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INTERSECTION AND ACCESS IMPROVEMENT REQUESTS

The Transportation and Works Committee recommends:

- 1. The presentation by Brian Harrison, Director, Roads Transportation be received;**
- 2. The following deputations and/or written submissions be received:**
 - (a) George Rutherford, Head of School, Holy Trinity School, and written submission;**
 - (b) Ted Staunton, Headmaster, St. Andrew's College, and written submission;**
 - (c) Cosetta Di Luch, representative of Holy Name School, Township of King;**
 - (d) Joe Virgillio, Councillor, Ward 3, Town of Markham, and written submission;**
 - (e) Patrick O'Hanlon, representative of Kylemore Homes, north of 16th Avenue, west of Kennedy Road, Town of Markham;**
- 3. The following report, December 16, 2004, from the Commissioner of Transportation and Works be received;**
- 4. The traffic control signal request at the private driveway entrance to Holy Trinity School located at 11300 Bayview Avenue (Y.R. 34) in the Town of Richmond Hill be approved at the cost of the applicant and Staff be requested to contact the applicant to discuss the timing in relation to road improvements;**
- 5. The traffic control signal request at the private driveway entrance to St. Andrew's College located at 15800 Yonge Street (Y.R. 1) in the Town of Aurora be approved, at the cost of the applicant;**
- 6. The Left turn lane request at the private driveway entrance to Holy Name School located at 2585 King Road (Y.R. 11) in the Township of King be approved, at the cost of the school board;**
- 7. The matter of the request for traffic control signals at the intersections of 16th Avenue (Y.R. 73) and Aitken Circle and Kennedy Road (Y.R. 3) and Birchview Lane in the Town of Markham be referred to Staff for a detailed report to the February 2, 2005 Transportation and Works Committee meeting providing the costs involved and traffic implications of the various intersection improvement alternatives.**

1. RECOMMENDATION

It is recommended that:

1. The following report be received for information by Committee and Council on each of the following issues:
 1. Traffic control signal request at the private driveway entrance to Holy Trinity School located at 11300 Bayview Avenue (Y.R. 34) in the Town of Richmond Hill.
 2. Traffic control signal request at the private driveway entrance to St. Andrew's College located at 15800 Yonge Street (Y.R. 1) in the Town of Aurora.
 3. Left turn lane request at the private driveway entrance to Holy Name School located at 2585 King Road (Y.R. 11) in the Township of King.
 4. Traffic control signals at the intersections of 16th Avenue (Y.R. 73) and Aitken Circle and Kennedy Road (Y.R. 3) and Birchview Lane in the Town of Markham.

2. PURPOSE

The purpose of this report is to present the various requests from residents and property administrators for traffic improvements at the following private driveways and intersections in York Region:

- Holy Trinity School at 11300 Bayview Avenue in the Town of Richmond Hill.
- St. Andrew's College at 15800 Yonge Street in the Town of Aurora.
- Holy Name School at 2585 King Road in the Township of King.
- Aitken Circle at 16th Avenue and Birchview Lane at Kennedy Road in the Town of Markham.

This report also presents the staff analysis and options available taking into account current Council policies.

3. BACKGROUND

Regional staff receive many requests for improvements to intersections and private entrances. These improvements range from a simple signal timing change and advance green indication to additional turning lanes and the installation of traffic control signals.

The four sites that are the subject of this report have been considered by staff. In some cases, minor improvements have been made, but the requests for traffic control signals and/or turning lanes have been denied because they do not meet current Region policy. In consideration of the requests, it is felt that staff has done all that can be done under current policies. The proponents are not satisfied with this. This report is prepared to present the details of the requests, staff position on each request and to seek Regional Council's direction with respect to each request.

3.1 Current Regional Policies

3.1.1 Signal Warrant

The Region's traffic 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 signal to be warranted, any one of the three warrant criteria below must be satisfied by 100%, or at least two warrant criteria are satisfied 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 warrant policy also stipulates that a local municipality can pay for the installation of unwarranted traffic signal 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 signals become warranted. Intersections of private entrances onto Regional roads that meet the warrants must be funded by a party other than the Region.

3.1.3 Need for Turning Lanes When Signalizing

The safe and efficient operation of a signalized intersection depends to a large degree on the presence of turning lanes, particularly left turn lanes. Vehicles waiting to perform left turns from a shared through and left turn lane can disrupt and delay through-traffic, potentially resulting in increased numbers of rear-end and sideswipe collisions.

3.1.4 Turning Lanes

Since the Region does not have an official policy regarding the provision of turning lanes at unsignalized intersection and driveways, staff relies on the Ministry of Transportation's Geometric Design Standards for Ontario Highways. This document provides guidance on when to provide left and right turn lanes on two-lane and four-lane divided and undivided roadways.

3.1.5 Private Entrances

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

3.2 Requests for Consideration

The following outlines the requests that have been received from each of the parties..

3.2.1 Holy Trinity School, 11300 Bayview Avenue, Town of Richmond Hill

The Holy Trinity School has requested a traffic signal at the entrance to the school on Bayview Avenue due to the extremely high levels of congestion that occur at the school's entrance between 7:45 am and 8:20 am (when parents drop their children off at school), and for the safety of the parents and students entering and exiting the school property.

Additional background information for this request is provided in *Attachment 1*.

3.2.2 St. Andrew's College, 15800 Yonge Street, Town of Aurora

St. Andrew's College has requested a traffic signal at the entrance to the school on Yonge Street to address the following concerns:

- Drivers find it difficult to turn into and out of the school entrance during peak traffic periods.
- It is difficult and unsafe for student pedestrians to cross Yonge Street at this location due a combination of the five-lane cross section, high traffic volumes and the speed of traffic on Yonge Street.

The school representatives are of the opinion that the speed reduction and school zone measures already implemented by the Region are not sufficient and that a traffic signal is the most appropriate measure to address their concerns. To this end, the headmaster of St. Andrew's College recently initiated a petition to request the Region to install traffic signals.

Additional background information for this request is provided in *Attachment 2*.

3.2.3 Holy Name Catholic School, 2585 King Road, Township of King

The Holy Name Catholic School has requested an exclusive westbound left turn lane at their entrance on King Road.

Because of the high traffic volumes and high speeds on King Road, parents do not feel safe and secure waiting in the westbound centre lane to perform a left turn into the school driveway on the south side.

In response to a petition from the Parent Council, the Township of King's Council at their meeting on October 25, 2004 passed a resolution requesting York Region to investigate the feasibility of installing a left turn lane for westbound traffic at the entrance to the Holy Name Catholic School on King Road.

Additional background information for this request is provided in *Attachment 3*.

3.2.4 Aitken Circle at 16th Avenue and Birchview Lane on Kennedy Road, Town of Markham

Residents from the residential area on the southwest corner of the intersection of 16th Avenue and Kennedy Road have requested the installation of traffic signals at the intersection of Aitken Circle at 16th Avenue and/or Birchview Lane at Kennedy Road. These are the only two intersections providing access to this residential area and local residents find it difficult to perform left turn manoeuvres at these intersections. Residents also requested a centre left turn lane on Kennedy Road to facilitate a safe northbound left turn into Birchview Lane.

There is also a proposed development located on the north side of 16th Avenue, west of Kennedy Road, with a proposed street connecting to 16th Avenue. The residents of the Aitken Circle area are requesting the new street line up directly opposite Aitken Circle and that the intersection be signalized.

To improve operations at Aitken Circle local residents, the property developer and the Town of Markham support the immediate signalization of Street A of the proposed residential and commercial development north of 16th Avenue and west of Kennedy Road.

Additional background information for this request is provided in *Attachment 4*.

4. ANALYSIS AND OPTIONS

In considering all requests, staff carried out various studies, counts and analyses to determine the need and warrant for certain improvements. The following outlines the results of the various studies for each of the parties. Details of the studies and results are included in *Attachments 1 to 4*.

4.1 Holy Trinity School, 11300 Bayview Avenue, Town of Richmond Hill

- Traffic signals are not warranted.
- Throughout the day, there are sufficient gaps in traffic on Bayview Avenue for northbound left turn vehicles and eastbound left turn vehicles to perform safe manoeuvres, except for a short period of time between 7:45 am and 8:20 am. During this time, traffic is controlled safely and effectively by a paid duty police officer (paid for by the school).
- Due to the extremely high left-turn flow rates, traffic signals will not alleviate congestion during this time.

- No pedestrians were observed crossing Bayview Avenue in the vicinity of the school entrance.
- The school does not have sufficient on-site vehicle storage capacity, causing vehicles to back up into Bayview Avenue.
- The installation of traffic signals will have the potential to decrease the overall safety performance of the school entrance by increasing the number of rear-end collisions on Bayview Avenue.

4.2 St. Andrew's College, 15800 Yonge Street, Town of Aurora

- Traffic signals are not warranted.
- The overall safety performance is good. The installation of traffic signals will have the potential to decrease the overall safety performance by increasing the number of rear-end collisions on Yonge Street.
- There is an acceptable level of service during peak traffic periods. On average, traffic signals will increase the delays for vehicles exiting the school driveway.
- Intersection pedestrian signals are not warranted due to very low pedestrian volumes (11 pedestrians during an eight-hour period).
- There is a two-way left turn lane which facilitates safe left turn manoeuvres in and out of the school entrance.
- The majority of drivers (54%) do not comply with the existing 60-km per hour speed limit.
- It is not safe for pedestrians to cross Yonge Street in the vicinity of the school entrance due to the combination of a five-lane cross section, high traffic volumes and high speeds of traffic.

4.3 Holy Name Catholic School, 2585 King Road, Township of King

- In terms of the Ministry of Transportation's guidelines for left turn lanes on four-lane undivided highways, a westbound left turn lane is warranted at the entrance to the school on King Road.
- This warrant is only satisfied for a period of about 0.5 to 1 hours on a normal weekday when the school is open.
- A benefit-cost analysis, considering only collision reduction potential of a left turn lane, indicates a benefit-to-cost ratio of between 1.5 and 2.

- This is deemed to be a private entrance and therefore any improvements will be at the cost of the school board.

4.4 Aitken Circle at 16th Avenue and Birchview Lane at Kennedy Road, Town of Markham

- Traffic signals are not warranted at Aitken Circle and 16th Avenue due to the low traffic volume on Aitken Circle (145 vehicles over eight hours).
- Aitken Circle is 180 metres to the west of Kennedy Road. Traffic signals at Aitken Circle will therefore violate the Region's standard of an absolute minimum of 215 m metre spacing between signalized intersections. For this reason the Region does not support aligning Street A of the proposed residential and commercial development north of 16th Avenue with Aitken Circle.
- There is a proposed commercial and residential development north of 16th Avenue that has a proposed connection to 16th Avenue (Street A), approximately 260 metres west of Kennedy Road, which is a more suitable location for a traffic signal.
- On 16th Avenue, there is a westbound left turn lane to facilitate safe left turns into Aitken Circle. As part of the construction of the Street A intersection a centre lane can be constructed between Street A and Aitken Circle.
- The signalization of the intersection with Street A could enhance traffic operations at Aitken Circle by creating more gaps in the traffic on 16th Avenue.
- Traffic signals are not warranted at Birchview Lane and Kennedy Road due to the low traffic volumes on Birchview Lane (219 vehicles over eight hours).
- Both intersections currently experience a good level of service which will potentially deteriorate with the installation of traffic signals.
- If, hypothetically, either one of the intersections close, the re-directed traffic will still not cause the remaining intersection to meet the warrants for traffic signals.
- Local residents do not feel safe when performing left turn movements at the intersection of Birchview Lane and Kennedy Road.
- A northbound left turn lane on Kennedy Road at Birchview Lane is warranted in terms of the Ministry of Transportation's guidelines for left turn lanes on four-lane undivided roadways.
- Local residents and the Town of Markham prefer the signalization of the intersection of Birchview Lane and Kennedy Road as opposed to signals at Aitken Circle.

- Local residents, the property developer and the Town of Markham supports the immediate signalization of Street A, while Regional staff supports the signalization of Street A only when it meets the Regional warrants for traffic signals.

4.5 Improvement Options

The improvements and associated costs for each of the requests are shown in Table 1.

Table 1
Improvement Costs

Location	Improvements	Cost
Holy Trinity School	• Install traffic signal	\$150,000
	• Minor improvements to southbound right turn lane	\$30,000
St. Andrew's College	• Install traffic signal	\$150,000
Holy Name School	• Construct westbound left turn lane	\$150,000
Birchview Lane	• Install traffic signal	\$150,000
	• Construct northbound left turn lane	\$650,000

5. FINANCIAL IMPLICATIONS

The financial implications to York Region will depend on the improvements and funding options selected by Committee and Council for each site discussed in this report. None of the costs in Table 1 have been incorporated in the 2005 Transportation and Works budget.

Currently, Council policy does not provide for the funding of turning lanes or traffic control signals at private entrances. Therefore, the requested works at Holy Trinity School, St. Andrew's College and Holy Name School would have to be funded by others. The requested turning lane at Birchview Lane and Kennedy Road would be funded through the intersection improvement program as tax levy.

6. LOCAL MUNICIPAL IMPACT

The local municipalities affected by each of these requests have, through staff and elected officials, extended their support of the concerns expressed by the proponents.

7. CONCLUSION

The purpose of this report is to present to Committee and Council several requests for improvements considered by staff and denied due to Council policy. Requests for improvements are still being made. Information is presented to request Committee and Council to direct staff on how to respond to these concerns at the following private accesses and intersections in York Region:

- Holy Trinity School at 11300 Bayview Avenue in the Town of Richmond Hill.
- St. Andrew's College at 15800 Yonge Street in the Town of Aurora.
- Holy Name School at 2585 King Road in the Township of King.
- Aitken Circle at 16th Avenue and Birchview Lane at Kennedy Road in the Town of Markham.

To aid the decision making process, the report provides background information, the results of warrant analyses, observations concerning safety performance and traffic operations, and the potential effectiveness, drawbacks and cost of different improvement measures.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)