

All Ages and Abilities Bike Routes

How to allow more people to ride bikes for transportation

Presented by



Your **Cycling** Connection

North Shore Committee

District of North Vancouver Council Meeting
June 9, 2014

What we do

HUB is a charitable organization with local committees throughout Metro Vancouver

Our mission is to make cycling an attractive choice for everyone. What we do:

- Bike to School
- Bike to Work Week
- Cycling education courses for all ages
- Bike Friendly Business
- Work with governments, businesses for better infrastructure



Why don't people ride?

Hills?

Lazy?

Rain?

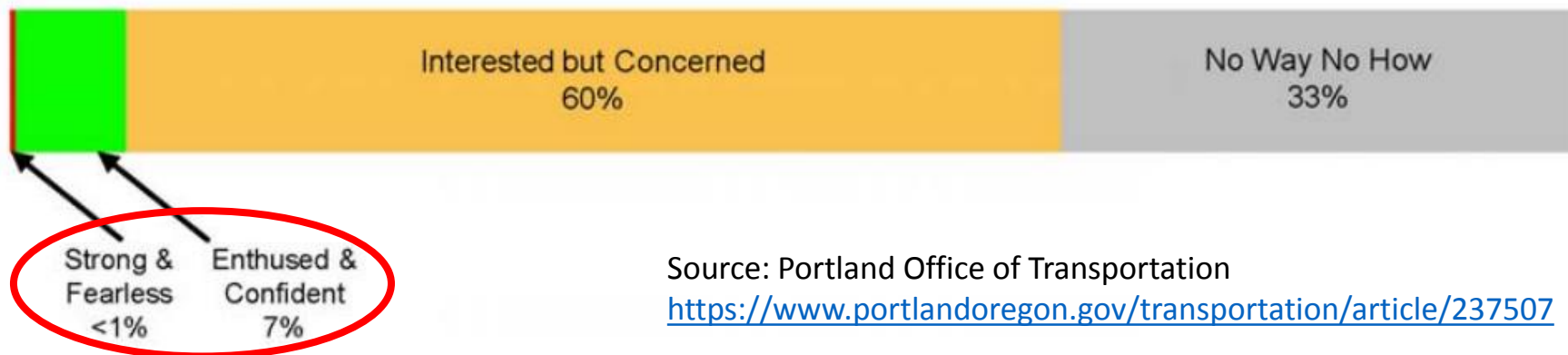
Fear!



Main Street, North Vancouver

Who's riding now?

Cycling for transportation (proportion of adult population)



Source: Portland Office of Transportation

<https://www.portlandoregon.gov/transportation/article/237507>



Who are the 60%?



What do the 60% want?



What do the 60% want?

Route designs that encourage cycling are

- Off-street paths: paved and for cyclists only
- Residential streets: marked for cycling and with traffic calming
- Major streets: bike lanes separated from motor vehicle lanes by a curb or other barrier

Source: Opinion Survey on Cycling Motivators & Deterrents

<http://cyclingincities-spph.sites.olt.ubc.ca/files/2012/08/OpinionSurveyBrochure.pdf>

 **All Ages & Abilities (AAA) bike routes**



AAA on pathways

Separate paths for cyclists & pedestrians to avoid user conflict



Spirit Trail at Harbourside

AAA on local streets

Traffic calming, traffic diversion



Traffic diverter on Hope Road

AAA on local streets

Signed quiet streets



23rd Street in Pemberton Heights



AAA on arterial streets

Bike lane as off-street parallel bike path



Lillooet Road

AAA on arterial streets

Bike lane with posts as barrier



Larson Road

AAA on arterial streets

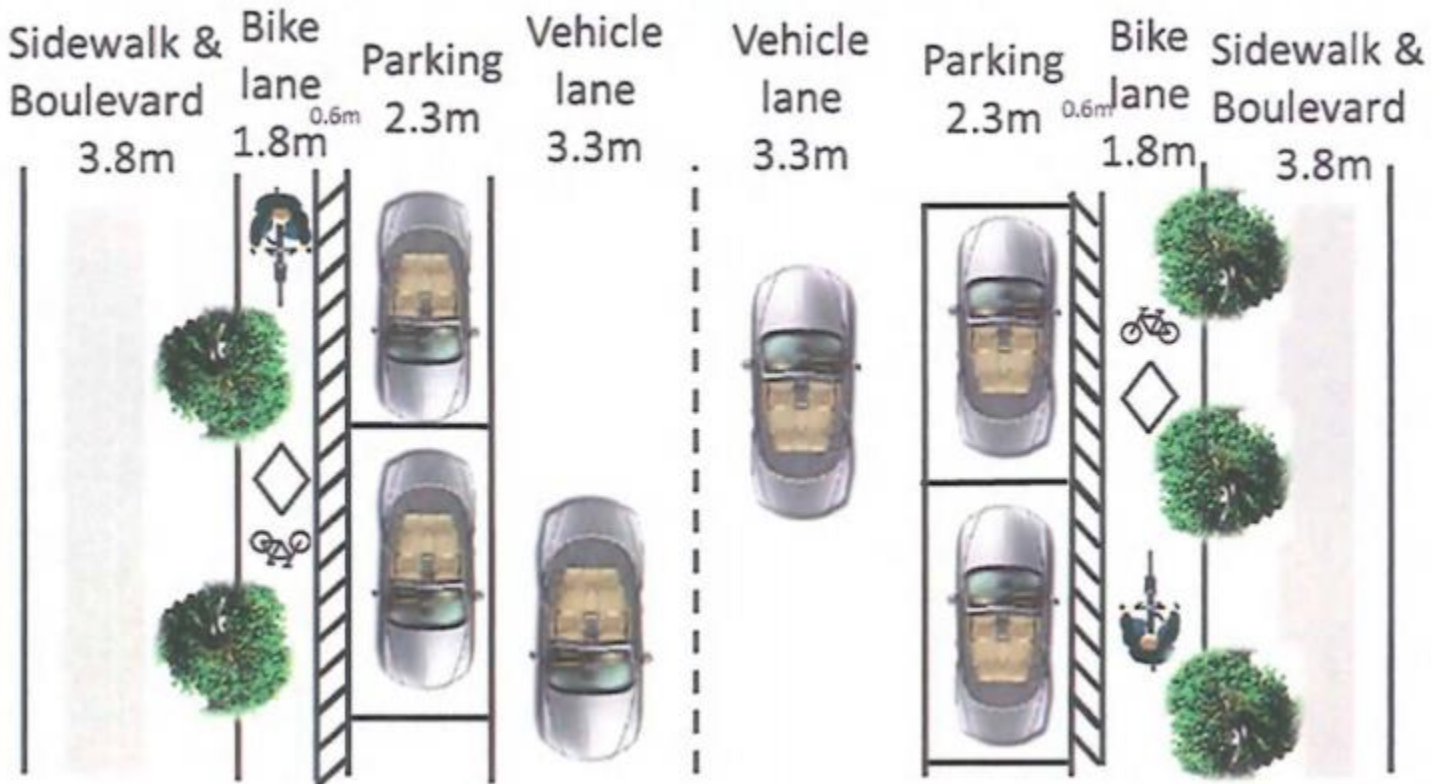
Bike lane with concrete curb as barrier



Sherbourne Street, Toronto

AAA on arterial streets

Bike lane with parked cars as barrier



Chesterfield Avenue planned bike lanes

AAA on arterial streets

Bike lane raised with mountable curb



Cully Blvd, Portland

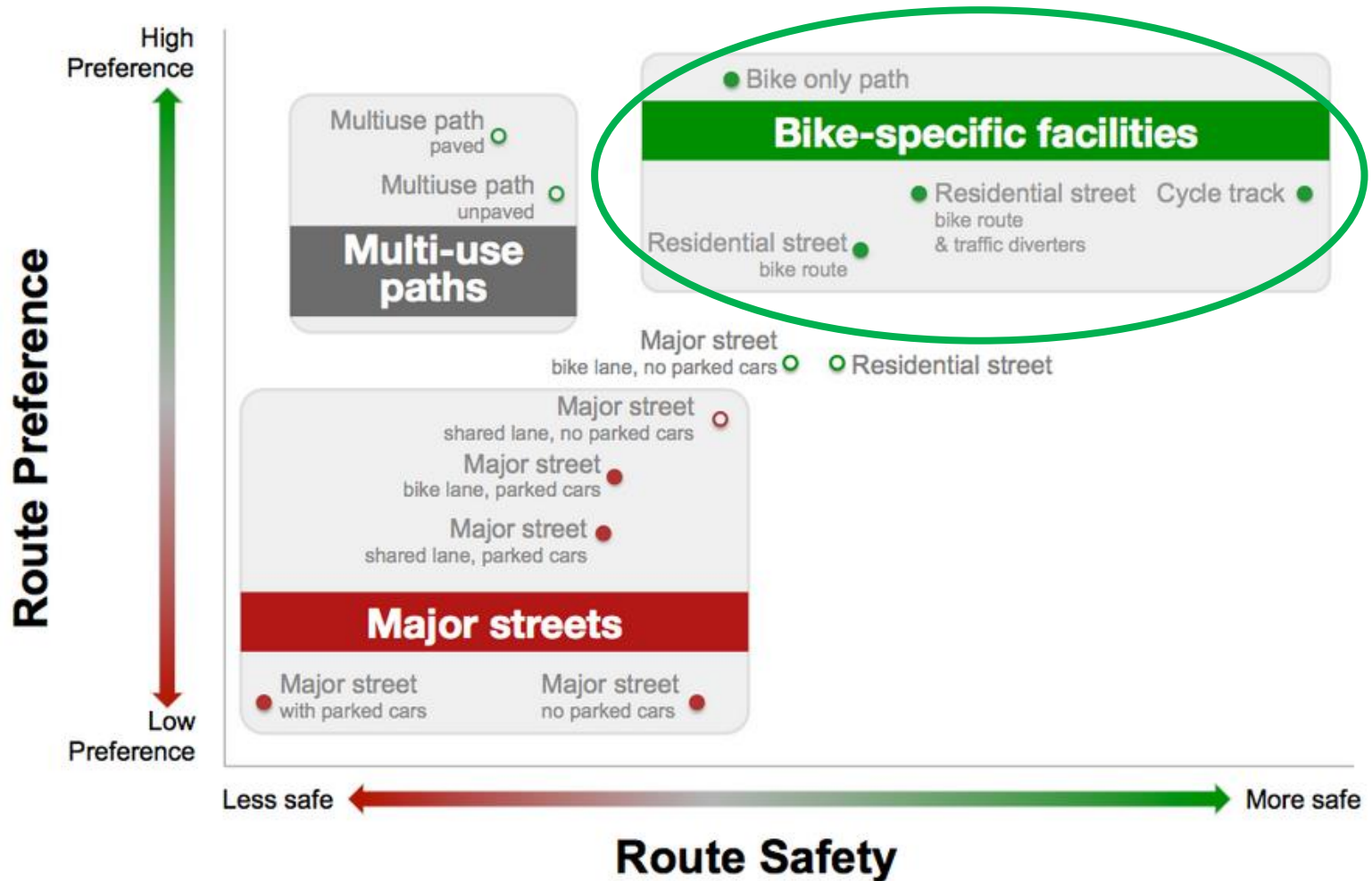
AAA on arterial streets

Two-way bike lane with barrier



Two-way separated bike lane design used in Vancouver, Calgary, Montreal and many US cities

AAA bike routes summary



Source: BICE Study <http://cyclingingcities.spph.ubc.ca/injuries/the-bice-study/>



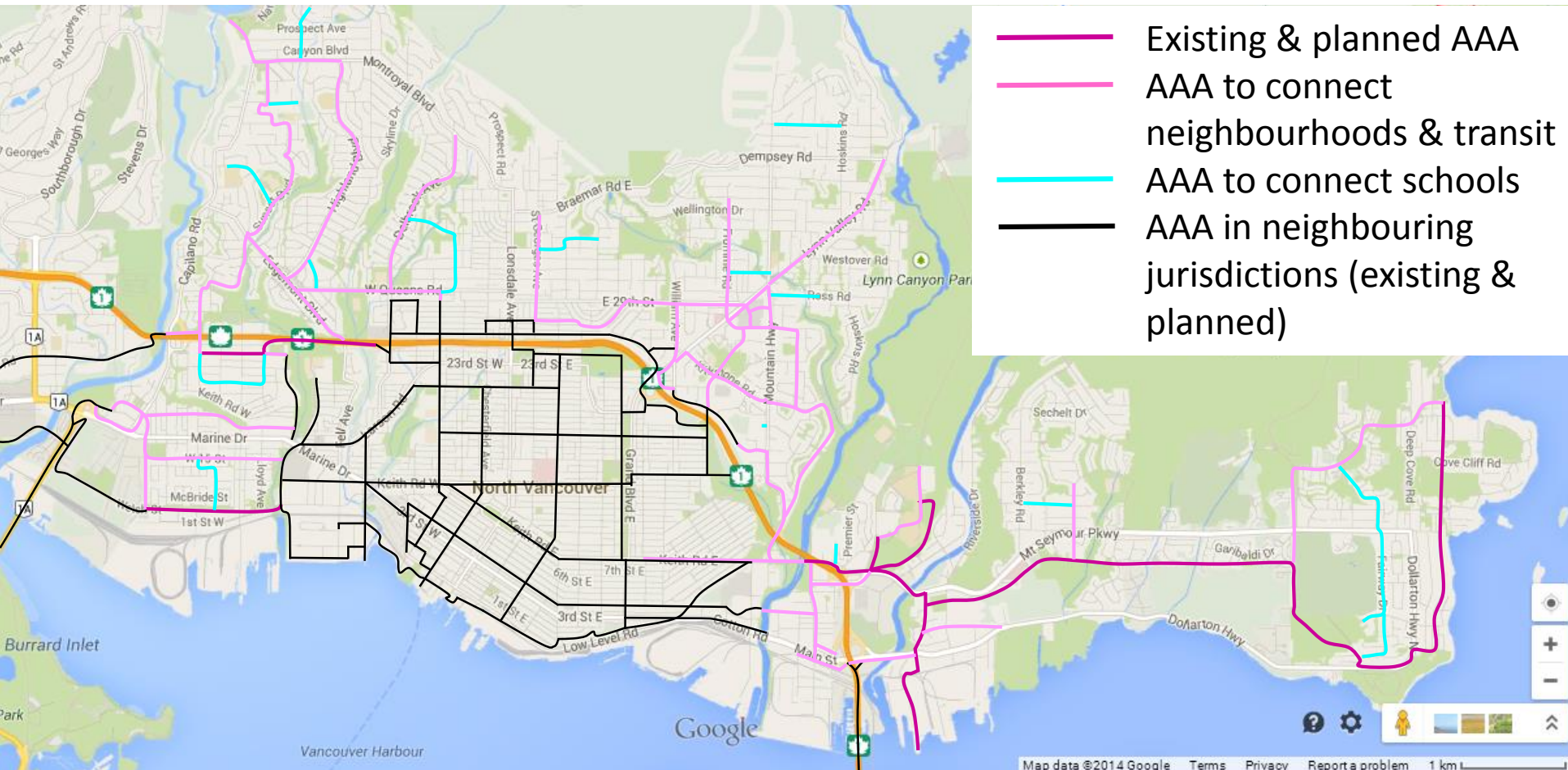
Opportunities for AAA in the District of North Vancouver

1. Develop AAA bike network map
 - Overlay on existing Bicycle Master Plan
 - Serves as planning tool where redevelopment takes place



AAA bike network for the District of North Vancouver

Conceptual only



Opportunities for AAA in the District of North Vancouver

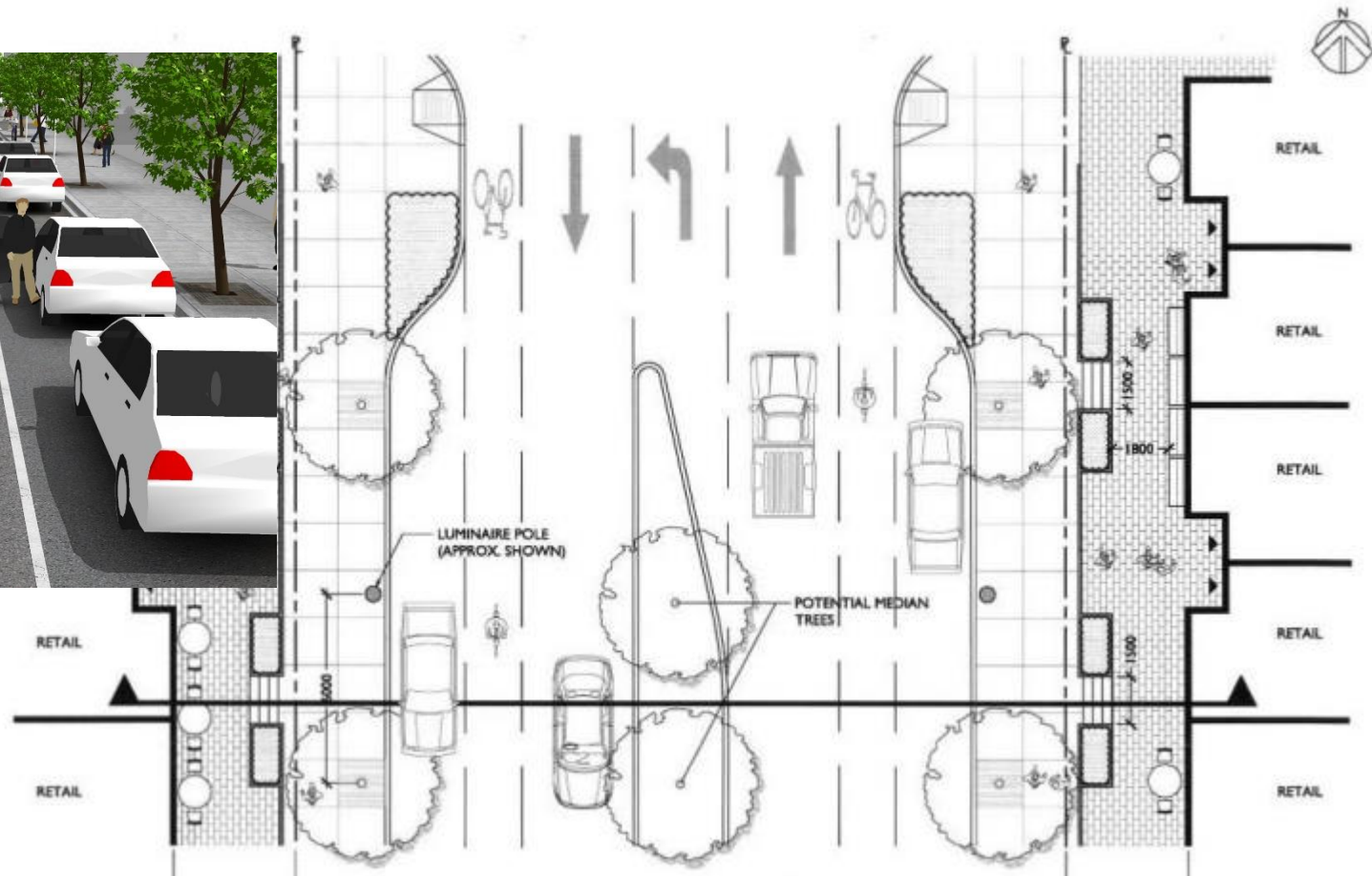
1. Develop AAA bike network map
2. Build all bike routes in new town & village centres to AAA standards
 - Redevelopments offer once in a generation opportunity to get infrastructure right, at minimum cost
 - On new pathways, separate cyclists and pedestrians
 - On arterials that will be rebuilt in town centres, build bike lanes with barrier to vehicle traffic:
 - Mountain Highway, Crown Street, Keith bridge in Lower Lynn
 - Capilano Road, Marine Drive in Lower Capilano
 - Lynn Valley Town Centre has good bike route designs



Mountain Highway in Lower Lynn

DNV proposed High Street section

Total bike lane width 2 x 1.8m = 3.6m



Source: Lower Lynn Town Centre Built Form and Streetscape Design Guidelines

http://www.dnv.org/upload/documents/Council_Agendas_Minutes/140113CW_AGN.pdf#page=1



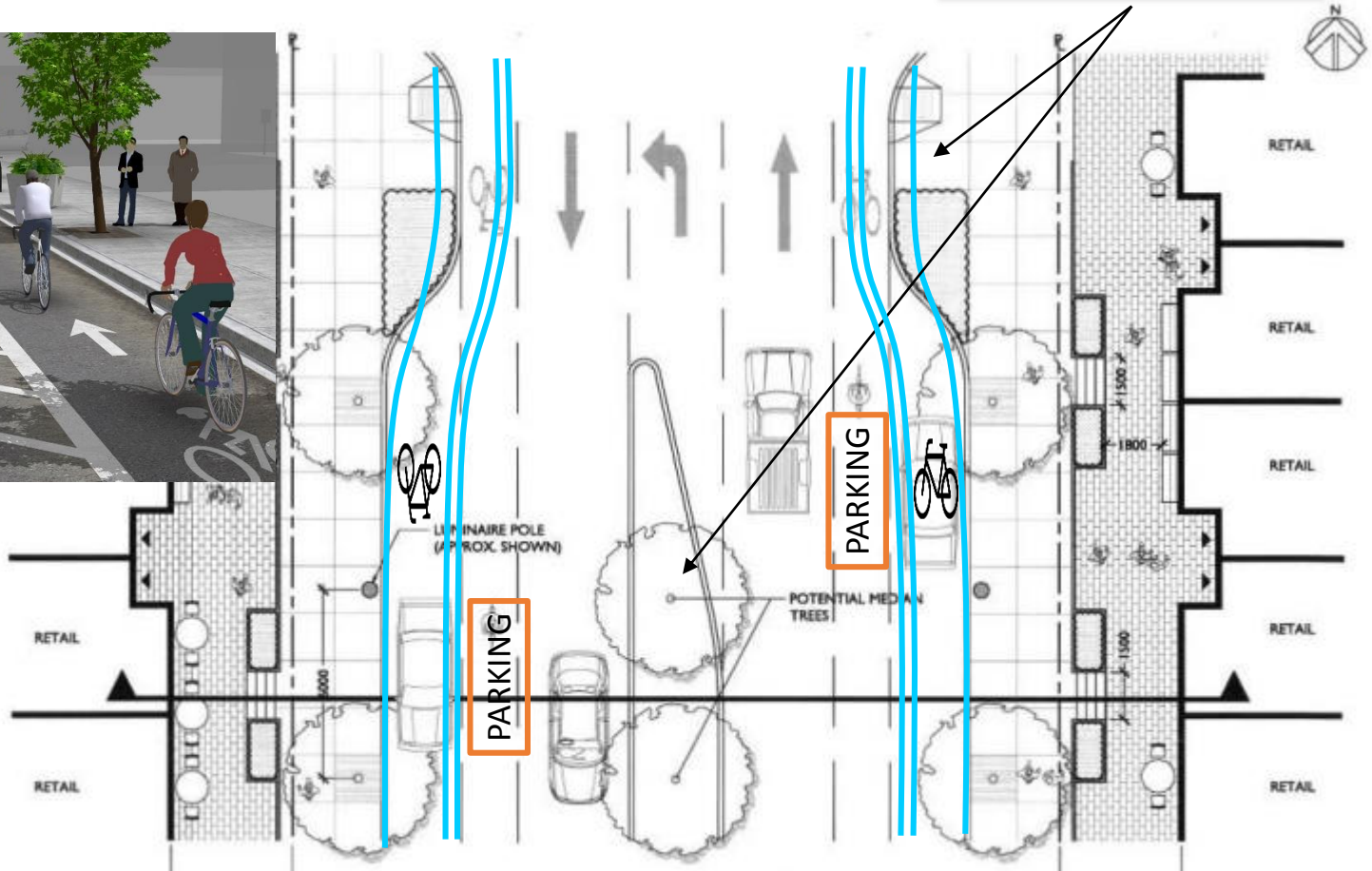
Mountain Highway in Lower Lynn

HUB proposed High Street section

Option 1: Separated bike lanes with parked cars as barrier

Total bike lane width $2 \times 1.8\text{m} + 2 \times 0.5\text{m}$ buffer/barrier = 4.6m

Additional 50cm needed on each side (from median/green space/bulges/sidewalk)



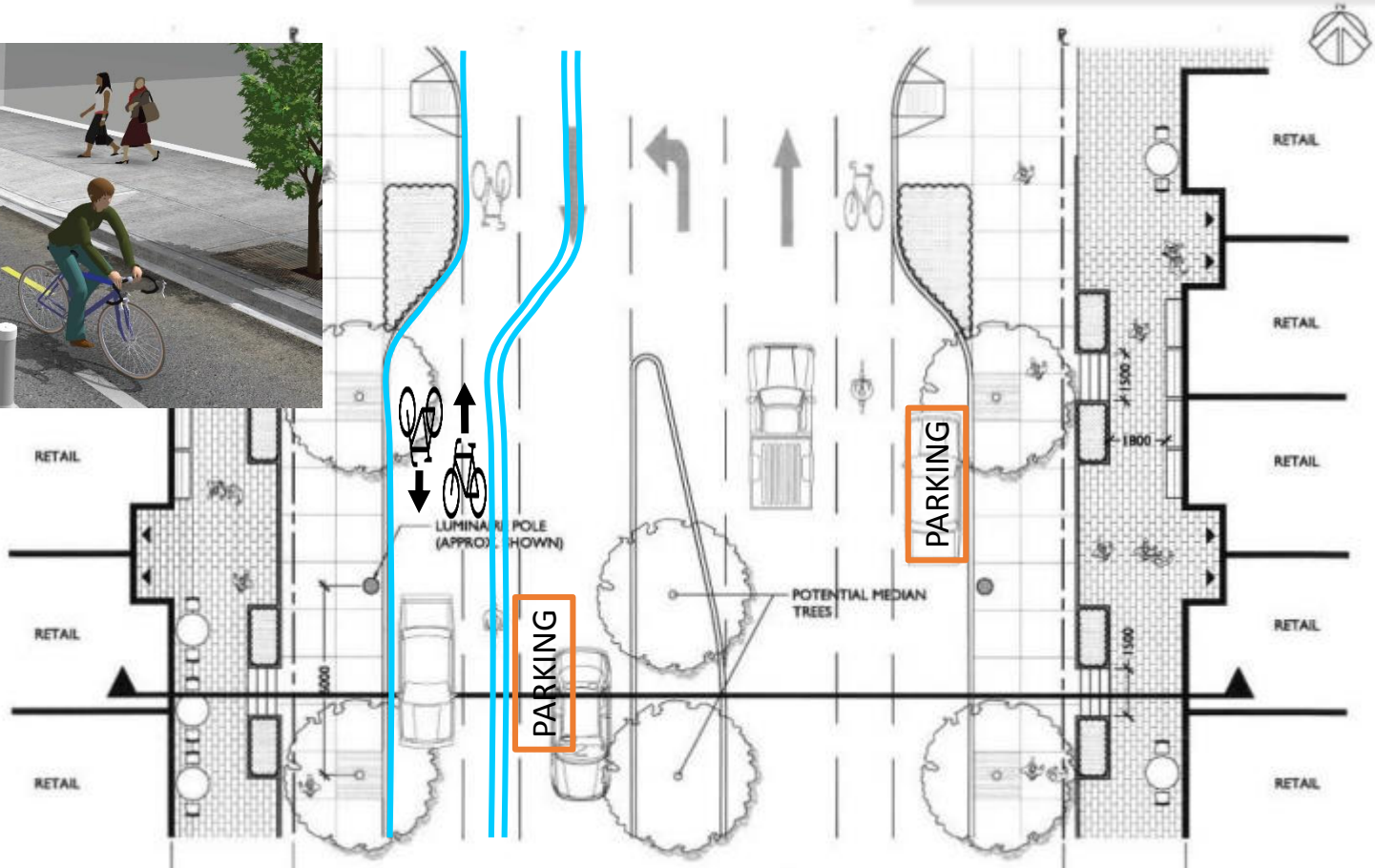
Mountain Highway in Lower Lynn

HUB proposed High Street section

Option 2: Separated two-way bike lane on west side

Total bike lane width 3.1m + 0.5m barrier = 3.6m

No change in total bike lane width from current DNV proposal. Vehicle travel lanes shift 1.8m east.



Crown Street: Same design could be used on north side of Crown to create AAA route



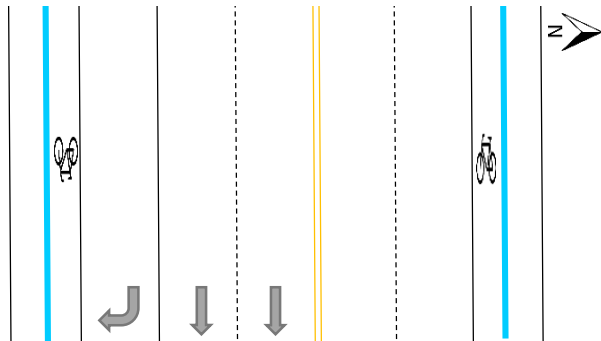
Keith bridge in Lower Lynn

DNV proposal for bike lanes

Two marked bike lanes (1.5m each)

No barrier to vehicle traffic

Total bike lane width $2 \times 1.5\text{m} = 3.0\text{m}$



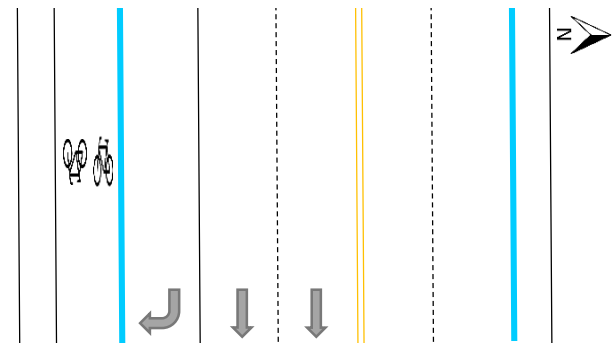
— Barrier (parapet on bridge)

HUB proposal for bike lanes

Two-way separated bike lane (3m)

Barrier between bike lane, vehicle lanes

Total bike lane width $2 \times 1.5\text{m} = 3.0\text{m}$



— Barrier (parapet on bridge)



Conclusion

1. Develop AAA bike network map
2. Build bike routes in new town & village centres to AAA standards



York separated bike lane at Henry Hudson Elementary, Vancouver

References

Opinion Survey on Cycling Motivators & Deterrents. Cycling in Cities Research Program, University of British Columbia and Simon Fraser University, 2012. <http://cyclingincities-spph.sites.olt.ubc.ca/files/2012/08/OpinionSurveyBrochure.pdf>

Safety Evidence for Bicycling. Cycling in Cities Research Program, University of British Columbia and Simon Fraser University, 2014. <http://cyclingincities-spph.sites.olt.ubc.ca/files/2014/04/Bicycling-Safety-Evidence-Sheet.pdf>

BICE Study. Cycling in Cities Research Program, University of British Columbia and Simon Fraser University, 2012. <http://cyclingincities.spph.ubc.ca/injuries/the-bice-study/>

Cycle Tracks. National Association of City Transportation Officials (NACTO) <http://nacto.org/cities-for-cycling/design-guide/cycle-tracks/>

Geller, R. *Four Types of Cyclists*. Portland Office of Transportation. <https://www.portlandoregon.gov/transportation/article/237507>

