



## CITY OF RICHMOND

### REPORT TO COMMITTEE

**TO:** Public Works and Transportation Committee      **DATE:** March 6, 2000  
**FROM:** Gordon Chan, P. Eng.  
          Manager, Transportation      **FILE:** 6450-01  
**RE:     **PROPOSED NEIGHBOURHOOD ROADWAY AND TRAFFIC IMPROVEMENTS****  
****FOR THE MCLENNAN AVENUE AREA****

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#### STAFF RECOMMENDATION

1. That the following proposed roadway and traffic improvements in the McLennan Avenue area, as described in the attached report from the Manager of Transportation, be approved for implementation in 2000:
  - a) Filling of existing ditches on the west side of McLennan Avenue between Bridgeport Road and River Drive (\$190,000);
  - b) Construction of a 2.0 metre wide asphalt walkway delineated with extruded curb and gravel shoulder on the west side of McLennan Avenue between Bridgeport Road and River Drive (\$154,000);
  - c) Construction of a new sidewalk at the short unfinished section of Finlayson Drive just west of McLennan Avenue (\$50,000);
  - d) Installation of a special pedestrian clearance timer for the existing pedestrian actuated traffic signal at Bridgeport Road and McLennan Avenue (\$20,000); and
  - e) Traffic control improvements at the intersection of McLennan Avenue and Finlayson Drive and installation of enhanced advance school zone signs on Finlayson Drive (\$600).
2. That the source of funding for the above improvements be as follows:
  - a) Items 1(a) and 1(c) above to be funded from the Neighbourhood Improvement Charges;
  - b) Items 1(b) and 1(d) above to be funded by the Airport Connector Project; and
  - c) Item 1(e) above to be funded from the 2000 Minor Capital Budget for Traffic Improvements.

Gordon Chan, P. Eng.  
Manager, Transportation

Att. 1

<b>FOR ORIGINATING DIVISION USE ONLY</b>		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Development Applications .....	Y <input type="checkbox"/> N <input type="checkbox"/>	
Engineering .....	Y <input type="checkbox"/> N <input type="checkbox"/>	
Budget .....	Y <input type="checkbox"/> N <input type="checkbox"/>	

## STAFF REPORT

### ORIGIN

In the latest round of the public consultation process for the Airport Connector Project, two public open houses were held in December, 1999 for the Burkeville and Bridgeport neighbourhoods. These open houses provided residents, business owners/operators, property owners and other interested individuals with the opportunity to review recent changes to the overall project design, including the proposed left-turn restrictions at Bridgeport Road and No. 4 Road to accommodate the new Highway 99 on/off-ramp located in the vicinity of this intersection.

At the open house for the Bridgeport neighbourhood, area residents raised concerns regarding the proposed left-turn restrictions at Bridgeport Road/No. 4 Road and the potential impact of diverted traffic on McLennan Avenue. This report provides a summary of the concerns raised and recommends a number of roadway and traffic improvements to address these concerns.

### ANALYSIS

#### **1. Proposed Left-Turn Restrictions at Bridgeport Road / No. 4 Road**

As part of the road improvements of the Airport Connector Project, a new on/off-ramp will be constructed to intersect with Bridgeport Road at approximately 80 metres west of No. 4 Road. To accommodate the westbound left-turning on-ramp traffic on Bridgeport Road safely, the Ministry of Transportation and Highways requires that left-turns be permanently restricted at the No. 4 Road intersection to minimize the vehicular conflicts caused by left-turning traffic. The need for this left-turn restriction was confirmed by the findings of a recent traffic safety audit carried out by an independent consultant retained by the Ministry.

On October 5, 1999, letters were sent out from the Airport Connector Project Manager to residents on No. 4 Road advising them of the proposed left-turn restrictions. Subsequently, on December 9, 1999, an open house was held at Tait Elementary School to present the latest changes to the project design including the proposed left-turn ban at No. 4 Road.

#### **2. Summary of Concerns of Area Residents**

After the letters noted above were sent out, a number of concerns were raised by the principal of Tait Elementary School and residents of the No. 4 Road and McLennan Road area through written and verbal correspondence to the Airport Authority and the City. The residents who attended the open house also made similar comments regarding these concerns, which are summarized below. The most common concerns raised by the Bridgeport area residents were:

- *“Increase of traffic on McLennan Avenue due to diverted traffic from No. 4 Road.”*
- *“No sidewalk for school children to walk on McLennan Avenue.”*
- *“Ditches on McLennan Avenue pose a potential safety hazard for school children.”*
- *“McLennan Avenue is too narrow for cars to pass children on the road safely.”*
- *“Difficult to turn left from McLennan Avenue into Bridgeport Road.”*
- *“McLennan Avenue and Finlayson Drive intersection needs better four-way stop control as opposed to the existing two-way yield control.”*

In addition, the principal of Tait Elementary School also re-iterated the above concerns about McLennan Avenue and added that the existing school zone signage on Finlayson Drive needed to be enhanced to raise drivers' awareness of the reduced school zone speed in light of the potential increased traffic on this roadway.

### 3. Recommended Improvements

Upon assessment of the above concerns, staff and the Airport Authority have explored various options for roadway and traffic improvements related to McLennan Avenue. Possible funding strategies for the improvements, including the utilization of the Neighbourhood Improvement Changes (NIC) collected for this area and financial contribution from the Airport Authority and the Ministry of Transportation and Highways, were also examined.

#### 3.1 Roadway Improvements

It became apparent that the issue of pedestrian safety on McLennan Avenue was considered to be the top concern of the residents. Over the last two months, staff have worked closely with the Airport Authority to identify possible solutions to address this primary concern. As a result, two options for roadway improvements between Bridgeport Road and River Drive were identified and evaluated:

*Option 1* - A "full upgrade" of McLennan Avenue to urban road standard with curb and gutter, tree boulevards, and sidewalk; and

*Option 2 (Recommended)* - A "partial upgrade" with filling of the ditch on the west side and provision of a separated walkway for school children to address the key concerns raised.

These options for roadway improvements, along with the corresponding estimated costs, are summarized in the following table:

Option	Scope of Improvements	Estimated Cost
<p style="text-align: center;">1</p> <p>Full Upgrade to Urban Standard</p>	<ul style="list-style-type: none"> <li>• Filling of ditches on both sides (storm sewer)</li> <li>• Curb &amp; gutter and tree boulevard on both sides</li> <li>• Sidewalk on one side</li> <li>• New streetlights</li> <li>• Widening of road pavement</li> <li>• Renewal of watermain</li> </ul>	<p>\$1,065,000</p>
<p style="text-align: center;">2</p> <p>(Recommended) Partial Upgrade to Address Residents' Concerns</p>	<ul style="list-style-type: none"> <li>• Filling of ditch on the west side only (storm sewer)</li> <li>• New 2.0 m wide asphalt walkway on the west side separated from the existing roadway pavement by a 2.5 m wide gravel shoulder (suitable for parking) and an extruded curb</li> <li>• Additional streetlights to be installed on existing hydro poles on the east side</li> </ul>	<p>\$344,000</p>

*Recommended Roadway Improvements* - Based on a joint evaluation by the Airport Authority and City staff of the above two options, it was concluded that Option 2 should be considered as the recommended solution for the following reasons:

- Option 1 is considered unfeasible as there is insufficient NIC funding collected for this area to finance the full upgrade of McLennan Avenue;

- Option 2 is considerably less costly to implement and yet would provide immediate pedestrian safety benefits to address the main concerns expressed by the area residents; and
- Option 2 retains the existing narrow pavement width, which is considered to be an effective deterrent to speeding, and yet provides an adequate shoulder for parking to act as a buffer zone for pedestrians.

To-date, the total amount of Neighbourhood Improvement Charges (NIC) collected for the Bridgeport area is estimated to be \$213,000. Therefore, alternative funding sources would need to be sought if Option 2 were to be pursued. Staff have developed an implementation and funding strategy for this option which is discussed in Section 4 of this report.

*Additional Recommended Roadway Improvements* - In addition to the proposed improvements on McLennan Avenue, staff also recommend that a short section on the north side of Finlayson Drive just west of McLennan Avenue be upgraded to full urban standard with concrete sidewalk at an estimated cost of \$50,000. Concrete sidewalk currently exists along the remaining section of this roadway to the west (Tait Elementary School) which, together with the proposed walkway along McLennan Avenue, would provide a continuous walkway/sidewalk from the school to both Bridgeport Road and River Drive via McLennan Avenue.

### 3.2 Traffic Improvements

In addition to roadway improvements noted above, other traffic related improvements were also identified by staff to address the remaining concerns. These include improved traffic control on McLennan Avenue and enhanced school zone signage on Finlayson Drive as requested by the residents and the principal of Tait Elementary School. The recommended improvements are:

- The upgrade of existing intersection control at McLennan Avenue and Finlayson Drive from "Two-Way Yield" to "Two-Way Stop", supplemented by painted stop lines and centre yellow lines, at an estimated cost of \$400 to minimize confusion of intersection right-of-way;
- The upgrade of the existing pedestrian activated signals at Bridgeport Road and McLennan Avenue with a special pedestrian "count-down" timer at an estimated cost of \$20,000 to stop Bridgeport Road traffic for left-turning traffic out of McLennan Avenue during peak periods; and
- Addition of "neon yellow" advance school zone signs on Finlayson Drive at both approaches to the Tait Elementary School frontage at an estimated cost of \$200 to raise drivers' awareness of the reduced school speed zone ahead.

The recommended roadway and traffic improvements are illustrated in the attachment.

## 4. Consultation with the Bridgeport Area Residents

In discussion with the area residents at the December, 1999 open house, strong support was expressed for the proposed roadway and traffic improvements. If Council approves the proposed improvements, a follow-up open house will be held in late March, 2000 to advise the area residents of the plan.

## 5. Proposed Funding Strategy

As the impact of the increased traffic on McLennan Avenue is primarily related to the proposed left-turn restrictions at No. 4 Road required for the Airport Connector Project, in developing the funding strategy, staff have made the appropriate allowance for equitable funding contribution from this project towards the improvements directly related to pedestrian safety on McLennan Avenue. Upon discussion with the Airport Connector Project Manager, it was agreed in principle that the following funding strategy be taken to implement the recommended roadway and traffic improvements presented in this report:

Recommended Improvements		Funded by		City Source of Funding
		Airport Connector Project	City of Richmond	
McLennan Avenue Roadway Improvements (Option 2)	<ul style="list-style-type: none"> <li>Filling of ditch and provision of a 2.5 m wide gravel shoulder on west side of McLennan Avenue</li> <li>Additional streetlights</li> </ul>	N/A	\$190,000	Neighbourhood Improvement Charges (N.I.C.)
	<ul style="list-style-type: none"> <li>New 2.0 wide asphalt walkway delineated with extruded curb</li> </ul>	\$154,000	N/A	N/A
Finlayson Drive Roadway Improvement	<ul style="list-style-type: none"> <li>New curb and gutter and sidewalk on Finlayson Drive just west of McLennan Avenue</li> </ul>	N/A	\$50,000	Neighbourhood Improvement Charges (N.I.C.)
Traffic Improvements	<ul style="list-style-type: none"> <li>New two-way stop control (and related pavement marking) at McLennan Avenue and Finlayson Drive</li> </ul>	N/A	\$400	2000 Minor Capital for Traffic Improvements
	<ul style="list-style-type: none"> <li>New neon yellow advance school zone warning signs on Finlayson Drive</li> </ul>	N/A	\$200	2000 Minor Capital for Traffic Improvements
	<ul style="list-style-type: none"> <li>New special pedestrian count-down timer at Bridgeport Road and McLennan Avenue</li> </ul>	\$20,000	N/A	N/A
Total Cost Borne by Airport Connector Project		\$174,000		
Total Cost Borne by City of Richmond			240,600	
Total Cost of Improvements		\$414,600		

### FINANCIAL IMPACT

The roadway and traffic improvements on McLennan Avenue and Finlayson Drive to be funded by the City, as recommended in this report, are estimated at \$240,600. This estimate is slightly over the amount of N.I.C. collected for the Bridgeport area. However, this shortfall is considered to be in the order of 10% of the estimate, which can be funded through the overall N.I.C. The funding source for these improvements is therefore proposed to be the Neighbourhood Improvement Charges (\$240,000 for ditch in-filling on McLennan Avenue and new sidewalk on Finlayson Drive) and the 2000 Minor Capital Budget for Traffic Improvements (\$600 for new traffic signs and marking).

The cost of the remaining improvements (i.e. the new walkway on McLennan Avenue from Bridgeport Road to River Drive and the new special countdown timer at Bridgeport Road), with an estimate of \$174,000, is proposed to be borne by the Airport Connector Project.

CONCLUSION

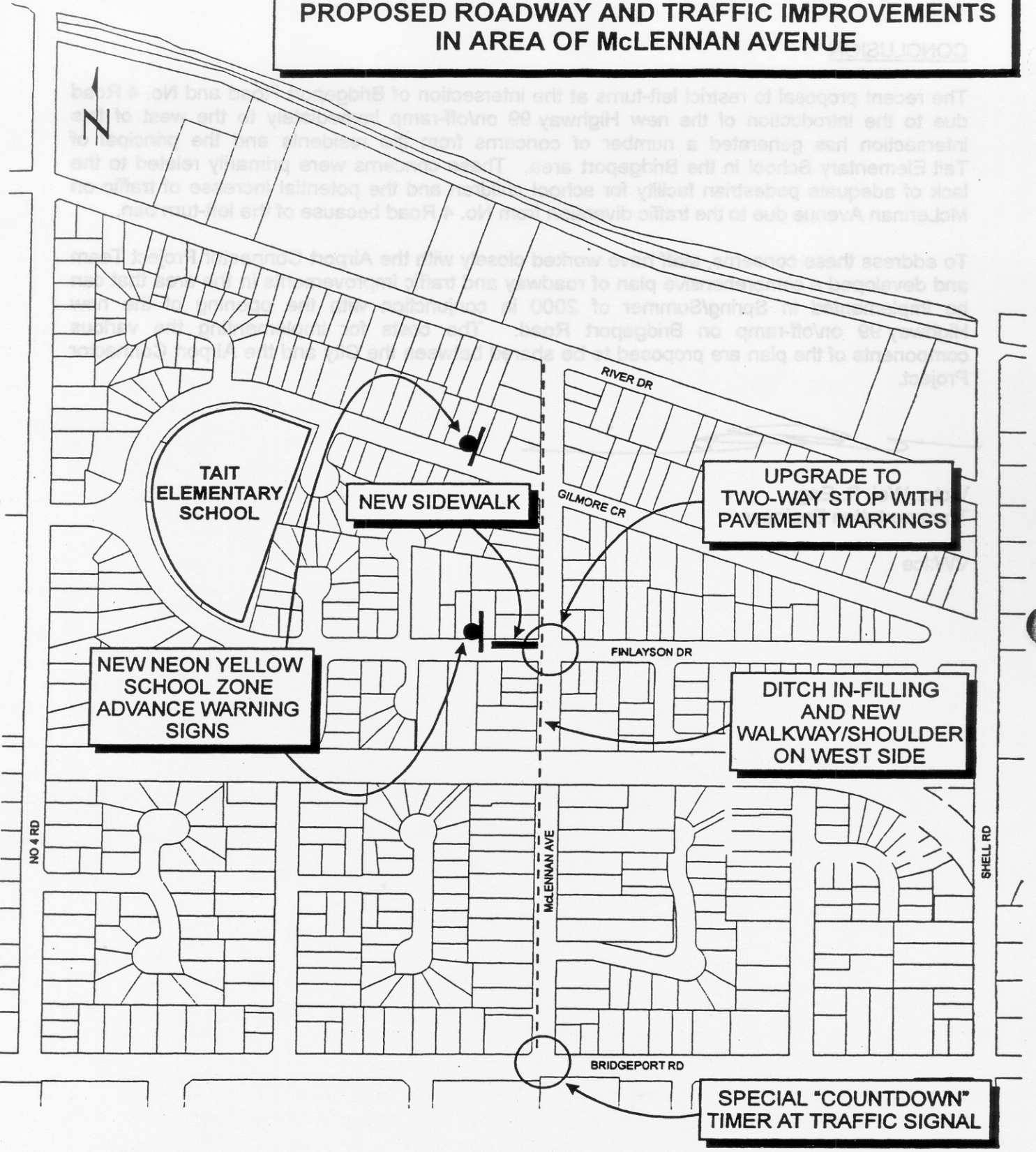
The recent proposal to restrict left-turns at the intersection of Bridgeport Road and No. 4 Road due to the introduction of the new Highway 99 on/off-ramp immediately to the west of this intersection has generated a number of concerns from the residents and the principal of Tait Elementary School in the Bridgeport area. These concerns were primarily related to the lack of adequate pedestrian facility for school children and the potential increase of traffic on McLennan Avenue due to the traffic diversion from No. 4 Road because of the left-turn ban.

To address these concerns, staff have worked closely with the Airport Connector Project Team and developed a comprehensive plan of roadway and traffic improvements in the area that can be implemented in Spring/Summer of 2000 in conjunction with the opening of the new Highway 99 on/off-ramp on Bridgeport Road. The costs for implementing the various components of the plan are proposed to be shared between the City and the Airport Connector Project.

Victor Wei, P. Eng.  
Transportation Engineer

VW:lce

**PROPOSED ROADWAY AND TRAFFIC IMPROVEMENTS  
IN AREA OF McLENNAN AVENUE**



**City of  
Richmond**

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6911 No. 3 Road Richmond B.C. V6Y 2C1

TITLE: <b>PROPOSED ROADWAY AND TRAFFIC IMPROVEMENT IN AREA OF McLENNAN AVENUE</b>		
DESIGN:	DWG No. MCLENNAN.CDR	
DRAWN: TS	SCALE: NTS	DATE: MAR. 7/00
CHECKED:	SEC. No.	SHT. No. 1
ENGINEER:		