

ITEM 13
MANAGER'S REPORT NO. 7φ
COUNCIL MEETING 91/12/09

TO: MUNICIPAL MANAGER 1991 DECEMBER 02
FROM: DIRECTOR ENGINEERING FILE: 50-03-02
SUBJECT: BURLINGTON NORTHERN RAILWAY - CARIBOO ROAD CROSSING

PURPOSE: To advise Council of the historical relationship between the road and the railway, the upgrading of warning signals and the feasibility of the installation of a full width barrier.

RECOMMENDATION:

1. THAT Mr. Mike Brown, #316 - 9857 Manchester Drive, Burnaby, B.C., V3N 4P5 be sent a copy of this report.

BACKGROUND

At the regular Council meeting held on 1991 October 28, Council received correspondence from Mr. Mike Brown expressing concerns re regarding the Cariboo Road crossing of the Burlington Northern Railway. Upon consideration of the correspondence, Council adopted the following motion:

"THAT Municipal staff prepare a report examining the historical relationship between the road and the railway, the upgrading of warning signals and the installation of a full barrier."

REPORT

1. HISTORICAL RELATIONSHIP

The Municipal Surveyor conducted a search through the Land Titles Office and found that the Railway is the senior party at the Cariboo Road crossing. This means that the Railway owns the right-of-way over our road and the Municipality is 100% responsible for maintenance costs on the crossing and the signals.

2. UPGRADING OF WARNING SIGNALS

The existing railway signal control equipment is quite old and employs track sensors that are unable to determine the approach speed of trains on the track. Due to a long grade on the westbound approach, heavily laden trains approach quite slowly. Burlington Northern Railway has advised us that the minimum warning time provided is 30 seconds but may be as long as 2.5 minutes for a slow moving train. New equipment would be required to provide speed sensing capability and controls that would provide a constant 30 second warning.

We are currently involved in negotiations with Burlington Northern Railway regarding the interconnection of our new traffic signal at Cariboo Road and Government Street. The Railway has expressed a desire to upgrade the control equipment in conjunction with the provision of this interconnection. This upgrade may qualify for a Federal Grant through the Railway Safety Directorate. We will advise Council in a future report as to the results of these negotiations and the cost implications.

3. INSTALLATION OF A FULL BARRIER

We discussed the feasibility of installing a full width barrier across Cariboo Road with Burlington Northern. To be effective, the barrier would have to extend almost completely across both approaches, bringing the total length of each gate arm to 12m. This would require a more expensive two stage gate mechanism. We were advised that this type of gate control would cost about \$50,000.

Full width gates spanning both travel directions are not recommended because of the danger of creating a trap for vehicles which may be backed up on the tracks when a train activates the signals. The gates must start to close 6 seconds after activation by a train. This may not be sufficient time for a vehicle to clear the track before the gate comes down. With the current gate design, the gate arm would come down behind the vehicle providing a clear path off the tracks to the front as vehicles move through the intersection. If full width gate arms were installed, the vehicle could effectively be boxed in by gate arms to the front and rear of the vehicle, trapping the driver on the tracks. The Railway's assessment is that this scenario would create a more dangerous situation than that which it is trying to resolve. We concur with this assessment and would not recommend the installation of longer arms.

The activation of the new traffic signal at Cariboo Road and Government Street will likely reduce the tendency for drivers to dodge around the gates as the signal will be programmed to remain red for Cariboo Road and green for Government Street during the entire duration of the railway signal activation. A short green interval for Cariboo Road at the start of activation, immediately prior to the lowering of the gates, will allow any vehicles that may have stopped north of the tracks to clear the intersection before the arrival of the train.

The proposed improvements to the railway signal equipment will also reduce the tendency of drivers to drive around the gates, as the consistent 30 second warning interval will result in the train being clearly visible to drivers by the time the signal is activated. Under the current situation, a slow moving train activates the signal when it is still well out of sight of the railway crossing. There may be a 1.5 to 2.0 minute interval before the train comes into the drivers view. As stated previously, a future report to Council will be required to outline the costs of these improvements.

BB:jb


DIRECTOR ENGINEERING