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**Item No. 12.1.2**  
**Transportation Standing Committee**  
**April 27, 2023**

**TO:** Chair and Members of the Transportation Standing Committee

**SUBMITTED BY:**   
Cathie O'Toole, Chief Administrative Officer

**DATE:** April 19, 2023

**SUBJECT:** Almon Street AAA Bikeway Extension Options

**SUPPLEMENTARY REPORT**

**ORIGIN**

February 8, 2022 Halifax Regional Council Motion (item 15.5.1):

MOVED by Councillor Cleary, seconded by Councillor Morse

THAT the motion be amended to include new section 2 which reads as follows;

That Halifax Regional Council: ... 2. Direct the Chief Administrative Officer to prepare a supplemental staff report identifying additional options to extend the planned Almon Street bikeway east of Agricola Street to Gottingen Street and west of Windsor Street to George Dauphinee Avenue with the goal of achieving an all-ages-and-abilities cycling connection for the full length of the corridor. Given the narrow right-of-way, options should include converting segments of Almon Street to one-way for traffic and consideration of parallel streets.

MOTION PUT AND PASSED.

Action #72 of Halifax's Integrated Mobility Plan (IMP): Deliver the Regional Centre all ages and abilities bicycle network by 2022.

Recommendation #20 of the Halifax Active Transportation Priorities Plan 2014-2019: To achieve the goal of doubling of AT mode share, the Municipality needs to focus AT plan implementation for cycling on the types of infrastructure preferred by new bicyclists.

**LEGISLATIVE AUTHORITY**

Halifax Regional Municipality Charter section 322(1) states that "Council may design, lay out, open, expand, construct, maintain, improve, alter, repair, light, water, clean and clear streets in the Municipality."

**RECOMMENDATIONS ON PAGE 2**

Motor Vehicle Act, subsection 90 (3) “The traffic authority may also mark lanes for traffic on street pavements at such places as they may deem advisable, consistent with this Act and may erect traffic signals consistent with this Act to control the use of lanes for traffic.”

Administrative Order One, the Procedures of Council Administrative Order, Schedule 7, Transportation Standing Committee Terms of Reference, clause 7(b) which states: “The Transportation Standing Committee shall... (b) promote and encourage the Municipality’s Active Transportation corridor initiatives which supports the overall Transportation Strategy as outlined in the Regional Plan.”

## **RECOMMENDATION**

It is recommended that the Transportation Standing Committee recommend that Halifax Regional Council:

1. Direct the Chief Administrative Officer to monitor and evaluate use of the approved all ages and abilities east-west cycling corridor across the north end of the Halifax peninsula for a minimum of two years post-implementation and provide an update to the Transportation Standing Committee by 2026.
2. Direct the Chief Administrative Officer to initiate a functional planning process to evaluate options to provide an all ages abilities cycling connection from Almon Street at Agricola Street to Gottingen Street as described in Table 1 of the Discussion section of this report.

## **EXECUTIVE SUMMARY**

Almon Street, between Windsor Street and Gottingen Street, and Liverpool Street, between Windsor Street and Connaught Avenue, are identified in the Integrated Mobility Plan as part of the Regional Centre All Ages and Abilities (AAA) Bicycle Network. Regional Council approved functional plans for both streets in 2022 and 2020, respectively, and implementation is underway. Construction of the Almon Street protected bicycle lanes is planned for 2023 and some elements of the Liverpool Street local street bikeway were installed in 2022 with additional construction planned for installation in 2023 and 2024. Combined, these two projects will provide an east-west AAA cycling connection across the north end of the Halifax peninsula.

In February 2022 Regional Council asked AT staff to identify additional options to extend the planned Almon Street bikeway east of Agricola Street to Gottingen Street and west of Windsor Street to George Dauphinee Avenue with the goal of achieving an all-ages-and-abilities cycling connection for the full length of the Almon Street corridor. This report describes several options for extending the Almon Street bikeway and identifies potential impacts for each, though additional planning and analysis would be required to fully understand feasibility and impacts. Due to various constraints, including narrow right-of-way and curb-to-curb widths, trees, and utilities, among others, extending a protected bikeway on Almon Street west of Windsor Street and East of Agricola Street would be challenging.

This report recommends further planning for the AAA connection east of Agricola Street, a continued focus on implementing the approved Liverpool Street local street bikeway west of Windsor Street, and monitoring and evaluation of the full, approved east-west AAA cycling corridor following completion.

## **BACKGROUND**

On February 8, 2022 Regional Council approved the installation of 0.9 km of bicycle facilities and related changes to the right-of-way on Almon Street from Windsor Street to Gottingen Street (see orange and blue dashed lines of Figure 1) as described in the Discussion section of the [staff report](#) dated January 17, 2022. The approved facilities include:

- One-way protected bicycle lanes on both sides of Almon Street, from Windsor Street to Agricola Street, with a combination of sidewalk level (raised) and street level (separated by pre-cast concrete curb) bicycle lanes
- Two single-file shared lanes between Agricola Street and Gottingen Street. This segment is very constrained with many buildings constructed to the property line and a nine-metre curb-to-curb width, which is insufficient space for protected or painted bicycle lanes. While there will be some changes to improve conditions for cyclists (i.e., pavement markings, shared lane signs), this segment will not meet AAA standards.

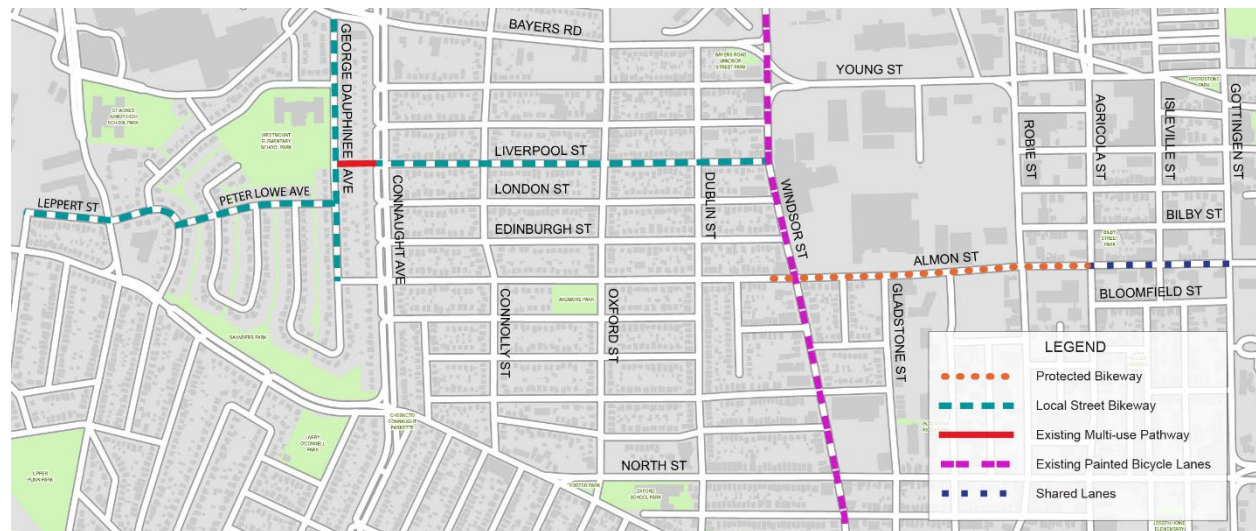
Detailed design of this project is currently underway with a target to construct in 2023.

On September 22, 2020 Regional Council approved the implementation of 2.0km of bicycle facilities and related changes to the right of way along the West End All Ages and Abilities (AAA) Bikeway route. As described in the [staff report](#) dated July 28, 2020, AT planning staff evaluated two options to achieve the desired West End connections: a local street bikeway on Liverpool Street and a protected bikeway on Almon Street. While both routes offered advantages and disadvantages and both received public and stakeholder support, the Liverpool local street bikeway option was recommended due to the:

- Relative ease of implementation
- Connectivity to neighbourhood destinations e.g., Oxford Street commercial hub
- Benefits to the local neighbourhood (traffic calming) and alignment with new bike/ped crossings
- Need to remove mature street trees on narrow section of Almon Street (Connaught Street to Connaught Avenue) to achieve AAA cycling connection

Regional Council approved the recommended local street bikeway option on Liverpool Street between Windsor Street and Connaught Avenue (see dashed teal line of Figure 1), which will connect through the Westmount neighbourhood to the West End Mall and to Bayers Road via George Dauphinee Avenue. The route will connect to the Almon Street protected bicycle lanes via the Windsor Street bicycle lanes and an enhanced AT crossing of the Windsor/Liverpool intersection. Some features of the West End local street bikeway were installed in 2022 with additional elements planned for installation in 2023 and 2024, most of which will be implemented tactically and made permanent in coordination with a street rehabilitation before 2028.

**Figure 1: Approved West End and Almon Street Bikeways**



### Policy Rationale

The approved West End and Almon Street bikeways support HRM's goal to implement modern bicycle infrastructure that is safer, connected and comfortable for a wide range of residents and visitors. The two projects align with HRM's Integrated Mobility Plan (see Figure 2), Regional Municipal Planning Strategy, Regional Centre Secondary Municipal Planning Strategy (Centre Plan), Active Transportation Priorities Plan, and the Strategic Road Safety Framework.

Figure 2: Planning Context – Regional Centre AAA Bicycle Network, Integrated Mobility Plan



### Current Context of Almon Street

The following section summarizes the current conditions and context of Almon Street.

#### Street Network

Almon Street is 1.8km long, is classified as a daytime truck route east of Windsor Street, and is one of three continuous east-west major collector/arterial streets across the Halifax peninsula north of North Street.

#### Almon Street Widths and Grade

The existing cross section of Almon Street varies along the length of the corridor. Figure 3 illustrates existing curb-to-curb widths that narrow significantly east of Agricola Street and west of Dublin Street. East of Agricola Street, many buildings front directly on the back of the sidewalk (i.e., at the property line), leaving 3.0m between the building façades and the face of curb to accommodate sidewalks (1.5m to 1.8m), treed boulevards (1.5m on the south side), or a utility pole/tree zone (1.2m on the north side). The street has an uphill grade of approximately 4.5% from Connaught Avenue to Windsor Street and a downhill grade of approximately 2.5% from Windsor Street to Robie Street.



Figure 3: Almon Street Existing Curb-to-Curb Dimensions (approximate)



### Land Use

Almon Street connects the residential neighbourhoods west of Windsor Street to the mix of residential, recreational, institutional and commercial uses east of Windsor, including the Halifax Forum, CNIB, Rona and CFB Halifax (Stadacona) at Gottingen Street.

### Active Transportation (AT)

Residents living in neighbourhoods along the Almon Street corridor report relatively high rates of active transportation use. Dissemination areas along the full length of Almon Street reported 16.7% - 32% of trips to work as walking trips, while three dissemination areas adjacent to Almon Street near Connaught Ave reported bicycle mode shares of 6.7% - 18.9% for trips to work (Statistics Canada, 2021, 25% sample data).

June 2022 data collection recorded the following bicycle volumes:

- Almon Street at Windsor Street (6am – 9pm): 149
- Almon Street at Oxford Street (6am – 9pm): 86
- Almon Street at Connaught Avenue (6am – 9pm): 98
- Almon Street, between Agricola Street and Gottingen Street (6am – 8pm, 7-day average): 108

### Transit

There is no existing or planned Halifax Transit service on Almon Street.

### Vehicle Traffic

Traffic data collection in June 2022 recorded the following results:

- Almon Street at Windsor Street: 10,600 vehicles per day (vpd)
- Almon Street at Oxford Street: 8,150 vpd
- Almon Street, George Dauphinee Avenue to Connaught Avenue: 2,000 vpd
- Almon Street, Agricola Street to Gottingen Street: 5,400 vpd, 85<sup>th</sup> percentile speed is 40 KPH

### Urban Forest

Almon Street trees within the boulevard east of Agricola Street are mostly saplings less than 10 years old, while west of Windsor Street the trees in the boulevards are mostly mature Elm and Norway Maple.

### On-Street Parking

There are approximately 39 on-street parking spaces on Almon Street west of Windsor Street with utilization in 2018 ranging from 48% near Windsor Street to 10% near Connaught Ave. There are three accessible spaces on Almon Street, immediately west of Windsor Street. There are approximately 24 on-street parking spaces on Almon Street between Agricola Street and Gottingen Street with an average occupancy in 2018 of 49%.

Future active transportation functional planning in this area would need to consider parking and other impacts of the Forum Redevelopment plan.

## **DISCUSSION**

This section describes the recommended monitoring and evaluation of the approved bikeways and a proposed report back to Transportation Standing Committee. It summarizes the Almon Street extension options being considered, including assumptions about facility type and cross section dimensions and the potential impacts related to each option. Finally, it describes the planning process that would be required to develop a functional plan for any of the options.

### **Monitoring and Evaluation of Approved East-West AAA Cycling Corridor**

As per recommendation #1 on page 2, staff would monitor and evaluate the use and function of the approved Almon Street and West End bikeways for a minimum of two years following completion before reporting back to the Transportation Standing Committee by 2026. Monitoring activities would include a mix of ridership and road safety data collection as well as qualitative data from users collected through a variety of means, including intercept surveys and targeted online surveys.

The monitoring program would provide information to inform consideration of any changes to the approved AAA corridor. As noted in Tables 1 to 3, the potential changes to achieve an AAA bikeway on Almon Street between Windsor Street and George Dauphinee Avenue are significant.

### **Extension Options**

The extension options and related implications described in Tables 1 to 3 (and illustrated in Figure 4) are based on options considered as part of previous functional planning processes as well as new options not previously studied. A full understanding of the feasibility and implications of the options would require further work typically included in a functional planning process, such as concept development, concept evaluation, analysis of potential impacts to all street functions, development of 30% plans, and public/stakeholder engagement. A functional planning process could also identify additional options not considered in this report.

#### ***Assumptions***

Several assumptions have informed the Almon Street extension options described in this section. These include the following:

#### ***Facility Type***

Extending one-way protected bicycle lanes on Almon Street west of Windsor Street and east of Agricola Street would maintain a consistent facility type for the full length of the corridor. Separating the bicycle lanes from traffic with a physical barrier is consistent with Transportation Association of Canada (TAC) and National Association of City Transportation Officials (NACTO) guidance for all-ages-and abilities cycling facilities on busy streets with relatively high volumes of car and truck traffic. For on-street bicycle lanes protected with pre-cast concrete curb and flexible bollards, frequent gaps in the barrier would be required to provide access to the residential driveways west of Windsor Street. Alternatively, raising the bicycle lanes to provide vertical separation from traffic would mitigate the need for frequent gaps in the barriers, though there would be a conflict zone where the bicycle lanes cross each driveway.

#### ***Cross Section Dimensions***

TAC recommends a minimum width of 1.8m for one-way bicycle lanes with a 1.0m buffer for raised bicycle lanes. There is HRM precedent for a 0.6m buffer next to a raised one-way bicycle lane on South Park Street. TAC's practical lower limit of 1.5m for the bicycle lane component could be considered in constrained conditions and for short distances. A minimum 7.0m curb-to-curb dimension has been assumed to maximize space for protected bicycle lanes and minimize disruption to the treed boulevards west of Windsor Street. This is below HRM's standard of 8.0m curb-to-curb for a Major Collector in the Regional Centre adopted with the 2022 update of the Municipal Design Guide and would require a variance request.

Based on these assumptions, an 11.8m curb-to-curb width (11.2m for 1.5m bicycle lanes over short distances) provides space to add protected (on-street or raised) one-way bicycle lanes without moving existing curb lines and making changes to the boulevards between the sidewalk and traffic lanes.

A concept considered for a particularly constrained segment of Almon Street as part of the West End AAA Bikeway planning process in 2018 proposed two 3.3m traffic lanes next to a one-way eastbound protected bicycle lane and a 3.0m multi-use pathway on the westbound side. This would leave 6.6m curb-to-curb, which is a significant reduction from the current HRM standard of 8.0m for a major collector street and would require a variance request.

Figure 4 and Tables 1 to 3 are an initial summary of options and potential impacts which would be further explored and potentially revised through a more detailed functional planning process. As per the recommended approach, AT staff would only explore those in Table 1 at this time.

**Figure 4: Almon Street Bikeway Extension Options**



**Table 1: Almon Street Bikeway Extension Options – Agricola Street to Gottingen Street**

Option	Implications
1. One-way raised bicycle lanes and maintain two-way vehicle traffic	Remove on-street parking and treed boulevards, remove utility poles and bury utilities, and re-allocate space to bicycle lanes and buffers. Removal of boulevards would mean no option to replace trees on the same street segment  All elements of resulting cross section would be close to minimum standards
2. One-way protected bicycle lanes and one-way vehicle traffic	Convert Almon Street, from Agricola Street to Gottingen Street, to one-way traffic and re-allocate space to bicycle lanes and buffers  Retain one side of on-street parking if space permits  Converting segments of a major collector street to one-way traffic may not be feasible and would require a network-level analysis of potential impacts. A one-way conversion would push some vehicle traffic to parallel streets

<b>Option</b>	<b>Implications</b>
3. Divert bicycle route to Bloomfield Street (or other adjacent street) and provide connecting facility on Agricola Street	<p>A local street bikeway on Bloomfield Street or other adjacent street may require traffic calming and/or diversion depending on traffic volume and speed</p> <p>A protected, connecting bikeway on Agricola Street would require removal of on-street parking spaces adjacent to the bikeway</p> <p>A bicycle crossing connecting the Agricola Street bikeway to the local street bikeway would be required. A transition for the southbound bicycle lane to accommodate left turns onto Bloomfield Street may require land acquisition</p> <p>Accommodating left turns for cyclists from Agricola Street bikeway to Almon Street bikeway would require reconfiguring the Almon/Agricola intersection</p>

**Table 2: Almon Street Bikeway Extension Options – Windsor Street to Connaught Avenue**

<b>Option</b>	<b>Implications</b>
1. One-way raised bicycle lanes and maintain two-way vehicle traffic	Remove on-street parking and one or both boulevards, including mature, high-value trees (west of Dublin Street), as required to re-allocate space to bicycle lanes and buffers
2. One-way raised bicycle lanes with a section of multi-use pathway (MUP) replacing the sidewalk on one side for all or part between Dublin Street and Connaught Street. Two-way vehicle traffic maintained	Remove on-street parking and replace sidewalk and boulevard, including mature, high-value trees, on one side with a 3.0m multi-use pathway
3. One-way protected bicycle lanes and one-way vehicle traffic	<p>Convert Almon Street, from Windsor St (or Dublin St) to Connaught Ave to one-way traffic and re-allocate space to bicycle lanes and buffers</p> <p>Retain one side of on-street parking where space permits (requires 11.3m curb-to-curb to avoid tree impacts)</p> <p>Converting segments of a major collector street to one-way traffic may not be feasible and would require a network-level analysis of potential impacts. A one-way conversion would push some vehicle traffic to parallel streets</p>

**Table 3: Almon Street Bikeway Extension Options – Connaught Avenue to George Dauphinee Avenue**

<b>Option</b>	<b>Implications</b>
1. Local street bikeway (LSB) with short section of protected bicycle lanes/MUP on approach to Connaught Ave to provide a safe transition through the intersection	<p>May require traffic calming and/or diversion to meet LSB thresholds. Traffic diversion may not be feasible due to existing restrictions to accessing the Westmount neighbourhood</p> <p>Remove parking and one to two mature, high-value trees near Connaught Ave intersection</p>
2. One-way protected bicycle lanes and maintain two-way vehicle traffic	Remove on-street parking and one or both boulevards, including mature, high-value trees, as required to re-allocate space to bicycle lanes and buffers. Removal of boulevard(s) would mean no option to replace trees on the same street segment



Option	Implications
3. One-way protected bicycle lane on one side with a MUP replacing the sidewalk on other side. Two-way vehicle traffic maintained	Remove on-street parking and replace sidewalk and boulevard, including mature, high-value trees, on one side with a 3.0m multi-use pathway. Removal of boulevard would mean no option to replace trees on the same street segment
4. One-way protected bicycle lanes and one-way vehicle traffic	Convert Almon Street (Connaught Ave to George Dauphinee Ave) to one-way traffic and re-allocate space to bicycle lanes and buffers  One-way conversion may not be feasible due to existing restrictions to accessing the Westmount neighbourhood and planned changes to lane configurations at the Almon/Connaught intersection

**Timeline and Next Steps**

Pending Council approval, the recommended functional planning process for the cycling connection from Almon Street at Agricola Street to Gottingen Street would be initiated early in 2024 and staff would return to the Transportation Standing Committee with a recommendation in late 2024 or early 2025.

Completing a functional planning process would involve contracting a consultant, concept development and evaluation, various types of impact analysis, public and stakeholder engagement, and development of one or more preferred concepts to a 30% level of design.

**FINANCIAL IMPLICATIONS**

Pending Council approval, the recommended functional planning process would require a budget of approximately \$50,000 to \$100,000 depending on several factors, including the number of options considered and scope of the analysis required. Funding is available in capital project CR200007.

Budget Summary:	<u>Project Account No. CR200007 Regional Centre AAA Bikeways</u>	
	Cumulative Uncommitted Budget	\$6,068,096
	<b>Less: Estimated functional planning costs</b>	<b>\$ 75,000</b>
	Balance	\$5,993,096

**RISK CONSIDERATION**

The risks associated with the two Council-approved bikeway projects referenced in the Discussion section were considered in previous staff reports. There are no new significant risks associated with this report’s recommendations.

**COMMUNITY ENGAGEMENT**

Residents and property owners abutting the candidate routes, as well as the general public and stakeholders were engaged for both the Almon Street Bikeway and the North End and West End AAA Bikeway projects between 2017 – 2019. During the first round of engagement for the North End and West End AAA Bikeway project in 2018, 54% of public participants (31% of abutters) expressed support for the Almon Street option as a protected bikeway. There was also significant neighbourhood support (40%) for a local street bikeway on a parallel street.

The functional planning process recommended in this report would include further resident, abutter, and stakeholder engagement.

## **ENVIRONMENTAL IMPLICATIONS**

This report's recommendations are supportive of the sustainability objectives of the municipality as they aim to make it safer and more comfortable for residents to choose sustainable transportation options for everyday transportation purposes. Creating opportunities for residents to make this shift is intended to increase AT mode share, reduce greenhouse gas emissions, and help HRM meet the mode share targets outlined in the Regional Plan and the Integrated Mobility Plan, as well as advance the HalifACT 2050 goal to decarbonize transportation.

Some of the options described in the Discussion section of this report could result in permanent loss of tree canopy along one or both sides of some segments of Almon Street, which would conflict with objectives of HRM's Urban Forest Master Plan related to the many environmental benefits of the urban forest.

## **ALTERNATIVES**

The Transportation Standing Committee could choose to recommend that Regional Council:

1. Direct the Chief Administrative Officer to initiate a functional planning process to further develop and evaluate options to extend the approved Almon Street protected bicycle lanes east of Agricola Street to Gottingen Street and west of Windsor Street to George Dauphinee Ave and return to the Transportation Standing Committee with recommended options.
2. Direct the Chief Administrative Officer to delay any further planning work on the Almon Street corridor until construction of the approved Almon Street and West End bikeways is complete and use of the facilities has been monitored for at least one full year.

## **ATTACHMENTS**

No attachments.

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A copy of this report can be obtained online at [halifax.ca](http://halifax.ca) or by contacting the Office of the Municipal Clerk at 902.490.4210.

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