



# Corporate Report

NO: R029

COUNCIL DATE: February 21,

2005

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## REGULAR COUNCIL

TO: Mayor & Council                      DATE: February 15,  
2005

FROM: General Manager,  
Engineering                                  FILE: 5400-80  
(04000)  
5400-80  
(15200)

SUBJECT: Proposed Changes to Intersection of 40  
Avenue at 152 Street

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## RECOMMENDATIONS

- That Council receives this report for information.
- That Council supports the concept of interim measures to prevent through traffic on 40 Avenue at 152 Street.
- That staff carry out public notification on this matter and report back to Council before taking any action.

## INTENT

To apprise Council of options for changes to the intersection of 40 Avenue and 152 Street to reduce the crash rate at this location, and of the proposals to upgrade the road structure on 40 Avenue.

## DISCUSSION

The intersection of 40 Avenue and 152 Street (the intersection) consists of two arterial roads, one which has a posted speed limit of 50 km/h (40 Avenue) and the other at 70 km/h (152 Street). 152 Street is a major north/south arterial road carrying about 15,000 vehicles per day and 40 Avenue a minor east-west arterial carrying about 3,000 vehicles per day.

The Engineering Department in conjunction with ICBC commissioned a study to evaluate the intersection. This study looked at six different options for the intersection:

1. Do nothing.
2. Install a traffic signal.
3. Install signal and upgrade 40 Avenue.
4. Truncate 40 Avenue, west of 152 Street.
5. Restrict Movements to Right-in/Right-out Only to/from 40 Avenue.
6. Restrict Movements to Right-in/Right-out and Left-in Only to 40 Avenue.

Each of the options was evaluated based on capital cost, maintenance cost, traffic operations impact, safety impact, and rerouting. Based on this evaluation, the ultimate preferred option was to install a signal and upgrade 40 Avenue.

The ultimate preferred option is not feasible for immediate implementation for the following reasons:

- 40 Avenue road structure is in poor condition;
- Signalising the intersection would attract additional traffic on 40 Avenue, thereby causing further pavement deterioration; and
- Cost to upgrade the pavement condition King George Highway to 176 Street is \$2 million.

A recent pavement evaluation of 40 Avenue concluded that the roadway is in poor condition and that remediation of the road would be very expensive as the pavement would have to be completely reconstructed rather than just re-paved. Portions of the roadway are beginning to slump into the adjacent ditches. This reconstruction would ideally include widening to allow for left turn bays at the major intersections (King George Hwy, 152 Street, 160 Street, 168 Street, 176 Street). The improvements to 40 Avenue based on this study would extend, at a minimum, from 168 Street to King George Highway (approximately 5 kilometres) with localized improvements between 168 Street and 176 Street. The cost associated with rehabilitating 40 Avenue will have to be staged over several years since funding is derived from General Revenue and there are also other high priority pavement rehabilitation needs throughout the City. The first stage, the 1.6 kilometer section from 152 Street to 160 Street, is included in the 2005 pavement program at a cost of \$500,000.00. The total cost of pavement reconstruction King George Highway to 176 Street is in the order of \$2 to \$2.5 million.

If the intersection is signalised, it is highly likely that additional traffic would be attracted to the 40 Avenue corridor. At the present time the traffic volume on 40 Avenue is constrained, in part, by the difficulty in crossing 152 Street. Installing the signal would remove the constraint and encourage commuters to use 40 Avenue to access Highway 99, rather than other alternate routes. With the current condition of the pavement, narrow shoulders and roadside ditches encouragement of additional traffic is not prudent.

The Engineering Department is consequently proposing, as a short term measure, the installation of a raised median through the intersection which will preclude the east/west through movement on 40 Avenue but still allow the right turns off of and onto 40 Avenue as well as allowing the northbound and southbound left turns from 152 Street onto 40 Avenue. Through bicycles, movement could still be accommodated. This measure will cause the commuter traffic to divert to 32 Avenue but still facilitates access for residents along 40 Avenue and of Morgan Creek and Rosemary Heights. The intersection work will be coordinated with the construction of the traffic calming on 156A/B Street to ensure that minimal, if any, commuter traffic volume diverts down 156A/B Street.

The Engineering Department is working to improve the capacity of the 32 Avenue corridor through the installation of a traffic signal at 168 Street in 2005. In addition, the Engineering Department is working with the Ministry of Transportation to improve the capacity of the South Surrey Interchange at 32 Avenue and Highway 99. The signals at 34 Avenue and 36 Avenue on 152 Street are now online so that access to the Rosemary Heights and Morgan Creek neighbourhoods is enhanced.

## **PUBLIC NOTIFICATION**

Should Council approve the recommendations of this report, then notice of the proposed construction will be advertised in the local newspaper, and posted on the City's website. Additionally, signs at the intersection will be posted alerting travellers of the intended median, with a telephone number to contact at City Hall.

## **CONCLUSION**

The intersection of 40 Avenue at 152 Street experiences an average of 16 motor vehicle crashes per year, some of which have resulted in serious injuries or deaths. A safety review and operations study was conducted to assess various intersection treatment options. As a short term measure, the Engineering Department is proposing to construct a raised median at the intersection that will preclude the east/west through and left turn movements from 40 Avenue, but will still allow right turns off of and on to 40 Avenue as well as left turns off of 152 Street onto 40 Avenue. The construction of the works at this intersection will be coordinated with the construction of the traffic calming works on 156A/B Street. In the longer term, once 40 Avenue is rehabilitated to be operationally better for through traffic, Council can consider the removal of the median restriction and the installation of a traffic signal at the 152 Street intersection.

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General Manager, Engineering

KZ/rdd  
Attachment – road map for area

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