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TRAFFIC SIGNAL ASSESSMENT ISLINGTON AVENUE AT THISTLEWOOD AVENUE CITY OF VAUGHAN

(Regional Council at its meeting on October 16, 2003, amended the foregoing Report by deleting the words “(estimated to be \$150,000)” in recommendation 1, so that it reads as follows:

- 1. A traffic signal at the intersection of Islington Avenue (Y.R. 17) and Thistlewood Avenue be included in the current construction project to widen Islington Avenue, subject to the City of Vaughan agreeing to incur the installation costs and the on-going maintenance costs until such time as the traffic signals become warranted (estimated to be \$6,000 annually).***

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, September 18, 2003, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. A traffic signal at the intersection of Islington Avenue (Y.R. 17) and Thistlewood Avenue be included in the current construction project to widen Islington Avenue, subject to the City of Vaughan agreeing to incur the installation costs (estimated to be \$150,000) and the on-going maintenance costs until such time as the traffic signals become warranted (estimated to be \$6,000 annually).
2. The Regional Clerk forward a copy of this report to the Clerk of the City of Vaughan.

2. PURPOSE

The Region has received several requests to install traffic signals at the intersection of Islington Avenue and Thistlewood Avenue in the City of Vaughan. In response to these requests, Regional staff has undertaken numerous traffic studies at this intersection. This report presents the results of a further review of factors that are specific to this intersection that merit consideration.

3. BACKGROUND

On November 21, 2002, Regional Council considered a report of the Transportation and Works Committee recommending that traffic signals not be installed at the intersection of Islington Avenue and Thistlewood Avenue. This recommendation was based on a comparison of the measured traffic and pedestrian volumes taken at the time against conditions specified by the Region's traffic signal warrant policy.

Regional staff has recognized the necessity to review the need for the installation of traffic signals at the intersection utilizing non-traditional factors that are specific to this intersection.

4. ANALYSIS AND OPTIONS

The intersection of Islington Avenue and Thistlewood Avenue is a “T” intersection located in the centre of the Woodbridge Community (*see Attachment 1*). Islington Avenue is a two-lane urban cross section that is currently being considered to provide five lanes. The average volume of traffic is 19,940 vehicles per day. Thistlewood Avenue intersects Islington Avenue as a “T” to the east and services a seniors’ residence and a commercial plaza and medical centre.

At its meeting of October 17, 2002, Regional Council adopted a new traffic control signal warrant policy. The assessment of new traffic signals is based upon the following five warrants:

- Provincial.
- “T” intersection.
- Peak hour delay.
- Safety performance: signalization versus non-signalization.
- Paid for by local municipality.

4.1 Assessment Using New Warrant Process

On May 28, 2002 and on October 3, 2002, traffic and pedestrian counts were completed at the intersection. The results of this study and assessment indicated that neither traffic signals nor intersection pedestrian signals were warranted.

4.2 Reconstruction of Islington Avenue

Islington Avenue, from Highway 7 to Langstaff Road, is currently under reconstruction. The expected completion date for these works is Autumn 2003. Upon completion of the reconstruction, the cross-section of Islington Avenue at Thistlewood Avenue will be altered dramatically. Islington Avenue will have two through lanes in each direction plus a southbound left turn lane and a northbound right turn lane. The additional cross-section width will add to the difficulties already experienced by motorists that are attempting to enter onto Islington Avenue from Thistlewood Avenue.

4.2.1 Geometry and Obstructions Constraining Sight Visibility

Islington Avenue south of Thistlewood Avenue has a horizontal “S” curve, which increases the difficulty for motorists entering onto Islington Avenue from Thistlewood Avenue in determining the approach speed of traffic on Islington Avenue and the availability of safe opportunities to make a right or left turn.

On Islington Avenue, just to the north of Thistlewood Avenue, there is an existing bridge over the Humber River. The bridge abutment, located in the northeast corner, creates a

minor sight obstruction when looking northerly for motorist's turning left onto Islington Avenue from Thistlewood Avenue.

This intersection is unique, as in almost all other cases, drivers on the side street have an option to reach a signal to the main street. Here, the cul-de-sac makes this the only access to Islington, which together with sight restrictions makes this intersection unique.

4.3 Future Growth in Traffic Volumes

As indicated in Section 4, the most recent traffic volume information indicates that Islington Avenue carries an average volume of 19,940 vehicles per day. With the on-going development and redevelopment occurring along Islington Avenue and the adjacent corridors an average annual increase in traffic volumes of 2% to 3% per year would be realized. This growth will add to the difficulties already experienced by motorists that are attempting to enter onto Islington Avenue from Thistlewood Avenue.

4.4 Age Demographics

Thistlewood Avenue services a seniors' residence and a commercial plaza and medical centre. To a large extent, the motorists utilizing this intersection are elderly. As with younger motorists, older motorists are associated with a distinctive set of safety issues that need to be specifically addressed. Numerous studies regarding the ageing population, as it relates to drivers, indicate the following:

- Additional decision-reaction time is required.
- Night vision is reduced.
- Attention related deficiencies.

Based upon these factors that are specific to this intersection, the Transportation and Works Department has no objections to the installation of new traffic signals at the intersection of Islington Avenue and Thistlewood Avenue subject to the City of Vaughan incurring the installation costs and the on-going maintenance costs until such time as the traffic signals become warranted. The installation costs are estimated to be \$150,000 and the on-going maintenance costs are estimated to be \$6,000 annually.

5. FINANCIAL IMPLICATIONS

The cost to install new traffic signals at this intersection will be the responsibility of the City of Vaughan. The installation costs are estimated to be \$150,000. In accordance with Regional Council policy, the costs associated with the on-going maintenance of the new traffic signals will be the responsibility of the City of Vaughan. The on-going maintenance costs are estimated to be \$6,000 annually.

6. LOCAL MUNICIPAL IMPACT

The cost for the installation and on-going maintenance of new traffic signals, at the intersection of Islington Avenue at Thistlewood Avenue, will be the responsibility of the City of Vaughan. The installation costs are estimated to be \$150,000 and the on-going maintenance costs are estimated to be \$6,000 annually.

The current Traffic Signal Warrant Policy approved by Regional Council on October 17, 2002 provides that the Region will reimburse the City of Vaughan 100% of the installation cost when the traffic signal becomes warranted. When the signals are warranted, the maintenance costs will then be the responsibility of the Region.

7. CONCLUSION

The Region has received several requests over the years to install traffic control signals at the intersection of Islington Avenue and Thistlewood Avenue in the City of Vaughan. In response to these requests, Regional staff has undertaken numerous traffic studies at the intersection. The measured traffic and pedestrian volumes were compared against both policy warrants for signalization and pedestrians. The conclusion of the assessment confirmed that the warrants for traffic control signals and intersection pedestrian signals are not met. However, there are additional considerations that are specific to this intersection that merit review at this time. These considerations have been summarized in Section 4 of the report under the following headings:

- Reconstruction of Islington Avenue.
- Geometry and Obstructions Constraining Sight Visibility.
- Future Growth in Traffic Volumes.
- Age Demographics.

Based upon the review of additional considerations, which are specific to this intersection, the Transportation and Works Department has no objection to the installation of new traffic signals at the intersection of Islington Avenue and Thistlewood Avenue subject to the City of Vaughan incurring the cost for the installation and on-going maintenance. The installation costs are estimated to be \$150,000 and the on-going maintenance costs are estimated to be \$6,000 annually. Per the Traffic Signal Warrant Policy approved by Regional Council on October 17, 2002, the Region will reimburse the City of Vaughan 100% of the installation cost when the traffic signal becomes warranted, and take over the maintenance costs.

The Senior Management Group has reviewed this report.

(A copy of the attachment referred to in the foregoing has been forwarded to each Member of Council with the October 1, 2003 Transportation and Works Committee agenda and a copy thereof is on file in the Office of the Regional Clerk.)