

7

**REQUEST FOR TRAFFIC CONTROL SIGNALS
LANGSTAFF ROAD AND BALDING BOULEVARD
CITY OF VAUGHAN**

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report dated March 25, 2009, from the Commissioner of Transportation Services.

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk circulate this report to the Clerk of the City of Vaughan to advise that the installation of a traffic control signal at Langstaff Road and Balding Boulevard is not recommended at this time.

2. PURPOSE

This report responds to a City of Vaughan Council resolution requesting the Region install traffic control signals at the intersection of Langstaff Road and Balding Boulevard. A location map is attached (*see Attachment 1*).

3. BACKGROUND

Previous requests for traffic control signals at Langstaff Road and Balding Boulevard have been denied by Regional Council

The intersection of Langstaff Road and Balding Boulevard is a “T” intersection providing access to a mature estate residential community on the north side of Langstaff Road. On the south side of Langstaff Road, directly opposite Balding Boulevard, is a mature residential community of rear-lotted homes.

As part of the Capital Roads Program, Langstaff Road was reconstructed in 2005. Signalization of Langstaff Road and Balding Boulevard has been reviewed by Regional staff, prior to, during, and now after reconstruction of the road. Reports considering traffic control signals at this intersection were considered by Regional Council on June 15, 2005, October 12, 2005, and November 2, 2005. All prior requests for traffic control signals at this intersection have been denied because the warrants outlined in the current Regional policy are not met.

The City of Vaughan Council, at its meeting of November 10, 2008, requested the Region install traffic control signals at the intersection of Langstaff Road and Balding Boulevard in the City of Vaughan. Their request expresses concerns with accessing Langstaff Road during peak traffic periods and provisions for pedestrians to cross.

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. Using a system of warrants to determine whether to install traffic control signals allows for installations that optimize efficiency and safety. Maximum efficiency implies a minimum delay to traffic, while maximum safety requires that the traffic signals operate at the minimum hazard to vehicles and pedestrians.

Requests for traffic control signals are assessed based on a warrant process established by the Ministry of Transportation and Regional Council

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 guidelines approved by Regional Council.

For a traffic control signal to be warranted, any one of the three warrant criteria 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.

The following warrants were used to determine whether or not traffic control signals are justified at this 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.

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 that Warrant 1 and Warrant 2 are satisfied by at least 70%, and that all installation and ongoing maintenance costs be incurred by the local municipality until the traffic control signals become warranted.

In considering all the requests for traffic control signals at the intersection of Langstaff Road and Balding Boulevard, staff carried out the required studies, counts and analysis to determine the need and warrant for the installation of traffic control signals.

Traffic control signals are not warranted at Langstaff Road and Balding Boulevard based on a turning movement count conducted in January 2009

To assess this recent request from the Council of the City of Vaughan, a turning movement count was conducted on January 8, 2009. Staff reviewed the turning movement count and applied the typical warrant analysis to determine if the warrant for traffic control signals were met.

In comparison, the count conducted on January 8, 2009, and the most recent previous count of December 7, 2006, total traffic volumes at the intersection have decreased by approximately 1%. One pedestrian was recorded during the January 8, 2009 count and two were recorded during the December 7, 2006 count. During both counts, all pedestrians were crossing Balding Boulevard.

Table 1 presents the results of the analysis of the turning movement count conducted on January 8, 2009.

Table 1
Current Traffic Control Signal Warrant Analysis

Warrant Component	Warrant Compliance Comparison
	2009
Minimum vehicular delay	21%
Delay to cross traffic	34%
Preventable collisions over 3 years	0

Table 2 presents the results of the Region's latest warrant conformity review in the context of all of the reviews carried out at this location.

Table 2
Historical Traffic Control Signal Warrant Analysis
(Compliance Comparison by Year)

Warrant Component	Warrant Compliance Comparison				
	2003	2004	2005	2006	2009
Minimum vehicular delay	27%	38%	26%	30%	21%
Delay to cross traffic	44%	57%	40%	48%	34%
Preventable collisions over 3 years	0	0	0	0	0

As mentioned previously, 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

the presence of traffic control signal, occurred during a three-year period. None of these warrant criteria are satisfied at the intersection of Langstaff Road and Balding Boulevard for any of the analyses conducted.

Unwarranted traffic control signals can decrease overall safety due to increased collision potential

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; for example, can increase by as much as 60% after the installation of traffic control signals.

Unwarranted traffic control signals can delay approaching side street traffic in comparison to “STOP” controlled intersections

At a signalized intersection, the average delay to side street traffic is often increased in comparison to an intersection controlled by a stop sign. For example, traffic control signals are co-ordinated within a group of signalized intersections which often increases delay up to two minutes for vehicles exiting the side street onto the major street. This increased delay can result in driver frustration and non-compliance with the traffic control 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, warrants are not met for a traffic control signal at this intersection; therefore, traffic control signals are not recommended at this time.

Observations indicate there are minimal gap opportunities for southbound left turn traffic exiting Balding Boulevard onto Langstaff Road

Recent observations indicate the southbound left turn vehicles experience delays when exiting onto Langstaff Road from Balding Boulevard. These delays are experienced due to the limited gap opportunities along Langstaff Road. By comparison, the right turn traffic experiences minimal delay.

Traffic control signal timing adjustments will maximize gap opportunities for traffic exiting Balding Avenue

Currently, there are traffic control signals along Langstaff Road at Ansley Grove Road approximately 380 metres easterly and Pine Valley Drive approximately 750 metres west. The traffic signals at these two intersections will be adjusted to provide maximum gap opportunities along Langstaff Road for traffic exiting Balding Boulevard.

5. FINANCIAL IMPLICATIONS

There are no financial implications associated with this report. The cost to conduct the turning movement counts, the analysis and the adjustments to the traffic control signals are part of the day-to-day operations of staff and are included in the current Roads Budget.

6. LOCAL MUNICIPAL IMPACT

The City of Vaughan's Council requested the installation of traffic control signals at the intersection of Langstaff Road and Balding Boulevard. This report summarizes the results of monitoring traffic volumes and assesses the warrants for the implementation of traffic control signals at the intersection of Langstaff Road and Balding Boulevard in the City of Vaughan. This intersection does not warrant traffic control signals at this time. This report will be forwarded to the City of Vaughan for their information.

7. CONCLUSION

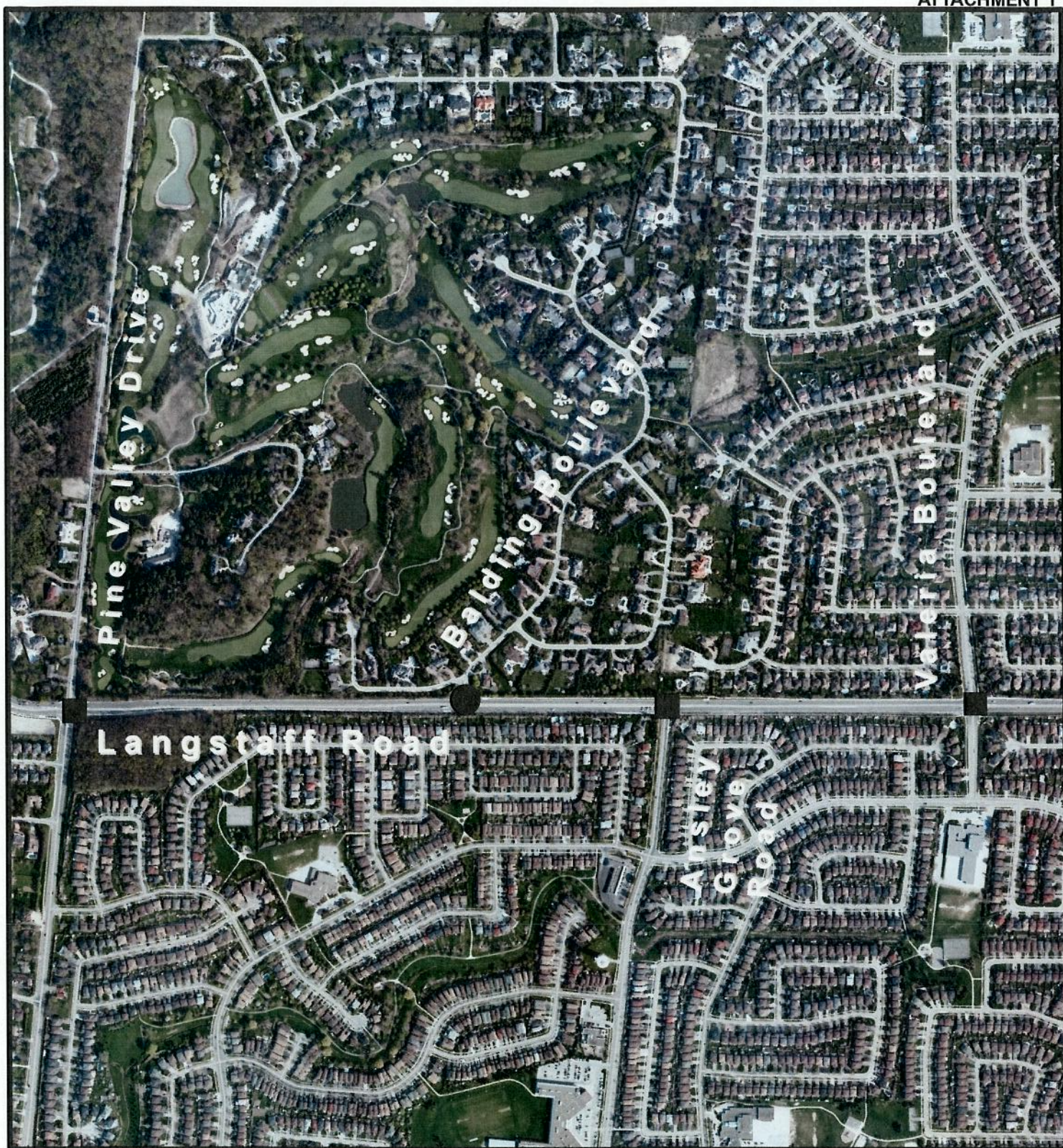
This report is in response to the City of Vaughan's Council resolution requesting York Region to install traffic control signals at the intersection of Langstaff Road and Balding Boulevard. This intersection does not satisfy the minimum traffic control signal warrants; therefore, Regional staff does not recommend the installation of traffic control signals.

Although traffic control signals are not warranted, adjustments to the signal timing at Ansley Grove Road and Pine Valley Drive on either side of Balding Boulevard will be made to maximize gap opportunities for traffic exiting onto Langstaff Road.

For more information on this report, contact Paul Jankowski, General Manager, Roads, at extension 5901 in the Transportation Services Department.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause was included in the agenda for the April 8, 2009 meeting.)



LOCATION PLAN

Request for Traffic Control Signals
Langstaff Road and Balding Boulevard
City of Vaughan

- Requested Traffic Control Signal
- Existing Traffic signals



TRANSPORTATION AND WORKS

