

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY:

Original Signed by 

Jacques Dubé, Chief Administrative Officer

DATE: September 20, 2022

SUBJECT: **Mill Cove Ferry Service – Phase 1 Completion**

ORIGIN

May 26, 2020 Regional Council motion (Item 9.1.7):

MOVED by Councillor Nicoll, seconded by Councillor Mason

THAT Regional Council:

1. Suspend the rules of procedure under Schedule 3, the Community Planning and Economic Development Standing Committee Terms of Reference, and under Schedule 7, the Transportation Standing Committee Terms of Reference, of Administrative Order One, the Procedures of the Council Administrative Order.
2. Approve the Rapid Transit Strategy described in the staff report dated May 6, 2020 and direct the Chief Administrative Officer to:
 - a. Develop an implementation plan including resourcing, functional planning, land acquisition strategy, and long-term capital planning, subject to securing external funding; and
 - b. Consider the application of mechanisms that preserve opportunities to accommodate transit infrastructure within the public right-of-way (e.g., transportation reserves, increased front yard setbacks), in the ongoing review of the Regional Municipal Planning Strategy and other planning documents as applicable;
3. Approve the Electric Bus Proposal described in the staff report dated May 6, 2020 and direct the Chief Administrative Officer to commence with the acquisition of low carbon emission public transit buses, subject to securing external funding;
4. Direct the Chief Administrative Officer to submit both the Rapid Transit Strategy and Electric Bus Proposal for funding through the Federal Government's Public Transit Infrastructure Fund and the Green Infrastructure Fund, as well as any additional stimulus funding streams that may become available.

5. Authorize the Mayor to send a letter of support for both the Rapid Transit Strategy and Electric Bus Proposal to the Province of Nova Scotia to stimulate discussion regarding the benefits and potential funding for these projects.

MOTION PUT AND PASSED

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, R.S.N.S. 2008, c.39:

Public transportation service

69 (1) The Municipality may provide a public transportation service by

- (a) the purchase of vehicles or vessels and operation of the service;
- (b) providing financial assistance to a person who will undertake to provide the service; or
- (c) a combination of these methods

Municipality and village services agreements

74 (1) The Municipality may agree with one or more municipalities, villages, service commissions, the Government of the Province or of Canada or a department or agency of either of them or a band council pursuant to the Indian Act (Canada) to provide or administer municipal or village services.

RECOMMENDATION

It is recommended that Regional Council direct the CAO to submit a funding application to the Investing in Canada Infrastructure Program (ICIP) for the implementation of Mill Cove Ferry Service, based on the “Reduced Case” investment scenario described in this staff report.

EXECUTIVE SUMMARY

Based on a 2020 Feasibility Study of the Halifax Transit Harbour Ferry Services, a high-level cost estimate was developed as part of the ICIP Application for Phase 1 of the Mill Cove Ferry Service Project; the initial costs were estimated to be approximately \$120M. Phase 1 consists of a series of studies and conceptual plans accompanied by updated cost estimates for the Mill Cove ferry service. In the summer of 2021, the Phase 1 studies were initiated. An analysis for the terminals and associated marine infrastructure and initial vessel specifications was completed in the spring of 2022 culminating in a revised cost estimate of \$288M for the service.

Recognizing that the updated cost estimate was substantially higher than the initial cost estimate developed as part of the ICIP application, the Phase 1 project team developed options to reduce the estimated capital cost referred to as a “Reduced Case” and a “Do-Minimum Case”. The remainder of this report provides an explanation of the increase in the cost estimate from \$120M to \$288M and a description of what the trade offs are used to arrive at the Reduced Case and the Do-Minimum Case.

BACKGROUND

A ferry from Mill Cove (Bedford) to Downtown Halifax has been discussed and explored for several years. The Municipality’s commitment to expand the existing ferry service and add the Mill Cove route was solidified in the Rapid Transit Strategy (RTS), adopted in May 2020. The RTS ferry ridership, capital and operating cost estimates for the expanded ferry service were based on a 2020 study titled, *Expansion of Halifax Transit Harbour Ferry Services: Technical Feasibility Review*. The study assumed the expanded

service would be provided by conventional diesel vessels as zero-emission vessel technology did not appear to be viable at that time.

The final capital cost estimates for the ferry service identified in the RTS ranged from \$108M to \$125M for terminals and vessels (10) for all three new ferry routes (Mill Cove, Larry Uteck, and Shannon Park). The estimated cost for the Mill Cove as a standalone service was \$51M to \$63M. The ranges reflected options to integrate terminal infrastructure into concurrent development which was an assumed possibility at both Mill Cove and Shannon Park. This estimate excluded any site access costs at Mill Cove.

Subsequently, in preparation for an application for ICIP funding, staff prepared a high-level conceptual cost estimate to reflect a possible zero-emission Mill Cove ferry service. The estimate at that time assumed four vessels, terminals at both Halifax and Mill Cove, and an above grade access from the Bedford Highway. The high-level costs were estimated at \$120M at that time. This amount did not include external project management and property acquisition costs. Staff communicated that there was a high degree of uncertainty related to these costs as staff were not able to identify any high speed, zero-emission vessels in operation at that time. Due to this uncertainty and overall project complexity, municipal and provincial staff agreed to proceed with a phased approach to the project to better understand the costs and feasibility of a zero-emission service via a series of studies.

In June 2021, the Municipality received funding confirmation for these Phase 1 studies including: a vessel technology study, terminal concept designs, site concept design, a market analysis, metocean/visibility analysis, and a climate lens assessment. The application for funding for Phase 2 has a firm deadline of November 30, 2022.

DISCUSSION

The Phase 1 studies have now advanced to a point where the consultant teams have provided preliminary capital cost estimates. These preliminary cost estimates are substantially higher than previously anticipated, at approximately \$288M. The cost escalation can partially be attributed to the zero-emission service, 2022 construction costs which have seen a steep increase over the last two years, and an increase in the project scope. Recent work has also determined that the 2020 cost estimates omitted some key costs such as mobilization, demobilization, pre-construction management, temporary facilities, demolition, and additional site preparation.

While there is a premium for a fully electric service, it is only estimated to account for approximately \$35M over and above the initial capital costs of a conventional diesel service. The additional costs include a premium for electric vessels, charging and e-house infrastructure, and extra vessels to provide the recommended service frequency due to charging dwell time. There are, however, operating cost savings as the cost of the electric service is projected to be approximately 2.5 times lower than conventional diesel vessels.

The following provides a description of the core components of the ferry service and key differences from previous cost estimates.

Vessels

- The RTS assumed four diesel vessels would be required to provide the desired level of service (three operational; one spare).
- The move to a fully electric service requires five to six vessels to provide the same level of service due to charging dwell time.

Halifax Ferry Terminal

- The RTS assumed that the Halifax Ferry Terminal would need to be rebuilt as the existing terminal is nearing the end of its life expectancy.
- It was originally estimated that the new terminal would require approximately 16,000 square feet with two additional berths to provide sufficient capacity to launch all three high speed ferry routes identified in the RTS (Mill Cove, Shannon Park, and Larry Uteck).
- Additional marine infrastructure has been identified through the Phase 1 studies, partly due to provision of electric vessels. This included the increase from two to four new berths for future proofing, and the terminal building increased in size from 16,000 square feet to 28,000 square feet.
- Temporary facilities will be required for the existing ferry services during the construction of the new terminal, the cost for which is included in the updated cost estimate.

Mill Cove Ferry Terminal

- A new Mill Cove Ferry Terminal was always required to launch the service, but the RTS estimate was based on a modest terminal. It was previously estimated the new terminal would require approximately 3,000 square feet of dedicated space in a multi-use building (not including shared space/mechanical custodial rooms etc.)
- Numerous municipal business units and Halifax Public Libraries (HPL) were engaged on this new potential facility as part of the Phase 1 scope. HPL and Halifax Regional Fire and Emergency (HRFE) expressed interest in co-locating facilities; for a new fire and marine station to replace the existing Bedford Fire Station#8 on Convoy run; HPL staff expressed interest in an integrated ferry terminal / satellite library facility; HRFE expressed interest in a berth for a future fire boat. Please note, cost estimates below reflect only the Mill Cove Ferry Service project costs, and do not include the funding required for the inclusion of library space or a co-located fire station; however, as additional berthing space for an HRFE vessel directly impacts the marine requirements, that cost of that space is included in the base case costs.
- Additional requirements to provide ferry operations administration space, protected vessel berthing during storms for the new ferry fleet, and capacity for light maintenance at the Mill Cove Terminal were also identified through the Phase 1 studies.
- Collectively, the program of the Mill Cove Ferry Terminal increased to a 30,000 square foot building, with six berths, an HRFE vessel berth, and a breakwater structure.
- While the total terminal building is estimated at 30,000 square feet, the building area is split between ferry operations and HPL, and does not include a new fire station. The ferry terminal functions of the building account for approximately 15,000 square feet. In comparison to the original estimates, this includes increases to public waiting areas/washrooms/circulation based on the need for passengers to concurrently load/unload and future proofing for additional service/higher passenger volumes. It also accounts for space required for electrical charging infrastructure, mechanical/custodial rooms, bicycle storage, administrative space/crew rooms, a public information area, and allows for some contingency for net zero or electric infrastructure requirements.

Mill Cove Site Access and Circulation

- Initial cost estimates were prepared with uncertainty about the location of this terminal, and site access was unknown. The current estimates reflect the terminal being located on undeveloped and currently inaccessible lands, and therefore project costs include the development of the site access and circulation, including an above grade access over the CN rail line.
- These costs were estimated at a very high level during the Phase 1 funding application but given the limited data availability and preliminary nature of the estimate there was a high degree of uncertainty in the costs.

- The Phase 1 terminal package has advanced the level of detail for this component and have identified options for raising and grading the Mill Cove lands, above grade access, Park & Ride facilities, and road and active transportation facilities.

Capital Cost Estimates

Given the escalated capital cost estimates, the team explored a range of capital infrastructure scenarios. Three capital cost scenarios were developed, including a base case (i.e., highest capital cost), a reduced case which balanced cost savings with operational requirements, and a do-minimum or lowest infrastructure cost scenario which identifies the absolute minimum infrastructure required to launch the service. A brief description of each scenario and relative advantages and disadvantages of each is provided in Table 1.

Table 1: Capital Cost Scenarios

Scenario	Components	Scenario Details	Considerations (Advantages / Disadvantages)
Base Case (\$288M)	Halifax Ferry Terminal	<ul style="list-style-type: none"> 2 new berths for existing service 4 new berths for future service New full-sized building (28,000 ft²) 	<ul style="list-style-type: none"> Allows for terminal to be constructed at new elevation (provides protection from sea level rise and storm surge) Provides capacity for all identified high speed service (future proof's terminal investment)
	Mill Cove Ferry Terminal	<ul style="list-style-type: none"> 6 berths for Mill Cove service HRFE fire boat berth New full-sized building (30,000 ft²) but costs are only included for the ferry operations portion (15,000 ft²) 	<ul style="list-style-type: none"> Provides sheltered harbour for full Mill Cove vessel fleet Provides additional space to allow for routes to serve terminal (additional future proofing) Significant capital cost
	Mill Cove Site Access and Circulation	<ul style="list-style-type: none"> Fill the full site for future development Two access ramps Full road and AT connections on site Multi-storey parking structure for Park & Ride 	<ul style="list-style-type: none"> Provides infrastructure on site for future uses / development Significant capital cost

Scenario	Components	Scenario Details	Considerations (Advantages / Disadvantages)
Reduced Case (\$215M)	Halifax Ferry Terminal	<ul style="list-style-type: none"> 2 new berths for existing service 3 new berths for future service Reduced terminal building size (~21,000 ft²), mainly from reduced waiting space, still allows for future proofing 	<ul style="list-style-type: none"> Allows for terminal to be constructed at new elevation (provides protection from sea level rise and storm surge) Provides capacity for additional high-speed service (future proof's terminal investment) May need to add fourth berth for high-speed service in future
	Mill Cove Ferry Terminal	<ul style="list-style-type: none"> 5 berths for Mill Cove service No HRFE fire boat berth Reduced terminal building (reduced to 11,000 ft²) Reduced size of building for light maintenance 	<ul style="list-style-type: none"> Reduced administration space Reduced passenger waiting areas to code minimum Removed space for HRFE fire boat berth
	Mill Cove Site Access and Circulation	<ul style="list-style-type: none"> Fill the full site for future development Single access ramp Reduced road and AT connections on site (AT connections will be to the terminal only, not around the circumference of the site) Surface lot for Park & Ride (paved) 	<ul style="list-style-type: none"> Provides some degree of site readiness for future development Second ramp likely required in future, but could happen in conjunction with future development Potential for future parking structure as part of development
Do-Minimum Case (\$169M)	Halifax Ferry Terminal	<ul style="list-style-type: none"> 2 new berths for existing service 2 new berths for Mill Cove service Renovation of existing building with addition for the Mill Cove service 	<ul style="list-style-type: none"> Would not provide space for additional routes (no future proofing) Terminal building would be vulnerable to flooding (sea level rise and storm surge)
	Mill Cove Ferry Terminal	<ul style="list-style-type: none"> 4 berths for Mill Cove service No HRFE fire boat berth 	<ul style="list-style-type: none"> Mill Cove Terminal would not have sufficient capacity to shelter the full fleet;

	<ul style="list-style-type: none"> Reduced terminal building (reduced to 4,000 sq ft) No ferry maintenance berth Maintenance building is removed 	<ul style="list-style-type: none"> two vessels would need to be berthed at Halifax Ferry Terminal and shelter elsewhere during storms Quality of finish reduced Removed space for HRFE fire boat berth Reduced administration space
Mill Cove Site Access and Circulation	<ul style="list-style-type: none"> Site fill only for terminal Single access ramp Minimal road construction Gravel AT facilities on site to terminal only, not to full site Surface lot for Park & Ride (gravel) 	<ul style="list-style-type: none"> Second ramp likely required in future, but could happen in conjunction with future development Limited site readiness for future development

Study Results

The market analysis provides ridership estimates projected to 2055. However, there is more confidence in the near-term estimates, therefore, only the ridership estimates for 2026 and 2031 are presented below. The longer-term ridership could potentially be much more significant, particularly if the remainder of the site or adjacent properties are developed in a way that supports transit use. This potential population/employment growth has not been factored in below, as there is uncertainty around the development, and it may only occur following the launch of the ferry service and not be realized in the 2026-2031 timeline.

Table 2 outlines the estimated peak hour and total daily ridership for 2026 and 2031.

Table 2: Peak Hour, Daily and Annual Estimated Ridership

Period	2026	2031
¹ Halifax to Bedford (PM Peak Hour)	570	700
Bedford to Halifax (PM Peak Hour)	70	80
Total Peak Hour Ridership	640	780
Daily Ridership	3,080	3,770
Annual Ridership	771,000	942,000

The most recent market analysis findings generally align with the 2020 total daily ridership estimates. As outlined in Table 3, a portion of the anticipated users of the Mill Cove ferry service in the short term would be existing transit users who choose ferry service over existing bus service.

Table 3: Daily Estimated Ridership by Mode Type

Forecast Year	Passengers (existing drivers)	Passengers (existing transit users)	Total
2026	1,280 (42%)	1,800 (58%)	3,080
2031	1,400 (37%)	2,370 (63%)	3,770

The project management consultants have prepared a business case that integrates the results to date from the Phase 1 studies. This includes capital infrastructure costs, operating and maintenance costs, estimated ridership and revenue, multiple fare options, phasing and quantitative financial benefits identified through a comprehensive benefits case.

One phasing option analyzed assumed a premium fare equivalent to Regional Express service, which is a \$4.25 cash fare (average fare² per passenger of \$2.84). In this scenario, the ferry service would be launched at a 15-minute frequency and could be increased to 12-minute frequency based on demand. A second phasing option analyzed assumed a higher cash fare of \$5.00 (average fare of \$3.50) which

¹ Directional ridership in this table is shown at PM peak hour, at which time the primary trip pattern would be commuters returning to their residence.

² Average fare differs from and is lower than cash fare because it assumes a portion of fares are purchased at discounted rates as monthly passes, tickets, seniors fares etc. All fares are based on 2022 values and do not account for future fare adjustments.

balances revenue generation with ridership. In this scenario, the service could also be launched at a 20-minute frequency and be further increases to a 15-minute frequency, or a 12-minute frequency based on demand. In any scenario, increasing service beyond a 12-minute frequency would require additional infrastructure (berths and charging infrastructure) that may be prohibitively expensive to implement.

The most significant financial benefits captured in the business case include the estimated residual infrastructure and land value, and land value uplift near the proposed Mill Cove Ferry Terminal. Additional benefits include the incremental revenue from new transit users, quantified travel time savings, reduced greenhouse gas emissions, and reduced vehicle accidents.

The combination of the three capital investment scenarios and two fare options described above produced a total of six business cases. Table 4 provides a summary of the business case outputs; parameters include initial capital costs, annual operating costs, anticipated cost recovery, and the net present value (NPV) of the project costs and benefits over time. A net present value and benefit-cost ratio (B/C ratio) is also provided for each case scenario at the bottom of the table. Note, the business case does not include the cost of any land acquisition.

Table 4: Business Case Outputs

Capital Build-Out Option:	Base Case Infrastructure		Reduced Case Infrastructure		Do-Minimum Infrastructure	
Option	A	B	C	D	E	F
Avg. One-way Trip fare	\$ 2.84	\$ 3.50	\$ 2.84	\$ 3.50	\$ 2.84	\$ 3.50
Ferry Capacity						
Year Capacity Exceeded	2045	2052	2045	2052	2045	2052
Capital Costs	\$ 287,500,000	\$ 287,500,000	\$ 215,000,000	\$ 215,000,000	\$ 169,000,000	\$ 169,000,000
Vessel Capital Cost	\$ 53,500,000	\$ 53,500,000	\$ 53,500,000	\$ 53,500,000	\$ 53,500,000	\$ 53,500,000
Halifax Terminal Cost	\$ 97,000,000	\$ 97,000,000	\$ 79,500,000	\$ 79,500,000	\$ 49,000,000	\$ 49,000,000
Mill Cove Terminal and Site Cost	\$ 137,000,000	\$ 137,000,000	\$ 82,000,000	\$ 82,000,000	\$ 66,500,000	\$ 66,500,000
Annual Costs						
Average Operating Costs	\$ 6,500,000	\$ 6,100,000	\$ 6,200,000	\$ 5,700,000	\$ 5,950,000	\$ 5,500,000
Average Revenue	\$ 1,480,000	\$ 1,850,000	\$ 1,480,000	\$ 1,850,000	\$ 1,480,000	\$ 1,850,000
Cost Recovery	23%	30%	24%	32%	25%	34%
Present Value of Project Costs	\$ 539,000,000	\$ 524,000,000	\$ 454,000,000	\$ 439,000,000	\$ 398,000,000	\$ 383,000,000
Present Value of Benefits	\$ 309,000,000	\$ 312,000,000	\$ 277,000,000	\$ 280,000,000	\$ 257,000,000	\$ 260,000,000
Total PV of Benefits	\$ 309,000,000	\$ 312,000,000	\$ 277,000,000	\$ 280,000,000	\$ 257,000,000	\$ 260,000,000
Indices						
Net Present Value	(\$229,975,000)	(\$212,181,000)	(\$176,919,000)	(\$159,125,000)	(\$140,709,000)	(\$122,915,000)
B/C Ratio	0.57	0.60	0.61	0.64	0.65	0.68

As evident above, the B/C ratio is less than 1.0 for all options. A ratio of less than one means the project's costs appear to outweigh the benefits; however, in cases where all options are less than 1.0, there is value in considering the score relative to the other options. There are broader, largely qualitative benefits that have been identified through a comprehensive benefits case such as the longer-term changes in land use, economic stimulus from large construction projects, and environmental and social benefits of a new, zero-emission transit service, that would bring the benefit/cost ratio closer to a positive scenario.

Reduced Case

The recommended option is Option D above, the "Reduced Case" with a single cash fare of \$5.00 (average fare of \$3.50), which is estimated to have a capital cost of approximately \$215M. At the present time, direction is required on the capital investment only, and a final decision on the fare value can be confirmed by Council as the service launch approaches.

This option includes reducing the overall size of the terminals at Mill Cove and Halifax, a surface parking lot at Mill Cove (as opposed to a multi-level parking structure), reduction of maintenance and administration space at Mill Cove, and reduced street and active transportation costs at Mill Cove. This option balances cost savings with future proofing of service, climate change adaptations, and level of service to the public.

As well, there may be options in the future to further improve facilities aligned with development (ie, construction of a parking structure and additional active transportation facilities in conjunction with future residential development).

Although the Do-Minimum option does perform the best with regards to the NPV and B/C ratio, it introduces significant risks around climate change and sea level rise which could threaten this substantial investment at Halifax Ferry Terminal. The Do-Minimum option would also prevent any further expansion of the ferry service (i.e., Shannon Park or Larry Uteck routes). Both risks introduce the potential that the municipality would need to make additional investments at Halifax Ferry Terminal in the future.

FINANCIAL IMPLICATIONS

Budget Overview

The total Phase 2 project costs were previously estimated at approximately \$120M, which has resulted in ICIP funding for Phase 2 being notionally earmarked by all three orders of government at that level.

The “Reduced Case” being recommended is estimated at \$215M. This cost is approximate and continues to be refined in preparation for the final ICIP funding submission.

In addition to the funds already earmarked for Mill Cove Ferry Service, approximately \$107M in additional Federal ICIP funding remains available, currently earmarked for Phase 2 of the Burnside Transit Centre Eco-Rebuild. The Burnside Transit Centre project could alternatively be partly funded under a newer program, the Zero Emission Transit Fund to allow for the allocation of more federal funding to the Mill Cove Ferry Service project.

The Province of Nova Scotia previously earmarked approximately \$40.3M to this project, and it is unlikely that the provincial contribution will increase to reflect the revised cost estimate. As such, it would account for approximately 19% of the project costs, rather than the full 33%.

The previously estimated municipal cost for capital/infrastructure for the Mill Cove Ferry Service Phase 2 project was \$32.3M. The proposed alternative would see this contribution rise to approximately \$57.3M, if all other funding agencies have the capacity to increase their portion, and \$88.7M if the provincial portion does not increase proportionally.

Corporate Considerations

This additional funding would be incorporated into future capital budgets. HRM would need to fund the potential \$57.3M - \$88.7M by increased capital from operating or debt financing, both of which imply increases to both general and or transit rates. In practice, HRM would likely not raise \$89M for this project via the general and transit rates in one-year. This is to illustrate how substantial this net expenditure is given it is outside of the Capital Budget outlook.

HRM's debt policy is flexible but must be used for projects that are:

1. Eligible for debt proceeds under the Financial Reporting and Accounting Manual (FRAM), accounting regulations set out under the Halifax Charter
2. Considered within the larger capital budget prioritization framework and approved as part of the annual Capital Budget process.

HRM's incremental debt issuance capacity is set to \$30M per year plus growth in dwelling units and prior-year NS-CPI. If this project were approved within the capital budget framework, this would account for *three* years of incremental debt capacity.

Determining the appropriate composition of funding should be done within the *larger budget approval process*. Uncertainty related to federal and provincial cost-sharing does not alter Finance's view that using debt proceeds, current year revenues (general and transit taxes) or some combination thereof will further restrict budget capacity to fund other projects.

Estimates are not available for land costs currently. Land costs are not eligible for cost sharing, and land not put into municipal service cannot be debt financed. Land acquisition costs for this project are not currently included in the 10-year capital plan. Any required land acquisition costs required for this project would result in an increase to taxes or a deferral to other previously prioritized projects.

The annual operating costs of the service are estimated at \$5.7M to \$6.2M, depending on the ridership demand and frequency of the service (2022 values). The annual revenue is estimated at \$1.5M to \$1.9M, depending on fares, level of service and so on.

It has also been communicated to municipal staff that if HRM does not apply for Phase 2 funding, HRM may not be reimbursed for the cost shared portions of the Phase 1 studies. This could represent an approximate \$2M loss in cost shared funding.

RISK CONSIDERATION

The following risks have been identified above, but are summarized below as well:

Risk	Description
Reduction in Provincial cost sharing	Should the Provincial government not have sufficient funding to fully cost share 1/3 of the increased project budget, a greater proportion of costs will fall to the municipality.
Land acquisition / Project costs	The full cost of this project will not be fully realized until the land costs are known. The potential resale value of the Mill Cove lands also will not be known until the masterplan is complete.

COMMUNITY ENGAGEMENT

A survey was conducted as part of the Market Analysis study to gather data on the potential usage of the ferry service, and fare thresholds. This information was used to inform the market analysis and business case.

ENVIRONMENTAL IMPLICATIONS

The introduction of zero-emission ferry service is anticipated to have a positive impact on greenhouse gas emissions. A Climate Change Resiliency and Greenhouse Gas Reduction analysis will be completed as part of the Phase 2 submission for funding.

ALTERNATIVES

1. Regional Council could choose to direct the CAO to submit a funding application to the Investing in Canada Infrastructure Program (ICIP) for the implementation of Mill Cove Ferry Service, based on the "**base case**" investment scenario described in this staff report.
2. Regional Council could choose to direct the CAO to submit a funding application to the Investing in Canada Infrastructure Program (ICIP) for the implementation of Mill Cove Ferry Service, based on the "**do-minimum case**" investment scenario described in this staff report.

3. Regional Council could choose to direct the CAO **not** to submit a funding application to the Investing in Canada Infrastructure Program (ICIP) for the implementation of Mill Cove Ferry Service.

ATTACHMENTS

Attachment A: Mill Cove Reduced Case Concept Plan.

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Patricia Hughes, MCIP, LPP, Director Planning & Customer Engagement, 902.490.6287

Mill Cove Reduced Case Concept Plan



BUS Layby
PPUDO / Taxi / On-Street Parking
Parking Lot