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**Item No. 15.1.1**  
**Halifax Regional Council**  
**January 28, 2025**

**TO:** Mayor Fillmore and Members of Halifax Regional Council

**FROM:** Cathie O'Toole, Chief Administrative Officer

**DATE:** January 20, 2025

**SUBJECT:** **Windsor Street Exchange Redevelopment Project: Functional Design**

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### **ORIGIN**

On June 2, 2019, the federal Minister of Transport announced funding under the National Trade Corridors Fund for upgrades to the Windsor Street Exchange to facilitate the movement of regional and interprovincial containers by rail to an expanded truck gate at the Fairview Cove Container Terminal facility.

On August 13, 2019, Regional Council passed a motion authorizing the Mayor and Municipal Clerk to sign the Contribution Agreement with the Minister of Transport, to receive \$23,500,000 in funding for the Windsor Street Exchange Upgrades (Acct No. CT190010).

On August 24, 2023, the Transportation Standing Committee passed a motion directing the Chief Administrative Officer to prepare a staff report on the Windsor Street Exchange redesign to include:

- a. Separated and wide sidewalks;
- b. Separated and protected bicycle lanes;
- c. Dedicated transit-only lanes for people using public transit;
- d. Protected intersections that are safe for all vulnerable road users; and
- e. Design for 40 KPH traffic speeds.

On June 18, 2024, Regional Council passed a motion to:

1. Suspend the rules of procedure under Schedule 7, the Transportation Standing Committee Terms of Reference, of Administrative Order One, the Procedures of the Council Administrative Order;
2. Endorse in principle the Windsor Street Exchange Functional Design to achieve the project objectives as proposed in the staff report dated April 23, 2024, as amended;
3. Direct the Chief Administrative Officer to:
  - a. Advance the development of the design, project specifications, and plans, and identify land requirements, as per the project delivery plan outlined in the staff report dated April 23, 2024, as amended.
  - b. Prepare contract documents to retain a design-build team for the project;
  - c. Proceed with negotiation of an amended Contribution Agreement with Transport Canada to extend the deadline for substantial project completion to the end of 2027;
  - d. Investigate additional opportunities for external funding for consideration in future capital budget updates.

**RECOMMENDATIONS ON PAGE 3**

Prior to passing the motion, Regional Council passed a motion to amend the approach to the Windsor Street Exchange Functional Design project as set out in the staff report dated April 23, 2024, to include the following considerations during the design build phase II:

1. Active transportation facility options, prioritizing a AAA connection from the approved Bedford Highway functional plan to the potential Africville Road MUP extension from the future Barrington greenway, recognizing some work is out of scope and would be built during the Bedford Highway project and other future projects;
2. Inclusion of bus lanes to support the future Green Line of the Bus Rapid Transit plan through Windsor Street Exchange connecting Joe Howe Drive to Massachusetts Ave;
3. Demonstrate future proofing at northern extreme of the Windsor Street Exchange project to allow for bike and pedestrian connections to any future MacKay Bridge project;
4. Requesting the Mayor write the relevant Federal Ministers regarding an extension to accommodate these changes, and;
5. Provide an analysis of what increased vehicle traffic capacity will mean on mode share given induced demand.

Action 121 if the Integrated Mobility Plan (IMP) recommends identifying “Strategic Corridors” — existing road corridors that are key to regional traffic flow, transit, goods movement and active transportation — and develop plans that will guide their development over time. The IMP further recommends that where strategic improvements to “bottlenecks” in the roadway network can be implemented, consideration should be given to opportunities to integrate transit priority measures and active transportation improvements (Action 122). The IMP also recommends that HRM work with CN and the Halifax Port Authority to retain and augment rail capacity through the South End rail cut (Action 110).

HalifACT recommends the expansion of transit and active transportation infrastructure needed to achieve mode share targets in the Integrated Mobility Plan (Action 8). It also recommends that critical infrastructure be assessed to proactively protect and strengthen infrastructure to withstand impacts due to climate change (Action 16). The Windsor Street Exchange is a critical link in the transportation network, as well as an emergency evacuation route for the Halifax Peninsula.

The approved 2024/25 Capital Budget project CT190010 – Windsor Street Exchange.

## **EXECUTIVE SUMMARY**

In June 2024, Halifax Regional Council endorsed the functional design for the Windsor Street Exchange Redevelopment project but directed staff to further explore active transportation facility options, inclusion of dedicated transit lanes, future proofing for connections to any future MacKay Bridge project, and the potential impact of increased traffic capacity on mode share. Council also directed staff to draft a letter for the Mayor’s signature to the relevant ministers requesting an extension to accommodate these changes.

Consultants from CBCL and HDR were engaged to evaluate alternatives for integrating dedicated transit lanes and enhanced active transportation facilities into the Windsor Street Exchange Redevelopment project beyond what was provided in the functional design. Two scenarios were considered against the existing functional design: (i). Adding dedicated transit lanes (widening) and (ii). Reallocation of existing lanes as dedicated transit lanes. These scenarios were then measured against the existing functional plan.

Widening the roadway for dedicated transit lanes showed significant reductions to transit delays (39%), with little to no impact to vehicle delays. This option requires either replacement of the Provincially owned Fairview Overpass bridge structure and encroachment into St. John’s Cemetery or shifting of the northern edge of the roadway by approximately 11m north into the Port of Halifax marshalling yard. This option can not be completed within the Federal Funding timeframe or the current project budget.

Analysis showed that reallocating the two central general-purpose lanes to dedicated inbound and outbound transit lanes would potentially generate a 3% mode shift to transit, reduce delay to transit by 15%

and increase delay to other vehicles by 49%. This impact to general traffic and truck traffic will negatively impact goods movement, and therefore not achieve the project objectives required for the federal funding.

Phase 1 of the Design-Build contract has been awarded to Dexter Construction, with support from Stantec Consulting and Harbourside Engineering. The Design-Build team is working to complete the detailed design, to allow for construction to begin in 2025.

Estimated capital project costs are \$150,000,000. The updated project costs are reflected in the proposed 2025-2026 Capital Budget.

## **RECOMMENDATIONS**

It is recommended that Halifax Regional Council:

1. Suspend the rules of procedure under Schedule 7, the Transportation Standing Committee Terms of Reference, of Administrative Order One, the Procedures of the Council Administrative Order;

It is recommended that Halifax Regional Council direct the CAO to:

1. Proceed with the Windsor Street Exchange project, as per the current funding agreement and Design Build contract, including future proofing new structures along the corridor where municipal lands permit, to accommodate future dedicated transit lanes and separated pedestrian and cycling facilities.

## **BACKGROUND**

The Windsor Street Exchange (WSE) Redevelopment project involves the reconfiguration of the intersection of Bedford Highway, Windsor Street and Lady Hammond Road. As one of five roadway access points to the Halifax Peninsula and the downtown core, and an intersection of strategic corridors, an estimated 170,000 people per day travel through this area, via 10 Transit routes and approximately 90,000 – 110,000 vehicles. Funding for the project is being provided through Transport Canada under the National Trade Corridors Fund (NTCF), the Province of Nova Scotia and the Port of Halifax, and the municipal capital budget. Halifax Water has partnered with HRM to integrate planned capital work into the Windsor Street Exchange project and will fund the design and construction of their infrastructure.

Regional Council endorsed the functional design of the Windsor Street Exchange project in June 2024. [Windsor Street Exchange Redevelopment Project – Functional Design - June 18/24 Regional Council | Halifax.ca](#)

The June 2024 endorsement of the Windsor Street Functional Plan asked for the following additional considerations:

1. Active transportation facility options, prioritizing a AAA connection from the approved Bedford Highway functional plan to the potential Africville Road MUP extension from the future Barrington greenway, recognizing some work is out of scope and would be built during the Bedford Highway project and other future projects;
2. Inclusion of bus lanes to support the future Green Line of the Bus Rapid Transit plan through Windsor Street Exchange connecting Joe Howe Drive to Massachusetts Ave;
3. Demonstrate future proofing at northern extreme of the Windsor Street Exchange project to allow for bike and pedestrian connections to any future MacKay Bridge project;
4. Requesting the Mayor write the relevant Federal Ministers regarding an extension to accommodate these changes, and;
5. Provide an analysis of what increased vehicle traffic capacity will mean on mode share given induced demand.

The Design Build contract has been awarded to Dexter Construction, with design support provided by Stantec Consulting and Harbourside Engineering. Construction is scheduled to begin in summer 2025. Design details and a construction phasing plan are expected to be shared in spring 2025.

**DISCUSSION**

The current functional design includes a new, continuous multi-use path (MUP) along the Bedford Highway, and several transit priority upgrades through the project area. Consultants from CBCL and HDR were engaged to evaluate the potential to integrate dedicated transit lanes and enhanced active transportation facilities into the Windsor Street Exchange Redevelopment project beyond what was provided in the functional design. Two scenarios were considered against the existing functional design: (i) Adding dedicated transit lanes (widening) and (ii) Reallocation of existing lanes to dedicated transit lanes. These scenarios were then measured against the existing functional plan. The following sections address each of the additional considerations that Regional Council requested additional information on in June 2024.

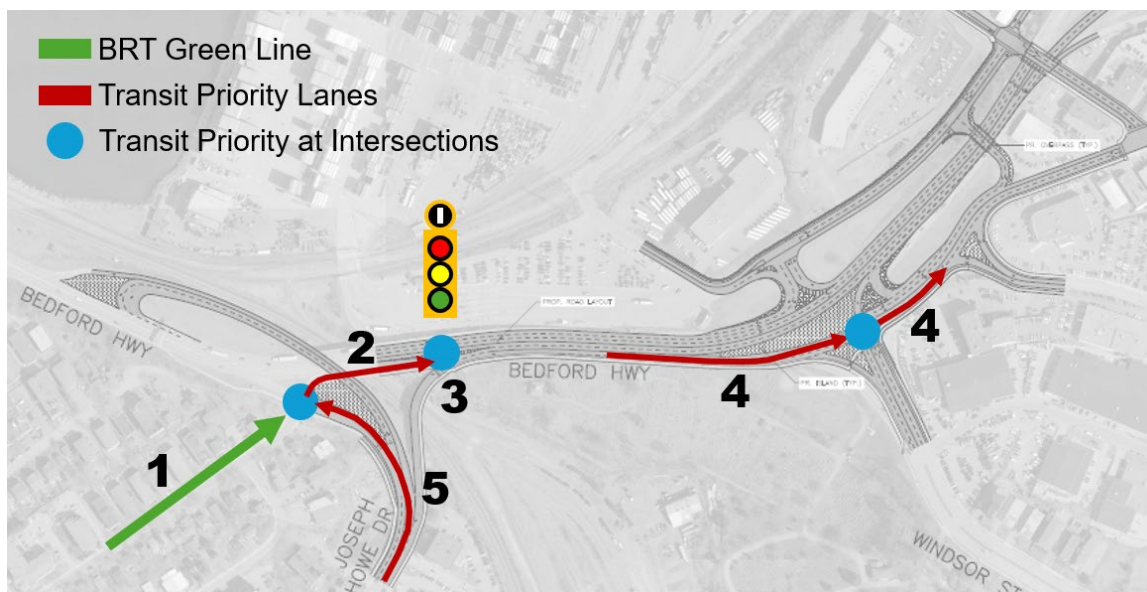
**Active Transportation Facility Options**

Widening of the cross section will provide additional space for separated pedestrian and cycling facilities. Reallocation of existing lanes does not provide the required space for separated active transportation facilities within the current constraints. There is a potential opportunity within the existing Functional Plan design to reduce the lane widths, which reduces vehicle speed, enhances road safety, and would allow for a wider MUP and boulevard; this will be reviewed during detail design.

The Bedford Highway and Africville Road MUP projects and the development of Strawberry Hill are scheduled to be constructed outside of the construction period of Windsor Street Exchange Project but will all provide additional opportunities to improve AAA connections.

**Transit Lanes to Support the Green Line Bus Rapid Transit (BRT)**

The functional design includes an inbound signalized transit-only lane along the south side of the Fairview Overpass, a 120m inbound transit only lane approaching the Windsor Street intersection, prioritized signalization through the Windsor Street intersection, and the creation of a transit only northbound approach to Windsor Street Exchange from Joseph Howe Drive (as shown in Figure 1). These design elements will benefit existing express and local transit routes. The project does not include outbound transit only lanes due to space constraints.



**Figure 1 Functional Design Features for Transit**

Further prioritization of the Green Line BRT beyond what is provided in the existing functional design will require either a widened cross section or the reallocation of existing lanes. Both options were analyzed compared to the results of the current functional design, as shown in Table 1.

**Table 1 Analysis of Options Compared to Current Functional Design**

<b>Measure</b>	<b>Scenario 1 – Road Widening</b>	<b>Scenario 2 – Lane Reallocation</b>
People-Moving Delays	39% decrease in transit delay 1% decrease in vehicle delay 3% decrease in person-hour delay	15% decrease in transit delay 49% increase in vehicle delay 46% increase in person-hour delay
Goods Movement Delays	No change	37% increase in truck delays
Property Impacts	Encroachment of St. John's Cemetery or the Port of Halifax truck marshaling yard, impact to CN rail and Fairview Overpass	No change
Schedule Impacts	Additional time to address property impacts, design and construct new and replacement infrastructure (est. 4-6 years)	No change
Budget Impacts	\$52 to \$69 million increase in capital costs for design and construction Loss of \$23.5 million in Federal Funding	\$600,000 increase in capital costs Loss of \$23.5 million in Federal Funding

To mitigate impacts to goods movement, consideration was given to the use of combined transit / truck priority lanes. This was determined not to be a viable option due to differing travel patterns of transit routes and goods movement in the area.

Due to the impacts to goods movement and the project schedule, it is expected that both scenarios would result in the loss of the NTCF funding, putting the project execution at risk. The loss of funding would include funds received to date for design work if the project is not completed as per the funding agreement.

The project team is reviewing opportunities to futureproof the design such that road widening (and the addition of continuous transit lanes) could be incorporated at a future date. The existing functional design would be future proofed to act as an interim design for an ultimate design including dedicated transit lanes and enhanced active transportation facilities including the design of new structures where property and design requirements allow.

**Demonstrate future proofing at northern extreme of the Windsor Street Exchange project to allow for bike and pedestrian connections to any future MacKay Bridge project**

The HRM project team is coordinating with Halifax Harbour Bridges on its planning process for the future retrofit / replacement of the MacKay Bridge. It is anticipated that a future MacKay bridge project will include active transportation facilities. There are several options being considered to make an active transportation connection to the future MacKay bridge; this project does not prevent any known connection opportunities.

**Requesting the Mayor write the relevant Federal Ministers regarding an extension to accommodate these changes**

Given the recommendations of this report, a letter has been drafted to the Federal Minister for the Mayor's signature to request additional funding support from the Federal government to restore the original contract funding proportions of the NTCF agreement.

**Provide an analysis of what increased vehicle traffic capacity will mean on mode share given induced demand.**

Induced demand refers to the manner in which people’s travel choices change based on how safe, costly, and convenient the options available to them are to use. The safer, cheaper, and/or more convenient you make it to travel by a specific mode, the more likely people are to use that mode. This applies equally to walking, rolling, cycling, transit, and driving. It is difficult to accurately forecast the impact of induced demand. However, the functional design achieves the goals of the project to varying degrees for each mode:

- New connections for walking and rolling have been established through the study area. Intersection designs will be optimized to reduce crossing distances, address existing safety concerns, and provide buffer space between people walking and vehicular traffic. No safe cycling infrastructure currently exists within the study area. The project will establish cycling infrastructure that separates people on bikes from vehicular traffic within the study area and will eventually connect to protected facilities in all directions
- Transit travel time and reliability will be improved through implementation of inbound transit priority measures
- Travel time for goods movement vehicles will be significantly reduced with the general capacity improvements provided by the proposed functional design
- The functional design separates significant vehicle flows from intersections to reduce delays for all vehicles in general purpose lanes (i.e., trucks, outbound buses, and cars)

While there will be increased capacity to move more people in cars through the interchange, this also comes with improvements in travel time, reliability, and capacity to move more people in buses as well as improvements to safety and convenience for people walking, rolling, and cycling. The improvements to walking, rolling, cycling, and transit infrastructure should also induce more people to travel through the area via sustainable modes.

**FINANCIAL IMPLICATIONS**

The Phase 1 Progressive Design Build contract for design and early works, valued at \$9.4 million, has been awarded to Dexter Construction. Detailed project costs will be refined during this phase. A proposal for Phase 2 (construction) with an updated cost proposal will be submitted for review. HRM has the contractual ability to decline this proposal and proceed with the construction through a traditional tendering process.

**Table 2: Proposed Project Budget and Cost Sharing Arrangement on the Windsor Street Exchange Project**

	Original Budget (2019)		June 2024 Budget		Proposed Budget (January 2025)	
Transport Canada (NTCF)	\$23,500,000	50%	\$23,500,000	23%	\$23,500,000	16%
Halifax Regional Municipality *	\$10,750,000	23%	\$30,115,000	29%	\$53,750,000	36%
Province of Nova Scotia	\$10,750,000	23%	\$10,750,000	10%	\$10,750,000	7%
Port of Halifax*	\$2,000,000	4%	\$2,000,000	2%	\$2,000,000	1%
Halifax Water	N/A	N/A	\$37,500,000	36%	\$60,000,000	40%
<b>Total Estimated Project Costs</b>	<b>\$47,000,000</b>	<b>100%</b>	<b>\$103,865,000</b>	<b>100%</b>	<b>\$150,000,000</b>	<b>100%</b>

\*The funding from the Port of Halifax is offset by a \$2,000,000 HRM contribution to a complementary Port of Halifax project supporting goods movement.

The most recent project cost estimate is \$150 million, based on a preliminary, Class 'D' construction estimate with a 25% contingency. This was updated in collaboration with the Design Build Team. The current budget includes design fees, property acquisition, construction costs, and also includes the costs for Halifax Water's planned capital work. The cost-sharing agreement with Halifax Water is still being finalized as is Halifax Water's approval to proceed from the Nova Scotia Utility and Review Board. The values of cost sharing from the NTCF, the Port of Halifax and the Province are fixed based on the original agreement; per the agreement, any additional costs are the responsibility of the Municipality.

The increase in costs to HRM is largely due to inflation, additional costs of the new overpass structure, material costs, traffic control, and construction of temporary roads/detours. The updated project costs are reflected in the proposed 2025-2026 Capital Budget, which will be subject to a separate approval.

The project design continues to be confirmed and refined. Project estimates may change, however current estimates are becoming more accurate through the progressive design build process with our designers and contractors. Further substantial estimate deviations are not currently anticipated.

### **ALTERNATIVES**

1. Regional Council could choose not to proceed with the Windsor Street Exchange Redevelopment project and direct staff to cease further design efforts and release their retained consultants and staff. The implications of this alternative would be:
  - a. The Municipality would forgo \$34.25 Million in combined funding from the Federal and Provincial governments.
  - b. Key active transportation connections and transit performance improvements would not be made.
  - c. Port access and general traffic performance would remain unchanged and further degrade over time.
  - d. Critical Halifax Water capital projects would have to proceed separately, negating cost-sharing benefits and reduction to construction impacts to the public. Those budgets could then be used for other capital priorities.
  - e. The Municipality would be required to fund the costs to date for design, consultants and other works without any cost sharing from other parties.

### **LEGISLATIVE AUTHORITY**

The *Halifax Regional Municipality Charter*, S.N.S. 2008, c. 39, provides:

61(5) (A) The Municipality may acquire property, including property outside the Municipality, that the Municipality requires for its purposes or for the use of the public;

73 The Municipality may enter into and carry out agreements (a) for highway construction, improvement and maintenance and other purposes pursuant to the *Public Highways Act*.

322 (1) The Council may design, lay out, open, expand, construct, maintain, improve, alter, repair, light, water, clean, and clear streets in the Municipality.

Administrative Order One – The Procedure of the Council Administrative Order

4. (1) The proceedings of the Council, Community Council, and committees of the Council shall be governed by this Administrative Order unless an Administrative Order, by-law or provincial enactment provides otherwise.
- (2) Notwithstanding subsection (1), any one or more of the rules of procedures contained herein except for sections 5 and 41 and subsections 12(5) and 59(3) may be suspended by Council, Committee of the Whole, Community Council or a Standing Committee by the affirmative vote of two-thirds (2/3rds) of the Members present and voting.

(3) A Committee, other than a Standing Committee or Committee of the Whole, may only suspend the rules of procedure respecting the number and length of time a person may speak pursuant to clause 45(1) (d), section 83 and subsection 131(1).

This report also complies with *Halifax Regional Municipality Charter*, S.N.S. 2008, c. 39, Part VIII, Planning & Development.

**ATTACHMENT**

None

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If the report is released to the public, a copy can be obtained by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

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