

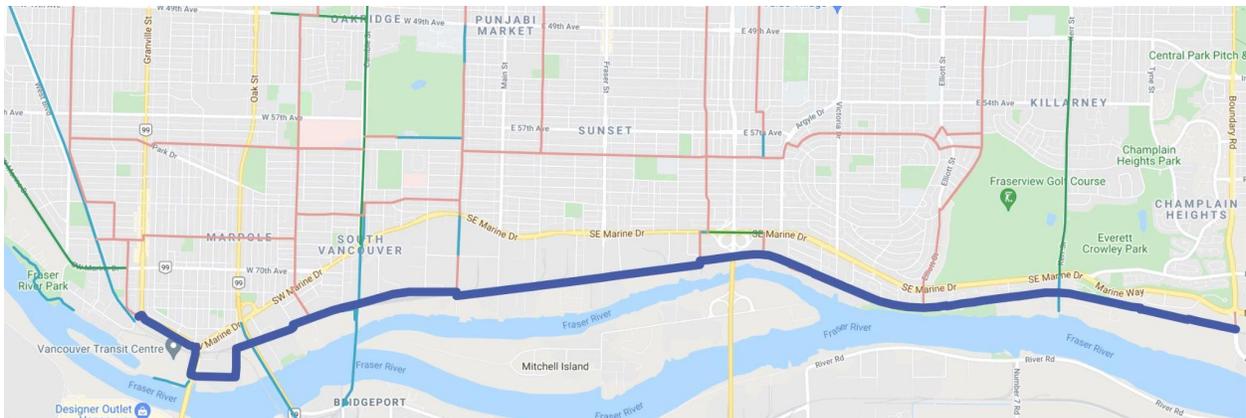


# Kent Ave Bikeway Proposal

Prepared by the Vancouver UBC Local Committee of HUB Cycling

## Project Vision

The creation of a cycling route that is safe and comfortable for most people, running east-west through South Vancouver, from Boundary Road to the Arbutus Greenway, along Kent Avenue.



**October 12, 2021**

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## **Kent Ave represents a Critical Gap in the Vancouver Cycling Network**

There are long standing and critical gaps in the east-west cycling network at the southern edge of the City of Vancouver. From the Arbutus Greenway, SW Marine Drive at the Arbutus Greenway, and the south end of the Cypress bike route along Angus Drive, eastward to Burnaby, there are no continuous dedicated east-west cycling routes south of the 45<sup>th</sup> Ave Bikeway. There is a partial route along 59<sup>th</sup> Ave, to Kerr St. There is a partial route along 67<sup>th</sup> Ave and 68<sup>th</sup> Ave to the Heather bikeway. All of these three involve additional hills, and all three have sections rated as being not comfortable for most people in the HUB Cycling State of Cycling benchmarking report.<sup>1</sup> The State of Cycling catalogued all designated cycling infrastructure in Metro Vancouver, and assessed all routes according to a classification system agreed to by authorities from across Metro Vancouver. Routes were assessed as being comfortable for most people (green); some people (yellow); few people (orange); or very few people (red). The Kent Ave route, and alternate routes as far north as 37<sup>th</sup>, are shown in Figure 1. There are no existing designated cycling facilities around Kent Ave. between Hudson St and Heather St, or between Cambie St and Ontario St, so these simply show as network gaps in the State of Cycling report.

Kent Avenue matters for people cycling in Vancouver. This route is important to local residents travelling east and west along any portion of the route between Granville and Boundary Road, but also has regional significance for those people connecting from New Westminster and Burnaby, from Richmond and the Vancouver Airport over the Canada Line bridge, and from UBC along SW Marine Drive to Granville.

Translink has also recognized the importance of this route for regional connections. The draft Transport 2050 plan<sup>2</sup> shows an expanded regional cycling network, and now includes Kent Ave as a key route.

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<sup>1</sup> HUB Cycling [State of Cycling in Metro Vancouver Report](#), Nov 2019.

<sup>2</sup> Translink Regional Transportation Strategy T2050; [Draft Report](#), Oct 12 2021

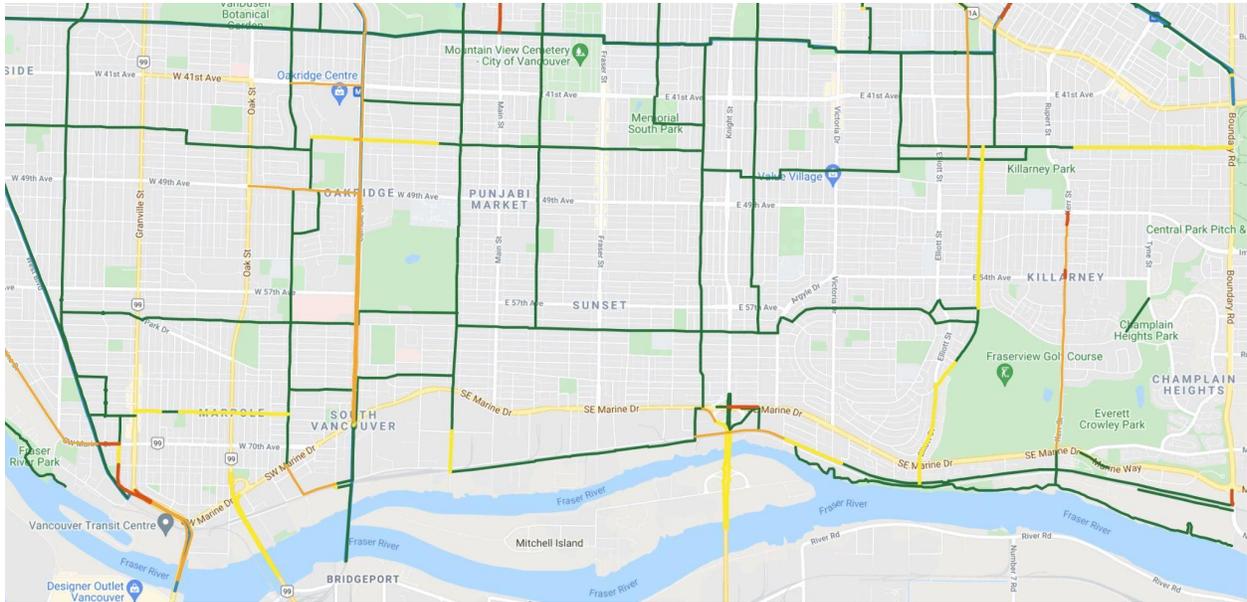


Figure 1 - HUB Cycling State of Cycling assessment of the Kent Ave area, and alternate routes on 37<sup>th</sup>, 45<sup>th</sup>, 57<sup>th</sup>, and 68<sup>th</sup>, with colour coding representing the degree of comfort and safety for most people cycling

Marine Drive represents the primary east/west vehicle route in this area, but is not suitable for cycling due to both high motor vehicle traffic volumes and high vehicle travel speeds. Marine Drive experiences daily traffic volumes in excess 70,000 vehicles per day<sup>3</sup>, compared to over 8,000 vehicles on Kent Ave<sup>4</sup>. Kent Ave also benefits from being flat, and thus attractive to people cycling of all ages and abilities, due to its proximity to the Fraser River. This route has been included in the HUB Cycling #UnGapTheMap campaign<sup>5</sup> due to its regional significance.

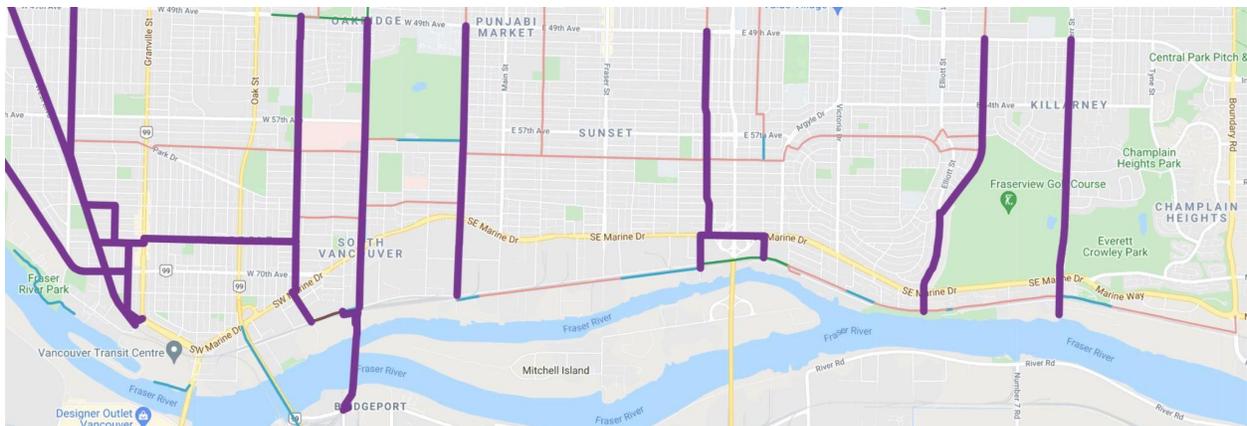


Figure 2 - Existing Vancouver north-south cycling routes that would be connected by the Kent Avenue Bikeway

<sup>3</sup> CoV Automatic Traffic Counts, 1600 SE Marine Drive; 37,630 EB, 32,697 WB, May 2 2013 (the most recent data available on the City of Vancouver Open Data Portal)  
<sup>4</sup> CoV Automatic Traffic Counts, 400 W Kent Ave North; 4,036 EB, 4300 WB, Feb 19 2013  
<sup>5</sup> HUB Cycling [#UnGapTheMap campaign](#)

As can be seen in Figure 2, there are existing cycling routes within Vancouver along SW Marine Drive eastward as far as Granville; and north-south along Angus Drive, Heather St, Cambie St, Ontario St, Inverness St, Elliot St, and Kerr St. There are connections from the Burnaby cycling routes at Boundary Road, and 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 St and SW Marine Drive, which is useful for multi-modal trips both northbound and southbound. This will be a key destination for new residents of the East Fraser Lands (River District), located along Kent Ave near Boundary Road. This development is projected to have over 12,500 residents per the original Official Development Plan. There are many parks located along this route. There are also new parks under development along the river, including a network of riverfront cycle paths and multi use paths in the River District. It is important to provide access to these parks by safe and convenient AAA bicycle routes.

## **The City of Vancouver Transportation 2040 Plan**

The Transportation 2040 Plan (T2040) was adopted by Vancouver City Council on October 31<sup>st</sup>, 2012<sup>6</sup>. The plan made specific reference to improving the Kent Ave Bike Route. T2040 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

### **C3 Multi-Modal Integration**

- 3.1. Make it easy to combine cycling with other forms of transportation

The recommendations contained in this proposal are fully aligned with the cycling policies contained in T2040. In addition, the T2040 Implementation Principles include investing wisely by prioritizing strategic improvements that realize larger network benefits, which is also well aligned with the recommendations in this proposal, 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 in T2040 as a potential improvement to be completed in 2013, representing the highest indicated priority level in the plan. Kent Ave between Ontario St and Cambie St was not addressed in either 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. Improvements along Kent were again included in the 2018-2022 City of Vancouver 5-Year Cycling Network Additions and Upgrades plan, with a new route to be built from Ontario St to Cambie St, and upgrades included to the rest of the Kent Ave route from Heather to Boundary. None of these have been implemented as of October 2021, the publication date of this proposal.

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<sup>6</sup> [Transportation 2040 as adopted by council on October 31st, 2012](#)

## **The Kent Ave Bikeway Would Connect Existing Routes and Fill a Critical Network Gap**

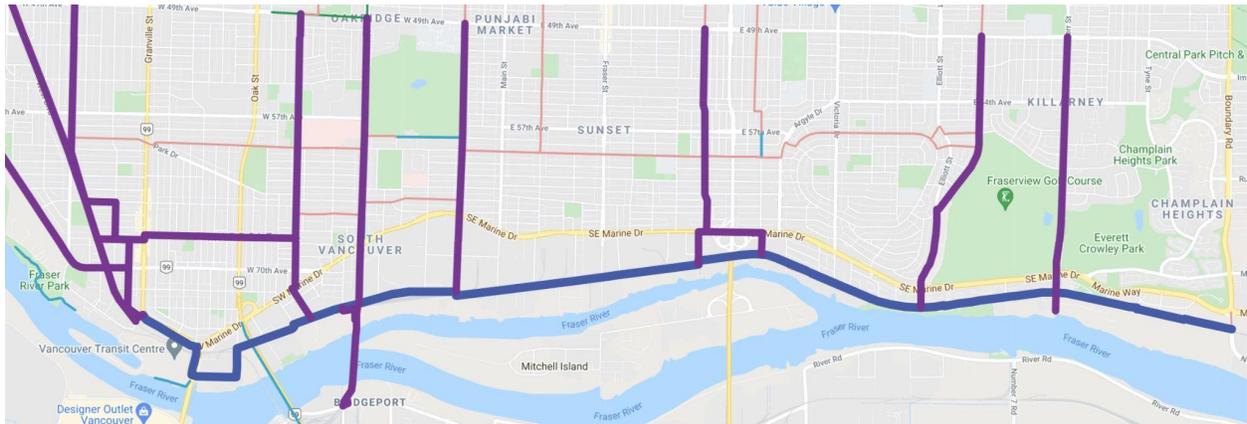


Figure 3 - The proposed Kent Ave Bikeway is shown in blue, with existing Vancouver cycling routes connections shown in purple

The Kent Avenue Bikeway, shown in blue in Figure 3, would connect Boundary Road to Granville St with a continuous route, comfortable for most people cycling. This route will:

- Fill the network gaps between existing cycle routes that run north and south, creating a more complete local cycling network in South Vancouver
- Help address critical social equity issues relating to the lack of cycling infrastructure improvements on the south and east sides of the City.
- Serve as a regional connector, serving people travelling to and from UBC; to and from Burnaby and on to New Westminister; and to and from all of the Vancouver/Richmond bridges, as well as the Marine Gateway Skytrain station.
- 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 waterfront paths in the River District, serving recreational users.
- Connect to the Arbutus Greenway, extending the expanding greenway network that exists around Burrard Inlet and False Creek, and which will soon include the Granville Connector across False Creek, to the Fraser riverfront.
- Provide a transportation route for commuters to the Broadway corridor and to the downtown core, whether those people continue cycling to their final destination or utilize the Canada Line skytrain for multi-modal trips.

## **The Existing Route is Not Comfortable for Most People Cycling**

Volunteer members of HUB Cycling's Vancouver Local Committee have conducted multiple assessment rides along the Kent Ave route. This resulted in an evaluation of the route to one of three levels, as shown in Figure 4. The issues with the sections in amber relate to unmaintained road markings and pavement; posted speed limits; high vehicle volumes; and abandoned railway tracks in the pavement. The sections in red are considered dangerous, due to a lack of any cycling infrastructure in places; a combination of a narrow roadway with no shoulder; high observed vehicle speeds; heavy truck traffic at times; and trucks observed to be using the current route as a loading/unloading zone. A more detailed assessment of the current route is included in Appendix 1.



Figure 4 - HUB Cycling Kent Ave Assessment Ride results

## **The Engineering Design Challenges**



Figure 5 - HUB Cycling Kent Ave Assessment Ride results with route sections labelled

Section	From	To	Along
A	The Arbutus Greenway	Hudson	Milton and SW Marine Drive, or local streets north of SW Marine Drive
B	Hudson St	Ash St	Hudson, 77 <sup>th</sup> , Oak, and Kent Ave (S & N)
C	Ash St	Cambie St	Kent Ave N
D	Cambie St	Ontario St	Kent Ave N
E	Ontario	Main St	Kent Ave S MUP
F	Main St	Chester St	Kent Ave S
G	Chester St	Crompton St	Kent Ave S MUP
H	Crompton St	Argyle St	Kent Ave N
I	Argyle St	Portside St	Kent Ave N
J	Portside St	Kerr St	Kent Ave N
K	Kerr St	Boundary Road	Kent Ave N and MUPs

Kent Avenue has long been envisioned as a potential cycling route, and some development has taken place to provide safer and more comfortable infrastructure, along limited sections. These sections must be joined together to create a continuous route that is comfortable for most people. Until they are joined, the investments made in improving standalone sections will result in relatively few additional people cycling here.

In the River District, the developer has improved Kent Ave, and provided a series of safe and comfortable paved cycle paths and multi use paths. (Figure 5, Section K) This has been a significant improvement in recent years, as the development work continues. The primary issues that remain along Kent Ave are to the west of this development..

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 typical 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 where the public road right of way was sold off years ago. The most notable of these are the industrial millyards located between Ontario St and Cambie St, section D (also shown in Figure 6, with property lines in blue). The same situation exists with three properties located under the Knight St Bridge, section H (also shown in Figure 7, with property lines in blue).



Figure 6 - The Kent Ave South alignment is blocked by private properties near Ontario (section D)

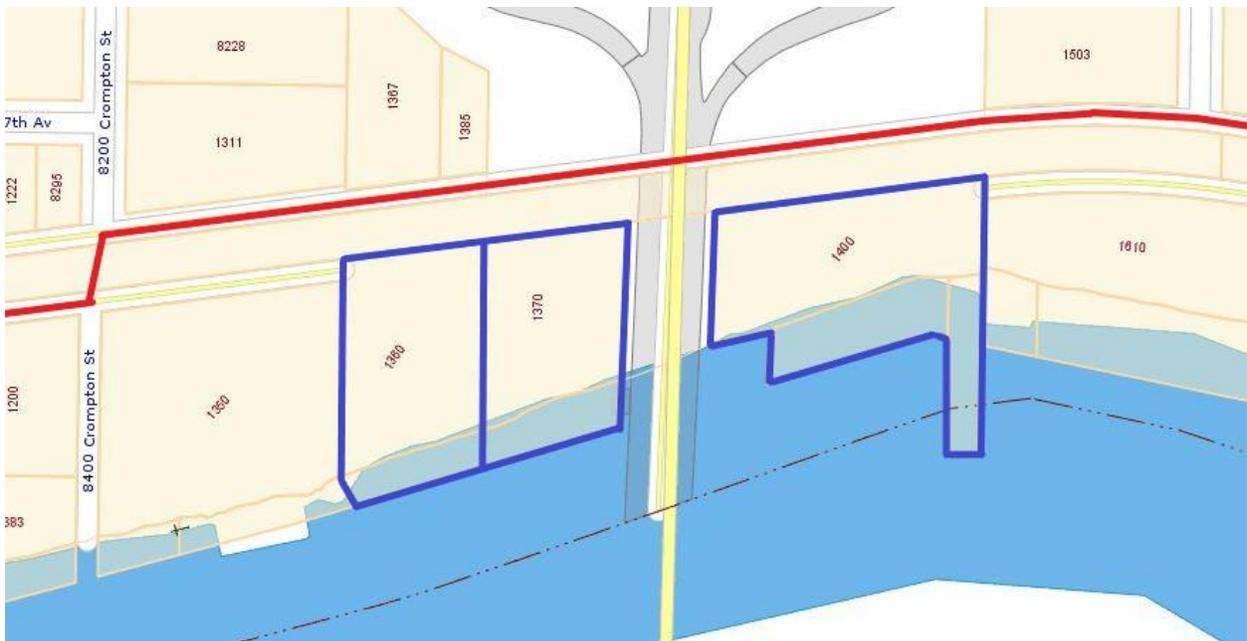


Figure 7 - The Kent Ave South alignment is blocked by private properties near Knight St (section H)

We understand that previous City of Vancouver discussions with the owners of the affected properties 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.

An additional challenge along the Kent Ave cycling route is the need to balance current uses, predominantly commercial and industrial traffic, with provision of safe space for people cycling. This route does not generally provide residential access, especially west of Argyle St, but it does provide important vehicle access. Consultation with industrial and commercial users will be required in order to strike the best balance.

## **Connecting the Arbutus Greenway to the Kent Ave Bikeway**

Kent Ave ends at Oak St, with the closest available connection south of SW Marine Drive running along 77<sup>th</sup> Ave. 77<sup>th</sup> Ave has benefited from some improvements for more comfortable cycling, but appears to have relatively low vehicle traffic volumes. Unless the existing rail corridor west of Oak St is acquired, and agreement reached on building along it, it is proposed that 77<sup>th</sup> Ave, and Hudson St (shown in orange in Figure 8) be utilized to connect from Oak St to Hudson St. From Hudson St, to connect to the Arbutus Greenway to the west, there are multiple potential options:

- A waterfront path (shown in teal) exists from Hudson St, but it is narrow, and blocked by a single property before reaching Bentley St, which connects up to 75<sup>th</sup> Ave. The waterfront route is the subject of a recent City of Vancouver council motion to improve access along the Fraser.
- The City-owned 75<sup>th</sup> Ave ROW (shown in green) is currently undeveloped, and connects through from Hudson St to Milton St, which then has a direct connection to the Arbutus Greenway, although one with a short but steep hill. The 75<sup>th</sup> Ave ROW is located close to the Marpole Midden, a significant historic site sacred to the Musqueam First Nation.
- The CP Rail ROW (shown in violet) runs from Hudson St to Milton St, and is on the alignment of the Arbutus Greenway. It directly abuts the Marpole Midden<sup>7</sup>.
- SW Marine Drive from Hudson St to Milton St (shown in red) is a designated cycling route, with a shared use lane, but is comfortable for very few people given very high traffic volumes and high vehicle speeds, with merging traffic onto and off of the Arthur Laing Bridge.
- There are options to use local streets north of SW Marine Drive, connection Hudson St to the Arbutus Greenway along 71st and 72nd Avenues.

Given the significance of the Marpole Midden and the impact on it of any potential new route through this area, we recommend that the City of Vancouver consider constructing protected unidirectional cycling lanes on SW Marine Drive between Hudson St and Milton St, as shown in red, with connections to the existing painted cycle lanes on the Arthur Laing Bridge, or implement a local street bikeway along 71st and 72nd, in combination with improvements to Hudson St..

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<sup>7</sup> The Marpole Midden is a [National Historic Site](#). Portions of the midden have been found between Milton and Hudson, and SW Marine and the CP Rail right of way.

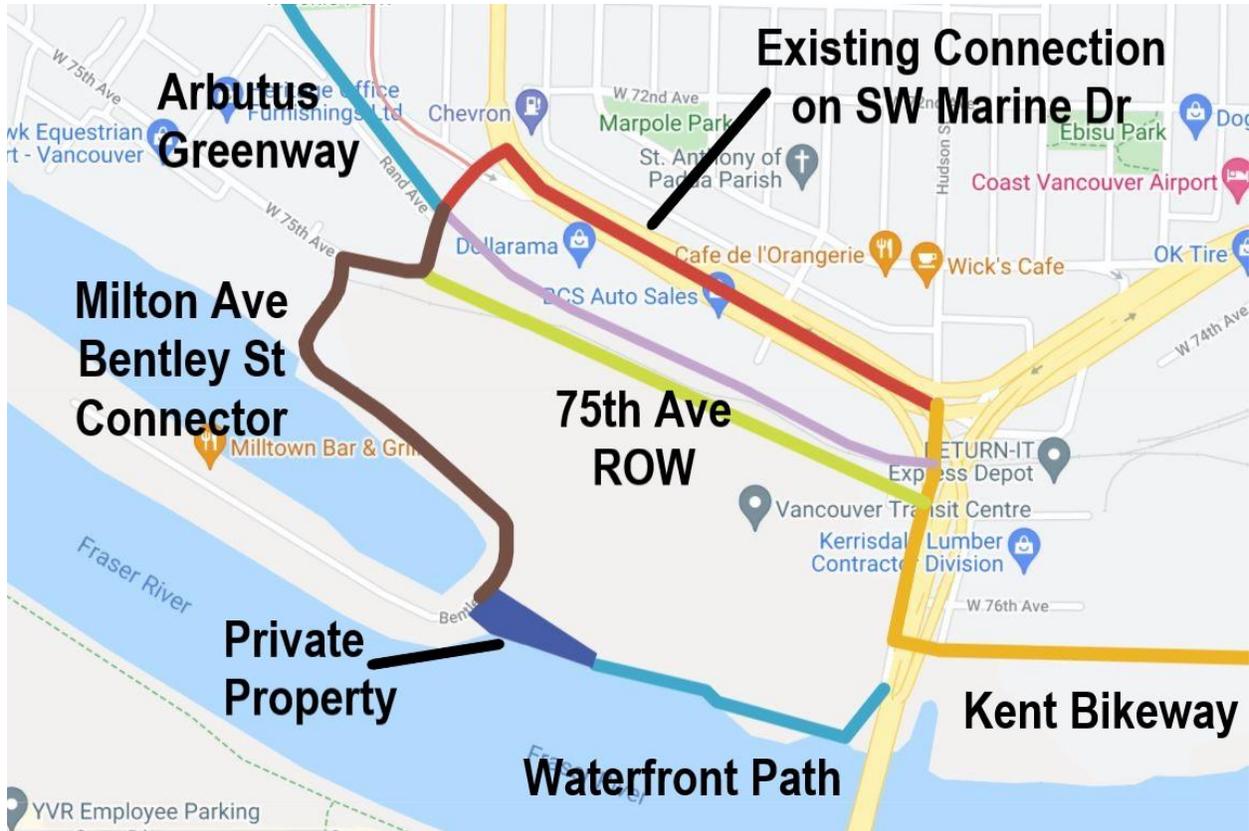


Figure 8 - The Arbutus Greenway, the westward extension of the Kent Ave Bikeway (on 77th Ave) and potential connections



Figure 9 - The 75th Ave right of way, looking west from Hudson St

## Common Issues to Address along the full route



Figure 10 - Poor quality pavement exists in many sections, particularly along the edges of the roadway where people on bikes usually travel.



Figure 11 - Abandoned railway tracks are particularly dangerous when the tracks cross the roadway at oblique angles that can catch a bicycle wheel and create a risk of falling into vehicle traffic.



Figure 12 - The entrances to and exits from the current separated cycle paths along the Kent Ave South ROW require wayfinding signage to direct people on bikes. The route is not intuitive here.



Figure 13 - Bollards are not well places and create a crash hazard, particularly at night. Concrete barriers would provide additional protection from motor vehicles after the first stop sign, to the intersection.



Figure 14 - The existing shoulder bicycle lane along Kent Ave. North near the Knight Street Bridge is not wide enough for a standard bicycle stencil, let alone comfortable and safe for most people cycling.



Figure 19 - Typical truck traffic overtaking people cycling along Kent Ave. North near Fraser St. Note the low traffic volumes due to the photo being taken on a Sunday morning.

## Setting Priorities

HUB Cycling has 10 specific recommendations for improving the Kent Ave route. Locations for recommendations along this route are referenced in Figure 5, reproduced below.



Figure 5 (figure duplicated here for reference)

1. Designate the Kent Avenue bikeway as an improvement priority in accordance with Transportation 2040, include it again on the next capital plan for cycling improvements, raise the priority given how many years it has not been addressed in previous plans, and show it as a continuous designated cycling route on city cycling maps.
2. Address the most dangerous and uncomfortable section of this route, the section with the greatest immediate potential for increased use by people cycling, between Ontario St and Cambie St (Section D). With daily vehicle counts over 8,000 (in 2013, the most recent data available online), more than 12 times that which the City of Vancouver uses as a suggested guideline for shared street cycle lanes, significant improvements are required here. Consider making Kent Ave North one way westbound for vehicles from Ontario St to Ash St, with a bi-directional protected cycling lane on the south side of Kent Ave North. Route eastbound vehicle traffic north up to SW Marine at Laurel St and at Heather St. As part of this implementation, relocate the interim protected cycling lane between Cambie St and Ash St (Section C) to the south side of Kent Ave North, reducing the number of road crossings required by people cycling from the Canada Line Bridge, and making this protected cycle lane useful for people continuing east beyond Cambie St on Kent Ave North. At Ontario St, improve the connection to the multi-use path located along Kent Ave South, with the relocation of dangerous bollards and improved wayfinding signage.
3. Complete the connection from the Kent Ave bikeway at Ash St, through to the Arbutus Greenway, using a combination of on-street lanes along Kent Ave, 77<sup>th</sup> Ave, and Hudson St, (Section B) and either new unidirectional protected lanes on SW Marine Drive from

Hudson St to Milton St (Section A), or local street bikeways along 71st and 72nd Avenues.

4. Upgrade the narrow painted cycling lanes on the road shoulders between Crompton St and Argyle St (Section H) utilizing the existing road alignment. Along Kent Ave North, based on a traffic analysis, consider one or more vehicle diversions to reduce motor vehicle traffic volumes, or alternately, provide a protected cycling lane on the south side of Kent Ave North..
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 (Section H). Provide physical separation for the short section on the north side of the existing Kent Ave South roadway. There are regular conflicts with trucks loading and unloading where the current separated cycle lane ends
6. Review both existing off-street cycling paths along Kent Ave South (Sections E and G), and improve them, particularly at the transitions to local streets, by relocating bollards and adding wayfinding signage .
7. Complete the cycling connections from all existing north/south designated cycling routes to the Kent Ave Bikeway, particularly with respect to signage and street crossings.
8. Complete minor repairs and improvements along the full length of the Kent Ave Bikeway. Repair broken pavement, and remove abandoned railway tracks in the roadway (Sections F and J)
9. Establish a reduced vehicle speed limit of 30 km/hr for all shared use road sections along this cycling route.
10. Construct a short (approximately 20 meter) paved cycle path at the 2500 block East on Kent Ave North, connecting the two separate sections of Kent Ave through the parklet, and thus avoiding two sharp turns on to and off of the multi use path.

## **Appendix 1 - A Current Route Evaluation (proceeding west to east):**

### **Milton St to Hudson St - Section A**

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 be built on SW Marine Drive, or on local streets immediately north of SW Marine Drive. 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 - Section B**

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 - Section B**

From Hudson St, the most likely route to connect eastward is along 77th Ave. There have been improvements on 77th Ave, and vehicle traffic appears to be low. 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 should be posted at 30 km/hr. It does not likely require separation due to low vehicle traffic volumes, but this should be confirmed with traffic counts.

### **Oak St to Ash St - Section B**

Along Kent Ave, the busy shared road requires improvements for cycling. There may be an opportunity to implement vehicle diversions to reduce vehicle volumes. There may be an opportunity to use the Kent Ave South alignment from Oak St to Ash St.

### **Ash St to Cambie St - Section C**

There is a protected bidirectional cycle lane on the north side of Kent Ave North. There are transitions at both ends of this protected lane that create unacceptable risks; people on bikes eastbound are required to cross traffic at Ash St, and exit into a crosswalk at Cambie St, where southbound drivers often do not expect them, and then cross Kent Ave again.

### **Ontario St - Section D**

Between Cambie St and Ontario St, Kent Ave North is narrow with no shoulder, and no current designated cycling route. There is significant vehicle traffic during peak hours, 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. This single change would have the most significant benefit along all of the Kent Ave Bikeway.

#### Ontario St to Main St - Section E

From Ontario St heading east, a separated bike path has been built along two separate sections of the Kent Ave South alignment. These sections of dedicated bike path require occasional maintenance to cut back vegetation. Minor improvements related to bollards and signage would have significant benefits for people cycling here.

#### Main St to Chester St - Section F

This portion of the route, on the Kent Ave South roadway, is relatively calm. It should be posted at 30 km/hr.

#### Chester St to Crompton St - Section G

There is a MUP on the Kent Ave South alignment. Minor improvements are required at the west end with respect to bollards, and the section at the east end is often used for truck loading and unloading. Physical protection should be added here, utilizing gravity barriers on the north side of the roadway, given the truck parking and loading occurring here.

#### Crompton St to Argyle St - Section H

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 via diversions should be considered along Kent Ave North in this area. Alternatively, a protected cycling lane could be implemented, in combination with making Kent Ave North one way. In the short term, the shoulder should be widened as much as possible, and the vegetation cut back.

#### Argyle St to Portside Dr - Section I

From the 1600 block East of Kent Ave North, heading east, the bike route is currently located along 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 designated 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 create a crash hazard for people cycling.

#### Portside Dr to Kerr St - Section J

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.

Kerr St to Boundary Road - Section K

From Kerr St to Boundary Road, the developer has implemented temporary paved cycle paths during construction of the River District, and when construction is completed the permanent paths are expected to provide comfortable and safe connections through to Boundary Road, and to the destinations in the River District.

## **Appendix 2 - 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 Milton St to Boundary Road, excluding collisions noted as being on the major bridges passing over Marine Drive, the ICBC Crash Map shows 745 vehicle collisions on SW and SE Marine Drive in 2020 alone.

From Hudson St to Boundary Road, along both Kent Ave North and South, the ICBC Crash Map shows 49 collisions in 2020.

This suggests 15 times the number of collisions on Marine Drive, which according to the most recent automatic traffic count data available online (2013) carries approximately 8 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 accommodate 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. Marine Drive is currently being rebuilt, without including any cycling infrastructure. This leaves Kent Ave as the preferred choice for an east/west bicycle route connector in this area.

**More Information**

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