

The Regional Municipality of York

Committee of the Whole
Transportation Services
January 10, 2019

Report of the
Commissioner of Transportation Services

Traffic and Pedestrian Signal Policy Review of Atypical Requests

1. Recommendations

1. The Regional Clerk circulate this report to the local municipalities.

2. Summary

This report is in response to Council's request to review atypical situations for the installation of traffic and pedestrian signals. Atypical situations occur when numerical warrants are only met on an occasional, infrequent or non-typical day such as a holiday or special event. The current Council-approved policy already allows for consideration of atypical situations where numeric warrants are not met, therefore, staff is not recommending a change to the Traffic and Pedestrian Signal Policy.

3. Background

Council requested staff consider policy implications associated with atypical situations where traffic and pedestrians signals are requested

On [March 29, 2018](#), a report was presented to Council recommending traffic signals not be installed at the intersection of Teston Road and Mosque Gate, in the City of Vaughan. The numeric warrants for traffic signals, which form the Region's Traffic and Pedestrian Signal Policy, were not met in this situation. Council deferred the report recommendation pending a supplementary staff report to consider atypical situations when traffic and pedestrian signals may be requested but where numeric warrants are not met.

The Region has a policy in place to evaluate when traffic and pedestrian signals are required

In 2015, Council adopted an updated Traffic and Pedestrian Signal Policy, which directly references the Ontario Traffic Manual (OTM) Book 12, entitled “Traffic Signals”, published by the Ministry of Transportation of Ontario. OTM Book 12 guidelines provide criteria for using a consistent province-wide approach to evaluate technical justification for traffic and pedestrian signals. The criteria are based on typical traffic volumes and delays, pedestrian volumes and collision history. OTM Book 12 represents best practice in North America.

Since 2015, the Region has evaluated approximately 525 intersections responding to requests for installation of traffic or pedestrian signals. These have resulted in:

- 478 intersections where the numeric warrants for traffic or pedestrian signals were not satisfied
- 43 Intersections where the numeric warrants for traffic or pedestrian signals were satisfied
- Two locations did not satisfy the numeric warrants for traffic or pedestrian signals but were recommended by staff and approved by Council based on intersection specific geometric conditions
- Two locations did not meet the numeric warrants for traffic signals and were not recommended by staff; however, Council approved the installations at the cost of the requestors

Traffic control signals may not be suitable for all locations

Traffic signals are necessary when traffic volumes on two intersecting roads are such that an automated system is required to promote orderly movement of traffic, or when the roadway environment creates a potential for undue hazard, such as limited sight lines. Traffic signals that are appropriately located also facilitate pedestrian and cyclist crossings.

While traffic signals may provide some potential benefits, there are other factors that need to be carefully considered prior to installing new traffic signals. By design and function, traffic signals increase delays and queues to traffic on major streets. This can lead to motorist frustration and aggressive driver behavior. Long queues due to signal delay can also block adjacent intersections, accesses and sidewalks. Further, traffic signals may not improve safety, as they can increase the frequency of rear-end type collisions.

4. Analysis

Municipalities surveyed in southern Ontario are consistent in evaluating the need for traffic and pedestrian signals

Staff surveyed several regional and local municipalities in southern Ontario to compare approaches used to evaluate the need for traffic and pedestrian signals. All 25 respondents, including the nine local municipalities in the Region, identified that OTM Book 12 is used for this purpose. Municipal councils may, however, make exceptions. In some cases, situations are addressed through direction of the applicable council.

Atypical considerations have a variety of characteristics

At times, atypical situations are cited in a request for traffic signals. These requests include intersection-specific inconsistencies and characteristics that cannot be crafted into a revised policy. By definition, there are no reasonable common technical principles to define an atypical situation.

Requests for traffic and pedestrian signals based on atypical operating conditions may originate in different locations throughout the Region. This may occur when a location may satisfy the numeric warrants on a special day, or only for a few occasions per year. Such situations may exist in the vicinity of community centres, recreational facilities, places of worship and retail centres. If traffic and pedestrian signals are installed where they are not regularly required, there may be an unnecessary increase in delays to traffic.

Current policy allows for staff to initiate traffic or pedestrian signals where numeric warrants are met

Staff has delegated authority to install traffic and pedestrian signals when an intersection has met the numeric warrants. The policy identifies that the traffic and pedestrian volumes used when evaluating the need for traffic or pedestrian signals be representative of the volumes likely to be experienced on an average day, i.e. the typical operating conditions. Locations are evaluated using the eight busiest hours of the day to reflect travel during typical morning, midday and afternoon peak periods. Data is usually collected on a Tuesday, Wednesday or Thursday as these days are generally representative of recurring operating conditions.

Current policy allows staff to recommend to Council for consideration traffic and pedestrian signal installations based on other criteria

The current policy does allow staff to recommend to Council for consideration installation of signals where numeric warrants are not met. In some cases, an intersection may not meet the technical justification, but installation may prove beneficial based on engineering merit, such as geometric conditions or sight lines and professional

experience. In these circumstances, staff may recommend Council approve installation of traffic or pedestrian signals. Examples of this include:

- In 2017, a pedestrian signal was recommended by staff and approved by Council on Mulock Drive in the Town of Newmarket, in front of Newmarket High School. Limited sight distance was a concern for pedestrians crossing Mulock Drive.
- In 2018, a traffic signal was recommended by staff and approved by Council on Mount Albert Road and Centre Street in the Town of East Gwillimbury. Insufficient visibility was the key concern due to the road geometry.

Current policy also allows Council to approve other installations of traffic and pedestrian signals

Under the current policy, Council approved two traffic signal installations where numeric warrants were not satisfied and installation was not recommended by staff. Both installations were approved on the condition they were funded by the requesting parties; the Township of King and Country Day School, namely:

- In 2017, Council approved installation of a traffic signal at the intersection of King Road at Greenside Drive in the Township of King
- In 2018, Council approved installation of a traffic signal on Dufferin Street at the entrance to the Country Day School in the Township of King

5. Financial

The cost to install traffic signals at a typical four-approach intersection is approximately \$200,000. Costs could be significantly higher if geometric improvements at the intersection are necessary. In some cases, installation of traffic signals requires lane or roadway realignment, addition of turning lanes, concrete medians or property acquisition. Annual operating costs are approximately \$7,800.

The Region's Traffic and Pedestrian Signal Policy stipulates funding of traffic or pedestrian signals at private entrances are at the expense of the private property owner and are not eligible for development charge credit.

In cases where unwarranted signals have been installed on Regional roads, Council's practice has been to approve installation conditional upon costs being recovered from the party requesting the installation.

6. Local Impact

This information has been shared with the local municipalities and they are supportive of the Region's Traffic and Pedestrian Signal Policy.

7. Conclusion

The Region's current Traffic and Pedestrian Signal Policy is based on provincial guidelines and criteria that are used consistently by municipalities in Ontario. Traffic and pedestrian volumes used in evaluations should be representative of what is likely to be experienced on an average day, exhibiting typical operating conditions.

The current policy, as approved by Council, already allows for consideration of atypical situations where numeric warrants are not met, by both staff and Council. In light of the difficulty of developing consistent principles to address the variety of atypical characteristics, staff does not recommend further policy changes. Staff suggests that the existing policy criteria remain in place, adhering to the principles of Ontario Traffic Manual Book 12, with atypical situations continuing to be subject to Council review.

For more information on this report, please contact Joseph Petrungaro at 1-877-464-9675 ext. 75220. Accessible formats or communication supports are available upon request.

Recommended by: **Paul Jankowski**
Commissioner of Transportation Services

Approved for Submission: **Bruce Macgregor**
Chief Administrative Officer

December 14, 2018

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