



June 26, 2015

Jay Porter  
Senior Project Manager  
Ministry of Transportation and Infrastructure

Cc: Graeme Schimpf, Operations Manager, Lower Mainland District - North Shore, Howe Sound, Sunshine Coast, Ministry of Transportation and Infrastructure

### **Ironworkers Memorial Bridge ramps safety improvements**

Dear Mr. Porter,

Below please find our feedback on potential measures to address the hazardous situation created by high cycling speeds and poor sight lines along the Dollarton ramp from the Ironworkers Memorial Bridge.

We have included suggestions to address the lack of separation of turning movements at the Dollarton ramp crosswalk and other short-term measures since the crosswalk is an area of user conflict and collisions.

In the longer term a connector path should be built underneath the bridge between the Dollarton off-ramp and the Barrow Street bike route in conjunction with the planned Highway 1 interchanges work north of the bridge.

### **Reducing northbound cycling speed on Dollarton off-ramp path**

1. Mark the path pavement approaching the off-ramp and along the off-ramp: SLOW, NO PASSING.
2. If the pavement markings are not effective, consider applying optical speed bars on the path. The bar spacing should be based on the speed difference between typical high speed on the approach to the desired speed on the ramp  
([http://safety.fhwa.dot.gov/roadway\\_dept/horcurves/fhwas07002/ch7.cfm](http://safety.fhwa.dot.gov/roadway_dept/horcurves/fhwas07002/ch7.cfm))
3. All pavement markings should be non-slip when wet.
4. Signs will likely not be effective because cyclists travelling down the bridge focus on the path in front of them and are not able to see or read signs.
5. Baffle gates should not be used on bike paths, even if marked and lit. Baffle gates and steel bollards constitute a serious hazard to cyclists, especially where cycling speeds can be high. Additionally, baffles are a barrier to cycling, especially for families. They are difficult if not impassable for bikes with trailers, trail-a-bikes (attached children's bikes), tandems and cargo bikes. Such bikes use the bridge now and their use will only increase as better cycling connections are built at both ends of the bridge. If baffles are built to accommodate long bikes and trailers, they would not slow normal-sized bikes.



## Improving sight lines on Dollarton and Main ramps

6. Lower the chain link fence to the minimum acceptable height to maximize visibility.
7. Replace the current mesh with mesh with larger openings only if this will indeed improve visibility. Consider building the Main ramp fence with larger mesh openings and evaluating visibility before potentially changing the Dollarton chain link.
8. A rub rail should be added to protect cyclists from getting a handlebar caught in the mesh regardless of whether it has larger or smaller openings.

## Improving safety at Dollarton ramp crosswalk

We have noticed two main types of conflicts at the Dollarton ramp crosswalk since the new sidewalk and crosswalk have been completed:

- Between northbound cyclists turning left to the crosswalk and northbound cyclists going straight toward Dollarton Highway. Cyclists who slow or stop to turn left risk getting hit by cyclists who attempt to pass on the left to continue straight down the path.
- Between drivers who stop at the crosswalk and drivers of the following vehicles. Collisions or their avoidance by steering can harm pedestrians and cyclists in the crosswalk and vehicle passengers.

In the short-term we suggest the following measures to improve safety:

9. Mark two lanes on the path approaching the crosswalk from the bridge: a left turn lane for northbound cyclists and pedestrians who use the crosswalk and a straight lane for northbound cyclists to Dollarton Highway. The lanes should be marked like car lanes (first broken then solid line and arrows). The image below shows the markings in an example of a bike path with straight and right turn lanes.



Burrard St at Cornwall Ave in Vancouver (image from Seacycles <https://vimeo.com/106894206>)



10. Consider the safety of pedestrians at this conflict zone and pinch point by reducing cycling speed and improving sight lines as recommended above.
11. Slow the speed of vehicles coming down the Dollarton off-ramp.
12. Consider advance flashers or other warning of the crosswalk for drivers near the start of the exit ramp.

In the longer-term the Ministry should build a path underneath the Ironworkers Memorial Bridge, connecting the Dollarton off-ramp path with the Barrow Street bike route. The connector path would allow cyclists and pedestrians avoid the ramp crossings, similar to the Lions Gate Bridge design. The path would improve safety of all road users and reduce delays for drivers at the ramps as the number of cyclists on the bridge continues to grow. We hope the Ministry will work with the District of North Vancouver to include the Barrow-Dollarton connector path when planning the Highway 1 interchanges improvements north of the bridge.

Please let us know if you would like to discuss any of the suggestions.

Sincerely,

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