



City of Richmond

Report to Committee

To Public Works + Transportation - Apr 23, 2008

To: Public Works and Transportation Committee

Date: April 3, 2008

From: Victor Wei, P. Eng.  
Director, Transportation

File: 10-6360-12-01/2008-Vol  
01

Re: PROPOSED WALKWAY ON FOURTH AVENUE IN STEVESTON

Staff Recommendation

That the concept of the proposed pedestrian walkway to be constructed on the west side of Fourth Avenue between Steveston Highway and Chatham Street, as described in the attached report, be forwarded to the area residents for comments and indication of support by means of a mail-out questionnaire survey.

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

Att. 2

FOR ORIGINATING DEPARTMENT USE ONLY					
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>		<b>CONCURRENCE OF GENERAL MANAGER</b>		
Engineering .....	Y	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	
<b>REVIEWED BY TAG</b>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	<b>REVIEWED BY CAO</b>
		<i>a.x.</i>			YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

## Staff Report

### Origin

Area residents on Fourth Avenue in Steveston have recently contacted the City requesting a pedestrian walkway along this roadway due to concerns regarding pedestrian safety in light of the existing narrow road shoulder and recently observed increases in traffic volume including buses.

This report summarizes staff's assessment of the current traffic conditions on Fourth Avenue and proposes a pedestrian walkway be implemented subject to consultation with area residents.

### Analysis

#### 1. Neighbourhood Traffic Improvement Study

In order to address traffic safety concerns in any residential neighbourhood in Richmond, staff complete the following procedures involving investigating, evaluating, designing and conducting a public consultation before any traffic-related local road improvement takes place:

- a) verify the existing traffic characteristics of the subject area;
- b) analyze any historical traffic accident data of the area;
- c) determine the type of traffic calming measure/s appropriate, if any, to be implemented to address the traffic-related problem;
- d) estimate the costs associated for implementation of any measures to enhance traffic safety in the area and confirm funding availability;
- e) present a staff report to Committee/Council recommending improvements to address any traffic-related problem and seek Committee/Council's approval;
- f) conduct a survey of the affected residents to obtain their support for any proposed traffic calming measure/s to be implemented;
- g) if there is a majority (2/3's or greater) support from local residents, proceed with the implementation of the traffic calming measure/s;
- h) after implementation of any traffic enhancements, monitor the improved area to ensure positive results are obtained and any traffic problems have been addressed; and/or
- i) if there is no majority support for the proposed traffic calming measure/s, the proposed improvements will not be pursued or they will be re-evaluated based on suggestions/feedback from area residents. Accordingly, Council would be advised of any revision/s to the original staff recommendation.

The following summarizes the traffic study staff recently conducted on Fourth Avenue.

#### 1.1 Traffic Study Area

The subject traffic study area was Fourth Avenue between Steveston Highway and Chatham Street and was located in an area of older subdivisions made-up of single-family residential homes. Fourth Avenue, at this location, is a 6.5 metre wide asphalt roadway with a 0.5 metre gravel shoulder on each side. The existing boulevards at this location are relatively wide due to the existing 30-meter road right-of-way. The boulevards are grassed with several trees planted on the west side. There are currently very few locations along the roadway where parallel vehicle parking is legally permitted due to the abundance of driveways accessing Fourth Avenue.

In 2003 an asphalt pedestrian walkway was constructed on the north side of Georgia Street between Fourth Avenue and No. 1 Road primarily for the use of students attending Lord Byng Elementary School. The addition of a walkway on Fourth Avenue would complete a north-south oriented pedestrian walkway connection and together with the Georgia Street walkway and the marked pedestrian crosswalk already in place, it would further provide a much improved walking route for students to and from the school.

Fourth Avenue is also a designated bus route where full-size buses serving Routes #407, #490 and a shuttle bus serving Route C93 are operating regularly. There are eight bus stops on Fourth Avenue - four of which would be upgraded to accessible bus stop standard in conjunction with the proposed walkway improvement. The bus passenger landing areas would be connected to the walkway at each of the bus stop locations on the west side.

### 1.2 Traffic Volume and Vehicle Speed

Fourth Avenue was monitored by staff using traffic detectors to determine the extent of vehicle speed and traffic volume on the road. The results of the data collected indicated that the overall daily traffic volumes for this location are consistent with traffic volumes on a typical local road. The average annual daily traffic (AADT) volume is 1,200 vehicles, with a peak half-hour volume of 59 vehicles northbound between 8:30 am and 9:00 am, and a peak half-hour volume of 42 vehicles southbound between 5:00 pm and 5:30 pm.

The vehicle speed identified on Fourth Avenue indicated an 85<sup>th</sup> percentile speed (the maximum speed at which 85% of the traffic was travelling) of 53 km/h southbound and 55 km/h northbound, which is not considered to be excessive in a 50 km/h zone. There are no reduced speed zones (30 km/h) such as playgrounds or schools in the study area. Staff will continue to monitor the area and provide traffic data to the Richmond RCMP, if necessary, so that they can schedule any required enforcement at this location during the times when there is evidence of higher vehicle speeds.

### 1.3 Crash History

An analysis of ICBC crash data over a 10½ year period for the study area indicated a total of 43 traffic crashes at or near the nine intersections along Fourth Avenue between Steveston Highway and Chatham Street. None of the reported crashes involved pedestrians or cyclists.

**Number of Crashes – Jan 1996 to May 2006  
Fourth Avenue (between Steveston Highway & Chatham Street)**

Year	No. of Reported Crashes
1996	7
1997	5
1998	4
1999	4
2000	4
2001	5
2002	1
2003	8
2004	1
2005	2
2006	2
<b>10 ½ -Year Total</b>	<b>43</b>
<b>Average Crash per Year</b>	<b>4.1</b>

Type of Crashes in Area

Type of Crash	No. of Reported Crashes
Reversed into parked car	8
Side swipe	5
Turning, strike approaching car	2
Single Vehicle, Lost control	3
Head on	1
Hit and Run	2
Rear End	3
Vandalism	1
90° (Ran Stop Sign)	18

Based on the above information, the frequency of vehicular crashes was not found to be exceptionally high at this location. The predominance of 90° crashes at stop signs indicates that some drivers may not be coming to a full stop at the stop sign due to the relatively low traffic volume approaching this intersection and despite the fact that the stop signs were all updated several years ago to “diamond grade” retro-reflective sheeting. Staff have advised the Richmond RCMP of this observation for possible enforcement in the area.

## 2. Traffic Enhancement Recommendations

Although neither the vehicle speed nor traffic volume on Fourth Avenue is considered excessive, the combination of the narrow roadway, the presence of three bus routes, the lack of an improved roadway shoulder, and the benefits of an improved pedestrian connection to the local elementary school does present a merit for providing a pedestrian walkway at this location. Therefore, staff recommend the following options be considered:

- Option 1 (Preferred) – construction of a pedestrian walkway, 2.5 metres offset from the edge of the road along the west side of Fourth Avenue (Attachment 1).
- Option 2 – construction of a pedestrian walkway adjacent to the existing roadway with a white edge line along the west side of Fourth Avenue (Attachment 2).

Option 1 is preferred for the following reasons:

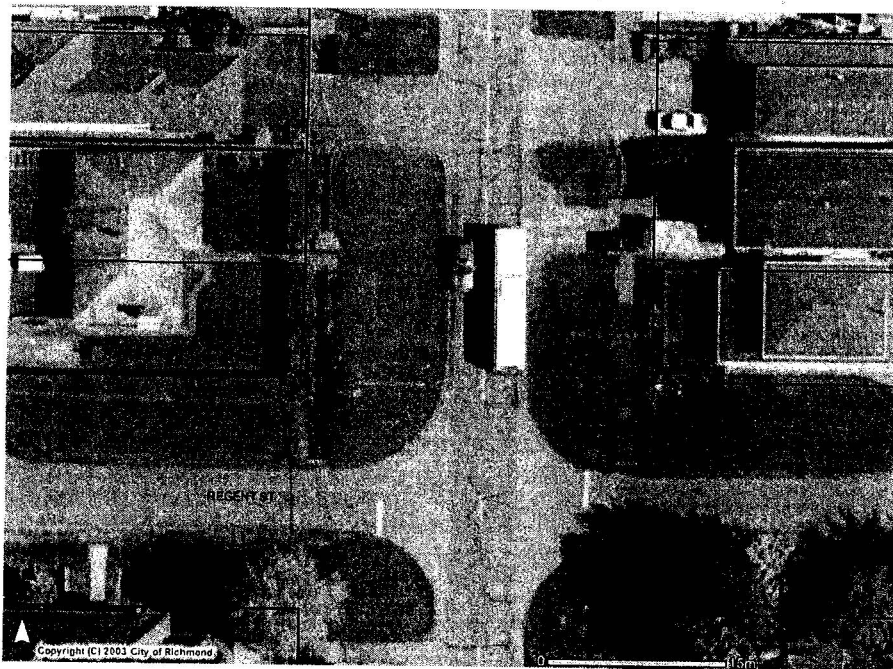
- pedestrians would be separated from the travelled roadway providing a buffer zone between vehicles and pedestrians with only one tree being potentially impacted by the proposed walkway;
- vehicles would tend to intrude into the adjacent walkway as they approach an opposite northbound bus or car if not for the offset walkway; and
- residents along Fourth Avenue would not have to drive over the walkway in order to parallel park in front of their residences.

Option 2 is being considered, as shoulder walkways adjacent to the road edge are often perceived by some area residents as being less intrusive into their front yards. Although not preferred, Option 2 would still function as an improved pedestrian facility over the existing conditions on Fourth Avenue.

The cost to construct the proposed asphalt walkway is estimated at \$100,000 (2008 dollars) which, subject to 2/3 majority support of the affected residents, would be submitted as a candidate project for consideration in the City’s 2009 Capital Program review.

Staff observations regarding on-street parking along Fourth Avenue have shown that very few residents currently park on the west side of Fourth Avenue. Generally, residents park on their driveways well away from the roadway as the driveways are quite deep (approximately 18.0 metres from edge of road to the garage door) due to the 30 metre wide right-of-way.

The aerial photo below shows the lack of pedestrian space on Fourth Avenue as a bus and car pass each other and both shy towards the edge of the roadway.



### **Financial Impact**

None at this time.

### **Conclusion**

Subject to the area residents' support and 2009 capital funding approval, the proposed walkway on Fourth Avenue between Steveston Highway and Chatham Street is recommended for implementation to address the concerns of the area residents regarding the lack of pedestrian facilities and the potential traffic safety hazards between Steveston Highway and Chatham Street.

A handwritten signature in black ink, appearing to be "Doug Newton", written over a horizontal line.

Doug Newton  
Acting Supervisor, Traffic Operations  
(4032)



Fourth Avenue

Garry Street

Stop Sign

Stop Sign

2.00

2.50

Walkway

12.00

Driveway

18.00

Driveway

Bus Stop ●

Connecting Landing Pad

Garage

Garage

Property Line

OPTION 1 PROPOSED OFF-SET ASPHALT WALKWAY  
TYPICAL LAYOUT  
FOURTH AVENUE FROM STEVESTON HIGHWAY TO CHATHAM STREET



Garry Street

Fourth Avenue

Stop Sign

Stop Sign

2.00

Solid White Edge Line

Walkway

12.00

Driveway

Bus Pad Extension

18.00

Driveway

Bus Stop

1.00

Garage

Garage

Property Line

OPTION 2 PROPOSED ADJACENT ASPHALT WALKWAY  
TYPICAL LAYOUT

FOURTH AVENUE FROM STEVESTON HIGHWAY TO CHATHAM STREET