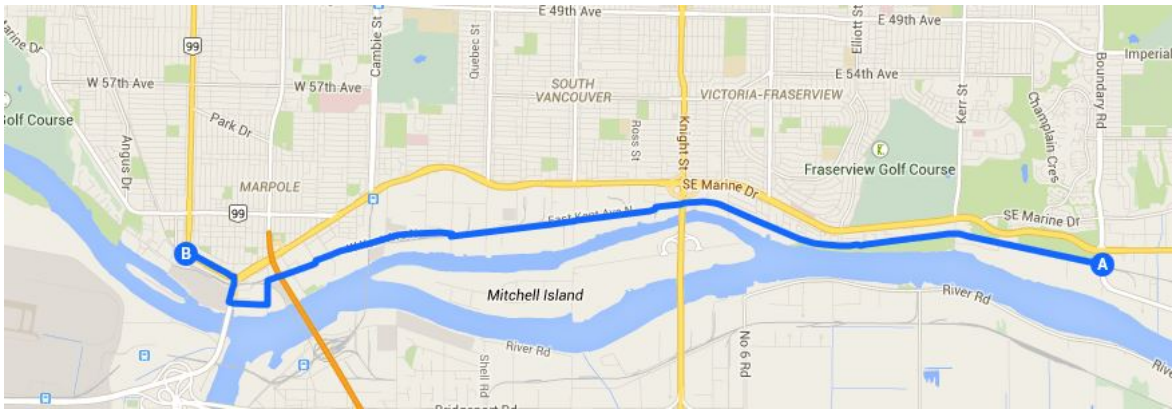
Kent Ave Bike Route Proposal

Prepared by the Vancouver UBC Committee of HUB Cycling

Project Vision

The creation of an All Ages and Abilities (AAA) Bike Route running through South Vancouver, from Boundary Road to Granville St, along Kent Avenue.



November 24, 2014

1 - 828 W 8th Ave. Vancouver BC V5Z 1E3 604 558 2002 vancouver@bikehub.ca

Why Is This Important?

From the south end of the Cypress bike route along Angus Drive, which terminates at Oak St and 77th Ave, eastward to Burnaby, there are no safe continuous east/west cycling routes south of 59th St. This is a significant gap in the Vancouver bike route network. This route is important to Vancouver residents travelling east and west along any portion of the route between Granville and Boundary Road, but also to those connecting from New Westminster and Burnaby, from Richmond, from the airport, and from UBC along SW Marine Drive to Granville.

Marine Drive, which represents the primary east/west route in this area, is not suitable for cycling due to high motor vehicle traffic volumes. Marine Drive experiences daily traffic volumes of 29,000 vehicles, compared to 3900 vehicles on Kent Ave. Traffic volumes are detailed further in Appendix 1. Kent Ave also benefits from being flat, and thus attractive to cyclists, due to its proximity to the Fraser River. This route has been featured as part of the HUB Cycling #ungapthemap campaign due to its regional significance.

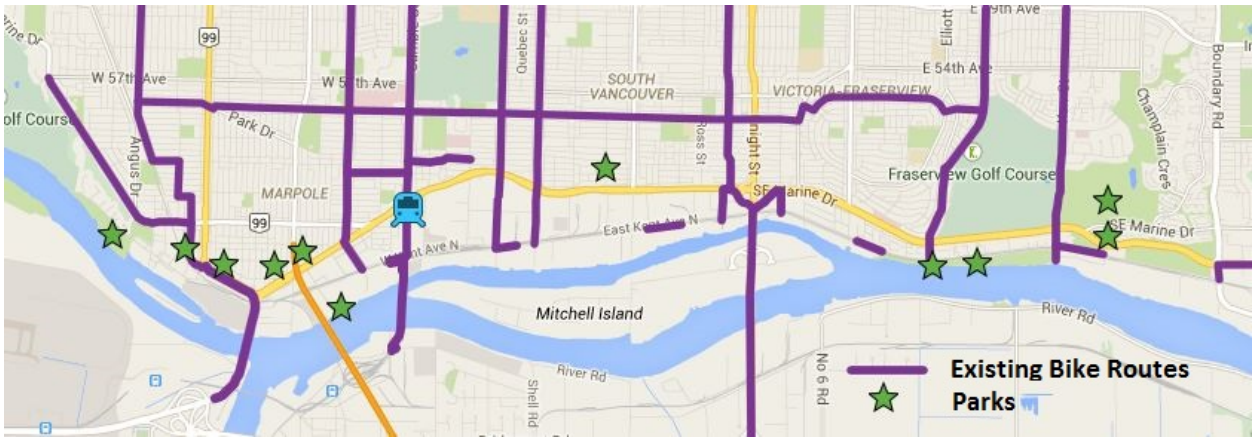


Figure 1

As can be seen in Figure 1, there are existing bike routes within Vancouver along SW Marine eastward to Granville, along Angus, along Heather, along Cambie, along Ontario, along Main, along Inverness and Crompton, along the Sunrise Bikeway on Elliot St, along Kerr, and along Boundary Road from the Burnaby bike routes along SE Marine Drive. There are cycling connections from the south on the Knight St, Canada Line, and Arthur Laing Bridges.

One of the most significant destinations along the route is the Canada Line station at Cambie and SW Marine, useful for multi-modal trips both northbound and southbound. There are many parks located along this route. There are also new parks under development along the river, including a network of riverfront bike paths in the Fraserlands district. It is important to provide access to these parks by safe and convenient AAA bicycle routes.

There is significant new development underway at the East Fraserlands neighbourhood, at the eastern end of this route, as well as at Marine Gateway, both of which will add a significant population of future users. This new AAA infrastructure should be planned soon, to help with planning to accommodate future cyclists around these developments.

The Transportation 2040 Plan

The Transportation 2040 Plan was adopted by Vancouver City Council on October 31, 2012. The plan makes specific reference to improving the Kent Ave Bike Route.

The Transportation 2040 Plan states that the direction for cycling is to make cycling safe, comfortable, convenient, and fun, for people of all ages and abilities.

The relevant policies within the plan include:

C1 Cycling Network
1.1. Build cycling routes that feel comfortable for people of all ages and abilities
1.2. Upgrade and expand the cycling network to efficiently connect people to destinations
1.3. Maintain bikeways in a state of good repair
1.4. Make the cycling network easy to navigate
C2 Parking and End-of-Trip Facilities
2.1. Provide abundant and convenient bicycle parking and end-of-trip facilities
C3 Multi-Modal Integration
3.1. Make it easy to combine cycling with other forms of transportation
3.2. Provide a public bicycle system

With the exception of 3.2, the recommendations contained in this report are fully aligned with the cycling policies contained in Transportation 2040. Policy 3.2, to provide a public bicycle system, will not be a consideration for this route until after a public bike share system is established in the higher density downtown core, and only when an expansion of the bike share system to areas outside the downtown core is contemplated.

Transportation 2040 Implementation Principles include investing wisely by prioritizing strategic improvements that realize larger network benefits, and working together with partners on routes that have regional significance. These principles are well aligned with the recommendations in this report, in terms of prioritizing this route.

The section of Kent Ave between Ontario St and the Canada Line Bridge access at Ash St was listed as a potential improvement to be completed in 2013, representing the highest indicated priority level in the Transportation 2040 plan. Kent Ave between Ontario and Cambie was not addressed in 2013 or 2014. A one block section between Cambie St and Ash St was improved in 2014, solely for access from Cambie to the Canada Line Bridge.

What Would It Look Like?

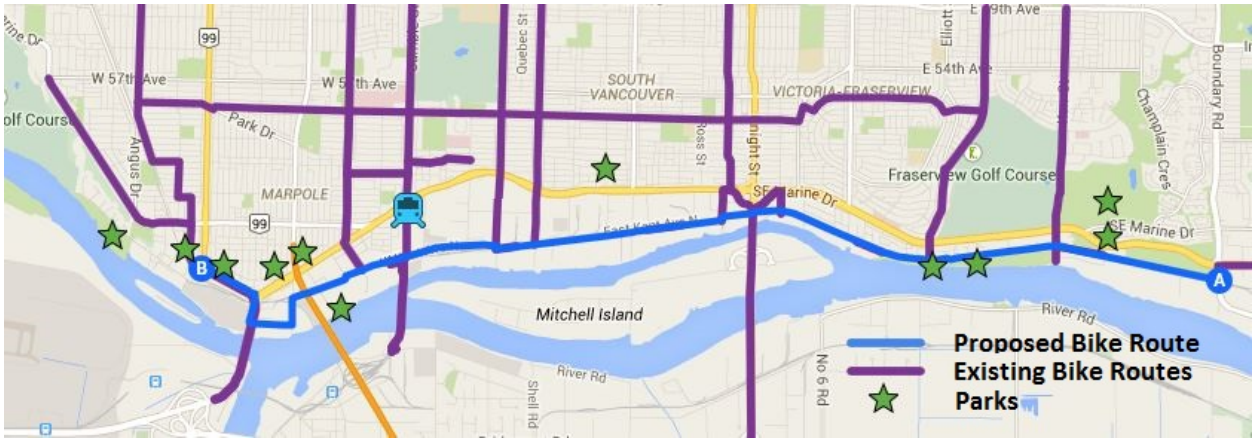


Figure 2

The Kent Ave Bike Route, shown in blue in Figure 2, will connect Boundary Road to Granville St with a continuous, All Ages and Abilities (AAA) bicycle route. This route will:

- link up to existing bike routes that run north and south, creating a local network in South Vancouver.

- serve as a regional connector. It will provide a continuous link westward for users heading towards UBC, eastward to Burnaby and on to New Westminster, and connections to all of the Vancouver/Richmond bridges, as well as the Canada Line SkyTrain.

- provide east west connections for active transportation users of the Canada Line Bridge, a significant draw for pedestrians and cyclists. This east west route performs a similar function as established cycling routes further north,

- connect to the new river paths in the Fraserlands district, serving recreational users.

- provide a transportation route for commuters, whether those riders continue on cycling to their final destination or utilize the Canada Line skytrain for multi modal trips.

What Is This Route Like Today?

Volunteers with HUB Cycling have conducted several recent assessment rides along the Kent Ave route. This resulted in an evaluation of the route to one of three levels, indicated in Figure 3. The issues with the sections in yellow relate to road markings, current speed limits, traffic calming, and/or shoulder width, as well as maintenance to broken pavement and the removal of abandoned railway tracks that cross the roadway. The sections in red are considered dangerous, due to a combination of a narrow roadway with no shoulder, high vehicle speeds, heavy truck traffic at times, and trucks using the current path as a loading/unloading zone.

Figure 3

A more detailed assessment of the current route is included in Appendix 2.

Representatives from HUB Cycling are available to meet and review the issues along the current Kent Ave route in more detail.

What Are The Challenges?

Kent Avenue has long been envisioned as a bicycling route, and some development has taken place to provide safe infrastructure, along limited sections. These sections are circled in red in Figure 4, below. These sections must be joined together to create a AAA route.

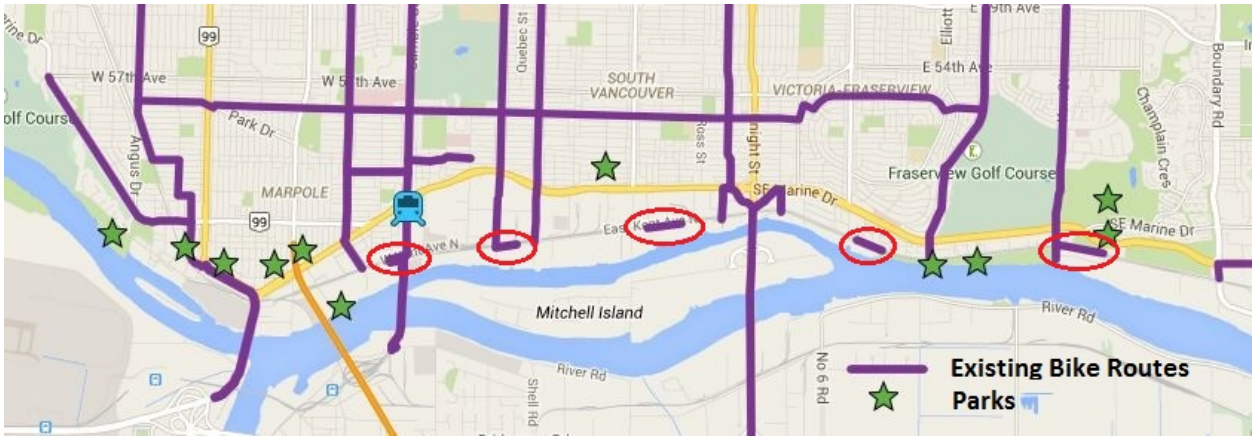


Figure 4

From an engineering perspective, the Kent Ave right of way (ROW) is divided into Kent Ave North, and Kent Ave South, on either side of the railway tracks. Each of these alignments is narrower than a standard street ROW. The improvements that have taken place to date have generally been along the Kent Ave South ROW. The challenge is that this ROW is not continuous, being bisected by several private properties. The most notable of these are the industrial millyards located between Ontario St and Cambie St (shown in Figure 5). The same situation exists with three properties located under the Knight St Bridge (Shown in Figure 6).

Figure 5

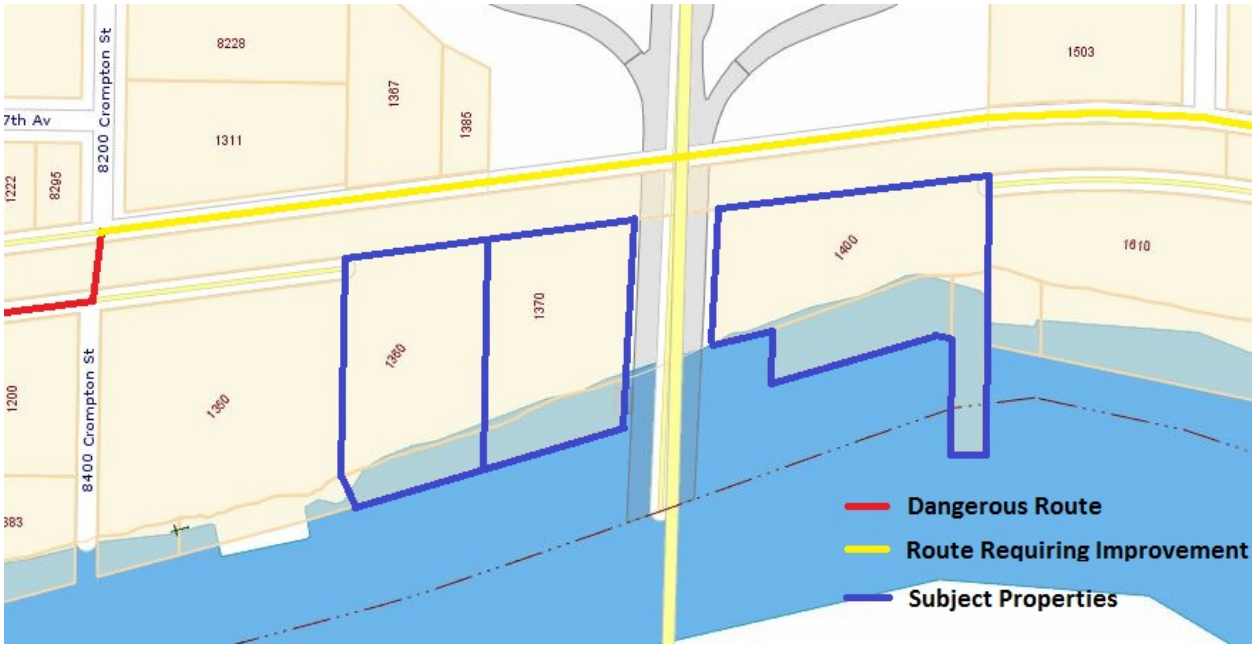


Figure 6

It is understood that previous City of Vancouver discussions with the affected property owners near Ontario St have not resulted in an agreement. One potential option is to consider expropriation. If that is not planned, then a solution will be required along the Kent Ave North ROW in sections where the ROW along Kent Ave South is not continuous. Further details on these properties are provided in Appendix 3.

Other challenges along the Kent Ave route include the need to balance current use with safe space for cycling. This route does not provide residential access, but it does provide important commercial vehicle access to local industrial properties. Consultation with industrial and commercial users will be required in order to strike the best balance.

How Could the Kent Ave Bike Route Connect Westward at Granville St?

The current bicycle route between Hudson St and Granville St along SW Marine Drive, consisting only of signage indicating the route, has very high traffic volume and high vehicle speeds, with merging traffic onto and off of the Arthur Laing Bridge, and left turns northbound on Granville St at both Milton St and 70th Ave. We propose that the existing city ROW along 75th Ave between Hudson St and Milton St, which is currently undeveloped and fenced, be utilized to construct a shared bicycle and pedestrian path that would allow users to bypass the congested and dangerous area at the foot of Granville. This as yet unbuilt section is shown in orange in Figures 3 and 7, and in more detail in Figure 8. Figure 9 shows this city ROW looking west from Hudson. There is an unused railway siding crossing the city ROW, but no other apparent obstructions.

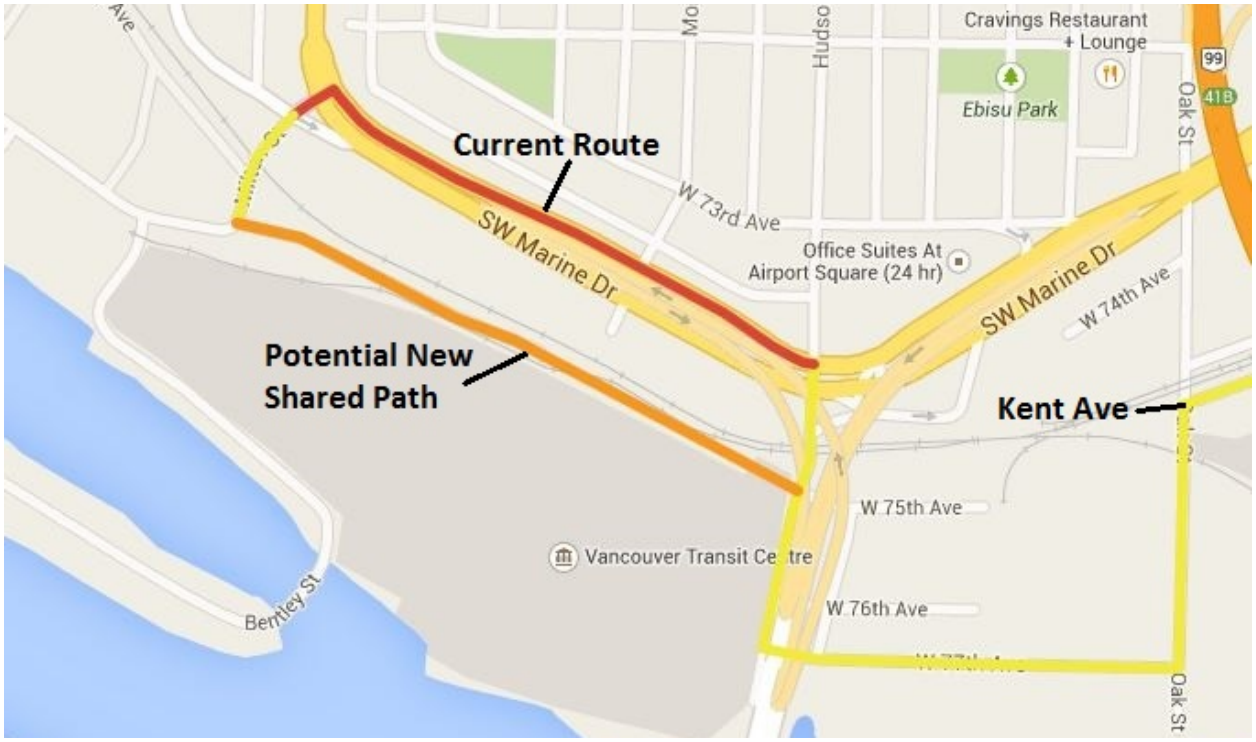


Figure 7

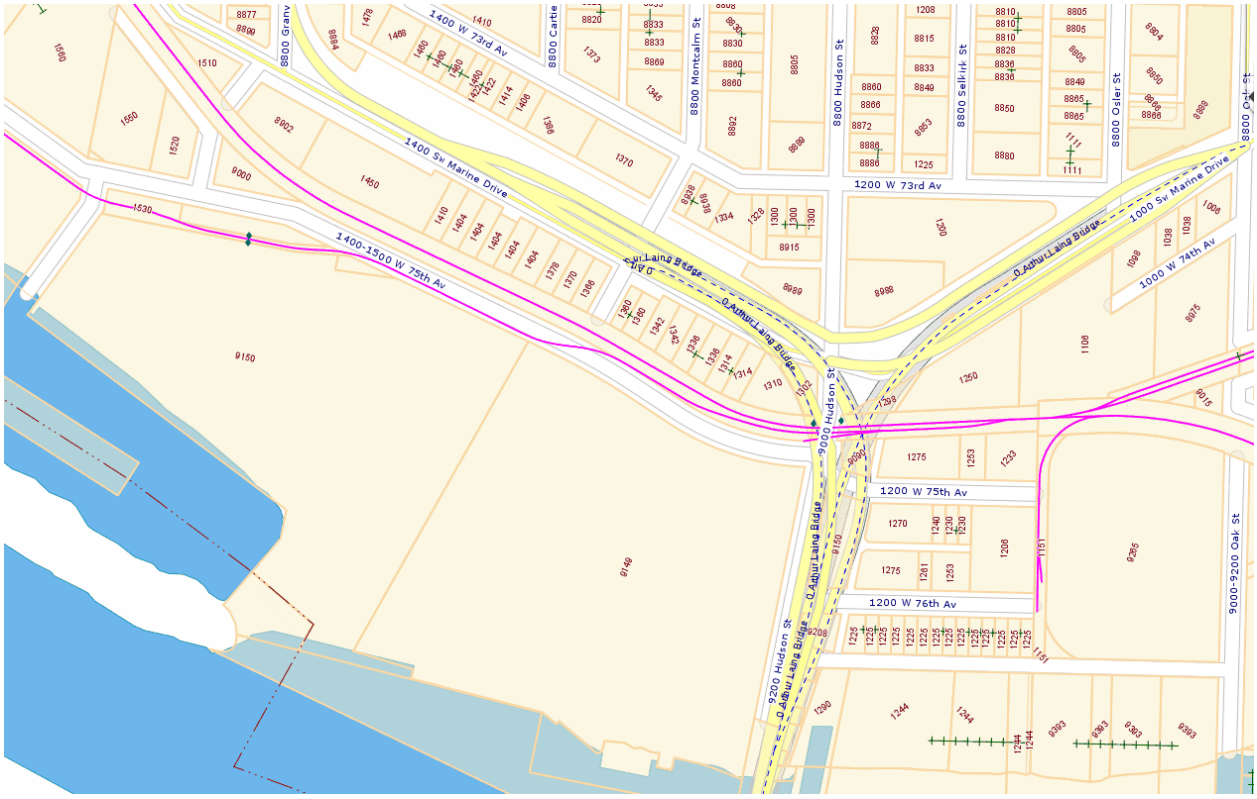


Figure 8

Figure 9

Specific Issues to Address

The current route has poor quality pavement in many sections, particularly along the edges where cyclists usually travel.

Figure 10

Figure 11

The current route has abandoned railway tracks in the roadway, particularly dangerous when the tracks cross the roadway at oblique angles that can catch a bicycle wheel and create a risk of falling.

Figure 12

Figure 13

The entrances to and exits from the current separated bicycle paths along the Kent Ave South ROW require wayfinding signage to direct cyclists, and point out where to find the next section of the route. Bollards are not well placed. Concrete barriers would provide additional protection from motor vehicles for cyclists, after the first stop sign, in Figure 15.

Figure 14

Figure 15

The first photo shows the existing shoulder bicycle lane along Kent Ave North near the Knight Street Bridge. The shoulder lane is currently not wide enough for a standard bicycle stencil. The second photo shows typical truck traffic overtaking bicycles along Kent Ave North near Fraser. Note the low traffic volumes due to photos being taken on a Sunday morning.

Figure 16

Figure 17

Where to Start?

HUB Cycling has 10 specific recommendations for improving the Kent Ave route. Locations for recommendations along this route are referenced in Figures 18 and 19.

1. The Kent Ave Bike Route should be designated as an improvement priority in accordance with Transportation 2040, and be indicated as a bike route on city maps.

2. Along the designated bicycle route, the speed limit should be established at 30 km/hr as is commonly done on other city bicycle routes.

3. Address the most dangerous section of this route, with the highest immediate potential for increased bicycle use, between Ontario St and Cambie St. Consider making Kent Ave North one way westbound from Ontario St to Ash St, with a bi-directional separated bike lane on the south side of Kent Ave North. Route eastbound traffic north up to SW Marine at Laurel St and at Heather St. As part of this implementation, relocate the new separated bike lane between Cambie St and Ash St to the south side of Kent Ave North, reducing the number of road crossings required by cyclists using the Canada Line Bridge, and making this separated lane useful for cyclists continuing east beyond Cambie St on Kent Ave North.

4. Based on a future analysis of traffic volumes cutting through this neighbourhood to avoid Marine Drive, consideration should be given to calming Kent Ave North by redirecting through vehicle traffic in one or both directions at several points.

5. Improve the connection from the Kent Ave Bikeway immediately west of Crompton St on Kent Ave South, through to Kent Ave North, with lane markings and signage. Provide physical separation on the north side of the existing Kent Ave South roadway. There is conflict with trucks loading and unloading where the current bikeway ends. Review both existing off-street bike paths along Kent Ave South, and improve them, particularly at the transitions to local streets.

6. Complete the cycling connections from existing north/south bike routes to the Kent Ave Bike Route, particularly with respect to signage and street crossings.

7. Repair broken pavement along the entire route, and remove abandoned railway tracks in the roadway where possible.

8. Construct a new shared bike/pedestrian path from Hudson St west to 75th Ave along the existing city ROW (not the rail ROW).

9. Construct a short (approximately 10 meter) paved bike path at the 2500 block East on Kent Ave North, connecting the two separate sections of Kent Ave through the parklet.

10. Install wayfinding signs the length of the route. HUB Cycling would be happy to provide more details on recommended locations and sign content.

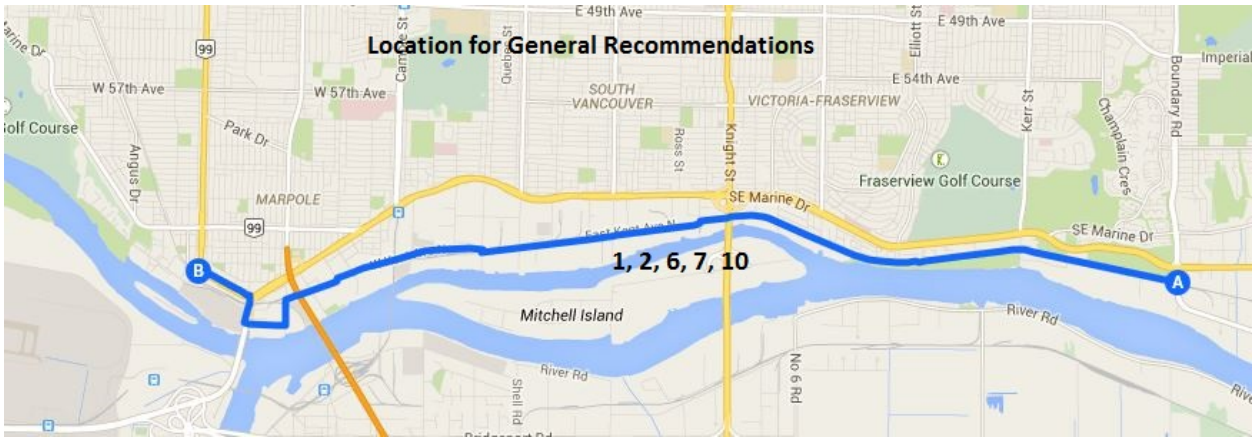


Figure 18

Figure 19

Appendix 1 - Motor Vehicle Traffic Volumes

The following tables provide comparative vehicle traffic volumes for Kent Ave North, in the 400 West block, and SE Marine Drive in the 1100 East block. This 2013 data is from the City of Vancouver. SE Marine has three travel lanes in each direction, while Kent Ave has one.

AUTOMATIC TRAFFIC COUNTS

400 W KENT AV NORTH

Coordinates: 837170 Location: 400 W KENT AV NORTH

DIRECTION: **EB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
81649	Feb-20, 13	A.M.	9	5	5	4	6	15	100	168	291	241	178	204	3124	1619	459	665
		P.M.	252	156	221	367	357	308	106	43	25	32	14	17				

DIRECTION: **WB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
81650	Feb-20, 13	A.M.	11	6	5	6	10	39	168	345	500	329	278	279	4087	2019	845	565
		P.M.	300	266	273	294	287	278	156	92	68	53	31	13				

DIRECTION: **EB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
81647	Feb-19, 13	A.M.	9	7	8	5	6	16	100	175	286	251	214	217	4036	1932	461	1067
		P.M.	223	250	300	477	551	516	193	93	53	36	27	23				

DIRECTION: **WB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
81648	Feb-19, 13	A.M.	8	3	8	3	9	42	179	287	522	341	245	299	4300	2137	809	645
		P.M.	306	282	324	340	330	315	192	104	63	44	38	16				

AUTOMATIC TRAFFIC COUNTS

1100 SE MARINE DRIVE

Coordinates: 830221 Location: 1100 SE MARINE DRIVE

DIRECTION: **WB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
82343	May-02, 13	A.M.	192	121	133	185	232	647	1604	1996	2144	1774	1661	1525	27348	11332	4140	3378
		P.M.	1531	1565	1610	1666	1644	1734	1425	1078	967	821	691	402				

DIRECTION: **EB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
82344	May-02, 13	A.M.	358	264	129	110	161	395	888	1363	1510	1579	1518	1546	28816	12652	2873	4398
		P.M.	1761	1814	2025	2409	2240	2158	1799	1295	1117	980	806	591				

DIRECTION: **WB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
82341	May-01, 13	A.M.	183	113	114	156	260	689	1708	1969	1904	1880	1731	1878	27703	12161	3873	3445
		P.M.	1610	1597	1697	1768	1745	1700	1415	1069	833	736	608	340				

DIRECTION: **EB**

ID	Date	Hour	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	24 Hours	9AM-4PM	7-9AM	4-6PM
82342	May-01, 13	A.M.	344	184	147	101	148	367	960	1316	1707	1382	1495	1674	28950	12712	3023	4594
		P.M.	1741	1783	2098	2539	2353	2241	1714	1187	1017	965	878	609				

Appendix 2 - A Current Route Evaluation (proceeding west to east):

Milton St to Hudson St

There is significant vehicle traffic between Granville St and Hudson St along SW Marine and on Granville St up to 71st Ave. An alternate route is required to connect Kent Ave and Hudson St to 75th Ave west of Granville St and on to SW Marine Drive towards UBC. This will avoid the heavy traffic around SW Marine and Granville St from the Arthur Laing Bridge. This alternate route would utilize the existing city ROW along 75th Ave. This route would supplement and complement the existing waterfront pedestrian trail at the foot of Hudson St that does not go all the way through to 75th Ave and the new marina accessed from 75th Ave.

Hudson St

Hudson St is shown as a future bike route in the recently adopted Marpole Transportation Plan. Initially, it will likely run from SW Marine Drive up to 49th Ave. It will be important to connect the Kent Ave bike route to Hudson St instead of having the Kent Ave route westbound terminus at Heather St, where it currently is.

Hudson St to Kent Ave

From Hudson St, the most likely route to connect eastward is along 77th Ave. There are abandoned railway tracks on 77th Ave, crossing at an oblique angle, that should be removed. It would be preferable to connect from Hudson St through to Kent Ave north of 77th Ave, if an east/west right of way exists. If not, this section of the route requires signage, and some repairs to the pavement. It does not likely require separation due to low traffic volumes, but this should be confirmed with traffic counts.

Oak St to Ash St

Along Kent, it is understood there will be a future park in the empty lot on the west side of the Canada Line bridge. There may be an opportunity to locate a AAA bike route along the north edge of this park , aligned with the Kent Ave South ROW, instead of along Kent Ave North.

Ash St to Ontario St

Between Cambie St and Ontario St, Kent Ave North is narrow with no shoulder. There is significant vehicle traffic during rush hour, and heavy truck traffic throughout the day, partly due to the Vancouver South Transfer Station located west of Manitoba St. Vehicles enter and exit the Transfer Station only when travelling westbound on Kent Ave North. Given this existing limitation, the traffic volumes that indicate there is more vehicle traffic westbound than eastbound, and the lack of any driveways on the south side of this section, consideration should be given to making this portion of Kent Ave North one direction westbound, with a physically separated bi-directional bike lane on the south side. Eastbound motor vehicle traffic would be diverted up to SW Marine Drive.

Ontario St to Crompton St

From Ontario St heading east, a separated bike path has been built previously along two separate sections of the Kent Ave South alignment. These sections of dedicated bike path require occasional maintenance to cut back vegetation, and some improvements related to bollards and signage. The portions of this route on the Kent Ave South roadway require minor improvements, particularly at the transition zones from local streets to bike paths. This is particularly so in the areas that are used for truck loading and unloading. The most dangerous of these is immediately west of Crompton St, where trucks park in the roadway to load and unload.

Crompton St to Argyle St

Near the Knight St Bridge, alternatives should be investigated to create a bike route along the Kent Ave South alignment, avoiding the narrow shoulder of Kent Ave North. If that alternative is not feasible, traffic calming should be considered along Kent Ave North in this area. The shoulder should be widened as much as possible, and the vegetation cut back.

Argyle St to Portside Dr

From the 1600 block East of Kent Ave North, heading east, the bike route is currently on Kent Ave North. Kent Ave South runs parallel along this stretch. Kent Ave South has better quality pavement, and additionally provides access to numerous waterfront pathways and parks. Consideration should be given to making Kent Ave South the marked bike route. If Kent Ave North is maintained as a bike route the pavement should be improved, repairing the ridges created by tree roots, as they are a crash hazard for bicyclists.

Portside Dr to Boundary Road

At the 2500 block East of Kent Ave North, the road is not continuous due to a small parklet. Bicycles are directed onto a shared gravel path, through multiple sets of bollards. Two sets of these bollards are aligned such that they are usually passed at an oblique angle. This link should be improved with a paved bicycle path without 90 degree corners, preferably alongside the south side of the grass in the parklet so as to avoid conflict with park users near the existing park bench.

Appendix 3 - 300 Block West, Kent Ave

Figure 20 from Van Map shows an aerial image of the 300 block West of Kent Ave, with the two properties that interrupt the Kent Ave South ROW.

The red line indicates a City of Vancouver Building Line, a setback described in City bylaw 3575. The single structure that exists outside of this building line is a gate house on 8708 Yukon Street. Figure 21 shows this building from the 400 block W of Kent Ave South. It is not known how this Building Line applies to the existing structure, but it appears that the Building Line was implemented in order to protect the continuation of the Kent Ave South ROW from being built upon. It is recommended that the Building Line be investigated on this property.

Figure 20

Figure 21

Appendix 4 - Motor Vehicle Collision Statistics

A comparison of ICBC motor vehicle collision statistics along Kent Ave and SW/SE Marine shows a far greater number of collisions on Marine Drive than on Kent Ave, even after adjusting for relative daily traffic volumes. This provides one indication of the comparative safety of the two roads.

From Hudson St to Boundary Road, excluding collisions noted as being on the major bridges passing over Marine Drive, in 2013, the ICBC Crash Map shows 1070 collisions on SW and SE Marine Drive.

From Hudson St to Boundary Road, in 2013, the ICBC Crash Map shows 38 collisions on Kent Ave, considering both Kent Ave North and Kent Ave South.

This suggests 28 times the number of collisions on Marine Drive, which carries approximately 7 times the traffic as Kent Ave in a 24 hour period, suggesting a much higher collision risk on Marine Drive than along Kent Ave.

The existing roadway along Marine Drive does not have space to accomodate bicycles. While the ROW may allow room to build separated bike lanes, the number of collisions at intersections suggests that the collision risk would remain high for bicycles. This leaves Kent Ave as the preferred choice for an east/west bicycle route connector in this area.

Appendix 5 - Bicycle Collision Statistics

There is a lack of comprehensive historical data on bicycle collisions on routes in Vancouver.

ICBC does provide the Cyclist Crash Map, which includes bicycle collisions involving motor vehicles and claims made against ICBC insured drivers. This is not a total count of bicycle collisions, due to the number of collisions that are unreported or which do not result in insurance claims against drivers. The same ICBC data is available on Bike Maps, which also provides the ability for cyclists to enter their own incident data.

A comparison of reported bicycle collisions along Kent Ave between Hudson St and Boundary Road, with other east/west routes, using the ICBC data, for 2013, shows

Kent Ave (North and South)	3 collisions
59th Ave North Arm Trail Greenway	1 collision
45th Ave Bike Route	2 collisions
37th Ave Bike Route	4 collisions

Daily bicycle volumes are not known for these routes. It is believed that Kent Ave currently has less bicycle volume than the three other east west routes listed, based on observation. This suggests a higher bicycle collision risk on Kent Ave than on existing east/west routes.

When discussing the Kent Ave route with cyclists, the most common concern expressed is safety. Cyclists report not feeling safe on Kent Ave, and so many simply choose not to use it.

List of Figures

Data Sources

All street and bike route photos taken by HUB Cycling in the morning on Sunday, May 11, 2014.

Vancouver traffic volumes extracted from Van Map
http://vanmapp.vancouver.ca/pubvanmap_net/default.aspx

ICBC Collision Statistics extracted from
http://www.icbc.com/about-icbc/newsroom/Pages/Lower-Mainland-Crash-Map.aspx

ICBC Bicycle Collision Statistics extracted from
http://www.icbc.com/about-icbc/newsroom/Pages/Cyclists.aspx

Bike Map application utilizing ICBC Bicycle Collision Statistics
https://bikemaps.org

Vancouver Transportation 2040 Plan
http://vancouver.ca/files/cov/Transportation_2040_Plan_as_adopted_by_Council.pdf

More Information

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