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TRAFFIC CONTROL SIGNAL / INTERSECTION IMPROVEMENT REQUEST LANGSTAFF ROAD AND BALDING BOULEVARD CITY OF VAUGHAN

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report, October 21, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

The purpose of this report is to address the request from City of Vaughan Council for traffic control signals at the Langstaff Road/Balding Boulevard intersection and, second report on the status of additional traffic improvements requested at the intersection, in the City of Vaughan. A location map is attached as *Attachment 1*.

This report presents the staff analysis and options available, in accordance with current Council policies, to address the request for traffic control signals.

3. BACKGROUND

At the June 15, 2005 meeting of the Transportation and Works Committee, a report on the matter of traffic improvements at the Langstaff Road/Balding Road intersection was presented to Committee for information and consideration. Committee, at that time, elected to refer the matter back to Regional staff for further discussion with the residents and City of Vaughan staff and Council members.

On August 19, 2005, Region and City staff met to further review the matter of traffic control signals at the intersection and it was determined that City staff and elected officials would further consider their request and advise Regional staff of their disposition.

The signalization of Balding Boulevard and Langstaff Road and the upgrade of the roadway with a separate westbound right-turn lane was considered by staff during the finalization of the contract now under construction. Both works failed to meet current Regional policy or traffic warrant requirements for installation.

The aspect of a right-turn lane was discussed at a number of meetings between the local ratepayer group representatives of the National Estate Homeowners' Association and Regional staff over the past few months. The Association had requested both a separate westbound right-turn lane and traffic control signals at Balding Boulevard.

This report is prepared to present technical details related to the request for traffic control signals and the status of the request for a right-turn lane.

3.1 Current Regional Policies

3.1.1 Traffic Control Signal Warrant

The Region's Traffic Control Signal Warrant Policy was approved by Regional Council on October 17, 2002. The warrant is based on the traffic control signal warrants as outlined in Book 12 of the Ontario Traffic Manual. For a traffic control signal to be warranted, any one of the three warrant criteria below must be satisfied by 100% or at least two warrant criteria by 80%. The first warrant criterion accounts for the total amount of traffic using an intersection, the second warrant criterion accounts for the delay to side road traffic, and the third warrant criterion accounts for the safety performance of an intersection.

3.1.2 Payment for Signals

When an intersection of a public road allowance with a Regional road meets the warrants, the intersection is programmed into the Intersection Improvement Program and paid for through tax levies and development charges.

The Region's Traffic Control Signal Warrant Policy also stipulates that a local municipality can pay for the installation of unwarranted traffic control signals provided Warrant 1 and Warrant 2 are satisfied by at least 70%, and all installation and ongoing maintenance costs are incurred by the local municipality until traffic control signals become warranted.

4. ANALYSIS AND OPTIONS

In considering the requests, staff carried out various studies, counts and analysis to determine the need and warrant for the requested improvements. The following outlines the results of the various studies and discussions for this intersection.

4.1 Traffic Signal Consideration

4.1.1 Background

On October 15, 2002, the Council of the City of Vaughan passed a resolution that the Region be requested to install traffic control signals at the intersection of Langstaff Road and Balding Boulevard. A traffic control signal warrant review at the intersection of Langstaff Road at Balding Boulevard was completed by Regional staff. The review

concluded that side road traffic volumes were too low to warrant the installation of traffic control signals.

Recently, at the September 19, 2005 meeting of the City of Vaughan Committee of the Whole, Regional and Local Councillor Joyce Frustaglio reiterated the request, through a recommendation that The Regional Municipality of York immediately undertake the installation of full traffic control signals at the Langstaff Road and Balding Boulevard intersection, at the cost of the City of Vaughan.

City of Vaughan Council, at their meeting on September 26, 2005 referred the matter to their Committee of the Whole meeting of October 11, 2005, and directed Vaughan staff to provide a report identifying sources of funding and criteria for installing traffic signals throughout the City where Regional warrants are not met.

Vaughan's Committee of the Whole, on October 11, 2005, received a staff report recommending that the cost for the full traffic signals at the intersection of Langstaff Road and Balding Boulevard be included in the City's 2006 Capital Budget for consideration. Council of the City of Vaughan on October 17, 2005 subsequently recommended that City staff provide a report identifying sources of funding and establish criteria for installing traffic signals throughout the City of Vaughan where Regional warrants are not met and that York Region be requested to proceed with the installation of traffic control signals at Langstaff Road and Balding Boulevard. In effect, the City Council recommendation of this time means that no City funding is allocated for the installation of the signals.

4.1.2 Warrant Analysis

On October 12, 2004, Regional staff conducted an eight-hour traffic turning movement count at Langstaff Road and Balding Boulevard. The turning movement data was used to conduct a traffic control signal warrant analysis according to the Region's policy approved by Council on October 17, 2002.

The following table shows the results of the traffic control signal warrant analysis for Langstaff Road at Balding Boulevard.

Table 1
Traffic Control Signal Warrant Analysis
Langstaff Road and Balding Boulevard

Warrant Component	Warrant Compliance
Minimum vehicular delay	27%
Delay to cross traffic	39%
Preventable collisions (last 3 years)	1

Traffic control signals are warranted when two of the warrant components are at or above 80% or if five or more collisions, which can be prevented by traffic control signals, occurred over a three-year period. None of these warrant criteria are satisfied at the intersection of Langstaff Road and Balding Boulevard, nor are they likely to materialize with the recent widening of Langstaff Road.

4.1.3 Safety Performance

Over the last five years (2000 to 2004), six collisions were recorded at this intersection. Five of the six collisions were rear-end type collisions. Most of these collisions can be attributed to the lack of an eastbound left-turn lane. With the widening of Langstaff Road between Islington Avenue and Weston Road, turning lanes have been provided at this intersection. These turning lanes are expected to reduce the incidence of rear-end conflicts and collisions.

Over a period of eight hours on October 12, 2004, no pedestrians were observed crossing Balding Boulevard or Langstaff Road at the intersection. There are no schools or other facilities in the immediate vicinity that would encourage pedestrians to cross at this location.

Installing traffic control signals at locations that do not yet 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 for example, 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 control signal indications.

4.1.4 Other Considerations

Representatives of the local ratepayers have also brought to staff attention other issues which they believe need to be considered. First, a concern has been raised about the visibility of the intersection for traffic approaching from the west. Regional staff have reviewed this concern and confirmed that the available eastbound sight distance of 250 metres exceeds the minimum stopping sight distance of 220 metres required for this situation.

Second, a concern about potential lack of visibility in the morning peak due to the rising sun in the east has been raised. Staff have pointed out this situation is no more unusual than on any other unsignalized intersections on east-west arterial Regional roads and this issue does not normally constitute justification for signals.

Last, the fact that an existing sidewalk on the north side of Langstaff Road is discontinuous west of Balding Boulevard to Pine Valley Drive has been suggested as a reason to introduce signalization, particularly with a new continuous sidewalk constructed along the south side of Langstaff Road from east of Balding Boulevard to

Pine Valley Drive (Weston Road to Islington Avenue). Although, this is indeed the case, the October 2004 Regional counts have not noted any significant pedestrian activity at this location, which may be related to the fact that the south side sidewalk had not been constructed at the time of the study and therefore no facilities existed for pedestrians to influence the count. In addition, it should also be noted that YRT stops have been recently constructed in both the northeast and the southwest quadrants of the intersection, as part of the current Langstaff Road reconstruction and widening project.

4.2 Right-Turn Lane Consideration

In the initial meetings the ratepayers' representatives requested an additional westbound right-turn lane to be installed to allow right-turning vehicles to exit from the through lane before making the turn.

Regional staff have reviewed and discussed this request with the ratepayers and owing to the low traffic volume that would make the right turn and significant impacts to storm drainage systems, utilities and sidewalks by the work, in addition to the impact on mature landscaping and gateway feature to Balding Boulevard, the Association, to a certain degree, have reconsidered their request and seem to be more accepting of the original road design.

Construction at the Balding Boulevard intersection has proceeded without the installation of a separate westbound right-turn lane and work in the area has been substantially completed without the removal, or limited removal, of mature landscaping. In addition, the landscaping, irrigation systems and gateway features to the National Estates, previously disturbed by the road construction, have been fully reinstated to the satisfaction of the Association.

5. FINANCIAL IMPLICATIONS

Signals at this intersection are estimated to cost \$125,000. There is currently no funding available for this purpose in the approved capital budget.

6. LOCAL MUNICIPAL IMPACT

Under the current policy for traffic signal warrants established by Regional Council on October 17, 2002, the local municipality can request a signal to be installed at their cost if a number of conditions are met.

The traffic signal policy was enacted to enable Regional staff, in consultation with the municipality, to assess and determine the need for traffic signals. This policy is responsive to local municipal requests for signals and considers the needs of the municipality.

If unwarranted traffic signals are approved by Council, the local municipality is responsible for the installation costs. All on-going maintenance costs are incurred by the local municipality, until such time as the traffic signals become warranted. On-going maintenance costs are estimated at \$4,000 annually, per location.

When the traffic signal location becomes warranted, the Region reimburses the local municipality 100% of the original cost of the signals, in accordance with the Regional policy for traffic signal warrants.

7. CONCLUSION

The purpose of this report is to present to Committee and Council the status of certain requests for improvements to the intersection of Langstaff Road and Balding Boulevard, in the City of Vaughan.

The request for traffic control signals has been reviewed and denied by staff on the basis of Council policy.

The request for the installation of traffic control signals at Balding Boulevard is still being maintained by the residents and City of Vaughan Council.

The Senior Management Group has reviewed this report.

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