



STAFF REPORT ACTION REQUIRED

Left turn prohibition – Davenport Road at Belmont Street

Date:	June 3, 2010
To:	Toronto and East York Community Council
From:	Director, Transportation Services Toronto and East York District
Wards:	Toronto Centre-Rosedale, Ward 27
Reference Number:	Ts10064te.top.doc

SUMMARY

Transportation Services has been requested by Councillor Kyle Rae to report on removing the existing southbound left-turn lane on Davenport Road at Belmont Street and restricting this movement by posting a left-turn prohibition at all times.

Prohibiting southbound left turns at all times from Davenport Road to Belmont Street is feasible and would reduce traffic volumes on Belmont Road. However, there would be significant impacts to local residents and businesses and to traffic operations on alternate routes.

RECOMMENDATIONS

Transportation Services recommends that:

1. City Council not authorize the introduction of a southbound left-turn prohibition at all times on Davenport Road at Belmont Street.

Financial Impact

Adoption of the above-noted recommendation has no financial impact. If City Council decides the introduction of a southbound left-turn prohibition at all times on Davenport Road at Belmont Street would be beneficial, the following financial impact will result:

1. The estimated cost of installing the signs, associated signal modifications and pavement marking adjustments on Davenport Road at Belmont Street is estimated to be \$12,450.00. These funds are contained in the Transportation Services 2010 Capital Budget. This work is subject to competing priorities and funding availability.

ISSUE BACKGROUND

Over the years, Transportation Services has conducted numerous studies on Belmont Street and attended many meetings with Councillor Kyle Rae, residents and representatives of the ABC Ratepayers Association to come up with ways of addressing traffic volumes on Belmont Street without negatively impacting the surrounding neighbourhood and road network. The following are some of the traffic measures implemented by Transportation Services thus far:

- in 2004 the laneway flanking 76 Belmont Street was converted to a one-way northbound operation to help address concerns of motorists using this lane as a cut-through to Belmont Street from Hillsboro Avenue;
- in 2005 the southbound right-turn movement from Yonge Street to Belmont Street was prohibited at all times;
- in 2009 the intersection of Yonge Street and Davenport Road/Church Street was redesigned to improve the crossing environment for pedestrians and to provide motorists an alternate route to Yonge Street from Davenport Road by allowing the eastbound left-turn movement to take place via an exclusive left-turn lane. This movement was previously prohibited at all times;
- the westbound left-turn movement will be allowed as part of the intersection modification and reconstruction planned for Bay Street/Davenport Road. This movement would provide motorists, particularly motorists travelling westbound from Aylmer Street/Rosedale Valley Road, an alternate route to access Bay Street instead of using Belmont Street. Construction is tentatively scheduled for 2012.

In addition to the above-noted traffic measures, Councillor Kyle Rae and some members of the ABC Neighbourhood Association, requested Transportation Services to investigate the feasibility of eliminating the current southbound left-turn movement from Davenport Road to Belmont Street at all times to help lower the traffic volume on Belmont Street and prevent eastbound motorists from using this street as a cut-through route between Davenport Road and Yonge Street.

COMMENTS

Existing Conditions

Traffic operation at the Davenport Road/Belmont Street/New Street intersection is regulated by a traffic control signal (TCS). The signal operation consists of an advanced left-turn phase for southbound Davenport Road to Belmont Street. The intersection approach on Davenport Road consists of two through lanes and an exclusive left-turn lane to accommodate vehicles destined for eastbound Belmont Street and westbound New Street. This section of Davenport Road is classified as a major arterial roadway, carries approximately 30,000 vehicles daily and accommodates Toronto Transit Commission's 6 Bay bus route.

Belmont Street, between Davenport Road and Yonge Street is classified as a minor arterial roadway, operating two-way (eastbound and westbound) on a pavement width of 7.9 metres. The legal speed limit is 50 km/h. The results of a recent turning movement count revealed that Belmont Street, between Davenport Road and Yonge Street carries approximately 13,000 vehicles daily. Belmont Street provides a direct route to Rosedale Valley Road via Aylmer Avenue. Rosedale Valley Road provides a direct linkage to Bayview Avenue, and ultimately to the Don Valley Parkway (refer to Drawing No. 421G-0007, dated, May 2010 for a map of the affected area).

Belmont House (a retirement/long-term facility), is located on the south side of Belmont Street and its property occupies the area bounded by Belmont Street, McMurrich Street, McAlpine Street and Davenport Road. This facility is home to approximately 230 seniors and employs approximately 200 staff. The main entrance and visitor parking is off of Belmont Street.

New Street forms the western portion of this intersection and is classified as a local roadway, operating two-way (eastbound and westbound) on a pavement width of 7.3 metres. This street ends approximately 75 metres west of Davenport Road and provides ambulance access to/from Toronto Emergency Medical Services, Station 45. The legal speed limit is 50 km/h. New Street carries a traffic volume of approximately 450 vehicles daily.

McAlpine Street and McMurrich Street are both classified as local roadways, operating two-way, and are the first two streets providing a left-turn option south/southeast of Belmont Street. Neither intersection is signalized nor are left-turn lanes provided on Davenport Road. Both streets carry approximately 1,700 vehicles daily and provide a connection between Belmont Street and Davenport Road.

The surrounding neighbourhood is a densely developed area comprised of high-rise apartment buildings, office towers with street-front retail premises, commercial/professional properties and long established single family homes.

Investigation

Over the years, our studies have confirmed that commuter traffic flows to the southeast in the morning and northwest in the evening. As mentioned, Belmont Street/Aylmer Road provides a direct link between Davenport Road and Rosedale Valley Road. In the morning, the main flow of traffic turns south-left from Davenport Road travelling eastbound on Belmont Street in order to connect with Rosedale Valley Road via Aylmer Avenue. By contrast, the reverse occurs during the afternoon.

Recent directional movement surveys were conducted over an eight-hour period at the intersections of Davenport Road and Belmont Street, and Yonge Street and Belmont Street/Aylmer Street. The movements recorded during our surveys for the AM Peak Hour, PM Peak Hour and Peak 8-Hour Period are shown in the following chart.

Directional Movement & Location	AM Peak Hour Volume	PM Peak Hour Volume	Peak 8-Hour Volume
Southbound-left: Davenport Road onto Belmont Street	317 (12%)	354 (13%)	2640
Northbound-right: Davenport Road onto Belmont Street	30 (6%)	88 (18%)	496
Eastbound-through: Belmont Street onto Aylmer Avenue	362(12%)	438 (14%)	3069
Westbound through: Aylmer Avenue onto Belmont Street	422 (13%)	556 (17%)	3372

As the table above indicates, most of the traffic volume on Belmont Street is generated from the southbound left-turn movement at Davenport Road and the westbound through movement from Yonge Street/Aylmer Avenue.

Impact of Left Turn Prohibition

Transportation Services staff have assessed the potential impacts of prohibiting southbound left turns from Davenport Road to Belmont Street.

Approximately 300-350 vehicles make the southbound left-turn movement at this intersection during the a.m. and p.m. peak hours respectively, and in excess of 2,600 vehicles make this turn daily. Prohibition of the southbound left-turn movement from Davenport Road would reduce the traffic volumes on Belmont Street.

Residents, visitors, and business people wishing to access the neighbourhood itself will have to use Yonge Street (from westbound or northbound only), Frichot Avenue, McAlpine Street or McMurrich Street. The demand by motorists to travel east is not eliminated and motorists will look for alternate routes to get from Davenport Road to Aylmer Avenue/Rosedale Valley Road.

Following is a discussion of each of the alternate routes motorists could choose and the potential impacts of each:

(1) Circumventing the turn prohibition

U-turns may increase on Davenport Road and New Street as motorists attempt to access Belmont Street and avoid the turn prohibition, resulting in an increase in operational safety concerns for all road users, particularly Toronto Emergency Medical Services response from Station 45 on New Street.

(2) Other neighbourhood streets

McAlpine Street and McMurrich Street are the first two streets providing a left-turn option south/southeast of Belmont Street. Neither intersection is signalized nor are left-turn lanes provided on Davenport Road. This option is most likely for motorists destined within the neighbourhood. However, it is less safe for turning

motorists and could increase delays to through traffic and transit on Davenport Road. Also, both streets ultimately lead traffic back to Belmont Street. As a result, traffic volumes may decrease on Belmont Street within the Davenport Road to McMurrich Street block, but could remain relatively unchanged within the McMurrich Street to Yonge Street block.

Implementing turn prohibitions at McalpineStreet and McMurrich Street, in combination with prohibiting southbound left turns at Belmont Street, would essentially prevent anyone from accessing this neighbourhood from the northwest. These regulations would apply to all motorists, including local residents, their visitors, business proprietors and their clients.

(3) Davenport Road to Yonge Street.

With the recent changes at the Davenport Road and Yonge Street intersection, it is possible for motorists to continue southeast on Davenport Road, turn left at Yonge Street and then turn right at Aylmer Avenue to continue on to Rosedale Valley Road. There is sufficient capacity at these intersections to accommodate additional traffic that may choose this route. However, this will not be a preferred choice for motorists as it takes them significantly out of their way.

(4) Davenport Road via Church Street to Park Road

Another alternate route for motorists is to continue southeast on Davenport Road, continue through on Church Street, turn left to Park Road, then turn right to Rosedale Valley Road. This route is more direct, but could cause significant operational concerns on Park Road at Collier Street and at Rosedale Valley Road.

If the southbound left turn from Davenport Road to Belmont Street is prohibited, it would be necessary to modify the pavement markings to remove the exclusive left-turn lane, and to modify the signal timings to remove the left-turn arrow. Drawing No. 421F-9992 dated April 2010 shows the pavement markings should be left turn prohibition be approved.

Staff of the Toronto Transit Commission has not provided comments on this proposal, however our review suggests service delays may be experienced on Davenport Road to their 6 Bay bus route, particularly in the southbound/eastbound direction.

Conclusions

Prohibiting the southbound left-turn movement at all times on Davenport Road at Belmont Street is technically feasible. There would be a reduction in the traffic volumes on Belmont Street.

The negative impacts on local residents and businesses, and the potential operational concerns that would result on the alternate routes available to motorists, are significant.

Alternate Recommendations

If Toronto and East York Community Council wishes to proceed with the elimination of the southbound left-turn movement on Davenport Road at Belmont Street, the following alternate recommendations should be adopted:

1. City Council prohibit southbound left turns at all times from Davenport Road to Belmont Street.
2. City Council prohibit “U”-turns for southbound/eastbound traffic on Davenport Road, between Belmont Street and Yonge Street.

CONTACT

Joe Gallippi, Transportation Technologist
Traffic Operations, Toronto and East York District
Phone: 416-338-5404
Fax: 416-392-1920
e-mail: jgallipp@toronto.ca

SIGNATURE

Peter Noehammer, P.Eng.
Director, Transportation Services

ATTACHMENTS

Drawing No. 421G-007, dated May 2010 – area of impact
Drawing No. 421G-9992, dated April 2010 – pavement markings

P:\2010\Cluster B\TRA\Toronto and East York District\TOP\ts10064te.top.doc - acb