Welcome to the Macdonald Bridge Bikeway Connector Project Open House

Welcome to the Public Open House for the Macdonald Bridge Bikeway Connector project. These sessions are an opportunity to learn about the study, ask questions of the study team members and provide feedback.

Do you have a copy of the Public Consultation Questionnaire? It is also available online.

The content from these sessions will be posted to the HRM website following these events with an online survey.

For more information, visit:

- halifax.ca/bikewayconnector
- http://shapeyourcityhalifax.ca/bikeway-connector-project

As part of the planning process, public engagement sessions are being held to provide information and receive feedback on the concepts.

The engagement sessions will be open houses with one presentation at each session. The locations and times are:

- Wednesday, November 16, 6pm-8pm with presentation at 6:30pm, Italian Cultural Centre, 2629 Agricola St., Halifax
- Thursday, November 17, 12noon – 2pm with presentation at 12:30pm, Alderney Landing Rotunda, 2 Ochterloney St, Dartmouth
- Thursday, November 17, 5pm – 8pm with presentation at 6:30pm, Alderney Landing Rotunda, 2 Ochterloney St, Dartmouth

The content from these sessions will be posted to the halifax.ca website following these events with an online survey.

Feedback is to be submitted online by Friday, December 2, 2016.

Project Contact: cycling@halifax.ca

Existing Conditions:

Introduction – Project Area

Halifax aims to increase the transportation options available to its residents and support the development of communities that are healthy places to live. In support of these broad council priorities, the Bikeway Connectors project has been initiated to further develop and assess the feasibility, land requirements, and cost of specific options that improve connections between the Macdonald bridge bikeway and the existing and proposed bicycle networks in Halifax and Dartmouth.

Project Area

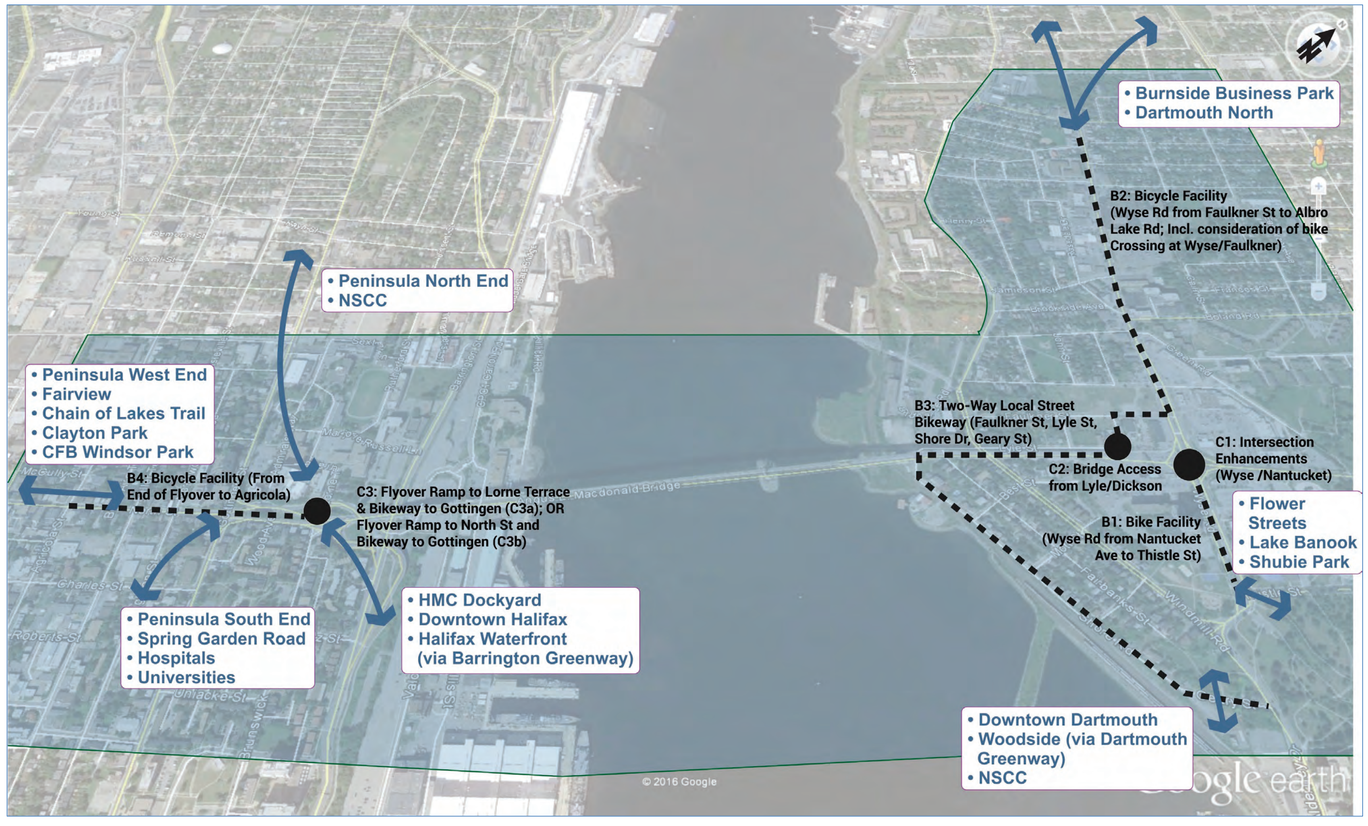
This project aims to make crossings of the Macdonald Bridge bikeway easier and safer by considering both the facility design in the immediate area near the bridgeheads, which are complex and busy intersections, and by considering easier and safer connections to adjacent neighbourhoods and commercial/employment districts. The specific focus areas are:

Macdonald Bridge Connections

C1: Enhancements at the Wyse Road / Nantucket Avenue intersections
C2: Access directly from bikeway to Lyle and Dickson Streets
C3: Flyover to ultimately connect to bicycle lanes on North Street

Bikeways

B1: A bicycle facility on Wyse Road between Nantucket Avenue and Thistle Street to connect to paths on Dartmouth Common (approx. 400 m)
B2: A bicycle facility on Wyse Road between Faulkner Street and Albro Lake Road (approx. 1050 m)
B3: A two-way Local Street Bikeway on Faulkner Street, Lyle Street and Shore Drive (approx. 1350 m)
B4: A bicycle facility on North Street from the end of the flyover to Agricola Street (approx. 650 m)



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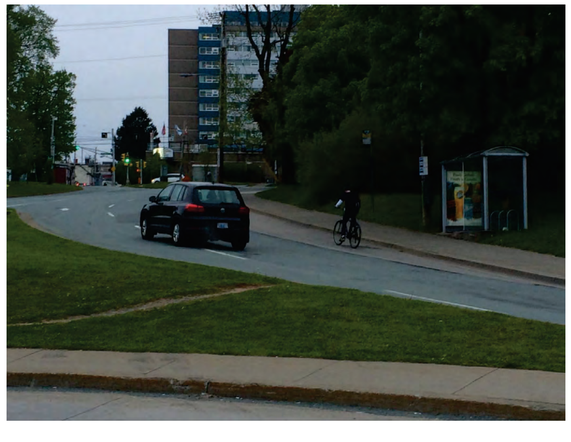
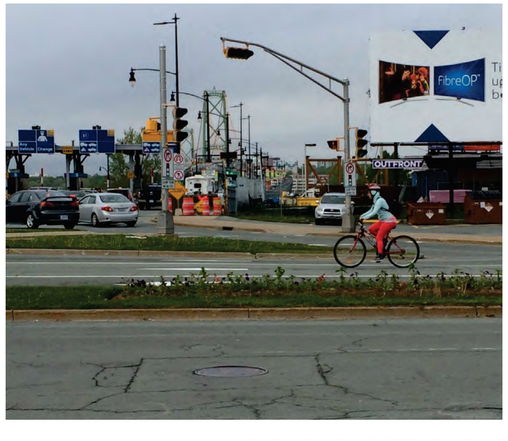


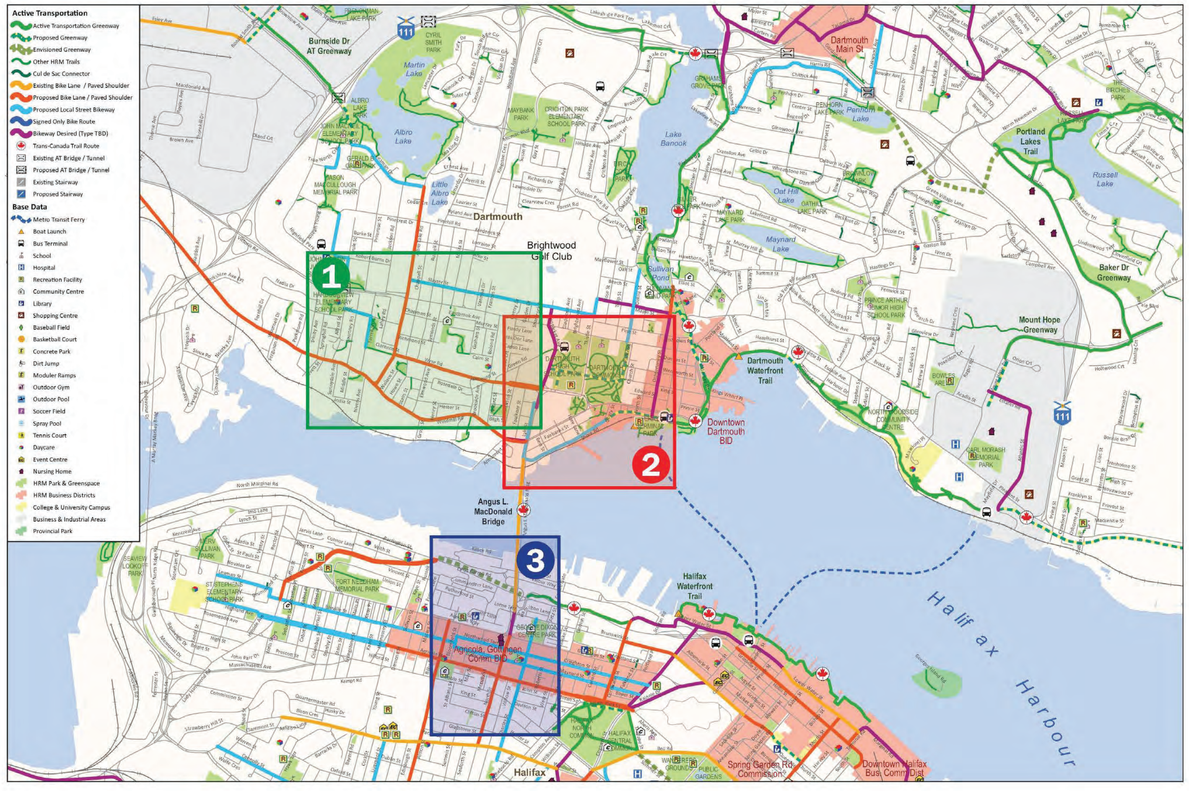


A Project for All:

This is a project for the entire municipality - by introducing wide swathes of All Ages and Abilities (AAA) facilities to your doorstep. Connecting someone living in north end Dartmouth to their job in Downtown Halifax. Or, someone from their home in north end Halifax to the Sportsplex on Wyse Road in Dartmouth in the next five plus years.

Introduction – Project Process and Scope

In the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* there are a number of maps representing candidate bicycle routes and greenway networks. Using these maps as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project. The maps provide additional information on surrounding future routes as well as important origin/destination points.



What is the final deliverable for this project? What can we expect?

The outcome of this project will be a set of preliminary plans, recommendations and cost estimates that staff can use to provide advice to Regional Council on the best way to improve the bikeway connections in order to serve bicycle riders of all ages and abilities. In addition to identifying the preferred ways in which access to both ends of the Bridge Bikeway can be improved, this project will also confirm whether or not key bicycle network connections proposed in the AT Plan are feasible and what they will cost. This work will form the basis for detailed design, should Council decide to proceed with the project.

A thorough preliminary design (including a technical assessment as well as stakeholder and public engagement) will minimize the risks of proceeding with detailed design and implementation. One potential outcome of this work may also be the conclusion that one or more of the preferred options or network connections are not feasible.

Project Schedule:

September 2015
- Report to Council to initiate project

January 2016
- RFP to select consultant

May/June 2016
- Project Initiation
- Form Steering Committee
- Dartmouth Bridgehead Topographical survey

November 2016
- Launch Online stakeholder engagement
- Public Open House to review concepts

December 2016
- Collection/ review of feedback from public engagement
- Further develop concepts

Early 2017
- Staff Report to Council

Introduction – Project History

History

On September 9, 2014 Regional Council approved "*Making Connections: 2014-19 Halifax Active Transportation Priorities Plan."* The options proposed in this report support the implementation of this plan in the following ways: (i) Improving access to the Macdonald Bridge Bikeway was identified by the public and stakeholders as their second highest priority project during community engagement for the Plan. (Developing a bicycle network in the Regional Centre was their top priority.); (ii) The Plan identifies the proposed bicycle routes that would connect to the Macdonald Bridge on the Dartmouth and Halifax sides; and, (iii) The plan recommends the development of bicycle infrastructure that is accessible for people of all ages and bicycling abilities (AAA). Currently neither side of the bridge can currently be considered AAA.

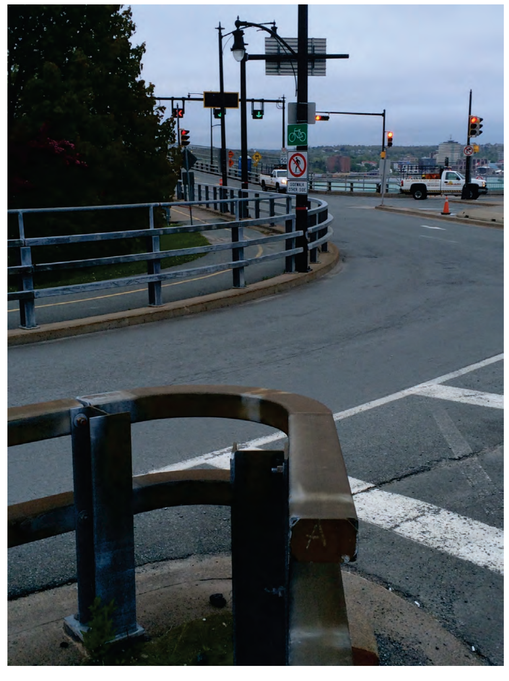
In September 2015, Regional Council directed staff to continue planning bridge bikeway access improvements on both sides of the bridge, pursue funding partnerships, and determine requirements for any land use agreements.

Background

The Angus L. Macdonald Bridge provides the only bicycling connection between the Halifax peninsula and Dartmouth and is therefore a critical link in Halifax's evolving bicycle transportation network. It is a link in Halifax's vision for a greenway trail network and is a designated section of the national Trans Canada Trail. It is also expected to be a key segment in the provincial Blue Route bicycling network.

Before 1999 people were required to walk their bicycles over the bridge on a single sidewalk shared with pedestrians. A separated bikeway and pedway were added to the bridge in 1999 as part of the addition of a third reversible lane and connection improvements for motor vehicles.

While the addition of a separated bikeway represented a significant improvement over the prior situation, access to the bikeway has been problematic since it was installed and is perceived as a deterrent to many people for riding over the harbour. In Dartmouth the bikeway begins/ ends at a sidewalk, at a busy intersection, and there is no designated route connecting the bikeway to or from surrounding communities. In Halifax the bikeway begins and ends under the bridge on a sidewalk. Getting to this point when traveling from North, Gottingen or Brunswick Streets involves going down a steep slope on North Street shared with cars and buses before making a sharp left onto a sidewalk and then going up again, on a 10% slope.



Existing Conditions:

Introduction – Highlights

Overarching Planning Objectives

- The Bikeway Connector Project aims to provide infrastructure that makes it easier and safer for more residents to use bikes for transportation more often.
- This project focuses on how to make safer connections to and from neighbourhoods on both sides of the Harbour. For that reason, the project looks both at the bridgeheads, but also at the bikeway routes leading to the bridge.
- The introduction of bike lanes increases transportation options, helps improve road safety, supports healthy communities and helps protect the environment by reducing greenhouse gas emissions.
- Safety is a top priority. This will be foremost in mind when designing and constructing the Bikeway Connector infrastructure.
- Transportation and Public Works is focussed on delivering public works services – as well as sustainable public infrastructure and transportation networks – that meet the needs and expectations of our communities and citizens.

Implementation Factors

- The proposed designs and implementation framework for the Bikeway Connector Project are being co-ordinated to consider changes that may occur to the existing Halifax Harbour Bridges infrastructure in the coming years.
- This project is also identifying how other improvements for pedestrians, vehicle, and transit can be incorporated.
- Some of the recommended facilities may require legislative changes (e.g. potential need for bicycle traffic signals).
- Consideration is given to planned infrastructure works. For example, whether or not a roadway is slated for resurfacing in the near future (e.g. new asphalt) or full road reconstruction (e.g. new underground sewers as well as new road subbase and surface). The type of capital works project related to a specific street is an important distinction. While a new greenway within the boulevard or raised cycle tracks may be appropriate for a certain road, if the roadway is not up for renewal (including above and below ground infrastructure) than it is less likely to be a viable option. Some streets associated with this project may include solutions limited to pavement markings, some physical separation (e.g. bollards) and signage.

Existing Conditions:

Importance / Value of Cycling Infrastructure:

- The AT Priorities Plan recommends an emphasis on developing the bikeway network in the Regional Centre.
- The AT Priorities Plan recommends implementing infrastructure that is preferred by new bicyclists.
- A connected bikeway network is the critical factor in enhancing safety and attracting more residents to bicycling.
- Different bikeway types are required for different contexts. Generally, the higher the number of motor vehicles and the faster that they travel, the greater the need for physical separation.

Introduction – Policy Direction

Regional Plan

The Bikeway Connector project aligns with the four key transportation objectives from the regional plan:

1. Implement a sustainable transportation strategy by providing a choice of integrated and connected travel options emphasizing public and community based transit, active transportation, carpooling and other viable alternatives to the single occupant vehicle;
2. Promote land settlement patterns and urban design approaches that support fiscally and environmentally sustainable transportation modes;
3. Forecast the municipality's need for mobility and provide service and infrastructure to meet this demand while influencing choice towards transportation sustainability; and
4. Design complete streets for all ages, abilities and travel options.

Centre Plan

The Bikeway Connector Project will serve as an example of connecting the Regional Centre with the type of facilities that encourages the mobility options that the Centre Plan is emphasizing. For more information, visit: centreplan.ca

Active Transportation Priorities Plan

Halifax's Active Transportation program aims to help residents bicycle, walk and use other "human powered" ways to move. Encouraging Active Transportation promotes personal health and recreation, helps manage congestion, reduces emissions and supports municipal objectives for efficient land use.

Regional Council first approved the Active Transportation Functional Plan in 2006. Making Connections, Halifax's five-year active transportation priorities plan was approved by Regional Council in 2014. This plan identifies the projects and initiatives that the municipality will pursue through to 2019 to increase walking and bicycling.

Recommendation #19 of the Halifax Active Transportation Priorities Plan 2014 – 2019 that "The Municipality should continue to explore solutions to improving connections of the Macdonald Bridge Bikeway on both sides of the bridge, and aim to implement a solution on the Halifax side concurrent with the end of the re-decking project."

Integrated Mobility Plan

The Integrated Mobility Plan will create a vision for moving around the Halifax region and help to direct investment in active transportation, transit, and the roadway network to improve the links between people and their communities. For more information, visit: halifax.ca/integratedmobilty

Moving in an Integrated Manner - We all use a variety of transportation modes to move around – people drive, walk, take transit, bike and more. Already, more of use move around the Halifax region in an integrated manner. We need to plan for a connected transportation network because many of the trips people take are integrated in some way, for example: walking from a parking spot to work or shopping; carrying a bike on the ferry; driving to a Park & Ride; locking up a bike at a transit terminal; walking to the bus stop.

Planning in an Integrated Manner - When we invest in options for moving around, we also shape our region and its communities. As we consider these options, we must also think about how they could strength the Regional Plan growth centres, respect out neighbourhoods, and complement our open space system. As the Bikeway Connector Project proceeds, a number of the options result in integrated mobility improvements for all users.

Introduction – All Ages and Abilities (1 of 2)

All Ages and Abilities (AAA) facilities are considered critical to increasing the number of people who choose to ride a bicycle because most people feel uncomfortable riding in mixed traffic and may only choose to ride if there is a network of low stress facilities available, including, but not limited to, local street bikeways, protected bicycle lanes, and greenway trails. Given that accessing the Macdonald Bridge bikeway on both sides of the harbour involves navigating busy, complex intersections, this project aims to offer easier and safer routes to connect to the bikeway.

Have you seen the video? If not, check out the video on the Shape Our City site.

All Ages and Abilities – Cycling for Everyone: A Sample of Cycling Facilities in Ottawa

This amateur video was taken around Ottawa with the purpose of exploring where a 7 year old might feel comfortable cycling on a Sunday in July in and around a general neighbourhood. It is intended to help with a discussion around what is considered an All Ages and Abilities facility, raising such questions as:

- What type of cycling facility inspires you to get out of the road and ride?
- What features increase your comfort level?
- What features increase your comfort level for a child rider/passenger?
- Where do you see the highest gains for a neighbour or friend that does not ride now?
- After watching these videos, what do you envision for your community?

A Protected Bicycle Lane is an exclusive bicycle facility that is physically separated from motor vehicle traffic, and distinct from the sidewalk. Methods of separation may include curbs, bollards, planters, rows of parked vehicles, or any other type of physical barrier.

Local Street Bikeways are bicycling routes optimized for convenience, comfort, and connectivity. Motor vehicles and bicycles share the right-of-way on Local Street Bikeways so the design aims control speeds and volumes and assist bikes cross intersections.

Active Transportation Greenways are 3-4m wide paved or crusher dust trails that are separated from motor vehicle traffic and are intended for walking, cycling, and other active modes.

Introduction – All Ages and Abilities (2 of 2)

Representative Buffer - The concept plans show a painted bike lane with a representative buffer with a desired width of 0.5 m. This representative buffer is intended to illustrate where a variety of separation tools could be implemented. We are seeking feedback on the options within the context of upcoming planned infrastructure investments for the roadways:

- Painted Buffer (i.e., paint with hatching);
- Painted Buffer with delineators (i.e., flexible vertical posts);
- Painted Buffer with concrete curbs (i.e., similar to those in parking lots);
- Painted Buffer with a concrete median (i.e., cast-in-place and more permanent).

Q1. All Ages and Abilities (AAA) facilities are considered critical to increasing cycling numbers because most people feel uncomfortable riding in mixed traffic and may only choose to ride if there is a network of low stress facilities available, including, but not limited to, local street bikeways, protected bicycle lanes, and greenway trails.

- What do you think of when you picture an AAA facility?
- What are the most important features of an AAA facility?

Q2. AAA facilities are often associated with providing a separation treatment more significant than a single painted white line defining a painted bike lane. Do you have a preference for a separation option? What factors do you think impact which type of buffer is utilized?

Q3. Option 1 – 1.5 m wide painted bike lane with 0.3 m wide painted buffer treatment. Option 2 – 1.8 m wide painted bike lane with no buffer treatment beyond single white line. Assuming no other variables, what is your preference?

Q4. An approach to AAA facilities includes a municipality continuing to provide single painted line bike lanes on certain streets and then focusing on AAA designated facilities on alternate routes within close proximity and as part of a connected network. This approach helps to address the issue of context within an area, existing constraints and allows a municipality to focus its efforts related to cycling within a specific corridor (i.e., a designated AAA facility). What do you think? If this is appropriate, what key elements of the AAA facility are required to meet this overall goal (i.e., focus on crossings, wayfinding)?

HEADS UP: Draft concepts for each bikeway and structure are presented on the upcoming boards. The overall goals of this project include a connected network, quality facility, a plan achievable to ensure gains and integrated with other modes. Please consider the following:

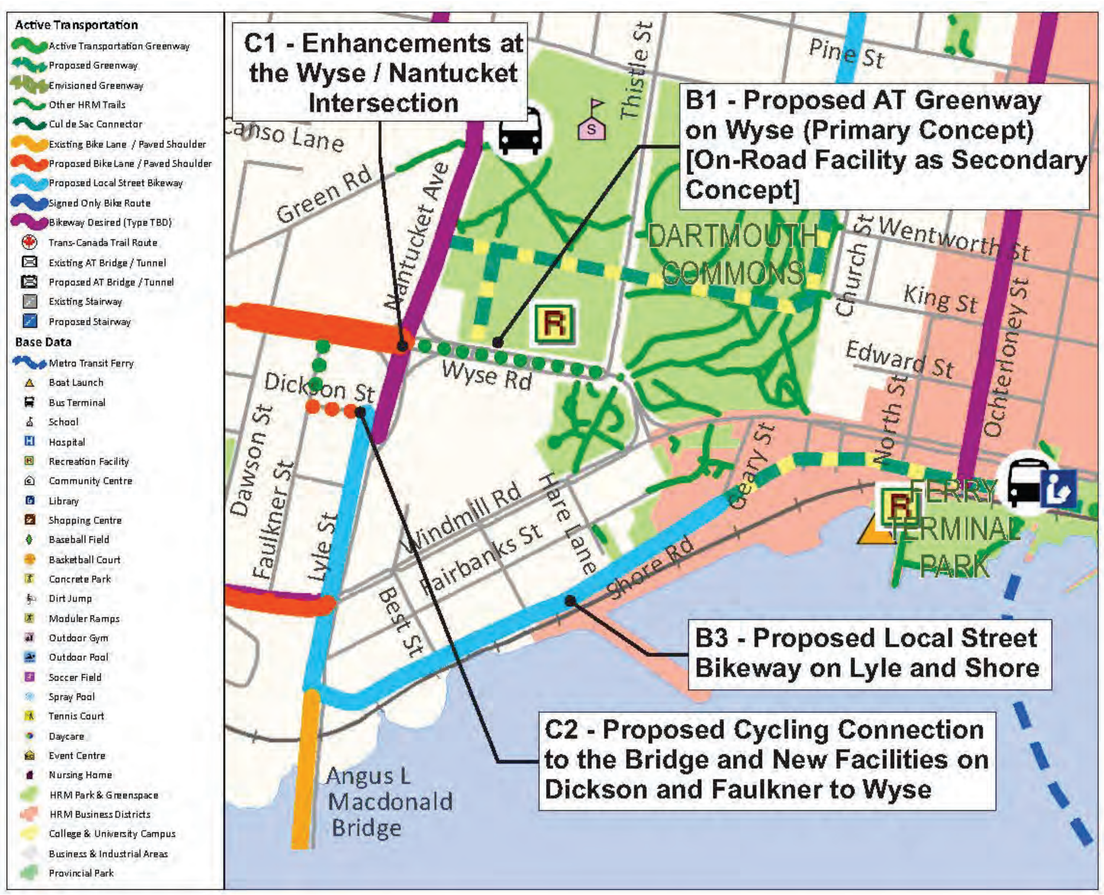
1. Does the draft concept proposed achieve the goal of being part of a connected network? How could it be improved?
2. Does the draft concept proposed achieve the goal of being a quality facility? How could it be improved?
3. Do you think that the draft concept proposed is achievable? How can its implementation improved?
4. Is the draft concept proposed integrated appropriately with other modes? How can it be improved?

C1: Enhancements at the Wyse / Nantucket Intersection (1 of 2)

Introduction

At the onset of the project, the requirements stated that on the Dartmouth side of the bridge, two specific connections need to be reviewed:
1. Enhancements at the Wyse Road / Nantucket intersection to facilitate improved access from the bridge bikeway to the street network and to a planned bicycle route through the Dartmouth Common to communities east of the bridge (C1); and,
2. An access directly from the bikeway to Lyle and Dickson Streets which would connect with proposed bicycle routes into downtown Dartmouth and north end Dartmouth (refer to C2 for more information).

Using these maps provided in the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project.



Existing Conditions:

Parameters:

- Existing sidewalks on all sides of the intersection with different crossing configurations.
- AT Plan designation: "Proposed Bike Lane" for Wyse Road (west of intersection), "Proposed Greenway" for Wyse Road (east of intersection) and "Bikeway Desired (Type TBD)" for Nantucket Avenue.
- The bikeway on the bridge currently begins/ends on a sidewalk.
- Transit Route.
- Wyse Road and Nantucket Avenue are both collector roadways with multiple lanes at this intersection including right-turn channels. Wyse Road is a Truck Route during daylight hours and has a posted speed limit is 50 km/hr.
- The Macdonald Bridge toll plaza.

Key Considerations:

- The Transit Terminal off Nantucket adjacent to the Sportsplex and related bus turning movements at this intersection.
- The proposed greenway associated with the Sportsplex and the master planning process.
- An intersection already at capacity.
- The limitations of pavement markings and signage meeting AAA facility design at an intersection already at capacity.
- Potential for changes to toll plaza and adjacent lands in next 3-7 years.
- The concept of an alternative access to the bridge via Lyle/Dickson.

C1: Enhancements at the Wyse / Nantucket Intersection (2 of 2)

Outcome for C1: Wyse/Nantucket Intersection

As part of the planning process, a number of conceptual options have been developed to consider how to integrate bicyclists safely into this intersection. However, as these options were considered, the potential for a more comprehensive change to this intersection in the next number of years was identified by stakeholders. These changes may result in significant improvements that benefit all modes and improve aesthetics. The timeline for these changes is in the range of three to seven years. Therefore, the concept for bicycling improvements at this location are being considered as a two stage process, with an interim stage that meets the goal of improved all ages and bicycling abilities (AAA) access – and an ultimate stage where bicycling facilities are integrated into a rebuilt Wyse/ Nantucket/ bridgehead intersection.

Phase One: new access at Lyle and Dickson. Meets project objectives of connectivity to bikeways connecting in three directions in Dartmouth.

Potential Phase Two: incorporate bicycling infrastructure into the Wyse/Nantucket intersection in conjunction with larger scale redevelopment.

Q5. Acknowledging the complexity of the Wyse/Nantucket intersection considering its proximity to the toll booths, what small scale improvements could be made to the Wyse/Nantucket intersection to improve cycling safety?

Q6. Assuming a clean slate but the same general parameters, what are your big ideas for improving cycling safety at the Wyse/Nantucket intersection?

Q7. The current approach for this intersection is to develop an interim (and permanent) option and to then look for more comprehensive integration of a bicycling facility as part of future (3-7 years) changes to this intersection. Future improvements could include: reduced need for approaching vehicle lanes, pedestrian enhancements, attention to landscaping and the bridge as a “gateway” to Dartmouth and Halifax. Do you support this approach?

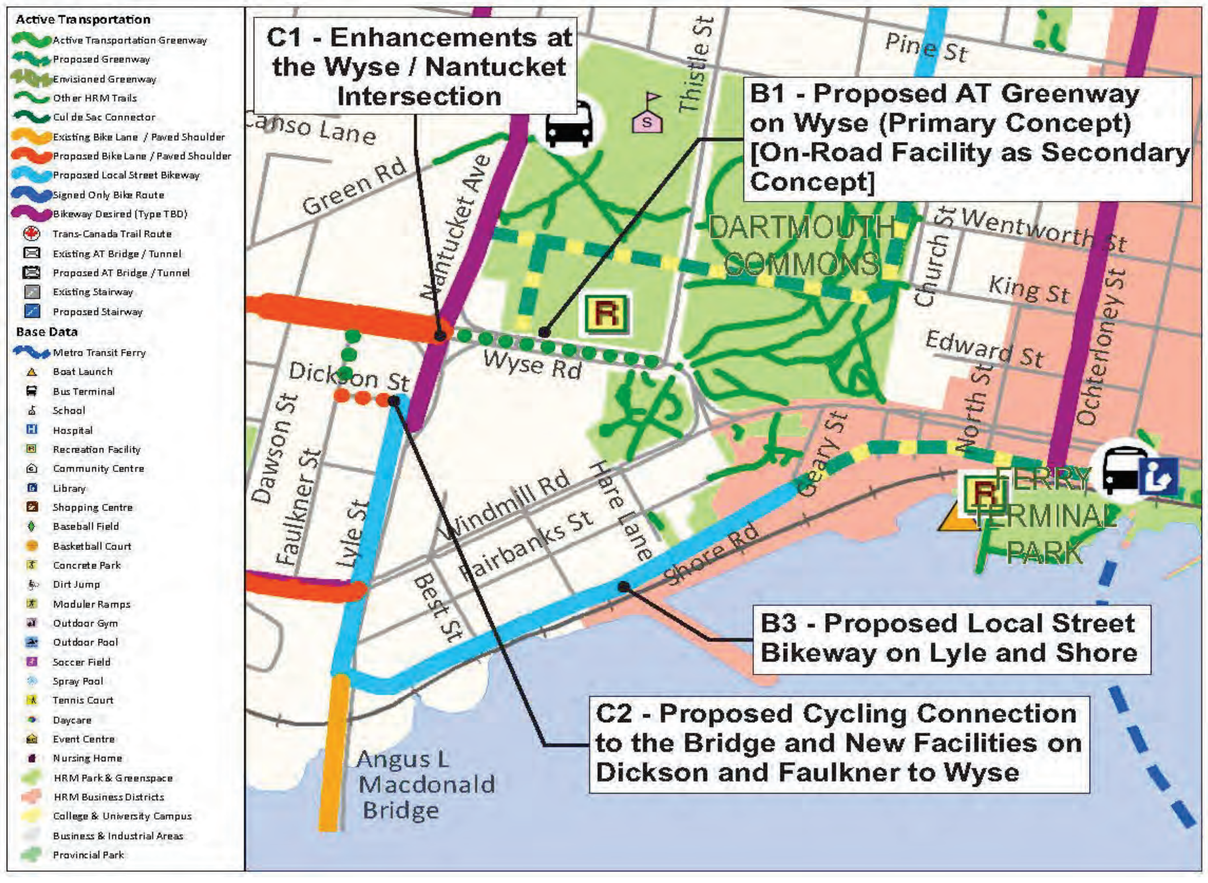
C2: Bridge Connection at Lyle / Dickson Street (1 of 2)

Introduction

At the onset of the project, the requirements stated that on the Dartmouth side of the bridge, two specific connections need to be reviewed:

1. Enhancements at the Wyse Road / Nantucket intersection to facilitate improved access from the bridge bikeway to the street network and to a planned bicycle route through the Dartmouth Common to communities east of the bridge (refer to C1 for more information); and,
2. An access directly from the bikeway to Lyle and Dickson Streets which would connect with proposed bicycle routes into downtown Dartmouth and north end Dartmouth (C2).

Using these maps provided in the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project.



Existing Conditions:

Parameters:

- Existing sidewalks on both sides of Faulkner and on one side of Dickson.
- AT Plan designation: "Bikeway Desired (Type TBD)" for Nantucket Avenue.
- No Transit Route.
- Faulkner and Dickson are local roadways (one lane in each direction). Unposted speed limit of 50 km/hr.
- Parking permitted on the west side of Faulkner (unsigned) and signed No Parking' on the east side. Parking is permitted on both sides of Dickson (i.e., existing unsigned).

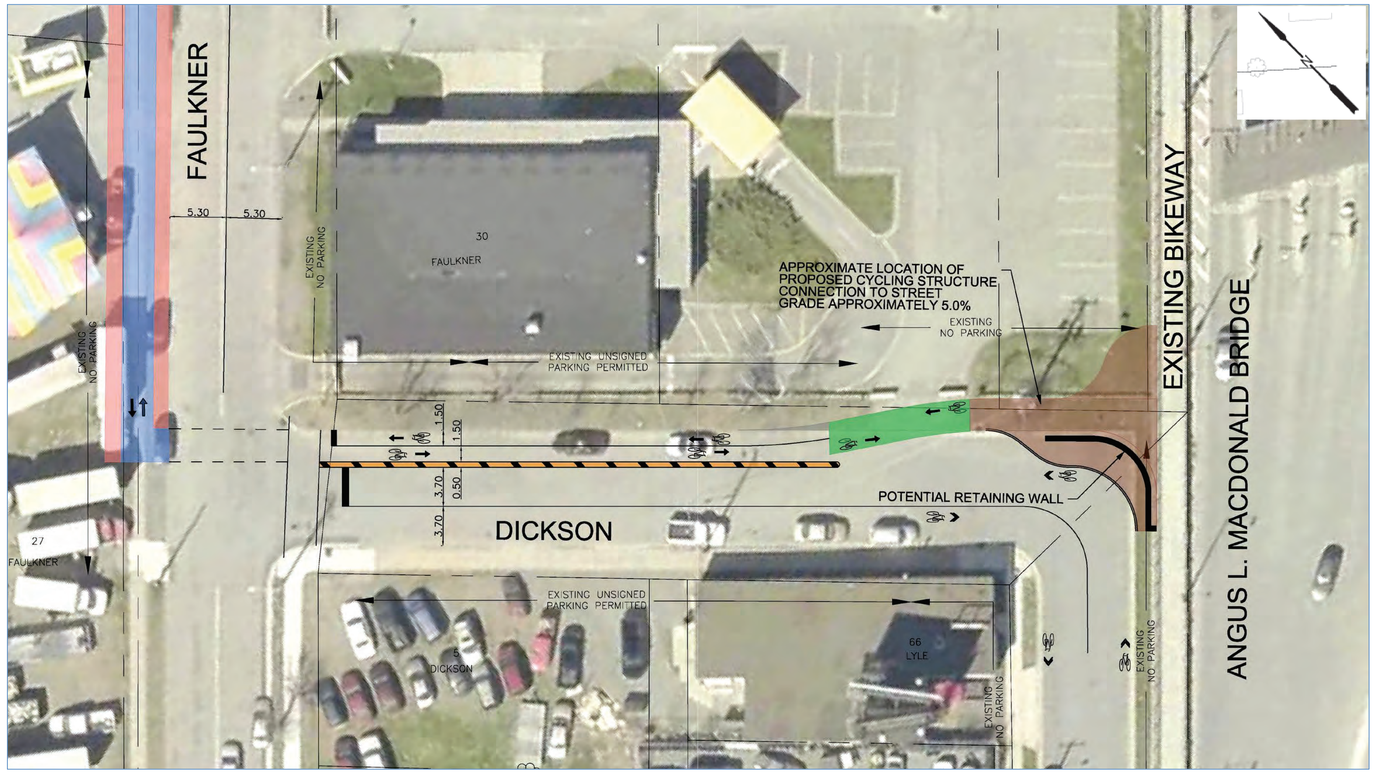
Key Considerations:

- The bikeway on the bridge currently begins/ends on a sidewalk at the Wyse/Nantucket intersection. The primary objective is an AAA cycling facility access to the Macdonald bridge.
- A final decision has not been made as to whether or not the existing access from Wyse//Nantucket would remain open if a new access was built at Lyle/Dickson.

C2: Bridge Connection at Lyle / Dickson Street (2 of 2)

Proposed Concept for the new Bridge Connection at Lyle / Dickson Street:

- Greenway on the west side of Faulkner connecting the new Lyle/Dickson access to the bridge to Wyse Road including the addition of cycling crossing to existing pedestrian crossing at Wyse/Faulkner;
- Bi-directional bikeway on the north side of Dickson separated from the two-way roadway by a buffer;
- Two-way ramp structure connecting bi-directional bikeway on Dickson to the Macdonald bridge bikeway;
- Green thermoplastic treatment to aid with crossing of private entranceway;
- Retaining wall and new curb alignment to better position roadway around bend at Lyle/Dickson. Assists with alignment of vehicle travel lane as well as positioning of cyclists accessing the ramp to/from Lyle;
- Slope of approx. 5% on the ramp connecting to the bridge bikeway at a junction;
- Additional space created to assist with turning movement interactions on the bikeway. Yield condition for cyclists making the turn on/off the Lyle/Dickson ramp;
- Additional signage and pavement markings to be addressed during detailed design.



Existing Conditions:

Other Design Considerations:

- Proposed alignment of the bi-directional bikeway on Dickson assumes that the existing curb would not be moved. This reduces the cost while also not impacting existing trees. A cost would include relocating the existing fire hydrant.
- Pedestrians would continue to access the pedestrian bridge crossing from the Wyse/Nantucket intersection.
- This option requires land transaction with the Halifax Bridge Commission.
- Impact to existing on-street parking permissions.

Q8. A new access to the bridge bikeway is considered from Lyle/Dickson Street. The access would be connected to a local street bikeway on Shore/Lyle and an improved crossing at Faulkner/Wyse. If this is achieved, how important is it to maintain access to the bridge bikeway in its current location via a sidewalk and the Wyse/Nantucket intersection?

C3: Flyover Options to Ultimately Connect Bridge to North/Gottingen (1 of 7)

Introduction

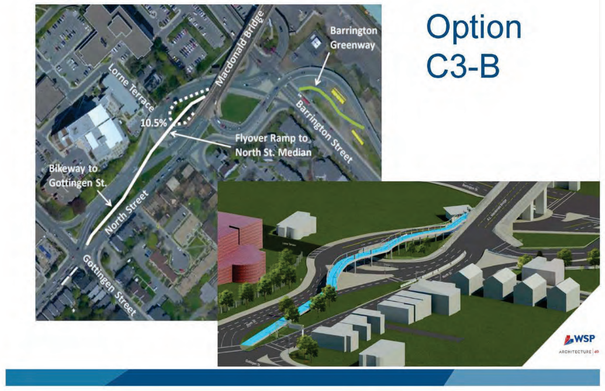
A structured solution that would “flyover” from the bridge bikeway and ultimately connect to proposed bicycle lanes on North Street. The starting point is the two options presented in the Sept 2015 Council report.

Flyover to Lorne Terrace

Option C3-A

Flyover to Median

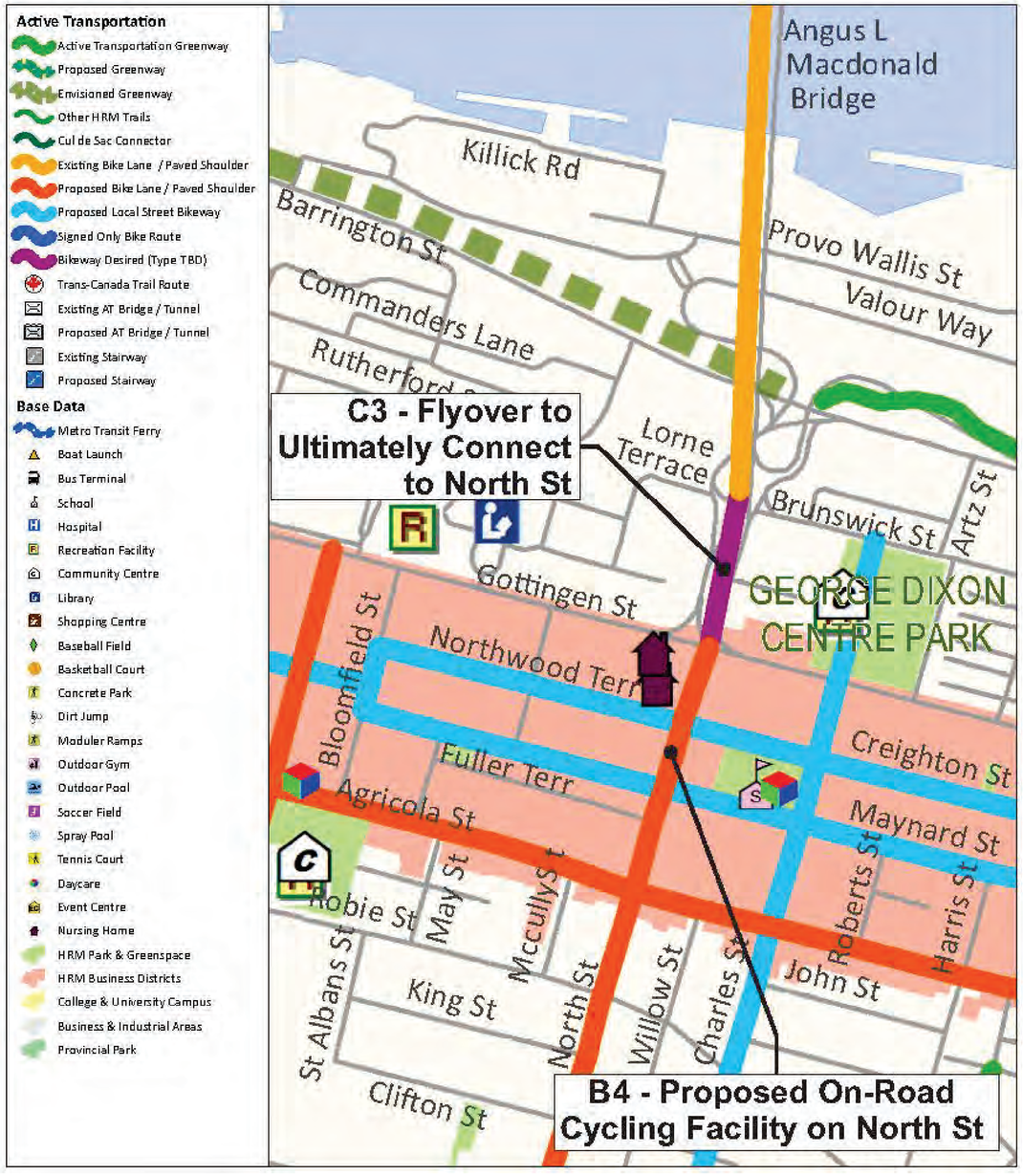
Option C3-B



Parameters:

- Existing sidewalks on both sides of North Street near the bridgehead with different crossing configurations.
- AT Plan designation: North Street (Brunswick to Gottingen is classified ‘Bikeway Desired (Type TBD)).’
- Transit Route.
- North Street is an east-west arterial roadway, with multiple lanes including access to/from the bridge and complex intersections with Gottingen at the top of the hill and Barrington at the bottom. Other minor intersections include Lorne Terrace and Brunswick. Unposted speed limit of 50 km/hr and part of Truck Route during daylight hours.
- Lorne Terrace is the location of a gate/entranceway to CFB Stadacona.
- Getting to the bridge bikeway when traveling from North, Gottingen or Brunswick Streets involves going down a steep slope on North Street shared with cars and buses before making a sharp left onto a sidewalk and then going up again, on a 10% slope.
- The current configuration of the Macdonald bridge is to remain (i.e., bi-directional travel for cyclists on one side of the bridge and pedestrian access on the other).

Using these maps provided in the *“Making Connections: 2014-19 Halifax Active Transportation Priorities Plan”* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project.



C3: Flyover Options to Ultimately Connect Bridge to North/Gottingen (2 of 7)

The project includes a requirement to consider the impact on changes to all road users:

Gains for Transit: The Macdonald Bridge is a critical corridor for Halifax Transit. As this project is being planned, a key goal is to understand and implement improvements for Halifax Transit users at the same time. For example, opportunities to enhance bus stops and the pedestrian network connected to those stops are being explored.

Gains for Pedestrians: Potential gains for pedestrians could include but are not limited improved crossings of roadways, additional pedestrian space in the form of new greenways (i.e., shared with cyclists), slower vehicle speeds adjacent to pedestrian space and reduction of cyclists on sidewalks.

Gains for Motor Vehicles: Potential gains for motor vehicle drivers include, but are not limited to safety (reduction in weaving and lower speeds), improved sight lines at intersections specific to pedestrian/cyclist crossings, and in some locations, a separated space for cyclists to travel. Additionally, the options being considered should not have an impact on vehicle travel times.

The FAQ sheet online provides additional background information.

Key Considerations:

- AAA criteria include cycling safety, comfort and convenience. This includes consideration for grade of the flyover structure.
    - The grade of the flyover structure is dependent on: (i) at what point it intersects the Macdonald bridge; (ii) the clearance required for something beneath it; and (iii) the natural grade of the ground.
- The primary focus is connecting the bridge to the proposed bike lanes on North Street.
    - A secondary connection factor is Brunswick Street.
- The goal is to maintain the existing ramp as a direct connection from the bridge bikeway to Barrington. The Barrington Greenway and the TransCanada Trail is an important part of the network.
- The manner by which the new flyover structure interacts with the bridge must be considered (i.e., construction timing, physical connection and operation).
- Existing mature trees, as well as existing fences/walls along property lines.
- The preferred concept is to maximize gains for pedestrians.
- The roadways around the bridgehead have significant demands related to transit connectivity.
- A existing conditions traffic analysis was undertaken for the intersection of North/Gottingen.

Existing Conditions:

Optimized C3-A: Flyover Option to Lorne Terrace and Greenway to North / Gottingen (3 of 7)

Parameters for Optimized Concept C3-A (Flyover to Lorne Terrace with Greenway to North/Gottingen):

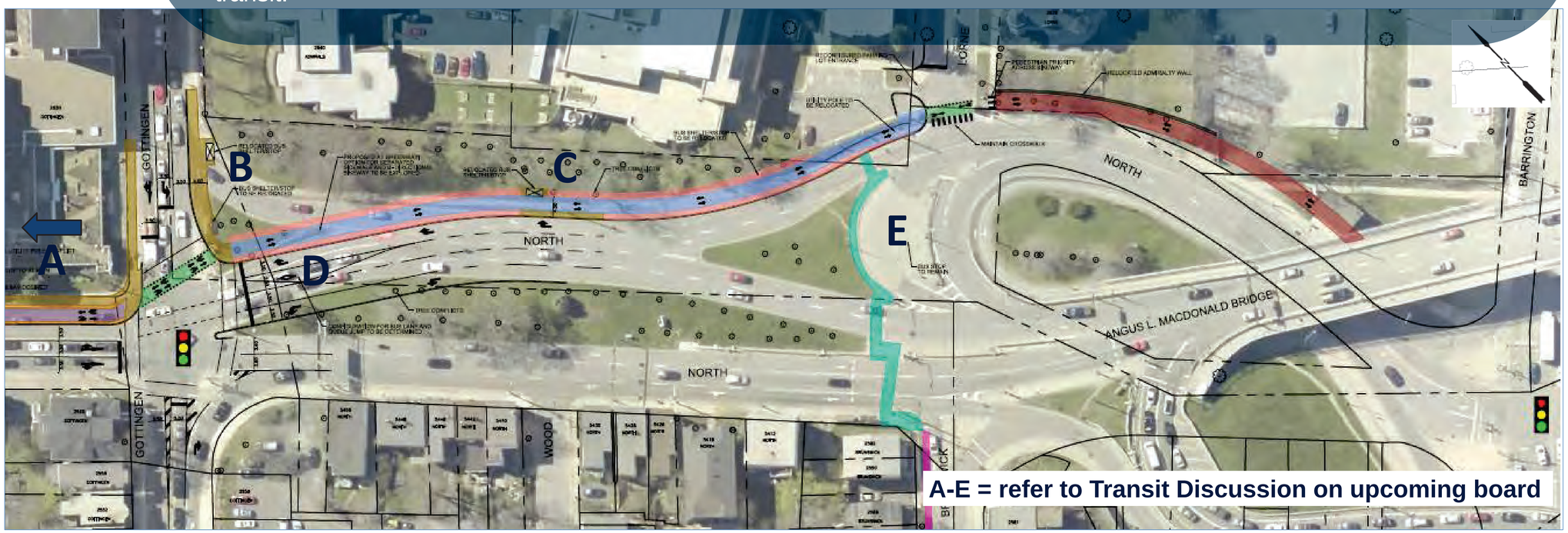
- Flyover structure connecting Macdonald Bridge to Lorne Terrace (50m of structure from abutment to the bridge, 87m total at <1% grade);
- The existing sidewalk between Barrington and Lorne Terrace would be reconstructed and situated below and to the side of the flyover structure;
- New pedestrian/bicycle crossing treatments at the Lorne Terrace unsignalized intersection;
- Greenway connecting Lorne Terrace to Gottingen (shared pedestrian/cycling space in existing green space) including bus stop.

Both Options include:

- Maintaining the existing ramp to Barrington Street;
- Removal of right-turn channel at North/Gottingen and addition of right-turn lane;
- New pedestrian/cycling crossing at North/Gottingen intersection connecting to new cycling and pedestrian space on North Street;

Other Design Considerations:

- Simpler option in terms of construction disruption;
- Allows for continued use of the existing bikeway ramp (during construction and permanently);
- From a bridge/structure perspective, this option is simpler, shorter, better grade with easier bridge tie-in;
- Less expensive in terms of infrastructure costs (but would need to account for property costs);
- Significant property issues (including cost and design complexities associated with Department of National Defense (DND) property). Appropriate complexities due to location of existing stone wall, existing trees, existing utilities, the gate entranceway and security requirements;
- Presumably less impact to existing mature trees in the green space but greater impact to trees east of Lorne Terrace and inside the existing stone wall;
- Some portions of the greenway (west of Lorne Terrace) would be more constrained as compared with the other option;
- More pedestrian/cycling/vehicle conflict points as compared with the other option;
- Provides more options for connectivity to the network; however, would require other connection improvements such as from Lorne Terrace to Brunswick for cyclists;
- A new greenway connecting Lorne Terrace to Gottingen could have a slope in the range of 10% due to the natural grade of the hill;
- Both options utilize the same approach to the North/Gottingen intersection including co-benefits for pedestrians and transit.



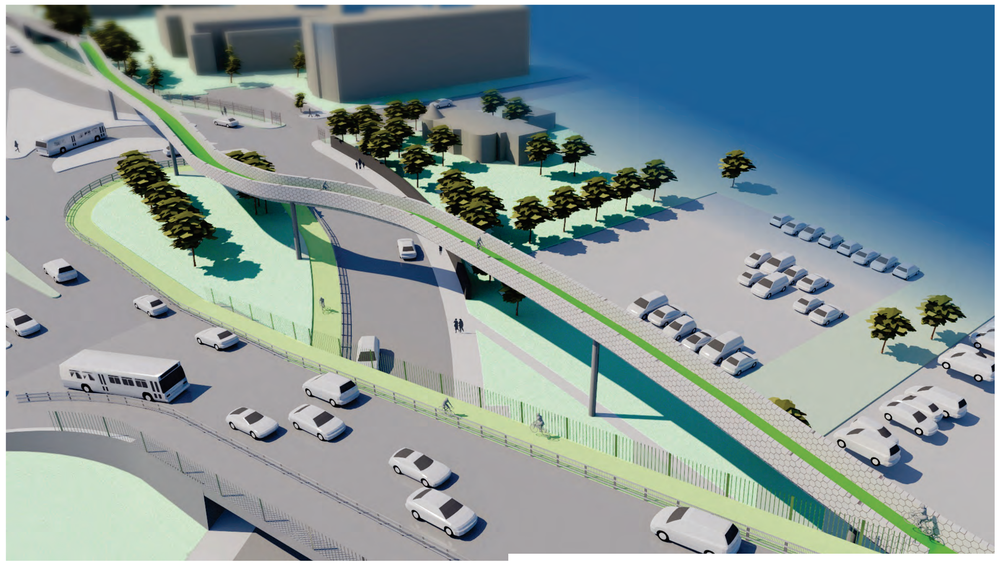
Optimized C3-B: Flyover to North / Gottingen Green Space (4 of 7)

Parameters for Optimized Concept C3-B (Flyover to North/Gottingen Green Space):

- Flyover structure connecting Macdonald Bridge to North/Gottingen (180m of structure, overall length of 270m from bridge to where meet grade at Gottingen, at 5.5% grade);
- Portion in green space near North/Gottingen includes retaining walls and a section of bikeway adjacent to the sidewalk.

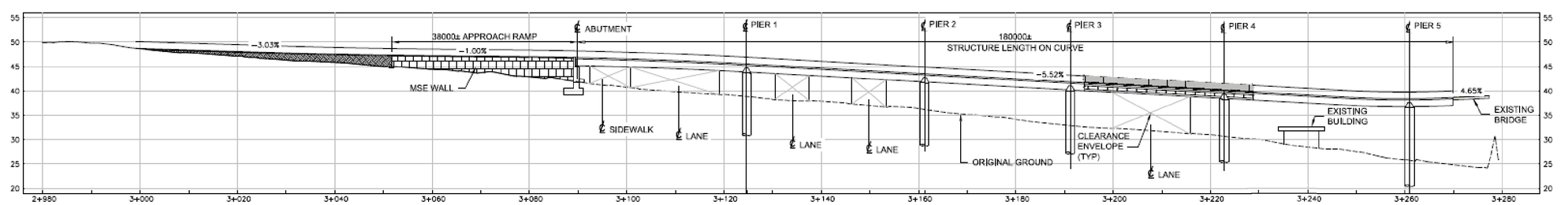
Both Options include:

- Maintaining the existing ramp to Barrington Street;
- Removal of right-turn channel at North/Gottingen and addition of right-turn lane;
- New pedestrian/cycling crossing at North/Gottingen intersection connecting to new cycling and pedestrian space on North Street;
- Transit improvements.

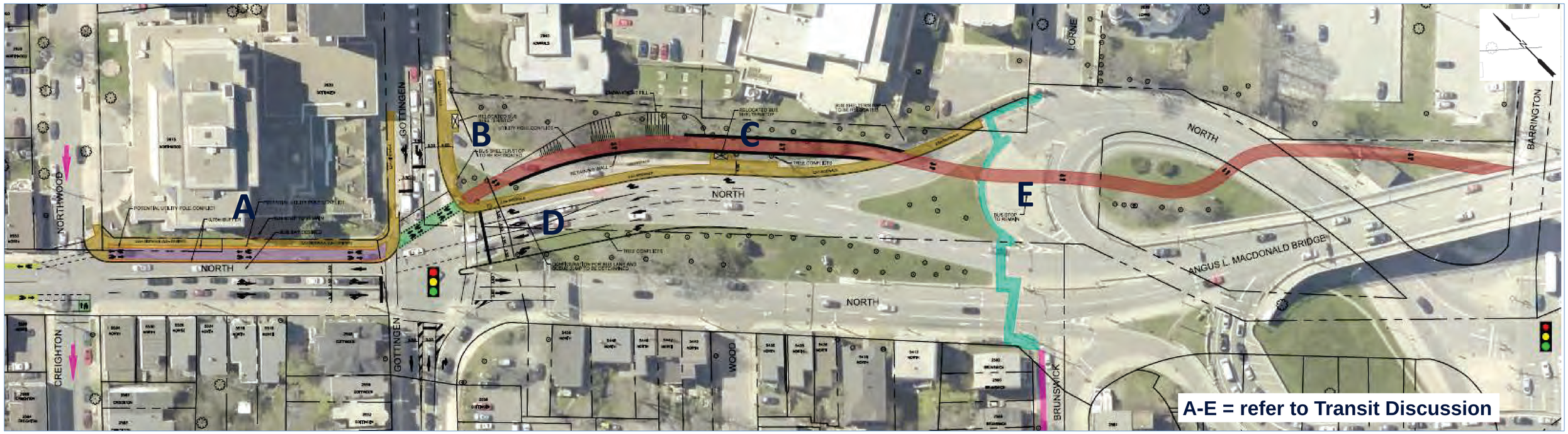


Other Design Considerations:

- More complex in terms of construction disruption;
- Likely to impact existing bikeway ramp during construction but not permanently;
- From a bridge/structure perspective, this option is more complex and longer. Piers will have to be accommodate on the ground. Longer structure in order to accommodate required clearance height over vehicle travel lanes below;
- Grade issue associated with the structure addressed in both (note: when landing in the median the slope was in the range of 10% which is similar to what there is today);
- More expensive in terms of infrastructure costs (but no property costs);
- Simpler in terms of property issues (limited to no land transactions) but still design complexities associated with the Department of National Defense property including existing trees, existing utilities and security requirements;
- More significant impact to existing mature trees in the green space approaching North/Gottingen but not east of Lorne Terrace (i.e., untouched near the existing stone wall);
- Portions of the greenway would not be as constrained as compared with the other option (west of Lorne Terrace);
- Provides less options for connectivity to the network (i.e., at Brunswick) but by reaching North/Gottingen with a structure it addresses the natural grade of 10% of the hill;
- Less pedestrian/cycling/vehicle conflict points as compared with the other option (i.e., no impact to Lorne Terrace);
- Both options utilize the same approach to the North/Gottingen intersection including co-benefits for pedestrians and transit.



Optimized C3-B: Flyover to North / Gottingen Green Space (5 of 7)



Transit Discussion (applies to both options):

- A: Current Bus Stop for #52, #2 and #4. Considered important stop for residents of Northwood Manor.
- B: Opportunities created in additional space created by removing right turn channel. Important multi-modal interactions at this corner.
- C: Option for #1 stop as well as other potential routes.
- D: Exploring options for bus diamond lane and queue jump, as well as other traffic signal timing configurations for all modes.
- E: Existing bus stop and alternative location for route #1.

Example of Bus Stop with Bike Lane / Cycle Track (Ottawa):

Example of Bus Stop with Bike Lane / Cycle Track (Toronto):

Example of Bus Stop with Bike Lane / Cycle Track (Vancouver):

C3: Flyover Options to Ultimately Connect Bridge to North/Gottingen (6 of 7)

Evaluation criteria have been developed for the overall project. The table below provides a summary of the criteria as they apply to the two 'optimized' flyover options. Refer to the previous boards for additional information.

● = positive

Results Summary	Optimized C3-A: Flyover Ramp to Lorne Terrace and Bikeway to Gottingen	Optimized C3-B: Flyover to North/Gottingen Green Space	Results Summary (Continued)	Optimized C3-A: Flyover Ramp to Lorne Terrace and Bikeway to Gottingen	Optimized C3-B: Flyover to North/Gottingen Green Space
Timing & Coordination Considers timing of construction, potential detour routing and closure periods/effects on users (applies to the Bridge as well as Road/Sewer Rehabilitation/Reconstruction).	● Low timing and coordination needed, or significantly less than other options being considered.	◒ Significant timing and coordination needed, or significantly more than other options under consideration.	**Impact to Pedestrians** Considers any impacts to pedestrians, including signal timing, sidewalk modifications to accommodate cycling facilities, improved pedestrian connections, etc.	◒ Neutral or minimal impact to pedestrians.	● Positive impact to pedestrians.
Bridge Interaction Considers directness and clarity of Macdonald Bridge access/egress, relates to impact on Bridge Commission property and the physical structure of the Bridge.	● Option offers clear and direct connections to and from bridge and/or with nominal impact to bridge property/structure.	◒ Option connectivity to bridge is indirect, unclear or circuitous and/or significiant impact to bridge property/structure.	**Impact to Transit** Impact to transit service and/or transit users caused by the option under consideration.	◒ Neutral Impact – Does not have a significant impact on transit services or experience compared to other option. Both provide a benefit.	◒ Neutral Impact – Does not have a significant impact on transit services or experience compared to other option. Both provide a benefit.
Land Ownership /Property Acquisition /Private Property Impacts	○ Option requires significant land acquisition or more than other options being considered.	● Option does not require any land acquisition or significantly less than other options being considered.	**Impact to Motor Vehicles** Considers the impact to traffic operations compared to other options (i.e., intersection turning movements and capacity).	◒ Medium/Comparable impact compared to other options.	◒ Medium/Comparable impact compared to other options.
Capital Cost Considers the total capital cost of the option.	◒ Option cost is within range of average costs under consideration.	◒ Option cost is within range of average costs under consideration.	**Impact to Bikes** Considers the connectivity to the broader existing and planned cycling network.	◒ Medium level of connectivity compared to other option.	◒ Medium level of connectivity compared to other option.
Lifecycle Cost Considers the lifecycle cost of the option.	● Lifecycle costs less than the average lifecycle costs under consideration.	◒ Lifecycle costs about the same as the average lifecycle costs under consideration.	**Intersection Safety/Comfort** Considers safety and comfort of intersections for all users, including the number of conflict points, visibility, level of separation/exposure to motor vehicle traffic.	◒ High level of exposure to motor vehicle traffic, or significantly more exposure than other options under consideration.	◒ Medium level of exposure to motor vehicle traffic, or relatively.
Cycling Safety, Comfort and Convenience Considers the quality of facilities in encouraging full accessibility for all ages and abilities (i.e., degree of "AAA" and includes consideration for such factors as grades and turn radii).*Note: Issues related to Intersections and Cycling Connectivity are addressed in other sections.*	◒ Medium quality – Mostly "AAA" facilities provided, or option provides slightly less comfortable facilities when compared to other option(s) under consideration.	● High quality – Option under consideration provides comfortable "AAA" cycling infrastructure and/or higher quality facilities when compared to other options under consideration.	**Environmental Impact** Impact to the environment caused by the option under consideration compared to other options (i.e., impact on existing vegetation and green space but not related to GHG emissions, etc).	◒ High Impact to environment of the Alignment under consideration.	◒ High Impact to environment of the Alignment under consideration.

9. Two options have been developed for consideration by the public and stakeholders: (a) C3-A (Flyover ramp to Lorne Terrace): What do you see as the advantages and disadvantages to this option. Do you prefer this option?; (b) C3-B (Flyover ramp to North/Gottingen): What do you see as the advantages and disadvantages to this option. Do you prefer this option?

Existing Conditions:

C3: Flyover Options to Ultimately Connect Bridge to North/Gottingen (7 of 7)

What happened to landing the flyover structure in the centre median at North/Gottingen?

- The option presented is an optimized version of an approach which lands in the median. Reference in the September 2015 report to this option;
- Regardless of where it lands, the flyover structure has to meet clearance requirements over the vehicle travel lane. The optimized version landing in the green space addresses the slope issue by taking advantage of the natural slope of North Street. When landing in the median the slope was in the range of 10% which is similar to what there is today;
- Landing in the median requires complex turning movements through North/Gottingen intersection (beyond bike-only phase).

Is an at-grade solution on the Halifax side an option? An at-grade connection to the bikeway is not being proposed as an option. An at-grade option would likely involve opening up the fence that currently separates the bikeway and the right-turn slip lane off of the Macdonald Bridge and installing some type of a crossing treatment. There are a number of challenges with this option, including: sightlines and distances; the fact that this area is already very complex and busy with right-turning vehicles; a bus stop; and, an entrance to the CFB Stadacona. The options being studied in this project aim to minimize conflicts and develop a bikeway connection that is as convenient and safe as possible for all users.

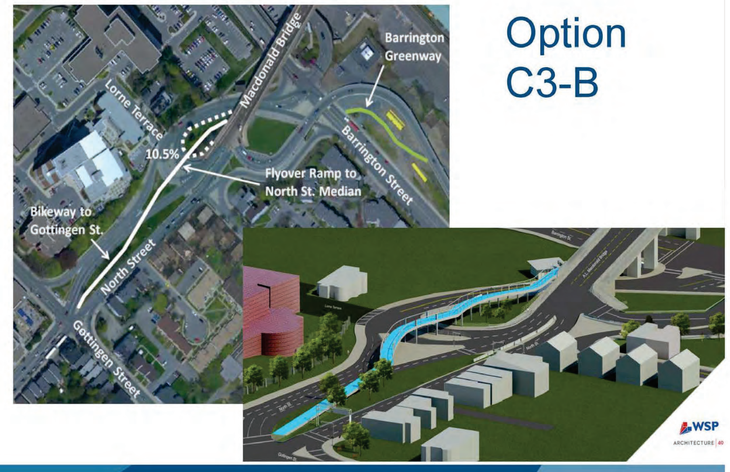
Following completion of the Bikeway Connector Project will cyclists continue to travel on one side of the bridge and pedestrians on the other? Halifax Harbour Bridges has set a parameter for this project which is that the configuration for cyclists and pedestrians on the bridge is not to be changed. Maintaining the bikeway on the north side of the bridge is also an advantage when considering a direct bicycling connection up to Gottingen Street. This is due to the available greenspace between North Street and the CFB Stadacona wall in this area (currently the site of the Bridge Shuttle stop). Furthermore, switching pedestrians to the north side would require them to access the pedway from under the Bridge as bicyclists do now, so it would simply switch that constraint from bicyclists to pedestrians.

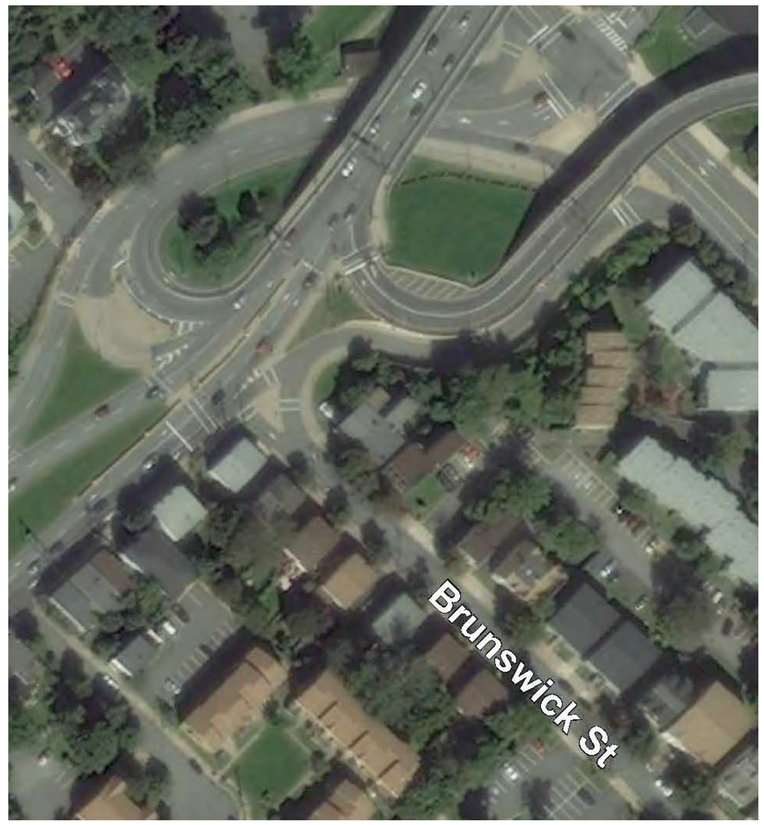
What are the other opportunities for improving cycling connections to Brunswick Street? The sidewalk on North St between Brunswick and Barrington was constructed with a future greenway in mind. Consideration could be given to creating in this space a cycling connection from Barrington to Brunswick.

Existing Conditions:

Flyover to Median

Option C3-B



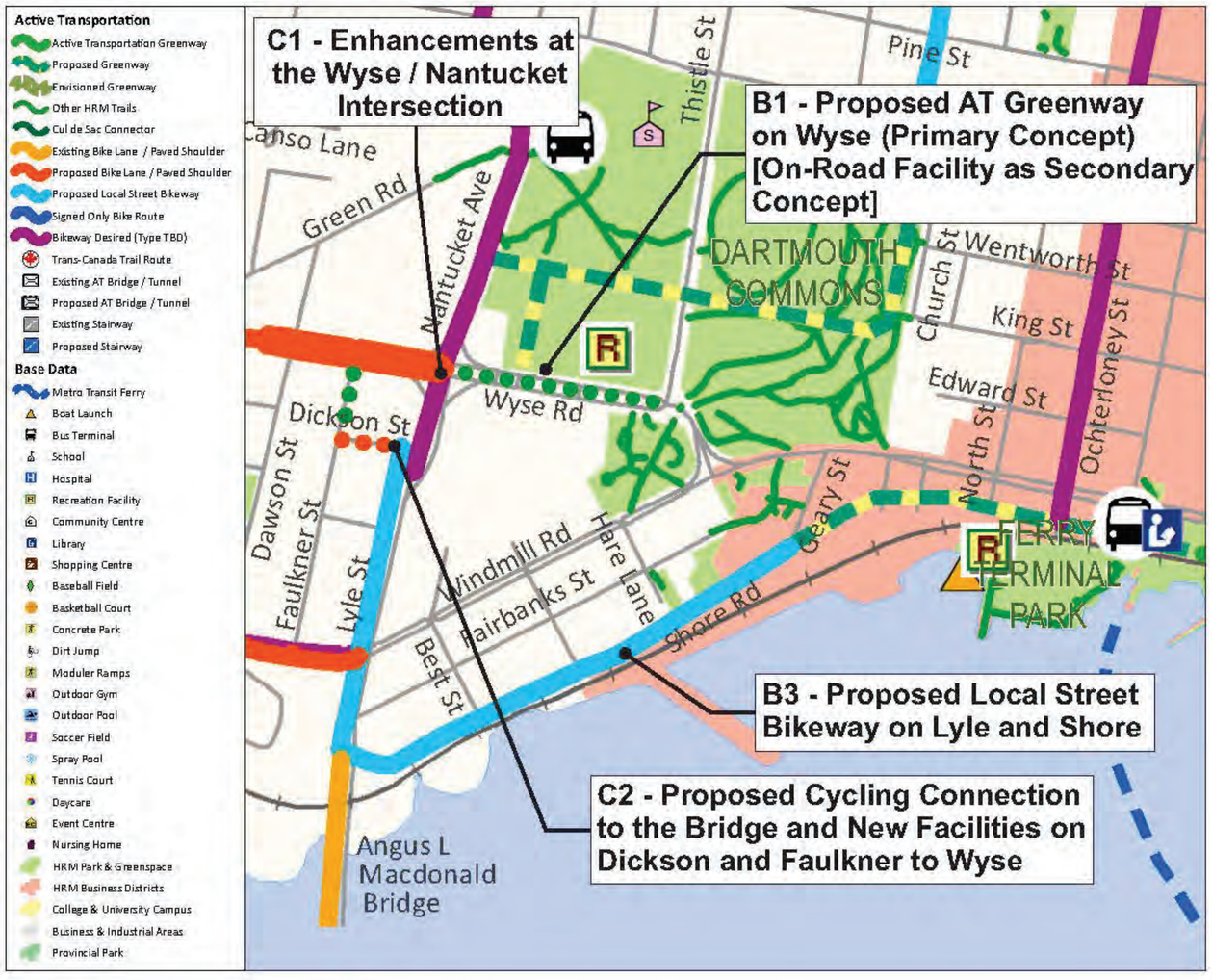


B1: Cycling Facility on Wyse (Nantucket to Thistle) (1 of 2)

Introduction

In order to establish the feasibility of bicycle network connections proposed in the AT plan, a concept plan of bicycle facilities on Wyse Road between Nantucket Avenue and Thistle Street to connect to paths on the Dartmouth Common is required (approx. 400m).

Using these maps provided in *the "Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project.



Parameters:

- Existing sidewalks on both sides with pedestrian crossing across from Dartmouth Sportsplex.
- AT Plan designation: Proposed greenway (to be situated behind the Sportsplex).
- Transit Route.
- Wyse Road is a collector roadway with a cross-section generally consisting of 4 to 6 lanes with auxillary turn lanes provided at major intersections. It is a Truck Route during daylight hours and has a posted speed limit of 50 km/hr.
- Signed 'No Parking'.

Example of AT Greenway:

Key Considerations:

- A Greenway from Dartmouth Common to Macdonald Bridge is listed in the AT Plan as a specific project in the Five Year Budget table (i.e., greenway connection through Sportsplex property with connections to Transit and Macdonald Bridge in conjunction with Sportsplex renovation).
- The Sportsplex is undergoing a Master Planning process.
- Wyse Road to be an upcoming road rehabilitation project within this specific project area.
- The existing curb-to-curb width between sidewalks ranges from approximately 28 m (between Nantucket and Thistle).
- Existing greenways throughout Dartmouth Common. Future plans to connect Wyse at Thistle to Geary Street.
- The future configuration of the Wyse/Nantucket intersection is not known. This has a significant impact on the planning process for cycling facilities on Wyse Road between Nantucket and Thistle.

B1: Cycling Facility on Wyse (Nantucket to Thistle) (2 of 2)

Proposed Concept for Wyse Road (Nantucket to Thistle):

- Primary concept: Greenway on the north side of Wyse in front of the Sportsplex.
- Secondary concept: Painted Bike Lanes with Buffer on Wyse Road.

Existing Conditions:

Other Design Considerations:

- Results of the Sportsplex Master Plan;
- Limitations of a complex, at-capacity intersection with right-turn channels and multiple lanes (i.e., pavement markings is not sufficient in terms of creating an AAA facility).
- Location of existing utilities and property lines.

Q12. Wyse Road between Nantucket and Thistle is slated to be rehabilitated in the near future. What are your ideas to improve cycling safety and comfort on Wyse Road in this section?

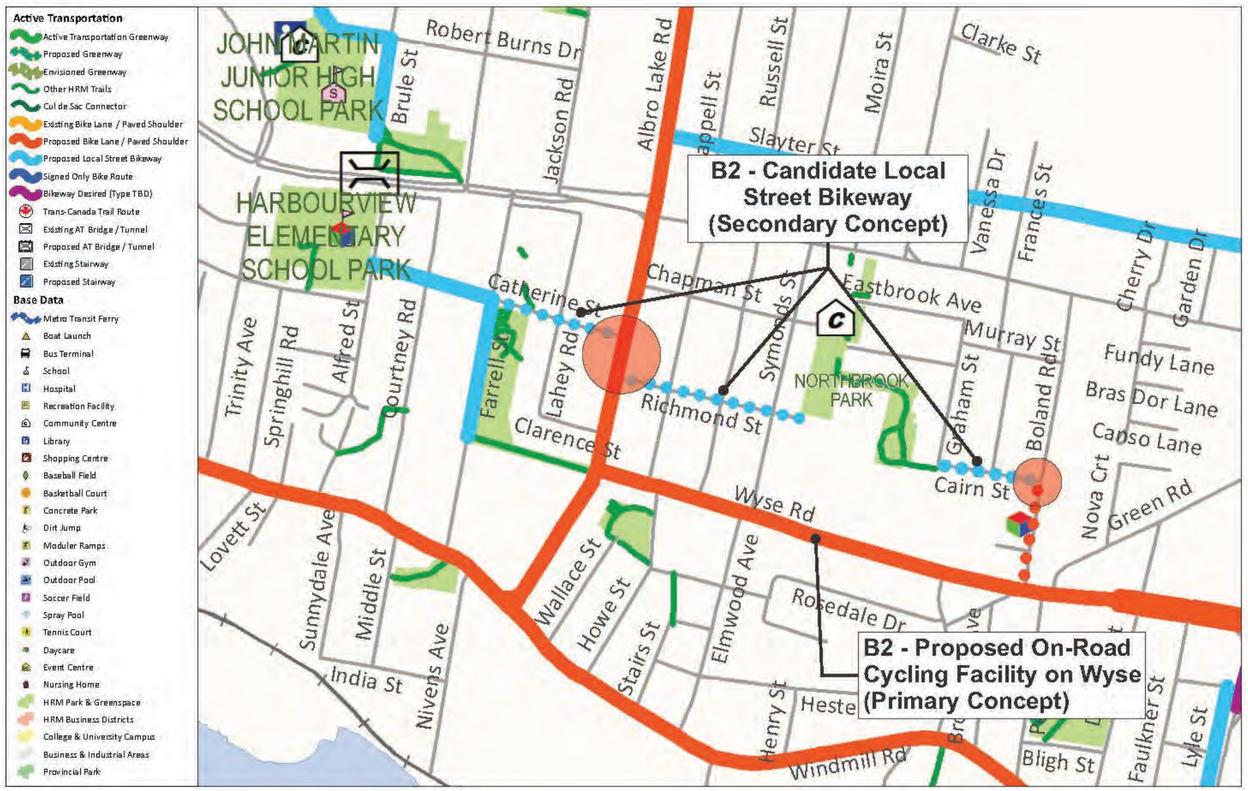
Q13. Option 1 – greenway on the side of the Sportsplex (i.e., shared cycling and pedestrian space); Option 2 – painted bike lanes on Wyse Road with a buffer treatment. Assuming no other variables, what is your preference?

B2: Cycling Facility on Wyse (Faulkner to Albro Lake) (1 of 5)

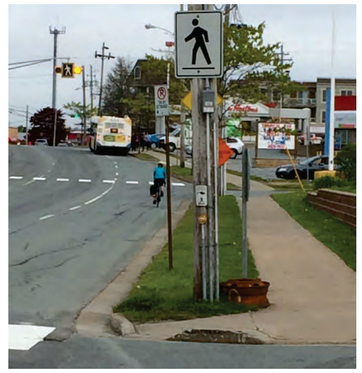
Introduction

In order to establish the feasibility of bicycle network connections proposed in the AT plan, a concept for bicycle facilities on Wyse Road between Faulkner Street and Albro Lake Road, including consideration of a bicycle crossing of Wyse Road at Faulkner Street, is required (approx. 1050 m).

Using these maps provided in the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project. The dotted lines represent a change to the base AT Plan:



Existing Conditions:



Parameters:

- Existing sidewalks on both sides with pedestrian crossing at Jamieson, Dawson and Faulkner.
- AT Plan designation: Proposed Bike Lane.
- Transit Route.
- Wyse Road is a collector roadway with a cross-section generally consisting of 4 to 6 lanes with auxillary turn lanes provided at major intersections. It is a Truck Route during daylight hours and has a posted speed limit of 50 km/hr.
- Majority signed 'No Parking' with the exception of a section near Dawson Street.

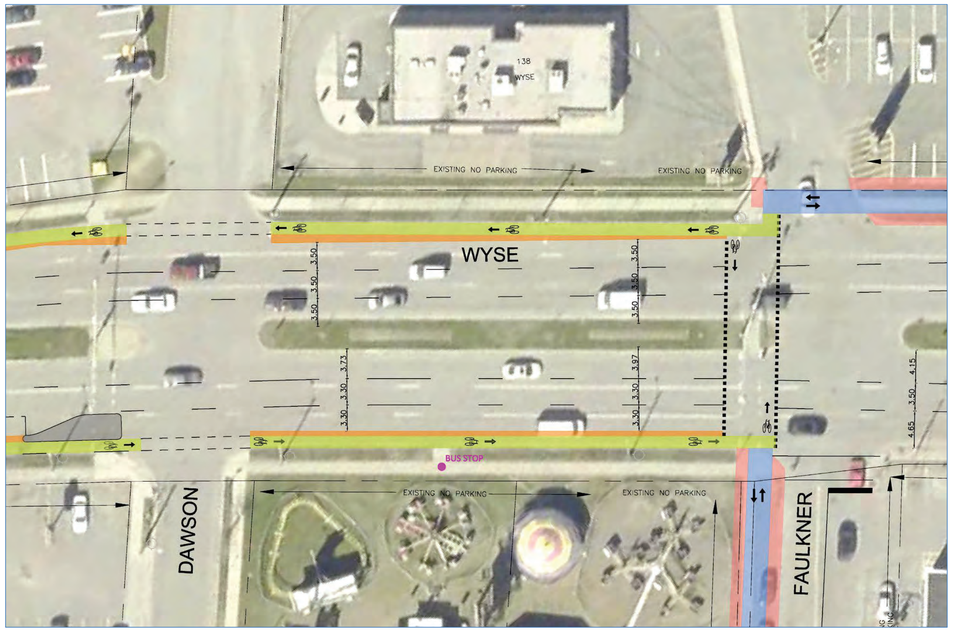
Key Considerations:

- Wyse Road is to be resurfaced (i.e., new pavement) in 2017 or 2018 from Nantucket to Albro Lake.
- The existing curb-to-curb width between sidewalks ranges from approximately 10.5 to 11.5m (between Albro Lake and Boland).
- Albro Lake is also designated "Proposed Bike Lane" in the AT Plan. No designation for Boland.
- Seeking connections to school sites, pedestrian/bike crossing over Victoria Road and beyond to the Burnside Industrial Park.
- The intersection of Wyse and Boland is an important element of this future bikeway (regardless of its ultimate route).
- The crossing treatment at Wyse/Faulkner is integral to the success of a future Lyle/Dickson connection to the bridge.

B2: Cycling Facility on Wyse (Faulkner to Albro Lake) (2 of 5)

Proposed Concept for Wyse at Faulkner:

- Greenway on the west side of Faulkner connecting the new Lyle/Dickson access to the bridge to Wyse Road;
- Addition of cycling crossing to existing pedestrian crossing at Wyse/Faulkner;
- Painted Bike Lanes with Buffer on Wyse Road.



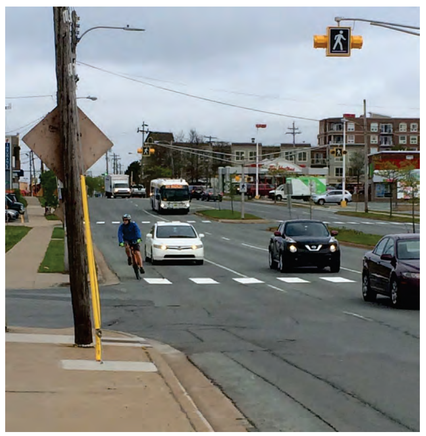
Example of Signalized Mid-Block Crossing for Pedestrians and Bicycles (Ottawa):

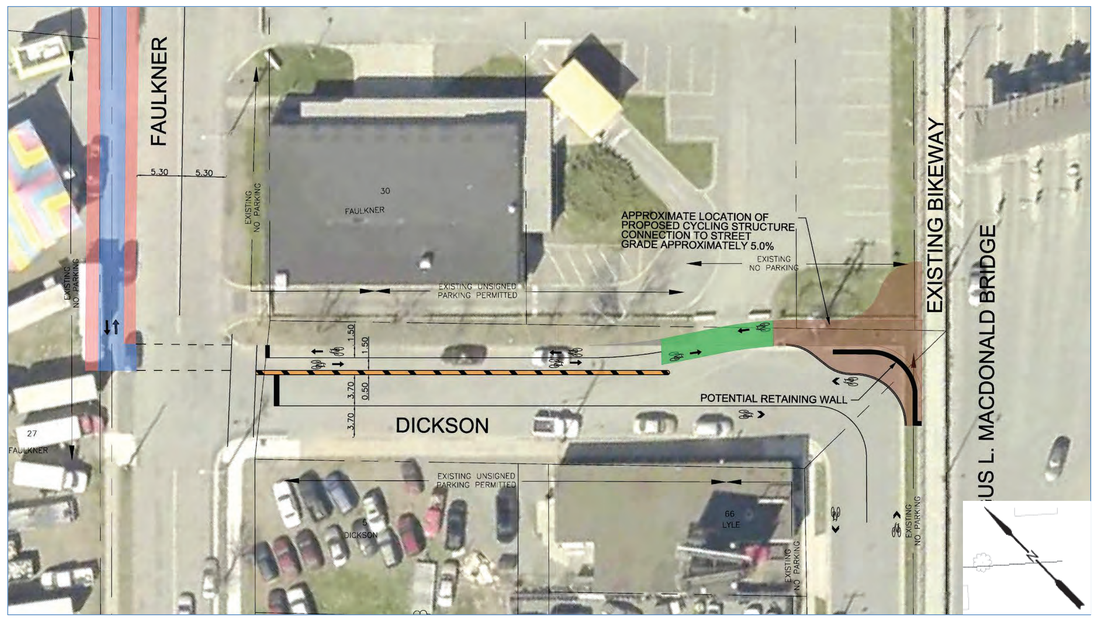
Other Design Considerations:

New Crossing

- A crossride is not a recognized crossing treatment in Nova Scotia but have recently become a legal option in Ontario (think crosswalk for bikes). At present, the existing crossing is for pedestrians (not signalized intersection but RA5). Should crossrides become a legal option in the Province, there would be the opportunity for a mid-block crossing at this location. Otherwise, a technical review could be undertaken for the feasibility of a new signal at this location.
- A legal and safe crossing is an important element of the proposal for a new access to the bridge at Lyle/Dickson.

Existing Conditions:



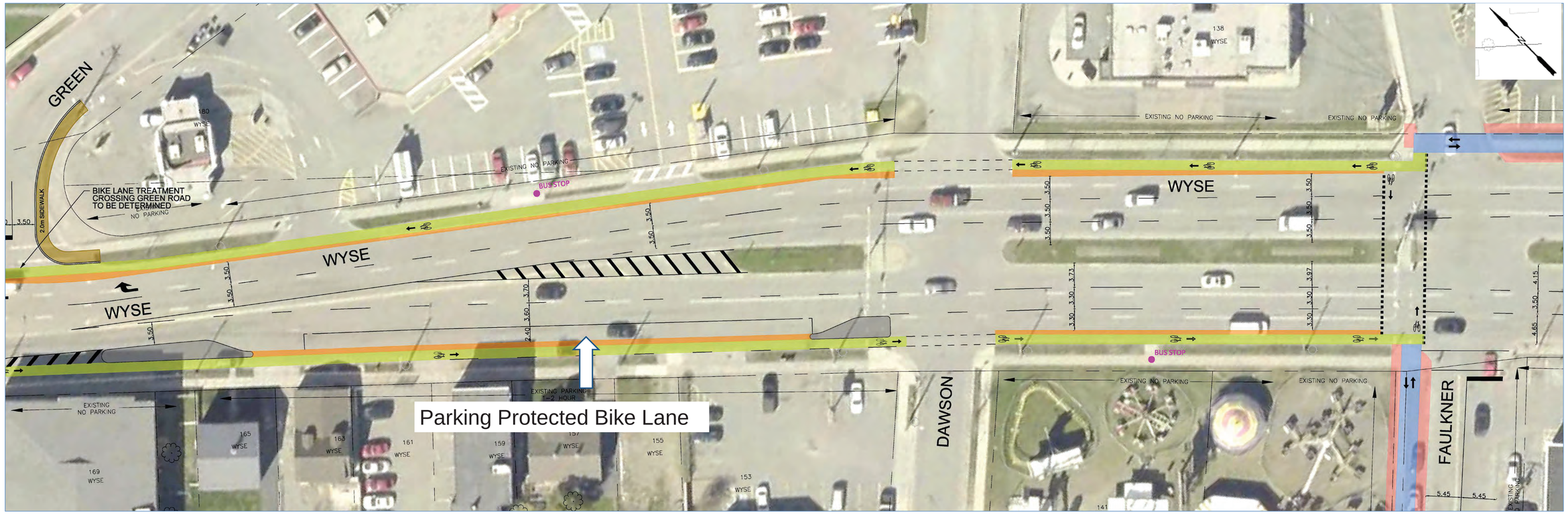


Refer to the general questions about All Ages and Abilities.

B2: Cycling Facility on Wyse (Faulkner to Albro Lake) (3 of 5)

Proposed Concept for Wyse (Boland to Faulkner):

- Greenway on the west side of Faulkner connecting the new Lyle/Dickson access to the bridge to Wyse Road;
- Addition of cycling crossing to existing pedestrian crossing at Wyse/Faulkner;
- Painted Bike Lanes with Buffer on Wyse Road (Boland to Faulkner) including Parking Protected Bike Lane portion where there is existing on-street parking near Dawson;
- Reduction in the number of vehicle travel lanes on Wyse between Boland and Dawson in order to maintain existing on-street parking in this section.



Example of Parking Protected Bike Lane (Ottawa):

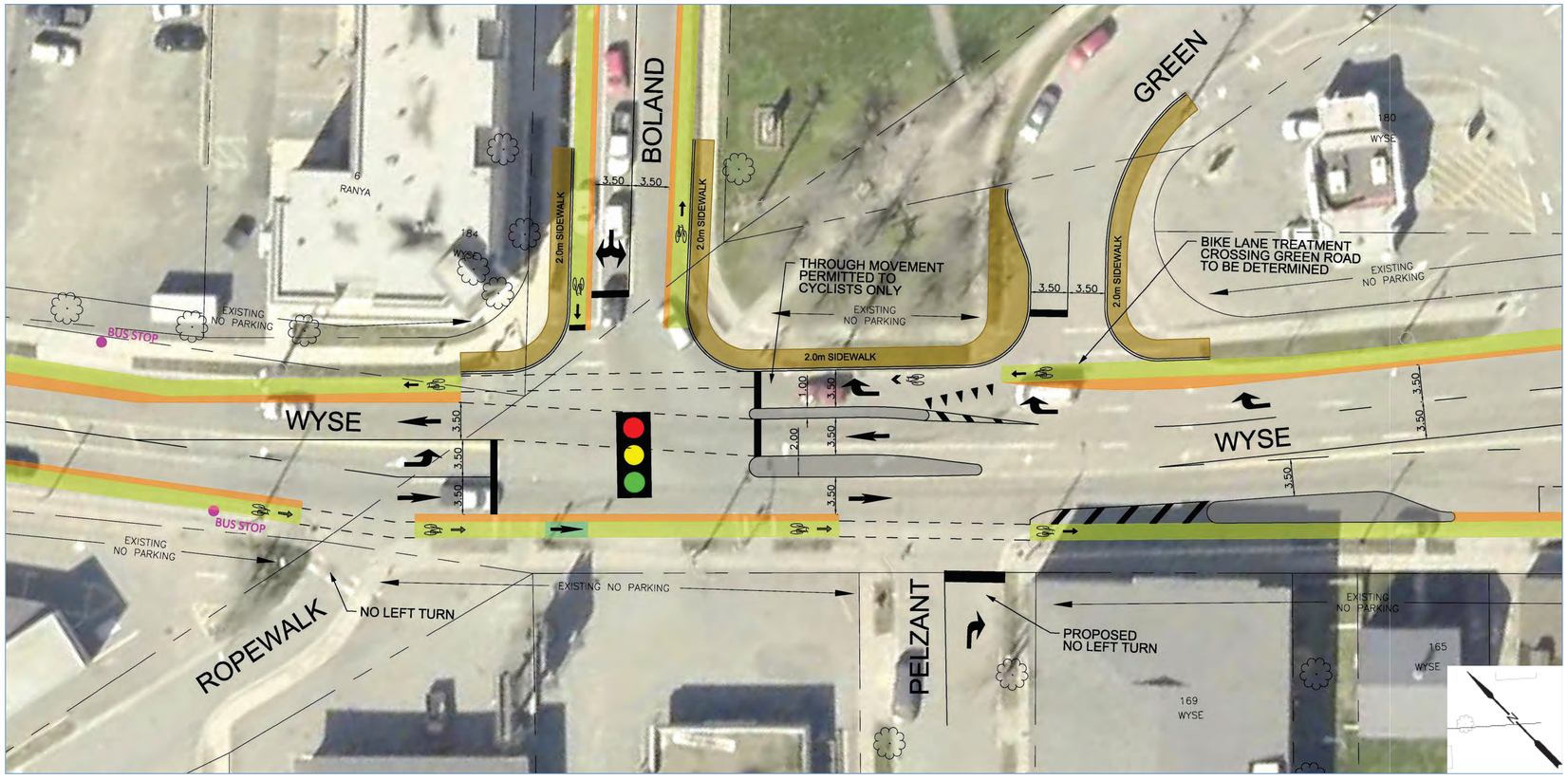
Example of Parking Protected Bike Lane (Vancouver):

Example of existing Parking Protected Bike Lane in Halifax (Rainnie Drive):

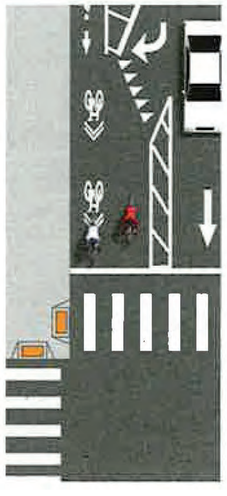
B2: Cycling Facility on Wyse (Faulkner to Albro Lake) (4 of 5)

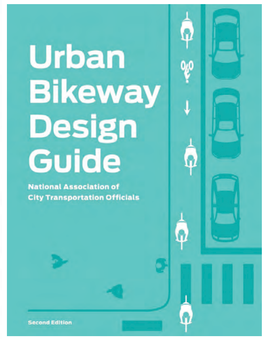
Proposed Concept for the Wyse/Boland Intersection:

- Painted Bike Lane with Buffer on Wyse Road;
- Painted Bike lane with Buffer on Boland (to Cairn);
- Mixing zone concept for right turn from Wyse to Boland (refer to photo below) including cast-in-place medians to define all lane types;
- Modification to vehicle lane configuration;
- Two-stage crossing for cyclists from Boland to Wyse on route to bridgehead



Example of Right Turn Mixing Zone with Segregated Bike Facility (Vancouver):





Alternative Idea for Boland? Greenway on east side connecting Wyse to Boland. Issue is existing trees and the parklette plus different configuration for Wyse/Boland intersection. Also requires crossing at Boland/Cairn if proceed with future Local Street Bikeway as AAA alternative.

Q14. What factors contribute to a successful parking protected bike lane?

Q15. The general concept is an AAA facility on Wyse Road from Faulkner to Albro Lake. Within this stretch, a key intersection is Wyse and Boland. What are your ideas to improve cycling safety and comfort at this intersection?

B2: Cycling Facility on Wyse (Faulkner to Albro Lake) (5 of 5)

Proposed Concept for Wyse (Boland to Albro Lake):

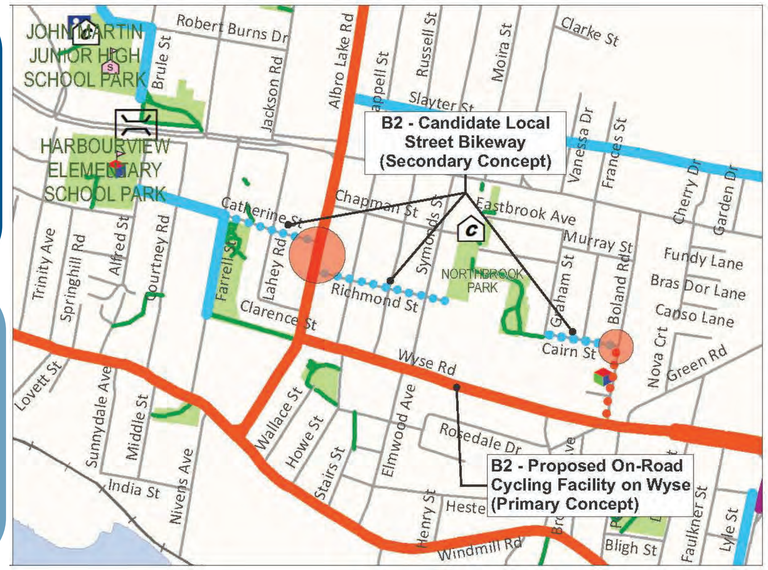
- Painted Bike Lane with Buffer on Wyse Road;
- Modified turn lane configurations.

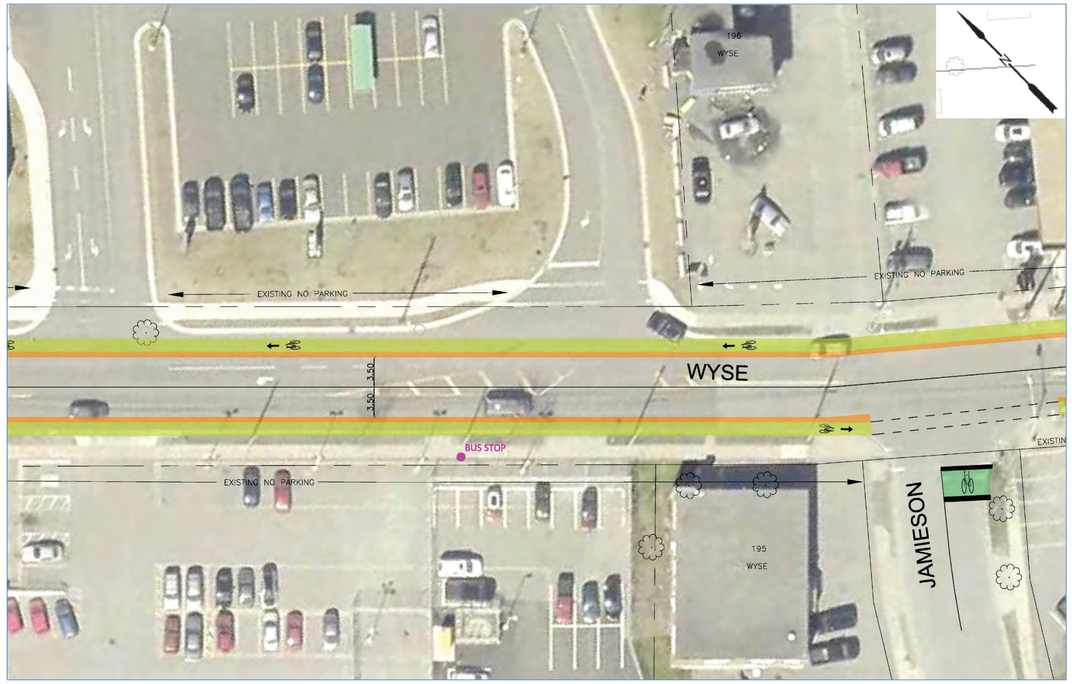
Other Considerations:

- A future facility on Wyse Road at Albro Lake would connect to an existing pathway that then connects further north in the direction of Burnside.
- Wyse Road is a proposed growth centre in the Centre Plan.

Using these maps provided in the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project. The dotted lines represent a change to the base AT Plan:

Idea? Painted Bike Lanes on Wyse (Boland to Albro Lake) and Local Street Bikeway as alternate route. If so where?





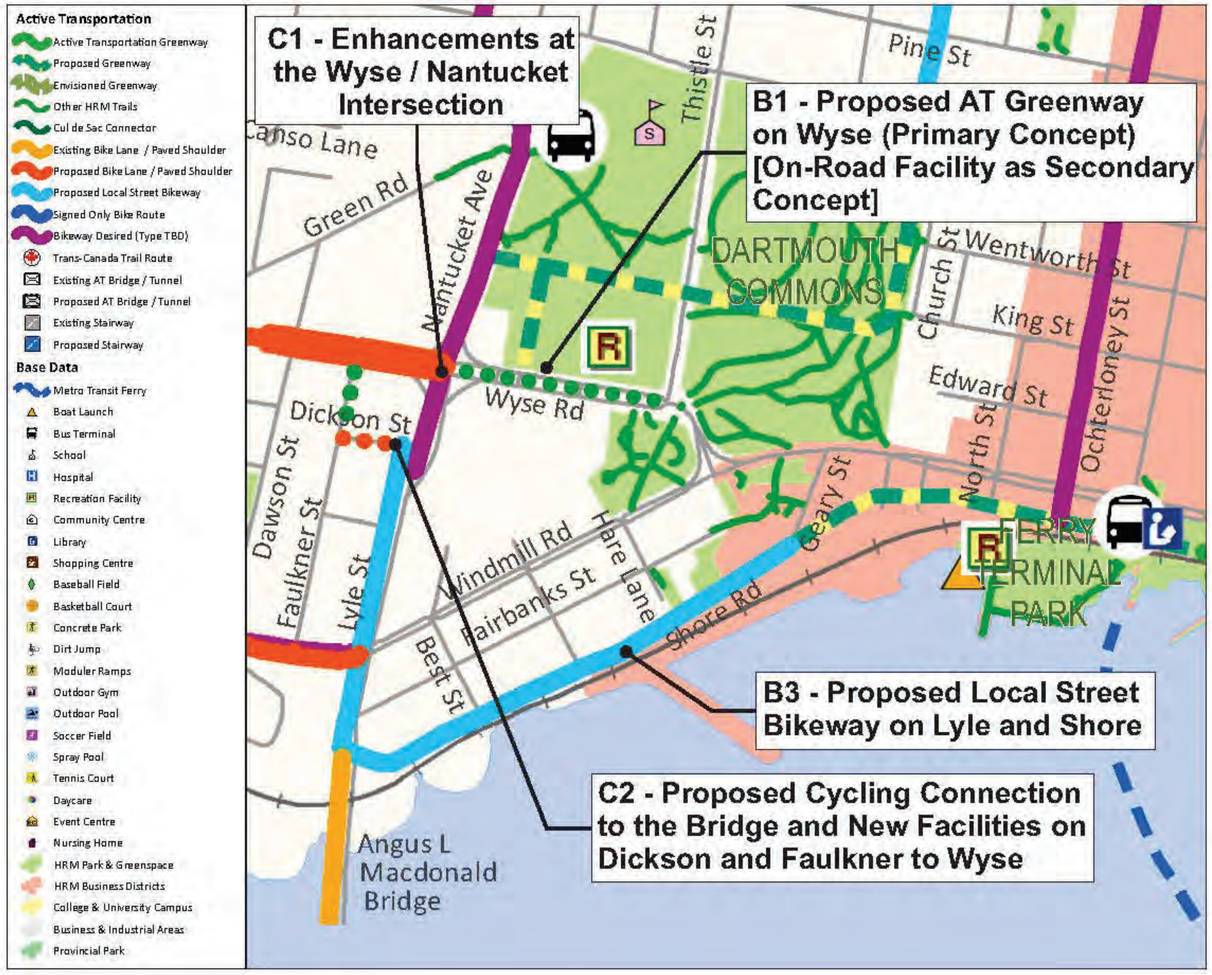
Q16. Wyse Road between Faulkner and Albro Lake is slated for resurfacing or reconstruction in the near future. However, it is not a full road construction project. The installation of a cycling facility in this section of road would be mostly limited to paint treatments and potentially bollards/delineators (i.e., non civil works). If the likelihood of an AAA facility was limited, is there an alternate corridor in close proximity to be a candidate for a local street bikeway? If so where?

B3: Cycling Facility on Lyle and Shore (1 of 2)

Introduction

In order to establish the feasibility of bicycle network connections proposed in the AT plan, a concept for a two-way Local Street Bikeway on Lyle Street and Shore Drive is required (approx. 1350m).

Using these maps provided in the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project.



Parameters:

- Existing sidewalks on west side of Lyle Street. Sidewalks on portions of Shore Road.
- AT Plan designation: Proposed Local Street Bikeway.
- Not a Transit Route.
- Lyle Street is a local roadway with a two-lane cross-section and an unposted speed of 50 km/hr. On-Street parking is permitted on the west side with minor time limitations.
- Shore Road operates as a one-way roadway from Geary Street to Mott Street and a two-way from Mott Street to Lyle Street. The unposted speed limit is 50 km/hr. It consists of one or two travel lanes and on-street parking is permitted in certain locations at certain times of day.

Key Considerations:

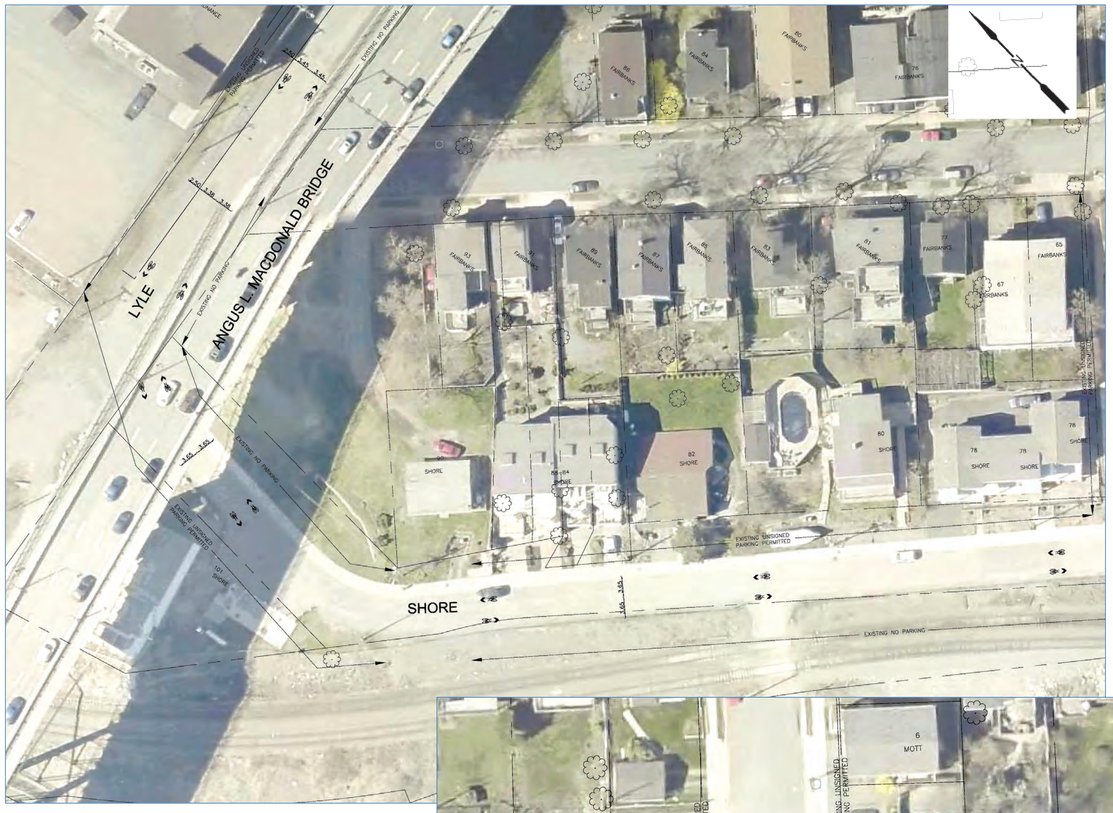
- Lyle/Dickson has been identified as a key option for a new access to the Dartmouth side of the Macdonald Bridge.
- A local street bikeway on Lyle/Shore would connect the Macdonald Bridge with proposed bicycle routes into downtown Dartmouth and north end Dartmouth.
- Other initiatives are underway for a new greenway connecting Shore Road and Geary Street to the TransCanada Trail (referred to as Dartmouth Waterfront AT Greenway extension in AT Plan).
- The existing curb-to-curb width on Lyle Street and Shore Road is approximately 9.0 m and 7.0 m, respectively.
- Potential to impact existing on-street parking in narrower one-way section.

A **Local Street Bikeways** provide designated routes for cyclists that are optimized for convenience, comfort, and connectivity for the broadest range of cycling abilities and ages. Motor vehicles and bicycles share the right-of-way on Local Street Bikeways. The lower motor vehicle speeds and volumes on local streets facilitate the safe sharing of the road and, depending on the characteristics of the route, traffic control features may be added to facilitate increased safety and convenience (e.g. traffic calming features such as speed humps, curb extensions or refuge medians).

B3: Cycling Facility on Lyle and Shore (2 of 2)

Proposed Concept for Lyle Street and Shore Drive as a Local Street Bikeway:

- Pavement markings to better define existing on-street parking locations on Lyle Street and sharrow treatment to communicate presence of Local Street Bikeway and preferred line of travel;
- Future changes at Lyle/Windmill to include reduced curb radii, mountable median creating crossing refuge island and improved signage;
- Sharrow treatment to communicate presence of Local Street Bikeway on Shore Road and preferred line of travel (between Lyle and Mott where two-way street);
- Where Shore Road is a one-way street, the ultimate concept is a contraflow bike lane for eastbound travel and shared use lane for westbound travel.



Example of contraflow lane on one-way street (Ottawa):

Q17. What features are important to you for a local street bikeway to be successful?

Q18. Are crossing improvements needed at the intersection of Windmill and Lyle? Do you consider a median refuge island sufficient?

B4: Cycling Facility on North Street (Gottingen to Agricola) (1 of 2)

Introduction

In order to establish the feasibility of bicycle network connections proposed in the AT plan, a concept for a bicycle facility on North Street from Gottingen Street to Agricola Street is required (approx. 650m).

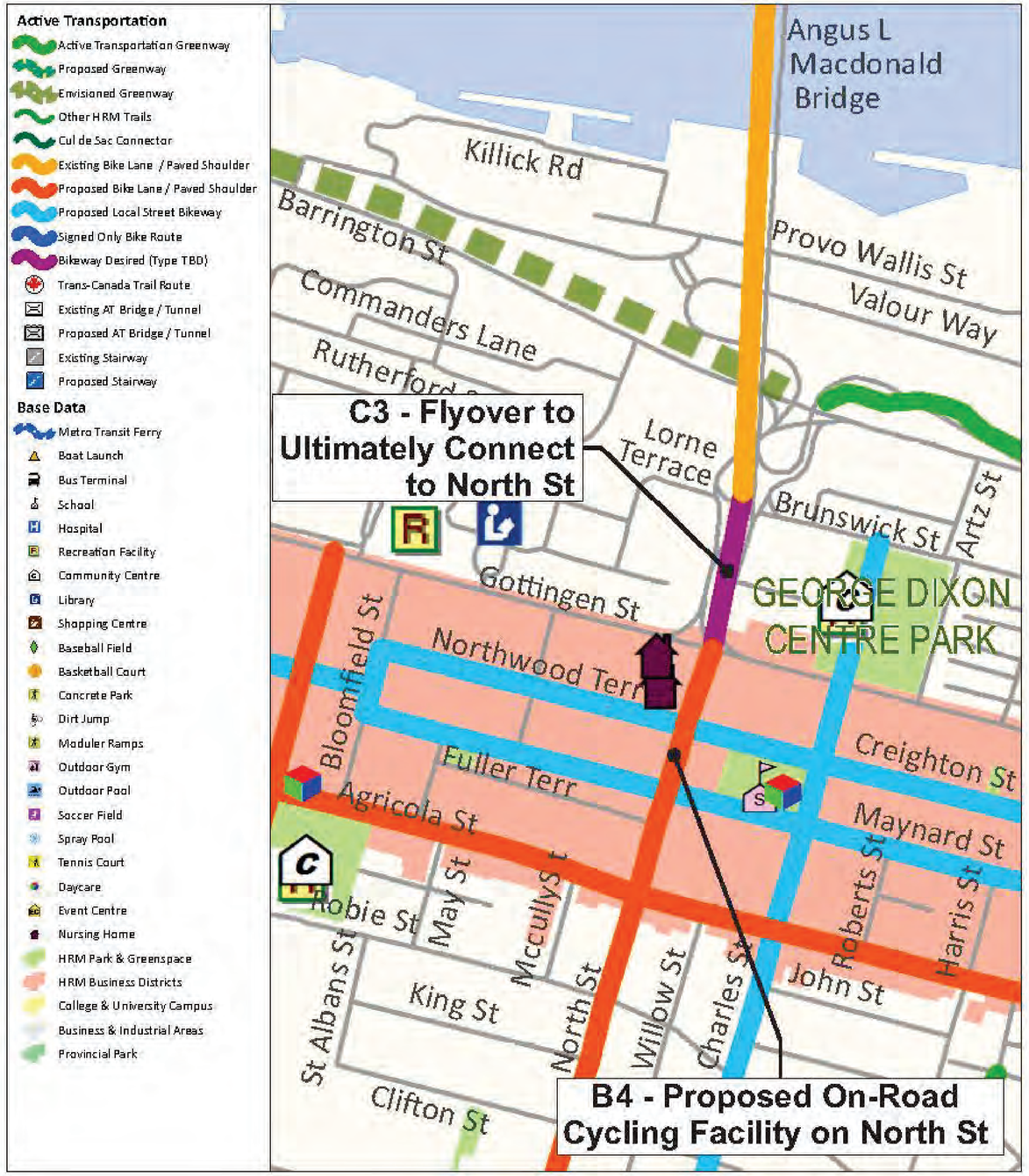
Using these maps provided in the *"Making Connections: 2014-19 Halifax Active Transportation Priorities Plan"* as a base, the following figures have been created to show the candidate connections and bikeways that are the focus of this project.

Parameters:

- Existing sidewalks on both sides with pedestrian crossing at between Fuller Terrace and Maynard.
- AT Plan designation: Proposed Bike Lane.
- Transit Route.
- North Street is an east-west arterial roadway, generally consisting of two lanes (one in each direction) with auxillary turn lanes at its intersection with Gottingen. Unposted speed limit of 50 km/hr and part of Truck Route during daylight hours.
- Majority signed 'No Parking' (existing within project limits).

Key Considerations:

- North Street identified as key destination for new flyover structure on the Halifax side of the Macdonald Bridge.
- North Street to be resurfaced (i.e., new pavement) in the next 2-3 years from Windsor to Gottingen.
- The existing curb-to-curb width between sidewalks ranges from approximately 9.7m 10.2 m (between Agricola and Northwood/Creighton).
- Agricola Street is also designated "Bikeway Desired (Type TBD)" in AT Plan. No designation for Gottingen. Northwood Terrace/Creighton and Fuller/Maynard are designated "Proposed Local Street Bikeway."



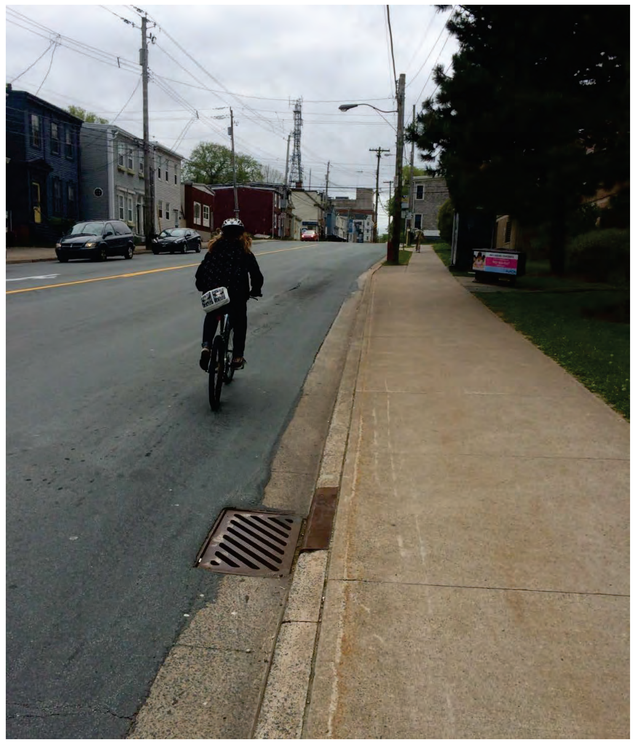
B4: Cycling Facility on North Street (Gottingen to Agricola) (2 of 2)

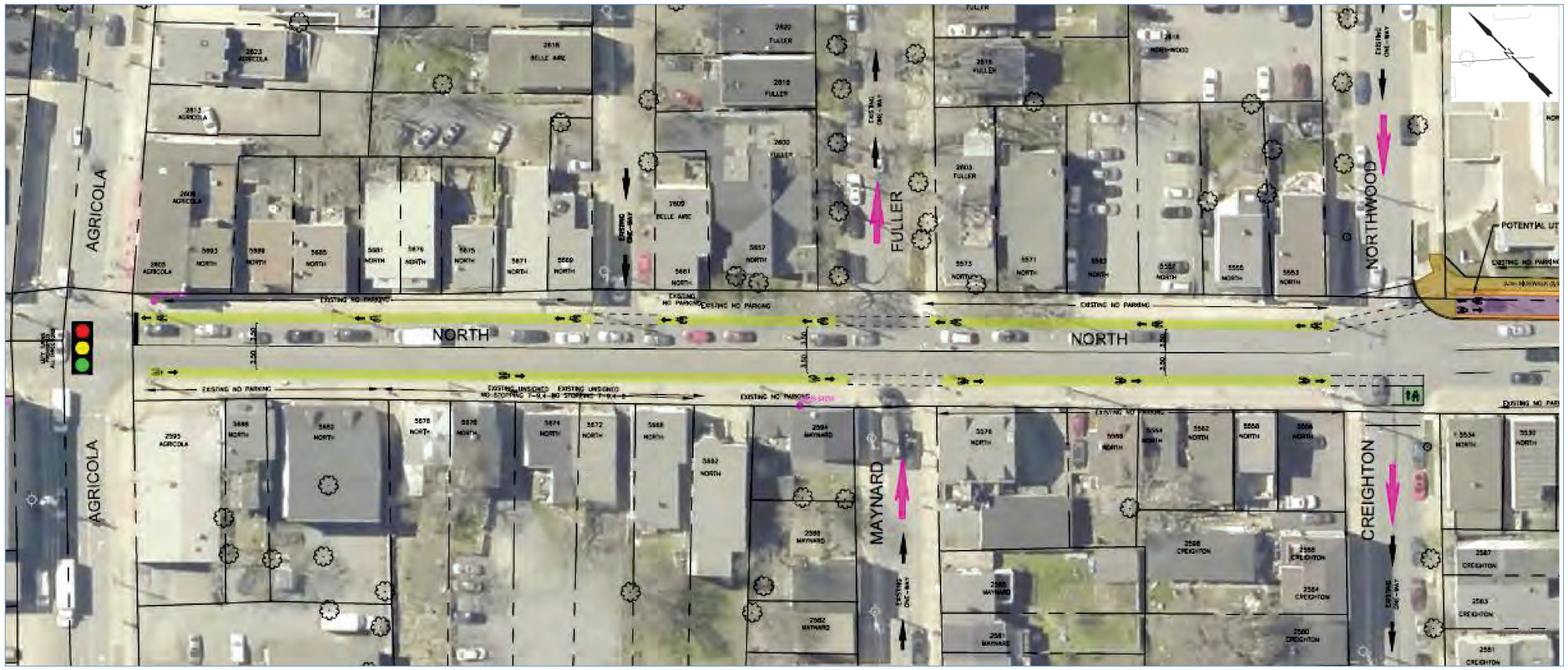
Proposed Concept North St (Agricola to Gottingen):

- 1.5 -1.8 m Painted Bike Lanes on North St (Agricola to Northwood/Creighton);
- Bi-directional bikeway on north side adjacent to a sidewalk (Northwood/Creighton to Gottingen) connecting to improved North/Gottingen intersection crossing and flyover structure;
- Two 3.3 m to 3.5 m travel lanes (one in each direction from Agricola to Gottingen) maintaining auxiliary lane at North/Gottingen.

Existing Conditions:

Existing Conditions:





Q19. North Street between Windsor and Gottingen is slated for resurfacing or reconstruction in the near future. However, it is not a full road construction project. The installation of a cycling facility in this section of road would mostly be limited to paint treatments and potentially bollards/delineators (i.e., non civil works): (a) What are your ideas to improve cycling safety and comfort on North Street in this section?; (b) If the likelihood of an AAA facility was limited, is Charles Street a viable candidate as an alternate corridor for a local street bikeway?

Refer to the general questions about All Ages and Abilities.

General Overview – Next Steps

Costs and Timing

What is the estimated cost of the project? - In the September 22, 2015 Halifax Regional Council Meeting, information is provided on cost estimates available to date including numerous limitations. This project includes preliminary cost estimates for the solutions at the two bridgeheads. For the bikeways, some sections may be implemented as part of larger resurfacing projects (i.e., North Street) while others could be incorporated into future road reconstruction projects (i.e., Wyse between Nantucket and Thistle). A key deliverable of this current planning process is to develop cost estimates for the recommended options (after review of the concepts presented at this Open House).

***What is the timeline for construction of these bikeway connections and crossings*? -** Following the completion of the current planning process, a report will be prepared for Regional Council seeking future direction, likely in early 2017. This report would present a multi-year implementation timeline.

Reminder: What is the final deliverable for this project?

The outcome of this project will be a set of preliminary plans, recommendations and cost estimates that staff can use to provide advice to Regional Council on the best way to improve the bikeway connections in order to serve bicycle riders of all ages and abilities. In addition to identifying the preferred ways in which access to both ends of the Bridge Bikeway can be improved, this project will also confirm whether or not key bicycle network connections proposed in the AT Plan are feasible and what they will cost. This work will form the basis for detailed design, should Council decide to proceed with the project.

A thorough preliminary design (including a technical assessment as well as stakeholder and public engagement) will minimize the risks of proceeding with detailed design and implementation. One potential outcome of this work may also be the conclusion that one or more of the preferred options or network connections are not feasible.

Do you have a copy of the Public Consultation Questionnaire? It is also available online.

The content from these sessions will be posted to halifax.ca following these events with an online survey.

Feedback can be submitted by email to cycling@halifax.ca by Friday, December 2, 2016.

For more information, visit:

- halifax.ca/bikewayconnector
- http://shapeyourcityhalifax.ca/bikeway-connector-project