Agenda - Council - July 27, 2005

Report - Standing Policy Committee on Property and Development - July 18, 2005

Item No. 4 Amendment to Development Agreement 15/95 and Installation of a Pedestrian Corridor at 1970 Henderson Highway (Kildonan Personal Care Home)
File DASZ 15/95

STANDING COMMITTEE RECOMMENDATION:

On July 20, 2005, the Executive Policy Committee concurred in the recommendations of the Standing Policy Committee on Property and Development and the East Kildonan-Transcona Community Committee, as amended, and submits the following to Council:

1. That Development Agreement 15/95 be amended, subject to concurrence by the Developer, as follows:

    - That Condition No. 4 be deleted and replaced with the following:

        "4. The Developer shall, upon demand by the City, pay up to the sum of $40,000.00 towards the installation of a pedestrian corridor at the intersection of Henderson Highway and Bonner Avenue. The Developer shall post a Letter of Credit to ensure payment upon demand."

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report - Standing Policy Committee on Property and Development - July 18, 2005

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On July 20, 2005, the Executive Policy Committee concurred in the recommendations of the Standing Policy Committee on Property and Development and the East Kildonan-Transcona Community Committee, as amended, and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On July 18, 2005, the Standing Policy Committee on Property and Development concurred in the recommendation from the East Kildonan-Transcona Community Committee, with the following amendment, namely:

- That Condition No. 4 be deleted and replaced with the following:

    "4. The Developer shall, upon demand by the City, pay up to the sum of $40,000.00 towards the installation of a pedestrian corridor at the intersection of Henderson Highway and Bonner Avenue. The Developer shall post a Letter of Credit to ensure payment upon demand",

and submitted the matter to the Executive Policy Committee and Council.

COMMUNITY COMMITTEE RECOMMENDATION:

On July 5, 2005, the East Kildonan-Transcona Community Committee submitted its recommendation to the Standing Policy Committee on Property and Development.

STANDING COMMITTEE DECISION:

On May 1, 2001, the Standing Policy Committee on Public Works concurred in the administrative recommendation and approved the 2001 Traffic Engineering Improvements Program. The administration did not recommend the installation of a pedestrian corridor across Henderson Highway at Bonner Avenue.

Report – Standing Policy Committee on Property and Development – July 18, 2005

DECISION MAKING HISTORY (continued):

STANDING COMMITTEE RECOMMENDATION:

On September 5, 2000, the Standing Policy Committee on Public Works referred a request from the Resident Council of the Kildonan Personal Care Centre for a pedestrian corridor on Henderson Highway at Bonner Avenue to the Administration for review during consideration of the 2001 Capital Estimates.

On February 20, 1996, the former Committee on Works and Operations referred the matter to the Administration for priority rating for inclusion in the 1996 Traffic Control Signals and Pedestrian Corridors Report.

On May 30, 1995, the former Committee on Works and Operations referred the matter for consideration during the 1996 Capital Budget deliberations.

COUNCIL:

On November 29, 1995, Council adopted Clause 4 of the Report of the Standing Committee on Planning and Community Services dated November 10, 1995, approving the subject subdivision/ rezoning application, subject to a number of conditions, including the following:

> "4. The Developer shall upon demand by the City pay the sum of $40,000.00 as its share of the cost of traffic control signals to be installed at some future unspecified date at the intersection of Henderson Highway and Bonner Avenue or other nearby intersection on Henderson Highway as may be determined by Council. The Developer shall post a Letter of Credit to ensure payment upon demand."

COMMUNITY COMMITTEE RECOMMENDATION:

On May 9, 1995, the East Kildonan-Transcona Community Committee recommended that traffic control signals be installed at the intersection of Henderson Highway and Bonner Avenue and the matter be referred to the former Committee on Works and Operations for priorization in the capital budget.

FILE NO. 110-C
T MAYOR'S OFFICE

MAYORS OFFICE
CITY OF WINNIPEG
MAN
2005 JUN 15 P 4:51

Councillors' Office
Main Floor 510 Main St.
Winnipeg, Manitoba
R3B 1B9

May 31,05

Honourable Mr. Katz;

After speaking with local City Councillor, Mark Lubosch on May 16th, 2005, it was deemed not feasible to install a cross walk in front of Kildonan Personal Care Centre. The councillor stated that we would need to wait until the highway was divided and a medium is installed. This project will not be pending in the near future.

We the residents, staff and family feel that it is very important for our safety to have a crosswalk, as the nearest one is located at McIvor and Henderson Hwy. The residents who use wheelchairs find the existing sidewalk to be narrow, cracked and very uneven, deeming it very unsafe for use and would like to see the existing sidewalk upgraded with a safer one. We see that this solution is desirable as soon as possible.

We feel that our needs are validated as there are numerous people who need to cross Henderson Highway on a daily basis and the traffic is heavy at times.

Yours truly,

K. Commodore

Karen Commodore
Cc East Kildonan – Transcons Community Committee Clerk
Cc Mark LuBosch

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PETITION IN FAVOUR OF CROSS WALK INSTALLATION IN FRONT OF K.P.C.C. FOR THE SAFETY OF RESIDENTS, FAMILY AND STAFF WHO NEED TO CROSS HENDERSON HIGHWAY.

Signature printed name & address

PUBLIC WORKS DEPARTMENT

Re: 2001 TRAFFIC ENGINEERING IMPROVEMENTS PROGRAM

For Submission to: STANDING POLICY COMMITTEE ON PUBLIC WORKS

Submitted by: J.A. Thomson, P. Eng., Director of Public Works

Report date: April 9, 2001

Recommendations:

That:

		Estimated Cost
I.	Pedestrian corridors be installed at: a) Osborne Street and Gertrude Avenue; b) Salter Street and Flora Avenue; c) Lindenwood Drive East and Wethersfield Road d) Grosvenor Avenue and Guelph Street	95,000
II.	Funds be allocated for the citywide program of audible pedestrian signals	50,000
III	Funds be allocated to initiate the development of a Signals Asset Management Program	50,000
IV.	The following traffic control signal improvements be undertaken: a) traffic signal system enhancement; b) separate left turn signal head installation	150,000
V.	The following traffic sign upgrades be undertaken: a) Install "Diamond grade" sheeting on existing illuminated overhead signs b) Install "High Intensity" sheeting on 500 existing stop signs c) Replace 500 "blue" school area signs with "bright yellow" signs	70,000

VI.	Funds be allocated to the installation of railway crossing protection on Marion Street east of rue Archibald (City's share)	20,000
VII	Miscellaneous traffic calming measures on selected residential streets/lanes	20,000
		$455,000

REPORT SUMMARY

KEY ISSUES:

The approved 2001 Capital Estimates of the Public Works Department provide $455,000 for city wide Traffic Engineering Improvements that include four new pedestrian corridor installations, traffic signal improvements, traffic sign upgrades, railway crossing gate installation and traffic calming measures.

IMPLICATIONS OF THE RECOMMENDATIONS:

General implications

- ☑ No
- ☐ For the organization overall and/or for other Departments
- ☐ For the community and/or organizations external to the City
- ☐ Involves a multi-year contract

Comment:

Policy implications

- ☑ No
- ☐ Yes

Comment:

Financial implications

- ☑ Within approved current and/or capital budget
- ☑ Current and/or capital budget adjustment required

Comment: This project is included in the 2001 Capital Program. Once installed, the estimated annual operation and maintenance cost of four new pedestrian corridors is $7,000.

REPORT

RECOMMENDATIONS:

That:

		Estimated Cost
I.	Pedestrian corridors be installed at: a) Osborne Street and Gertrude Avenue; b) Salter Street and Flora Avenue; c) Lindenwood Drive East and Wethersfield Road; d) Grosvenor Avenue and Guelph Street.	95,000
II.	Funds be allocated for the citywide program of audible pedestrian signals	50,000
III	Funds be allocated to initiate the development of a Signals Asset Management Program	50,000
IV.	The following traffic control signal improvements be undertaken: a) traffic signal system enhancement; b) separate left turn signal head installation.	150,000
V.	The following traffic sign upgrades be undertaken: a) Install "Diamond grade" sheeting on existing illuminated overhead signs; b) Install "High Intensity" sheeting on 500 existing stop signs; c) Replace 500 "blue" school area signs with "bright yellow" signs.	70,000
VI.	Funds be allocated to the installation of railway crossing protection on Marion Street east of rue Archibald (City's share)	20,000
VII	Miscellaneous traffic calming measures on selected residential streets/lanes	20,000
		$455,000

REASON FOR THE REPORT:

Each year, the Public Works Department submits a report on the relative priority for traffic control signal installations at intersections throughout the city and makes recommendations for new traffic control signal/pedestrian corridor installations.

The approved 2001 Capital Estimates of the Public Works Department provide $455,000 for city wide Traffic Engineering Improvements that include the installation of pedestrian corridors/traffic control signals, minor geometric/traffic improvements, traffic calming measures, traffic signal system improvements and other miscellaneous works.

DISCUSSION:

For a discussion respecting potential locations for new traffic control signals see Appendix A. No new installations are being recommended this year.

I. Recommended Locations For Pedestrian Corridor Installation

The installation of a pedestrian corridor is warranted and recommended at the four following locations.

Location	Roadway width (m)	Peak half hour volume		Units of Benefit*	Estimated Cost
		Children	Vehicles		
a) Osborne Street at Gertrude Avenue	14	5	1,300	6.5	$ 24,000
b) Salter Street at Flora Avenue	7.6	12	750	9.0	22,000
c) Lindenwood Drive East at Wethersfield Road	10	37	158	5.8	24,000
d) Grosvenor Avenue at Guelph Street	11	41	259	10.6	25,000
					$ 95,000

* A school-crossing corridor is warranted when 5 or more units of benefit are attained. Units of benefit is the product of the number of children multiplied by the number of vehicles during the half hour divided by 1,000.

Locations where pedestrian corridor installation is not recommended at this time.

1. On September 5, 2000, the Standing Policy Committee on Public Works referred a request, from the employees at the Kildonan Personal Care Centre (1970 Henderson Highway) for the installation of a pedestrian corridor across Henderson Highway at Bonner Street, to the Administration for review during consideration of the 2001 Capital Estimates. Pedestrian corridors are installed to reduce delays to pedestrians crossing the street. A volume of 300 pedestrian crossings with at least 100 pedestrians experiencing more than 10 seconds of delay is normally required to warrant the installation of a pedestrian corridor (other than a school-crossing corridor). Based upon an 11-hour observation, 7 pedestrians crossed Henderson Highway at Bonner Avenue, 1 of whom was delayed more than 10 seconds. This level of pedestrian activity and delay is very low and well below (less than 1%) the criteria for the installation of a pedestrian corridor. There are many intersections on the City's street system with significantly greater pedestrian crossing activity and delay than that experienced across this four-lane section

DISCUSSION: (cont'd)

Locations where pedestrian corridor installation is not recommended at this time. (Con't)

of Henderson Highway. In the 3-year period ending August 31, 2000, there were 7 reported collisions at this intersection, none of which involved a pedestrian. In the 10-year period ending August 31, 2000, there were no pedestrian collisions on Henderson Highway between McIvor Avenue and Glenway Avenue. The installation of a pedestrian corridor across Henderson Highway at Bonner Avenue, estimated cost $23,000, does not have a high priority and is not recommended at this time.

2. On June 13, 2000, the Assiniboia Community Committee passed the motion: *That a pedestrian corridor, or alternately, a half-signal, be installed at the intersection of Chalfont Road and Grant Avenue and be forwarded to the Standing Policy Committee on Public Works for approval.* On September 5, 2000, the Standing Policy Committee on Public Works referred this matter to the Administration for review during consideration of the 2001 Capital Estimates. The pedestrian activity crossing the four-lane divided section of Grant Avenue at Chalfont Road is as follows:

   112 pedestrians in 11 hours between 07:00 and 18:00 (June 27 & 29, 2000):
   4 were considered 65 years of age or older
   1 pedestrian was delayed longer than 30 seconds
   108 pedestrians during the highest 8-hour period, 4 of whom were delayed more than 10 seconds

   This level of pedestrian activity and delay is 2% of that which would normally warrant a pedestrian corridor. In the 3-year period ending August 31, 2000, there were 5 reported collisions at this intersection, 1 of which involved a pedestrian. The installation of a pedestrian corridor across Grant Avenue at Chalfont Road, estimated to cost $25,000, does not have a high priority and is not recommended at this time. See Appendix A for a discussion regarding the installation of traffic control signals at Grant Avenue and Chalfont Road.

3. On March 13, 2001, the Assiniboia Community Committee passed the motion: *That a pedestrian corridor be installed across Ness Avenue in the east crosswalk at Muriel Street*. This section of Ness Avenue contains a two-lane roadway and carries approximately 8, 000 vehicles during a 12-hour weekday period. The pedestrian activity crossing Ness Avenue at Muriel Street is as follows:

   182 pedestrians in 11 hours between 07:00 and 18:00 (January 30 & 21, 2001):
   5 were considered 65 years of age or older
   none were delayed longer than 30 seconds
   175 pedestrians during the highest 8-hour period, 11 of whom were delayed more than 10 seconds

This level of pedestrian activity and delay is 6% of that which would normally warrant a pedestrian corridor. In the 3-year period ending October 31, 2000, there were 4 reported collisions at this intersection, none of which involved a pedestrian. The installation of a pedestrian corridor across Ness Avenue at Muriel Street, estimated to cost $24,000, does not have a high priority and is not recommended at this time.

II. Audible Pedestrian Signal Program Funding

On April 29, 1998, Council adopted a citywide program for equipping all signalized crossings with audible pedestrian traffic signals. Audible signals are utilized to help visually impaired pedestrians recognize when a "leave curb" indication is displayed in a given direction. Audible equipment emits two distinct sounds that resemble birdcalls: one for the north-south walk direction and another for the east-west walk direction. Such equipment will be purchased and installed at intersections on a priority basis in consultation with the Inter-Organizational Access Committee and considering pedestrian crossing risk factors such as traffic speed and volumes.

III. Signal Asset Management Program Funding

The City has a total of 570 signalized intersections. The existing traffic signal control equipment at many intersections is well over 30 years of age and, in some cases, in severely deteriorated condition due to corrosion. The development of a signals asset management program will enable the Public Works Department to identify and prioritize the rehabilitation and replacement of this critical asset.

IV. Recommended Traffic Control Signal Improvements

a) The on-going traffic signal system enhancement program will ultimately replace all mechanical signal controllers with computers to reduce maintenance costs and improve system performance and reliability. Improved traffic control signal operation will benefit motorists by:

X monitoring the traffic demand and adjusting the signal timing and phases on a cycle-by-cycle basis; thereby reducing motorists delay;

X maintaining signal synchronization/vehicular traffic progression; thus reducing motorists stops and delays.

b) As part of an ongoing program, the installation of separate left turn signal heads and replacement of the green arrow/circular red signal combination with separate circular green and circular red displays will:

- eliminate the simultaneous green and red displays within a single traffic signal head;
- improve visibility of the signal display;

- reduce the sense of uncertainty, meaning and/or message that motorists may have with the existing displays;
- be consistent with new provincial and national standards for signal displays.

V. Recommended Traffic Sign Upgrades

a) The City's older overhead guide signs are externally illuminated. It is recommended that such signs be refurbished with the highest grade of retro-reflective sheeting that does not require illumination, saving electrical energy consumption and cost.

b) Existing stop signs generally consist of "Engineering Grade" retro reflective sheeting that performs adequately for 10 years. It is recommended that 500 existing stop signs at/or near the end of their useful life be upgraded with "High Intensity" sheeting to provide better night time visibility and longer life (20 years).

c) Last year, a new school area sign (consisting of a bright yellow background) was approved for use in Manitoba and a program to replace existing blue pentagon signs was undertaken on the major routes. To replace another 500 blue signs this year, additional funding is required.

VI. Recommended Location for Railway Crossing Protection

Automatic gates are to be installed on Marion Street at the railway crossing of the C.P.R. Emerson Subdivision east of rue Archibald. The City's (12.5%) share of the cost for such railway work is normally funded from this program.

VII. Recommended Traffic Calming Measures for Residential Streets/Lanes

The installation of traffic calming measures, such as curb extensions on local residential streets and/or speed humps in public lanes, can influence traffic operating speeds. It is recommended that funds be allocated for implementation of traffic calming measures at locations where there is a demonstrated need.

Financial Impact Statement **Date:** April 4, 2001

Project Name:
2001 Traffic Engineering Improvements Program

First Year of Program **2001**

	2001	2002	2003	2004	2005
Capital					
Capital Expenditures Required	$ 455,000	$ -	$ -	$ -	$ -
Less: Existing Budgeted Costs	455,000	-	-	-	-
Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal	$ -	$ -	$ -	$ -	$ -
Debt - External	-	-	-	-	-
Grants (Enter Description Here)	-	-	-	-	-
Reserves, Equity, Surplus	-	-	-	-	-
Other - Enter Description Here	-	-	-	-	-
Total Funding	$ -	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Total Additional Debt Required	$ -	$ -	$ -	$ -	$ -
Current Expenditures/Revenues					
Direct Costs	$ 19,831	$ 53,270	$ 53,270	$ 53,270	$ 53,270
Less: Incremental Revenue/Recovery	17,500	-	-	-	-
Net Cost/(Benefit)	$ 2,331	$ 53,270	$ 53,270	$ 53,270	$ 53,270
Less: Existing Budget Amounts	18,023	49,697	49,697	49,697	49,697
Net Budget Adjustment Required	$ (15,692)	$ 3,574	$ 3,574	$ 3,574	$ 3,574

Additional Comments:
This project has been cash flow forecasted for the year 2001, however, annual maintenance estimates of $7,000 per year were not included in those forecasts. Since the four new pedestrian corridors will not be completed until mid-2001, the budget requirement for 2001 has been reduced by 50% to $3,500.

(original signed by D. Jeffrey, C.A.)
Manager of Finance & Administration

Approved by Divisional Accountant Trainee ☑

THIS REPORT SUBMITTED BY:

Public Works Department
Division: Transportation Division
Prepared by: Edd Schellenberg, Traffic Analyst
Phone No: 986-5289
File name: 2001TRAFFICEIP1.DOC

APPENDIX A

LOCATIONS WHERE TRAFFIC CONTROL SIGNAL INSTALLATION IS NOT RECOMMENDED AT THIS TIME

The following intersections have the highest priority points for signalization and their traffic characteristics are summarized below:

INTERSECTION	SIGNAL PRIORITY POINTS	AVG. ANNUAL COLLISIONS		DATE OF FIELD STUDY
		Right-angle	Total	
Century St./Saskatchewan Ave.	113	2	9	Sep/98
Ness Ave./Cavalier Dr.	97	0	4	Oct/97
Kenaston Blvd./Rothwell Road	97	1	2	Sep/00
Wilkes Ave./Shaftesbury Blvd.	92	7	11	Dec./99
King Edward/ Saskatchewan Ave.	91	1	4	Jan./92
Roblin Blvd./Elmhurst Rd.	86	1	3	Nov/97
St. Mary 's Rd./St. Vital Rd.	84	2	4	Sep/99
Adsum Dr./Jefferson Ave	84	1	3	May/98
Grant Ave./Lilac St.	82	8	10	May/96
Corydon Ave./Lanark St.	82	2	5	Feb/97
Notre Dame Ave./Emily St	82	2	5	Jan/93
Jefferson Ave./ /Sinclair St. .	82	2	4	Dec/98

1. Century Street at Saskatchewan Avenue contains a three-lane one-way northbound roadway with a 70-km/h speed limit and carries 20,000 vehicles during a typical 12-hour weekday period. Saskatchewan Avenue contains a 7.3 m roadway and approximately 1,400 vehicles cross or enter Century Street from Saskatchewan Avenue per day under east-west stop sign control. The high signal priority value reflects the fact that this intersection can be signalized with minimal interruption to high volume of northbound vehicular traffic on Century Street. Observations have shown that vehicular queues and delays for motorists on Saskatchewan Avenue are not excessive. It is unlikely that traffic signal control at this time will reduce average delays on Saskatchewan Avenue or the collision frequency at this intersection. The installation of traffic control signals at this intersection is estimated to cost $200,000 (including $100,000 for essential interconnection with adjacent railway crossing signals).

2. On May 19, 1998, the parent council of Crestview School petitioned for the installation of traffic control signals at the intersection of Ness Avenue and Cavalier Drive to improve school child safety. On July 14, 1998, the Assiniboia Community Committee recommended that traffic control signals be installed at Ness Avenue and Cavalier Drive. This three-way stop controlled T-intersection accommodates approximately 13,100 vehicles and 230 pedestrians (including 60 elementary school-aged children) per 12 hour weekday. In the three-year period ending September 31, 2000, none of the 12 reported collisions involved a pedestrian. Since there is only a single traffic lane on the southbound approach roadway, delayed left turning vehicles (41% of the southbound volume) may create greater delay to motorists than is currently the case with three-way stop control. To enable southbound drivers to bypass delayed left turning vehicles at Ness Avenue, widening the roadway on Cavalier Drive would reduce delay under traffic signal control. However, due to the residential characteristic of the street, such an intersection widening is considered not feasible. A proposal to widen Cavalier Drive to four lanes between Fairlane Avenue and Hamilton Avenue was turned down in 1981 because of the objection from Cavalier Drive residents. The installation of traffic control signals at this intersection without a road widening is estimated to cost $103,000.

3. Kenaston Boulevard at Rothwell Road contains a four-lane divided highway with an 80 km/h speed limit and carries approximately 16,000 northbound and 16,000 southbound vehicles during a 12-hour weekday period between 07:00 and 19:00. During this same period, Rothwell Road carries approximately 700 westbound vehicles, of which 350 turn right and 350 turn left at Kenaston Boulevard. Based upon a recent 8-hour observation, 37% of westbound traffic is large trucks. Rothwell Road is suitably spaced from the existing signalized intersections on Kenaston Boulevard at Wilkes Avenue and at Lindenwood Drive and the future signalized intersection at Sterling Lyon Parkway. Therefore, Rothwell Road can be signalized with minimal interruption to the through traffic flow on Kenaston Boulevard. The installation of traffic control signals at this intersection is estimated to cost $345,000 (including $215,000 for interconnection with the other traffic control signals on Kenaston Boulevard). A future industrial development is proposed on the west side of Kenaston Boulevard opposite Rothwell Road. The developer will be constructing a private approach, a southbound right turn lane and a northbound left turn storage lane. Development Agreement AG539/99 provides for this developer to pay for 25% of the cost of the installation of traffic control signals at this intersection. It is recommended that the installation of traffic control signals be undertaken in 2002 when the new development is expected to be open.

4. Wilkes Avenue contains a two-lane roadway with an 80-km/h speed limit and carries approximately 8,500 vehicles in a 12-hour period. Shaftesbury Boulevard contains a two-lane roadway with a 70-km/h speed limit and carries approximately 1,600 southbound vehicles. McCreary Road, opposite Shaftesbury Boulevard, contains a two-lane roadway and carries approximately 600 northbound vehicles. The four-way stop control with flashing red beacons on Wilkes Avenue was installed on November 15, 1999 as an interim measure to reduce the high frequency of “right-angle” collisions at this intersection. In the 2-year period prior to the

installation of four-way stop control, there were 28 reported collisions at this intersection, including 16 "right-angle" collisions. In the 1-year period after the installation of four-way stop control, there were 3 reported collisions, 1 of which was a "right-angle". This measure has therefore had the desired effect. However, the four-way stop control has reduced the ability of Wilkes Avenue to carry traffic and the intersection operates above its theoretical capacity during both peak periods. The installation of traffic control signals at this intersection is estimated to cost $305,000 (including $125,000 for essential interconnection with the railway crossing signals and $55,000 for interconnection with the traffic control signals at Kenaston Boulevard). Due to the traffic operating speed and the rear-end collision potential on Wilkes Avenue, the existing roadway should be widened and traffic lanes added to accommodate the deceleration and storage of turning vehicles out of the through traffic flow prior to traffic signal control. The cost of such road works is estimated to be in excess of $400,000 (excluding property acquisition and hydro tower relocation).

5. King Edward Street at Saskatchewan Avenue contains a three-lane one-way southbound roadway with a 70-km/h speed limit and carries 20,000 vehicles per 12-hour weekday. Approximately 1,200 vehicles cross or enter Century Street from Saskatchewan Avenue under east-west stop sign control. The high signal priority value reflects the fact that this intersection is well spaced from the existing traffic control signals on King Edward Street and can be signalized with minimal additional delay to southbound through vehicular traffic. Observations indicate that vehicular queues and delays for motorists on Saskatchewan Avenue are not excessive. It is unlikely that traffic signal control at this time will reduce average delays on Saskatchewan Avenue or the collision frequency at this intersection. The installation of traffic control signals at this intersection is estimated to cost $177,000 (including $60,000 for railway pre-emption and $32,000 for signals interconnection).

6. During a 12-hour weekday period, Grant Avenue carries 7,000 eastbound and 6,000 westbound vehicles and Chalfont Road carries 430 southbound and 440 northbound vehicles (this level of activity is similar to many local residential streets with stop signs intersecting an arterial street). The current traffic characteristics at Grant Avenue and Chalfont Road represent 77 priority points for the installation of traffic control signals. Due to its relative spacing along Grant Avenue from the existing signalized intersections at Laxdal Road and Shaftesbury Boulevard, the intersection of Grant Avenue and Chalfont Road can be signalized with minimal interruption to eastbound and westbound vehicular traffic flows. In addition, a traffic control signal at Chalfont Road would help maintain regular gaps in east/west traffic to allow pedestrians and motorists to cross or enter Grant Avenue, not only Chalfont Road, but also at non-signalized locations downstream along the route. Since the current level of traffic activity at Chalfont Road is insufficient to warrant the installation of traffic control signals and does not have the highest priority, signalization of the intersection of Grant Avenue and Chalfont Road is not recommended at this time. The estimated installation cost is $125,000 for full traffic control signals and $57,000 for a half-signal (i.e., a set of pedestrian-activated traffic control signals facing the traffic on Grant Avenue and stop signs facing traffic on Chalfont Road).