



City of Richmond

Report to Committee

**To:** Public Works and Transportation Committee    **Date:** October 29, 2004  
**From:** Victor Wei, P. Eng.  
Acting Director, Transportation    **File:** 10-6450-17-02/2004-Vol  
01  
**Re:** **PROPOSED INSTALLATION OF A SPECIAL CROSSWALK AT  
NO. 5 ROAD/KINGSBRIDGE DRIVE INTERSECTION**

**Staff Recommendation**

1. That the installation of a special crosswalk at the intersection of No. 5 Road and Kingsbridge Drive be approved for implementation with construction to commence in 2004.
2. That funding for this project come from the 2003 Transit-Related Road Infrastructure Program (TRRIP) account.

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

<b>FOR ORIGINATING DIVISION USE ONLY</b>		
<b>CONCURRENCE OF GENERAL MANAGER</b>		
<b>REVIEWED BY TAG</b>	YES DW <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<b>REVIEWED BY CAO</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

## Staff Report

### Origin

At the Community Safety Committee meeting held on October 13, 2004, the following referral was made to staff:

*“That staff investigate the traffic situation on No. 5 Road, including the intersection of No. 5 Road and King Road and other areas, and report to the Committee with recommendations on options which could be implemented in terms of pedestrian signals or other measures to ensure community safety and whether funding would be available through the City, or if it would be feasible to seek community partners as a source of funding.”*

This report addresses these referral items and provides recommendations with respect to traffic-related measures to improve community safety in the area of No. 5 Road and King Road.

### Analysis

#### 1. Existing Road Conditions

No. 5 Road between Williams Road and Blundell Road is a four lane arterial road, 14 metres wide with two lanes northbound and two lanes southbound. There are concrete sidewalks and street lighting on both sides of the roadway. The nearest signalized intersections are at Williams Road and at Blundell Road. These two intersections are currently the only marked crosswalks along this section of No. 5 Road and are approximately one mile apart.

#### 2. Transit Service

This section of No. 5 Road is served by the #405 bus service, which runs between Riverside Industrial Park and the Ironwood area to S.E. Marine Drive at Knight Street in Vancouver via Richmond Centre. This transit service operates seven days per week generally on a 30-minute frequency during weekday peak periods and a 60-minute frequency during mid-days and weekends. The majority of the residential units in the area are located on the west side of No. 5 Road, from Kingsbridge Drive south to Steveston Highway.

#### 3. Traffic Survey Results

Most recently, staff conducted traffic counts in the 8700 block of No. 5 Road for the period October 22-29, 2004. The traffic count was undertaken to determine the speed and volume of traffic using this section of No. 5 Road as part of the warrant process for determining the establishment of a crosswalk. The traffic survey results indicate that the 85<sup>th</sup> percentile speed (the speed at which 85% of the free-flowing vehicles are traveling at or below) was 74 km/h for northbound traffic and 72 km/h for southbound traffic. The posted speed limit on No. 5 Road is 50 km/h. Average daily traffic volumes were 7,755 vehicle travelling northbound and 7,940 vehicles travelling southbound, which are typical traffic volumes for an arterial road.

#### 4. Crosswalk Warrants

Staff conducted two warrant reviews for the installation of a crosswalk in this area whereby pedestrian counts were taken during periods that were expected to have higher levels of pedestrian activity, based on consultation with places of worship in the area.

- November 17, 2002 – Pedestrian counts were conducted during the morning (5:30 a.m. - 6:30 a.m.) and afternoon (5:30 p.m. - 6:30 p.m.) peak hours. Two pedestrians crossed No. 5 Road at Kingsbridge Drive during the afternoon peak hour of the review. Based on the data gathered, it was determined that the installation of a crosswalk was unwarranted at that time.
- October 31, 2004 – Pedestrian counts were conducted during the morning (9:30 a.m. - 10:30 a.m.) and afternoon (1:30 p.m. - 2:30 p.m.) peak hours on a Sunday. One pedestrian crossed in each of the morning and afternoon periods.

Based on the warrant reviews, the existing pedestrian volumes alone do not technically warrant the installation of a crosswalk. However, given the traffic speeds and volumes in this area and the fact that there is no marked crosswalk for a distance of 800 metres on this arterial roadway, provision for a crosswalk is anticipated to improve pedestrian safety. Staff therefore recommends that a pedestrian crossing be installed on No. 5 Road at Kingsbridge Drive.

#### 5. Proposed Pedestrian Crossing Facility

Traffic control signs and signals for crosswalks are installed for pedestrian and vehicle safety and traffic flow control. A hierarchy of devices exists to enable an appropriate match between the control device and local conditions to achieve reasonable 24-hour traffic control for varying levels of roadway activity. The installation of a signal device that enforces greater control than required over local traffic conditions contributes to driver and pedestrian frustration and ultimately increased disobedience of the device. Matching an appropriate control device to local conditions provides improved traffic safety and equitable access for all users of the roadway. Staff examined two alternative pedestrian crossing options as well as the potential location of the facility in order to improve crossing opportunities of No. 5 Road in this area.

##### 5.1 Pedestrian-Actuated Signal

A pedestrian-activated traffic signal typically effects greater driver compliance than a crosswalk with pedestrian-activated overhead flashing amber lights due to its use of a red light to stop motorists. However, the blanket application of pedestrian-activated signals on all arterial roads may not necessarily achieve the best balance between the needs of all road users. Given existing traffic conditions along this section of No. 5 Road and the relatively low pedestrian volumes, staff deems the use of a pedestrian signal as excessive. Indeed, the installation of unwarranted traffic control devices could result in poor compliance and negative traffic safety consequences.

##### 5.2 Special Crosswalk

Special crosswalks refer to those facilities with overhead internally lit signs with downward lighting and pedestrian-actuated flashing amber beacons. These crosswalks are less disruptive to traffic flows and render pedestrians more visible to motorists than shoulder-mounted controls, particularly at night. In September 2001, Council approved a multi-year Arterial Crosswalk Upgrade Program to upgrade existing pedestrian crosswalks on arterial roads to “special

crosswalks.” Consistent with this policy, staff have installed special crosswalks when new pedestrian crossing facilities are required on arterial roads (e.g., 4400-block of Hazelbridge Way between Parker Place and Fairchild Square).

Poor visibility due to inadequate lighting and driver inattention are two of the most frequently reported contributing factors to pedestrian-related traffic accidents. The greatest advantage of special crosswalks is that the entire crossing is well lit 24-hours a day, thus making pedestrians much more visible to drivers. The flashing amber lights also serve as an active device to alert drivers that pedestrians are occupying the crosswalk. Staff therefore recommend installation of a special crosswalk on No. 5 Road to improve pedestrian safety in the area.

### 5.3 Pedestrian Crossing Location

Per industry guidelines, the preferred placement of crosswalks is at intersections rather than at mid-block locations as motorists expect pedestrians at intersections, not at mid-block locations. Given this parameter and upon review of the traffic patterns and locations of the destinations in the area, staff recommend that a special crosswalk be installed at the intersection of No. 5 Road and Kingsbridge Drive (see Attachment 1).

The proposed location would serve the majority of pedestrians crossing No. 5 Road to and from the various places of worship, public transit stops (there are bus stops on either side of the intersection) and the nearby Mylora golf centre. The location of this proposed crosswalk would be situated mid point between the signalized intersections at Williams Road and Blundell Road, which are currently the only two other crosswalks on this section of No. 5 Road. The proposed location is within walking distance to the Indian Cultural Centre (190 metres) and installing a crosswalk further north of the proposed location would decrease the likelihood of its use by area residents to access public transit stops.

### Financial Impact

The installation of a special crosswalk at the intersection of No.5 Road and Kingsbridge Drive is estimated to cost \$35,000. The proposed funding source for this project is the 2003 Transit-Related Road Infrastructure Program (TRRIP), as the proposed crosswalk would also benefit transit users in the area.

### Conclusion

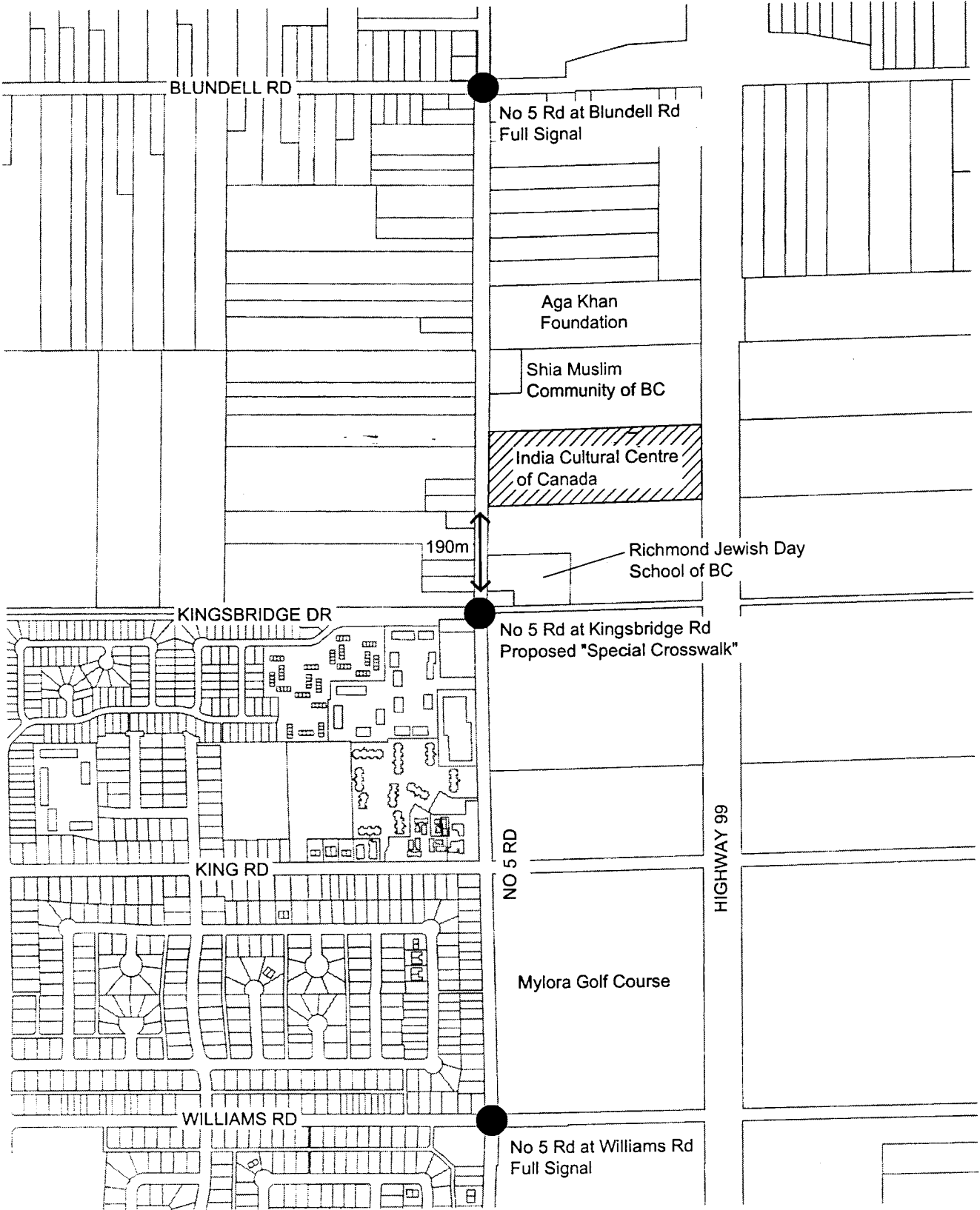
Based on staff's assessment of the traffic conditions, pedestrian activity and local destinations along No. 5 Road between Blundell Road and Williams Road, staff recommend that a special crosswalk be installed at the intersection of No.5 Road and Kingsbridge Drive to improve community traffic safety.



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# Proposed "Special Crosswalk" at No. 5 Road and Kingsbridge Road