

Catalogue of PROTECTED BIKE LANES

2019 Edition







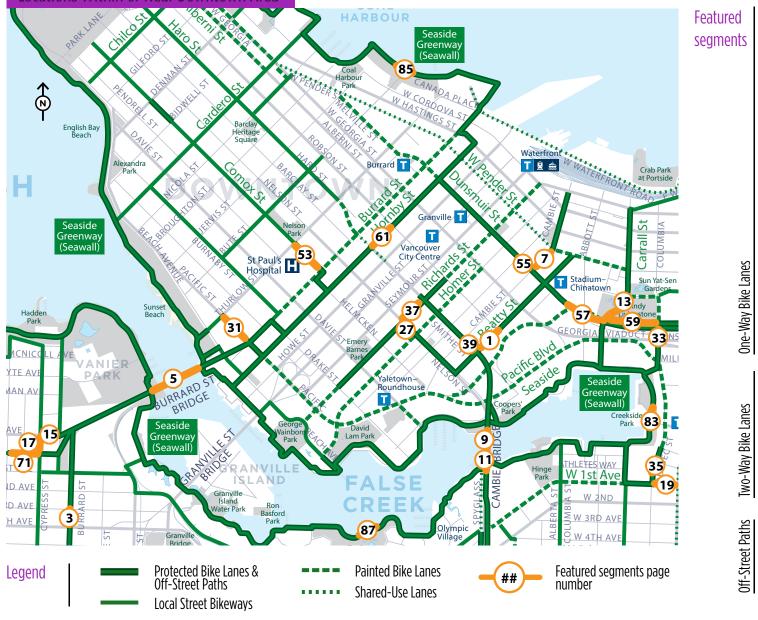
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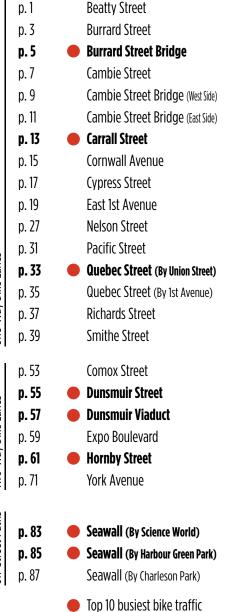
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Map of Featured Bike Lanes



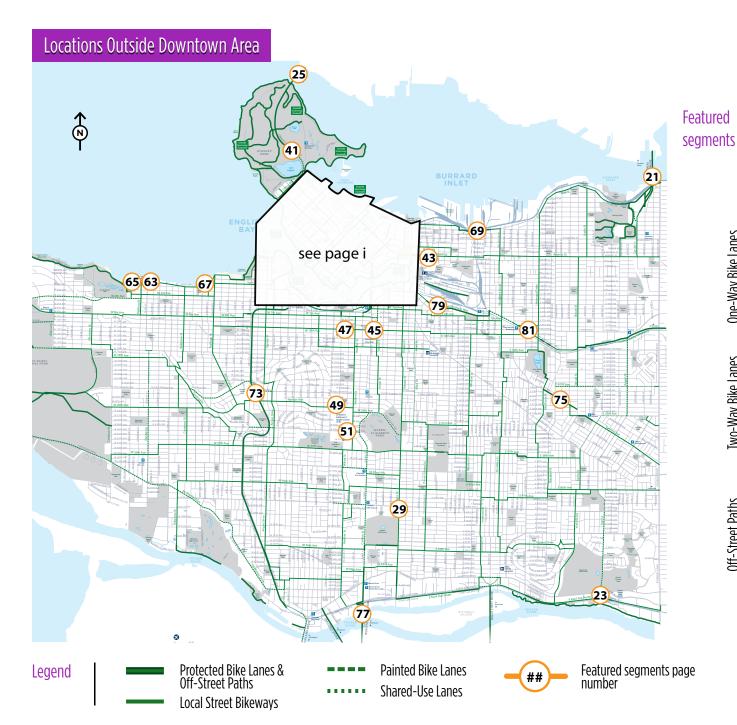
Locations Within or Near Downtown Area





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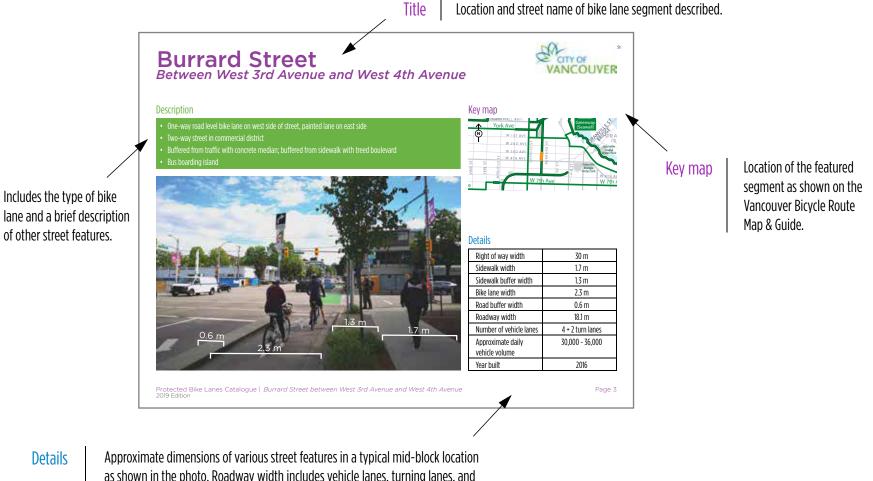
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Protected Bike Lanes Catalogue | *Map of Featured Bike Lanes* 2019 Edition

How to Use this Catalogue



This catalogue provides one page descriptions of protected bike lanes in Vancouver. It includes photos and dimensions of design elements. On the back of each page are details of interesting bike lane design features along the particular block.



Details

Description

as shown in the photo. Roadway width includes vehicle lanes, turning lanes, and parking lanes. An estimate of the daily vehicle volumes are also given. If a detail is not included, that segment does not have that feature.



Purpose of Catalogue

This catalogue is a snapshot of existing protected bike lanes as of May 2019. It is intended as a planning resource showcasing a number of protected bike lanes and pathways in Vancouver. The variation in design reflects the sensitive nature of retrofitting streets as elements such as roadway width, traffic characteristics, available right of way, drainage, street trees, utilities, budget and other factors must be considered. In addition, much has been learned regarding bicycle facility design over the last decade or more, so some of the variation depicted reflects an evolution in our design philosophy over this period. As such, please take note of the disclaimer below.

Disclaimer: This catalogue is not an endorsement of ideal or optimal design, or necessarily a reflection of our current design philosophy. Examples shown might be interim-style retrofits. The dimensions shown are approximate and represent a typical mid-block section of the bikeway. In many cases, treatments and widths will vary throughout the block. Vehicle volumes refer to approximate daily vehicle volumes on adjacent street. Volumes are rounded and data expansions have been used for some segments.

Brief History of Vancouver Cycling Infrastructure

Over the past 30 years, the City of Vancouver developed a 325 kilometre network of bicycle routes. The network has its beginnings in the late 1980s with the construction of the BC Parkway and Seaside Routes.

In the 1990s and 2000s the City focused on expanding a network of local street bikeways in the neighbourhoods around downtown. This preliminary network helped increase cycling mode share in the area from about 1% in 1994 to about 3% in 2008. In the mid 2000s the City also created a number of painted bike lanes in the downtown core. While this reserved space for cycling, it had minimal effect on increasing cycling mode share.

From 2009 onwards, the City began building a network of protected bike lanes, starting in the downtown core while continuing to improve local street bikeways. These improvements contributed to making the network more attractive to people of all ages and abilities. Most of the content in this catalogue is from this period and, as of 2018, approximately 7% of trips by Vancouver residents were made by bike.

Beatty Street Between Smithe Street and Robson Street

Description

- One-way road level bike lane on both sides of street
- Two-way street in downtown district
- Bike lane buffered with parking and planters, or extruded concrete buffer with flex posts





Right of way width	20 m
Sidewalk width	1.8 m
Sidewalk buffer width	1.3 m
Bike lane width	2 m
Road buffer width	0.4 - 0.9 m
Roadway width	8.7 m
Number of vehicle lanes	2
Number of parking lanes	1 west
Approximate daily vehicle volume	6,500 - 7,500
Year built	2016



Planter buffer



Extruded concrete buffer



Description

- Sybertech ground level planter rectangular 1.4 m long, 0.65 m wide
- Spaced approximately one car length apart
- Helps keep parked cars out of bike lane
- Rubber tire stops help keep planters in place when bumped by parking cars

- 0.25 m (10") wide extruded curb centered in the 0.4 m buffer zone
- Curb is keyed into the asphalt

Burrard Street Between West 3rd Avenue and West 4th Avenue



Description

- One-way road level bike lane on west side of street, painted lane on east side
- Two-way street in commercial district
- Buffered from traffic with concrete median; buffered from sidewalk with treed boulevard
- Bus boarding island



Key map



Right of way width	30 m
Sidewalk width	1.7 m
Sidewalk buffer width	1.3 m
Bike lane width	2.3 m
Road buffer width	0.6 m
Roadway width	18.1 m
Number of vehicle lanes	4 + 2 turn lanes
Approximate daily	30,000 - 36,000
vehicle volume	
Year built	2016



Bus boarding island



- Mid-block floating bus stop 3.2 m wide
- Two pedestrian marked crossings
- Bike lane transitions to sidewalk elevation behind bus stop

Burrard Street Bridge



Description

- One-way road level bike lane on both sides of the street
- Two-way street connecting to downtown district
- Buffered from traffic with concrete barrier with aesthetic detailing





Sidewalk width	2.6 m
Bike lane width	2.4 m
Road buffer width	0.6 m
Roadway width	12.2 m
Number of vehicle lanes	4
Approximate daily vehicle volume	46,000 - 56,000
Year built	2017



Expansion joint cover



Protected intersections



Description

- Expansion joint covered by metal plate which maintains flat surface on bike lane
- Slip resistant surface

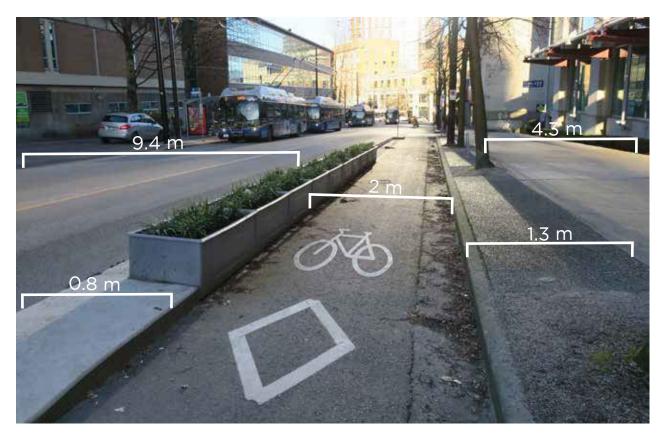
- Separated space for people walking, cycling and driving
- Corner refuge islands to accommodate bike turns
- A variety of approaches including separate signal phasing, turn restrictions, and well-defined yield on turn control used to manage conflicts

Cambie Street Between West Pender Street and Dunsmuir Street



Description

- One-way road level bike lane on east side of street with protection from traffic
- Two-way street in downtown district
- Buffered from traffic with planters





Right of way width	20 m
Sidewalk width	1.8 - 4.3 m
Sidewalk buffer width	1.3 m
Bike lane width	2 m
Road buffer width	0.6 - 0.8 m
Roadway width	9.4 m
Number of vehicle lanes	2
Number of parking lanes	1 west
Approximate daily vehicle	5,000 - 6,000
volume	
Year built	2016



Planter buffer



Extruded concrete buffer



Description

- Sybertech ground level planter rectangular 1.4 m long, 0.65 m wide
- Protected with narrow concrete curb

- 0.25 m (10") wide extruded curb
- Curb is keyed into the asphalt

Cambie Street Bridge West Side

Description

- One-way road level bike lane
- Major bridge connecting to downtown
- Buffered from traffic with a concrete barrier







Sidewalk width	1.5 m
Sidewalk buffer width	0.8 m
Bike lane width	3.2 m
Road buffer width	0.8 m
Roadway width	19.3 m
Number of vehicle lanes	5
Approximate daily vehicle volume	50,000 - 61,000
Year built	2018



Narrower section



- Bike lane pinches to 1.6 m to fit on the bridge off-ramp, allows for a continuation of the protected bike lane
- Protection changes to a narrow (0.2 m wide) continuous flex post barrier
- Travel lane narrows to 3.6 m while still accommodating trucks around curve
- Minimum width to allow for narrow sweeper and snow plow

Cambie Street Bridge



Description

- One-way sidewalk level bike lane with segregated space for pedestrians
- Conversion to one-way bike traffic after completion of west side bike lane
- Buffered from traffic with a concrete barrier





Walkway width	2.2 m
Bike lane width	1.8 m
Road buffer width	0.7 m
Roadway width	19.3 m
Number of vehicle lanes	5
Approximate daily vehicle volume	50,000 - 61,000
Year built (upgraded)	1985 (2018)



Loop ramp



Stairway to South False Creek Seawall



Description

- Pathway loops which provides grade separation from Pacific Street off-ramp
- One branch continues to Smithe Street
 and downtown
- Other branch provides a connection to the North False Creek Seawall

Description

Stairway connection South False Creek
 Seawall

Protected Bike Lanes Catalogue | *Cambie Street Bridge East Side* 2019 Edition

Carrall Street Between Keefer Street and Expo Boulevard



Description

- One-way sidewalk level bike lane on both sides of street
- Two-way street in downtown district
- Protected from traffic with planted boulevard





• Top 10 busiest bike traffic

Right of way width	20 m
Sidewalk width	3.0 m
Bike lane width	2.3 m
Road buffer width	1.5 m
Roadway width	6.4 m
Number of vehicle lanes	2
Approximate daily vehicle	3,500 - 4,500
volume	
Year built	2008



Stormwater infiltration



Description

• Provides separation between people cycling and traffic as well as stormwater management

Cornwall Avenue Between Cypress Street and Chestnut Street

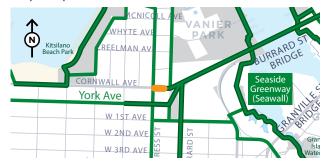


Description

- One-way sidewalk level bike lane on both sides of street
- Two-way street in mixed land use area
- Buffered from traffic with concrete boulevard; buffered from sidewalk with treed boulevard
- Bus boarding island on south side



Key map



Dight of way width	70 m
Right of way width	30 m
Sidewalk width	1.8 m north/ 2.2 m south
Sidewalk buffer width	0.6 - 1.3 m
Bike lane width	3.5 m north/ 2.5 m south
Road buffer width	0.6 m
Roadway width	13 m
Number of vehicle lanes	4
Approximate daily	15,000 - 19,000
vehicle volume	
Year built	2014



Bus boarding island



- Mid-block floating bus stop 2.7 m wide
- Three pedestrian marked crossings lined up with front door, back door of an articulated bus, and back of boarding island
- Bus shelter located on island
- Bike lane transitions to sidewalk elevation behind bus stop

Cypress Street Between Cornwall Avenue and York Avenue



Description

- One-way road level bike lane on both sides of street
- Two-way street in mixed land use area with relatively low traffic volume
- Buffered from traffic with concrete median



Key map

Right of way width	20 m
Sidewalk width	2.2 m
Bike lane width	2.2 m
Road buffer width	0.4 m
Roadway width	5.8 m
Number of vehicle lanes	2
Approximate daily vehicle	2,700 - 3,500
volume	
Year built	2013



Concrete median



- Narrow 0.4 m wide cast concrete median which allows placement of signs
- Signs offset over bike lane to provide lateral clearance for vehicles

East 1st Avenue Between Main Street and Quebec Street



Description

- One-way intermediate level protected bike lanes
- Two-way street in dense inner city neighbourhood
- Buffered from traffic with parking, curb and a concrete boulevard





Right of way width	26.4 m
Sidewalk width	1.8 m
Sidewalk buffer width	2.0 m
Bike lane width	2.5 m
Road buffer width	0.9 m
Roadway width	12 m
Number of vehicle lanes	2
Number of parking lanes	2
Approximate daily vehicle volume	1,800 - 2,200
Year built	2018



Bevel curb



Protected intersection



Description

- 0.05 m (2") high bevel curb over 0.15 m (6")
- Provides separation between people walking and cycling
- 0.15 m (6") gutter pan

- Separated space for people walking, cycling and driving
- Corner refuge islands to accommodate bike turns

Ironworkers Memorial Bridge



Description

- One-way shared-use path on both sides of bridge
- Buffered from traffic with integrated barrier
- Means prevention fencing





Note: This facility is owned and maintained by BC Ministry of Transportation and Infrastructure

Shared path width	2.5 m
Road buffer width	0.4 m
Number of vehicle lanes	6
Approximate daily vehicle volume	112,000 - 136,000
Year built	2015



Bulge around structure

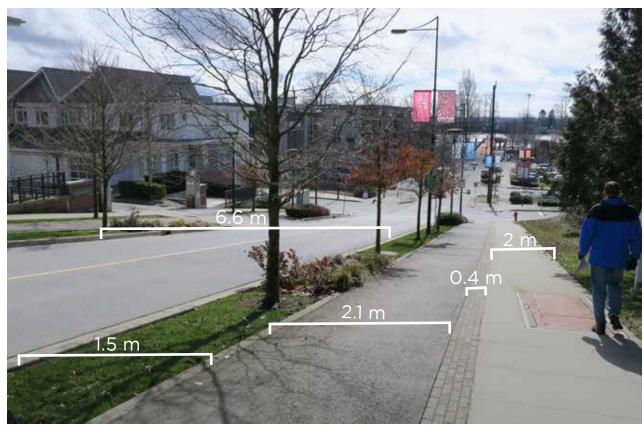


- Maintains path width around sign pole
 structure
- Serves as informal rest area

Kerr Street Between East Kent Avenue North and Southeast Marine Drive

Description

- One-way sidewalk level bike lane on both sides of street
- Two-way street in residential area
- Buffered from traffic with treed boulevard







Right of way width	20 m
Sidewalk width	2 m west/ 1.7 m east
Sidewalk buffer width	0.4 m west/ 1.1 m east
Bike lane width	2.1 m
Road buffer width	1.5 m
Roadway width	6.6 m
Number of vehicle lanes	2
Approximate daily	2,700 - 3,500
vehicle volume	
Year built	2011



Double treed boulevard



Description

- Treed boulevards on both sides of east bike lane
- 6.4 m space from curb to property line
- Approximate dimensions:
 - 1.5 m front boulevard 2.1 m bike lane 1.1 m second boulevard 1.7 m sidewalk

Rain gardens



Description

• Boulevard area doubles as rain garden to absorb rainwater and reduce runoff

Protected Bike Lanes Catalogue | *Kerr Street between East Kent Avenue North and Southeast Marine Drive* 2019 Edition

Lions Gate Bridge



Description

- One-way shared-use path on both sides of bridge
- Buffered from traffic with integrated barrier and buffer zone around bridge cables



Key map



Note: This facility is owned and maintained by BC Ministry of Transportation and Infrastructure

Shared path width	1.7 m
Road buffer width	1 m + barrier
Number of vehicle lanes	3
Approximate daily vehicle volume	54,000 - 66,000
Year upgraded	2001

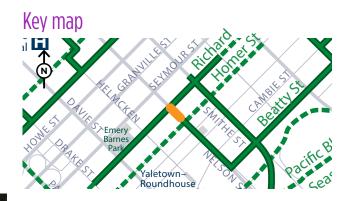


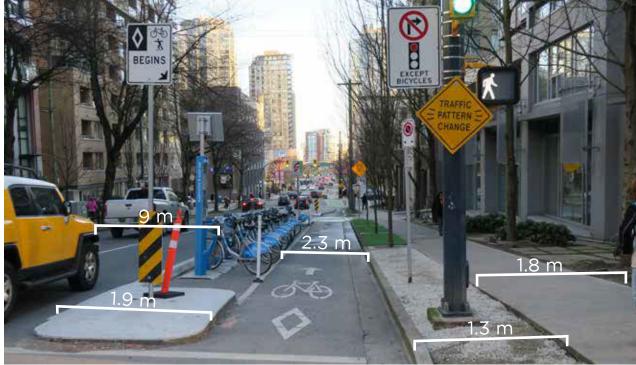
Nelson Street Between Richards Street and Homer Street

Description

- One-way road level bike lane on south side of street
- One-way street in downtown district
- Buffered from street with extruded curb and Mobi Bike Share station







Right of way width	20 m
Sidewalk width	1.8 m
Sidewalk buffer width	1.3 m
Bike lane width	1.3 - 2.3 m
Road buffer width	0.25 - 1.9 m
Roadway width	9 m
Number of vehicle lanes	3
Approximate daily vehicle volume	22,000 - 26,000
Year built	2016



Mobi Bike Share station



Pinch points



Description

- Angled public bike share dock
- Bike share has direct access to bike lane
- Buffers bike lane from vehicle traffic

- Protected bike lane to extends to intersection
- Uses 2.8 m vehicle lanes
- Bike lane pinches to 1.3 m adjacent to turn lane

Ontario Street Between East 49th Avenue and East 50th Avenue



Description

- One-way road level bike lane on both sides of street
- Two-way street in residential area
- Buffered from traffic with low-gravity barrier to provide separation by busy college driveways



Key map

Right of way width	20 m
Sidewalk width	1.8 m
Sidewalk buffer width	1.9 m
Bike lane width	1.8 m
Road buffer width	0.6 m
Roadway width	6.8 m
Number of vehicle lanes	2
Approximate daily vehicle volume	No data
Year built	2015



Low-gravity barrier



- 0.46 m high and 0.46 m wide
- Painted edge lines on both sides of barrier
- Provides protection from motor vehicles

Pacific Street Between Thurlow Street and Burrard Street

Description

- One-way intermediate level bike lane on both sides of street
- Two-way street in downtown district
- Buffered from traffic with concrete boulevard
- Bike lane and sidewalk remain flat across driveway







Right of way width	20 m
Sidewalk width	2.1 m
Sidewalk buffer width	0.15 m
Bike lane width	2.1 m
Road buffer width	0.6 m north/ 0.75 m
	south
Roadway width	9.3 m
Number of vehicle lanes	3
Approximate daily	14,000 - 18,000
vehicle volume	
Year built	2016



Roll curb



Driveway crossing



Description

0.05 m (2") high bevel curb over 0.15 m
 (6") between sidewalk and bike lane

- Continuous bike lane and sidewalk across
 driveway
- Sidewalk remains flat across driveway
- Slight increase in bike lane cross slope near boulevard to accommodate driveway ramp

Quebec Street Between Prior Street and Union Street

Description

- One-way road level bike lane on both sides of street
- Two-way street on the edge of downtown
- Buffered from traffic with low-gravity barrier







• Top 10 busiest bike traffic

Right of way width	18 m
Sidewalk width	1.5 m
Sidewalk buffer width	1.3 m
Bike lane width	3 m west/ 2.6 m east
Road buffer width	0.8 m west/ 0.7 m east
Roadway width	7.1 m
Number of vehicle lanes	2
Approximate daily	5,500 - 6,500
vehicle volume	
Year built	2013



Low-gravity barrier



- 0.46 m high and 0.46 m wide
- White edge line on roadway side of barrier
- Provides protection from motor vehicles

Quebec Street Between East 1st Avenue and Switchmen Street



Description

- One-way sidewalk level bike lane on both sides of street
- Two-way street in dense inner city neighbourhood
- Protected from traffic with planted boulevard





6 m
2.1 m
.5 m
.5 m
.3 m
5.7 m
urn bay
) - 28,000
2018



Rain garden



Protected intersection



Description

- Swales to absorb stormwater in wider boulevard areas
- Enhances separation from traffic

- Separated space for people walking, cycling and driving
- Corner refuge islands to accommodate
 bike turns

Richards Street Between Nelson Street and Smithe Street

Description

- One-way road level bike lane on north side of street
- One-way street in downtown district
- Buffered from traffic with painted buffer and parking lane







Right of way width	20 m
Sidewalk width	2.5 m
Sidewalk buffer width	1.3 m
Bike lane width	1.6 m
Road buffer width	0.8 m
Roadway width	11 m
Number of vehicle lanes	2
Number of parking lanes	2
Approximate daily vehicle	13,000 - 15,000
volume	
Year built	2013



Painted buffer



- 0.8 m wide painted buffer for opening car doors
- Interior diagonal cross hatching

Smithe Street Between Beatty Street and Cambie Street

Description

- One-way road level bike lane on north side of street
- One-way street in downtown district
- Buffered from traffic with planters







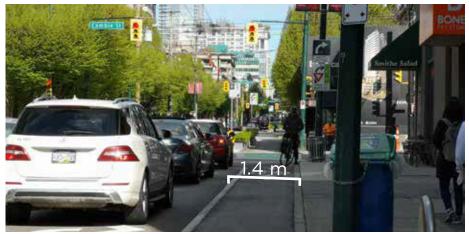
Right of way width	20 m
Sidewalk width	3 m
Sidewalk buffer width	0.8 m
Bike lane width	2.7 m
Road buffer width	0.9 m
Roadway width	8.8 m
Number of vehicle lanes	3
Approximate daily vehicle	21,000 - 25,000
volume	
Year built	2016



Planter buffer



Pinch points



Description

- Total buffer width 0.9 m
- Sybertech ground level planter rectangular 1.4 m long, 0.65 m wide
- Protected from vehicle traffic with 0.25 m concrete curb

- Narrow raised 1.4 m wide bike lane provided adjacent to turn lanes
- Raised by 0.1 m (4") high curb to protect from traffic

Stanley Park Causeway



Description

- One-way sidewalk level bike path on both sides of causeway
- Paint separated pedestrian path on east side only
- Buffered from traffic with safety fence





Note: This facility is owned and maintained by BC Ministry of Transportation and Infrastructure

Walkway width	1.7 m
Bike lane width	1.9 m east/ 2.1 m west
Road buffer width	0.5 m
Roadway width	10.5 m
Number of vehicle lanes	3
Approximate daily vehicle volume	54,000 - 66,000
Year built	2016



Safety fence



Additional widening



Description

- 1.4 m high
- 0.3 m setback from road
- Includes steel shoulder rub rail and cable fencing

- Additional widening around obstacles (light poles, gantries, electrical boxes)
- Two or three wider opportunities for passing on west side bike lane

Union Street Between Main Street and Gore Avenue



Description

- One-way road level bike lane on north side of street
- Buffered from traffic with painted buffer and parking
- Shared bike and vehicle lane on south side of street
- Two-way street in historic area near downtown district





• Top 10 busiest bike traffic

Right of way width	20 m
Sidewalk width	1.6 m
Sidewalk buffer width	1.2 m
Bike lane width	2.5 m
Road buffer width	0.8 m
Roadway width	8.8 m
Number of vehicle lanes	2
Number of parking lanes	1 north
Approximate daily vehicle volume	1,800 - 2,200
Year built	2013



Bike corral



Painted buffer



Description

- 2.3 m wide bike corral with angled bike rack
- Bike parking is provided at the end of the block for several bikes

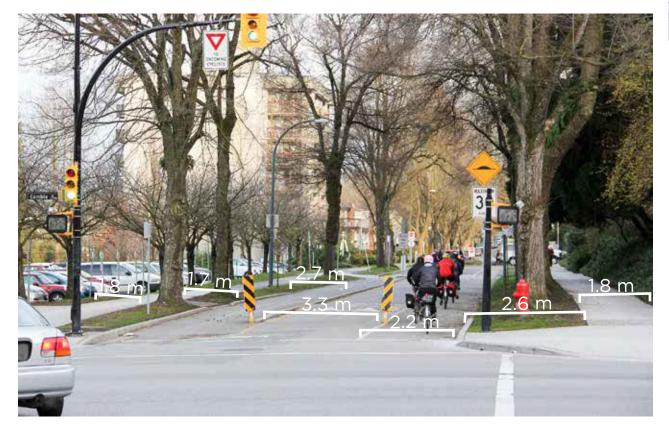
- 0.8 m wide painted buffer
- Interior diagonal cross hatching

West 10th Avenue Between Cambie Street and Yukon Street



Description

- One-way intermediate level raised bike lane on both sides of street
- One-way street in civic district
- Separated from traffic by 0.1 m (4") barrier curb
- Buffered from sidewalk with treed boulevard



Key map

Details

Right of way width	20 m
Sidewalk width	1.8 m
Sidewalk buffer width	1.7 m north/ 2.6 m south
Bike lane width	2.7 m north/ 2.2 m south
Road buffer width	0.15 m
Roadway width	3.3 m
Number of vehicle lanes	1
Approximate daily	900 - 1,100
vehicle volume	
Year built	2009

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West 10th Avenue Between Laurel Street and Willow Street



Description

- · One-way intermediate level bike lane on both sides of street
- Two-way street in hospital precinct
- Protected from traffic by landscaped boulevard



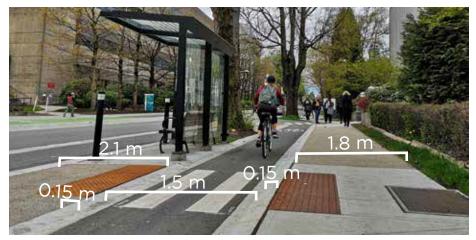
Key map



Right of way width	20 m
Sidewalk width	1.8 m north / 2.4 m south
Sidewalk buffer width	0.15 m
Bike lane width	2.2 m
Road buffer width	1.5 m
Roadway width	8.2 m
Number of vehicle lanes	2
Number of parking lanes	1 pocket
Approximate daily vehicle volume	4,500 - 5,500
Year built	2018



Passenger loading area



Description

- Loading area with shelter and seating
- Bevel curb on both sides of bike lane
- Bike lane narrows to 1.5 m
- Provides waiting area for pick up and drop off in front of Arthritis Centre

Sidewalk treatment



- Allows for water infiltration in previously grassy areas adjacent to large trees
- Rubberized sidewalk treatment in select areas

West 28th Avenue Between Oak Street and Laurel Street



Description

- One-way sidewalk level bike lane on both sides of street
- Two-way street providing access to major hospital
- Protected from traffic 0.1 m (4") barrier curb





Right of way width	20 m
Sidewalk width	1.5 m
Sidewalk buffer width	1.1 m
Bike lane width	2.5 m
Road buffer width	0.15 m
Roadway width	6 m
Number of vehicle lanes	2
Approximate daily vehicle volume	No data
Year built	2016



Median height curb



Passenger loading area



Description

• 0.1 m (4") Barrier curb between roadway and bike lane

- Loading area and short term pick up and drop off area
- Different material types distinguish between loading area and bike lane
- Bike lane bends behind the loading zone

West 33rd Avenue Between Willow Street and Heather Street



Description

- One-way sidewalk level bike lane on north side and road level painted bike lane on south side of street
- Two-way street in mixed land use area
- Buffered from traffic with concrete boulevard and parking on north side and painted buffer on south side
- Built through redevelopment



Key map



Right of way width	24 m
Sidewalk width	1.8 m north/1.5 m south
Sidewalk buffer width	1.3 m north/ 3 m south
Bike lane width	1.8 - 2.4 m
Road buffer width	0.9 m north/ 0.6 m south
Roadway width	9.6 m
Number of vehicle lanes	2
Number of parking lanes	1 north
Approximate daily	8,000 - 10,000
vehicle volume	
Year built	2016

