



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** February 27, 2007
From: Victor Wei, P. Eng. **File:** 10-6450-07-03/2007-
Director, Transportation Vol 01
Re: **ENHANCED ACCESSIBLE INTERSECTIONS AND CROSSWALKS INITIATIVE**

Staff Recommendation

1. That an implementation strategy be developed for enhanced accessible features at signalized intersections and crosswalks in Richmond as described in the attached report.
2. That staff report back on the outcome of the above work in time for Council's consideration as part of the City's 2008 capital budget approval process.

Victor Wei, P. Eng.
Director, Transportation
(4131)

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ROUTED TO:		CONCURRENCE		CONCURRENCE OF GENERAL MANAGER	
Engineering		Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>		
REVIEWED BY TAG		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO	
				YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

Staff Report

Origin

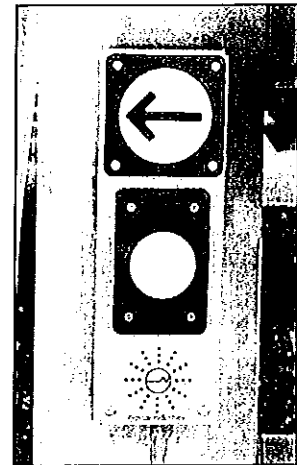
The Richmond Committee on Disability (RCD), with representatives from the Canadian National Institute for the Blind (CNIB) and Advocates for Sight Impaired Consumers (ASIC), has identified potential opportunities to enhance the use of accessible signals in the city. This report outlines the City's current practices with respect to audible and accessible signals and proposes an approach to enhance the City's existing implementation guidelines for accessible signals that addresses the needs of not only people with disabilities but also the broader community.

Analysis

1. Audible/Accessible Pedestrian Signals

Audible/accessible pedestrian signals are information devices that assist people with vision and hearing loss in crossing signalized intersections safely. Audible components consist of walk sounds for the active walk movement and are supported by an internationally recognized standard of bird sounds. Accessible features, while still in the development, testing and industry acceptance stage, typically consist of:

- a pole locator sound;
- pushbutton depress acknowledgement sound; and
- a tactile component (directional arrow or button) that vibrates when the walk light is on.



The audible signal features are part of the City's current audible signal guidelines while the accessible features are under review and testing by both the City and the traffic signal industry.

2. Current City Guidelines for Audible Signals

The City's current guidelines for the installation and operation of audible signals were developed in past consultation with the RCD, Visually Impaired Persons Club and CNIB mobility instructors and adopted by Council in August 1990. With input from these groups, some operational features have been implemented over the years (e.g., button hold-down to call audible feature). Listed in the table below, the City's guidelines are based on the industry's technical guidelines of that time, which are still in effect.

Element	Guidelines
Installation	Audible signals shall be limited to those intersections with a significant number of visually impaired pedestrians and conditions such that the visually impaired have difficulty crossing; and their crossing can be assisted by the presence of the audible devices.
	All audible signals shall be installed in cooperation and with the educational support of the Canadian National Institute for the Blind (CNIB).
	Audible signals shall only be installed at locations which meet the existing warrant for either pedestrian signals or full traffic signals.
	The installation of audible signals at intersections that are in close proximity to residential buildings where the noise may be considered a nuisance, should be avoided.

Element	Guidelines
Operation	The "cuckoo" sound shall be emitted during the "walk" phase of the north/south direction of travel.
	The "peep-peep" sound shall be emitted during the "walk" phase of the east/west direction of travel.
	Audible signals shall only be activated by the walk push button to ensure that noise pollution is kept to a minimum.

3. Current Status of Audible/Accessible Signals in the City

As shown in the table below, the City currently has audible signals in place at 15 intersections. In August 2003, a single unit that combines the accessible features of a push button, pole locator, button acknowledgement sound, and tactile vibrating sign was installed on a trial basis at seven intersections identified in consultation with the RCD.

Location	Audible Signal	Accessible Signal	Comments
Minoru Gate / Granville Ave	√		Audible units - east leg
No. 3 Rd / Cook Rd	√		Audible units - all directions
Gilbert Rd / Westminster Hwy	√		Audible units - all directions
Minoru Blvd / Library Entrance	√		Audible units - north and south leg
Gilbert Rd / Azure Rd North	√		Audible units - south leg
No. 3 Rd / Westminster Hwy	√		Audible units - all directions
No. 1 Rd / Chatham St	√	√	Audible and Accessible units - south leg
No. 2 Rd / Blundell Centre	√	√	Audible and Accessible units - north leg
No. 1 Rd / Youngmore Rd	√		Audible units - south leg
No. 3 Rd / Williams Rd	√		Audible units - south leg
No. 3 Rd / Saba Rd	√	√	Audible and Accessible units - all directions
Minoru Blvd / Granville Ave	√	√	Audible and Accessible units - all directions
No. 1 Rd / Blundell Rd	√	√	Audible and Accessible units - south leg
No. 2 Rd / Blundell Rd	√	√	Audible and Accessible units - all directions
No. 3 Rd / Lansdowne Rd	√	√	Audible and Accessible units - north leg

Note: Locations with both audible and accessible signals are combined into one unit.

The accessible devices installed met the key requirements for audible/accessible features as requested for testing by the RCD. Initial feedback from the RCD on the enhanced audible signals was positive although a number of residents living in the vicinity of the devices have identified concerns with the additional sounds emanating from the intersection, particularly in the summer. The RCD recognizes these concerns and is prepared to work with City staff to mitigate the impacts, such as adjusting the volume of the signals. The tested features currently remain at the above sites.

The City's standard for the push button and sign component of the signal is consistent with industry standards and typically used in most other jurisdictions. The signs used throughout the city are twice as large as the national standard and have a yellow as opposed to a white background (yellow being the most visible colour to the visually impaired). The pushbutton model currently used is also yellow, easy to push, has a positive click feel when pushed, and is compatible for retrofit to current accessible equipment being tested by the City. Staff continue to work with the traffic signal industry on further product development of accessible signals.

4. Lack of National Industry Standards for Accessible Signals

Unlike traffic signals, pedestrian signals and regular audible signals, there are currently no national standards or guidelines regarding accessible signals, the particular features they should

incorporate or any widely accepted implementation and operation practices. The lack of generally accepted features and guidelines has restricted the City's implementation of accessible signals as there are equipment, operations standards and public education issues related to implementing new accessible features that must be resolved to provide reliable and easily understandable functions. This is a common accessible signal issue throughout North America.

In addition to the development of national standards to ensure consistency across jurisdictions, flexible field hardware/software that is easily and cost-effectively upgradeable with new features is also necessary, as retrofitting existing installations will have cost implications.

The Transportation Association of Canada (TAC), which publishes the industry's accepted technical guidelines, is now addressing this issue with the development of accessible signal guidelines that are anticipated to be adopted later in 2007. Based on staff's review of a draft of the guidelines, they will provide valuable direction for standardization, prioritization, design, installation, operation, and maintenance of accessible signals.

5. Richmond Committee on Disability – Identified Opportunities

Staff met with the RCD to discuss opportunities to enhance the use of accessible signals in the city. The RCD identified the following specific priority areas for improvement.

5.1 Test New Technology at Pilot Locations

New accessible features are continually being developed by the traffic signals industry, such as a voice message that plays following a button push (e.g., "the Granville walk sign is on") and the ability to adjust the volume of the audible signal (e.g., by depressing the pushbutton for a longer period). *The RCD would like the City to undertake greater testing of the new technology at pilot locations selected in consultation with the RCD.*

5.2 Intersections with Advance Left-Turn Arrows

At intersections where left-turning motorists have an advance green arrow, the walk light and accessible signal do not go on for the crosswalk on that leg of the intersection until the advance left-turn phase is finished. However, the walk light and audible signal for the crosswalk on the parallel leg of the intersection will go on if there is no similar left-turning traffic crossing that leg. In these situations, pedestrians with vision loss can have difficulty in discerning for which leg of the intersection that the audible signal is on. The existing operation at multi-phased intersections was previously approved by community representatives in the early 1990s. *The RCD would like the City to review potential accessible features that would provide clearer information to users at intersections with complex signal phasing.*

5.3 Special Crosswalks

The City's special crosswalks have pushbutton-actuated overhead flashing amber lights. Pedestrians with vision loss cannot determine if the lights are flashing as there is no audible indication. *The RCD would like the City to investigate possible measures to enhance the accessibility of special crosswalks with possible audible features.*

6. Development of Implementation Strategy for Accessible Signals

Given the forthcoming adoption of the TAC accessible signal guidelines as well as feedback from the RCD regarding areas of particular concern, staff propose to develop an implementation strategy for accessible signals throughout the city. This strategy would have the following general components:

- a) consultation with stakeholders and organizations, including RCD, CNIB and ASIC, representing people with vision loss, including those who are deaf-blind;
- b) review of TAC accessible signal guidelines to identify any additional accessible features and/or retrofitting of existing equipment that is required to meet new industry standards;
- c) evaluation of options to achieve industry standards (TAC guidelines), which may include retrofit of the existing technology and tendering for new equipment, with the evaluation criteria to include cost, time required for implementation, etc;
- d) recommendation on standard for implementation;
- e) review and retrofitting (if necessary) of existing accessible signal locations;
- f) identification of new installation locations and their priority; and
- g) funding and implementation phasing strategy.

This implementation strategy would also incorporate accessible transportation concepts and initiatives to be identified as part of the update of the City Centre Transportation Plan (CCTP) and the No. 3 Road Streetscape Study. For example, the current CCTP update proposes that key intersections and crosswalks near transit villages be made universally accessible. Similarly, staff have identified a priority need for accessible signals at the intersection closest to each Canada Line station to ensure universal access to the system.

Financial Impact

There is no financial impact to the City at this time. Any funding needs to support the recommended implementation strategy for enhanced accessibility at intersections and crosswalks will be reported back in time for Council's consideration as part of the 2008 capital budget approval process.

Conclusion

The Richmond Committee on Disability has identified potential opportunities to enhance the use of accessible signals in the city. Given the forthcoming adoption of the new national accessible signal guidelines, staff propose to develop an implementation strategy for accessible signals throughout the city for Council review and consideration as part of the City's 2008 Capital Program budget review process.



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