



Assessment Ride along Hornby Street Separated Bike Lane

HUB Vancouver/UBC Committee

2013/10/05

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Executive Summary

HUB Vancouver/UBC commends the City for creating the Hornby separated bike lane and for the thought that has gone into implementation of the bike lane. HUB

Vancouver/UBC notes in particular the thinking that has gone into the intersection with the separated bike lane at Helmcken. With a little refinement, ideas from that intersection about the management of motorized vehicles, bicycle riders, and pedestrians could be applied to other bike lanes in Vancouver.

The assessment ride found that issues do remain at a number of intersections along the Hornby bike lane, notably where it intersects with other separated bike lanes at Pacific, Drake, and Dunsmuir. Detailed proposals are made in this document for improving these intersections.

HUB Vancouver/UBC recommends implementation of its suggestions about intersections, in part because implementation of the upcoming bike share program will likely lead to increased numbers of cyclists unfamiliar with the layout of Downtown, and perhaps not used to cycling regularly, so that easy-to-navigate intersections become all the more important. In general, safety could be improved at the intersections so that all modes of travel are at reduced risk of conflict.

The assessment ride also found issues at a number of places along the bike lane where motorized traffic crosses the bike lane at parkade entrances and exits. Those issues can be addressed by better signage.

History of the Hornby Separated Bike Lane

On [5 October 2010](#), Vancouver City Council approved recommendations by staff in their report "[Downtown Separated Bike Lane Connection to Burrard Bridge and Seawall](#)." The recommendations of the Vancouver Area Cycling Coalition (VACC: the former name of HUB) were included in a four-page appendix attached to the report.



[Map of Downtown Vancouver's separated bike lanes](#)

(with Comox and Helmcken added)

As can be seen from the above map, the Hornby separated bike lane connects with a number of bike routes serving Downtown Vancouver. From west to east, those routes are: The Seaside Greenway at the south end of Downtown, the Burrard Bridge bike route (which connects to Hornby by way of separated bike lanes on Pacific and Drake), the Comox-Helmcken separated bike route, the Dunsmuir Street separated bike lane, and Seaside Greenway at the north end (which connects to Hornby by way of a short stretch of separated bike lane on Hastings).

The VACC conducted one assessment ride along the separated bike lane on 13 March 2011, and HUB Vancouver/UBC held another on 5 October 2013. This document is a report on the October 2013 assessment ride.

The downtown separated bike lanes have made a significant contribution to the cycling network in Vancouver and have dramatically improved the comfort and safety of those cycling in the downtown core as well as brought out more of the “interested but concerned”, including more women.

HUB Vancouver/UBC greatly appreciates the recent improvements made to the Hornby bike lanes, namely, the addition of colourized green pavement in several sections, the improvements to wayfinding signage, and the greatly improved intersection at Hornby and Helmcken. HUB Vancouver/UBC recognizes that other near-term improvements may already be planned and hope that our comments will be of some assistance in the design of future improvements.

HUB Vancouver/UBC's comments and recommendations are of two kinds:

- (1) Recurrent issues found at various points along the length of the bike lane.
- (2) Location-specific issues found at intersections and other points along Hornby Street.

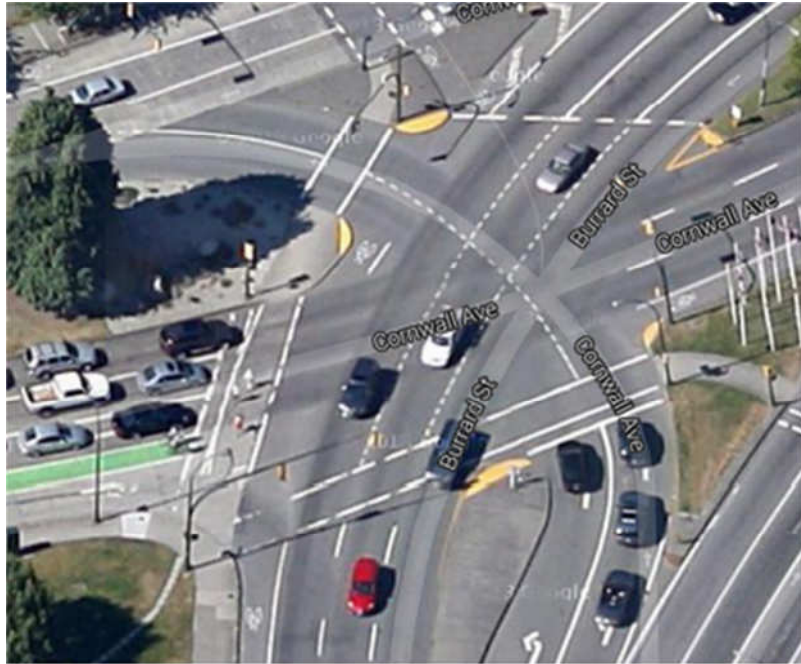
Three Recurrent Issues

Three recurrent issues were identified along the length of the bike lane. All three issues concern intersections in some respect. The first issue is turning left or right across traffic from the Hornby bike lane or onto the bike lane. The second issue is the timing of traffic lights. The third issue is signage at the entrances and exits of parkades that cross the bike lane.

Turning across Traffic into or from the Hornby Separated Bike Lane

The assessment ride found issues at a number of intersections along the bike lane. The most problematic of these were generally where the Hornby bike lane intersected with other separated bike lanes at Pacific, Drake, Dunsmuir, and Hastings.

Hornby also intersects with a separated bike lane at Helmcken. The City has implemented successful ideas at that intersection that, with a little refinement (discussed in this document) could be used in other intersections along Hornby and elsewhere.



Short dashed lines aid navigation through the Burrard/Cornwall intersection

HUB Vancouver/UBC notes that in some complex intersections in Vancouver, traffic lanes are marked by short dashed lines so that motor vehicle users can easily navigate their way through the intersection. The older configuration of the Burrard/Cornwall intersection provides an example of this (see photo). Such lines could be added to various intersections along the Hornby bike lane.

Timing of Traffic Lights

The timing of the traffic lights for those cycling northbound is currently too fast for most cyclists to catch the green lights. HUB Vancouver/UBC recommends extending the length of time that lights are green to allow more people on bikes to participate in a “green wave”. The timings of the green lights should be such that someone travelling at a modest pace will meet the intersection in time.

Signage Before Parkade Entrances and in Parkade Exits

There are five places where motorized vehicles enter or exit from parkades that require those vehicles to cross the Hornby separated bike lane. HUB Vancouver

recommends that a sign be placed on Hornby Street before each parkade entrance, warning motorists to check for bicycles coming *in both directions* before turning into an entrance.

Going from west to east, there is a parkade at Landis Hotel & Suites, 1200 Hornby Street. There is no signage inside the parkade, but the exit ramp is on a gentle grade and at right angles to Hornby, with the green bike lane pretty visible, so this exit is the least problematic of the parkade exits along the separated bike lane.



Exit ramp from Robson Square has a notable grade



Exit ramp from Robson Square meets Hornby at a notable angle and can be in heavy shade

There is an entrance ramp to Robson Square on 800 block of Hornby at Smithe. The exit ramp for Robson Square is at the other end of the block at Robson, and is the most problematic, as the photographs above and below illustrate. The photographs above illustrate part of the problem: The exit has a notable grade, meets Hornby at an angle, and can be in heavy shade.



Exit ramp from Robson Square has no signage about bicycles on the main exit sign



Close up of the warning sign about bicycles, high up and obscured by leaves

The above photographs show that the main exit sign makes no mention of bicycles. There is a Yield to Bicycles sign in the vicinity of the exit ramp, but it is high up on a post and is sometimes obscured by leaves.

The third exit ramp is from the HSBC Building on 600 block of Hornby, between Georgia and Dunsmuir.



HSBC Building parkade exit ramp, 600 block of Hornby

As the above photograph shows, the HSBC Building exit ramp meets Hornby at right angles and the exit signage is large. However, there is a notable grade (though not as much of a grade as at 800 Hornby) and the sign says "Watch for Pedestrians" but does not warn of cyclists who might be passing in two directions.



Parkade exit sign warning of pedestrians and cyclists at 550 Hornby



Close up of parkade sign

The above photographs are from signage in the exit of the DPS Parking parkade at 550 Hornby, located between Dunsmuir and Pender. As can be seen, the signage is hard to see, and the warning of cyclists has been added.

All parkade exits should have signage inside them that is large and easy to read indicating there is two-way cycle traffic.

Location-Specific Issues

Hornby between Seaside Greenway and Beach Avenue

On the Seaside Greenway, it should be made more obvious that you are approaching the Hornby bike route.

Road markings from the Seaside Greenway on Hornby should be made more obvious. Currently, when heading south on Hornby from Beach toward the Seaside Greenway, it isn't clear where to ride when the separated two-way lane ends. It is suggested that arrows be painted on the road to indicate to cyclists to cross to the other side of the street when transitioning to regular street usage.

Hornby at Beach Avenue

The south-east corner of Beach should have a bike box for turning off Beach.

Hornby at Pacific Avenue

Ideally, there would be an advance left-turn for those cycling and turning left through the intersection. This would be activated before the signals for motor vehicles to proceed and would give those on bikes an opportunity to safely make a left turn through the intersection. There should be an all-bike phase among the signal phases at the traffic lights. The lights should be synchronized to make turns easier.

North Side of Hornby at Pacific

On Pacific between Hornby and Burrard, HUB Vancouver/UBC suggests taking part of the sidewalk on the north side to make a separated bike lane, and moving the pedestrian crossing across Hornby further north.

HUB Vancouver/UBC recommends creating a bike box on the north-west corner of Burrard and Pacific for making a two-stage left turn onto the bridge. At present, this intersection is quite confusing for those approaching it eastbound by way of the cycle path, stopping at the north-west corner and wishing to proceed north on Hornby.

Some cyclists may notice there is a bike box at the west side of the intersection and, if they are also aware of the advance green, may proceed to the north side of the bike box and proceed on the advanced green. This is somewhat problematic since they must time the entry to the bike box so as to complete the manoeuvre prior to the traffic lights cycling to advanced left turn/green.

Another option would be to make a two-stage left turn. This also poses challenges because of the lack of a holding area for people waiting for the traffic light to change. Also, the push button for crossing the intersection for the northbound leg is on the far east side of the intersection, making it difficult to reach for those attempting a two-stage left turn.

Another option would be to have a timing in the cycle for all cycle traffic to go at the same time.

South Side of Hornby at Pacific

On the south-east corner, there should be a clearly-marked bike box for making a two-stage left turn. The eastbound left-turn signal should have an advance green for bicycles.

Also, a green lane marking with elephant feet should be added to the south side of the intersection to indicate the bike lane.

It is important to note here that the committee strongly recommends a protected route for cyclists from this corner along Pacific to Richards (and beyond to at least Drake) in order to safely connect paths. The most urgent gap at this time in that section is the segment between Hornby and Richards.

Hornby at Drake Street

Two separated bike lanes meet at the intersection of Hornby and Drake.



Intersection of separated bike lanes at Hornby and Drake
(view from Drake, looking north)

The above photograph shows that there is green paint along the Hornby separated bike lane where it crosses Drake. However, there is no green paint across Hornby to the separated bike lane on Drake, to mark where to turn. HUB Vancouver/UBC recommends adding green paint across Hornby to Drake, marking where bikes should cross, with elephant feet on the south edge of the intersection, like at the intersection of Hornby and Helmcken.

Cycling southbound on Hornby, it's not obvious enough that you should turn right to get to the Burrard Bridge. A sign on the south-west corner of Hornby at Drake needs to be more obvious that cycling is permitted on the bridge.

It would be useful to install a sign a quarter-way down the block north of Drake, informing cyclists that for access to the Burrard Bridge, they should go right on Drake to get onto Burrard.

It is suggested that the separated lane between Hornby and Burrard be made officially two-way. (The lane is currently used as such without problems.)

There should be a bike box at the south-east corner of Hornby and Drake.

Arrows on the road should indicate turning directions for all users of the intersection (pedestrians, cyclists, and motor vehicles).

Along the south edge of the intersection, HUB Vancouver/UBC suggests moving the bike crossing further south (where the current pedestrian crossing is now) and, in

turn, moving the pedestrian crossing south of the bike crossing. This would create space for cyclists to make a two-stage left turn.

Thinking long-term, the location of the separated track on the south side gives the impression that it's an eastbound lane or that it's two-way. Maybe in the future, when the street is developed, there can also be a cycle track on the north side of Drake going west to Burrard from Hornby.

Hornby at Davie Street

For east side crossing, HUB Vancouver/UBC suggests moving the crosswalk east to make room for a bike box for making a two-stage left turn onto Davie.

Hornby at Helmcken Street

Two separated bike lanes also meet at the intersection of Hornby and Helmcken.



The intersection of Hornby and Helmcken

At this intersection, the City has made extensive use of paint to indicate bicycles should turn into and out of the Hornby bike route, including bike boxes for left turns and right turns (see photograph above).

North Side of Hornby at Helmcken



Sign 1

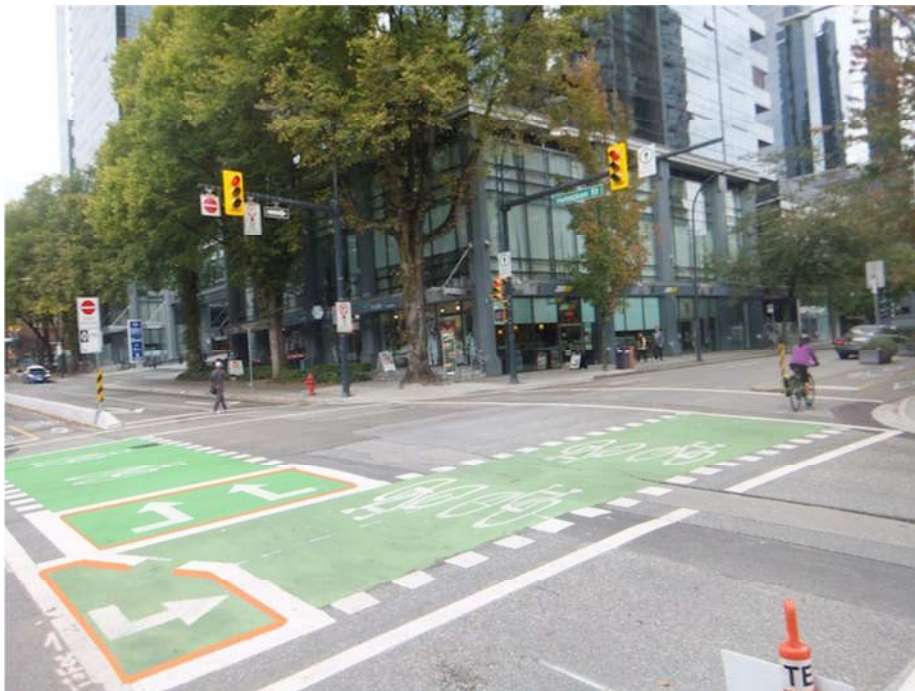
Sign 2

Sign 3

On the north side of the intersection, there is a single sign with an up-arrow inside a green circle (see sign 1 above). HUB Vancouver/UBC suggests adding two additional signs at the same location (see signs 2 and 3 above). The current single sign is not stern enough about right turns not being allowed.

The concrete island (in the original greenway plan) should be installed to prevent right turns. Alternatively, HUB Vancouver/UBC suggests finding a way to allow right turns that is safe and unproblematic.

South Side of Hornby at Helmcken



Bike boxes with different colour border

The bike signals crossing Hornby (on the south side) should be oriented to indicate the direction of bike traffic.

The City might want to try a different colour of border on the bike boxes to visually separate them from the green crossing, indicating that boxes are a protected area, but that the boxes can be passed over when empty. The photograph above shows the bike boxes with a different-coloured, solid border. (A solid border may cause road users to think that the bike boxes cannot be passed over under any circumstances. A dashed border in a different colour may be a better solution.)

The south-east bike box should be wider and/or placed farther south. Another option is to have a light phase for bicycle traffic in all directions.

Hornby at Robson Street

The north crosswalk should be widened as it is too narrow for the volume of pedestrians crossing it.

Hornby at The Art Gallery

Bike parking is in short supply in front of the Vancouver Art Gallery. There is one bike rack out front, which can house a maximum of eight bikes. It was full on a Saturday afternoon in October when HUB Vancouver/UBC conducted its assessment ride, and various other bikes were locked to nearby parking meters, etc. (These photos were taken the following week when the Art Gallery was less busy.)



Parking currently for eight bikes outside Art Gallery, with space for more on the Robson side



Space for additional bike parking on the Robson and Georgia sides of the Art Gallery entrance

There is plenty of space for two additional sets of bike racks on the concrete on either side of the gallery entrance between the gallery and the Hornby bike route, as the above photographs show.

Hornby at West Georgia Street

Northbound, there should be a sign addressed to people cycling, informing them of the delayed bike signal at the intersection. This intersection functions okay.

Hornby at Dunsmuir Street

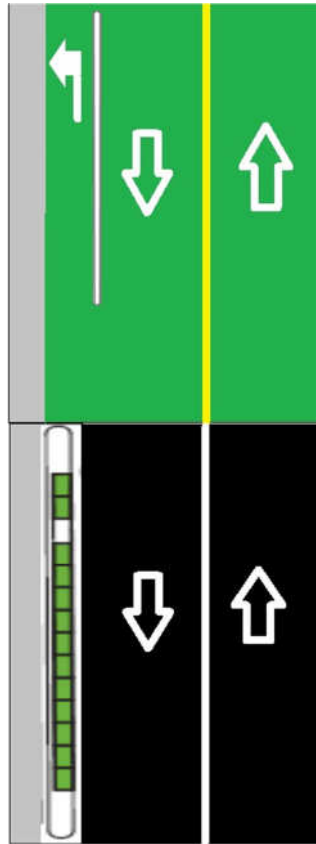


Dunsmuir separated bike lane
where it intersects with Hornby

The intersection of Hornsby and Dunsmuir is complex and non-intuitive for those riding bikes and those new to riding them. It is not obvious how and when one should make a turn, especially from the Dunsmuir separated bike lane westbound onto Hornby southbound.

The use or function of the bike box/hazard area on Dunsmuir is puzzling. It is unclear where to position yourself in preparation for making a left turn from Dunsmuir onto Hornby southbound. There is a collision hazard with straight through and turning traffic crossing paths. Also, when the lights change, there are often pedestrians crossing in front of cyclists. This is true for those approaching from Dunsmuir eastbound and also for those approaching from Hornby southbound and wishing to

proceed on Dunsmuir eastbound. Add pedestrians crossing in the crosswalk and this becomes even more challenging.



Dunsmuir westbound at Hornby: Bike lanes with left-turn lane, low curb, clearly marked lane separation and directional markings

A possible solution, shown above, is to extend the barrier on Dunsmuir by placing a low, flat concrete curb (island) along the south side of the green bike box/hazard area. A narrow left turn lane could be placed beside the curb with arrows indicating that this is a left turn lane. This narrow island would indicate some separation, give some protection, as well as providing a foot rest for cyclists turning left. Bike lanes should be clearly marked with lane separation and directional markings.

HUB Vancouver/UBC recommends that the east crosswalk be moved further east, so that the space for cyclists waiting to turn is that bit closer to the intersection. (The turn area for cyclists would be located where the current crosswalk is.)

This document mentioned earlier that, following the practice in the Burrard/Cornwall intersection, short dashed lines could be added to other intersections, to aid navigation through the intersection. It would be beneficial if similar markings were provided for those cycling through complex intersections like Hornby-Dunsmuir. For example, the left-turn line from Dunsmuir westbound to Hornby southbound and the left-

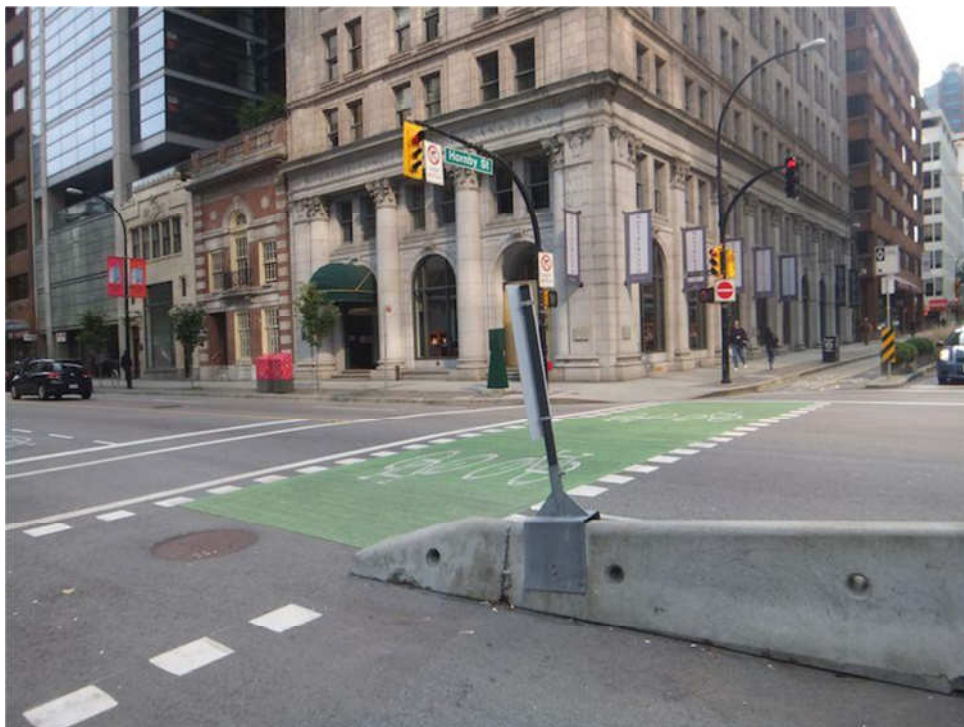
turn line from Hornby southbound to Dunsmuir eastbound could be marked to show the preferred routing for those making left turns.

Hornby at Pender Street

This intersection works okay.

Hornby at Hastings Street

A new rider approaching this intersection would probably be very confused as to where to go. When approaching from Hornby, it is not clear that there is a two-way bike lane proceeding to the west along Hastings. Also, the corner at the north east of the intersection is extremely and unnecessarily sharp.



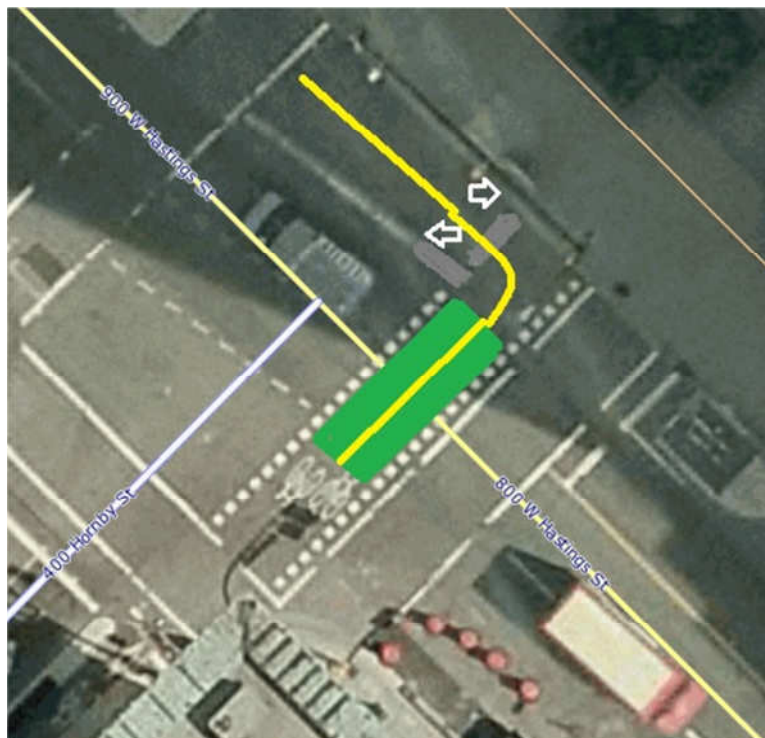
Concrete divider on north side of West Hastings at Hornby

The east end of the concrete divider (see photo above) is in the way of turning south onto Hornby from Cordova. It does not provide a place where a cyclist can rest their foot before turning. HUB Vancouver suggests that the barricade be shortened on the east end in order to more easily make the turn. Also, the diamond markings do not provide much information. It would be better to use directional markings as exist on the Seawall Greenway (see photo below).



Directional markings on the Seawall Greenway

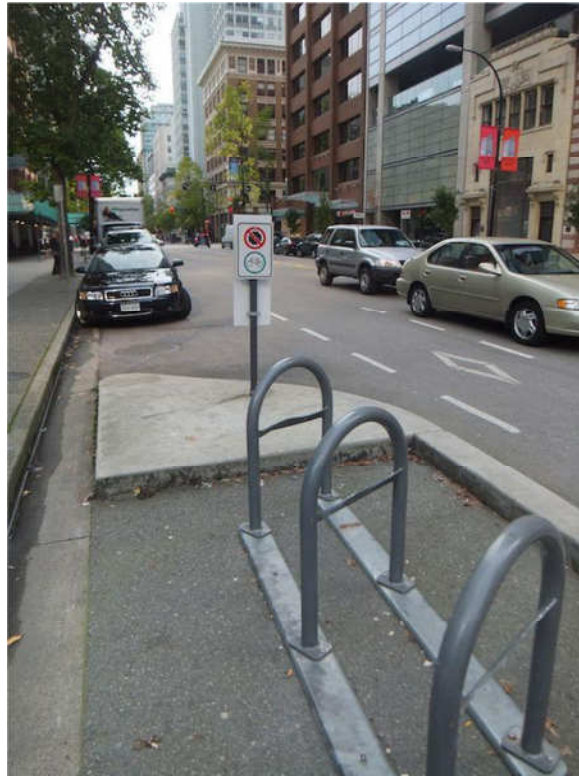
The final result might look like this:



Suggested directional markings at Hornby and Hastings with green paint and short dashed lines

HUB Vancouver/UBC suggests adding a sign informing people about the status of cycling in the park directly north of West Hastings. (Currently there is nothing about it.)

Also, a sign would be welcome that indicates the way to the Seawall and the Convention Centre.



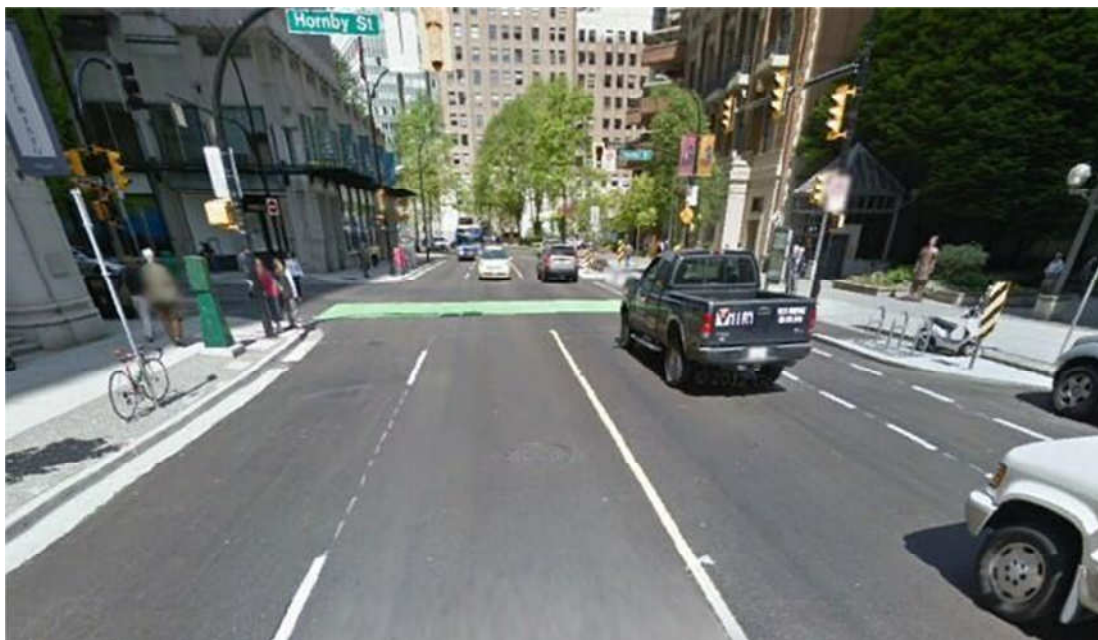
Sign on north side of West Hastings,
east of Hornby



Close up of sign

There is a confusing sign next to some bike parking on the side of West Hastings, east of Hornby (see above). The bike in the green circle usually indicates travelling by bike. Is there a different symbol that can be used to indicate locking up bikes?

The City may want to consider a parking-buffered bike lane on the north side of West Hastings between Howe and Hornby, and also consider a bike lane on Howe between Cordova and Hastings.



View of Hornby from West Hastings heading north

An additional problem is for people cycling west along West Hastings, wanting to turn south onto Hornby. The above photo from Google Street View shows there is no protected place (perhaps a bike box) where cyclists riding north can stop in order to turn left (west) onto Hornby. There is space for such a protected place, but it is currently occupied by the bike parking spots shown in the preceding photo. Maybe some modification can be made to this area, to allow cyclists to pull in to a protected place on the right, before turning west onto Hornby.

Burrard Street Between Hastings and Canada Place Way

HUB Vancouver/UBC recommends changing the bike crossing into a rectangle by moving the angle of the crosswalk north on the western edge, away from the intersection. This would also make room for a bike box when turning left onto Burrard.

It is also recommended that the north edge of Burrard and Hastings be widened, or that the separated bike lane be moved to the east side of Burrard.

Thank you very much.

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