




City of Richmond

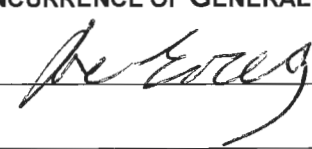
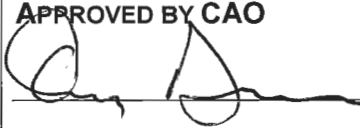
Report to Committee

To: Public Works and Transportation Committee **Date:** December 15, 2017
From: Victor Wei, P. Eng.
 Director, Transportation **File:** 01-0150-20-
 THIG1/2017-Vol 01
Re: Road Safety along S-Curve Section of Highway 91

Staff Recommendation

That the City send a letter to the Ministry of Transportation and Infrastructure requesting consideration of the potential road safety measures to mitigate crashes and improve public safety along the S-Curve section of Highway 91 as described in the report titled "Road Safety along S-Curve Section of Highway 91" dated December 15, 2017 from the Director, Transportation.


 Victor Wei, P. Eng.
 Director, Transportation
 (604-276-4131)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
RCMP Fire-Rescue	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: CJ	APPROVED BY CAO 

Staff Report

Origin

At the January 10, 2017 Community Safety Committee meeting, the following referral was carried:

That staff examine potential measures to increase safety along the S-Curve section of Highway 91 and report back.

This report summarizes the results of staff's investigation of the crash history of this provincial highway segment.

Analysis

Highway 91 S-Curve

Highway 91 is a provincial highway under the jurisdiction of the Ministry of Transportation and Infrastructure (the Ministry). As shown in Figures 1 through 3, the subject highway section is 2.3 km in length (between the No. 8 Road underpass and the CN Railway overpass) and has two lanes in each direction with the opposing directions physically separated by centre median barriers. The highway speed is posted at 90 km/hr.

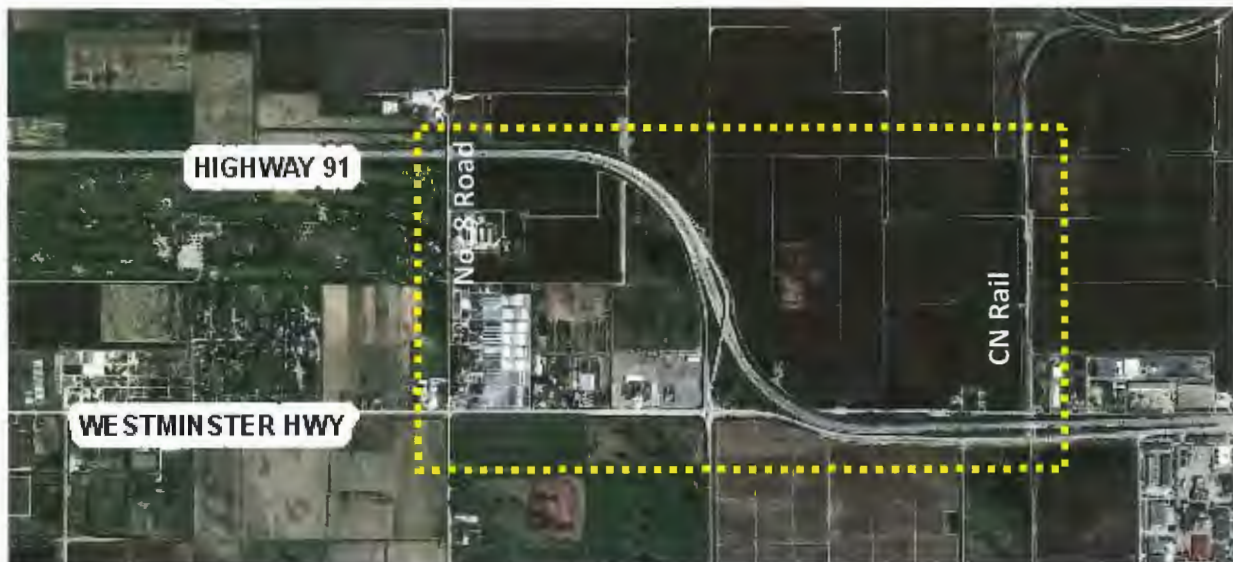


Figure 1: Aerial View of Highway 91 S-Curve



Figure 2: Westbound in S-Curve



Figure 3: Eastbound in S-Curve

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Crash History

Staff reviewed the five-year RCMP collision reports, which were provided by the Ministry, and ICBC claims data for the period between January 1, 2011 and December 31, 2015. Key findings as identified by the Ministry are:

- a total of 77 reported collisions over the five-year span, which equates to approximately 15 collisions per year;
- 31 (40 per cent) reported collisions resulted in personal injury and 46 (60 per cent) resulted in property damage only over \$1,000;
- rear-end collisions are the predominate type of reported collision (65 per cent);
- over 60 per cent of all reported collisions feature driver action/condition as contributing factors, including driver inattentiveness (33 per cent) as the primary cause followed by driver following too closely (nine per cent);
- less than two percent of all collisions are related to road and weather conditions;
- collision frequency is measurably higher in the morning peak period, followed by the afternoon peak period; and
- the directional distribution of collisions is heavily weighted in the westbound direction with over two-thirds of all reported collisions involving traffic destined towards west Richmond. This trend is in line with the traffic flow conditions with the westbound direction experiencing slow-downs in the morning commuter rush periods.

In addition to the above documented crash history, staff observations during typical weekday AM peak periods in the westbound direction suggest that some unsafe and/or last-minute lane changing at the approach to the S-Curve may also be a driver action to avoid slow-downs that could contribute to collisions.

Potential Mitigation Measures

Staff recognize that the Ministry has qualified transportation engineers who may assess crash data in this area on an on-going basis; notwithstanding, the Ministry may benefit from staff's observations. Accordingly, as the majority of reported collisions appear to be due to driver actions, staff recommend that the City send a letter to the Ministry requesting consideration of the following potential mitigation measures to improve road safety along the S-Curve section of Highway 91:

- **Advisory Signage:** dynamic advisory signage facing westbound drivers approaching the S-curve to inform drivers of the presence of any traffic congestion and static advisory signage to reinforce no distracted driving for motorists approaching the S-Curve in each direction.
- **Deterrent/Restriction to Lane Changes:** installation of revised pavement markings and traffic signage to discourage/restrict lane changes for westbound drivers approaching the S-Curve.
- **Enforcement and Education:** RMCP enforcement of distracted driving and education campaigns, possibly in partnership with ICBC.

Financial Impact

None.

December 15, 2017

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Conclusion

As Highway 91 is a provincial responsibility, staff recommend that a letter be sent to the Ministry of Transportation and Infrastructure requesting consideration of several potential road safety measures to mitigate crashes and improve public safety along the S-Curve section of Highway 91.



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