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TRAFFIC CONTROL SIGNAL REQUEST – THE QUEENSWAY

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, June 1, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATIONS

It is recommended that:

1. An Intersection Pedestrian Signal (IPS) be installed at The Queensway (Y.R. 12) and Glenwoods Plaza at the Region's cost in the Town of Georgina.
2. An Intersection Pedestrian Signal (IPS) be upgraded to a traffic control signal on the provision that the property owner or another funding source pay the difference between the cost of a traffic control signal and a pedestrian control signal.
3. The Regional Clerk forward a copy of the report to the Clerk of the Town of Georgina.

2. PURPOSE

The purpose of this report is to address the various requests from residents and staff from the Town of Georgina and to present the findings of a study to assess the warrants for Intersection Pedestrian Signals (IPS) and Traffic Control Signals (TCS) at various intersections on The Queensway in the area of Glenwoods Plaza to Elm Avenue/Dovedale Drive. A plan showing the locations of the streets are in *Attachment 1*.

3. BACKGROUND

The Town of Georgina requested Regional staff to consider implementing traffic control signals at either The Queensway and Elm Avenue/Dovedale Drive, The Queensway and Shopper's Drug Mart/Pine Beach Drive or at The Queensway and Glenwoods Plaza.

In response, Regional staff conducted traffic and pedestrian counts to assess the warrants for an IPS and TCS at these intersections.

This report is prepared to present the details of this request and to seek approval to proceed with the installation of an IPS at the intersection of The Queensway and Glenwoods Plaza and to investigate a funding agreement with the owner of the Glenwoods Plaza for an upgrade to a full traffic control signal.

3.1 Current Regional Policies

3.1.1 Intersection Pedestrian Signal Warrant

The Region's Intersection Pedestrian Signal Warrant Policy was approved by Regional Council on January 24, 2002. This policy provides a warrant process for pedestrian crossing facilities on the Regional road system. The current policy for the installation of an IPS consists of five criteria of which all must be met to warrant installation. The main component of the warrant is a minimum of 100 pedestrians that must be present crossing the main street during the seven highest hours of the day.

3.1.2 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.

3.1.3 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 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 traffic control signals become warranted. Intersections of private entrances onto Regional roads that meet the warrants must be funded by a party other than the Region.

3.1.4 Private Entrances

The cost of improvements to private driveways (e.g. shopping malls, schools, etc.) such as traffic control signals and turning lanes are responsibility of the property owner.

4. ANALYSIS AND OPTIONS

In considering this request, staff carried out various studies, counts and analysis to determine the need and warrant for an IPS and TCS on The Queensway. The following outlines the results of the various studies conducted on The Queensway from the Glenwoods Plaza to Elm Avenue/Dovedale Drive.

4.1 The Queensway and Glenwoods Plaza

Regional staff conducted an eight-hour traffic turning movement count and pedestrian count at The Queensway and the Glenwoods Plaza. The turning movement and pedestrian data was used to conduct a traffic control signal warrant analysis and intersection pedestrian analysis according to the Region's policies approved by Council.

The following table shows the results of the IPS warrant analysis for The Queensway at Glenwoods Plaza.

Table 1
IPS Warrant Analysis: The Queensway and Glenwoods Plaza Intersection
Pedestrian Signal Minimum Warrant Criteria

Criteria	Satisfied (Y/N)
Should not be installed closer than <i>215 metres</i> to another traffic control signal or stop sign on a two-way street.	Y
Should not be installed on roadways with a posted speed in excess of <i>60 km/hr</i> .	Y
Adequate sight distance must be available for both pedestrians and vehicles for the operating speed of the roadway.	Y
Minimum of <i>100 pedestrians</i> must be present crossing the main street during the seven highest hours of the day.	Y
Maximum of <i>5,000 vehicles per day</i> on the intersecting side street approaches.	Y

Note: All five criteria must be satisfied

Table 2
Traffic Control Signal Warrant Analysis: The Queensway and Glenwoods Plaza

Warrant Component	Warrant Compliance
Minimum vehicular delay	90%
Delay to cross traffic	80%
Preventable collisions (last 3 years)	0

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. These warrant criteria are satisfied at the intersection of The Queensway and Glenwoods Plaza, however, as this is a private entrance, the property owner is responsible for the costs of installing and maintaining the traffic control signals.

4.2 The Queensway and Shopper's Drug Mart/Pine Beach Drive

On February 16, 2005, a turning movement count was conducted to assess the warrants for traffic control signals at this location. Table 3 shows the results of the warrant analysis.

Table 3
Traffic Control Signal Warrant Analysis: The Queensway and Pine Beach Drive

Warrant Component	Warrant Compliance
Minimum vehicular delay	64%
Delay to cross traffic	57%
Preventable collisions (last 3 years)	0

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. A traffic control signal at this location is therefore not warranted.

A traffic control signal at this location is expected to have the following benefits:

- It will provide signalized access to the community west of the Queensway and south of Pine Beach Road, as well as to the Shoppers Drug Mart on the east side.
- It will provide breaks in traffic to assist traffic exiting the Glenwoods Plaza.

A traffic control signal at this location is expected to have the following disadvantages:

- Since this intersection is very close to the intersection at Elm Avenue/Dovedale Drive, the traffic signals will have to be removed when traffic control signals become warranted at the intersection with Elm Avenue/Dovedale Drive.
- Signalizing this intersection will also require the construction of dedicated left turn lanes which will significantly increase the cost of signalization.
- This intersection is not ideally located to accommodate pedestrians crossing The Queensway.

4.3 The Queensway and Elm Avenue/Dovedale Drive

On February 16, 2005, a turning movement count was conducted to assess the warrants for a traffic control signal at this location. Table 4 shows the results of the warrant analysis.

Table 4
Traffic Control Signal Warrant Analysis: The Queensway and Elm Avenue/Dovedale Drive

Warrant Component	Warrant Compliance
Minimum vehicular delay	20%
Delay to cross traffic	20%
Preventable collisions (last 3 years)	0

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. A traffic control signal at this location is therefore not warranted.

A traffic control signal at this location is expected to have the following benefits:

- It will accommodate future traffic growth as a result of continued residential development east of The Queensway.
- It will improve the connectivity between the areas east and west of The Queensway.
- It will provide breaks in traffic to assist traffic exiting the Pine Beach Road and the Shopper Drug Mart Plaza.

A traffic control signal at this location is expected to have the following disadvantages:

- The current right of way is too narrow to construct proper left turn lanes i.e. property will have to be acquired before this intersection can be signalized.
- This intersection is not ideally located to accommodate pedestrians crossing The Queensway.

5. FINANCIAL IMPLICATIONS

The financial implications to York Region will be the cost of installing an IPS which is estimated to be between \$50,000 and \$75,000.

Currently, Council policy does not provide for the funding of traffic control signals at private entrances. Therefore, since the cost of a new traffic control signal at this location is estimated to be about \$100,000, the contribution expected from the property owner is between \$25,000 and \$50,000.

6. LOCAL MUNICIPAL IMPACT

The Town of Georgina have, through staff and elected officials, extended their support of the concerns expressed by local residents.

7. CONCLUSION

Regional staff were requested to consider implementing traffic control signals at either The Queensway and Elm Avenue/Dovedale Drive, The Queensway and Shopper's Drug Mart/Pine Beach Road or at The Queensway and Glenwoods Plaza.

Warrant analyses were conducted at all three intersections. An IPS and a TCS are warranted only at The Queensway and Glenwoods Plaza. In the future, with continuing residential development on the east side of The Queensway, traffic control signals may become warranted at Elm Avenue/Dovedale Drive.

The Senior Management Group has reviewed this report.

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