossing locations along the Gatineau and Finch Hydro Corridor Bikeway Trails, including no stopping regulations abutting the narrowed sections of roadway, as shown in Appendices 2, 3 and 4-A to 4-E:
 - a. Crockford Boulevard, from a point 65 metres south of Minford Avenue to a point 60 metres further south;
 - b. Benshire Drive, from a point 80 metres south of Bellechasse Street to a point 60 metres further south;
 - c. Daventry Road, from a point 102 metres south of Dolly Varden Boulevard to a point 60 metres further south;
 - d. Driftwood Avenue, from a point 40 metres north of Wilmont Drive to a point 60 metres further north; and
 - e. Tobermory Drive, from a point 130 metres north of Potsdam Road to a point 60 metres further north.
3. Approve no stopping regulations on the south and west side of Brimorton Drive from approximately 48 metres south and east of Gander Drive to a point 34 metres further south and east, as shown in Appendix 3;
4. Authorize and direct the appropriate City Officials to take the necessary action to give effect thereto, including the introduction of all necessary bills.

Financial Impact

The estimated cost of installing the 13 new traffic control signals is \$1,300,000.00. The estimated cost of narrowing the roadway at the five uncontrolled mid-block crossings is \$200,000.00. Funding for the design and construction of these bikeway trail projects, including the trail-road crossings, is available in the Transportation Services Division's Approved 2010 Capital Budget and 2011-2019 Capital Plan in the following Capital Accounts: CTP851-01, CTP851-02, CTP851-03, CTP851-05, CTP851-06 and CTP851-07.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

On July 7, 2009, the Federal and Provincial governments announced \$41.3 million or two-thirds funding towards approved City of Toronto projects under the federal Recreation Infrastructure Canada (RInC) program and the Ontario Recreation (Ontario REC) program. Transportation Services was awarded \$13.3 million of a total \$23.3 million funding through the RInC/Ontario REC programs to design and construct seven (7) sections of bikeway trails within the Gattineau and Finch Hydro Corridors and along the CN Leaside Rail Corridor.

At its meeting on September 30 and October 1, 2009, City Council authorized the Mayor to enter into intergovernmental funding agreements with the Government of Ontario for funding towards approved projects under the RInC/Ontario REC program.

ISSUE BACKGROUND

City Council, at its meeting on July 24, 25 and 26, 2001, adopted the Toronto Bike Plan (Clause No. 3 of Report No. 8 of the Planning and Transportation Committee). One of the key recommendations of the Toronto Bike Plan is to implement a 1,000 kilometre Bikeway Network, including 249 kilometres of bikeway trails.

The Toronto Bike Plan implements the following policy of the Toronto Official Plan: "Policies, programs and infrastructure will be introduced to create a safe, comfortable and bicycle friendly environment that encourages people of all ages to cycle for everyday transportation and enjoyment including... an expanded bikeway network."

Implementation of the Toronto Bike Plan also supports the Clean Air, Climate Change and Energy Efficiency Action plan adopted by Council in June 2007.

COMMENTS

1.0 Background

These seven bikeway trail projects represent the largest single year expansion of Toronto's trail system and will result in approximately 30 kilometres of new trails and 4 kilometres of upgraded trails. In addition, several kilometres of new on-street bikeways will be installed to provide continuity where there is no short-term off-road trail connection.

The three corridors are described below:

- The Gattineau Hydro Corridor Trail extends across Scarborough from the Victoria Park Avenue/Eglinton Avenue East area north easterly to the Meadowvale Avenue/Sheppard Avenue East area (Wards 37, 38 and 43).
- The trail in the Finch Hydro Corridor comprises two sections: the North York section runs from Norfinch Drive to Yonge Street (Wards 8, 10 and 23); the Scarborough section connects the existing trail system in L'Amoreaux Park to Middlefield Road (Wards 39 and 41). A section of this trail will also run along the east side of Morningside Avenue in the abandoned rail corridor ("The Scarborough Pit Spur") in Ward 42. This new trail will connect with the existing trail south and east from Sewells Road to the existing Sheppard Avenue East bike lanes.
- The CN Leaside Rail Corridor Trail runs north-south from north of Eglinton Avenue East to York Mills Road (Ward 25). This new trail will provide an important connection from Wilket Creek Park to the Betty Sutherland Trail along the Don Trail System.

Appendix 5, entitled "RInC/Ontario REC Bikeway Trail Projects" illustrates the location of the bikeway trail projects.

The RInC/Ontario REC funding agreement stipulates that construction of these projects must be substantially completed by March 2011. The construction of these trails will start in late summer 2010. Public Open House sessions for each of these projects were held between November 2009 and early June 2010.

2.0 Provision of Safe Road Crossings for Cyclists and Pedestrians

The new trails described in this report include 39 road crossings. Providing safe and convenient road crossings is essential to the successful operation of a continuous, connected trail network. In the detailed design stage for the trail projects each of the road crossing locations was evaluated against the primary objective to provide a safe and direct crossing for cyclists and pedestrians and the secondary objective to minimize any traffic operational impacts on the roadway being crossed. Several crossing design options were considered, including no controls, centre refuge islands, pedestrian crossovers and

traffic control signals. Based on the evaluation the following three typical crossing designs have been developed to satisfy the above objectives:

- Trail crossing incorporated into an existing signalized intersection;
- Installing a new mid-block traffic control signal where required; and
- Narrowing a local street to enhance an uncontrolled crossing.

Wherever feasible the trail was aligned to take advantage of existing signalized intersections to provide a safe crossing for cyclists and pedestrians. This was achieved at 20 of the 39 trail-road crossing locations. At these crossings, the traffic control signal hardware and the pavement markings will be modified to accommodate cyclist crossings, in addition to the existing pedestrian crosswalks. These intersection modifications do not require Council approval.

The bikeway trails will also cross arterial and collector roads at 13 locations where it is not physically possible to align the trail with an existing signalized intersection. Due to the physical and operating characteristics of the roads at these locations, new mid-block traffic control signals are required to provide a safe crossing for cyclists and pedestrians. These locations are discussed in more detail in the following section of the report.

The new trails will also cross six collector and local roads where no traffic control is required due to the relatively low traffic speeds and light traffic volumes. However, to enhance safety of trail users, a design treatment is recommended to improve the visibility of the trail crossing area to drivers at five of the six locations. These highway alterations require Council approval and are described in further detail in Section 4.0 of this report. No alteration is proposed at the sixth location, for the reasons also detailed in Section 4.0.

Appendices 1-A to 1-F, entitled “Location Plan - Proposed Traffic Control Signals and Highway Alterations” illustrate the locations of the trail-road crossings.

3.0 New Traffic Control Signals at Mid-block Trail-Road Crossings

Based on the projected walking and cycling activity along these new trails, the crossing locations would satisfy the warrant requirements for pedestrian crossovers. However, these locations generally do not satisfy the environmental criteria for pedestrian crossovers and therefore are not appropriate locations for their implementation. The three most critical environmental criteria are speed, road width, and traffic volume. Specifically, if the operating speeds are 60 km/h or greater, the road is more than four lanes wide or the traffic volume is 35,000 vehicles per day or greater, the operational safety of a pedestrian crossover is compromised. The City’s current practice is to recommend the installation of a traffic control signal when the pedestrian crossover warrant is satisfied but the environmental criteria do not support the safe operation of a pedestrian crossover. Traffic control signals provide a more positive type of control with clearer direction to drivers, cyclists and pedestrians.

All of the thirteen trail-road crossing locations have either posted speed limits or operating speeds (which can often be higher than the posted speed limit) at or in excess of 60 km/h. Our assessment of the crossing locations is based on both the posted speed limit and our observations of the prevailing traffic operating speeds. Several locations also have more than four traffic lanes (including the centre turn lane) and traffic volumes approaching 35,000 vehicles per day. Accordingly, traffic control signal controls are recommended for the following 13 trail-road crossing locations along the Gatineau and Finch Hydro Corridors and the CN Leaside Rail Corridor.

All affected Ward Councillors have been consulted on these new traffic signal installations and highway alterations. Some modifications to the crossing design and/or location have been made as a result of the input received from the Ward Councillors. One local Councillor (Ward 43) continues to have objections related to the proposed traffic control signals at Scarborough Golf Club Road.

3.1 Pharmacy Avenue, approximately 115 metres north of Rannock Street:

Pharmacy Avenue is a minor arterial roadway with two traffic lanes in each direction. In the vicinity of the Gatineau Hydro Corridor, Pharmacy Avenue has a posted speed limit of 50 km/h with a daily traffic volume of 20,500. The nearest traffic control signals are located approximately 155 metres north at Biscayne Drive and 180 metres south at Ashtonbee Road.

3.2 Warden Avenue, approximately 260 metres north of Bertrand Avenue:

Warden Avenue is a major arterial roadway with two traffic lanes in each direction and a centre left-turn lane. In the vicinity of the Gatineau Hydro Corridor, Warden Avenue has a posted speed limit of 60 km/h with a daily traffic volume of 33,700. The nearest traffic control signals are located approximately 300 metres north at Wayne Avenue and 260 metres south at Bertrand Avenue.

3.3 Bellamy Road North, approximately 100 metres south of Jarwick Drive:

Bellamy Road North is a minor arterial roadway with two traffic lanes in each direction. In the vicinity of the Gatineau Hydro Corridor, Bellamy Road has a posted speed limit of 60 km/h with a daily traffic volume of 16,000. The nearest traffic control signals are located approximately 260 metres north at Brimorton Drive and 200 metres south at Benleigh Drive.

3.4 Markham Road, approximately 290 metres south of Brimorton Drive:

Markham Road is a major arterial roadway with two traffic lanes in each direction and a painted median in the middle. In the vicinity of the Gatineau Hydro Corridor, Markham Road has a posted speed limit of 60 km/h with a daily traffic volume of 36,600. The nearest traffic control signals are located approximately 290 metres north at Brimorton Drive and 470 metres south at Painted Post Drive.

3.5 Scarborough Golf Club Road, approximately 190 metres south of Ellesmere Road:

Scarborough Golf Club Road is a minor arterial roadway with two traffic lanes in each direction. Scarborough Golf Club Road has a posted speed limit of 50 km/h with a daily traffic volume of 11,500. The nearest traffic control signals are located approximately 190 metres north at Ellesmere Road and 400 metres south at Bankwell Avenue/Slan Avenue. As indicated previously, the Councillor for Ward 43, which abuts Scarborough Golf Club Road on the east, objects to this installation because of his concerns with the delays to traffic caused by the traffic signals. However, the traffic signals will remain in the green phase for traffic on Scarborough Golf Club Road at all times unless activated by a crossing cyclist or pedestrian. As a result, delays to traffic are expected to be minimal.

3.6 Norfinch Drive, approximately 525 metres north of Finch Avenue West:

Norfinch Drive is a minor arterial roadway with two traffic lanes in each direction. In the vicinity of the Finch Hydro Corridor, Norfinch Drive has a posted speed limit of 50 km/h with a daily traffic volume of 8,700. The nearest traffic control signals are located approximately 1,660 metres north at Steeles Avenue West and 525 metres south at Finch Avenue West.

3.7 York Gate Boulevard, approximately 345 metres north of Finch Avenue West:

York Gate Boulevard is a minor arterial roadway with one traffic lane per direction from Jane Street to the Finch Hydro Corridor, which turns in to two traffic lanes per direction south of the corridor. In the vicinity of the Finch Hydro Corridor, York Gate Boulevard has a posted speed limit of 50 km/h with a daily traffic volume of 10,000. The nearest traffic control signals are located approximately 345 metres north at Jane Street and 345 metres south at Finch Avenue West.

3.8 Bathurst Street, approximately 65 metres south of Kenton Drive:

Bathurst Street is a two-way major arterial roadway with two traffic lanes in each direction and a centre median, which acts as left-turn lanes at the intersections north and south of the Finch Hydro Corridor. In the vicinity of the Finch Hydro Corridor, Bathurst Street has a posted speed limit of 60 km/h with a daily traffic volume of 35,800. The nearest traffic control signals are located approximately 400 metres north at Drewry Avenue and 400 metres south at Finch Avenue West.

3.9 Grantbrook Street, approximately 60 metres north of Blake Avenue:

Grantbrook Street is a collector roadway with one traffic lane in each direction. In the vicinity of the Finch Hydro Corridor, Grantbrook Street has a posted speed limit of 50 km/h with a daily traffic volume of 10,500. The nearest traffic control signal is located

approximately 460 metres south at Finch Avenue West. No traffic signal exists on Grantbrook Street to the north.

3.10 Talbot Road, approximately 23 metres north of Blake Avenue:

Talbot Road is a collector roadway with one traffic lane in each direction. In the vicinity of the Finch Hydro Corridor, Talbot Road has a posted speed limit of 40 km/h, which changes to 50 km/h just south of the corridor with a daily traffic volume of 7,000. The nearest traffic control signals are located approximately 460 metres north at Drewry Avenue and 400 metres south at Finch Avenue West.

3.11 Midland Avenue, approximately 215 metres south of McNicoll Avenue:

Midland Avenue is a major arterial roadway with two traffic lanes in each direction. In the vicinity of the Finch Hydro Corridor, Midland Avenue has a posted speed limit of 60 km/h with a daily traffic volume of 24,200. The nearest traffic control signals are located approximately 215 metres north at McNicoll Avenue and 655 metres south at Silver Star Boulevard/South Shields Avenue.

3.12 Kennedy Road, approximately 195 metres south of McNicoll Avenue:

Kennedy Road is a major arterial roadway with two traffic lanes in each direction and a centre-turn lane. In the vicinity of the Finch Hydro Corridor, Kennedy Road has a posted speed limit of 60 km/h with a daily traffic volume of 32,000. The nearest traffic control signals are located approximately 195 metres north at McNicoll Avenue and 750 metres south at Trojan Gate.

3.13 Lawrence Avenue East, approximately 130 metres east of Leslie Street:

Lawrence Avenue East is a major arterial roadway with two traffic lanes in each direction and a painted median. In the vicinity of the CN Leaside Rail Corridor, Lawrence Avenue East has a posted speed limit of 50 km/h with a daily traffic volume of 23,300. The nearest traffic control signals are located approximately 130 metres west at Leslie Street and 660 metres east at The Donway West.

4.0 Uncontrolled Trail-Road Crossings

There are six (6) locations where the new trails will cross collector and local roads which have a daily traffic volume of less than 5,500 vehicles and a 40 km/h posted speed limit. No traffic controls are required at these locations due to the low traffic speeds and light traffic volumes. However, to enhance the safety of trail users highway alterations are recommended to narrow the road width to 7.0 metres in the crossing area, at five of the six locations. No stopping regulations are proposed for the 60 metre long sections of roadway that are to be narrowed at the trail-road crossing areas. This design treatment will highlight the trail-road crossing area for drivers and trail users.

This crossing treatment is proposed for the following five locations along the Gatineau and Finch Hydro Corridors:

- Crockford Boulevard, 65 metres south of Minford Avenue;
- Benshire Drive, 80 metres south of Bellechasse Street;
- Daventry Road, 102 metres south of Dolly Varden Boulevard;
- Driftwood Avenue, approximately 40 metres north of Wilmont Drive; and
- Tobermory Drive, approximately 130 metres north of Potsdam Road.

The sixth uncontrolled crossing is located where the Gatineau Hydro Corridor Trail will cross Brimorton Drive, approximately 65 metres south and east of Gander Drive. Brimorton Drive is a two-way collector road with a posted speed limit of 40 km/h and a daily traffic volume of 5,300 vehicles. One traffic lane and one bike lane exist in each direction and parking is permitted on one side - south and west side of the road. Traffic control signals are not required at this crossing location due to the low traffic volume and speed. In order to improve the sight lines approaching the crossing area, no stopping regulations are proposed on the south and west side of Brimorton Drive from approximately 48 metres south and east of Gander Drive to a point 34 metres further south and east. There is little demand for parking in the vicinity of the Hydro Corridor. The remaining parking supply on Brimorton Avenue is more than adequate to service the existing parking demand. The roadway will not be narrowed at this crossing location due to the presence of bicycle lanes on Brimorton Avenue.

Appendix 2, “Proposed Highway Alterations” describes the by-laws required to implement the highway alterations. Appendix 3, “Proposed No Stopping Regulations” lists the by-laws required to implement the no stopping regulations. Appendices 4-A to 4-E, “Highway Alteration Drawings” illustrate the five locations where the roadway would be narrowed.

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SB/nb

ATTACHMENTS

Appendix 1: Location Plan - Proposed Traffic Control Signals and Highway Alterations

- A. Gatineau Hydro Corridor - Victoria Park Av to Mooregate Avenue
- B. Gatineau Hydro Corridor - Brimley Road to Ellesmere Road.
- C. Finch Hydro Corridor – Kennedy Road to Middlefield Road.
- D. Finch Hydro Corridor – Norfinch Drive to Dufferin Street.
- E. Finch Hydro Corridor – Dufferin Street to Yonge Street.
- F. CN Leaside Rail Corridor - Eglinton Av East to York Mills Road.

Appendix 2: Proposed Highway Alterations

Appendix 3: Proposed No Stopping Regulations

Appendix 4: Highway Alteration Drawings

- A. Crockford Boulevard, 65 metres south of Minford Avenue.
- B. Benshire Drive, 80 metres south of Bellechasse Street.
- C. Daventry Road, 102 metres south of Dolly Varden Boulevard.
- D. Driftwood Avenue, 40 metres north of Wilmont Drive.
- E. Tobermory Drive, 130 metres north of Potsdam Road.

Appendix 5: RInC/Ontario REC Bikeway Trail Projects