



City of Richmond

Report to Committee

To: General Purposes Committee
From: Lloyd Bie, P.Eng.
Director, Transportation
Date: July 10, 2025
File: 10-6500-04/2025-Vol
01
Re: Moray Bridge Replacement Planning Study Update

Staff Recommendation

That the comments as described in the staff report titled "Moray Bridge Replacement Planning Study Update" dated July 10, 2025, from the Director, Transportation, be endorsed and forwarded to the Ministry of Transportation and Transit.

for
Lloyd Bie, P.Eng.
Director, Transportation
(604-276-4131)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Intergovernmental Relations & Protocol Unit	<input checked="" type="checkbox"/>	
Real Estate Services	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

In 2022, City Council endorsed the Ministry of Transportation and Transit's (MoTT's) submission of the Moray Bridge Planning Study (the "Planning Study") for funding consideration through the Government of Canada's National Trade Corridors Fund. MoTT was successful in their application and commenced the planning study in 2023. The Federal government grant requires the study to be completed by the end of 2025.

MoTT has developed various bridge crossing options and long-term strategies to improve traffic performance along the Bridgeport Road and Sea Island Way corridors that connect Highway 99 to Sea Island and is seeking feedback. A Memo to Council distributed on May 21, 2025, provided a status update of the Moray Bridge Planning study along with staff comments provided to MoTT.

At the June 16, 2025, General Purposes Committee meeting, following a staff presentation, discussion ensued regarding the following additional information:

- (i) A detailed report outlining the various bridge replacement and road network options;
- (ii) The potential rationale for and concerns regarding MoTT's recommendation of closing the No. 4 Road exit from Highway 99;
- (iii) The timeline of MoTT's planning study and next steps;
- (iv) The improvement of lane utilization at Garden City Way with road network option 2;
- (v) The jurisdiction of Highway 99, which staff advised falls under the authority of MoTT; and
- (vi) The benefit of infrastructure such as flyovers.

This report addresses the request for additional information.

This report supports Council's Strategic Plan 2022-2026 Focus Area #2 Strategic and Sustainable Community Growth:

Strategic and sustainable growth that supports long-term community needs and a well-planned and prosperous city.

This report supports Council's Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

Community safety and preparedness through effective planning, strategic partnerships and proactive programs.

Analysis

Planning Study Overview

The impetus for the Planning Study is the aging Moray Bridge, built in 1957 which is nearing the end of its service life.

Opening the swing bridge for marine traffic causes congestion and delays for eastbound road users. Malfunctioning of the swing bridge equipment further undermines travel time reliability, adversely affecting traffic flow and goods movement.

The study identifies potential bridge replacement options and informs Provincial infrastructure investments. The options generated through this study are high-level and includes strategies to replacing the existing swing bridge and improving connectivity between Sea Island, YVR, and Highway 99 along Bridgeport Road and Sea Island Way (Figure 1).

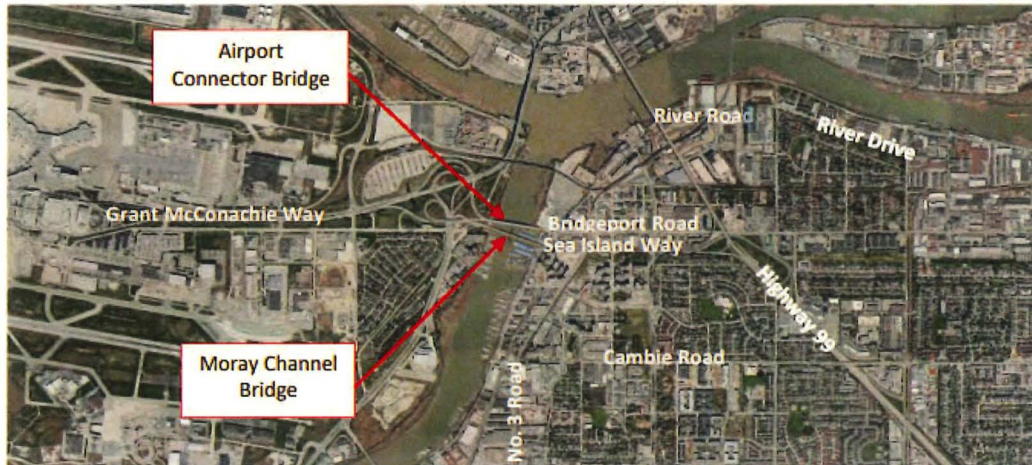


Figure 1: Study Area

Study Progress

The project began in 2023 with preliminary work to establish the study scope and identify opportunities for corridor improvements. The Planning Study is currently developing options for the new bridge alignment and strategies for road network improvements. More detailed technical work, including review of impacts and design development would need to be undertaken by MoTT prior to this project receiving funding.

Bridge replacement is the priority for MoTT; while road network options are longer term ideas in anticipation of future regional growth and goods movement along the Bridgeport and Sea Island Way corridors. MoTT has not provided any commitment to advance this process beyond the existing planning phase.

Opportunity to Advance City Objectives

The planning study provides opportunity for City interests related to the crossing and the surrounding road network to be identified at an early stage. Key opportunities for the City include:

- **Road Network:** Minimizing the impacts of regional traffic on City streets. The project also offers opportunities to enhance road safety, connectivity, traffic optimization, intersection modifications and upgrades to walking, cycling and transit facilities and other improvements contributing to a more attractive public realm.

- **Flood Protection:** Dike upgrades in accordance with the City's Dike Master Plan.
- **Middle Arm Greenway:** Expand the Middle Arm Greenway and improve the multi-use path under the bridge approaches linking Bridgeport Village with Capstan Village and other City Centre neighborhoods.
- **Area Development:** Support development as envisioned in the City Centre Area Plan and under the Province's Transit Oriented Areas (TOA) legislation (Bill 47), including higher density residential development in Capstan Village and The Oaks neighbourhood (in the West Cambie Area Plan).

Jurisdictional Boundary

Figure 2 highlights that the Moray Bridge and key roads in the study area are within the MoTT's jurisdiction.



Figure 2: MoTT Jurisdictional Map

As some of the bridge options and road network ideas developed by MoTT within their jurisdiction will result in significant changes to the adjacent City road network, MoTT is seeking feedback on these options.

Proposed Options

MoTT has developed three bridge replacement options and three broader road network options and indicated that active transportation facilities will be incorporated into any future infrastructure.

As the bridge replacement is the priority for MoTT, the three bridge replacement options proposed can occur independent of any of the three proposed road network changes. A review of each bridge option and each road network option is described below.

Moray Channel Bridge Options

MoTT has proposed three alignment options to replace the existing swing bridge. All three alignments allow for traffic to be maintained on the existing bridge while a new structure is under construction. Figure 3 illustrates the three proposed bridge alignment options. Additional details of the options are required to confirm the future bridge design aligns with the City's objectives for flood protection and the cycling network.

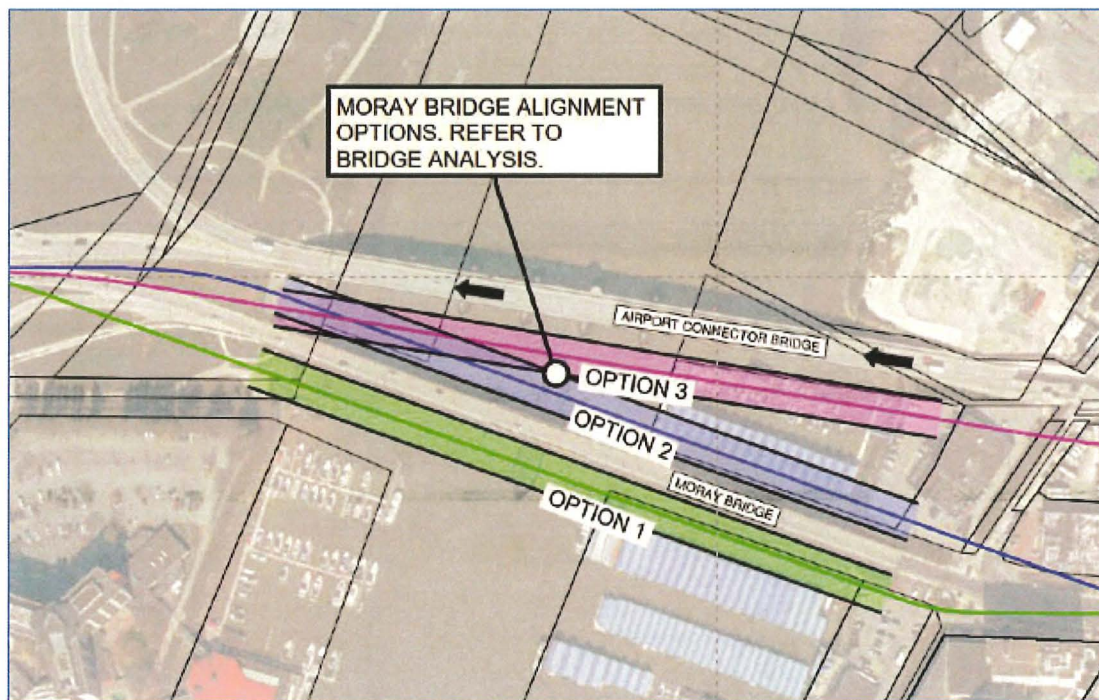


Figure 3: MoTT Proposed Moray Bridge Options

Bridge Option 1 – New Bridge South of Existing: This option will relocate traffic to the south of the existing bridge, moving it closer to existing residential and mixed use buildings. The connection to Sea Island Way for this option will be in a developed and physically constrained area, presenting geometric challenges and feasibility concerns. Accommodating this alignment option will likely have significant impacts on the developed area.

Bridge Option 2 – New Bridge North of Existing: This option addresses the alignment concerns of Option 1 and results in minimal road network adjustments to Sea Island Way.

Bridge Option 3 – New Bridge Aligned with Bridgeport Road: There are several properties that will be impacted by bridge alignment Option 3. As well, this option creates traffic operations and safety impacts with the introduction of an additional intersection on No. 3 Road between Sea Island Way and Bridgeport Road.

Recommended Comments on Bridge Options:

- Additional information and consideration of how the new Moray Bridge will impact public and development properties is required. Based on the conceptual options proposed by the MoTT for the new bridge alignment, Option 2 appears to minimize the property and road network impacts.
- The City's expectation is that the bridge will accommodate active transportation infrastructure in alignment with the City's Official Community and Cycling Network Plans.
- Any project for construction of the bridge structure by MoTT should accommodate and include construction of the adjacent dike in alignment with the City's Flood Protection Management Strategy and Dike Master Plan, and improvements to the Middle Arm Greenway (the multi-use path under the bridge approaches).

Highway 99 to No. 4 Road Exit Ramp

For all road network options, MoTT initially proposed the closure of the No. 4 Road exit from Highway 99 in order to eliminate the short weaving distance on Highway 99 between the Sea Island Way southbound on-ramp and the No. 4 Road off-ramp. Since the staff presentation at the June 16, 2025, General Purposes Committee meeting, MoTT has advised they are no longer pursuing closure of the No. 4 Road exit ramp.

Road Network Options - Sea Island Way and Bridgeport Road Corridors

MoTT has developed three preliminary concepts for potential road network changes along Bridgeport Road and Sea Island Way between Highway 99 and Sea Island.

All road network proposals include new alignments or modifications to existing City roads. While some changes are consistent with the City Centre Area Plan, the City should not bear the costs for road upgrades necessitated by the Ministry of Transportation and Infrastructure's (MoTT) project. MoTT has also identified bus priority areas on City streets that involve reducing general-purpose traffic lanes or eliminating street parking to accommodate these changes. Since all of MoTT's road network proposals will increase traffic on City streets, staff do not support measures that would reduce road capacity.

Review of Road Network Options

Road Option A – Turn restrictions to Existing Road Network: This option restricts turning movements to and from Bridgeport Road to improve westbound traffic flow on the Bridgeport Road corridor. Figure 4 illustrates the major road impacts associated with Road Option A.



Figure 4: Road Network Option A

The proposed turn restrictions will create circuitous detours for some routes that currently have no turn restrictions. The proposal removes direct connectivity for traffic south of Bridgeport Road to access the Airport or Vancouver via Bridgeport Road. Consequently, this option will lead to longer travel times for local traffic.

Road Option B – One-way System on Bridgeport Road and Sea Island Way: This option proposes a one-way couplet system with flyover that would convert Bridgeport Road to one-way westbound and Sea Island Way to one-way eastbound between Highway 99 and Sea Island. Figure 5 illustrates the major road impacts associated with Road Option B.



Figure 5: Road Network Option B

Staff's review indicates the road network does not provide the redundancy required to support a one-way couplet. The proposed one-way system will re-route and increases traffic on other City roads beyond their capacity. This option also proposes to close Gage Road at the Bridgeport Road intersection which will redistribute Costco traffic and intensify usage of other accesses.

Road Option B proposes two locations with grade separated flyovers, one at Sea Island Way westbound to Garden City Road southbound and one at Highway 99 northbound to Bridgeport Road westbound. Flyovers as illustrated in Figure 6 are elevated roadways that are grade separated bridges allowing one road to pass over another without intersecting at the same level. These are typically applied at interchange on/off ramps to highways.



Figure 6: Example of Grade-Separated Flyover

Transportation and urban design considerations of this type of road design include:

- The City Centre Area Plan envisions “complete streets” that serve all users—pedestrians, cyclists, transit, and vehicles and not grade-separated highway style facilities.
- The grade of the ramps being difficult for pedestrians and cyclists to navigate.
- Ramps encourage increased speed of traffic entering City streets.
- The space beneath the structure is often under-utilized, difficult to program or results in an area requiring crime prevention through design interventions.
- Greater property impacts and/or reduction in travel lanes to facilitate columns, abutments and tie-ins to at-grade roads.
- Can impact development potential and residential livability of adjacent properties.
- Visual impacts of the supporting infrastructure negatively impacts the public realm, noise and lighting.

Road Option C – Sea Island Way Regional Connector: This option prioritizes Sea Island Way for regional traffic (Figure 7). A full movement grade separated interchange is proposed at the Garden City Road and Sea Island Way intersection along with a flyover and turn restrictions at the Sexsmith Road and No. 3 Road intersections.



Figure 7: Road Network Option C

This option restricts access to and from No. 3 Road and Sexsmith Road and will concentrate vehicular traffic onto Garden City Road. The introduction of a grade separated major interchange

structure promotes high speeds along Sea Island Way and Garden City Road. The introduction of a major structure that bisects the City Centre area does not align with the urban design goals of the City Centre Area Plan.

Transportation and urban design considerations of an interchange located in City Centre include:

- The City Centre Area Plan envisions “complete streets” that serve all users—pedestrians, cyclists, transit, and vehicles and not highway style interchanges in the City Centre.
- Promotes high speeds and a major structure that bisects the City Centre area.
- Reduced pedestrian and cyclist connectivity due to grade changes.
- Encourages higher speeds along Sea Island Way due to the highway style design.
- Requires property impacts and/or reduction in travel lanes to facilitate design and tie-ins to at-grade roads.
- Can impact development potential, aesthetics and residential livability of adjacent properties.
- Visual impacts of the supporting infrastructure negatively impacts the public realm, noise and lighting.

Recommended Comments on Road Network Options: A summary of staff’s recommended comments on the proposed road network options are:

- The City does not support any of the three road network options proposed by MoTT. The road network options proposed reduces connectivity within the City’s road network and will further divide the City Centre area and impact residential livability. The options proposed do not align with the City’s transportation and urban design goals and objectives. Additional options should be developed and reviewed, including the alternative road network option outlined below.
- The highway style infrastructure proposed creates a visual obstruction and additional traffic noise in City Centre.
- The City recommends that any road network changes contemplated by MoTT do not increase travel distance for local trips within Richmond or redistribute traffic onto City streets. Reduction in general purpose lanes on City streets for bus priority, cargo, etc. is also not supported.
- All road changes proposed by MoTT are to include multi-modal facilities that align with the City’s existing and planned pedestrian and cycling network. North-south connectivity for all modes in the study area should be maintained or enhanced, including cycling connectivity to the Canada Line Bridge.
- Changes to MoTT road network, including upgrades to City roads to support changes to the regional infrastructure, is to be at no cost to the City.
- The City does not support shifting traffic closer to existing residential developments.
- Since the distribution of the Memo to Council in May 2025, the MoTT has advised the closure of the No. 4 Road exit from Highway 99 is no longer being contemplated. However, staff recommend the City does not support the closure preference of retaining the No. 4 Road exit to preserve network efficiency and minimize adverse impacts on local traffic be included in the City comments.

Alternative Road Network Option Proposal – Sea Island Way Corridor

Staff recommend that MoTT further investigate an alternative option that attempts to balance the needs of local and regional traffic. Figure 8 illustrates an option that concentrates the high-volume regional traffic on Sea Island Way with Bridgeport Road serving lower volume local traffic. This alternative option will improve traffic flow and reduce congestion with the provision of:

- An additional storage lane on the Highway 99 southbound on-ramp to improve Sea Island Way eastbound to Highway 99 southbound capacity.
- Additional Highway 99 southbound to Bridgeport Road eastbound off-ramp.
- Additional westbound Bridgeport Road to Sea Island Way connection at the Highway 99 interchange.
- Turning restrictions limited to Sea Island Way and Sexsmith Road to make the roadway easier to cross for pedestrians and cyclists.

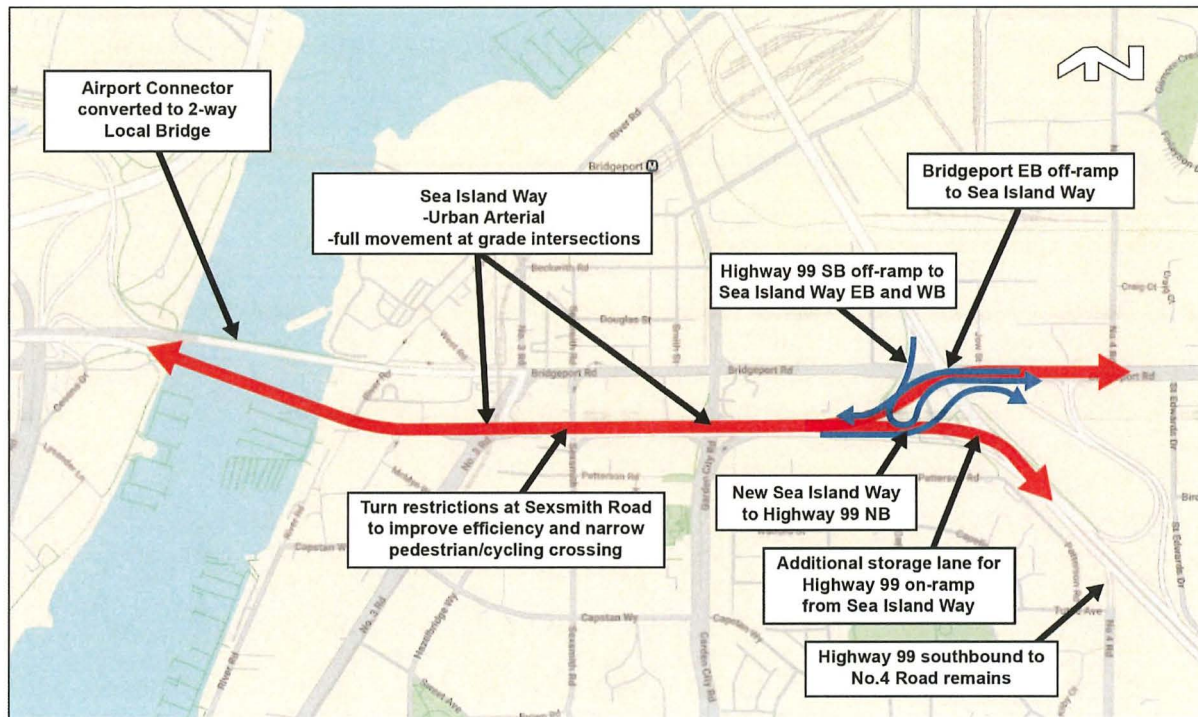


Figure 8: Alternative Option Proposal – Sea Island Corridor

This alternative option attempts to balance both Provincial and City transportation objectives. This alternative option better aligns with the City's mobility and urban design objectives and has the least amount of impact to adjacent properties.

This option proposes grade separated ramps to increase capacity, however, these are proposed near Highway 99, which is more appropriate than the ramps located within Richmond's City Centre.

Staff reviewed both Sea Island Way and Bridgeport Road as the primary regional corridor. Sea Island Way is more appropriate as the main thoroughfare for regional traffic between Highway 99

and YVR compared to Bridgeport Road as Sea Island Way has a significantly wider road dedication and will have less private property impacts.

Next Steps

MoTT advises that the options presented to date represent a point in time and will be refined based on further evaluation and the feedback received from the City. The next step of the planning study is a Multiple Accounts Evaluation (MAE) of the preferred options. Staff have previously provided the above-mentioned comments to the MoTT along with requests for:

- A schedule of the bridge replacement and the broader road network improvements.
- The results of a comprehensive traffic study for all options to the City for review and Council endorsement.
- A plan for public consultation and associated timeline.

Staff recommend that the City provide a letter to MoTT outlining the following comments on the bridge and road network options as described in this report:

	Summary of Comments
General Project	<ul style="list-style-type: none"> • The replacement of the existing swing bridge is the City's priority. Further assessments of options are required before any road network changes are considered. • A schedule of the bridge replacement and the broader road network improvements is requested. • The results of a comprehensive traffic study for all options be submitted to the City for review and Council endorsement. • A plan for public consultation be provided. • Any options developed by MoTT should be independent of the City's road network and not require the City to incur any costs to change its road network as a result. • Any future refinements or new options developed by MoTT are to be consistent with these City comments.
Bridge Alignment Options	<ul style="list-style-type: none"> • Bridge Option 2 is preferred for further study as it minimizes City impacts. • Active transportation is to be incorporated in the bridge design and aligned with the City's Official Community and Cycling Network Plans. • Additional information on the technical feasibility of each bridge option in the context of the existing site conditions is required. • Construction of a new bridge and demolition of the existing bridge must be designed to accommodate dike infrastructure in alignment with the City's Flood Protection Management Strategy and Dike Master Plans and accommodate the Middle Arm Greenway, a multi-use pathway on top of the dike. Additional details demonstrating how pedestrians and cyclists can cross Sea Island Way and Bridgeport Road along River Road as identified in the Official Community Plan are required. • Any projects by MoTT for construction of a new bridge must include upgrade of the adjacent dike in alignment with the City's Flood Protection Management Strategy and the Middle Arm Greenway.
Road Network Options	<ul style="list-style-type: none"> • The City does not support closure of the Highway 99 exit ramp to No. 4 Road. • The City does not support any of the road network changes proposed for Bridgeport Road and Sea Island Way due to the adverse impacts on City

	<p>streets, local traffic within Richmond and residential liveability.</p> <ul style="list-style-type: none"> • Grade separated major infrastructure roads (flyovers or interchanges) in the City Centre are not supported. Grade separation is appropriate for ramps to and from the Highway 99 corridor. • Any improvement warranted to city roads at no cost to the City. • The City requests MoTT provide additional information on roadway changes on Sea Island. • Any options developed by MoTT should not significantly increase travel distance for local trips within Richmond and minimize redistribution of traffic on City streets. • Reduction of general purpose lanes on City streets (e.g. for bus and cargo priority) is not supported. • All road changes proposed by MoTT are to include multi-modal facilities that align with the City's existing and planned pedestrian and cycling networks. North-south connectivity for all modes in the study area to be a key consideration, including cycling connectivity to the Canada Line Bridge. • The City's alternate corridor improvement option is to be further reviewed, and the results of the assessment provided to the City.
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The Moray Bridge Replacement Planning Study is anticipated to be completed in Winter 2025.

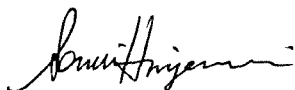
Financial Impact

None.

Conclusion

The Ministry of Transportation and Transit is conducting a planning study for the Moray Bridge Replacement and is requesting comments on options for a new bridge alignment as well as potential corridor changes for Bridgeport and Sea Island Way. The City's participation in the study helps leverage opportunities to advance City priorities and protect the City's interests. Staff will continue participating in MoTT's planning study and provide feedback on option refinements that align with City interests, along with the recommended City comments presented in this report.

The Planning Study will inform future Provincial infrastructure investments; however, timing and phasing are dependent on funding availability. There is no commitment by MoTT for future phases of work or funding.



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