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Pattullo Bridge Cycling Position Paper

From: HUB Cycling and BC Cycling Coalition

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HUB Cycling is a charitable organization working to get more people cycling, more often in Metro Vancouver. The British Columbia Cycling Coalition is the voice for cycling in British Columbia. We are collaborating to make the cycling component of the Pattullo Bridge Replacement Project a great addition to the regional cycling network that will accommodate a growing number of people walking and cycling over the bridge for decades to come.

Since cycling has been the fastest growing transportation mode over the last several years, the new bridge should be designed according to best practices for cycling and walking and should accommodate a wide range of users including walkers, people on mobility scooters and families with children as well as faster moving bicycle commuters, sport cyclists, and electric bike riders who may be travelling at speeds of 20-35 kph on the level and up to 60 kph on the downhill sections.

Design Principles

Design of cycling and walking components should be at least as good as for motor vehicle traffic

- The cycling components of the bridge design should be integrated into the bridge design so that the cycling experience is as good as or better than the driving experience.
 - Cycling paths and walking paths should be separated.
 - Paths should be wide enough to accommodate future growth in cycling and walking.
 - Cycling paths should be wide enough to allow people cycling to pass each other safely.
 - Distances traveled for cycling and walking to access the bridge should be minimized.
 - Route choices leading to and from the bridge should have the same or more options and be at least as direct as motor vehicle routes (e.g. connection to Uptown in New Westminster) or direct access to Highway 17.
 - Access ramps should be designed so that people cycling and people walking can connect directly to roads and paths, as is done for drivers.

- Design speeds should be specified for the paths, considering that people on bikes may reach 50 to 60 kph on the downhill segments.
- Design should incorporate the highest level of safety for people walking and cycling.
- Path width and the placement of horizontal hazards should consider the fact that cyclists lean into curves and lean more at higher speeds.
- Path surface should be smooth.
- Expansion joints should be smooth and not be jarring. Jarring joints are a hazard to people cycling and can be painful for those using wheelchairs. A good example of smoother, higher quality expansion joints can be found on the Ironworkers Memorial Bridge paths.
Examples of poor expansion joints can be found on the Lions Gate Bridge and Port Mann Bridge.
- There should be no hazards such as signage, light poles and protruding railing posts adjacent to the cycling path.
- Tight curves should be avoided especially on high speed downhill sections.
- The tighter the curve, the wider the path should be to allow for tracking room sufficient for longer bicycles such as tandems, bicycles with trailers and cargo bikes.

Special Considerations for Cycling and Walking paths

- Motor vehicle noise and pollution should be reduced as much as possible.
 - The paths should be accessible to everyone including those with respiratory and cardiovascular problems.
 - The noise levels should be low enough, so all sidewalk users can communicate effectively with each other to ensure safety.
- Blinding due to oncoming motor vehicle traffic should be eliminated.
 - Pedestrians walking against the direction of traffic should be able to see oncoming cyclists at night and in all weather conditions.
- Advanced safety guidelines should be incorporated into the design.
 - Enough width to accommodate current peak demand and future growth. For example, TransLink is targeting a regional cycling mode share of 10% by 2040¹. This would be 5 times the current level of 2%.
 - No obstructions in or near paths
 - Effective lighting for night and winter travel
- We highly recommend that the walking/cycling deck be placed under the bridge as was done for the Canada Line Bridge over the North Arm. Benefits include:
 - Rain and snow cover
 - Greatly reduced noise and pollution
 - Less elevation gain
 - Ease of access to the other side of the bridge at both ends.
 - Reduced costs both for construction and for maintenance.

Please refer to the following Appendix for some possible design options and ideas.

¹ TransLink, Regional Cycling Strategy Implementation Plan,
http://www.translink.ca/~media/Documents/cycling/regional_cycling_strategy/rcs_implementation_plan_june_2013.ashx

Conclusion

Due to the rapidly increasing mode share of cycling and our extensive knowledge of cycling design principles and products, we would like to be consulted during the specification writing process to ensure there is added long term value to this public transportation project. Constructing the bridge so that it strongly appeals to people walking and cycling will lead to healthier communities, safer streets and less congestion.

Further Steps

We understand that the project team will set up a meeting with us on receiving this document. We look forward to this meeting.

We are available to further discuss the project design at any time. Our contact information is below.

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Appendix

Below are some concepts that we feel might fulfil the design suggestions mentioned above.

We believe that a path under the bridge would make it much easier to fulfil the broad design guidelines proposed above.

Noise and Pollution barrier

If walking/cycling paths are placed on the bridge deck, then one possible way of reducing noise and pollution is by using a glass barrier like the one on De Oversteek - Netherlands.



The glass noise reduction panels on page 6 in following link might also be an option:
<http://www.mdsbarriers.com/assets/tl4-mds-brochure-master-v11-usa.pdf>

Means Prevention Barrier

On the section of the Burrard Bridge where the bridge was widened at the north end, the barrier goes all the way down to the deck and serves as the railing. Having it do the same for this project would increase the useable surface probably by at least .5m. Plus it would be less likely to trap pollution. The Burrard Bridge means prevention barrier is more aesthetically pleasing than the one on the Ironworkers Memorial Bridge.

Improved Access Paths

We note again that access paths should be direct and convenient. If paths are placed under the viaduct portion at the Surrey end, then it might be possible to create improved connections. Below is a rough sketch showing two way cycling paths under the bridge on both sides.



It would then be easy to establish a connection between both sides of the viaduct. This would allow both pedestrians and cyclists to switch sides in a direct and convenient manner.

Note also that the outside traffic lanes between the proposed crossover connection and the bridge landing could become HOV and/or bus only lanes.

Also, a similar crossover could be established on the New Westminister end of the bridge.

The loop on west side path to continue south on King George Hwy is less than ideal. A solution that did not have such tight curves would likely be safer and more efficient for cycling.

Also, steps could be built for pedestrians so they don't have to use the loop by Hwy 17 off ramp.

Connection to Hwy 17

The connection to Hwy 17 for southbound cyclists heading west on Hwy 17 should be a direct connection on or adjacent to the off ramp.