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UPDATE ON EXISTING TRAFFIC PROHIBITIONS MAPLE COMMUNITY CITY OF VAUGHAN

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, January 25, 2008, from the Commissioner of Transportation Services:

1. RECOMMENDATIONS

It is recommended that:

1. The existing turn and through movement restrictions (buses excepted) as noted below, in the City of Vaughan remain in place on a trial basis for up to six months.
 - 1.1 A southbound left-turn prohibition (6:30 a.m. to 8:00 a.m. Monday to Friday) on Keele Street (Y.R. 6) at Barrhill Road.
 - 1.2 A southbound left-turn prohibition and eastbound through prohibition (6:30 a.m. to 8:00 a.m. Monday to Friday) on Keele Street (Y.R. 6) at Fieldgate Drive.
 - 1.3 A northbound through prohibition (4:30 p.m. to 7:00 p.m. Monday to Friday) on Rutherford Road (Y.R. 73) at Barrhill Road.
2. The Regional Clerk forward this report to the Clerk of the City of Vaughan and the Chief of York Regional Police, with a request to enforce as their resources permit.

2. PURPOSE

This report provides an update on existing traffic prohibitions that are in effect at three intersections in the City of Vaughan. These prohibitions were implemented on a trial basis and were approved by Regional Council in October of 2006. This report also includes an analysis of traffic operations on Rutherford Road and Keele Street including other signalized intersection in the vicinity of Rutherford Road and Keele Street (see *Attachment 1*).

3. BACKGROUND

On October 19, 2006 Regional Council adopted the amended recommendations outlined in the report titled *Turn and Through Traffic Prohibitions*. The report authorized the implementation of turn and through movement restrictions (buses excepted) during specific times of the day, on weekdays only, at the intersections of Keele Street and Barrhill Road, Keele Street and Fieldgate Drive and Rutherford Road and Barrhill Road in the City of Vaughan.

The City of Vaughan Council, on September 25, 2006, approved these turn and through movement prohibitions, on a six month trial period, and requested the Region to implement the necessary prohibitions. These restrictions were intended to reduce traffic infiltration through the residential community located in the northeast quadrant of Keele Street and Rutherford Road.

At that time, staff was directed to report back on how these prohibitions were working. This report evaluates the existing prohibitions, as directed by Council, including further analysis of additional measures to improve traffic operations in the area of Keele Street and Rutherford Road.

4. ANALYSIS AND OPTIONS

The report adopted by Regional Council on October 19, 2006 authorized the implementation of turn and through traffic prohibitions at three intersections in the area of Keele Street and Rutherford Road based on a request from City of Vaughan Council to minimize vehicle infiltration in the community of “Maple Village” located in the north-east corner of Keele Street and Rutherford Road.

As a result of Regional Council’s direction on October 19, 2006, and to evaluate these prohibitions, various studies and observations were conducted by Regional staff and staff of the City of Vaughan. In early December 2007, Regional staff met with City of Vaughan staff to discuss the effectiveness of these prohibitions and to discuss other measures to improve traffic flow in the area.

Regional staff have reviewed the following suggestions to improve traffic operations in the area of Keele Street and Rutherford Road:

Because of the significant growth in traffic volumes along Rutherford Road, the Region has already programmed transit supported road widening in this area

This area of Maple has two major Regional roadways that intersect and carry high volumes of traffic in both directions during all times of day. The annual average daily traffic (AADT) volume on Keele Street is 22,000 vehicles per day and on Rutherford Road is 42,000 vehicles per day. In the morning peak period, Keele Street carries on

average 1,500 vehicles per hour and Rutherford Road carries on average 2,800 vehicles per hour.

In recognition of the high volume of traffic in this area, particularly on Rutherford Road, a Roads Capital Transit Supportive Project has been developed to evaluate options to deal with these high traffic volumes. Currently, staff are in the process of initiating an Environmental Assessment to consider widening Rutherford Road from Jane Street to Bathurst Street. This Environmental Assessment is tentatively scheduled to commence in September of 2008 with an anticipated construction date of 2012.

Traffic demand to and from the Rutherford GO station further adds to the high volume of background traffic

During the peak periods, traffic congestion is further impacted by the presence of the GO train station located directly opposite Barrhill Road on Rutherford Road east of Keele Street. At this time there are three 3 separate GO trains that arrive at this station during the morning and evening. GO train stations generally generate a high number of vehicle trips that can add to the already congested roadways and intersections in the vicinity of the station.

GO transit conducted an Origin Destination study which revealed that the catchment area for the Rutherford GO station encompasses several quadrants in the City of Vaughan that includes areas in and around the Maple GO station. The reason for this is the current parking facility at the Maple GO station is very small and cannot accommodate the number of vehicles that would normally be destined here. As a result, GO transit is in the process of expanding the parking lot at the Maple GO station and once completed it is expected that some of the patrons of the Rutherford GO station will change their destination and go to the Maple GO station. This may result in a reduced volume of traffic using southbound Keele Street and completing a left turn at Rutherford Road to get to the Rutherford GO station.

Traffic control signal co-ordination along Keele Street will assist in the management of traffic destined to the Rutherford GO station

Due to limited capacity at the intersection of Keele Street and Rutherford Road motorists travelling to the Rutherford GO station southbound on Keele Street are experiencing difficulties entering the left turn lane due to the long vehicle queue lengths. To avoid these delays, motorists were using a short cut through the residential neighbourhood to access the Rutherford GO station via Barrhill Road. The turning and through prohibitions now force this cut through traffic to use Keele Street and Rutherford Road.

Currently, the traffic control signals along Keele Street are co-ordinated and use a semi actuated mode of operation. This mode of operation requires the use of detection equipment to respond to either a vehicle or pedestrian calls on the side street. Vehicle presence on the side street provides green time ranging between a pre-determined

minimum and maximum green time, which varies depending on traffic volumes. Pedestrian "Walk" and "Flashing Don't Walk" time is used in the event that the pedestrian push button is activated. During semi-actuated operation, the intersection may return to the main street early, resulting in vehicle platoons arriving at the next upstream or downstream intersection early. However, at times, it may appear that traffic signals are not synchronized.

Staff will investigate the feasibility of using a fixed time operation during the morning and evening peak periods along Keele Street. This operation will provide platoons of vehicles with a fixed arrival at the upstream and downstream intersections by continually cycling traffic signals to the side street, regardless of traffic demand. In this operation, the platoons of vehicles will experience reduced queue lengths at critical intersections because the queue is dispersed among several intersections which are cycling. However, this operation is not as efficient as a semi-actuated operation. Staff will monitor traffic to determine the effectiveness and report back after the six month trial period.

An additional access point to Rutherford Road to and from the GO Station would not improve traffic conditions in the area

Traffic exiting Westburne Drive to travel east on Rutherford Road is not significantly delayed at the signal and does not appear to be adding to the congestion with the northbound left turning vehicles. An additional access would not benefit the congestion on Rutherford Road approaching Keele Street. Eastbound traffic entering the Rutherford GO station is not capacity constrained. As a result, Regional staff does not recommend an additional access point from the GO station

Westbound traffic on Rutherford Road is limited by the congestion at the Keele Street and Rutherford Road intersection. Traffic wishing to exit the Rutherford GO station via Westburn Drive is congested for four separate 15 minute blocks of time during the evening peak period and coincides with the arrival of the evening GO trains (16:40, 17:10, 17:47, and 18:30) and the departure of employees from the industrial properties to the south. The congestion at this GO location is typical of any other locations within York Region.

Creating a northbound double left turn lane at Rutherford Road and Westburne Drive will not assist in clearing the GO parking facility at this time

The existing intersection of Rutherford Road and Westburne Drive/Barrhill Road does not have sufficient room for a northbound dual left turn lane and major reconstruction of the intersection would be required to accommodate an additional left turn lane.

However, it has been determined that there is sufficient capacity to accommodate the existing northbound left turn volumes as the opposing southbound through traffic volumes are relatively low particularly during the afternoon peak period. Exceptions to this are found during a short period after the arrival of each GO train. The westbound

capacity approaching Keele Street and Rutherford Road is currently limited and a double left turn lane on Westburne Drive would only be effective in evening peak traffic periods even if Rutherford Road was widened in the westbound direction.

A Roads Capital Transit Supportive Project has been scheduled for 2012 and Regional staff are currently in the process of initiating an Environmental Assessment to consider widening Rutherford Road from Jane Street to Bathurst Street. This Environmental Assessment is tentatively scheduled to commence in September of 2008 with an anticipated construction start date in the year 2012. Staff will further review the requirements of a double left turn lane on Westburne Drive as part of the Roads Capital project.

Currently, the two northbound lanes on Westbourne Drive approaching Rutherford Road are not clearly defined. Drivers form three lanes in an area that is designated for two lanes and are making illegal double left turns. In order to address this illegal manoeuvre, Regional Staff will reconfigure the pavement markings to properly delineate the left turn lane from the through right turn lane.

Continuing with the existing traffic prohibitions with enhanced enforcement is recommended

These through and turn prohibitions have been in effect since late 2006. There is limited compliance to the prohibitions in general. At each of the three intersections there are congested traffic conditions and cut through traffic concerns. The cut through traffic and non-compliance issues are prevalent at the intersection of Rutherford Road and Barrhill Road/Westburne Drive in the evening, particularly just after the GO train departs. Based on the existing traffic congestion during peak traffic periods, removal of the prohibitions will further increase traffic infiltration through the residential area. It is suggested to retain the existing prohibitions for up to an additional 6-months and request York Regional Police to provide an increased level of enforcement of these prohibitions as their resources permit. During the 6-month trial period the signals on Keele Street and on Rutherford Road will be monitored and adjusted to optimize traffic flow. Regional staff will make adjustments from the Centralized Traffic Control Centre and then follow up in the field and make any necessary adjustments at the intersections to improve traffic operations in this area. This will be done for each of the peak traffic periods (AM/OFF/PM).

At the end of the 6-month period, City of Vaughan staff will further evaluate the effect these signal timing changes have in the neighbourhood of Maple Village. City staff will also conduct an infiltration study and complete travel time studies on Keele Street and Rutherford Road going south to the GO station and on Barrhill Road going to the GO station.

Traffic infiltration methods already in place

At this time there are no other feasible methods to prevent traffic infiltration through the community of Maple Village. Barrhill Road is a local road under the jurisdiction of the City of Vaughan that provides residual capacity and has traffic calming measures in place to reduce cut-through traffic. These traffic calming measures, in conjunction with the existing traffic prohibitions, have been somewhat effective in reducing traffic infiltration through the neighbourhood. The existing physical traffic calming measures, combined with increased enforcement of the existing legal traffic prohibitions, will reduce infiltration on the local roads ultimately increasing the overall effectiveness.

Southbound left turn lane at Keele Street and Rutherford Road has sufficient capacity

Regional staff were requested to review the potential to construct an additional southbound left turn lane at the intersection of Keele Street and Rutherford Road. Preliminary findings have determined that the southbound left turn lane is adequate for the volume of traffic. However, the southbound through lanes back up and block access to the left turn lane. Therefore, any additional capacity at this intersection should be applied to improve southbound through volumes.

Regional staff will explore signal timing changes to reduce oversaturation at Keele Street and Rutherford Road by running a consistent cycle length to improve co-ordination. Additionally, staff will investigate the feasibility of running the traffic control signals on a fixed time to gate platoons of vehicles on Keele Street north of Rutherford Road to prevent oversaturation at the intersection.

There is currently a Class Environmental Assessment being carried out on Keele Street from south of Steeles Avenue to and including the intersection of Rutherford Road. This Class Environmental Assessment will review the traffic needs at that time and evaluate the need for an additional southbound lane.

Prohibitions are temporary and require further evaluation and public consultation

The situation will be re-evaluated again after the 6-month period with the above mentioned measures in place. If the City of Vaughan determines that these turn and through movement prohibitions are not performing well or causing other concerns, a Council resolution will be required from the City of Vaughan requesting the Region to remove all related signage at the intersections and to have the necessary by-law rescinded. It is proposed that should such a Vaughan Council request be received prior to the end of this trial period, Regional staff have the authority to remove signs immediately, and report back to Regional Council for the required by-law revisions.

5. FINANCIAL IMPLICATIONS

There are no financial implications related to this report. Signage prohibiting these traffic prohibitions were installed in 2006 and those costs were included in the 2006 Roads Program Budget. Financial costs to implement the necessary timing changes at traffic control signals are part of day to day operations for Roads staff and are included in the approved 2008 Roads Budget.

6. LOCAL MUNICIPAL IMPACT

In September of 2006, the City of Vaughan's Council requested the implementation of turn and through movement prohibitions (buses excepted) at the intersections of Keele Street and Barrhill Road, Keele Street and Fieldgate Drive and Rutherford Road and Barrhill Road on a six month trial period.

Regional staff had discussions with staff of the City of Vaughan. A meeting was held on December 18, 2007 with Regional staff and representatives from the City of Vaughan to discuss traffic operations and evaluate the existing turn and through prohibitions in the area of Maple Village. Any further improvements to improve the flow of traffic on this road corridor will be discussed directly with the appropriate municipal staff. Regional staff has and will continue to work closely with City of Vaughan staff to monitor traffic in this area.

7. CONCLUSION

Staff were directed by Regional Council to evaluate existing traffic prohibitions that were implemented on a trial basis at the intersections of Keele Street and Barrhill Road, Keele Street and Fieldgate Drive and Rutherford Road and Barrhill Road in the City of Vaughan. These prohibitions are in place to alleviate the amount of cut through traffic in the neighbourhood located in the northeast corner of Keele Street and Rutherford Road. Staff are recommending the following prohibitions remain in place for up to an additional six month period:

- A southbound left-turn prohibition (6:30 a.m. to 8:00 a.m. Monday to Friday) on Keele Street at Barrhill Road.
- A southbound left-turn prohibition and eastbound through prohibition (6:30 a.m. to 8:00 a.m. Monday to Friday) on Keele Street at Fieldgate Drive.
- A northbound through prohibition (4:30 p.m. to 7:00 p.m. Monday to Friday) on Rutherford Road at Barrhill Road.

Staff are also recommending that signal timings be adjusted to improve traffic operations at the intersection of Keele Street and Rutherford Road and any other signalized intersection in the area of Keele Street and Rutherford Road.

For more information on this report, contact Brian Harrison, Director, Operations, Roads Branch at extension 5205 in the Transportation Services Department.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)