

# **APPENDIX 2**

## **LAKESHORE ROAD TRANSPORTATION REVIEW STUDY –**

### **EXECUTIVE SUMMARY**

City of Mississauga

# LAKESHORE ROAD



## Transportation Review Study



FINAL REPORT

# **EXECUTIVE SUMMARY**

## **Study Purpose**

The overall goal of this study was to provide a comprehensive and technical transportation review to identify how the Lakeshore Road corridor can accommodate alternative modes of transportation and provide input and background into the preparation of Official Plan policies for Lakeview and Port Credit and address stakeholder comments provided in the “*Directions Report*”.

As the City looks to the future, long term plans for corridors such as Lakeshore Road will include providing the necessary facilities for all modes of transportation. As such, pedestrian facilities, cycling facilities and higher order transit facilities all need to be accommodated for a revitalized and more active Lakeshore Road.

The project conceptually reviewed the feasibility of future higher order transit within the existing Lakeshore Road right-of-way from Hurontario Street to the Long Branch TTC / Mississauga Transit terminal (the study area stops at east municipal boundary, just west of the Long Branch terminal at Etobicoke Creek).

## **History**

Lakeshore Road was formally part of the Provincial King’s Highway network as Highway 2 continuous through the GTA. It has also supported the ongoing development of Port Credit, Lakeview and Clarkson urban villages as well as industrial and residential areas along the corridor. Construction of the QEW subsequently relieved most of the through traffic from Lakeshore Road.

## **Current Role**

The roadway has an important role to play in supporting the variety of tourist, commercial, industrial and residential land uses along the corridor. There are no alternative parallel continuous east-west routes except for the access controlled QEW some 2 kms to the north.

Currently Lakeshore Road provides for autos, bus transit and pedestrians, but not explicitly for bicycles. An evaluation of alternative modes and how these modes can be accommodated within the changing Lakeshore Road ROW has been undertaken. The following conclusion and results were developed in the course of this evaluation and functional design exercise.

Currently, around 75% of the traffic crossing the Credit River in the AM peak originates from the southwest part of Mississauga. Approximately 50% of the trips crossing the Credit River on Lakeshore Road are destined to a work / school locations in eastern Mississauga. On occasions when the QEW is blocked, traffic overflows onto Lakeshore Road which exacerbates the already congested traffic entering Port Credit. Traffic flow improves east of Hurontario Street through Port Credit and Lakeview.

## **Traffic Trends**

All day traffic volumes have not risen in the last 10 years. Forecasts show that for the most part, peak direction volumes will not increase in the next 20 years, except for a small increase west of Port Credit as a result of increased GO Train ridership out of the Port Credit GO Station. Traffic volumes in the off-peak direction are forecast to increase resulting in more balanced flows along Lakeshore Road.

## **Future Transit**

On November 28, 2008, Metrolinx released their Draft Regional Transportation Plan entitled "*The Big Move: Transforming Transportation in the Greater Toronto and Hamilton area*". This document sets out the actions to build new transportation infrastructure and improve transit service in the Greater Toronto and Hamilton area. One such initiative is the Waterfront West Rapid Transit project which will be a new east-west rapid transit connection from Union Station to the Port Credit GO Station. Although not currently financed to be programmed, this initiative is included in their 15-Year Plan. The technology to be utilized and its ultimate alignment were not determined however, it was assumed to be accommodated within the road right-of-way for Lakeshore Road.

## **LRT**

Higher order transit cannot be achieved west of Hurontario Street without compromising other modes and / or streetscaping. The long term plan includes LRT in mixed traffic (similar to Queen / King Streetcar service in Toronto) in the restricted parts of the corridor between Hurontario Street and Greaves Avenue. East of Greaves Avenue, LRT on its own right of way is indicated in the long term functional plans

## **Right-of-way Challenges**

Between Broadview Avenue and Seneca Avenue, a right of way (ROW) width of only 26.2 m is available, with no likelihood of increasing that width. An additional constraint exists between Cawthra Road and Greaves Avenue; however there will be opportunities to achieve the ultimate 30 m ROW in the future. Therefore, in the near term even with a potential narrowing of vehicular lane widths, it is not feasible to implement on-street bicycle lanes in this stretch while maintaining 4 lanes of traffic, on-street parking and the current boulevard / sidewalk widths (which are considered the minimum desirable already). Between Seneca Avenue and Cawthra Road and again between Greaves Avenue and the east municipal boundary, greater ROW widths are available (or could be available) and therefore do not provide the same challenge that the Port Credit and Cawthra Road to Greaves Avenue sections pose.

A series of cross-section alternatives were developed and assessed for use in the short term (based on bus transit in mixed traffic) and long term (with LRT east of Hurontario Street). Many of the more desirable options were not feasible due to inadequate ROW availability. One of the main ROW challenges was to accommodate cyclists more safely than the current situation without adversely impacting space requirements for vehicles, pedestrians and streetscaping.

## **Lane Widths**

In order to better accommodate bicycles and in some scenarios transit, lane widths on Lakeshore Road were reduced in the short and long term functional designs. Typically 3.35 m lanes were used (3.0 m for left turn lanes) except for the locations where sharrows are proposed in wider 4.0 m curb lanes.

## **Centre Two-Way-Left-Turn-Lane (CTWLTL)**

The existing CTWLTL in place between Seneca Avenue and the east municipal boundary provides a measurable and significant safety advantage compared with a scenario of having no left turn storage. In the future, should it be possible to reduce the frequency of access points along this stretch, it may be possible to implement a raised median with channelized left turns at the remaining access points to provide a further safety advantage over the CTWLTL. This would also have the advantage of providing better definition (delineation) for pedestrians.

In the long term plan, the CTWLTL would have to be removed in the section east of Greaves Avenue as it would be replaced by an LRT in an exclusive ROW along the centre of the road. In the long term plan west of Greaves Avenue, left turn pockets could potentially be made between the tracks, or more likely the left turns would take place on the tracks (delaying transit). More analysis would be needed to determine the appropriate solution at specific locations.

## **Bicycle Plan**

The Mississauga Cycling Master Plan was recently completed which has highlighted Lakeshore Road as a future on-street bicycle facility. Input from this study will help determine how cycling will be accommodated.

This study has determined that a wide curb lane with sharrows is the near term preferred application through the areas with a narrow right of way – from Broadview Avenue to Greaves Avenue.

The exception being a small section between Seneca Avenue and Cawthra Road that is able to accommodate on-street bicycle lanes; however, this will require a 2 metre widening of the road pavement which appears to be feasible given the 31 metre ROW available. Again east of Greaves Avenue to the municipal boundary, on-street bicycle lanes are recommended which would require a road widening on both sides.

The long term functional plan shows on-street bicycle lanes throughout the corridor, this is made possible by an assumption that on-street parking (on one side of the road) through Port Credit may ultimately be removed and may be replaced with off-street parking lots / garages.

Although not explicitly assessed in this study, bicycle lanes are also suggested for the section of Lakeshore Road between Clarkson and Port Credit (Johnson's Lane to Shawnmarr Road) as a result of higher vehicular speeds and the availability of a wider ROW.

### **Credit River Bridge**

The Credit River Bridge will need widening to accommodate a relocation of bicycles from the street to the current sidewalks. A number of structural alternatives to achieve this will need to be investigated further in a Class Environmental Assessment (EA) study.

### **On-Street Parking**

Current on-street paid parking in Port Credit provides an important support function to the commercial core and tourist area of Port Credit. Over the longer term, there may come a time when changes in modal usage may reduce the need for on-street parking. There is also a parking management plan underway for the Port Credit area that includes among other things an examination of the feasibility of replacing a portion of the on-street parking supply with off-street / side street parking.

In the meantime, as long as 4 traffic lanes are required and on-street parking is present, it is extremely difficult to provide either on-street bicycle lanes or higher order transit through Port Credit.

A strategic parking plan for the Lakeshore Road corridor through Lakeview is currently underway which will set the parking framework for this area.

Although the near term recommended plan for the corridor includes retention of the existing parking spaces, in order to provide more opportunity for other modes, at least one side of the on-street parking may need to be replaced by adequate and convenient off-street parking. This provides a longer term challenge and is reflected in the long term plan which includes bicycle lanes with parking on the south side only. This results in the removal of 88 on-street parking spaces on the north side.

### **Recommended Plans**

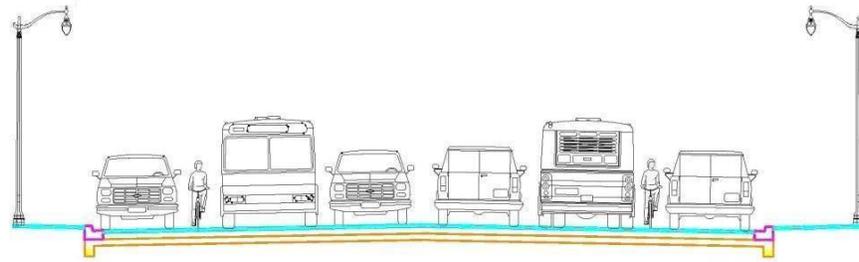
Two design plans were developed for the corridor. One is considered to be a long term plan which includes the LRT and also removal of on-street parking from one-side of the road, while a near term option was developed which did not consider LRT but maintained the on-street parking.

### **Near Term Plan**

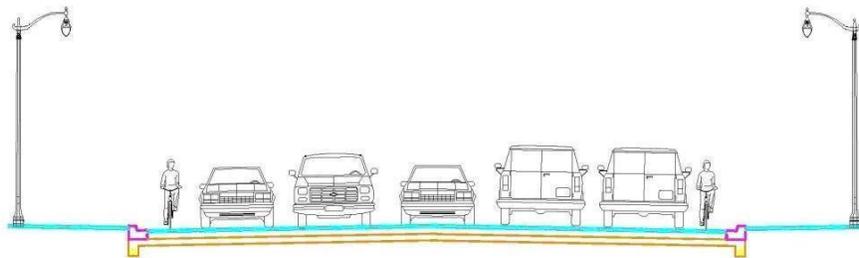
The basic cross-section alternative selected for the near term option through Port Credit and another narrow ROW section east of Cawthra Road is shown below in **Exhibit E1**.

The cross-section includes the addition of sharrows in a 4 m curb lane and involves a slight modification of the existing cross-section (mainly a reduction in vehicular lane and parking widths) to accommodate a wide curb lane for sharrows to better accommodate cyclists. For areas with a wider ROW, between Greaves Avenue and Cawthra Road and again east of Greaves Avenue to the municipal boundary, on-street bicycle lanes are included instead of sharrows. Minor curb adjustments are required to implement the cycling facilities.

## CONCEPT FOR: BUSES IN MIXED TRAFFIC + SHARROW LANE + ON-STREET PARKING



MID-BLOCK SECTION



INTERSECTION

EXHIBIT E1: NEAR TERM CONCEPT THROUGH RESTRICTED ROW

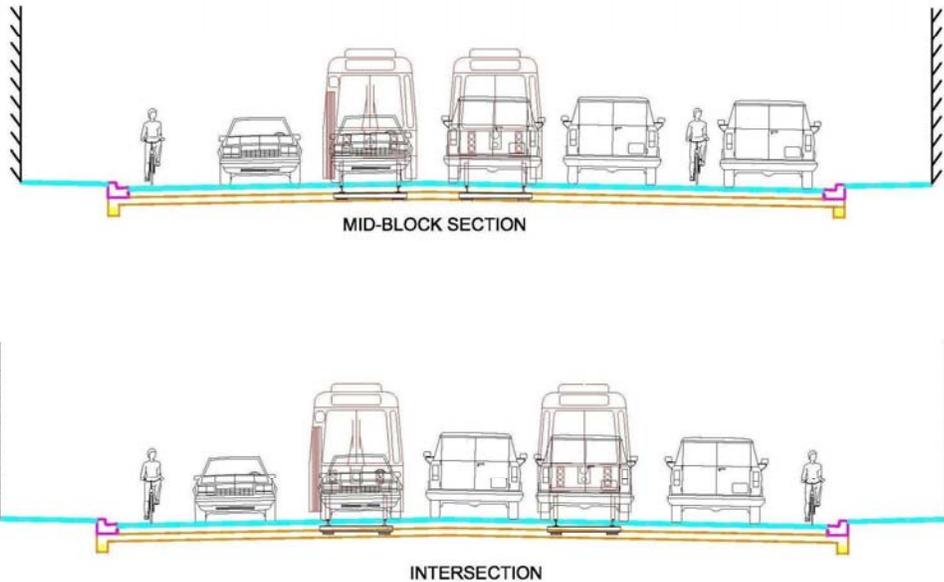
**Note: Subject to further review including Community consultation and preliminary design.**

The functional design for this near term option is shown in the upper half of Plates 1 through 20 at the back of this report.

### Long Term Option

Between Hurontario Street and Greaves Avenue, due to the constricted ROW sections, the basic cross-section alternative selected for the long term option is LRT in mixed traffic (e.g. similar to Queen St / King St. in Toronto). East of Greaves Avenue to the east municipal boundary, LRT on its own ROW is feasible. A short section between Seneca Avenue and Cawthra Road could also have accommodated LRT, but the section is too short to accommodate a transition to and from LRT / mixed traffic. Bicycle lanes are shown throughout the corridor. This is made possible through the 26.2 m ROW sections by removing parking on the north side (choice of the north side was arbitrary). The recommended typical cross-section for the long term between Hurontario Street and Greaves Avenue is shown below in **Exhibit E2**.

**CONCEPT FOR: LRT IN MIXED TRAFFIC + ON-STREET BICYCLE LANES + ONE SIDE ON STREET PARKING**



**EXHIBIT E2: LONG TERM CONCEPT THROUGH RESTRICTED ROW (EAST OF HURONTARIO STREET)**

**Note: Subject to further review including Community consultation and preliminary design.**

The functional design for the long term option is shown in the lower half of Plates 1 through 20 at the back of this report.

**Implementation**

**Near Term**

To implement near term changes, including curb adjustments required for cycling facilities, it is anticipated this would occur in phases as part of the Transportation and Works Department road rehabilitation / reconstruction program. These minor curb adjustments are required to accommodate the on-road bicycle facilities (sharrows / bike lanes) based on the assumption that traffic lanes will be maintained at a minimum width of 3.25 m to 3.35 m in width.

Notwithstanding the above, there may be an opportunity to implement cycling on Lakeshore Road without curb adjustments. This would be accomplished by reducing the inside through lane to a width of 3.05 m to 3.10 m and widening the curb lane to 4.0 m with the addition of bicycle sharrow markings.

This appears to be feasible based on existing road plans but would need to be confirmed in the field. The reduced width would be subject to safety considerations, including but not limited to speed and access / intersection proximity.

On the assumption that sufficient pavement width is available, these changes would be implemented through the road resurfacing program or independently when appropriate through the removal and re-application of the pavement markings.

### **Long Term**

The long term plan proposes an LRT system operating in mixed traffic through Port Credit (west of Greaves Avenue) and in a dedicated ROW east of Greaves Avenue. In this light, an adjustment to the ROW from the existing 35 m to 44.5 m (44.5 m is currently available through this section of Lakeshore Road, with the exception of property fronting the OPG and Metropolitan Toronto and Region Conservation Authority lands) will be required. There is no time frame at this point for the study required for the consideration of an LRT system. This information is important with regard to the implementation of future curb adjustments relative to the ROW needs for on-road bicycle lanes in the absence of an LRT system.

The long term plan also assumes implementation of on-road bicycle lanes throughout the corridor which will impact on-street parking through Port Credit (Broadview Avenue to Seneca Avenue). The study concludes that parking would need to be eliminated from one side of the road and relocated to side streets and / or new surface parking lots. On-street parking will be an issue even if an LRT system is not implemented, since the LRT is proposed to operate in mixed traffic through Port Credit. It is the addition of the on-road bicycle lanes that will precipitate the need for changes. Additional parking information is anticipated in 2011 upon completion of a parking management plan currently underway in Port Credit.

The study speaks to the ultimate removal of the centre turn lane from Seneca Avenue to the east City boundary and its replacement with a dedicated LRT ROW. This will require a detailed review of the feasibility of access consolidation throughout this section of Lakeshore Road.