



**To:** Public Works and Transportation Committee      **Date:** August 22, 2017  
**From:** Victor Wei, P. Eng.  
 Director, Transportation      **File:** 10-6450-09-01/2017-  
 Vol 01  
**Re:** River Road - Proposed Additional Road Safety Enhancement Measures

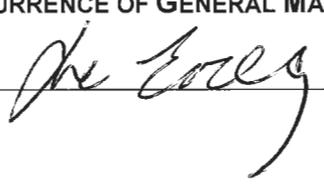
**Staff Recommendation**

1. That Option 2 as described in the staff report titled “River Road – Proposed Additional Road Safety Enhancement Measures” dated August 22, 2017 from the Director, Transportation, be endorsed for implementation as part of on-going city-wide efforts to improve safety for road users.
2. That Richmond RCMP be requested to establish regular speed and vehicle weight enforcement on River Road between No. 6 Road and Westminster Highway as a complementary road safety enhancement measure to Recommendation 1.



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

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Finance Engineering Fire Rescue RCMP	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT /            AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> 	<b>APPROVED BY CAO</b> 

## Staff Report

### Origin

At the June 26, 2017 Council meeting, Council considered a report on proposed road safety enhancement measures for River Road east of No. 6 Road and directed staff to “consult with the area residents and businesses on River Road between No. 6 Road and Westminster Highway on the proposed installation of speed humps and report back with the outcome.” This report responds to the referral and recommends the implementation of speed humps and increased enforcement to improve traffic safety in this location.

This report supports Council’s 2014-2018 Term Goal #1 A Safe Community:

*Maintain emphasis on community safety to ensure Richmond continues to be a safe community.*

This report supports Council’s 2014-2018 Term Goal #3 A Well-Planned Community:

*3.3. Effective transportation and mobility networks.*

### Analysis

#### Road Safety Measures Currently being Implemented

At the June 26, 2017 Council meeting, Council endorsed the immediate implementation of the following road safety measures on River Road between No. 6 Road and Westminster Highway:

- New “Single File” signage along with complementary “sharrow” pavement markings;
- Conversion of the existing solid double yellow centreline to a dashed single yellow centreline at select locations where it is safe for motorists to change lanes safely to pass;
- Installation of new “Caution” signs to advise motorists to expect large volumes of cyclists on the roadway during weekends; and
- Removal of remaining raised pavement markers (cat’s eyes) and replacement with reflective delineator posts mounted in the gravel shoulder.

Implementation of these measures has commenced and is anticipated to be completed in Fall 2017.

#### Consultation on Proposed Installation of Speed Humps

In July 2017, letters were mailed to area owners, occupants and businesses to seek their feedback regarding the proposed installation of a total of 20 additional speed humps at a spacing of 300 metres on River Road between No. 7 Road and Westminster Highway (Attachment 1). The section of River Road between No. 6 Road and No. 7 Road was not considered for the placement of speed humps due to the relatively high volume of truck traffic along that segment of the roadway.

A total of 47 responses were received within the survey deadline, which is a 49% response rate based on 96 unique property addresses. Of the 47 respondents, 28 (60%) oppose and 19 (40%) support the installation of speed humps.

Of the respondents who are in favour of the installation of the speed humps, virtually all cite a desire to slow speeding motorists and increase safety for all road users as their primary reasons for support.

Of the respondents who are not in favour of the installation of speed humps, commonly cited reasons include inconvenience to residents, perceived increased noise and wear to residents' vehicles, concerns with the safety of speed humps, and the ineffectiveness of speed humps to reduce motorists' speeds. Some respondents suggested that preferred solutions were widening the roadway to accommodate cycling and pedestrian facilities and/or increased enforcement with truck traffic in particular to be targeted for both speed and vehicle weight violations as drivers are perceived to be disobeying the existing 30 km/h speed limit and nine tonne weight limit for commercial vehicles in place on River Road between No. 7 Road and Westminster Highway.

#### Concerns of Residents Opposed to Installation of Speed Humps

Staff offer the following information and comments in response to the common concerns cited by residents not in favour of the installation of the speed humps.

- *Inconvenience, Noise and Wear to Vehicles*: While there may be a perception of these potential impacts, in fact the proposed additional speed humps would be designed to accommodate the safe operation of a vehicle at a speed up to 50 km/h (or 30 km/h for trucks). Thus, motorists travelling at the posted speed of 50 km/h (or 30 km/h for trucks) would be able to maintain their speed when traversing the speed hump without causing noise, wear to their vehicles or damage to any contents of their vehicles (e.g., farm produce).
- *Safety*: The design of the proposed speed humps is the same as those currently in place on Gilbert Road south of Steveston Highway, which is also a two lane rural road with open watercourses on both sides. These latter speed humps have been in place since 2011 and staff are not aware of any road safety issues arising from their installation nor at other locations with similar speed humps. Test runs using a fire truck also confirmed that the Gilbert Road speed humps would not negatively impact emergency response time.
- *Effectiveness*: There are a number of roadways in Richmond where speed humps have been installed to address concerns of speeding. Pre and post traffic surveys of vehicle speeds on these roadways have consistently shown that speed humps are an effective means of ensuring motorists travel at the posted speed limits.
- *Road Widening*: As noted in the previous staff report, staff will review the feasibility of widening River Road between No. 6 Road and Westminster Highway with a view to further enhancing road safety as part of the long-term concept for the phased Dike Master Plan process. Widening of this roadway in the interim is not feasible due to existing physical constraints.

- *Truck Traffic:* While there is a nine tonne weight limit for commercial vehicles in place on River Road between No. 7 Road and Westminster Highway, such truck activity is permitted when generated by local businesses located on this section of River Road, which may account for respondents' perceptions that trucks are disobeying the weight limit.

In addition, crash statistics from Richmond RCMP for the period 2011 to 2016 indicate a total of 45 crashes involving 84 vehicles and seven cyclists that resulted in 24 injuries and two fatalities. Of these, the cause of over one-half of the collisions was attributed to human factors including speed, inattentiveness and fatigue. With respect to enforcement, nearly 100 violations have been issued since 2015 with over one-third related to speed and nearly 20% related to excessive speed (i.e., more than 40 km/h over the posted speed limit). For 2017 to date, 13 speed-related violations have been issued with one-half of those for excessive speed.

#### Proposed Additional Road Safety Enhancement Measures

Based on the survey results and comments received, staff propose the following two options.

##### *Option 1: Status Quo*

No additional speed humps would be installed. Richmond RCMP would be requested to provide increased speed and vehicle weight enforcement on River Road between No. 6 Road and Westminster Highway as resources and other priorities allow.

##### *Option 2: Install Additional Speed Humps (Recommended)*

Given the physical constraints of the roadway, speed humps are the only practical traffic calming measure. Therefore, notwithstanding the survey results, 20 additional speed humps would be installed on River Road between No. 7 Road and Westminster Highway based on the following rationale:

- Consistent feedback from cyclists and area residents (even those opposed to the installation of speed humps) that car and truck speeds are a primary concern;
- Demonstrated effectiveness of speed humps to safely manage motorists' speeds without damage to vehicles or their contents;
- Historical crash and enforcement statistics from Richmond RCMP that indicate an on-going issue with speeding motorists that cannot be resolved solely through enforcement; and
- The proposed speed humps have been proven to be safe and comfortable for all road users including cars, trucks and cyclists provided that road users adhere to the existing speed limits of 50 km/h for cars and 30 km/h for trucks.

Similar to Option 1, Richmond RCMP would be requested to provide speed and vehicle weight enforcement on River Road between No. 6 Road and Westminster Highway as a complementary measure as resources and other priorities allow.

Due to the length of roadway segment (approximately 6.7 kms) and the resulting number of speed humps (total of 26), the traditional speed hump design (i.e., that in place on Gilbert Road) would be modified to a "speed cushion" that has two channels of flat asphalt spaced at the inner track width of a fire vehicle to allow passage of the truck through the device without having to

go over the hump (Attachment 2), which would ensure that response times for Richmond Fire-Rescue are not impacted by the traffic calming measure. This modified design would also mitigate concerns from residents that the proposed speed humps would be an inconvenience and/or cause damage to vehicles.

In August 2017, follow up letters were mailed to the same area owners, occupants and businesses on River Road that received the July 2017 survey to advise of the results of the survey and that staff would be presenting a report on the outcome to Council for consideration.

### **Financial Impact**

For Option 2, the proposed 20 additional speed humps and associated signage have a total estimated cost of \$100,000 and would be funded from the Council-approved 2015 Traffic Calming Program.

### **Conclusion**

Upon careful review of the comments provided by the survey respondents, staff recommend the installation of 20 additional speed humps on River Road as an effective traffic safety measure to address on-going concerns of motorist speeding.

Although 60% of the survey responses indicated non-support for the proposed speed humps, the reasons cited for the opposition were found by staff to be primarily based on personal perceptions. Staff assessment was based on technical analysis prior to developing the recommendation.

As speeding continues to be a continuing potential safety issue and concern of the area residents and businesses, the only effective means to minimize this undesirable driver behaviour would be to install physical deterrents such as speed humps as a long term measure, along with the regular presence of complementary speed enforcement.

  
For: Joan Caravan  
Transportation Planner  
(604-276-4035)

Att. 1: City Letter re Traffic Calming Survey sent to River Road Owners/Occupants  
Att. 2: Functional Design of Proposed Speed Cushion



City of  
Richmond

Mailed out  
July 18/17  
(L)

6911 No. 3 Road,  
Richmond, BC V6Y 2C1  
www.richmond.ca

**COPY**

July 17, 2017  
File: 10-6450-09-01/2017-Vol 01

Planning and Development Division  
Transportation  
Fax: 604-276-4132

**To: Owner / Occupant – River Road (No. 7 Road to Westminster Highway)**

**Re: Proposed Traffic Calming Measure (Speed Humps) on River Road (No. 7 Road to Westminster Highway)**

In November 2016, Richmond City Council directed staff to review the traffic conditions on River Road in the area of a fatal crash involving a cyclist. Although the RCMP reported that roadway design was not a contributing factor to the incident, City Council subsequently approved the implementation of enhanced traffic signage and roadway pavement markings as on-going improvements to enhance traffic safety on River Road. City Council also directed staff to consult with area residents and businesses on River Road, between No. 7 Road and Westminster Highway, regarding the proposed installation of vehicle speed humps to address concerns expressed regarding speeding motorists.

Transportation staff conducted and have now completed traffic reviews of the subject location of River Road to determine the extent of any traffic problem. The results of the traffic reviews indicate that there are incidences of motorists speeding on River Road. Staff have advised the Richmond RCMP – Traffic Section of the study results and the RCMP have added this location to their traffic enforcement schedule for times when vehicle speeding is prevalent.

Since the vehicle speed enforcement by the Richmond RCMP cannot be continuous, the City proposes the installation of vehicle speed humps along River Road, between No. 7 Road and Westminster Highway. These speed humps will be in addition to the existing 6 speed humps in the 18,000 block of River Road. The speed humps (Attachment 1) would be spaced at 300 metre intervals along River Road to allow for the timely response times for emergency services. The proposed additional speed humps are designed to accommodate the safe operation of a vehicle of a speed up to 50-km/h. Similar speed humps can be found on Gilbert Road south of Steveston Highway, as also shown in Attachment 1. The installation of additional speed humps on River Road would reduce vehicle speeds in the area as well as slow traffic in general - enhancing traffic safety for drivers, pedestrians and cyclists.

Prior to the installation of the proposed speed humps on River Road, the City would like to determine if there is support for the proposed speed humps and receive any comments from residents and businesses in the affected area. Should there be support for the installation of the proposed speed humps, the City will proceed with the installation of the vehicle speed humps as per the aerial sketch shown in Attachment 1.

Please review and complete the enclosed survey form and return it to the City in the enclosed postage paid envelope by the deadline of: **Monday July 31, 2017**. The survey results will be shared with you in a follow-up letter once all comments have been compiled.

If you have any questions regarding the survey, please contact me at 604-276-4388.

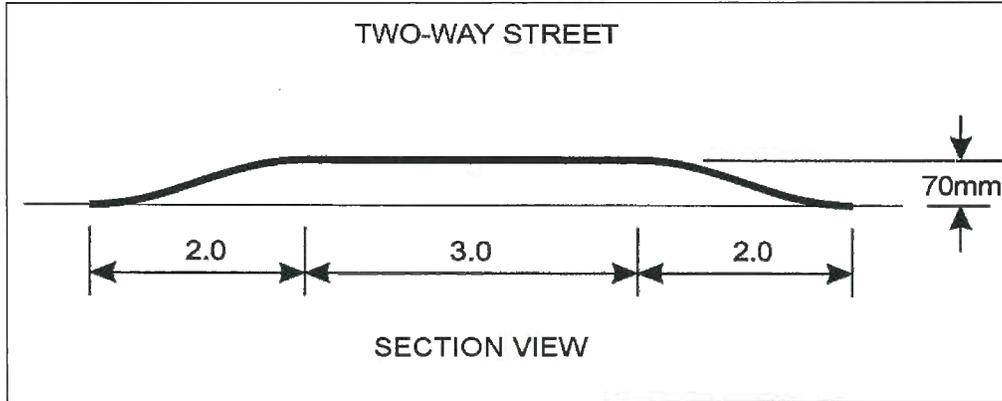
Yours truly,

Cameron Robertson  
Traffic Technician 1

Att. 2  
5465197



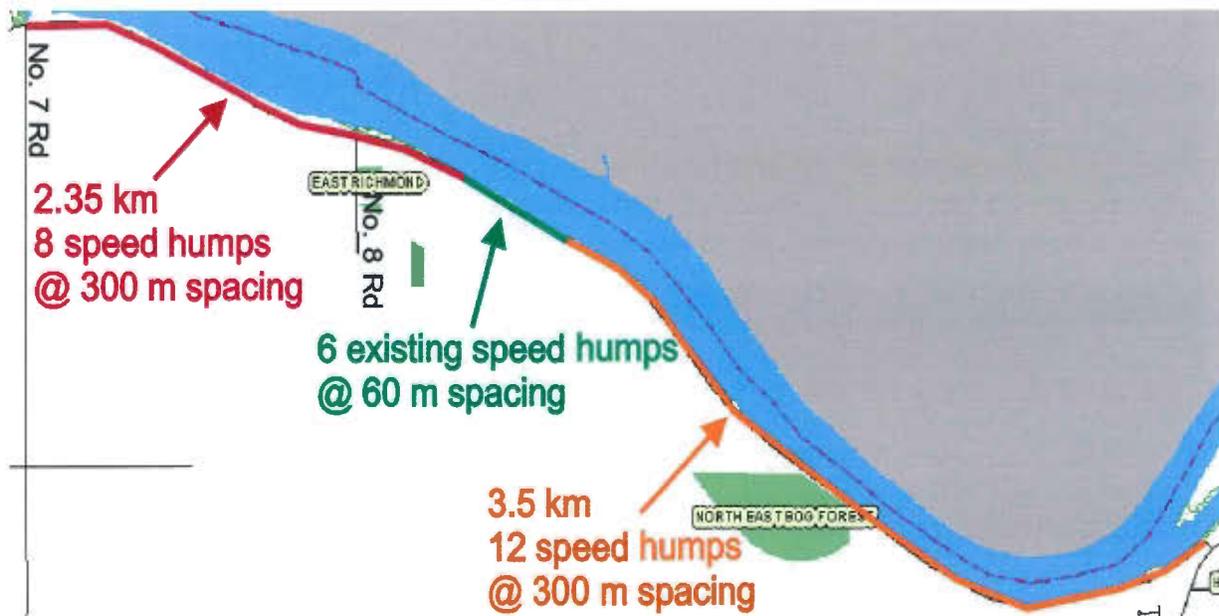
**CNCL - 288**



Typical Dimensions of Speed Hump (as proposed)



Example of Existing Speed Hump (as proposed) on Gilbert Road (south of Steveston Highway)



River Road (No. 7 Road - Westminster Highway) – Proposed Locations of Speed Humps

**NEIGHBOURHOOD SURVEY**  
**Proposed Traffic Calming Measure (Speed Humps)**  
**River Road (No. 7 Road to Westminster Highway)**

**Name:**

\_\_\_\_\_  
(Please Print)

**Address:**

\_\_\_\_\_

**Telephone Number:**

\_\_\_\_\_

Please mark one of the following:

I am **in favour** of installing speed humps on River Road (No. 7 Road to Westminster Highway)

Reason: \_\_\_\_\_

\_\_\_\_\_

I am **not in favour** of installing speed humps on River Road (No. 7 Road to Westminster

Reason: \_\_\_\_\_

\_\_\_\_\_

**Other Comments:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Please enclose the completed survey form in the postage paid, addressed envelope provided and return to the City by: **Monday July 31, 2017.**

Thank you for your participation in this survey.

City of Richmond  
Cameron Robertson, Traffic Technician  
Transportation Department  
July 17, 2017

### Functional Design of Proposed Speed Cushion

