



P.O. Box 1749
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Item No. 12.1.2
Transportation Standing Committee
December 13, 2018

TO: Chair and Members of Halifax Regional Council

Original Signed

SUBMITTED BY:

Dave Reage, Director, Halifax Transit

Original Signed

Jacques Dubé, Chief Administrative Officer

DATE: October 10, 2018

SUBJECT: **Peak Hour Transit Service in North Beaver Bank**

ORIGIN

At the August 14, 2018 meeting of Regional Council, the following motion was put forward and passed:

That Halifax Regional Council request a staff report outlining options to maintain morning and afternoon peak hour transit service from the Beaver Bank Kinsac Community Centre to The Ivy Meadows Continuing Care Community when new Routes 189 Beaver Bank Express and 89 Beaver Bank are implemented as per the 2020 / 21 Moving Forward Together transit plans.

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, R.S.N.S. 2008, subsection 69(1) enables the Municipality to provide a public transportation service, and clause 79(1)(o) provides authority for Council to expend money to provide public transportation.

RECOMMENDATION

It is recommended that the Transportation Standing Committee recommend that Halifax Regional Council direct staff to continue with the implementation of Route 89 and Route 189 as approved in the *Moving Forward Together Plan*.

BACKGROUND

On February 26, 2013, Regional Council initiated the development of a new five-year strategic planning framework for Metro Transit (called *Moving Forward Together: The Metro Transit Five Year Service Plan*).

A multifaceted public and stakeholder engagement plan for the first round of consultation was developed and presented to the Transportation Standing Committee in July of 2013. The formal public and stakeholder engagement process began in August of 2013, and continued until October 15, 2013. Based on the feedback received in consultation in January 2014, Regional Council endorsed a broadened scope for the *Moving Forward Together Plan* which included a redesign of the existing transit network. Regional Council also unanimously endorsed the four Moving Forward Principles, the foundation upon which the draft plan was developed. The draft *Moving Forward Together Plan*, including the proposed future transit network, was released for public consultation in February 2015. The subsequent ten-week engagement process was the most diverse and comprehensive consultation strategy ever undertaken by the municipality.

Both the draft and approved *Moving Forward Together Plan* included the removal of transit service on Beaver Bank Road beyond Kinsac Road. This was recommended due to low observed ridership and the high cost of service provision, which was inconsistent with the council approved Moving Forward Principles. The land adjacent to the segment of the route between Kinsac Road and Ivy Meadows (Beaver Bank Villa) is rural in character and low density, resulting in very low ridership. In Fall 2015, this route segment saw approximately 12 boardings per day, and operated at a cost of approximately \$66.32 per person. The *Moving Forward Together Plan* also recommended the removal of service from several other low performing routes and/or route segments. These routes were identified by staff through the use of a minimum ridership guideline established in the Plan, as described in Table 1 below.

| Service Type | AM & PM Peak | Midday & Saturday | Weekday Evening & Sunday |
|---------------------------|--------------------|-------------------|--------------------------|
| Corridor Routes | 25 passengers/hr | 15 passengers/hr | 10 passengers/hr |
| Local Routes | | | |
| Rural Routes | | | |
| Express and School Routes | 20 passengers/trip | N/A | N/A |
| Regional Express Routes | 15 passengers/trip | N/A | N/A |

Table 1 - Minimum Ridership Guidelines from the Moving Forward Together Plan

Other routes or parts of routes which were identified for service reductions or service removal included the Route 402 Sambro (discontinued August 2017).

At the direction of Regional Council, staff have prepared this report outlining several options which would maintain morning and afternoon peak hour transit service from the Beaver Bank Kinsac Community Centre to The Ivy Meadows Continuing Care Community.

Existing Service

Existing Routing

Beaver Bank Road is currently served by Route 400. The Route 400 operates between the Halifax Transit Sackville Terminal and Scotia Terrace near The Ivy Meadows Continuing Care Community. This route was formerly a community transit route whose operation was funded through an area rate, but is now part of the conventional transit system. A map of the existing route is shown in Figure 1 below.

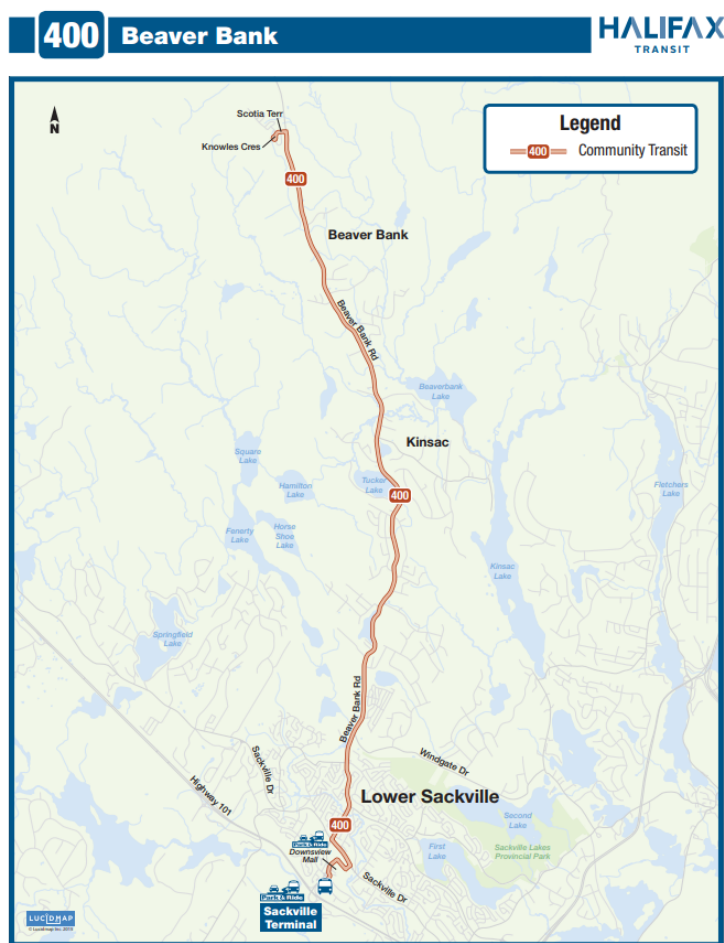


Figure 1 - Existing Routing for Route 400 Beaver Bank

Existing Level of Service

The Route 400 currently provides 12 round trips per weekday, including one trip which serves Monarch Drive Elementary School outbound in the morning and one trip which serves the school inbound in the afternoon. Trips take place approximately every hour at peak times but there are gaps in service of up to almost four hours in the middle of the day. The Route 400 has seven daily return trips on Saturdays, Sundays, and holidays, operating at a regular hourly frequency but offering no service in the morning.

Routing Described in the approved *Moving Forward Together Plan*

The Halifax Transit *Moving Forward Together Plan* (MFTP), approved by Regional Council in 2016, shows Beaver Bank Road being served by two routes: Local Route 89 Beaver Bank (connecting Beaver Bank Road to Sackville Terminal) and Express Route 189 Beaver Bank Express (connecting Beaver Bank Road to downtown Halifax via Sackville Terminal in the peak only). Both routes would terminate at Beaver Bank Kinsac Community Centre, north of Kinsac Road. This location is 7km south of Scotia Terrace and just outside the Urban Transit Service Boundary. The figure below shows the extent of the plans 89 Beaver Bank and 189 Beaver Bank Express.

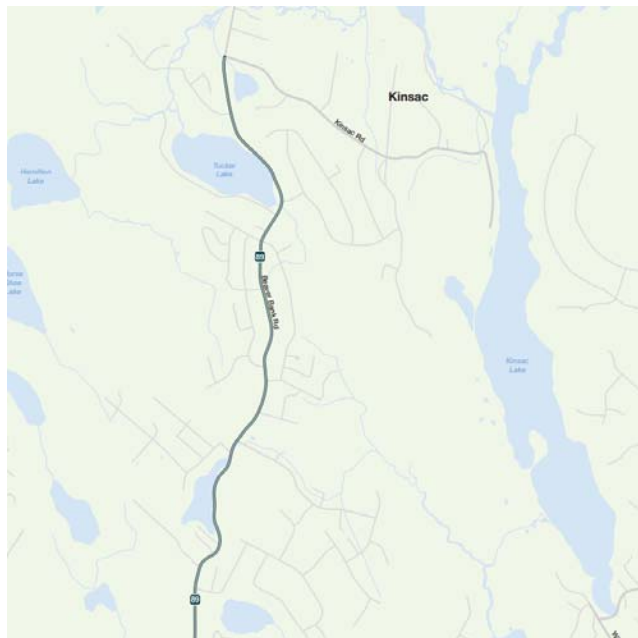


Figure 2 - Planned Extent of Routes 89 and 198

The planned Route 89 Beaver Bank and Route 189 Beaver Bank Express would provide a regular level of service south of the Beaver Bank Kinsac Community Centre with more trips than the current Route 400. Trips would be offered hourly throughout the day with a 30-minute headway on the Route 189 at peak. In addition to providing a similar routing between Beaver Bank Kinsac Community Centre and Sackville Terminal, during peak hours the Route 189 would replace the Route 89 and provide 30-minute service on an express route to Downtown Halifax.

The introduction of these new routes would coincide with the discontinuation of current Route 400 and would permanently remove service from the section between Beaver Bank Kinsac Community Centre and Ivy Meadows Continuing Care Community. As this section of the existing route is outside the Urban Transit Service Boundary, once removed, it would not be possible to reintroduce service without a change in Regional Plan Policy (Policy T7 – Urban Transit Service Boundary).

The MFTP acknowledged previous comments and a petition against removal of service on the section north of the community centre. The MFTP proposed these changes because they were consistent with Moving Forward Principles, including reallocation of resources towards higher ridership areas and improving service quality. Under the *Moving Forward Together Plan*, service quality south of Beaver Bank Kinsac Community Centre would be improved substantially through the introduction of regular weekday and weekend service, and peak, single seat, limited stop service to downtown Halifax provided by Routes 89 and 189.

This report reviews ridership data collected since the plan was approved and outlines and reviews alternative options including maintaining morning and afternoon peak hour service for the full length of the route.

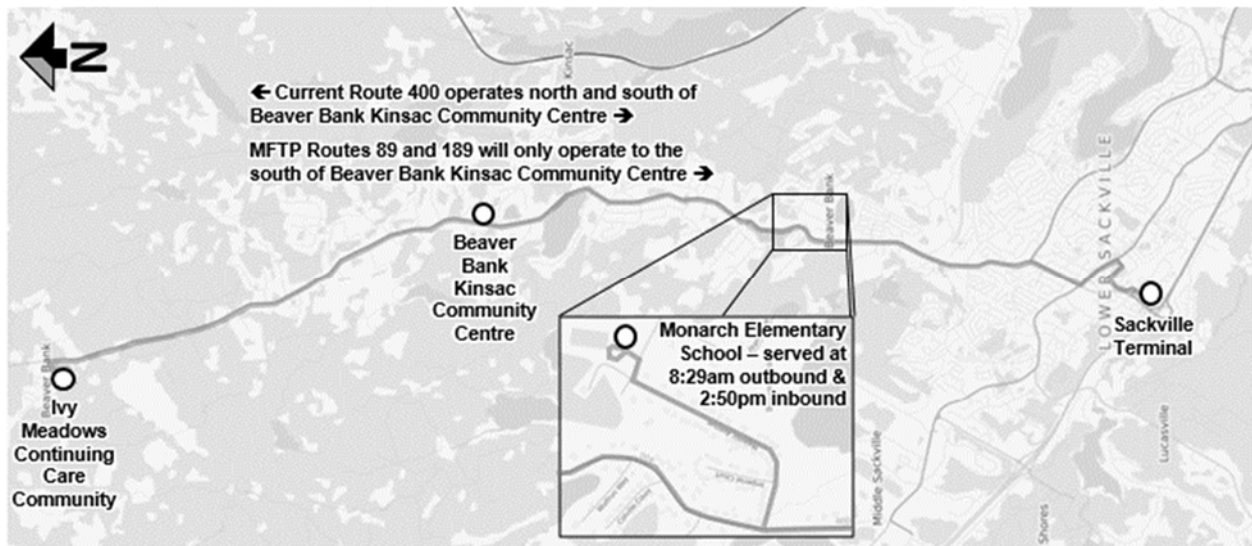


Figure 3 – Map derived from openstreetmap.org showing relative location of Beaver Bank Kinsac Community Centre

DISCUSSION

The following section describes demand observed on Beaver Bank Road since the approval of the *Moving Forward Together Plan* in 2016.

Weekday Demand

Halifax Transit has undertaken an analysis of ridership on the Route 400. Figure 4 shows average weekday boarding counts on the existing Route 400 by month (2017/18). Boarding counts are continuously collected on all Halifax Transit routes using automatic passenger counters. Each column on the graph is broken down into two parts;

- Boarding counts in the area which would receive an increase in service under the MFTP (South of Beaver Bank Kinsac Community Centre) shown in black, and;
- Boarding counts in the area which would no longer receive Halifax Transit service under the MFTP (North of Beaver Bank Kinsac Community Centre) shown in grey.

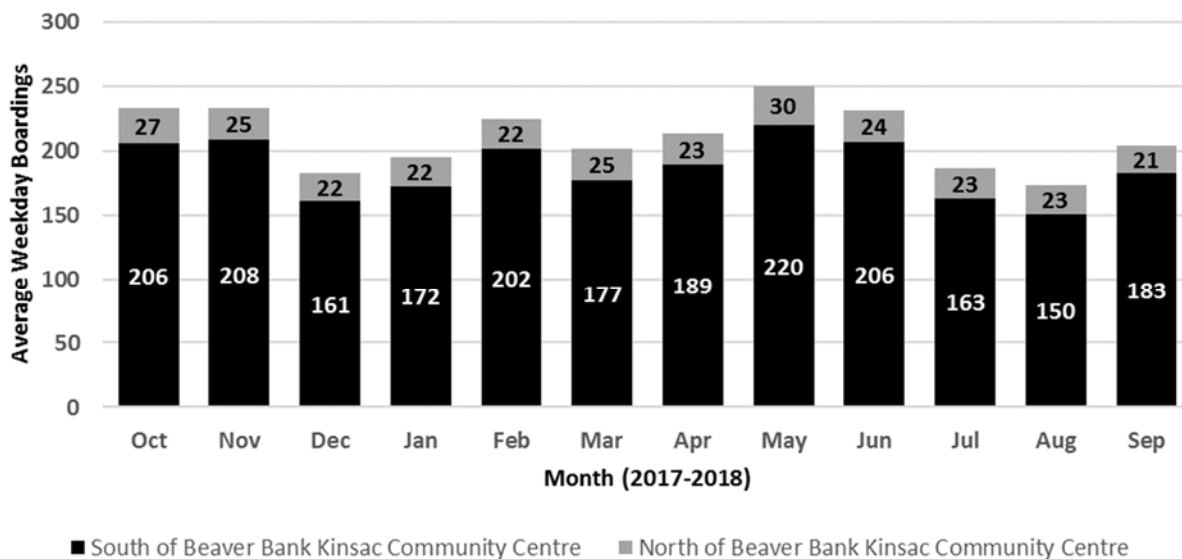


Figure 4 – Average weekday boarding counts by month (October 2017-September 2018)

Approximately 89% of current boardings take place south of Beaver Bank Kinsac Community Centre, where the proposed Route 89 and Route 189 would provide regular service and almost twice as many trips. As a result, it is anticipated that upon implementation, ridership south of the community centre will increase beyond existing boardings for the entire Route 400.

Only 11% of current boardings occur on portion of the route north of Beaver Bank Kinsac Community Centre, despite this portion representing approximately 40% of the distance travelled on the route. This represents an average of 24 boardings per weekday at stops north of Beaver Bank Kinsac Community Centre. An average of 4 boardings per weekday were made at Ivy Meadows Continuing Care Community and an average of 20 boardings per weekday were made at stops between Ivy Meadows and Beaver Bank Kinsac Community Centre.

Table 2 shows 2017-18 weekday ridership statistics in comparison to ridership statistics reported on page 29 of the MFTP.

| Segment | Year | Average Daily Boardings on Segment | Average Boardings per Trip | Boardings per Revenue Hour | AM & PM Peak Boardings per Service Hour |
|--|---------|------------------------------------|----------------------------|----------------------------|---|
| North of Beaver Bank Kinsac Community Centre | 2015 | 12 | 1.0 | 4.5 | Unknown |
| | 2017-18 | 24 | 2.0 | 8.1 | 2.0 |
| South of Beaver Bank Kinsac Community Centre | 2017-18 | 186 | 15.5 | 20.7 | 15.4 |

Table 2 – Ridership Productivity Measures (see page 29 and A1 of MFTP)

Despite the change, average daily boardings remain as low as other routes eliminated under the MFTP such as the former Route 402. In comparison to Table 1, the final column of Table 2 shows neither section of the Route 400 meeting the minimum ridership guideline (25 passengers per hour at peak).

Figure 5 shows average weekday boarding counts north of Beaver Bank Kinsac Community Centre. The relative service provision is illustrated with a line indicating the number of stops served in each time period¹.

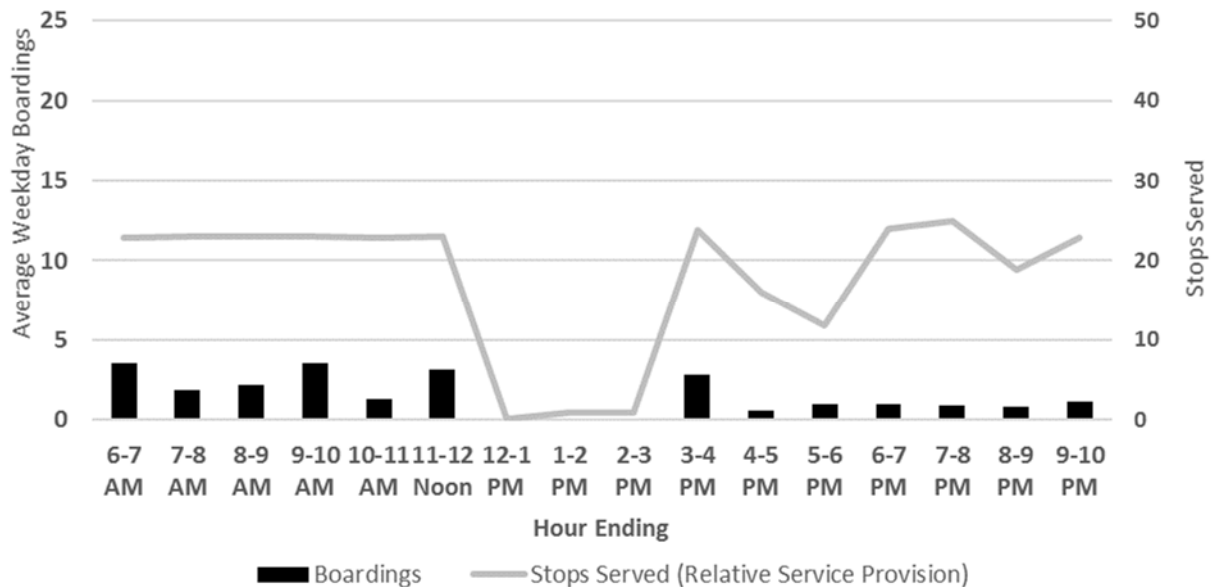


Figure 5 – Average weekday boarding counts by hour, North of Kinsac Community Centre

Figure 5 shows boardings are very low north of the community centre and are spread throughout the morning with no clear peak in demand. Two or three people are also boarding the first trip in the afternoon.

Alternative Routing Options considered

At the direction of Regional Council, Halifax Transit have prepared several options for consideration. These are:

1. Proceed with the implementation of the approved *Moving Forward Together Plan*;
2. Retain the existing route 400 and make no other changes;
3. Extend all trips on the planned peak only Route 189 Beaver Bank Express to the Ivy Meadows Continuing Care Community;
4. Extend some trips on the planned Route 189 Beaver Bank Express to provide a similar peak frequency to existing service levels; and
5. Introduce a branch on the new Route 89 Beaver Bank, with one branch terminating at Beaver Bank Kinsac Community Centre, and one branch extending to Ivy Meadows Continuing Care Community (with similar frequency of peak trips as existing). This scenario would have no Route 189 Beaver Bank Express.

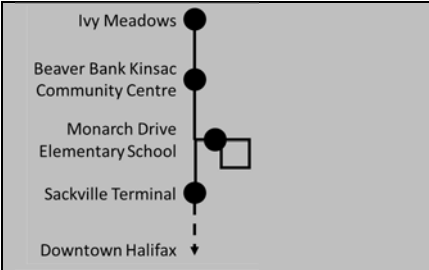
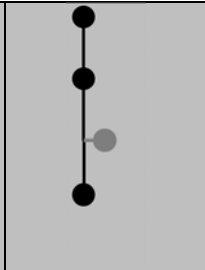
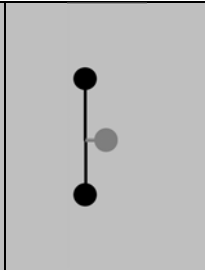
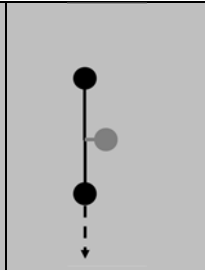
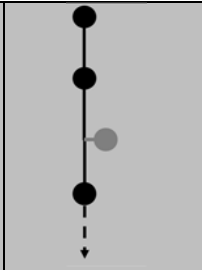
The following table presents schematics to indicate the options considered. Please see Appendix A for maps illustrating the options, number of trips for each variant, assumed travel times, and mileage.

Demand is notably low north of Beaver Bank Kinsac Community Centre. Retaining the route or adopting another option including service on this section could be interpreted as contradicting the Moving Forward principle of reallocating resources towards higher ridership areas.

¹ Actual departure times over the year, not scheduled times.

Any option which would involve an increase in service north of Beaver Bank Kinsac Community Centre has been excluded as this would also be contrary to current Regional Plan policy. The Regional Plan policy T-7² describes an Urban Transit Service Boundary beyond which the introduction of new service is not permitted. Further, as the Beaver Bank Kinsac Community Centre is located just outside the Urban Transit Service Boundary, under the existing policy framework it will be impossible to reintroduce any service in this area once the service is removed.

Except for Option 2 which retains existing service levels on weekends, all other options are assumed to include the planned discontinuation of the Route 400 and implementation of the Route 89 on weekends.

| |  |  |  |  |  |
|----------|---|---|--|---|---|
| Variant: | Current 400 / Extended 89 | Planned 89 | Planned 189 | Extended 189 | |
| Option 1 | | ✓ | ✓ | | |
| Option 2 | ✓ [400] | | | | |
| Option 3 | | ✓ | | ✓ | |
| Option 4 | | ✓ | ✓ [189A] | ✓ [189B] | |
| Option 5 | ✓ [89B] | ✓ [89A] | | | |

Further options considered but not shortlisted for this report included other variants of branching and options to improve service only as far north as Monarch Drive Elementary School.

The following table provides a short discussion of the impact of each shortlisted option and an indication of cost³.

² See page 62 of <https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/RegionalMunicipalPlanningStrategy-02Jun2018-Case21281.pdf> and Map 7 here: <https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/Map7UrbanTransitServiceBoundaryRP5.pdf>

³ Costs are estimates and are rounded to the nearest \$5, \$50, or \$10,000 depending on the scale. Cost per weekday may not therefore appear perfectly divisible into cost per weekday trip. Costs presented for Option 2 are estimated using the same methodology to provide a comparison. Weekday trips are defined as the number of return trips serving at least part of Beaver Bank Road.

| | Description | Staff Discussion and Recommendation | Cost/Annum | Cost/Weekday |
|-----------------|--|---|------------|--|
| Option 1 | <p>Proceed with MFTP</p> <ul style="list-style-type: none"> • Discontinue Route 400 • Introduce Local Route 89 as planned <p>Introduce Express Route 189 as planned</p> | <ul style="list-style-type: none"> • Offers a higher quality of service for the majority of existing riders. • Offers opportunity to increase ridership by offering more local trips and express trips to downtown Halifax, making transit a more viable mode choice for the wider population south of Beaver Bank Kinsac Community Centre. This option has great potential to benefit people who are not currently using Route 400. • Negative impact due to permanent loss of service north of Beaver Bank Kinsac Community Centre. • Staff recommend implementing this option. | \$880,000 | <p>\$3,000</p> <p>(\$135 per weekday trip)</p> |
| Option 2 | <p>Retain existing service</p> <ul style="list-style-type: none"> • Retain Route 400 • Retain planned Express Trips identified in the <i>Moving Forward Together Plan</i> but from Sackville Terminal Only <p><i>Retains the existing service as is, with 12 trips per day north of Sackville Terminal.</i></p> | <ul style="list-style-type: none"> • Low ridership north of Kinsac Road is significantly below Halifax Transit ridership guidelines which indicates that this area does not support service. • Lack of improvement in quality of service on the busiest parts of the route. • Supports existing ridership but offers no potential for growth or potential to increase quality of service. • Staff do not recommend implementing this option | \$740,000 | <p>\$2,600</p> <p>(\$220 per weekday trip)</p> |

| | Description | Staff Discussion and Recommendation | Cost/Annum | Cost/Weekday |
|-----------------|---|---|-------------|---|
| Option 3 | <p>Extend all planned Route 189 Beaver Bank Express trips to Ivy Meadows</p> <ul style="list-style-type: none"> Discontinue Route 400 Introduce Local Route 89 as planned Introduce Express Route 189 but extend back to serve all stops on existing Route 400. Change in the concentration of trips to the peak but no change in the number of trips per day north of Beaver Bank Kinsac Community Centre (12 trips). | <ul style="list-style-type: none"> Extending express routes back to Ivy Meadows would only benefit approximately 5 people per weekday (see Figure 4 and inbound boarding count between 6am and 8am). Based on observed ridership it is not likely that these trips will meet ridership standard. Retains opportunity to increase ridership south of Beaver Bank Kinsac Community Centre. Replacing a rural route with an express route is inconsistent with the MFTP which directs Halifax Transit to implement a transfer-based network with less duplication in the downtown core. Rural Routes are described as providing service to the nearest terminal. For this reason, in August 2018, the former Route 33 was replaced with the Route 433 and no longer offers direct trips downtown. Staff do not recommend implementing this option. | \$1,010,000 | \$3,500 (\$160 per weekday trip) |
| Option 4 | <p>Extend some trips on the planned Route 189 to Ivy Meadows at peak</p> <ul style="list-style-type: none"> Retain 6 trips north of Beaver Bank Kinsac Community Centre as a branch of Route 189 (189B). | <ul style="list-style-type: none"> Fewer trips would be offered north of the community centre compared to existing service or Option 3 Peak service would be provided north of the community centre at a similar frequency to existing service but no mid-day service would be offered. The same concerns raised with Option 3 in relation to providing Express Service to a rural area are valid. Staff do not recommend this option. | \$950,000 | \$3,250 (\$145 per weekday trip) |

| | Description | Staff Discussion and Recommendation | Cost/Annum | Cost/Weekday |
|-----------------|---|---|------------|---|
| Option 5 | <p>Introduce a branch on the new Route 89, No Express Route.</p> <ul style="list-style-type: none"> Retain peak Route 400 trips to Ivy Meadows as a branch of the Route 89. Primary branch would terminate at Beaver Bank Kinsac Community Centre, providing a higher level of service at peak and mid-days. No weekend service provided beyond Kinsac Community Centre No Express Route 189 Beaver Bank Express (but same number of express trips offered from Sackville Terminal to Downtown Halifax) | <ul style="list-style-type: none"> Fewer trips would be offered north of the community centre compared to today or Option 3 Peak service would be provided north of the community centre at a similar frequency to today but no mid-day or weekend service would be offered. This is the simplest solution offering a peak service north of Beaver Bank Kinsac Community centre and improved service south of the community centre. A transfer would be required to take an Express Route to downtown Halifax. Staff do not recommend this option. | \$930,000 | \$3,200 (\$145 per weekday trip) |

Conclusions

Given all the indications of low demand, the relative complexity, lack of trade-offs and additional costs of alternative options, the preferred option is Option 1, proceeding with the implementation of Routes 89 and 189 and discontinuation of the Route 400.

FINANCIAL IMPLICATIONS

There are no financial implications directly associated with the recommendation of this report. Costs of implementation will be presented in the appropriate Halifax Transit Annual Service Plan. Any other option with higher costs than planned in the *Moving Forward Together Plan* may result in a longer plan implementation timeline, or alternately be a reduction to planned service elsewhere in the network to accommodate the increase in costs.

RISK CONSIDERATION

Risks associated with this report rate low. The recommended approach will see the *Moving Forward Together Plan* implemented as outlined in the 2016 approved plan.

COMMUNITY ENGAGEMENT

This report considers alternative options in response to comments received from residents and their representatives, and petitions received by Halifax Regional Municipality. Consultation was also included in 2015 as the *Moving Forward Together Plan* was derived.

ENVIRONMENTAL IMPLICATIONS

Positive environmental implications of the recommendation in this report include an improvement in transit service which is likely to encourage higher ridership and therefore:

- Less reliance on private vehicles and by extension, fewer greenhouse gas, and particulate matter emissions by private vehicles;
- An improvement in the efficiency of transit service, thereby reducing greenhouse gas and particulate matter emissions per passenger.

ALTERNATIVES

Regional Council could choose to ask for one or more amendments to the *Moving Forward Together Plan* related to the options discussed in this report. However, that is not recommended as the proposed options are not as well aligned with the MFTP and would impact the overall implementation of the network.

ATTACHMENTS

Appendix A – Maps and Further Specifications of Options Assessed

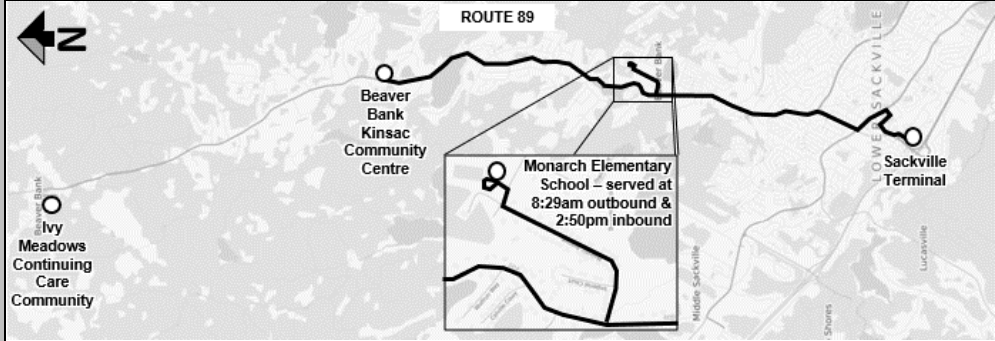
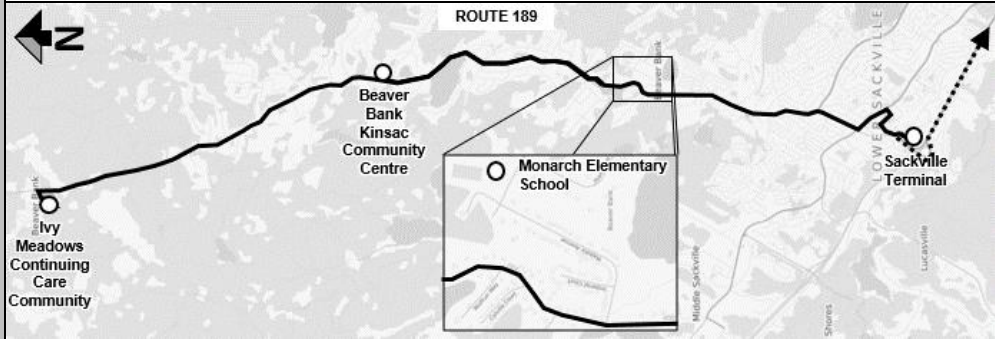
A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Jeremy Galilee, Coordinator, Project Planning, 902.490.6720

Appendix A – Maps and Further Specifications of Options Assessed

| | Route / Route Branch | Weekday Trips | Time & Distance |
|----------|--|--------------------------------|--|
| Option 1 | <p>ROUTE 89</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School – served at 8:29am outbound & 2:50pm inbound</p> <p>Sackville Terminal</p> | 10 (two-way) + 12 (One-Way) | 45min, 21km (+8min, +2km to serve school) |
| | <p>ROUTE 189</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School</p> <p>Sackville Terminal</p> | 12 (One-Way) | 68min, 35km (one way) |
| Option 2 | <p>ROUTE 400</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School – served at 8:29am outbound & 2:50pm inbound</p> <p>Sackville Terminal</p> | 12 (two way) | 60min, 35km (+8min, +2km to serve school) |
| | <p>ROUTE 189</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School</p> <p>Sackville Terminal</p> | 12 (one way) | 45min, 24km (one way) |

Appendix A – Maps and Further Specifications of Options Assessed

| Option 3 | Route / Route Branch | Weekday Trips | Time & Distance |
|--|--|---|---|
| |  <p>ROUTE 89</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School – served at 8:29am outbound & 2:50pm inbound</p> <p>Sackville Terminal</p> | <p>10 (two-way)</p> <p>+ 12 (One-Way)</p> | <p>45min, 21km</p> <p>(+8min, +2km to serve school)</p> |
|  <p>ROUTE 189</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School</p> <p>Sackville Terminal</p> | <p>12 (One-Way, Two-Way north of community centre)</p> | <p>75min, 42km (one way)</p> | |

Appendix A – Maps and Further Specifications of Options Assessed

| | Route / Route Branch | Weekday Trips | Time & Distance |
|----------|--|----------------------------|--|
| Option 4 | <p>ROUTE 89</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School – served at 8:29am outbound & 2:50pm inbound</p> <p>Sackville Terminal</p> | 10 (two-way) + 6 (One-Way) | 45min, 21km (+8min, +2km to serve school) |
| | <p>ROUTE 189 REVERSE DIRECTION OR ROUTE 89 + OUT OF SERVICE TO IVY MEADOWS</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School</p> <p>Sackville Terminal</p> | 6 (One-Way) | 60min, 35km |
| | <p>ROUTE 189A</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School</p> <p>Sackville Terminal</p> | 6 (One-Way) | 68min, 35km (one way) |
| | <p>ROUTE 189B</p> <p>Ivy Meadows Continuing Care Community</p> <p>Beaver Bank Kinsac Community Centre</p> <p>Monarch Elementary School</p> <p>Sackville Terminal</p> | 6 (One-Way) | 75min, 42km (one way) |

Appendix A – Maps and Further Specifications of Options Assessed

| | Route / Route Branch | Weekday Trips | Time & Distance |
|----------|----------------------|---------------------|--|
| Option 5 | <p>ROUTE 89A</p> | 16 | 45min, 21km |
| | <p>ROUTE 89B</p> | 6 | 60min, 35km (+8min, +2km to serve school) |
| | <p>ROUTE 189</p> | 12 (One- Way) | 45min, 24km (one way) |