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TRAFFIC CONTROL SIGNALS TESTON ROAD AT CRANSTON PARK AVENUE TESTON ROAD AT ST. JOAN OF ARC AVENUE CITY OF VAUGHAN

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, March 24, 2006, from the Commissioner of Transportation and Works, subject to deleting the following phrase in Recommendation 1 as follows:

“once construction at the intersection of Jane Street and Teston Road is completed.”

1. RECOMMENDATIONS

It is recommended that:

1. Traffic control signals not be installed at the intersections of Teston Road (Y.R. 49) at Cranston Park Avenue and Teston Road (Y.R. 49) at St. Joan of Arc Avenue in the City of Vaughan, at this time, and that Regional staff conduct another traffic signal review in fall 2006, once construction at the intersection of Jane Street and Teston Road is completed.
2. The Regional Clerk forward this report to the Clerk of the City of Vaughan.

2. PURPOSE

The purpose of this report is to address the City of Vaughan’s Council resolution dated December 12, 2005, requesting traffic control signals at the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue. A plan showing the location of the intersections is shown in *Attachment 1*.

3. BACKGROUND

At the City of Vaughan’s Council meeting on December 12, 2005, Council adopted a recommendation to request York Region to install traffic control signals at the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue.

The intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue are situated between Keele Street and Jane Street in the City of Vaughan.

This road section carries approximately 5,600 vehicles per day with a posted speed of 60-km per hour.

Teston Road between Keele Street and Jane Street was recently widened, in 2005, from a two-lane rural road to a five-lane urban road as part of York Region's 10-Year Capital Construction Program. The intersection of Jane Street and Teston Road remains under construction and is scheduled to be completed this fall.

As part of the reconstruction of Teston Road, provisions for traffic control signals have been included for the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue.

4. ANALYSIS AND OPTIONS

Traffic control signals alternate the right-of-way between conflicting streams of vehicular traffic, or vehicular traffic and pedestrians crossing a roadway, with maximum efficiency and safety. Maximum efficiency implies a minimum delay to traffic. Safety requires that the traffic signals operate at the minimum hazard to vehicles and pedestrians.

The Regional Municipality of York's policy for the installation of traffic control signals is based on a series of guidelines established by the Ministry of Transportation (MTO) and also guidelines approved by Regional Council at its meeting on October 17, 2002. The following warrants are to be used to determine whether or not traffic control signals are justified at a location:

- Traffic control signal warrants as outlined in Book 12 of the *Ontario Traffic Manual*
- Safety warrant.
- "T" type intersections warrant.
- Peak hour delay for entering onto the major street from the side street.
- Installation of unwarranted traffic signals paid by local municipalities.

Table 1 summarizes the traffic signal warrant from the traffic data collected at the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue on Tuesday, February 7, 2006.

Table 1
Traffic Signal Warrant Analysis

Warrant Component	Teston Road at Cranston Park Avenue Compliance	Teston Road at St. Joan of Arc Avenue Compliance
Minimum Vehicular Delay	65 %	54 %
Delay to Cross Traffic	50 %	45 %
Collision Hazard (last 3 years)	0 %	0 %
“T” Intersection	Yes	Yes
Minor Street Peak Hour Delay:		
• Unsignalized	10 sec/veh	10 sec/veh
• Signalized	13 sec/veh	14 sec/veh
Safety Performance	Not improved with signals	Not improved with signals
Paid by Local Municipality	Not warranted (<70%)	Not warranted (<70%)

The MTO guidelines indicate that an intersection meets the warrant conditions for traffic control signals when two of the warrant components are at or above 80% compliant, or one component is 100% compliant.

In addition, Regional Council adopted a new policy on the installation of traffic control signals that takes safety performance and peak hour delay into consideration when conducting a traffic control signal warrant. The safety warrant of this policy indicates that there would be no reduction in collisions if the intersections were to be signalized and the minor street peak hour delay warrant determines that signalizing the intersections will create greater delay to the minor street.

Installing traffic control signals at locations that do not meet the traffic signal warrant can result in a reduction in overall intersection safety. Specifically, the installation of traffic control signals increases the occurrence of certain types of collisions. Rear-end collisions on the major streets can increase by as much as 60% after the installation of traffic control signals. Additionally, the average delay to side street traffic is often substantially increased during periods of the day outside of peak hours.

This increased delay can result in driver frustration and non-compliance with the traffic signal indications. To avoid these safety concerns, the Region’s policy is to install traffic control signals only if the warrants are met. In accordance with the Region's current policy, traffic control signals at these intersections do not meet the warrants, therefore, traffic control signals are not recommended at this time.

5. FINANCIAL IMPLICATIONS

There are no financial implications associated with this report.

6. LOCAL MUNICIPAL IMPACT

The City of Vaughan's Council requested traffic control signals at the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue. These intersections do not warrant traffic control signals at this time, however, it is anticipated that traffic control signals will be warranted once the north side of Teston Road is developed.

7. CONCLUSION

This report is in response to the City of Vaughan's Council resolution requesting York Region to install traffic control signals at the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue in the City of Vaughan. These intersections do not satisfy the minimum traffic control signals' warrant conditions, therefore, staff recommends that traffic control signals not be installed at this time.

The intersection of Jane Street at Teston Road is currently under construction and is scheduled to be completed this fall. It is anticipated that this may change the traffic pattern along Teston Road, therefore, Regional staff will continue to monitor traffic and pedestrian volumes at the intersections of Teston Road at Cranston Park Avenue and Teston Road at St. Joan of Arc Avenue.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause was included in the agenda for the April 5, 2006 Committee meeting.)