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Re: Input to Highway 1 North Shore Corridor Study

Dear Hwy 1 corridor study team,

HUB Cycling is a charitable organization working to get more people cycling, more often and making cycling safer and better through education, action and events. More cycling reduces greenhouse gas emissions, relieves traffic congestion and means healthier, happier and more connected communities.

Thank you for hosting the call on June 24 and sharing your presentation on the corridor study. As discussed in this meeting we have prepared a list of suggested improvements in this corridor and our recommended priorities (attached).

While HUB focuses on cycling, we feel that many of our recommendations also apply to walking, as well as the rapidly evolving e-mobility devices, both of which are also important components of Active Transportation. Our priorities for improvements have been evaluated based on both safety and making cycling a more attractive and viable transportation option. The prioritization is based on connectivity between where most people live and where they work, shop, school and play; directness; route grades; and separation from traffic and other hazards.

We recommend the following approaches to planning cycling improvement along and across the corridor:

- Look beyond specific interchanges or road segments and view this corridor from an end-to-end trip perspective. If a route works well for an end to end trip it can also work well for people travelling along a portion of the route.
- How could a person living on the North Shore, Vancouver, Burnaby, New Westminster etc. bike to work, shops, school or recreational destinations using the Highway 1 corridor? Where would a senior or a family with young children be blocked, or face unsafe or uncomfortable situations?

The Ministry should plan for a regional network of cycle highways using provincial highway corridors. Cycle highways are designed with minimal stops and intersection, which increases travel speed and safety of users, and they realize the full potential of e-bikes for transportation. Several portions of Highway 1 on the North Shore already have cycle highway-like routes that can be upgraded, expanded and better connected. Provincial funding to municipalities for cycle highways would support a regional network. More information on cycle highways is available here: <https://bikehub.ca/get-involved/ungapthemap/cycle-highways> .



The design of the Hugo Ray connector along Highway 1 in West Vancouver is a good model for cycle highways. It is separated and protected from Highway traffic and is wide enough for users to pass safely. Where pedestrian use is higher, cycling and walking paths should be separated.

While we recommend the end-to-end trip and network-based approach to planning described above, we have identified the current top challenges for people cycling along or across the North Shore Highway 1 corridor between Lynn Valley and Horseshoe Bay:

- 1) Lynn Valley Interchange (Underpass & ramps)
- 2) Capilano interchange & Bridge (including Capilano Road under the bridge and the on/off ramps)
- 3) Lonsdale Interchange (Overpass & ramps)
- 4) Taylor Way to Westview Corridor (protected bike infrastructure on both sides of the highway)
- 5) Horseshoe Bay Ferry Terminal connections
- 6) Taylor Way Interchange (Underpass & ramps)

Detailed descriptions of all locations for improvements are attached below. The locations are listed from East to West and also includes some MoTI infrastructure that is beyond the scope of the current corridor study, but are included for completeness.

Please feel free to contact us if you have any questions or would like some clarification. We look forward to reviewing the draft of the report in the early fall and working with you on any future Ministry projects on the North Shore to make cycling a safer and a more attractive transportation option. Thank you for your help getting more people cycling, more often.

Yours truly,

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Cycling Gaps in the North Shore Corridor of Highway 1

Name	SCOPE / BOUNDARIES	Priority	Description
Ironworkers Bridge south end	City of Vancouver		Build a highway overpass. Replace switch back path from the bridge southbound with new path parallel to McGill
Lower Lynn Connector	East Side of Hwy1 between Main-Dollarton and Keith/Seymour Pkwy interchanges	1	Upgrade the existing bike path parallel to highway between the two interchanges on the east side adding protection from highway traffic and widened to allow 2 way traffic. It will connect to the new off-street path system built with the new Interchanges, and provide an off-street connection between Capilano U/Mount Seymour parkway and Ironworkers Bridge.
Hwy1 LV Rd Underpass	E21st to Morgan Road - East side.	1	Provide a Bikelane instead of requiring people to walk their bike on sidewalk. Connect with the existing bikelanes at each end of this segment.
Lonsdale interchange	Lonsdale Ave across highway and ramps.	3	Provide bike lanes on Lonsdale Ave across highway and ramps.
Westview interchange			Provide bike lanes on Westview across highway and ramps. Provide a cross walk at the traffic lights on the south side to allow a direct connection from the separated path along the south side of highway to the west, with the ramp leading down to CNV's W 23rd bike route on the east side.
Westview Drive to Edgemont Blvd	North Side of Hwy1 between Westview and Edgemont	4	Build multi-use path along the north side of highway between the Westview shopping centre and Edgemont Blvd. Currently there is a well-used desire line that connects to short section of protected path along the highway. Extending this along the north shoulder of the highway to Lloyd Ave would provide a complete route from Westview to Taylor Way.
Hwy 1 Westview off-ramp EB	EB off-ramp to Westview		Need to complete the East-most section along the EB off-ramp at to Westview. Currently it peters out into a sidewalk and the off-ramp shoulder.
Hwy 1 Pemberton Heights	South side between Pemberton and Westview		Separated path on south side of Hwy between Pemberton and Westview has multiple deep catchment basins that a hazard and are often full of debris.
Phillip Ave pedestrian tunnel	Phillips Ave to Terrace Ave		Remove the baffle gates at each end of the Philip Ave tunnel (or at least reduce them to 1). They currently prevent access to bikes with trailers and other larger mobility devices. The path from the north entrance west to Capilano Road and north to Philip Ave should be repaved and widened.
EB Exit at Capilano Road	From Hwy 1 EB exit down to Capilano Road	2	At the east end of the bridge, where the off-ramp begins, there is a concrete drainage swale alongside the traffic lane, forcing cyclists to share the lane with motorists. The off-ramp needs a bike lane (or shoulder) all the way down to the signal at Capilano Road. Link to image Add a safe crossing at Keith Road. Since the Hwy is closed to cyclists east of this off-ramp, eastbound cyclist must to cross at Keith to get on DNV's W23rd bike route. This will also provide a safe connection between W23 and Capilano road. Extend the existing separated pathway on the south side of the highway between Pemberton and Westview, west to this interchange to provide a direct connection.
WB ramps at Capilano Road	Beside exit & entry ramps on North Side of Hwy1		Repair the paths along both sides of these ramps down to the crossing at Capilano Road

Cycling Gaps in the North Shore Corridor of Highway 1

Name	SCOPE / BOUNDARIES	Priority	Description
Capilano Road under Hwy 1	between on/off ramp intersections	2	Add protected bikelanes on both sides of Capilano Rd. Currently there are pinch points that force cyclists into traffic lanes in both directions: Southbound: south of the overpass, before the light. Northbound: under the north end of the overpass.
Hwy 1 Capilano River Bridge	Sidewalks on bridge	2	Make the sidewalks safe for people on bikes and improve the connecting ramps
Lions Gate Bridge Viaduct Lighting	Viaduct at north end of bridge.		Improve sidewalk lighting on viaduct at north end of bridge.
Lions Gate Bridge hazard deflection	Safety improvements on bridge		Cover cable attachment points to reduce injury severity Improve/reduce bumps on bridge, especially northbound downhill Add rub rail to railings
Taylor Way Interchange		6	As east and westbound cyclists must use the on & off ramps for these stretches: An eastbound bike lane is needed through the signalized intersection at Taylor Way/Hwy 1 ramps, connecting the eastbound offramp with the eastbound onramp. Link to image . A westbound bike lane is needed on the westbound Taylor Way onramp between Taylor Way and Westcot Road (a reasonable shoulder exists W of Westcot). Link to Image .
Headland/ Woodgreen Interchange			The WB shoulder disappears entirely just W of the interchange, and similarly the EB shoulder narrows and then disappears just E of the interchange. Shoulder bike lanes are needed here
Eagleridge Dr overpass	From Horseshoe Bay on approach to Hwy 99 EB		Provide better signage (Paint on roadway shoulder) directing cyclists to path behind barrier and provide a wider entry . Link to image .
Hwy 1 Exit 1 WB	Counterflow bikelane on WB Ramp from Toll Plaza to Marine Dr/HS Bay Rd		Provide cyclist with access to the toll plaza from Marine Dr/HS Bay Rd would be appreciated and easily provided with a short counterflow bike lane. This could be done in concert with provision of a shoulder bike lane on the eastbound ramp to Hwy 99. Using the pedestrian ticket booths down in the horseshoe can be a significant hassle, especially with a loaded bike.
Horseshoe Bay Dr on-ramp to Hwy 1 EB		5	Shorten the raised concrete island to avoid pinching the bike shoulder. Link to image .
East of Hwy 1 Exit 0 EB	EB Hwy1 a short distance E of Exit 0 the shoulder disappears	5	On EB Hwy1 a short distance east of Exit 0 the shoulder disappears entirely for a short distance. A shoulder bike lane is needed here. At minimum, some shoulder width could be created by shifting lane lines so as to utilize the existing clearance space to the left of the MV lanes. A higher railing is also needed atop the concrete barrier on the right hand side to prevent cyclists from potentially falling over. Link to image1 and image 2 .
Ferry terminal exit to Exit 0	Terminal exit to Marine Drive at Eagleridge Dr	5	Need protected bikelane on shoulder up to marine Dr exit (provides direct access to Spirit Trail) and also way-finding signage for Spirit trail & Hwy 1 shoulder WB plus Hwy99 NB, Link to image 1 and image2 .
Sea-to-Sky Highway	Multiple locations as per report.		Improve safety as per SFU cycling safety project http://www.sfu.ca/geog/stsbikesafe/index.html

About HUB Cycling

HUB Cycling is a charitable not for profit organization that has spent over 20 years removing barriers to cycling in Metro Vancouver, while cultivating the health, environmental, and economic benefits that active transportation can bring. HUB has educated thousands of people, motivated thousands more, and championed improvements that [#UnGapTheMap](#) to create a connected cycling network. HUB Cycling's mission is to get more people cycling more often. HUB Cycling have close to 3,000 members and more than 40,000 direct supporters. HUB Cycling has 10 volunteer committees across Metro Vancouver that encourages cycling for all ages and abilities (AAA) in municipalities across Metro Vancouver. For more information, visit bikehub.ca.