Corporate Report

NO: R084

COUNCIL DATE: May 5, 2003

REGULAR COUNCIL

TO: **Mayor & Council** DATE: **April 11, 2003**

FROM: **General Manager, Engineering** FILE: **8630-01**

SUBJECT: **Transportation Planning for Improved Road Connections to Fraser Heights**

RECOMMENDATION

Receive for information, and forward copy of report to Fraser Heights Community Association.

INTENT

To inform Council of transportation studies completed and underway regarding improved arterial road connections to Fraser Heights.

BACKGROUND

Residents of the Fraser Heights area of Surrey must access areas outside of the Fraser Heights via the 152 Street, 160 Street, and 176 Street interchanges. Over time, the traffic volumes have increased on the Trans Canada Highway (Highway 1) and the interchanges within Surrey with traffic routinely backing up, at various times of the day, from Highway 1 onto both 152 Street and 160 Street. This has resulted in increased delay and reduced mobility for the residents of Fraser Heights.

There are a number of potential short, medium and longer term options for improving access to Fraser Heights; these are:

Possible Short Term

- Converting the Highway 1 / 104 Avenue westbound off-ramp to two-way traffic;
- Signal timing adjustments at 160 Street and 104 Avenue (adjustments recently completed).

Medium Term

- New crossing at 156 Street or 168 Street (with or without on/off ramps to Highway 1);
- New configurations at 152 Street and 160 Street interchanges.

Long Term

- Twin Port Mann bridge and widen Highway 1.

These options are discussed as follows:

Converting 104 Avenue Off-Ramp to Two-Way Traffic

The Engineering Department, in partnership with the Ministry of Transportation, has recently completed a study of the Highway 1/160 Street/104 Avenue interchange (see attached figure). The objective of the study was to evaluate the operational and safety implications of converting the Highway 1 westbound off-ramp to two-way operation. This would allow eastbound traffic from the 104 Avenue/160 Street intersection to travel on the ramp to the 104 Avenue/164 Street intersection.

The westbound off-ramp bridge over Highway 1 is presently wide enough to provide two traffic lanes and could be converted to two-way operation. The two-way operation of the ramp would provide an alternate route for traffic heading from eastbound Highway 1 and from Surrey to Fraser Heights, since the traffic would not have to use the 160 Street Bridge to cross Highway 1. The cost to convert the westbound off-ramp to two-way operation is estimated to be approximately $225,000, including a new traffic signal at 104 Avenue and 164 Street.

The study concluded that converting the off-ramp to two-way operation would result in reduced delay and congestion on the south side of Highway 1, although delay and congestion would still occur and could be lengthy. However, the study also identified safety concerns with the new configuration. In order to provide a connection for the eastbound traffic on the off-ramp with 164 Street, a new intersection would be required on the off-ramp. Eastbound traffic would be required to turn left across the westbound ramp traffic at the new intersection. The study identified a potential for accidents at the new intersection, and the accident severity could also be high due to the high-speed nature of the ramp traffic and the potential for side impact collisions.

Before implementing any changes to the 104 Avenue off-ramp, the Ministry have asked for additional data confirming reductions in delay to confirm and demonstrate that overall time savings exceed potential accident costs. The Ministry would still prefer to complete the studies (October 2003) on the other identified medium-term options to determine how the change to this ramp would fit into the overall reconfiguration of the 152 Street – 160 Street interchange and potentially a new 156 Street interchange, before proceeding with this significant change in traffic movement. Additionally, there would be more likelihood of cost-sharing from the Province if it is demonstrated that this improvement integrates well with longer term solutions.

New Crossing at 156 Street or 168 Street and Reconfiguring 152 Street and 160 Street Interchanges

In addition to the Highway 1/160 Street/104 Avenue interchange study described above, the Engineering Department and the Ministry of Transportation are currently partnering on a more comprehensive study to evaluate all of the Highway 1 interchanges within Surrey, and the arterial road connectivity between Fraser Heights and the rest of Surrey. The objective of this study is to evaluate both short-term and long-term improvements that would reduce delay and congestion, and improve traffic operations at the interchanges and the arterial road connections to Fraser Heights. Potential long-term improvements include a reconfiguration of the 152 Street or 160 Street/104 Avenue interchanges, and a new bridge including some components of interchange at 156 Street or 168 Street. The long-term improvements will be compatible with the eventual upgrading of Highway 1 and the twinning of the Port Mann Bridge as identified in the Fraser Gateway Program.

Possible short-term improvements include minor changes to the 152 Street and/or 160 Street/104 Avenue interchanges, or staged construction of a new interchange at 156 Street or 168 Street. Staged construction would likely result in the initial construction of a grade separated crossing of Highway 1, thereby providing a new arterial road connection to Fraser Heights, without constructing the interchange ramps. The ramps would be constructed later, possibly in conjunction with other improvements on Highway 1. A new grade separated crossing would require a substantial capital investment (i.e., $8 to $10 million), and would be subject to funding availability and stakeholder participation.

The study of the Highway 1 interchanges within Surrey will be completed by October 31, 2003.

Twinning of Port Mann Bridge and Widening of Highway 1

The MoT and TransLink are currently looking at the financing and delivery of critical transportation needs in the

Lower Mainland through the Gateway Program. One of the prime needs identified for improving overall transportation needs and, in particular, goods movement, is the twinning of the Port Mann Bridge and associated widening of Highway 1. The cost for this is in the range of $600 to $700 million. In view of the cost and the needed financing mechanism through tolls or other alternative financial approaches, any such widening would be in the longer term.

CONCLUSION

The Engineering Department continues to work with the Ministry of Transportation to investigate both short-term and long-term options to reduce the delay and congestion at the Highway 1 interchanges within Surrey, and improve the arterial road connections to Fraser Heights. Recommendations for both short-term and long-term improvements will be provided upon completion of the Highway 1 interchange study.

Although the Highway 1/160 Street/104 Avenue interchange study indicates that delay and congestion would be reduced on the south side of the interchange by converting part of the westbound off-ramp to two-way operation, concerns are raised regarding the safety of the new intersection on the off-ramp. The Ministry of Transportation is not prepared to endorse changes to the westbound off-ramp until it is determined how this would fit into the overall reconfiguration of the 152 Street – 160 Street interchanges and potentially a new 156 Street interchange. This potential short-term improvement will be further evaluated in conjunction with the results and recommendations arising from the more comprehensive study of the Highway 1 interchanges within Surrey to be completed by October.

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Attachment

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