

REGION OF OTTAWA-CARLETON
RÉGION D'OTTAWA-CARLETON

REPORT
RAPPORT

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| Our File/N/Réf. Your File/V/Réf. | 50 20-00-R079AL |
| DATE | 29 March 2000 |
| TO/DEST. | Co-ordinator Transportation Committee |
| FROM/EXP. | Director Mobility Services and Corporate Fleet Services Environment and Transportation Department |
| SUBJECT/OBJET | BRONSON AVENUE/GLADSTONE AVENUE INTERSECTION MODIFICATIONS |

That Transportation Committee recommend Council approve:

- 1. the intersection modifications for Bronson Avenue at Gladstone Avenue (as shown in Annex B, Ainley Group drawing #GB-01), which incorporates the following measures;**
 - a) Gladstone Avenue narrowings;**
 - b) lane realignment, lane reduction and introduction of eastbound and westbound left-turn lanes for the Gladstone approaches;**
 - c) cycling facilities for the Gladstone Avenue approaches;**
 - d) the closure of the Petro Canada gas station easterly access situated on Gladstone Avenue at Bronson Avenue, and;**
- 2. that staff forward the approved recommendations to the City of Ottawa, such that they may be included in the City's tender documents and implemented as part of the Gladstone sewer/road rehabilitation and streetscaping project.**

BACKGROUND

The City of Ottawa has presented the Region with an opportunity to implement intersection modifications at the intersection of Bronson and Gladstone as part of the City's Gladstone sewer/road

rehabilitation and streetscaping project. As that project includes this intersection, City staff have requested that the Region forward any desired modifications such that they can be implemented at the City's expense and that the opportunity to co-ordinate construction impacts will not be missed. In requesting and accepting intersection modifications, the City has asked that Regional staff consider intersection related recommendations noted in the Gladstone Improvement Initiative Study - Streetscaping and Traffic Issues report (14 June 1999). It was also requested the modifications be submitted to the City no later than the end of April 2000, so that the project schedule is not delayed.

In response, this report presents recommendations to address a variety of issues, in particular those identified by the following sources:

1. the Gladstone Improvement Initiative Study - Streetscaping and Traffic Issues, a City of Ottawa report (14 June 1999) reflecting on recommendations put forth by the McNabb Neighbourhood Improvement Bunch;
2. the Centretown Traffic Calming Plan, a 1997 report by J.P. Braaksma & Associates, jointly commissioned by the City of Ottawa and the Region; and
3. a 1996-1998 intersection assessment conducted through the Region's Safety Improvement Programme.

All three sources have contributed in some form to elements recommended in the intersection's proposed modification.

DISCUSSION

The Bronson Avenue/Gladstone Avenue intersection has been a cause of concern over the last few years as noted by the Safety Improvement Programme, the McNabb Neighbourhood Improvement Bunch report, the Centretown Traffic Calming Plan and the Airport Parkway Extended Traffic Impact Study (APETIS). All sources report safety concerns whether they are related to vehicle travel or pedestrian and cycling safety. The intersection itself is located five blocks north of the Queensway, five blocks south of Somerset Street and it abuts the southwest edge of the Central Area (refer to Annex A). Bronson Avenue is a four-lane Regional arterial roadway and Gladstone is a City of Ottawa street which functions as a two/four lane major collector extending across the bottom of the Central Area. Both facilities cater to transit and cycling modes and, until recently, both fully supported the truck route system. A recent decision made by the City of Ottawa has removed the section of Gladstone between Bronson and Bank from the truck route system, leaving the north, south and west approaches intact. The predominant physical feature in the intersection that causes concern is Gladstone's 9.5 metre centre line offset between the east and west leg of the intersection. Resulting from the offset is a skewed east-west S curve in the travel path, which generates sight line problems, the main cause, directly or indirectly, of collisions at this intersection.

Collisions

The primary reason for proposing modifications to this intersection is to address its collision history. Between 01 January 1995 and 31 December 1998, 78 collisions occurred, 15 resulting in injuries, three of which were pedestrians. Of particular concern were the 52 collisions (67%) involving vehicles moving in an eastbound or westbound direction (20 left-turn related and 16 right-angle related). With no designated eastbound or westbound left-turn lanes in place, the one wide approach lane for each direction is perceived by many to act as a left-through and a right-through lane. Although this configuration maximizes the efficiency of the east-west movements (i.e. always having a lane to pass a turning vehicle), it compromises sight lines, especially when there are opposing left turns, and as well it presents a layout that is confusing for drivers, particularly when vehicles proceed through the intersection side by side. This combination of confusion and poor sight lines causes hesitation and poor judgement which ultimately result in collisions.

Petro Canada Access on Gladstone Avenue

In attempting to address the collision situation for this intersection, all elements of the intersection were examined. This included property accesses and their proximity to the intersection. With offset conditions inherent to this intersection's east-west alignment, those proceeding through the intersection in an eastbound or westbound direction have to negotiate a curve within a busy intersection. In an attempt to maximize the driver's attention to the important tasks at hand and hence to minimize the number of activities the driver has to recognize and process while proceeding into and through the intersection, unnecessary movements at or close to the intersection have been recommended for removal. As a result, it is recommended that the Petro Canada driveway located on Gladstone, 10 metres from the intersection be removed. This reasoning is reflected in the geometric design standards put out by the Transportation Association of Canada (TAC). The TAC Geometric Design Guide recommends that driveway access not be any closer to an intersection than the storage length of the left-turn bay on that approach and preferably not closer than the start of the taper for the left-turn bay.

Closing this access to the gas station should not cause any undue hardship, as the station would retain the three other accesses it currently has (one on Gladstone and two on Bronson). In addition to the desired goal of the closure a second benefit is also obtained, that being the elimination of the conflict between the gas station access/egress vehicles and the operation of an O.C. Transpo bus stop which is located 5 metres from the intersection.

Recommendation

Considering all aspects of the intersection, the requirements by the users and the community surrounding the intersection, the intersection modifications identified in Annex B are recommended. In promoting pedestrian, cyclist and motorist safety the combination of narrowings, left-turn lanes and cycling facilities have been combined in a package solution that will benefit the intersection's overall operation. Implementation of this solution should bring a level of organization and order to the intersection that is

currently missing, as well as adding measures that will increase pedestrian and cyclist confidence when travelling through the intersection. Sight lines will improve with the establishment of the left-turn lanes and as a result, better driver judgement should prevail. Although this solution provides many of the desired benefits sought after at the onset of its review, there are some consequences that should be noted. Reduction of the perceived Gladstone lanes at the intersection from four (two per direction) to three (one per direction and aligned left-turn lanes) reduces to some degree the efficiency of the intersection. Where eastbound and westbound vehicles currently negotiate around a turning vehicle, drivers will be required to queue up more often in designated lanes to be processed through the intersection and for the same lane narrowing reasons, drivers will also have to wait for transit vehicles to load and unload at transit stops before and after the intersection.

BICYCLE AND PEDESTRIAN IMPACTS

Cycling facilities as per Regional policy have been introduced with modifications to the curb lines. As current conditions on Gladstone provide one wide lane in each direction, the wide lanes lend themselves to a tight two-lane operation at times which is not cycle friendly. As the lane arrangement will change with the proposed modifications to one clearly defined 4.25 metre lane per direction with aligned left-turn lanes, standard Regional cycling facilities will make for a better bicycle environment.

With a modified lane configuration proposed, it is possible for narrowings at the throat of the intersection to take place and hence decrease pedestrian crossing distances. The greatest narrowing gain comes from the intersection's northeast corner. The northeast corner narrowing reduces the east face pedestrian crossing from 25 metres to 18.5 metres, a 6.5 metre shortening. Although the other corners could not accommodate similar narrowings, gains were still made such that the crossing of the south face was reduced by 1 metre, the west face by 1 metre and the north face by 4 metres.

CONSULTATION

Four public open houses were held in the area over the last five months which presented the proposed intersection concepts. Feedback from these open houses was used where possible in generating the final solution.

As required by the *Municipal Act of Ontario*, notice of the proposed roadway modifications for the intersection has been placed in Le Droit, the Ottawa Citizen and the Ottawa Sun for four consecutive weeks.

A copy of this report has been circulated to the Regional Cycling Advisory Group (RCAG) for comments. RCAG comments, if any, will be made available upon request at the Public Hearing.

Temporary signs advising pedestrians, cyclists and motorists that "roadway modifications are proposed" have been placed at the intersection. They feature a telephone number from which more information

can be obtained and/or comments and concerns can be left. Results of this consultation will be available at the Public Hearing.

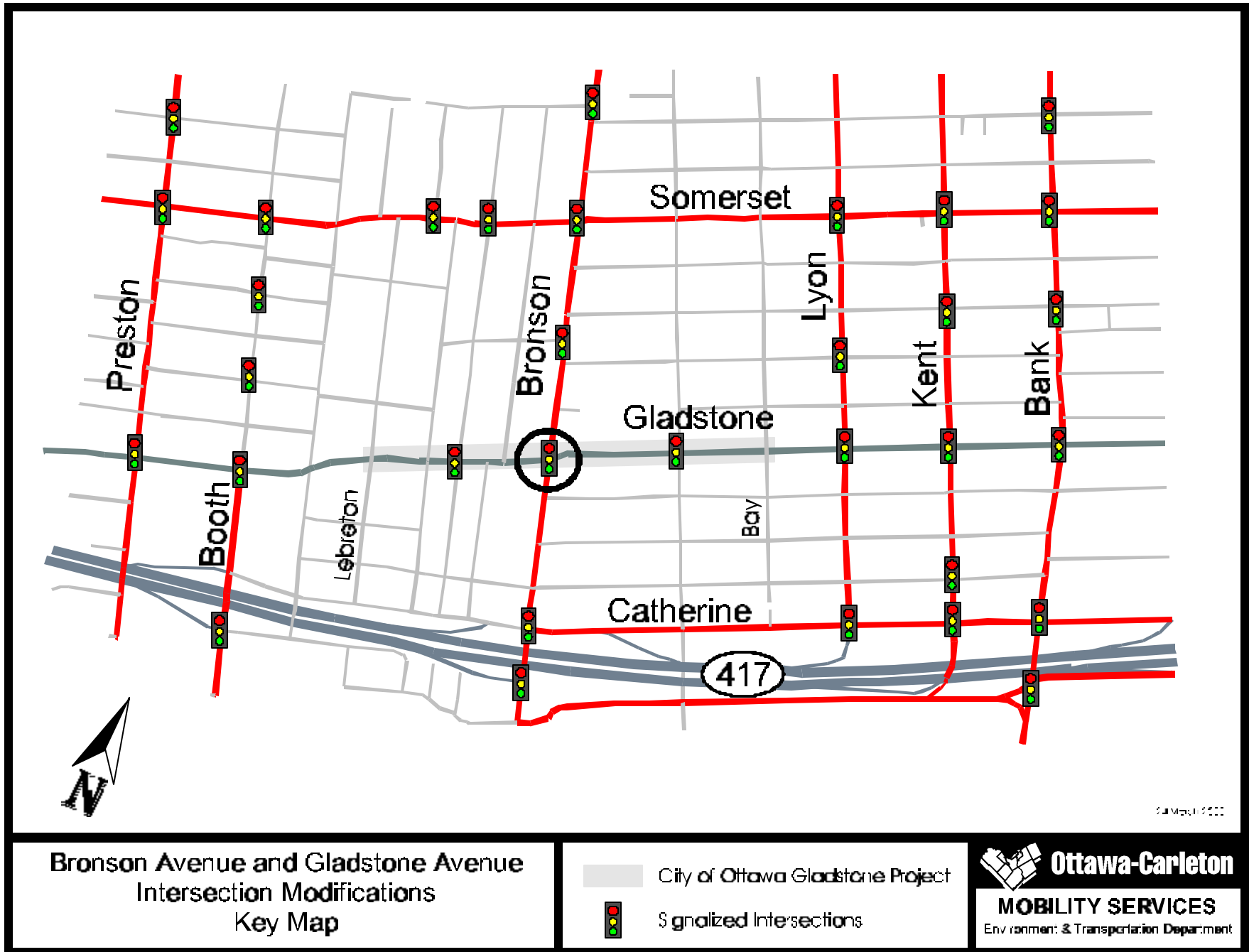
FINANCIAL STATEMENT

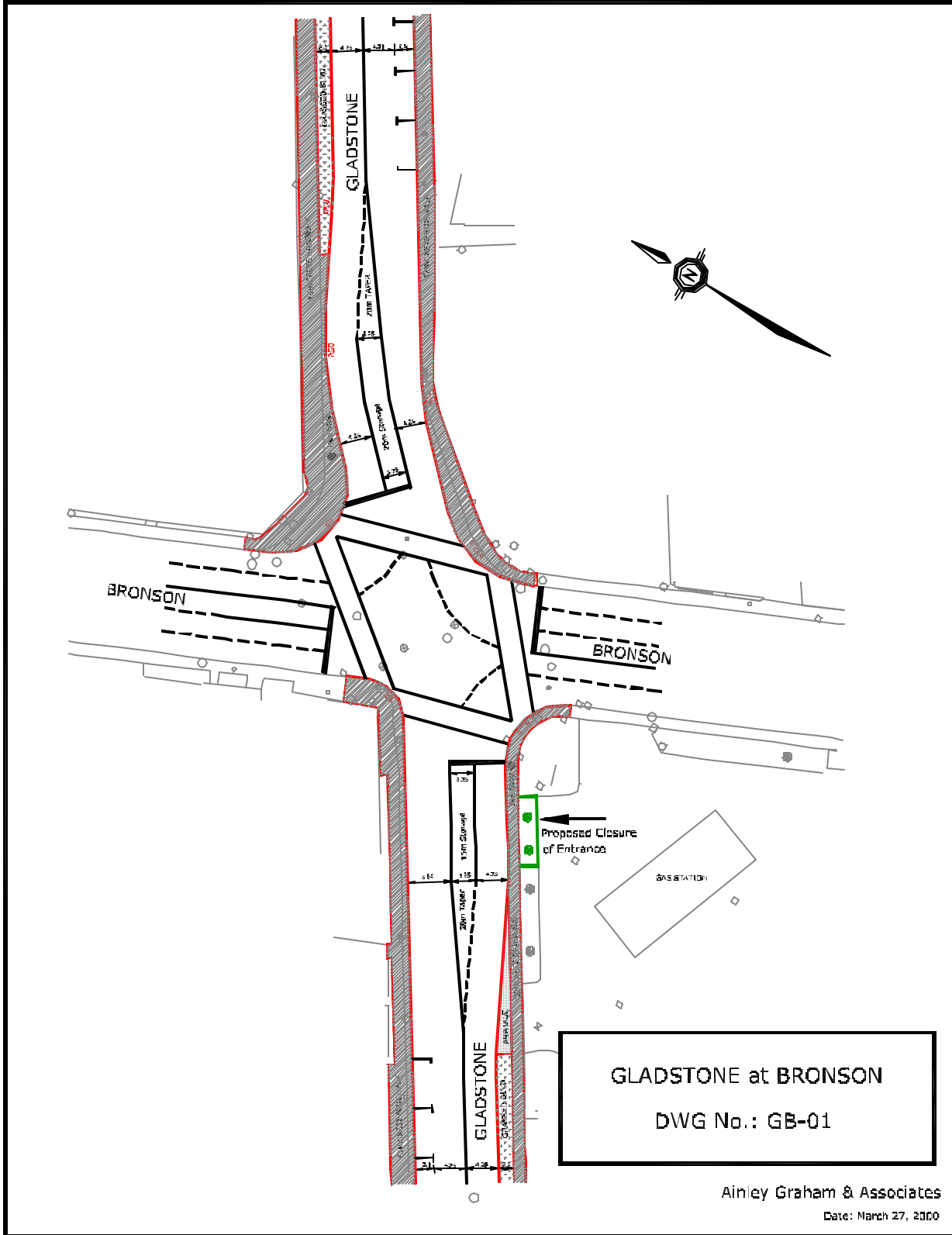
With the City of Ottawa initiating a programme to implement a number of traffic calming/ streetscaping features and undertaking road and sewer rehabilitation for the section of Gladstone between Bay and Lebreton in the year 2000, funds to carry out this work were secured in their 2000 budget. The work included the intersection of Bronson and Gladstone regardless if we had requirements for intersection modifications. As they have set funds aside and the work we propose is not significantly different from what they would have spent regardless, the Region's approved modifications will be implemented by the City of Ottawa at no cost to the Region. The only condition set by the City for inclusion of our modifications is that we do not delay their work schedule. Adoption of our recommendations by Council no later than the end of April 2000 will be required for the Region to recognize these cost savings.

*Approved by
Doug Brousseau*

GK/sc

Attach. (2)





GLADSTONE at BRONSON
DWG No.: GB-01