

COMMITTEE OF THE WHOLE – OCTOBER 1, 2001

HIGHWAY 7 AND ABERDEEN AVENUE/MARYCROFT AVENUE SOUTHBOUND LEFT TURN ADVANCE REQUEST

Recommendation

The Commissioner of Development Services and Public Works recommends:

That this report be received for information.

Purpose

To advise Committee of the Whole of the status of the City's request to conduct a traffic review of Highway 7 and Aberdeen Avenue.

Background - Analysis and Options

At its meeting on April 17, 2001, Council adopted the following recommendation of committee of the Whole:

- “1. That the Region of York be requested to conduct a traffic review of Highway 7 and Aberdeen Avenue on the north side and Highway 7 and Marycroft Avenue on the south side with their standard procedures, and that this review be done concurrently with the outstanding matter of lowering the speed limit on Highway 7;
2. That this matter be brought back to a future Committee of the Whole meeting; and “

Attachment No. 1 is the extract from the Minutes of the April 17, 2001 Council meeting.

The Region of York previously dealt with a request for a southbound left turn from Aberdeen Avenue to Highway 7 at its Transportation and Works Committee meeting of January 31, 2001.

A copy of the staff report considered by Transportation and Works Committee and subsequently adopted by Regional Council is appended as Attachment No. 2. That report recommended that a southbound left turn off of Aberdeen Avenue onto Highway 7 eastbound not be implemented at that time and that staff continue to monitor this intersection for changes in traffic demands.

Subsequent to the April 17, 2001 request from Vaughan Council, staff of York Region in a letter dated June 6, 2001 responded to the issues of speed limit reduction on Highway 7 and the intersection review contained in Vaughan Council's request. The June 6, 2001 letter from York Region is appended as Attachment No. 3.

The Region of York has advised that they are not considering lowering the speed limit on Highway 7 between Weston Road and Pine Valley Drive. They did indicate that the results of the speed study would be forwarded to York Region Police to assist in more effective enforcement.

With regard to the southbound left turn advance request, regional staff reported on a morning peak period study conducted during the week of February 5, 2001. That study showed that only one vehicle was unable to clear the queue on the first signal cycle in the morning peak hour during the study period. As a result, they concluded that a southbound left-turn phase is not required.

Conclusion

The Region of York has completed the review requested by the City of Vaughan and has concluded that further action is not required at this time.

Attachments

1. Extract from Council Meeting Minutes of April 17, 2001
2. Transportation and Works Committee, January 31, 2001
3. Region of York Letter, June 6, 2001

Report prepared by

Bill Robinson, P. Eng., Executive Director of City Engineering and Public Works, ext. 8247

Respectfully submitted

FRANK MIELE
Commissioner of Development Services
and Public Works

Bill Robinson, P. Eng.,
Executive Director of City Engineering
and Public Works

ATTACHMENT No. 1

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF APRIL 17, 2001

Item 13, Report No. 27, of the Committee of the Whole, which was adopted without amendment by the Council of the City of Vaughan on April 17, 2001.

13 **HIGHWAY 7 AND ABERDEEN AVENUE/MARYCROFT AVENUE**
SOUTHBOUND LEFT TURN ADVANCE REQUEST

The Committee of the Whole recommends:

- 1) That the Region of York be requested to conduct a traffic review of Highway 7 and Aberdeen Avenue on the north side and Highway 7 and Marycroft Avenue on the south side with their standard procedures, and that this review be done concurrently with the outstanding matter of lowering the speed limit on Highway 7;
- 2) That this matter be brought back to a future Committee of the Whole meeting; and
- 3) That the following report of the Commissioner of Development Services, dated April 10, 2001, be received.

Recommendation

The Commissioner of Development Services recommends:

That this report be received for information purposes.

Background

On October 10, 2000 City of Vaughan Council approved a report requesting that the Region of York review the traffic operations and the feasibility on implementing a southbound left turn phase at the intersection of Highway 7 and Aberdeen Avenue/Marycroft Avenue.

Below is a brief outline of the Region of York's Staff report on the matter, contained in the extract from the February 8, 2001 Regional Council meeting minutes shown as Attachment No.2:

- Advance left turn phases are routinely implemented as traffic volumes warrant.
- The Region of York conducted a nine hour observation and turning movement study on Thursday, November 23, 2000.
- During the morning peak period, there were 168 southbound left turn vehicles per hour (Aberdeen Avenue) that yield to only 26 northbound through vehicles per hour (Marycroft Avenue).
- All southbound left turn vehicles "cleared" the allocated green time for that phase.
- During the remaining peak periods all southbound left turn vehicles "cleared" on the allocated green time.

The Region of York will not be implementing a southbound left turn advance phase at the intersection of Highway 7 and Aberdeen Avenue/Marycroft Avenue. The Region of York will continue to monitor this intersection with the continuous growth in the Woodbridge area and adjust the traffic control signal timings as warranted.

Report Prepared by: Mike Dokman, Sr. Transportation Technologist, ext 8031
 Phil Weber, Traffic Engineer, ext 8264
 Brendan Holly, Sr. Manager Development/Transportation, ext 8250

MD:PW:BH:MP

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CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF APRIL 17, 2001

Item 13. CW Report No. 27 – Page 2

Attachments

1. Location Map
2. Region of York Report

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

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ATTACHMENT No. 2

THE REGIONAL MUNICIPALITY OF YORK

Transportation and Works Committee
January 31, 2001
Report of the
Commissioner of Transportation and Works

HIGHWAY 7 (Y.R. 7) AT ABERDEEN AVENUE/MARYCROFT AVENUE TRAFFIC SIGNAL OPERATION

1. RECOMMENDATIONS

It is recommended that:

1. A southbound left turn off of Aberdeen Avenue onto Highway 7 eastbound not be implemented at this time.
2. Staff continue to monitor this intersection for changes in traffic demands.
3. The Clerk forward a copy of this report to the Clerk of the City of Vaughan.

2. PURPOSE

This report addresses a request from the City of Vaughan Council for a southbound left turn advance phase at the traffic control signals at Highway 7 and Aberdeen Avenue/Marycroft Avenue.

3. BACKGROUND

During the City of Vaughan Council meeting held October 10, 2000, the Committee of the Whole requested the Region's staff to study the traffic movements at the intersection of Highway 7 at Aberdeen Avenue/Marycroft Avenue taking into consideration the installation of a southbound left turn phase.

The intersection of Highway 7 and Aberdeen Avenue/Marycroft Avenue is located east of Pine Valley Drive in the community of Woodbridge. Aberdeen Avenue services a residential subdivision north of Highway 7 while Marycroft Avenue services a commercial/industrial area south of Highway 7. A location plan is provided at Attachment 1.

Where sight distances and safety issues are not of particular concern, advance left turn phases are routinely implemented as traffic volumes warrant. The traffic patterns that typically require left turn advance phases typically have high left turning volumes as well as a high volume of traffic in the opposing direction.

To determine the need for advance left turn phases, traffic demand and delay studies are often conducted. These studies establish the delay to the left turning traffic as it relates to the delays to the traffic and pedestrians on all other approaches. Traffic control signals

operate a maximum efficiency and safety when the timing of the signals is closely balanced with the demands of traffic and pedestrians.

4. ANALYSIS

To assess the request for a southbound left turn advance phase at the intersection of Highway 7 and Aberdeen Avenue/Marycroft Avenue, a nine-hour observation and turning movement study was conducted on Thursday November 23, 2000.

The study results show that the southbound left turn volume onto Highway 7 eastbound peaked at 168 vehicles per hour during the morning peak period. However, the southbound turning movement was opposed by 26 vehicles per hour in the opposing northbound direction. As a result, all vehicles arriving at the intersection were observed to "clear" during the allocated green time of the same cycle.

During the mid-day periods and the evening peak period, less than 60 vehicles per hour were routinely observed turning left in the southbound direction. With approximately 30 cycles of the traffic signal per hour, this averages to less than 2 vehicles per cycle. Again, all southbound left turn vehicles were observed to clear on the allocated green time.

Based on these observations and studies and to ensure an adequate balance between the timing of the traffic signals and the demands of pedestrian and vehicle traffic is maintained, a southbound left turn phase is not recommended at this time. However, with the continuous growth of traffic in the Woodbridge area, it is recommended that Region staff continue to monitor the intersection and adjust the traffic control signal timing as warranted.

5. FINANCIAL IMPLICATIONS

There are no financial implications associated with this report.

6. LOCAL MUNICIPAL IMPACT

This report has been prepared in response to a request from the Vaughan Committee of the Whole. As a result, the Regional Clerk should forward a copy of this report to the Clerk of the City of Vaughan.

7. CONCLUSION

During the City of Vaughan Council meeting held October 10, 2000, the Committee of the Whole requested the Region's staff to review the traffic movements at the intersection of Highway 7 at Aberdeen Avenue/Marycroft Avenue taking into consideration the installation of a southbound left turn phase.

The requested review has now been completed. The results show that a southbound left turn phase is not currently recommended for Highway 7 at Aberdeen Avenue/Marycroft Avenue. However, staff should continue to monitor and modify signal timing when

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Highway 7 at Aberdeen Avenue/Marycroft Avenue
Traffic Signal Operational Review

necessary to ensure optimum efficiency and operation. Additionally, the Clerk should forward a copy of this report to the Clerk of the City of Vaughan.

This report has been reviewed by the Senior Management Group.

Prepared by:

Brian Harrison
Director Transportation Operations

Recommended by:

Approved for Submission:

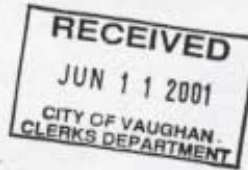
Kees Schipper
Commissioner, Transportation and Works

Alan P. Wells
Chief Administrative Officer

27-Mar-01

Attachment(s) 1

C:\Program Files\Microsoft Office\Office\Word\Word.doc - Microsoft Word - Traffic Signal Operational Review



**ATTACHMENT
No. 3**

*Transportation and Works Department
Roads Transportation
Fax: 905-895-3047*

June 6, 2001

Mr. J.D. Leach
City Clerk
City of Vaughan
2141 Major Mackenzie Drive
Vaughan ON L6A 1T1

Dear Mr. Leach:

**Re: Traffic Issues in Vaughan
Highway 7 at Aberdeen Avenue/Marycroft Avenue
Speed limit reduction request on Highway 7
Our File: T09 GVA**

This is in response to your letter dated April 20, 2001 to the Regional Clerk regarding traffic issues in the City of Vaughan. I apologize for my delay in responding.

You have outlined two separate traffic issues in your letter and I would like to address each of these issues separately.

Speed limit reduction on Highway 7 – Pine Valley Drive to Langstaff Road

Your request for a speed limit reduction on Highway 7 between Pine Valley Drive and Langstaff Road is acknowledged. Each year our Roads Transportation Branch undertakes studies and reviews of all Regional roads to confirm or adjust speed limits for optimum road safety. This process involves a number of considerations, including on-street measurements of speeds, a review of collisions, consideration of the physical features of the road, and the affects of transitioning speed limits from one zone to the next. These studies are required to establish optimum speed limits that reduce collisions, and driver frustration, while increasing compliance with traffic laws.

Over the years we have received a number of requests to lower the speed limit on Highway 7 in this area. These requests have been dealt in the past either with a staff report, or verbally at Transportation and Works Committee meetings, recommending the speed limit not be lowered.

Highway 7 between Weston Road and Pine Valley Drive is a seven lane undivided urban road that carries an average daily traffic volume of 53,020 vehicles. The section of Highway 7 from Weston Road to Pine Valley Drive is currently posted at 70-km/hr. The physical characteristics of the section of Highway 7 from Weston Road to Pine Valley Drive include:

*The Regional Municipality of York, 17250 Yonge Street, Newmarket, Ontario L3Y 6Z1
Tel: (905) 895-1200, 1-877-G04-York (1-877-464-9675), Fax: (905) 830-6927
Internet: www.region.york.on.ca*

- Commercial establishments on both sides of the road from Weston Road to Ansley Grove and on the south side from Ansley Grove to Pine Valley Drive
- Reverse frontage homes on the north side from Ansley Grove to Pine Valley Drive
- Sidewalk on both sides of the roadway

To address your speed reduction request, staff completed a detailed speed review on Highway 7 from Famous Avenue to Pine Valley Drive, during the morning hours of a weekend. A weekend was chosen to more accurately measure what speed drivers feel comfortable driving at, when traffic volumes are less restricted.

The results of the recent speed studies show that the majority of traffic is travelling between 65-km/hr to 80-km/hr, from Famous Avenue to Pine Valley Drive. Studies indicate that lowering speed limits arbitrarily, generally increase the range of speeds on a roadway. This increase in the range of speeds creates the potential to increase the number of collisions, and hence decreases safety.

A recent traffic safety appraisal indicates Highway 7 in this area is operating at an average level of safety when compared to other similar roadways in the Province, with the exception of the intersection of Highway 7 and Weston Road. This intersection was identified as having a potential for improved safety. However, the Region recently implemented "protected dual left turns" and other geometric modifications, to improve overall safety at the intersection. A proper assessment of this location requires two or three years of data, before the assessment is deemed to be of any significance.

Based on the physical characteristics, collision history, and speed study results, we are not considering lowering the speed limit on Highway 7 between Weston Road and Pine Valley Drive. However, the results of the speed study will be forwarded to York Regional Police to assist in more effective enforcement, as their resources permit.

Traffic Review – Highway 7 at Marycroft Avenue / Aberdeen Avenue

During the City of Vaughan Council meeting held October 10, 2000, the Committee of the Whole requested the Region's staff to review the traffic movements at the intersection of Highway 7 at Aberdeen Avenue/Marycroft Avenue, taking into consideration the installation of a southbound left turn phase. A Regional staff report was prepared for Transportation and Works Committee of January 19, 2001, and subsequently adopted by Regional Council recommending that the signal timing not be modified. A copy of this report was forwarded to the City of Vaughan and is attached for your information.

Since then staff have conducted a morning peak period study during the week of February 5, 2001. The results of these studies are detailed in Table 1.

Table 1
Southbound Left Turn Weekday Evaluation
A.M. Peak Hour

Weekday	Southbound Left Turn Volume	Northbound Through Volume	Unable To Clear On First Cycle
Monday	138	17	1
Tuesday	152	30	0
Wednesday	165	22	0
Thursday	168	26	0

The results of these observations indicate that a southbound advance left turn phase would create an imbalance between the timing of the traffic signals, and the demands of pedestrian and vehicle traffic. The traffic signals are currently timed to provide approximately 30% of the cycle time to the north-south traffic. This time cannot be reduced or allocated to another phase, because it is required to accommodate pedestrians crossing Highway 7. Therefore, the time required to service the requested southbound left turn, would have to be taken from the east and west green indications on Highway 7. With the flows of traffic on Highway 7 almost ten times that on Aberdeen and Marycroft Avenues, allocating more time to the north-south streets would result in reduced efficiency and safety. As a result, a southbound left-turn phase is not recommended at this time.

I would like to thank you for bringing these concerns to our attention and again apologize for not replying to your letter sooner. I trust that all your concerns have been satisfactorily addressed, however, if you need any further clarification please contact me at 905-895-1200, extension 5205 or Chris Philp at extension 5210.

Sincerely,



Brian Harrison, P.Eng.
Director, Roads Transportation

c. Police Chief Robert Middaugh

BH/zp/cr
T09/GVA/01/June6 Mr. J. D. Leach - Traffic Issues