

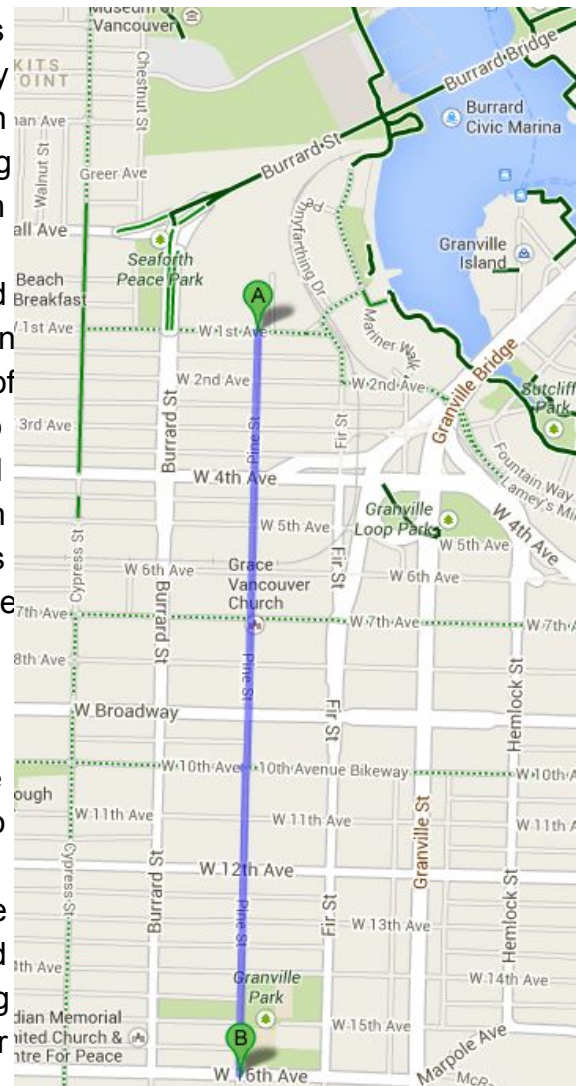


Assessment of Pine Street Vancouver, British Columbia, Canada 2014/02/28

The corridor between 16th Avenue and False Creek (centred on Burrard) is useful and important for all modes of travel. The corridor could be considered to include Maple, Cypress, Burrard, Pine and Fir Streets. In this report we are recommending that Pine Street from 1st Avenue to at least 16th Avenue become a new designated bike route.

Pine Street has a couple of advantages for cycling: it is very wide so space for cycling infrastructure is readily available and it has a gradual uphill grade which is an important factor when cycling. With improvements being implemented to both the Burrard Bridge and its western approaches, it would be a good time to consider improving cycling connections to the Burrard Bridge and Granville Island from points south and east. Cypress, an existing bikeway running north-south two blocks west of Pine, is steeper, narrower and of an older design. Also for cyclists originating or ending trips east of Burrard Street, it would be necessary to cross Burrard to reach it. The closest parallel bikeway to the east of Cypress is Heather, twelve blocks away. Given the popularity of the Burrard Bridge bikeway, we recommend an additional bikeway to improve network connectivity.

Adding Pine St as a new bikeway would link three existing east-west bikeways, and provide connections to the Seaside Bikeway, Burrard Bridge and points south. There are four sections of Pine Street that could each be treated as separate parts of the project and which would likely have different cycling facilities on them depending on the existing built road width available and their



connections to other cycle routes. The sections could each be their own project and be done at different times if factors do not allow the complete route to be implemented at once.

The four sections are 1st to 7th Avenue, 7th to 10th Avenue, 10th to 14th Avenue and 14th to 16th Avenue. The two northernmost sections should be given high priority, along with improvements to the 1st Avenue bikeway to tie the Pine Street bikeway into both the seawall and Burrard. Cycling infrastructure could include curb separated cycle lanes; a two-way cycle path on one side; a one-way separated lane on each side; a parking-separated lane on each side; or painted lanes on each side; depending on the available built road width, vehicle traffic, and bicycle traffic.

This document includes three related sections:

- 1. Top Priorities**
- 2. Problem Sections**
- 3. Suggested Solutions**

Top Priorities

- Signage indicating other connected bike routes.
- Connection to Seawall.
- Crossing of Broadway Avenue.
- Cycle parking at Broadway and Pine.
- Crossing of 12th Avenue.

Problem Sections

Burrard to Seawall (Seaside Bike Route bypass):

- *Burrard and 1st eastbound, west side of Burrard*
Currently when going straight and eastbound on 1st at Burrard, the cycle crossing push button is in the same lane as the right turning lane. These two actions are in direct conflict and create a dangerous situation.
- *1st Avenue between Burrard and Pine*
The street is very busy with motor traffic. There is poor visibility when turning west or east from northbound Pine St. due to parked cars.

- *Fir Street and 1st Avenue*

This is an odd intersection with a triangular island. Traffic confusion creates a risk of collision for cyclists and motor vehicles

- *Seawall*

There currently is no signage regarding the nearby Seaside path.

Pine Street - 1st to 7th:

- *From 1st Avenue to 4th Avenue*

This is an industrial area with trucks moving goods and other busy motor traffic.

- *4th Avenue & Pine Street*

This is a busy commercial street with motor traffic and buses coming off the Granville Bridge.

- *CPR tracks & Pine Street*

The CPR tracks have an unofficial dirt path that someday may become a cycle route. It's currently used as such to get up the hill towards Arbutus and 7th. The tracks can be dangerous for cycling when wet. The stop signs on either side of the railway are not observed by many motorists.

- *7th Avenue & Pine Street*

Because of the slope of the hill and the parked cars, the stop sign in the southeast corner is not clearly visible when cycling North from 8th on Pine St.

Pine St. - 7th to 10th:

- *Broadway & Pine Street*

Broadway is an attractive shopping destination but has very little cycle parking.

- *Between Broadway Avenue & 10th Avenue on Pine Street*

This is a very busy section with a lot of motor traffic.

- *10th Avenue & Pine Street*

This is another important cycling network connection. Currently it is easy to miss, the only sign facing Broadway is the street sign that has a small bike symbol on it. There is an uphill incline to 10th and if one is then turning right, the requirement to stop would cause cyclists to lose momentum.

Pine St. - 10th to 14th:

- *12th Avenue & Pine Street*

12th is a busy street that does not have a pedestrian or cycling crossing light at Pine St.

Pine St. - South of 14th Avenue:

- *Between 14th and 15th at Pine Street*

There is currently a single bumpy shared use path in poor condition through the park on 15th east of Pine.

- *South of 16th Avenue*

There is no push button for crossing. The bulb out on the south west corner is not cycle permeable.

Suggested Solutions

General notes:

- Connections to the Seaside Bike Route and Burrard at 1st Avenue are important. There should be signage leading from Pine St. to the Seawall and from the Seawall to Pine St, as well as signage leading from Pine St. to Burrard and from Burrard to Pine St. The signage from the Seawall should indicate that it's the route to the Burrard Bridge and downtown, including distances to popular destinations.
- Unused railway tracks should be treated in some way to make them safer to cross on bike. The relevant locations are Pine St. and 6th Ave. and 1st Ave just east of Pine St.
- Where two cycle routes cross (and well before the intersection), there should be signs indicating that a cycle route crossing is ahead and show destinations and distances to popular destinations. The relevant intersections of the Pine St. route are with 1st Ave, 7th Ave. and 10th Ave, as well as 14th Ave. which might become a bike route in the future and the dirt trail along the railway parallel to 6th Avenue.

Burrard to Seawall (Seaside Bike Route bypass):

- *Burrard and 1st eastbound, west side of Burrard*
There should be a cycle detector in the street to activate the bike crossing signal, a centre island with push button or a timed light.
- *1st Avenue between Burrard and Pine*
We suggest removing one parking space at least on each side of the intersection (on the south-east and south-west sides) to improve visibility and therefore increase safety. We also suggest a two-way separated lane on the north side running from Burrard to Fir which connects with the Seawall and expands the network.
- *Fir Street and 1st Avenue*
Consider closing the end of 1st Avenue where it meets Fir. Maybe put in a small park, car parking spots or a bike corral.
- *Pennyfarthing Drive*
This would make a good cycling connection from the Seawall to 1st Avenue. Creekside Drive is often busy and this would make a nice alternative for those going South from the Seawall.
- *Squamish First Nation land*
Work with the Squamish First Nation to create a more direct connection with the Seaside Bikeway. Apparently there is a plan to develop this land soon, which would be a good time to put the cycling trail in.
- *Seawall*
There should be some signs on the Seaside Bikeway indicating connections close by to the Pine Street bike route as well as to the bridge and other destinations.

Pine Street - 1st to 7th:

- *Pine & 1st Avenue*
We're recommending a separated bike lane on the north side of 1st Ave. (see above) - need to have coloured and well marked crossings that lead from the south side of Pine St. to the separated bike lane on 1st Ave.
- *From 1st Avenue to 4th Avenue*
Change the four way stops to prioritize Pine Street, with stop signs or yield signs for the side streets. This section could have either curb separated or parking separated bike lanes. These could be either one-way lanes on each side or a single two-way lane on

one side. Need to paint and raise sections at the driveways.

- *4th Avenue & Pine Street*

Both the Northwest and Southeast corners should have a bike corral or ample bike parking to allow one to lock up there and walk along 4th [Avenue](#) to shop.

- *CPR tracks & Pine Street*

The CPR tracks have an unofficial dirt path that someday may become a cycle route. It's currently used as such to get up the hill towards Arbutus and 7th. The tracks should be removed since they are dangerous for cyclists. The stop signs on either side of the railway are not observed by most motorists and are not really needed so it might be better to remove them or replace them with yield signs. Install a zebra crossing for the safety of pedestrians using the rail trail.

- *7th Avenue & Pine Street*

This is an important network connection to the Off Broadway cycle route. If the entire route cannot be made at one time, the section from 1st to 7th should be done first. Because of the slope of the hill and the parked cars, the stop sign in the southeast corner is not clearly visible when cycling North from 8th on Pine St.

Pine St. - 7th to 10th:

- *8th Avenue & Pine Street*

Pine Street is narrower south of 8th Avenue and might have to have a different type of bicycling infrastructure on it.

- *Broadway & Pine Street*

There currently is a push button crossing. It instead could have a bike detector in the road to activate the light or a timed light. As Broadway Avenue is a retail street, there should be ample bike parking on at least two corners.

- *Between Broadway Avenue & 10th Avenue on Pine Street*

There could be a two-way separated lane on the West side or parking protected lanes on each side.

- *10th Avenue & Pine Street*

This is another important cycling network connection. There should be a large sign part way from Broadway indicating that one is approaching the 10th Avenue bike route. The Northwest corner stop sign could be changed to a yield sign.

Pine St. - 10th to 14th:

- From 10th to 14th along Pine St. is likely to have less volume in the cycling network and could be done at a different time and with a different treatment than the first two sections to the north.
- *12th Avenue & Pine Street*
Add a push button crossing and/or bike sensor in the road for a crossing light, or an island in the centre with a push button.
- *14th & Pine Street*
14th is an unofficial cycling route and possibly a future official cycling route. It is currently used as such. Change the stop signs to indicate this or change to yield signs.

Pine St. - South of 14th Avenue:

- From 14th to 16th along Pine St. is likely to have a lower cycling volume and could be done at a different time than the first three sections to the north.
- *14th & Pine Street*
14th is an unofficial cycling route and possibly a future official cycling route. It is currently used as such. Change the stop signs to indicate this or change to yield signs.
- *Between 14th and 15th at Pine Street*
There are parks on each side which could be connected by closing Pine Street to motor vehicles between 14th and 15th. It should be cycle permeable. 15th Street could have a bicycle route to connect to Cypress on the West. Signs should indicate this with distances and destinations. The single shared use path in poor condition through the park on 15th east of Pine. This should be improved and twinned to separate walking and cycling (this path could also be shifted farther south, since it currently creates an island of green space just south of it that is unappealing and likely barely used).
- *South of 16th Avenue*
There should be a push button light to cross 16th. For cyclists heading south on Pine St., a possible route would be via Pine Crescent, then on to Matthews Avenue (currently a bikeway) allowing connections to Angus Drive for points south. This route has not been evaluated.

- The Shaughnessy area could have attractive cycling routes through it. The Pine Street route could continue south of 16th (or 15th) therefore using lower grades up the hill and to connect to Angus, Cypress and the 29th Avenue Bikeway.

The HUB Vancouver-UBC Committee would be pleased to discuss this assessment further if any questions arise. Thank you for your consideration of these improvements.

Sincerely,

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