AGENDA

COUNCIL WORKSHOP

Monday, March 27, 2017
5:30 p.m.
Committee Room, Municipal Hall
355 West Queens Road,
North Vancouver, BC

Council Members:
Mayor Richard Walton
Councillor Roger Bassam
Councillor Mathew Bond
Councillor Jim Hanson
Councillor Robin Hicks
Councillor Doug MacKay-Dunn
Councillor Lisa Muri

NORTH VANCOUVER
DISTRICT

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District of North Vancouver
355 West Queens Road,
North Vancouver, BC, Canada V7N 4N5
604-990-2311
www.dnv.org

COUNCIL WORKSHOP

5:30 p.m.
Monday, March 27, 2017
Committee Room, Municipal Hall,
355 West Queens Road, North Vancouver

AGENDA

1. ADOPTION OF THE AGENDA

1.1. March 27, 2017 Council Workshop Agenda

Recommendation:
THAT the agenda for the March 27, 2017 Council Workshop is adopted as circulated, including the addition of any items listed in the agenda addendum.

2. ADOPTION OF MINUTES

2.1. March 6, 2017 Council Workshop p. 7-9

Recommendation:
THAT the minutes of the March 6, 2017 Council Workshop are adopted.

3. REPORTS FROM COUNCIL OR STAFF

3.1. Developing a Connected Network of Bicycle Facilities p. 13-26

File No. 16.8450.40/004.000

Recommendation:
THAT staff is directed to further develop plans and cost estimates for the priority connected network of bicycle facilities to link key destinations using 'All-Ages-and-Abilities' (protected bicycle facilities) design traits and emerging tools to advance safety and comfort as outlined in the March 27, 2017 joint report of the Transportation Planner and the Transportation Planning Technologist entitled Developing a Connected Network of Bicycle Facilities;

AND THAT staff is directed to develop and implement a bicycle monitoring program of the priority routes;

AND THAT the priority routes are referred to the long-term financial plan process for funding.

4. PUBLIC INPUT

(maximum of ten minutes total)

5. ADJOURNMENT

Recommendation:
THAT the March 27, 2017 Council Workshop is adjourned.

MINUTES

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DISTRICT OF NORTH VANCOUVER
COUNCIL WORKSHOP

Minutes of the Council Workshop held at 7:49 p.m. on Monday, March 6, 2017 in the Committee Room of the District Hall, 355 West Queens Road, North Vancouver, British Columbia.

Present: Acting Mayor R. Hicks
Councillor M. Bond
Councillor J. Hanson
Councillor D. MacKay-Dunn
Councillor L. Muri

Absent: Mayor R. Walton
Councillor R. Bassam

Staff: Mr. D. Stuart, Chief Administrative Officer
Ms. C. Grant, General Manager – Corporate Services
Mr. D. Milburn, General Manager – Planning, Properties & Permits
Mr. T. Lancaster, Manager – Community Planning
Ms. L. Brick, Deputy Municipal Clerk
Ms. C. Archer, Confidential Council Clerk

1. ADOPTION OF THE AGENDA

1.1. March 6, 2017 Council Workshop Agenda

MOVED by Councillor MURI
SECONDED by Councillor MACKAY-DUNN
THAT the agenda for the March 6, 2017 Council Workshop is adopted as circulated.

CARRIED

2. ADOPTION OF MINUTES

2.1. February 27, 2017 Council Workshop

MOVED by Councillor MURI
SECONDED by Councillor BOND
THAT the minutes of the February 27, 2017 Council Workshop are adopted.

CARRIED

3. REPORTS FROM COUNCIL OR STAFF

3.1. Single-Family Home Renewal Initiatives Update

File No. 13.6700.00/000.000

Mr. David Stuart, Chief Administrative Officer, reported that the purpose of the Workshop is to provide Council with an update on options being considered regarding the renewal of single family homes in the District. Mr. Stuart further

advised that staff is seeking confirmation that house size and issues around basement construction are appropriate areas of focus and if there are any additional areas Council is interested in pursuing.

Mr. Tom Lancaster, Manager – Community Planning, reported that staff has reviewed single family construction permits by year to prepare for the Official Community Plan (OCP) implementation review. Mr. Lancaster noted there was a housing boom between 1951 and 1960; it is anticipated this will result in a large number of existing houses coming under redevelopment pressure in the near future.

Mr. Dan Milburn, General Manager – Planning, Properties and Permits, advised that new construction of single family homes consists almost entirely of existing properties where a home has been demolished and rebuilt. The average annual rate of subdivisions is between six and eight, creating a very small number of completely new homes per year.

Mr. Lancaster reported that community concerns regarding single family home renewal include:

- Construction management practices such as parking, garbage and construction debris, noise and changes to the character of neighbourhoods;
- The size of new homes; and,
- Loss of trees and vegetation.

Mr. Lancaster reviewed the District plans and regulations regarding single family home renewal, including the OCP, Corporate Plan, neighbourhood zoning, bylaws and Development Permit Areas.

In order to address gaps in plans and regulations, staff is working on the implementation of a Good Neighbour Program (GNP) to work proactively with applicants to review District expectations and consequences of violations before the start of construction. Mr. Lancaster noted that the Communications and Planning Departments are working on a Building Permit information package and a GNP brochure.

Mr. Lancaster reported that the RS-1 Zone does not currently have a maximum principal building size, unique among residential zones. The size of a building in the RS-1 Zone is limited only by lot size, resulting in the potential for a much larger than average size home to be built on a consolidated lot.

In response to a question from Council regarding the number of storeys permitted on single family properties, Mr. Milburn advised that the requirements vary by zone.

Mr. Lancaster reviewed the environmental impacts of basements, noting that a groundwater study is underway to assess areas of the District where basements may not be feasible due to soil conditions or the presence of groundwater.

Mr. Milburn reported that basements are currently permitted in all areas of the District. Where there is groundwater present, builders have mitigation options such as tanking or the installation of sump pumps. The groundwater study is

looking at both direct and cumulative impacts of basements on groundwater on building and adjacent sites, as well as possible slope stability impacts. Following the analysis of the groundwater study, staff and Council may discuss possible policy changes regarding limitations on basement construction in certain areas based on groundwater conditions.

Council discussion ensued and the following comments and concerns were noted:

- Support was expressed for limiting building sizes in the RS-1 Zone;
- Commented on the loss of trees and vegetation and the resulting loss of privacy for adjacent homes;
- Remarked on the amount of lighting on the exterior of new homes and the impact of light on neighbouring residents;
- Expressed concern regarding the cost of staff time to monitor job sites;
- Expressed concern that preserving single family neighbourhoods maintains a status quo that does not address other goals such as having mixed income neighbourhoods and housing variety;
- Suggested allowing more variety to the shape and size of single family homes to allow increased density;
- Expressed concern that only the very wealthy or those who inherit property will be able to live in single family homes; and,
- Commented on the environmental impact of new developments and the need to protect old gardens and preserve green spaces.

In response to a question from Council, Mr. Milburn advised that approximately 350 multi-family units were issued occupancy permits in 2016 and there was a significant increase in the total value of both single-family and multi-family construction.

4. PUBLIC INPUT

Nil

5. ADJOURNMENT

MOVED by Councillor MURI
SECONDED by Councillor BOND
THAT the March 6, 2017 Council Workshop is adjourned.

CARRIED
(8:32 p.m.)

Mayor

Municipal Clerk

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REPORTS

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AGENDA INFORMATION	
☐ Regular Meeting	Date:
☐ Other:	Date:

Dept. Manager	GM/ Director	CAO

The District of North Vancouver

REPORT TO COUNCIL

March 27, 2017
File: 16.8450.40/004.000

AUTHOR: Ingrid Weisenbach, Transportation Planner
Shazeen Tejani, Transportation Planning Technologist

SUBJECT: **Developing a Connected Network of Bicycle Facilities**

RECOMMENDATION:

THAT Staff further develop plans and cost estimates for the priority connected network of bicycle facilities to link key destinations using 'All-Ages-and-Abilities' (protected bicycle facilities) design traits and emerging tools to advance safety and comfort as outlined in this Report, and

THAT Staff develop and implement a bicycle monitoring program of the priority routes, and

THAT the priority routes be referred to the long-term financial plan process for funding.

REASON FOR REPORT:

To provide Council with the following:

- Review progress on the *North Vancouver Bicycle Master Plan* (BMP) with a high level analysis of potential bike routes that may be suitable for prioritization as part of a connected bike network,
- Confirm the principles of 'All-Ages-and-Abilities' (protected bicycle facilities);
- Obtain direction for the future development of the connected bike network.

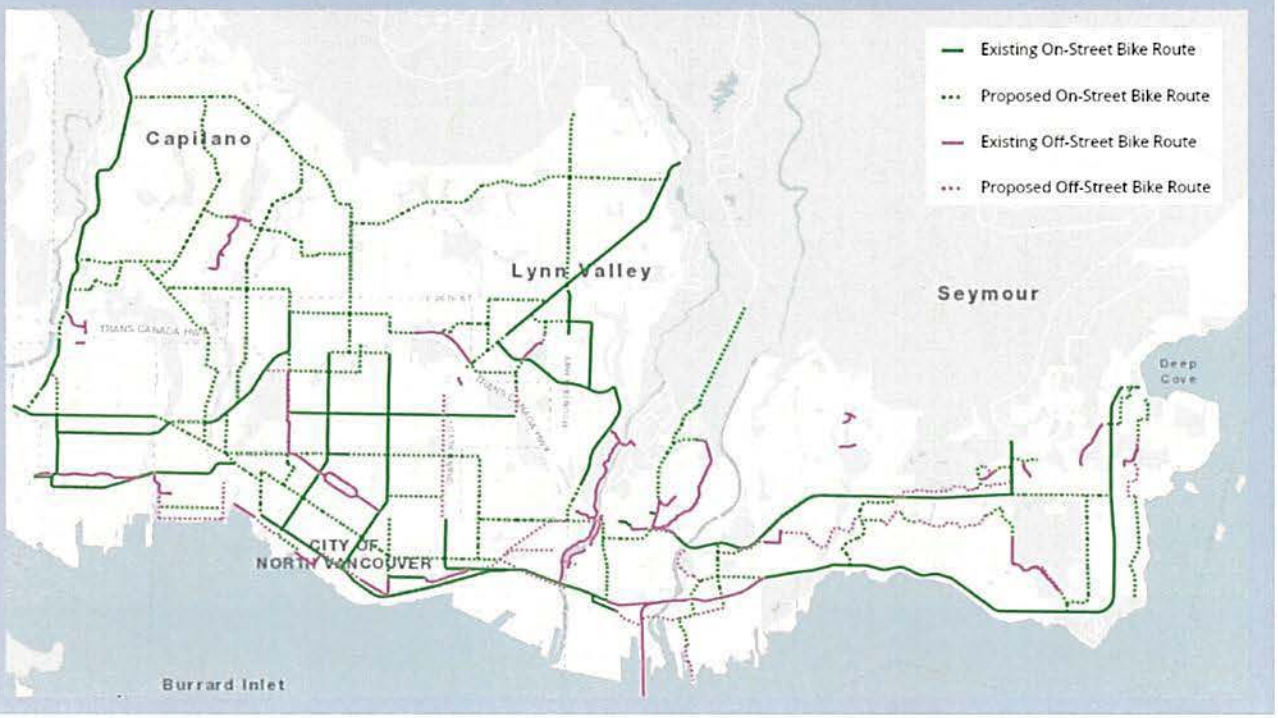
BACKGROUND

The BMP was first developed in 1996, and later updated in 2006 and in 2012. The plan provides a detailed evaluation and prioritization of proposed bicycle routes across the City of North Vancouver (CNV) and District of North Vancouver (DNV), taking an integrated approach toward establishing a connected network of bicycle facilities across the two municipalities. This network will act as the foundation for further work on a connected network of bicycle facilities. The plan classifies bicycle facilities into the following types of routes: on-street and off-street. The BMP also identifies key indicators to measure as part of ongoing bicycle monitoring.

The BMP is coordinated with DNV's *Parks and Open Space Plan*, which shares some off-street facilities with the BMP (i.e. Urban Trails) in support of the Bicycle Master Plan.

One primary goal of the plan is to establish a network that serves a range of people riding bikes – from families with young children to experienced riders – such that it offers choices and is considered safe and comfortable for those of all ages, all skill levels and for all trip purposes. This was before the emergence of what is now termed, an "All-Ages-and-Abilities" (AAA) bicycle network.

Figure 1: North Vancouver Bike Routes



Since the last plan update, DNV and CNV have made advances toward developing key components of this planned network. Staff continues to use previous Council direction to implement bicycle facilities opportunistically, including adding road markings and signage while minimizing impact to vehicle traffic. DNV is currently in the final stages of completing a section of protected bicycle facilities along Lynn Valley Road, has completed the Western Section of the Spirit Trail, and has integrated bicycle infrastructure in the design of major projects like the Keith Road Bridge, among other efforts.

Figure 2: October 2016 Council's Direction to Staff

1. **That the topic of a capital program to plan and build a Connected Network of Protected Bike Facilities between DNV Town Centres, the City of North Vancouver, the District of West Vancouver, the Lions Gate Bridge and the Ironworkers Memorial Bridge be included for discussion at the upcoming Council Workshop on Transportation planned for November 2016; and**
2. **That a Council Workshop on prioritisation and implementation planning for a capital program to plan and build a Connected Network of Protected Bike Facilities be scheduled for early 2017; and**
3. **That Staff provide a report to Council analysing bicycle routes that may be suitable for prioritisation at the Council Workshop on a Connected Network of Protected Bike Facilities.**

In October, 2016, Council supported a motion to consider the prioritization and implementation planning of a 'Connected Network of Protected Bike Facilities'. Figure 1 above outlines the supported resolutions.

This Report is in response to Council direction received at this October 2016 meeting.

EMERGING TRENDS & TERMINOLOGY:

In recent years, bicycle planning and design has continued to grow and change as experts test and refine the types of bicycle facilities that attract a broad array of users. As noted, the BMP addresses the need to build facilities for all ages, all abilities, and for all trip purposes. However the types of bicycle facilities available to designers have increased. There are more tools available to municipalities to employ, such as 'cycle tracks/protected bike lanes' and 'neighbourhood bikeways', linking key destinations for people riding their bikes that in 2012 were not well defined or understood. The literature does not specifically reference 'protected bicycle facilities' but these facilities appear to meet the same key principles of AAA routes, which the literature does reference. Given these similarities, AAA facilities can provide the same riding experience that a protected bicycle facility does. AAA facilities provide the District with a wider range of tools, like Neighbourhood Bikeways, where appropriate, to create a network of safe and comfortable facilities.

The importance of providing facilities which are comfortable for all users has garnered much attention in recent years. An emerging trend both in the region and nationally, has been to adopt an AAA network as a key goal to specifically target potential cyclists.

AAA facilities are generally considered to be high quality bicycle facilities which are comfortable and attractive for a broad array of users, such as children and other vulnerable users. It is generally accepted that these facilities should be comfortable for those between the ages of 8 to 80. This vision is in keeping with the key principles adopted in the BMP.

Figure 3: Key Principles of AAA Routes

Within the broad range of bicycle facilities, AAA routes are considered an exclusive subset, providing a safe and comfortable user experience. Key principles include, but are not limited to:

- **Physical separation of motor vehicles to keep cyclists safe on busy streets**
- **Reduction in traffic and vehicle speeds on local street bikeways by way of traffic-calming**
- **Creation of safe intersections and crossings that provide good visibility to reduce conflicts between road users**
- **The use of pavement markings to highlight potential conflict zones for all road users**
- **Prioritization of bicycle movement by synchronizing traffic lights and reducing inefficiencies in free-flowing bicycle movement**
- **Provision of amenities in key locations to make cycling convenient and feasible**

At this time, there is a range of views as to what facilities can be considered AAA within the region, Canada and beyond. The range of these facilities can be found in Appendix B. Based on the key principles of providing facilities for all ages, all abilities, and for all trip purposes, as outlined in the

2012 BMP, these principles represent a reasonable foundation through which the District can establish a connected network of safe and comfortable bicycle facilities.

Figure 4: Current and Emerging Trends in the Bike Facilities Toolbox

Within the subset of AAA facilities is a smaller subset generally called 'cycle tracks' or 'protected bicycle lanes'. These facilities provide additional physical protection from passing traffic. These facilities are most appropriate on arterial and collector roads, where higher vehicle speeds and higher volumes create uncomfortable cycling conditions for the average user.

Where protected bicycle lanes may not be reasonably justified, the use of other AAA facilities may be considered to help establish a connected network that is safe and comfortable. Neighbourhood bikeways are one alternative that may be considered in these situations. Although not as direct, they can provide a safe and comfortable experience on streets with lower speeds and lower traffic volumes. These routes use a range of treatments, including signage, traffic calming and convenient bicycle crossings at busy streets.

CONNECTING KEY DESTINATIONS:

A key priority of the motion brought forth in October 2016, was to provide a network of connected facilities between DNV Town Centres, the City of North Vancouver (CNV), the District of West Vancouver, the Lions Gate Bridge, and the Ironworkers Memorial Bridge.

Staff have developed conceptual routes for three proposed priority links connecting District Town Centres. These proposed priority routes are:

1) Lynn Valley Town Centre (LVTC) to Lynn Creek Town Centre (LCTC);
2) Lynn Creek Town Centre to Maplewood Village Town Centre (MVTC); and
3) Lions Gate Town Centre (LGTC) to Lynn Creek Town Centre.

Many components and links are already in place for each of the routes. Using a combination of tools, such as protected bike lanes, neighbourhood bikeways and urban trails, these routes could be made to feel safe and comfortable for a wide range of users. However, additional work is needed to complete the route which links key destinations and town centres. At a high level, the following barriers have been identified:

- Crossing Highway 1 as part of the LCTC – LVTC route,
- Mt Seymour Parkway gap and Riverside Drive as part of the LCTC – MVTC route, and
- Hunter Street (Lynn Creek) bridge.

For more route details, see Appendix A.

MONITORING:

Previously, BMP updates considered monitoring as a valuable element to measure the progress of cycling in North Vancouver. Bicycle mode share (compared to other modes – walking, driving, taking transit), bicycle traffic volumes, infrastructure devoted to bike network as well as crash data were all proposed to form the basis of an evaluation program. At this time DNV has not made significant progress on data collection to support an evaluation program due to limited resources.

Strategies should be identified and implemented to test the effectiveness of bicycle infrastructure improvements. It is recommended that before and after monitoring should be completed as part of the above listed priority routes implementation.

A targeted evaluation program would be developed as part of a detailed work plan for identified priority projects.

LOOKING FORWARD:

In light of emerging trends, an update to the BMP may be desired to reflect current goals and principles for developing a connected network of safe and comfortable bicycle facilities, linking key destinations.

Building off of the last Plan update, the scope of the next update may include the following:

- Expand the 'tools in the tool box' appropriate to DNV in developing a connected network,
- Review/update the bicycle network map, using the identified principals, to ensure a connected network of bicycle facilities link key destinations;
- Update project priorities to facilitate future capital planning; and
- Update key indicators (metrics) to measure and develop strategy to fund ongoing program monitoring.

It is recommended that work continue on priority routes to:

- Build the connected network of bicycle facilities, linking key destinations, using an expanded toolbox; and

- Develop a detailed route plan and cost estimates to make these routes safe and comfortable; and
- Submit plans and estimates to Finance for consideration during the budget process.

Respectfully submitted,

Ingrid Weisenbach
Shazeen Tejani
Transportation Planning

REVIEWED WITH:

❑ Sustainable Community Dev.	____	❑ Clerk's Office	____	External Agencies:	
❑ Development Services	____	❑ Communications	____	❑ Library Board	____
❑ Utilities	____	❑ Finance	____	❑ NS Health	____
❑ Engineering Operations	____	❑ Fire Services	____	❑ RCMP	____
❑ Parks	____	❑ ITS	____	❑ NVRC	____
❑ Environment	____	❑ Solicitor	____	❑ Museum & Arch.	____
❑ Facilities	____	❑ GIS	____	❑ Other:	____
❑ Human Resources	____	❑ Real Estate	____		

Appendix A - Route Options

Lynn Valley Town Centre to Lynn Creek Town Centre (LVTC to LCTC)

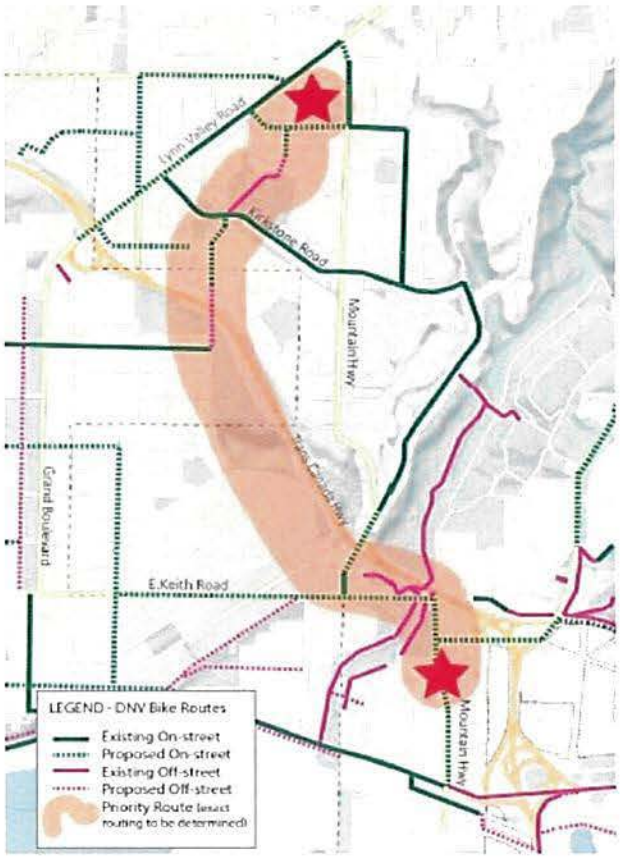


Figure A1: Conceptual Routing for LVTC to LCTC

Route Options:

The conceptual routing option from LVTC to LCTC takes advantage of existing facilities and identifies potential connecting segments opportunistically. This conceptual route, using identified bike facilities in the Bicycle Master Plan (BMP) could link quiet residential streets (such as Whitely Court, Rufus Drive, and Brooksbank Avenue) with lit urban trails (such as Kirkstone Park and Salop Trail) to create a route that is safe and comfortable for the average user.

Route Features:

Several improvements are required to bring this route up to 'AAA' standards. They include but are not limited to the following:

- Provide bike infrastructure to upgrade local streets to neighbourhood bikeways, where appropriate.
- Improve lighting and trail conditions, as necessary, to bring up to 'AAA' standard along Salop Trail and through Kirkstone Park.
- Provide intersection upgrades along routes, as necessary.
- Provide wayfinding signage along route to differentiate other bicycle facilities from the 'AAA' route, coordinating with CNV where appropriate.

Key Opportunities and Barriers:

The most significant barrier to this route is crossing Highway 1 within CNV boundaries. The City is working toward implementing the Casano-Loutet Pedestrian Overpass – a new walking and cycling connection across Hwy 1 at Casano Road and Rufus Road.

Other nearby bicycle routes, such as Lynn Valley Road, could be improved to provide effective connections to this route. Additionally, the Mountain Hwy Interchange project also includes a walking/cycling tunnel across Mountain Hwy, eliminating another significant crossing barrier.

This route provides access to trip generators such as Sutherland Secondary School, the Ironworkers Bridge and the two Town Centres.

Proposed Next Steps:

1. Given that the majority of the route proposed has existing facilities, the District may wish to provide the City with support for getting the Casano-Loutet overpass built. Additional improvements to existing facilities may be considered during the construction of the overpass.
2. Develop a functional design plan, cost estimate and staged implementation plan to bring the remaining portion of the route up to AAA standard.

Lynn Creek Town Centre to Maplewood Village Town Centre (LCTC to MVTC)

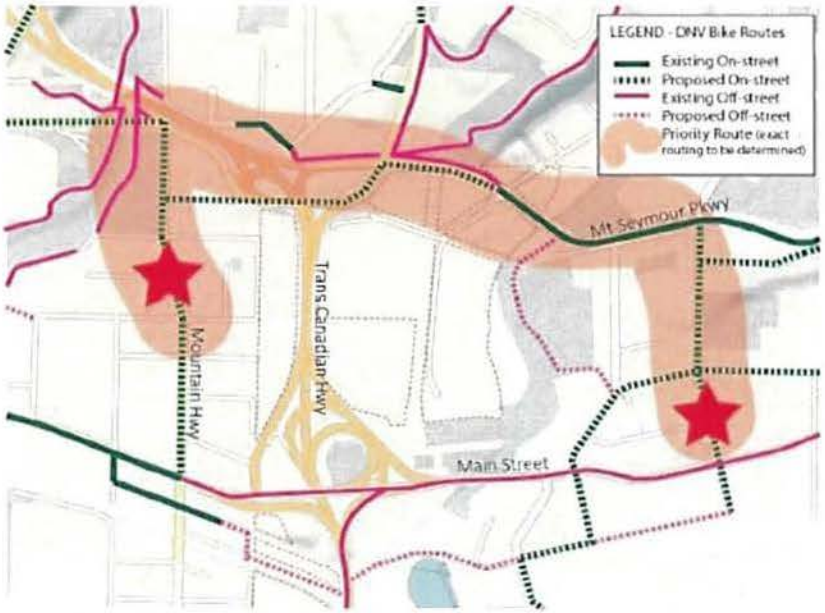


Figure A2: Conceptual Routing for LCTC to MVTC

Route Options:

The conceptual routing option from LCTC to MVTC takes advantage of existing facilities and identifies potential connecting segments opportunistically. This conceptual route, using identified bike facilities in the Bicycle Master Plan (BMP) could link portions of the existing and planned urban trails (i.e. Spirit Trail) to connect to Maplewood using a route that is safe and comfortable for the average user.

Route Features:

Several improvements are required to bring this route up to 'AAA' standards. They include but are not limited to the following:

- Ensure existing bike infrastructure meets all accessibility guidelines, including all necessary curb let-downs on existing route.
- Improve lighting and trail conditions, as necessary, to bring up to 'AAA' standard through Bridgeman Park and Seylynn Park.
- Provide intersection upgrades along routes, as necessary.
- Provide wayfinding signage along route to differentiate other bicycle facilities from the 'AAA' route, coordinating with CNV where appropriate.

Key Opportunities and Barriers:

Two key barriers for this route are:

1. The segment of Mount Seymour Parkway, adjacent to the Real Canadian Superstore; and
2. The gap in bicycle infrastructure along Riverside Drive, currently being re-designed as part of the Maplewood Implementation Planning process.

Upgrades to the Seymour River Bridge in 2012 were a significant undertaking and helped support further development of the Spirit Trail along this route.

Proposed Next Steps:

3. Given that the majority of the route proposed has existing facilities, the District should place priority on the two barriers identified above.
4. Develop a functional design plan, cost estimate and staged implementation plan to ensure intersection crossings are up to 'AAA' standards.

Lions Gate Town Centre to Lynn Creek Town Centre (LGTC to LCTC)

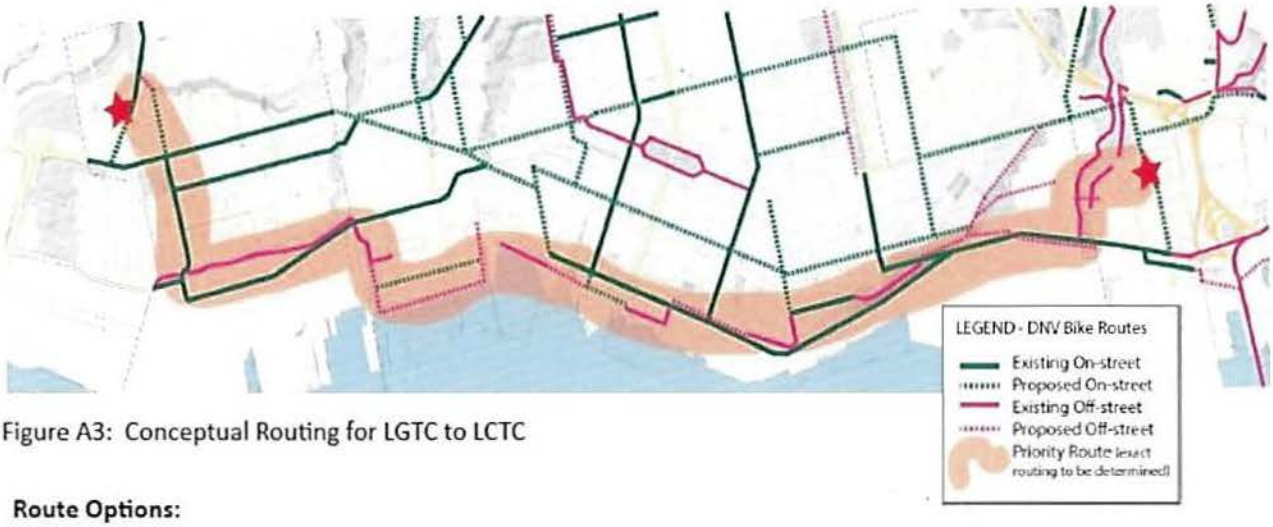


Figure A3: Conceptual Routing for LGTC to LCTC

Route Options:

The conceptual routing option from LGTC to LCTC takes advantage of existing facilities and identifies potential connecting segments opportunistically. This conceptual route, using identified bike facilities in the Bicycle Master Plan (BMP) could link portions of the existing and planned bicycle routes and urban trails from Lions Gate to Lynn Creek in a way that is safe and comfortable for the average user. This connection also takes advantage of existing bicycle infrastructure completed as per the BMP within CNV boundaries and major urban trails (i.e. Spirit Trail Western Section).

Route Features:

Several improvements are required to bring this route up to 'AAA' standards. They include but are not limited to the following:

- Provide intersection upgrades along routes, as necessary.
- Support the CNV in completing any missing segments along this road.
- Upgrade Tatlow Avenue and other existing on-street bike infrastructure to 'AAA' standards.
- Provide wayfinding signage along route to differentiate other bicycle facilities from the 'AAA' route, coordinating with CNV where appropriate.

Key Opportunities and Barriers:

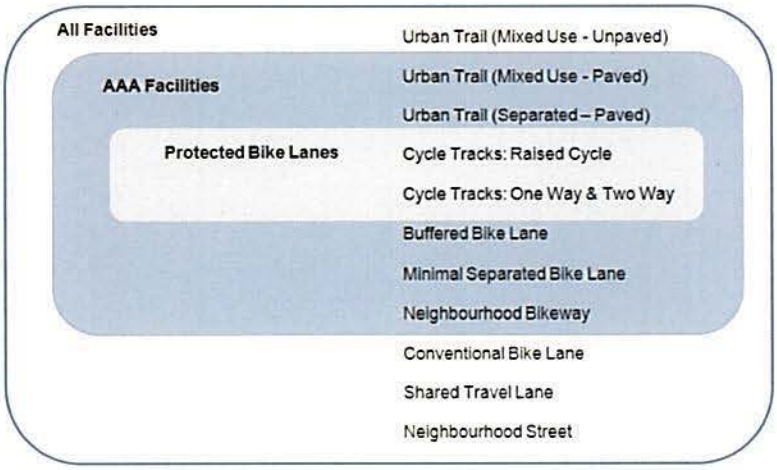
The most significant barrier to this route is crossing Lynn Creek. The existing bike infrastructure along Main Street does not provide a comfortable riding experience for the average user. The proposed Hunter Street Bridge (Lynn Creek Crossing) provides an alternative solution to crossing Lynn Creek and has been previously approved by Council. Funding has not yet been secured for this project.

The majority of this route lies within CNV boundaries and is mostly complete to 'AAA' standards. The District can take advantage of this existing infrastructure to help complete this key connection between Lions Gate Town Centre and Lynn Creek Town Centre, as well as the SeaBus transit hub.

Proposed Next Steps:

1. Given that the majority of the route proposed has existing facilities, the District should place priority on obtaining funding for the Hunter Street Bridge, a key piece of completing the connection between LGTC and LCTC.
2. Develop a functional design plan, cost estimate and staged implementation plan to ensure intersection crossings are up to 'AAA' standards.

Appendix B: Guide to DNV Appropriate Bicycle Facilities



Urban Trails
Multi use trails that are located in the urban residential areas and within parkland, and along roadways, and interconnect to parks, community centres, schools, plazas, and town centres , to name a few. These trails tend to be constructed as gravel or paved surfaces, and some can be lit.

Urban Trail (Separated - Paved)
These facilities provide physical or painted separation between those walking and cycling.

Example: False Creek Seawall

Urban Trail (Mixed use - Paved)
This facility does not provide separation of users (walking and biking) along the path.

Example: Spirit Trail

Urban Trail (Mixed use - Unpaved)
This facility does not provide separation of users (walking and biking) along the path. Ground material needs special consideration for accessibility purposes.

Example: Salop Trail

Cycle Tracks
Provide physical separation from moving vehicles but are located within the road right-of-way. They combine the experience of an off-street path with the on-street infrastructure of a conventional bicycle lane.

Separation (Two Way)
These cycle tracks are physically separated by concrete and planters and provide **two-way** travel along the track.

Example: Hornby Street Bike Lanes

Separation (One Way)
These cycle tracks are physically separated by concrete and planters and provide **one-way** travel along the track.

Example: Beatty Street Bike Lanes

Raised Cycle Track (One Way)
In many cases cycle tracks are separated by landscaping or curbs from the sidewalk, facilitating separation between cyclists and pedestrians as well.

Example: Burrard at Cornwall

Other Cycling Facilities

Parked Car & Buffer Separation
A painted bike lane that is typically located between a sidewalk and parked vehicles. A painted buffer is provided between the cars and the bike lane to protect cyclists from motorists exiting their vehicle or parking.

Example: 13th Street east of Lonsdale Avenue

Minimal Separated Bike Lane
People cycling are protected from motor vehicles by a painted buffer and a physical barrier (flexible posts)

Example: Larson Road

Neighbourhood Bikeway
Routes on streets with low vehicle speeds and volumes, which include a range of treatments ranging from signage and pavement markings to bikeways with varying degrees of traffic calming and intersection treatments, implemented to improve safety for cyclists and other road users.

Example: Chilco Bikeway

Buffered Bike Lane
A painted bike lane that is typically located between the curb and a vehicle travel lane. These facilities provide additional separation between people biking and people driving using a painted buffer.

Example: Chesterfield Avenue (segment)

Conventional Bike Lane
A painted bike lane typically located between the curb and a vehicle travel lane.

Example: Mount Seymour Parkway

Shared Travel Lane
A street with painted markings (sharrows) and signage that indicate people driving and biking must share the travel lane.

Example: Marine Drive

Neighbourhood Street
People cycling share the roadway with vehicles on lower volume, slower speed neighbourhood streets.

Example: St Andrews Avenue

Photo Sources:

Vertical Separation (Two Way): Photo Flickr: Paul Krueger via Kay Teschke

Vertical Separation (One Way): https://www.youtube.com/watch?v=0DHiemade-0

Raised Cycle Track (One Way): https://nl.linkedin.com/pulse/nvvc-congres-2016-op-weg-naar-750-km-vergevingsgezind-piet-zijlstra

Off-street Separated (Paved): District of North Vancouver

Off-street Mixed (Paved): District of North Vancouver

Off-street Mixed (Unpaved): District of North Vancouver

Flex Post Vertical Separated Bike Lane: Tom Thivener via Modacity

Neighbourhood Bikeway: Photo Flickr: Paul Krueger

Parked Car & Buffer Separation: Photo Flickr: Clark Nikolai

Painted Buffered Bike Lane: Google Streetview

Painted Bike Lane: Kay Teschke

Shared Travel Lane: Photo Flickr: W.D. Vanlue via Kay Teshcke

Neighbourhood Street: Kay Teschke