



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** December 4, 2012
From: Victor Wei, P. Eng.
 Director, Transportation **File:** 10-6450-07-03/2012-
 Vol 01
Re: NO. 1 ROAD AND MONCTON STREET INTERSECTION - REPORT BACK ON
 "PEDESTRIAN SCRAMBLE" FEATURE

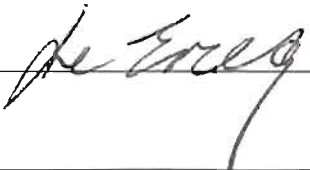
Staff Recommendation

That the report on the operation of the pedestrian scramble feature at the intersection of No. 1 Road and Moncton Street be received for information.



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

Att. 1

REPORT CONCURRENCE			
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER	
Finance.....	<input checked="" type="checkbox"/>		
Engineering	<input checked="" type="checkbox"/>		
RCMP	<input checked="" type="checkbox"/>		
REVIEWED BY SMT SUBCOMMITTEE	INITIALS: <i>VE</i>	REVIEWED BY CAO	INITIALS: <i>GD</i>

Staff Report

Origin

At its May 24, 2011 meeting, Council endorsed the implementation of a pilot “pedestrian scramble” feature as part of the new signalization of the No. 1 Road and Moncton Street intersection and directed:

That staff monitor the effectiveness of the above pilot “pedestrian scramble” feature at No. 1 Road/Moncton Street intersection and report back to Council after one year of implementation.

This report summarizes the operation of and the feedback received on the changes to the intersection and proposes an enhancement to further improve its operation.

Analysis

1. Signalization and Pedestrian Scramble Feature

The traffic signals at No. 1 Road and Moncton Street began operation on December 15, 2011. The associated improvements included raising the intersection, providing pedestrian priority via a “pedestrian scramble” signal phase (the first in BC to be re-introduced), and installing distinct pavement textures and markings to better define the pedestrian precinct. The pedestrian scramble phase gives pedestrians priority as it prohibits all vehicular movements while allowing pedestrians to cross in any direction including diagonally. This special traffic signal feature was implemented to accommodate the high pedestrian volumes in Steveston Village and place a higher priority on pedestrian movements thereby further promoting walking as the primary mode of choice within the Village core. The project supports the theme of the new Official Community Plan, “*Towards a Sustainable Community*,” and is consistent with the City’s long-term goal to improve walkability throughout the city.

2. Feedback Received

The City has received much positive feedback from the public and stakeholders in support of the improvements at the intersection and many comments have specifically supported the scramble phase as an enhancement for pedestrians.

- *General Public*: overall, the majority of comments received from the public were supportive of the enhancements. However, some concerns were cited regarding the perceived negative impact to motorists of the no right-turn-on-red restriction during all phases, particularly for the westbound to northbound right-turn movement that has relatively larger traffic volumes. These individuals suggest that pedestrian movements be restricted and only vehicle movements allowed during the non-scramble phases (i.e., for both the east-west and north-south phases). In addition, one resident living in close proximity to the intersection identified concerns regarding the illumination and noise arising from the operation of the accessible pedestrian signal (APS) features; staff were able to address this resident’s concerns to the satisfaction of both the resident and a representative of the visually impaired community shortly after the traffic signals began operation.

- **Local Municipalities:** the City of Vancouver is now looking at the feasibility of installing a pedestrian scramble phase at a Robson Street intersection and the Corporation of Delta is also considering a similar application in Ladner Village.
- **Transportation Industry:** much interest was generated in the industry as the project was recognized by the Association of Consulting Engineering Companies – British Columbia at its 2012 Gala Event in March 2012 as a nominee for its 2012 Awards for Engineering Excellence (see Attachment 1 for an illustration of the display board). Staff have also been invited by the Institute of Transportation Engineers to present this initiative to the local chapter.

3. Operation of the Intersection and Proposed Enhancement

In the first few months following implementation of the intersection improvements, some violations of the no right-turn-on-red restriction were observed and thus additional signage was installed to increase motorist awareness of this feature.

The table below summarizes the crash data prior to and up to eight months following the implementation of the intersection signalization and associated improvements. There is no discernible difference in the average annual crash rates between the two periods.

Category	Before Improvements				After Improvements	
	2007	2008	2009	2010	1-Jan-11 to 14-Dec-11	15-Dec-11 to 31-Aug-12
Injury	2	2	0	0	0	1
Property Damage Only	1	3	7	3	1	3
Total	3	5	7	3	1	4
Annual Average	3.83				2.83	

With respect to the feedback received suggesting that pedestrian movements be restricted to the scramble phase only, staff do not recommend this action as such an operation would have a negative impact on people with visual impairments as they rely on either APS features (i.e., “cuckoo” and “chirp” sounds) or traffic movements as cues to cross parallel and perpendicular to the streets; they cannot cross diagonally. This is especially apparent if they use guide dogs as the dogs are not able to distinguish which intersections have a pedestrian scramble feature and which do not.

As staff recognize that the no right-turn-on-red restriction can unduly delay turning motorists and cyclists and generate vehicle queuing, staff intend to remove this restriction for all four turning movements. The existing signs (Figure 1) would be removed and replaced with shoulder-mounted warning signs (Figure 2). Following implementation, staff would continue to monitor the intersection and undertake any further adjustments as necessary to optimize its operation.



Figure 1



Figure 2

A potential future adjustment, which staff will be investigating, is the installation of dynamic no right-turn-on-red illuminated signs that flash only when the pedestrian scramble phase is active. During the standard north-south and east-west phases, these signs would be blank. Figure 3 shows a sample illuminated no right-turn-on-red sign in California.

Financial Impact

The cost of removing the existing signage and placing new signage has an estimated cost of \$1,500, which can be accommodated within 2011 Minor Capital - Traffic.

Conclusion

The signalization of the intersection of No. 1 Road and Moncton Street including the "pedestrian scramble" phase and other associated improvements has been well received by the public and stakeholders since its implementation on December 15, 2011. Therefore, staff recommend that the feature be maintained and a further adjustment to optimize the operation of this intersection be undertaken following which staff will continue to monitor the intersection and make added adjustments, if necessary.



Figure 3

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DC:dc

Display Board Prepared for Submission of Project to the Association of Consulting Engineering Companies of British Columbia

No. 1 Road & Moncton Street Intersection



Making Pedestrians the Priority

The No. 1 Road and Moncton Street Intersection is a gateway to Steveston Village. The four-way stop-controlled intersection had significant vehicle, pedestrian and cyclist volumes, resulting in right-of-way confusion for all users. The City of Richmond undertook the project to improve the safety and efficiency of the intersection, with a focus on making pedestrians the priority. The signal operations include a pedestrian only "scramble" phase, allowing pedestrians to cross in any direction, including diagonally. This places a higher priority on pedestrian movements and further promotes walking as the primary mode for movement within the village core.



2D Visualization

In addition to the 3D rendering, a 2D visualization of the intersection was developed. This visualization provided a clear view of the intersection and the proposed changes. It was used to communicate the project to the community and to the City Council.



Safety & Accessibility

The project includes several safety and accessibility improvements, such as the installation of bollards, the use of tactile paving, and the implementation of a pedestrian-only "scramble" phase. These changes will improve the safety and accessibility of the intersection for all users.



A Landmark Intersection

The project will create a landmark intersection that is safe, accessible, and efficient. It will be a gateway to Steveston Village, and a place where pedestrians are the priority. The project will be a model for other intersections in the City of Richmond.

Objectives

- Improve the safety of the intersection for pedestrians by implementing the following objectives:
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B INNIE

City of Richmond: Owner, Traffic Circulation, Construction Supervision, BIM-led Functional and Detailed Design, Traffic Engineering, Survey

DIMP & Associates: Electrical Design, Imperial Paving, Construction Coordinator