



# Assessment Ride of Commercial Drive, Victoria Drive, Commercial-Broadway to Nanaimo SkyTrain Stations

HUB Vancouver/UBC committee

2012/08/01

## Table of Contents

Executive Summary

Assessment of Commercial Drive

Stainsbury to 14th

14th to Broadway

Broadway to Grandview Highway

Grandview Highway to 1st Avenue

1st Avenue to Graveley Street

Graveley Street to Venables Street

Venables Street to Adanac Street

Adanac Street to Powell Street

Assessment of Victoria Drive

1st Avenue to Graveley Street

Graveley Street to Pender Street

GWAC Assessment of Commercial Drive and Victoria Drive

Assessment of Right of Way from Commercial-Broadway to Nanaimo SkyTrain Stations

Nanaimo Street to Stainsbury Avenue

Stainsbury Avenue to Hull Street

Hull Street to Findlay Street

Findlay Street to 16th Avenue

16th Avenue to 12th Avenue

Assessment of 7/11 Bike Route at Nanaimo Station

## **Executive Summary**

The City of Vancouver's 2040 Transportation Plan includes consideration of bike lanes along Commercial Drive and Victoria Drive. These are streets that were developed in the 1900s and 1910s when the Interurban provided the first public transportation in Vancouver. Shopping/retail areas like Commercial Drive, 4th Avenue in Kitsilano, and Main Street are the product of those times. On 1 August 2012, HUB Vancouver/UBC conducted an assessment ride along Commercial Drive and Victoria Drive, and also along the SkyTrain right of way between the Commercial-Broadway and Nanaimo SkyTrain stations. This document reports on the feasibility of improved bike lanes along Commercial Drive, Victoria Drive, the SkyTrain right of way, and Nanaimo station.

## **Assessment of Commercial Drive**

HUB Vancouver is proposing to add one-way separated bicycle lanes on each side of Commercial Drive except where noted below. We suggest narrowing or reallocating existing traffic lanes and removing parking where necessary to obtain the room for the bike lanes. Separation is by a variety of means: grade separation from vehicle traffic on the street (and also, possibly, from pedestrian traffic on the sidewalk), mountable curbs, barriers. HUB Vancouver also suggests using paint to mark the path for cyclists through major intersections.

The bike lanes should go between the sidewalk and the roadway, i.e., between the sidewalk and trees on the one hand, and bus stops and bus shelters, and car parking and parking meters on the other.

Ideally the cycle paths should go behind the bus stops. At those bus stops, there should be barriers that separate bus riders from bike lanes. Where the barriers open, there should be raised humps and/or zebra crossing markings where pedestrians are given right of way over cyclists, when pedestrians cross to the sidewalk. It may be advisable to narrow the tracks

behind bus stops which will limit bicycles overtaking each other and may slow bikes close to bus stops.

One idea discussed was to raise the separated bike lane to a height intermediate between that of the sidewalk and roadway, and to have the bike lane have a different surface from the sidewalk and roadway in order to create an appearance of the bike lanes as more continuous with the sidewalk than the roadway. The idea, which may appeal to those who live close to The Drive and also visit it, is to add to the street life that The Drive is known for, by creating an enhanced sidewalk experience for pedestrians, separating them further from traffic through the use of the separated bike lanes.

HUB Vancouver would like to see the placement of sufficient street-facing barriers to prevent cars and delivery trucks stopping in the bike lane, while allowing cyclists some flexibility to get in and out of the lane.

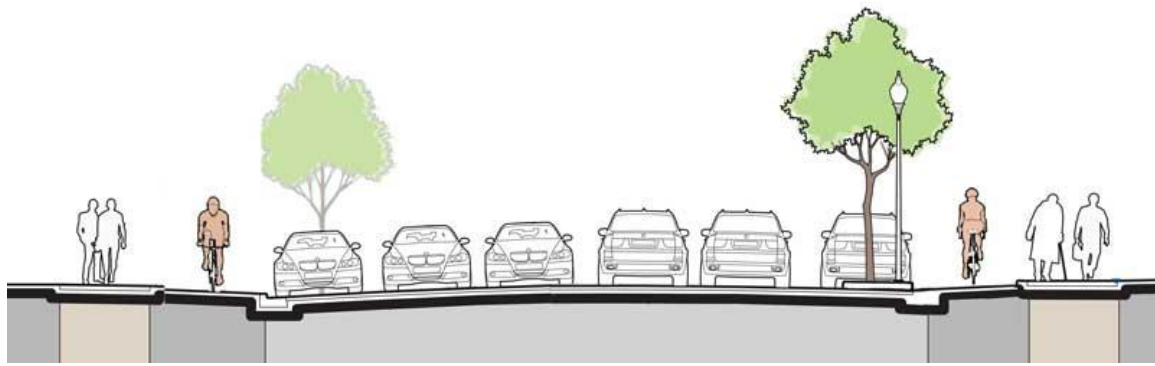


Illustration of grade separation of bike lane from both the roadway (vehicle traffic) and sidewalk (pedestrians).

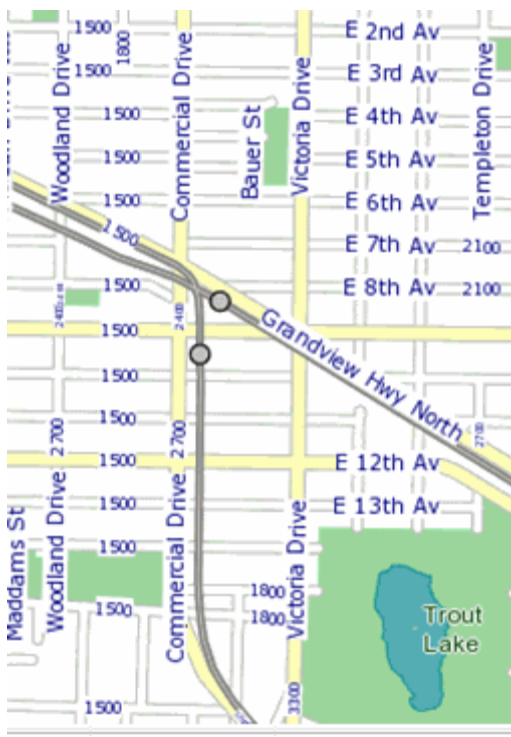
It is suggested that mountable curbs be used on both sides of bike lanes (the sidewalk side and the street side, or rollovers on the street side as appropriate), so that cyclists can exit the bike lanes in an emergency.

The Carrall Street bike lane has grade separation from the street and mountable curbs, but has issues with use of the bike lane by pedestrians

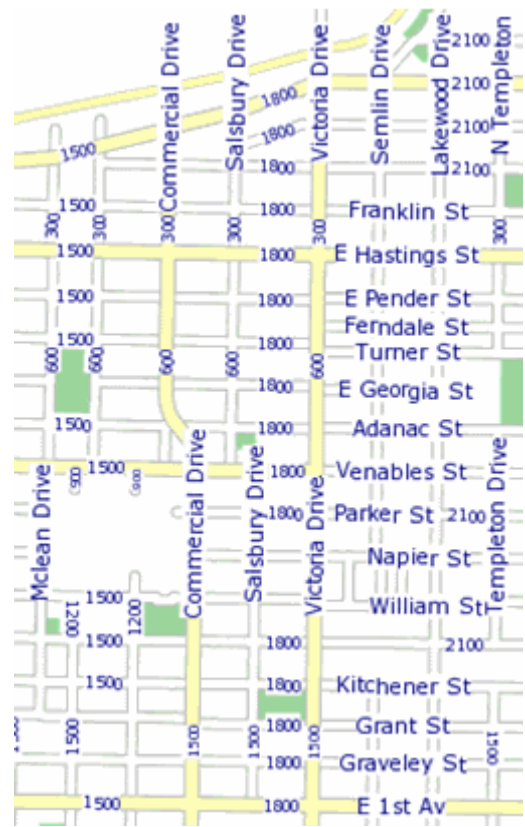
(and trucks and cars). HUB Vancouver would like to see barriers and other devices employed on Commercial Drive to discourage or prevent these other uses.

Loading zones for store deliveries might need to be moved to the side streets in places.

To make room for the lanes, the driving lanes can be restriped narrower, gaining some room. The trees and street light posts could be moved into the parking lane in bulb outs every 3rd or 4th parking spot leaving room where they presently sit to make room for the bike lane. For at least between 10th and 1st, this should give enough room to keep four driving lanes, the parking lane, the new bike paths and the sidewalk.



Map 1: Commercial Dr. and Victoria Dr. from 2nd Ave. south



Map 2: Commercial Dr. and Victoria Dr. from 1st Ave. north

The shopping area of Commercial Drive extends from 14th Avenue to just north of Adanac Street (see maps 1 and 2). The analysis of bike lanes on Commercial Drive (below) divides Commercial Drive from 14th Avenue north to Powell Street into a number of sections that present varying challenges in terms of implementing bike lanes. The sections are as follows: 14th to Broadway, Broadway to Grandview Highway, Grandview Highway to 1st Avenue, 1st Avenue to Graveley Street, Graveley Street to Venables Street, Venables Street to Adanac Street, and Adanac Street to Powell Street. (Please note that the section of this document called "Assessment of Right of Way from Commercial-Broadway to Nanaimo SkyTrain Stations" includes a subsection called "16th Avenue to 12th Avenue" and that this subsection also discusses bike lanes between 14th and 12th.)

HUB Vancouver would recommend implementation in phases, beginning with the sections that present the least challenges and provide connections to popular bicycle routes, which are those that are widest. These sections would be 10th Avenue to Graveley Street, and Adanac Street to Powell Street. The following analysis uses the sections of Commercial Drive identified in the last paragraph.

### **[Stainsbury to 14th](#)**

Stainsbury Avenue has been identified in TransLink's [BC Parkway Concept Plan](#) as a possible route for the Parkway. Stainsbury provides a much more direct connection to many destinations than the current route through John Hendry Park and is also lit at night. The Concept Plan included a shared use path on the east side of Commercial Drive. In addition to providing a good connection to the Parkway, this path can be placed under the guideway to provide weather protection. Commercial Street near Stainsbury has potential cycling destinations such as commercial and medium density housing. Further south, Stainsbury is also adjacent to several schools and parks. Commercial Street has relatively low traffic levels and could easily be upgraded to handle cyclists of all ages and abilities with a minor amount of traffic calming. As such, it is recommended

that the cycle track on the west of Commercial Drive be extended south to at least Commercial Street so that southbound cyclists do not have to choose between riding in traffic and crossing Commercial Drive twice.

### 14th to Broadway

Much of this section presents two options as far as bike routes are concerned. One option is to add bike lanes to Commercial Drive. The second option is to add a bike route along the right of way under the SkyTrain line.

Some people avoid the hill on 14th. Nevertheless, it is an east-west bike route on a quiet residential street and Commercial Drive is a fairly major north-south arterial. So it would be helpful for people who have travelled east-west and who want to get north to Commercial, to have use of a separated bike lane at this point.

As some people want to avoid the hill on 14th, a push button or bike activated crossing at Commercial Drive and 13th Avenue would be helpful.

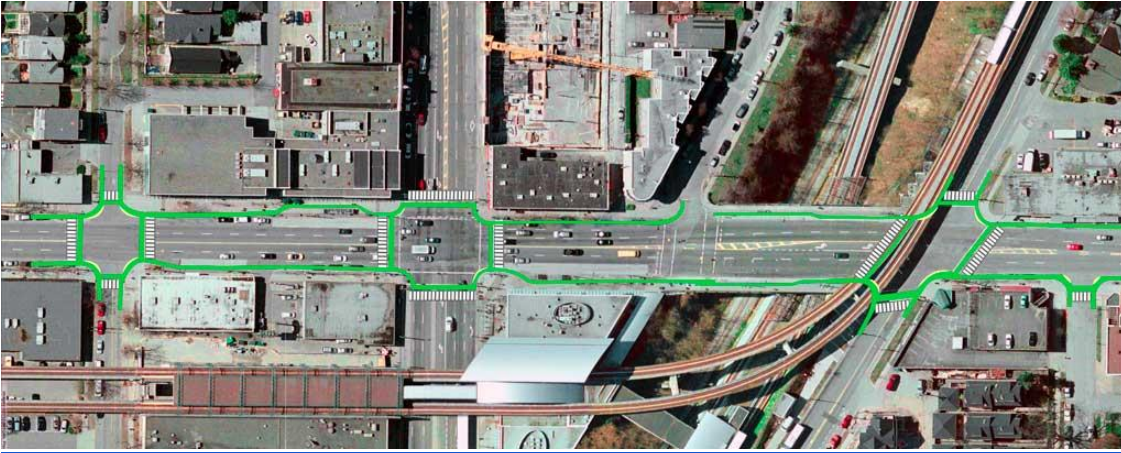
There are two options for the segment between 12th and 14th.

Separated bike lanes on Commercial Drive could start at 13th or 14th.

Alternatively, a bike route could be added to the lane that runs from 14th to 12th, to the west of Commercial Drive under the SkyTrain line. (Note that Stratford Hall school has reserved parking in the lane from 15th to 14th, and 14th to 13th.) If such a route was added along the lane, then something would be needed for bicycle traffic to cross 12th Avenue. The manner of that crossing would depend on whether the plan was to continue the bike route under the SkyTrain line or switch the bike route to Commercial Drive north of 12th. If the former (route continues under SkyTrain), then push button crossing lights would probably be needed at the north and south ends of the lane at 12th, with their timing linked to the timing of the lights at 12th Avenue and Commercial. If the latter (route



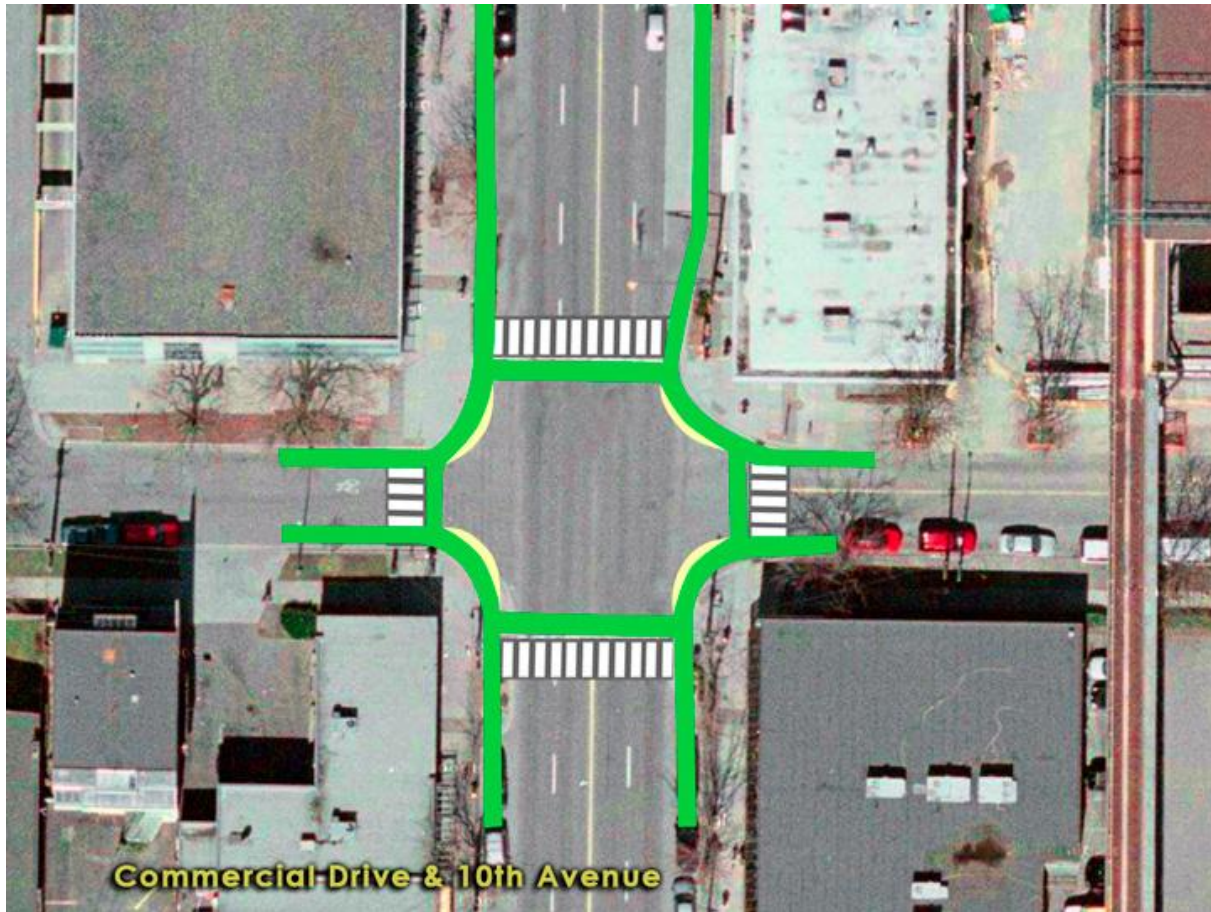
continues on Commercial), then a separated path would be needed on the sidewalk to Commercial and 12th (a sidewalk that does not appear to be heavily used by pedestrians), with push button crossing lights for use by cyclists at Commercial and 12th.



Aerial view of Commercial Drive and four intersections (from left to right): 10th Avenue, Broadway, 8th Avenue, Grandview Highway.

*Commercial Drive between 12th and the alley to the north (between 12th and 11th) on the east side.* There's a southbound left turn lane. The street could be widened there by buying up a sliver of land from the empty lot to the east. The bike path could be put behind the bus shelter, between the sidewalk and the roadway.

*Commercial and 10th.* This would be a good place to have a protected intersection. Bike activated signal detectors could be put in the street, as per the diagram below.

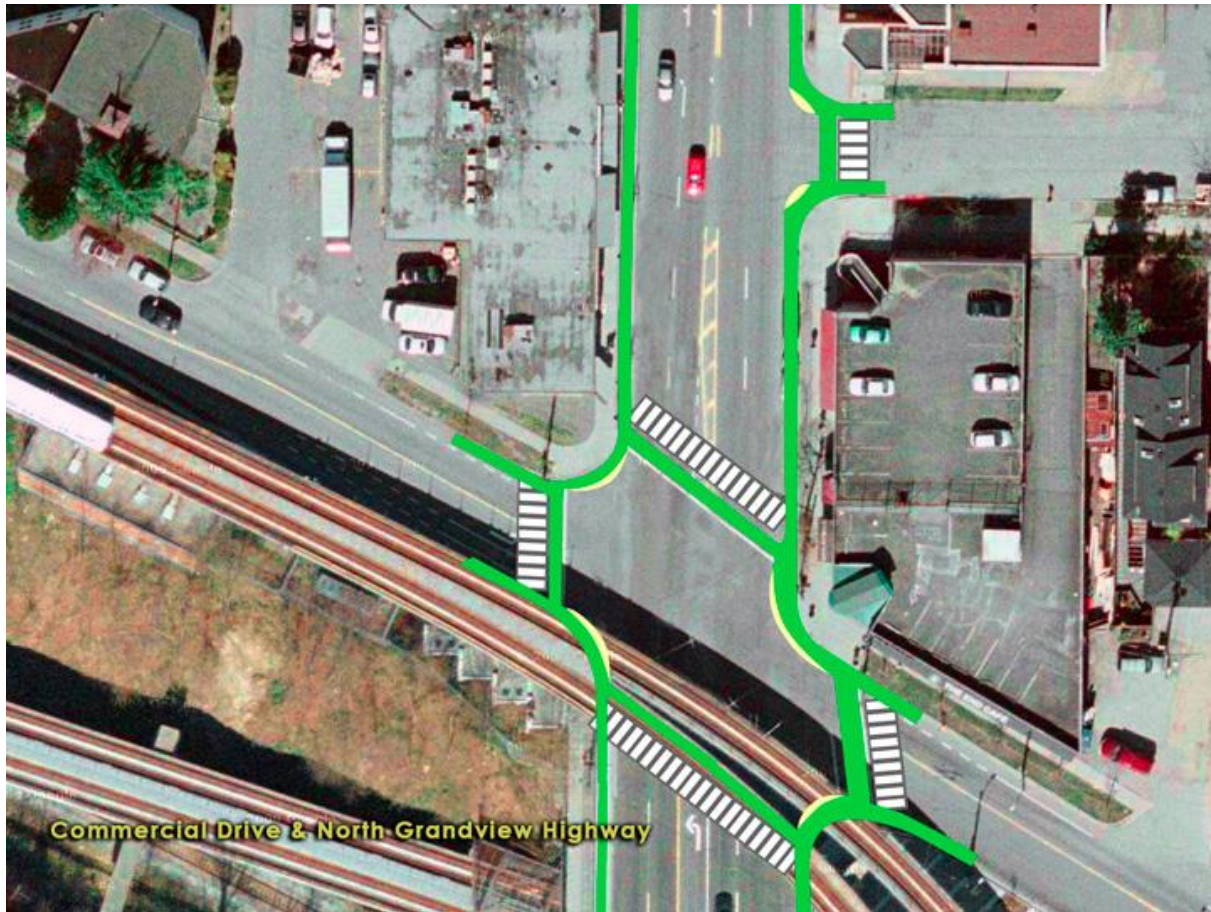


### Broadway to Grandview Highway

*Commercial between Broadway and 8th.* HUB Vancouver proposes separated bike lanes on both sides of the street, raised above the level of the roadway in the manner described previously. On the east side, move the bus shelters out and put the cycling lane behind the bus shelters. Have raised humps and/or zebra crossing markings to indicate to cyclists that pedestrians will cross at that point (and have the right of way). Have sandwich board regulations to allow more room for walking closer to the buildings.

*Commercial at Grandview Highway.* There are long buses turning right at this intersection. This is another candidate for a protected intersection (like at 10th and Commercial).





### [Grandview Highway to 1st Avenue](#)

For this section, the general principles expressed earlier, apply.

### [1st Avenue to Graveley Street](#)

The roadway supports five lanes of traffic along the block of Commercial Drive between 1st Avenue and Graveley Street, but then reduces to four lanes north of Graveley. Hub suggests continuing the separated bike lanes to Graveley. To accommodate the separated bike lane along this section, Hub suggests:

1. Relocate the northbound bus stop from its present spot between 1st Avenue and Graveley to a new spot south of 1st.
2. Remove the freight unloading area from its present spot between 1st Avenue and Graveley and extend the area on

Graveley east of Commercial Drive, with the bike lane (which should be the height of the sidewalk on this section) providing access for delivering goods to the stored along this section.

3. Remove (or shorten) the southbound left-turning lane from Commercial onto 1st.

### **Graveley Street to Venables Street**

If separated bike lanes were added to this section, put them between the car parking and the sidewalk on each side of the road. The City could either move trees and light poles out into the car parking lane, or keep the trees and light poles where they are.

### **Venables Street to Adanac Street**

Buy up a sliver of the lot at the north west corner of Venables and Commercial, in order to widen Commercial at this point.

Put in a bike box at Adanac, to allow northbound cyclists on Commercial to turn left (west) onto Adanac.

### **Adanac Street to Powell Street**

This part of Commercial is less of a draw than Commercial to its south (though the renovated York Theatre is likely to create new interest in this part of Commercial). Also, the road widens and straightens, making bike lane implementation more straightforward along this section.

## **Assessment of Victoria Drive**

Like Commercial Drive, Victoria Drive can be divided into sections from the viewpoint of bike lane implementation: 14th to Broadway, Broadway to 7th Avenue, 7th Avenue to 2nd Avenue, 2nd Avenue to 1st Avenue, 1st Avenue to Graveley Street, Graveley Street to Pender Street, Pender Street to Hastings Street, Hastings Street to Franklin Street, and Franklin Street to Powell Street.

Much of Victoria Drive supports four lanes. Two of those lanes are allocated for unrestricted parking except on blocks adjacent to busy intersections (12th Avenue, Broadway, 1st Avenue, Hastings, Powell) where parking is restricted at certain times of the day. The remaining two driving lanes are wider than needed for driving, but not wide enough to add an extra driving lane. However, that extra driving-lane width could be reallocated for cycling without the loss of parking.

Some residents are interested in Victoria Drive being traffic-calmed and might view bike lanes as helping with traffic calming. Bike lanes on Victoria Drive are likely to be used primarily for commuting, but might alleviate pressure on Commercial Drive from not only cyclists who are not shopping on Commercial Drive, but also cyclists heading to a specific store on The Drive who might choose to cycle along Victoria before cutting through to the store they want to visit.

The following analysis is only of certain sections of Victoria Drive.

### **1st Avenue to Graveley Street**

The road width is narrower and there are some parking restrictions south during the afternoon rush hour. There is a fair volume of southbound traffic seeking to turn left (east) onto 1st Avenue.

### **Graveley Street to Pender Street**

HUB Vancouver proposes to narrow the lanes, and put in painted bike lanes between the parked cars and the curb. Those bike lanes could be either one-way on each side or a single two-way path on one side (the west side would be best because that side is closer to Commercial Drive and also passes Victoria Park). As with Commercial Drive, HUB Vancouver would like to see the placement of sufficient street-facing barriers to prevent cars and delivery trucks stopping in the bike lane, while allowing cyclists some flexibility to get in and out of the lane.

## **GWAC Assessment of Commercial Drive and Victoria Drive**

In a [June 2010 letter](#) to Jerry Dobrovolny (at the time Assistant City Engineer, Transportation), the [Grandview-Woodland Area Council](#) (GWAC), the main community association of Grandview-Woodland, presented two options for additional trial north-south bike routes through Grandview-Woodland. Option 1 was a separated bike lane trial on Commercial Drive (with traffic calming measures on Victoria Drive). Option 2 was a separated bike lane trial on Victoria Drive (with painted markings on Commercial Drive). Those options overlap considerably with what HUB Vancouver recommends for Commercial Drive and Victoria Drive.

## **Assessment of Right of Way from Commercial-Broadway to Nanaimo SkyTrain Stations**

We divide the right of way into the following sections: Nanaimo Street to Stainsbury Avenue, Stainsbury Avenue to Hull Street, Hull Street to Findlay Street, Findlay Street to 16th Avenue, 16th Avenue to 12th Avenue (see map 3).



Map 3: SkyTrain right of way from Nanaimo Station north to Commercial-Broadway station

### [Nanaimo Street to Stainsbury Avenue](#)

Westbound on the bike path where the SkyTrain meets the ground, the path splits into two. There should be a sign stating what the destinations are for each direction.

Again further west, the eastbound path forks without a sign.

The path should continue past Gladstone as a shared path, but the current signage indicates bicycles to the north and pedestrians to the south. The path should instead become bi-directional, like other shared-use trails in the city.

### [Stainsbury Avenue to Hull Street](#)



There could be bike lanes on Stainsbury west of Gladstone, through to Victoria Drive. HUB Vancouver suggests putting in a two-way path where the sidewalk is. There should also be a separate pedestrian path.

The path under the SkyTrain on the Vilhelm Trail could be another route.

### **Hull Street to Findlay Street**

HUB Vancouver suggests having a two-way path under the SkyTrain guideway. (The grass under the guideway is dead without rain and it's presently used for cycling.) There's a garden across from the intersection with Commercial Street that will need to be modified to make room.

### **Findlay Street to 16th Avenue**

The track could go parallel to the sidewalk as the Croatian Cultural Centre is under the SkyTrain here.

### **16th Avenue to 12th Avenue**

A separated path under the SkyTrain could be added to the existing string of small parks, either through the parks or along the lanes to the west of those parks.

## **Assessment of 7/11 Bike Route at Nanaimo Station**

The 7/11 bike route is also commonly referred to as the 7/11 bike trail and also as the BC Parkway. The bike route by Nanaimo Station is currently extremely confusing for cyclists to follow. It is unclear where to go, both when biking west (down the hill) and biking east (up the hill).

There are potential conflicts between cyclists and buses and pedestrians in the bus loop in front of the main station entrance onto Nanaimo Street.

Those on the HUB Vancouver assessment ride observed a number of pedestrians and cyclists crossing Nanaimo Street at places to the south of the pedestrian/cyclist crossing point under the SkyTrain line at 24th

Avenue. Pedestrians were crossing to the south of Vanness because they didn't want to walk north to the crossing point, then retrace then go south on the other side. Cyclists were crossing to the south in both directions because they didn't want to pass across the main station entrance. They would hop the kerb and cross over at Vanness. However, crossing Nanaimo Street other than at the 24th Avenue crossing point is dangerous for cyclists and pedestrians.

HUB Vancouver suggests the following:

- Remove bump outs if they are in line with the bike lane.
- Install a ramp from the bike path to the street level and provide a two-way cycle path along the grassy area to 24th Avenue.
- Change the place for bikes crossing to be between 24th and Vanness, and move the northbound stop line further south.
- Provide a pedestrian crossing of Nanaimo Street, south of Vanness.
- Consider providing a cycling overpass over Nanaimo Street.