



THE CORPORATION OF THE TOWN OF MARKHAM

EXCERPT FROM THE MINUTES OF THE COUNCIL MEETING HELD ON Jun 28, 2005 REPORT NO. 22 - GENERAL COMMITTEE

Report 1 "> (29) THORNHILL VEHICULAR INFILTRATION PROPOSED TRAFFIC IMPROVEMENTS (5.12) Report 1

That the report entitled "Thornhill Vehicular Infiltration – Proposed Traffic Improvements" dated June 20, 2005 be received;

And that the Region of York be requested to implement the following mitigation measures identified in the report entitled "Thornhill Vehicular Infiltration – Proposed Traffic Improvements" by November 2005;

- Yonge Street at Grandview Avenue: southbound left turn prohibition – 6:30 to 9:00 a.m.;
- Yonge Street at Woodward Avenue: southbound left turn prohibition – 6:30 to 9:00 a.m.;
- Yonge Street at Highland Park Boulevard: southbound left turn prohibition – 6:30 to 9:00 a.m.;
- Bayview Avenue at Proctor Avenue: southbound right turn prohibition – 6:30 to 9:00 a.m.;
- Yonge Street at Grandview Avenue: westbound right turn prohibition – 4:00 to 7:00 p.m.;
- Yonge Street at Woodward Avenue: westbound right turn prohibition – 4:00 to 7:00 p.m.;
- Yonge Street at Highland Park Boulevard: westbound right turn prohibition – 4:00 to 7:00 p.m.;
- Yonge Street at Clark Avenue: signal timing adjustments – 6:30 – 9:00 a.m.
- Yonge Street at Clark Avenue: signal timing adjustments – 4:00 – 7:00 p.m.

And that the City of Toronto be requested to implement the following mitigation measures identified in the report entitled "Thornhill Vehicular Infiltration – Proposed Traffic Improvements":

- Yonge Street and Steeles Avenue: signal timing adjustments – 6:30 – 9:00 a.m.
- Yonge Street and Steeles Avenue: signal timing adjustments – 4:00 – 7:00 p.m.
- Steeles Avenue and Willowdale Road: signal timing adjustments – 6:30 – 9:00 a.m.
- Steeles Avenue and Willowdale Road: signal timing adjustments – 4:00 – 7:00 p.m.

And that the York Regional Police Department be requested to enforce the proposed turn prohibitions immediately following the sign installation;

And that Engineering staff monitor and modify, as required, the various mitigation measures in the spring of 2006;

And that staff proceed with the tendering and installation of traffic control signals at the intersection of Henderson Avenue and Proctor Avenue;

And that members of the Thornhill Task Force be thanked for their assistance in the process;

And that Brian Harrison, Director of Roads Transportation of the Regional Municipality of York be

advised accordingly;

And that Allen Pinkerton, Manager, Traffic Operations/WES of the City of >Toronto be advised accordingly.

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Town of Markham - Clerks Department



REPORT TO GENERAL COMMITTEE

TO: Mayor and Members of Council

FROM: Alan Brown, Director of Engineering

PREPARED BY: Monday Iyamu, Traffic Coordinator

DATE OF MEETING: 2005-Jun-20

SUBJECT: Thornhill Vehicular Infiltration -
Proposed Traffic Improvements

RECOMMENDATION:

That the report entitled "Thornhill Vehicular Infiltration – Proposed Traffic Improvements" dated June 20, 2005 be received;

And that the Region of York be requested to implement the following mitigation measures identified in the report entitled "Thornhill Vehicular Infiltration – Proposed Traffic Improvements" by November 2005;

- Yonge Street at Grandview Avenue: southbound left turn prohibition – 6:00 to 9:00 a.m.
- Yonge Street at Woodward Avenue: southbound left turn prohibition – 6:00 to 9:00 a.m.
- Yonge Street at Highland Park Boulevard: southbound left turn prohibition – 6:00 to 9:00 a.m.
- Bayview Avenue at Proctor Avenue: southbound right turn prohibition – 6:00 to 9:00 a.m.
- Yonge Street at Grandview Avenue: westbound right turn prohibition – 3:30 to 7:00 p.m.
- Yonge Street at Woodward Avenue: westbound right turn prohibition – 3:30 to 7:00 p.m.
- Yonge Street at Highland Park Boulevard: westbound right turn prohibition – 3:30 to 7:00 p.m.

And that the York Regional Police Department be requested to enforce the proposed turn prohibitions immediately following the sign installation;

And that Engineering staff monitor and modify, as required, the various mitigation measures in the Spring of 2006;

And that staff proceed with the tendering and installation of traffic control signals at the intersection of Henderson Avenue and Proctor Avenue;

And that members of the Thornhill Task Force be thanked for their assistance in the process;

And that Brian Harrison, Director of Roads Transportation of the Regional Municipality of York be advised accordingly.

BACKGROUND:**History**

For over 20 years, the Town has received numerous concerns from Thornhill residents regarding vehicular infiltration in their community bounded by John Street, Steeles Avenue, Bayview Avenue and Yonge Street (See Attachment A).

In response, the Town has attempted to decrease vehicular infiltration through the community through various approaches. A chronology of these approaches has been summarized below:

- January 1982: a consultant was retained to conduct a Highland Park area traffic study and make recommendations to address high traffic volume
- September 1990: a second consultant was retained to undertake a study of the road network and related traffic operational issues
- October 1991: the Mayor's Task Force was formed to participate in a traffic study and provide recommendations to minimize vehicular speeding and infiltration
- October 1993: Council approved the installation of an all-way stop control to address the high vehicular volume and infiltration on Willowdale Boulevard
- January 1996: The Town's Engineering Department provided a "Thornhill Infiltration Study – General Chronology" that highlighted the numerous traffic operational studies and a comprehensive list of mitigating options to address vehicular infiltration

Although many approaches have been taken, a suitable long-term solution has never been agreed upon by all stakeholders (residents, businesses, Markham and the Region of York).

Formation of the Thornhill Vehicular Infiltration Working Group

In the Town's continuing effort to identify a suitable long term solution in reducing vehicular infiltration concerns in the community, Transportation Committee at the request of Ward 1 Councillor Stan Daurio established a working group earlier this year. The group, named the "Thornhill Vehicular Infiltration Working Group", comprised of staff from the Region of York, City of Toronto, City of Vaughan, representatives from the community's ratepayers associations, Markham's Ward 1 Councillor Stan Daurio and the Engineering Department Transportation section. The objective of the working group was to develop a suitable long-term solution in reducing vehicular infiltration in the community.

DISCUSSION:**Study Approach and Tools Used**

Various comprehensive studies and computer based tools were employed by the working group throughout the duration of this project. This includes the following:

- Average Daily Traffic Counts at key local and arterial roads
- Turning Movement Counts at key local and arterial intersections
- Extensive On-site Observations and Traffic Operational Reviews
- Vehicular Origin-Designation Study
- Streetscape and Aerial Photographs

- Computer Generated Modelling and Simulation

In addition to the vehicular volume counts provided on the subject roads and intersections, a comprehensive community-wide vehicular infiltration study was conducted. This involved fourteen key locations, stationed along the community borders, where observers recorded vehicular “in and out” movements for the morning and afternoon rush hour periods. By matching the “in” of one location to the “out” of another location, within a specified travel time period, key infiltration routes could be identified.

Upon the completion of this study, the results revealed multiple key vehicular infiltration routes currently experienced in the community as listed below:

Morning Rush Hour – Attachment B

- Eastbound on Clark Avenue from Yonge Street
- Eastbound on Grandview Avenue from Yonge Street
- Westbound on Proctor Avenue from Bayview Avenue

Afternoon Rush Hour – Attachment C

- Northbound on Willowdale Boulevard from Steele Avenue
- Eastbound on Clark Avenue from Yonge Street

To assist the working group further, a Transportation Consultant was retained to build a computer model and run various simulations of the community’s traffic operations. The model is based on the state of the art micro-simulation program, called Paramics, which has the ability to simulate various “real world” traffic related problems.

The detailed studies showed that between 50-80% of the traffic on local roads were infiltrating through the community. These are the highest infiltration percentages documented by staff. Based on these results, staff are recommending mitigating measures.

Proposed Vehicular Infiltration Mitigation Measures

By inputting various mitigation measures into the computer model and running the simulations, the working group was able to carefully analyze and understand the impacts to the community road network. The working group developed a set of vehicular infiltration mitigation measures both for the morning and afternoon rush hour periods. The recommended mitigation measures are listed below:

Proposed Mitigation Measure Type	Time	Street 1	Street 2	Action By
Signal Timing Adjustments	Morning/Afternoon	Yonge Street	Clark Avenue	Region
		Yonge Street	Steeles Avenue	Toronto
		Steeles Avenue	Willowdale Road	Toronto
Eastbound Left Turn Advanced Green	Morning/Afternoon	Yonge Street	Clark Avenue	Region
Southbound Left Turn Restriction	Morning only	Yonge Street	Grandview Avenue	Region
		Yonge Street	Woodward Avenue	Region
		Yonge Street	Highland Pk Blvd	Region
Southbound Right Turn Restriction	Morning only	Bayview Avenue	Proctor Avenue	Region
Westbound Right Turn Restriction	Afternoon only	Yonge Street	Grandview Avenue	Region
		Yonge Street	Woodward Av	Region
		Yonge Street	Highland Pk Blvd	Region
Traffic Control Signals		Henderson Av	Proctor Avenue	Town

Based on the simulation, the working group recognized that the proposed mitigation measures would decrease vehicular volumes on some streets within the community, these include Proctor Avenue, Glen Cameron Street and Grandview Avenue. Conversely, John Street, Henderson Avenue, Elgin Street and the arterial roads may experience a minor increase in vehicular volume.

Overall, the working group concluded that the proposed mitigation measures provided benefits to the whole community while causing minimal impacts to the arterial roads. Hence, the working group was prepared to seek community input on the proposed mitigation measures.

Community Consultation

The working group approached the community in a two step manner because of the localized nature of this project and the impacts of the proposed mitigating measures. This approach ensured the Thornhill residents clearly understood the proposal and its impacts.

First, resident members of the working group presented the proposal to the two Ratepayers Associations located in the community. At this meeting, the proposal was well received.

Following the Ratepayers Association meetings, a community-wide meeting was held on May 25, 2005 at the Thornhill Community Centre and attended by ± 50 people. Again, the proposed mitigation measures were well received by the Thornhill community residents.

Next Steps

Since the proposed turn prohibitions are located on arterial roads, the respective by-laws and traffic signs require York Region Council approval. To ensure the traffic signs are installed before the end of this year, it is expected that the report recommendation will be reviewed by Regional Transportation Committee on September 7, 2005. Markham should ask the Region to implement the turn restrictions by November 2005.

In conjunction with the Region's approval and installation of the traffic signs, the Engineering Department will commence the installation of the proposed traffic control signal at the intersection of Henderson Avenue and Proctor Avenue upon Town Council approval.

To confirm the proposed traffic improvements are effective, the Engineering Department will monitor the community's traffic operations in Spring 2006. Pending the results of this post study, modifications of the mitigating measures will be reported back to Transportation Committee for approval.

FINANCIAL CONSIDERATIONS:

Funding for the proposed traffic control signal at the intersection of Henderson Avenue and Proctor Avenue has been approved through the Town's 2005 Engineering Department Capital Budget account number 083-6150-6752-005. The proposed mitigation measures, i.e. signal time adjustments and turn restriction signs, will require minimal financial commitment by the Region of York.

BUSINESS UNITS CONSULTED AND AFFECTED:

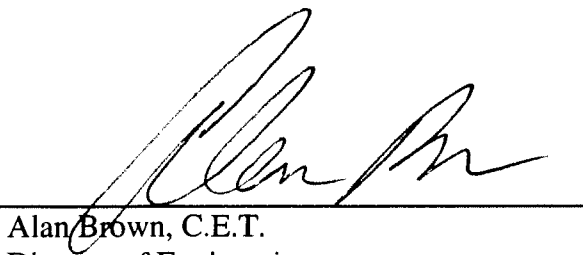
No business units are affected

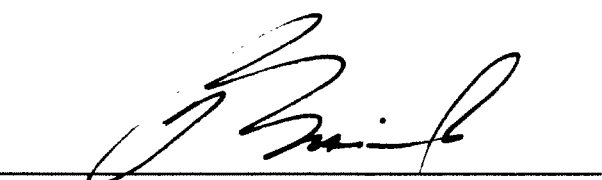
ATTACHMENTS:

Attachment A – Study Area

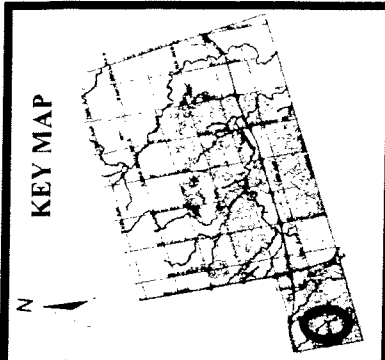
Attachment B – Improvements – Morning Rush Hour

Attachment C – Improvements – Afternoon Rush Hour



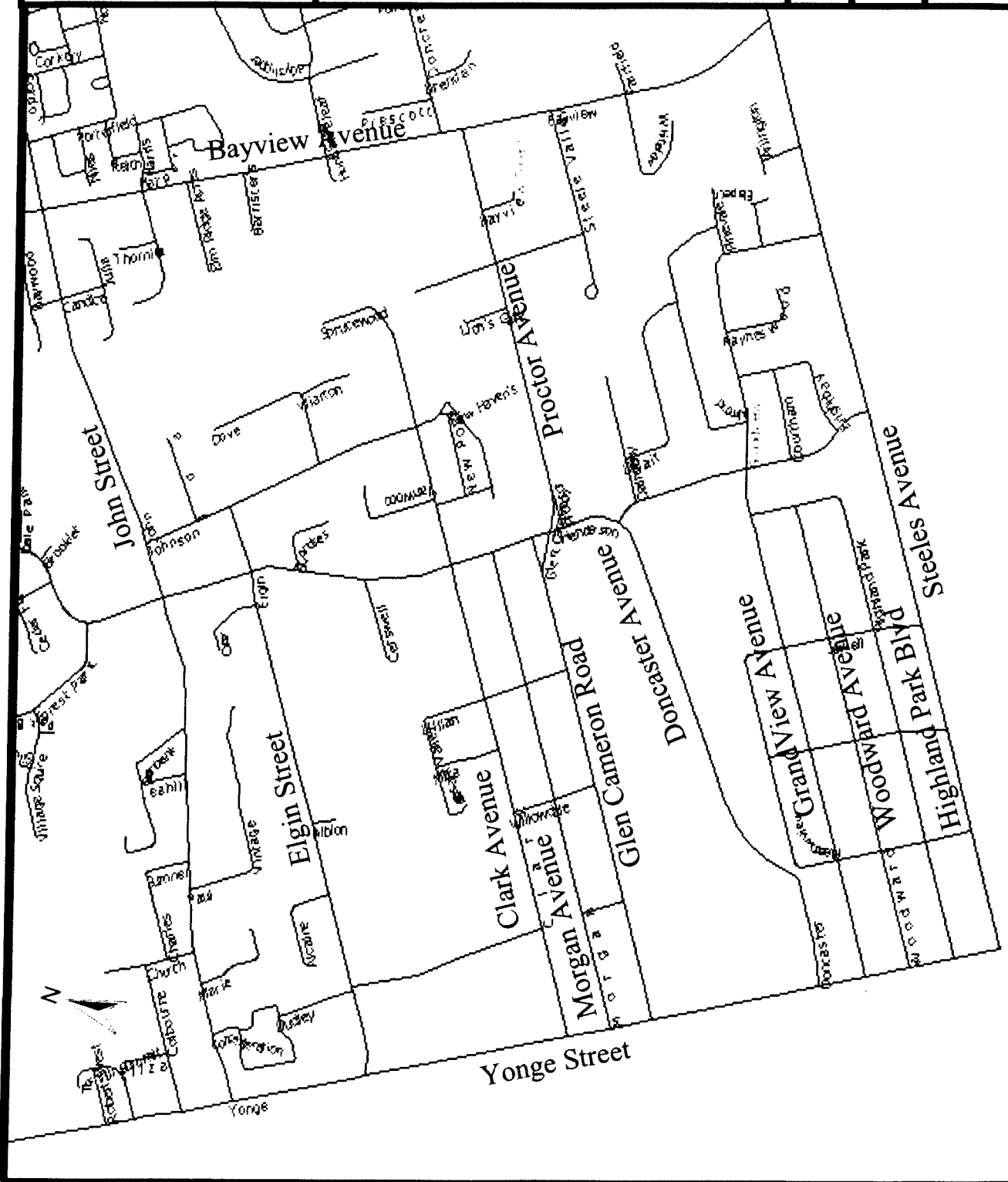
Alan Brown, C.E.T.
Director of Engineering

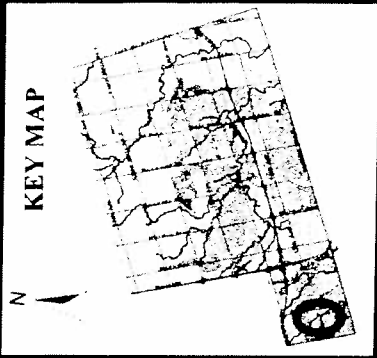
Jim Baird, M.C.I.P., R.P.P.
Commissioner of Development Services



O—Study Area

Thorhill Vehicular Infiltration Improvements
Engineering Dept. June 2005
Attachment A





KEY MAP

Traffic Improvements

Morning Rush Hour

Thorhill Vehicular Infiltration Improvements

Engineering Dept.
June 2005

Attachment B

