Town of Riverview

Riverview Transit Service Review

Final Report

2025-01-09

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Executive Summary

The Town of Riverview and Greater Moncton have recently begun to experience significant growth, in both population and in transit ridership. The Town has identified a need to respond to this changing demand and invest in transit service in a way that has not previously been done. This need for improved transit service represents an opportunity for the Town to evaluate the existing transit network and understand how that transit investment could be directed to better meet the current and future travel needs of Town residents, making public transit a more attractive choice to further grow ridership. The Town retained Arcadis to conduct this work, beginning in the spring of 2024.

An assessment of the Town's travel needs and existing transit service found that travel from Riverview is strongly oriented toward Downtown Moncton. The major travel destinations and ridership generators that are located within Riverview include commercial and mixed-use hubs like Riverview Place and Findlay Park, as well as some lower-income communities in west Riverview. The Needs and Opportunities Analysis further expands on these current and projected future travel needs in Section 2.

The project team developed three transit service concepts for consideration. The evaluation of these concepts and how they compare against one another is found in Section 3. The recommended service concept consists of three routes travelling between Riverview and Downtown Moncton using a combined four buses. These routes serve west Riverview and Riverview Place, Pine Glen and Findlay Park, and east Riverview. The proposed service concept details each route, its recommended service level at all times of day, and a total fleet of five buses.

An evaluation of the street network in Riverview found that pedestrian and transit waiting infrastructure in Riverview is sparse across the Town, with most streets designed primarily for private vehicles. Section 4 provides an overview of the existing conditions of the street network in Riverview and the waiting environment for transit riders, then outlines a toolkit of infrastructure improvements the Town could consider to improve this pedestrian experience.

The recommended transit service plan requires the purchasing of two buses at an estimated cost of **$1,800,000** and the hiring of a new staff member to administer all traffic and transportation matters in Riverview, including the public transit system. An implementation plan with year-by-year recommendations is detailed in Section 5, while Section 6 outlines the overall cost of this plan. Capital costs primarily include bus purchasing and infrastructure installation and are estimated at **$2,157,000** over the life of the plan, the vast majority of which is budgeted for the first year of implementation. The existing annual operating cost of the system would represent approximately double the existing service hours invested in the Town's current transit network, bringing the estimated net municipal spend up to **$1,642,000** annually by the fifth year of implementation.

The plan also provides a series of long-term recommendations for the Town to consider beyond the scope and lifetime of this document such as future transit routes, future transit extensions in Riverview, and future cross-regional connections to places in Moncton and Dieppe. These future considerations are found in Section 7.

Section 8 provides a concise summary of all the recommendations contained in this plan including the purchase of new buses, the hiring of a Transportation Coordinator, the implementation of the new service network, and the construction and installation of transit infrastructure.

1 Introduction

1.1 Background

The Town of Riverview is one of three municipalities served by Codiac Transpo, the transit service provider in Greater Moncton. Codiac operates four routes in Riverview – two weekday routes and two weekend routes. These routes provide coverage for the majority of Riverview throughout the week, although with varying frequencies and service hours. While transit is operated by the City of Moncton, each municipality owns, maintains, and fuels their own fleet.

The Town of Riverview aims to provide high-quality public transit to its residents, meeting expectations of convenience, affordability, and safety while supporting the community's sustainability goals. However, it is limited in its ability to improve service, largely due to the available fleet. Recent post-COVID population growth, increased transit use, and local support has prompted a desire to review Riverview's service to improve and grow the local transit system and achieve the community's objectives of convenience, affordability, safety, and sustainability.

1.2 Report Purpose

The purpose of this report is to identify the needs of the current transit system in Riverview and to provide recommendations on how to improve the system through service changes. Further, methodology and recommendations are included on streetscape improvements that further enhance the transit riders' experience. This report provides an overview of the recommended service changes and best practices for improving associated streetscape infrastructure. This report also provides an implementation plan for service changes and necessary infrastructure, as well as a financial plan that outlines the associated capital and operating costs of these changes.

1.3 Report Structure

The Riverview Transit Service Review is structured around the following sections:

- Section 2 provide the analysis of needs and opportunities related to the current system, local policies, demographics, and travel demand.
- Section 3 presents several service concepts that have been evaluated against one another to identify a preferred service design.
- Section 4 explores the existing state of pedestrian and bus stop infrastructure in Riverview and identifies a toolkit of improvements the Town could implement to improve the state of this infrastructure.
- Section 5 outlines the timeline for implementing service changes and minor improvements to existing infrastructure.
- Section 6 presents the estimated capital and operating costs to implement the preferred service concept.
- Section 7 outlines future considerations that require long-term investment and coordination to enhance the transit system further.
- Section 8 provides a summary of all recommendations within this report.

2 Needs and Opportunities Analysis

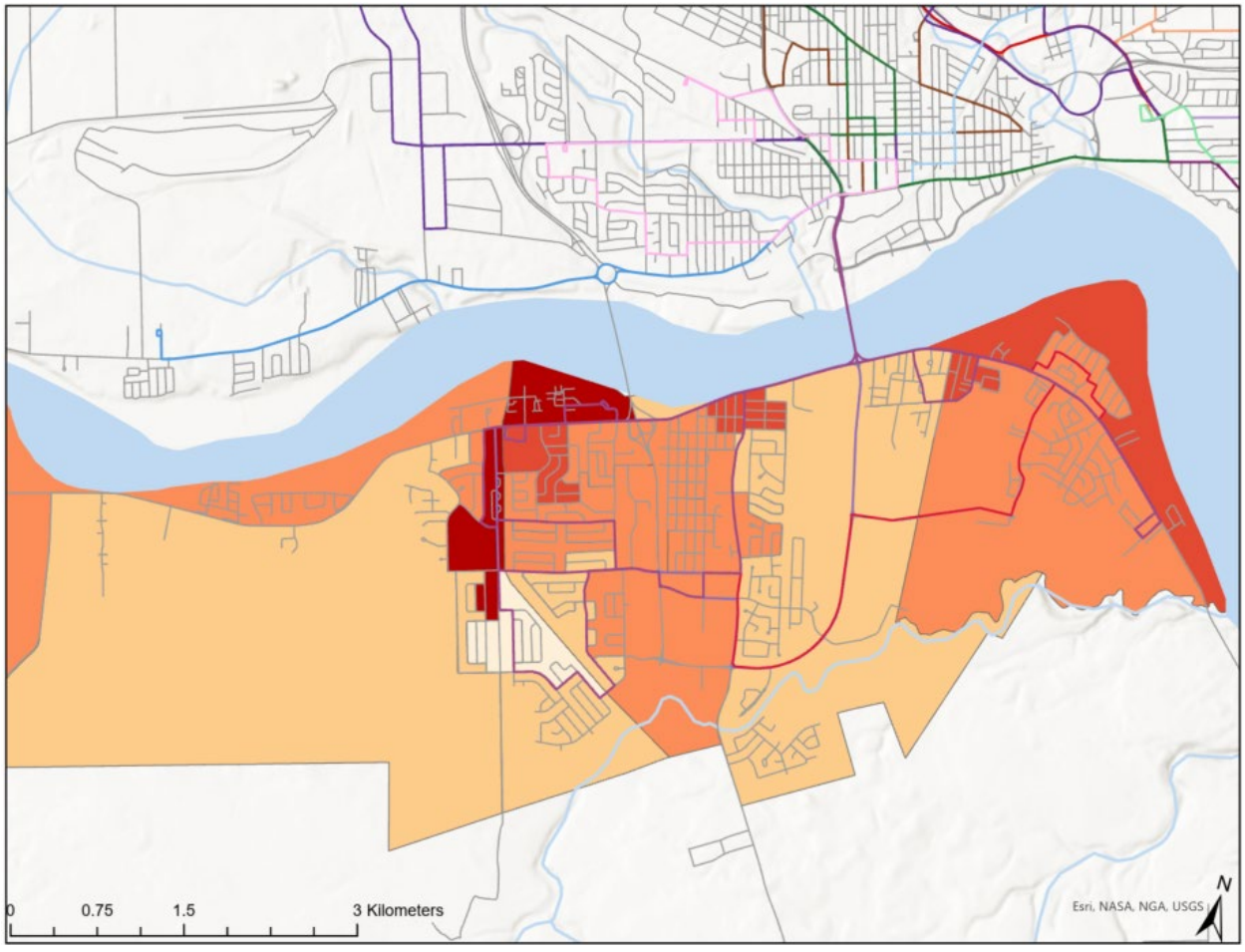
2.1 Demographic Analysis

2.1.1 Low-Income Population

Public transit access is more likely to be a critical lifeline service to lower income populations. The 2016 Federal Census found the median income of transit commuters to be just 76.6% of the median income of automobile commuters. 2016 data was used here due to the temporary impact of the COVID-19 pandemic on commuting patterns. It is important to identify where lower-income populations are living in a service planning area to prioritize and ensure continued transit access for such communities.

The project team analyzed the population demographics of Riverview using data from the 2021 federal Census. Using the Low-Income Measure After Tax (LIM-AT) indicator, we find that lower-income populations are more prevalent in west Riverview. Communities with lower-income populations exceeding 15.5% include Crystal Dr/Suffolk St, Biggs Dr, and Trites Rd. Other communities with low-income populations exceeding 10% include Pine Glen near Coverdale Rd, Wentworth Dr near Coverdale Rd, and Hillsborough Rd at Old Coach Rd.

Exhibit 1: Low-Income Populations in Riverview

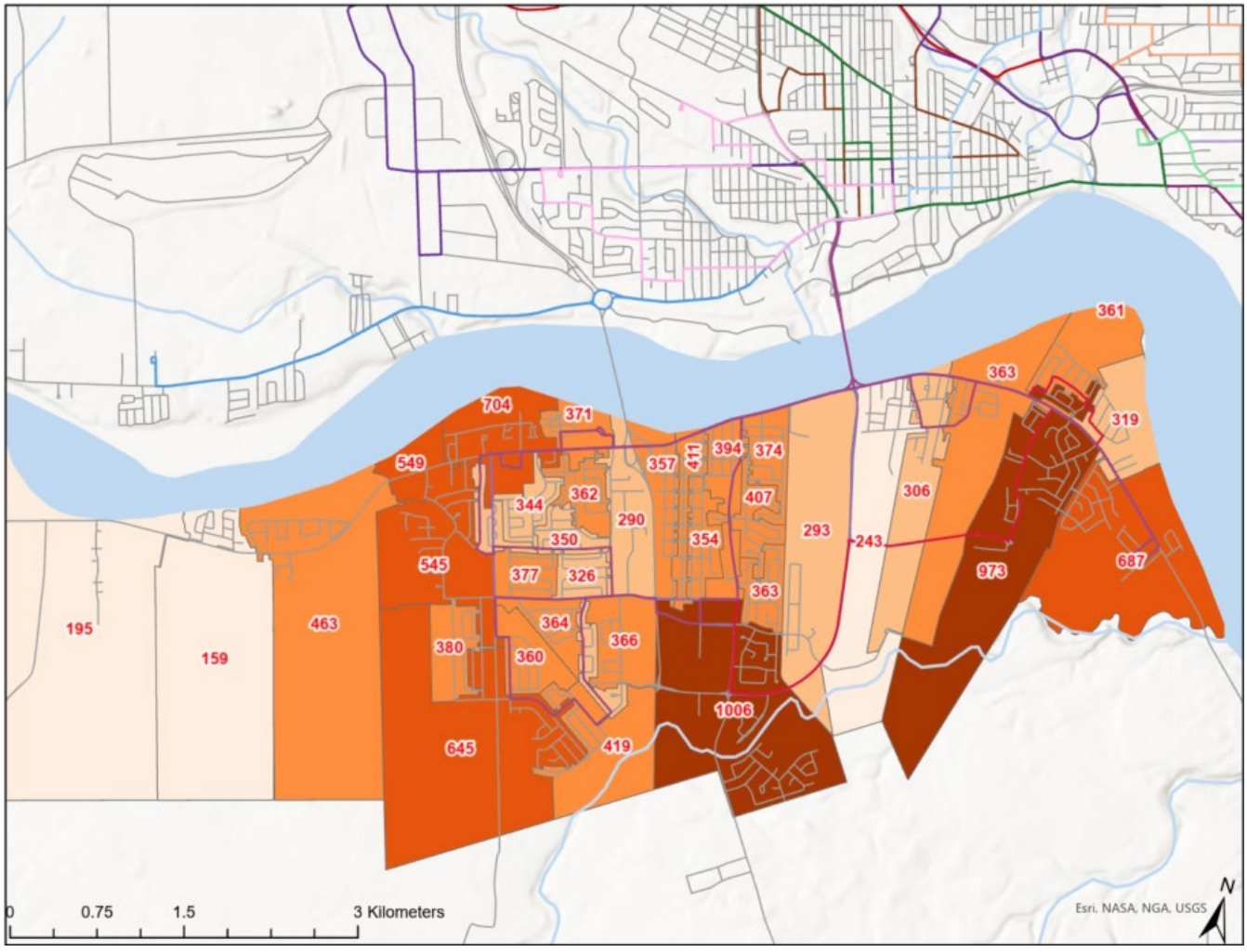


2.1.2 Population Density

Population density is an important consideration in planning transit, as denser communities will have more people living within access of transit stops and are thus more likely to generate higher ridership. An overview of population density found it to be generally evenly distributed throughout the built-up areas of Riverview, with much lower density in undeveloped or sparsely built areas such as Gunningsville Blvd or Bridgedale. As higher-density residential and commercial growth continues to take place in Findlay Park, future Census data may reflect higher density in this area. To examine where population growth has recently taken place, municipal electoral polling divisions (source: Elections NB, 2023) were used as a proxy as they are designed to have similar levels of population. For this reason, a polling area with an unusually high population may reflect an area that has recently grown as the boundaries would not have been adjusted to equalize population yet.

An analysis of polling divisions in Riverview shows two divisions with unusually high populations: Division 88 in Findlay Park with 1006 electors and Division 80 on Runneymeade Rd with 973 electors. This aligns with recent residential growth patterns, with residential apartment buildings recently having been completed in both places and more actively being built today. A map of polling divisions in Riverview is shown below.

Exhibit 2: Population in Riverview by 2023 Municipal Polling Divisions



2.2 Existing Service Review

2.2.1 System Overview

Codiac Transpo provides transit service to Riverview as well as Moncton and Dieppe. While operated by Codiac Transpo, each municipality owns their own equipment. Codiac operates four routes in Riverview – two weekday routes (Route 85 and 86), and two weekend routes (Route 81 and 82), and two Riverview-owned buses (100% of the town's fleet) are used to operate this service. These routes provide coverage for the majority of Riverview throughout the week. Specialized transit service is not operated by Codiac Transpo and is instead provided by different subsidized services for Moncton, Dieppe, and Riverview.

Riverview has experienced steady ridership increases since the pandemic, alongside significant ridership and population growth occurring across Greater Moncton. 2023 annual ridership increased by 30% over the best day prior to the pandemic, and 2024 year-to-date (as of June) ridership is 32% greater than the equivalent months in 2023.

The four Riverview routes can be summarized as follows:

- **Route 81 Riverview** runs all day Saturday and during the day on Sunday, as well as one weekday evening trip, connecting the western side of Riverview to Downtown Moncton.
- **Route 82 Riverview Place** runs two trips on Saturday and one trip on Sunday, connecting the neighbourhoods along Coverdale and Hillsborough Road to Downtown Moncton.
- **Route 85 Riverview Connector** runs all day Monday to Friday in a clockwise loop throughout east and west Riverview, providing local service only.
- **Route 86 Pinewood** runs all day Monday to Friday, connecting the western side of Riverview to Downtown Moncton.

There are two major transfer locations serviced by Riverview routes. The first is Centre Avenir Centre in Downtown Moncton. Routes 81, 82, and 86 service this location. Five other Codiac Transpo routes service this location, and two other routes service the nearby 1111 Main transfer location. Centre Avenir Centre is an on-street terminal, approximately 300m from the Moncton VIA station with train and intercity bus service. The other major transfer location is Riverview Place, which is served by all four Riverview routes: 81, 82, 85, and 86. Riverview Place provides a major local shopping and employment destination in addition to acting as a major hub for riders transferring buses.

A map of transit service in Riverview is shown in Exhibit 3, and a summary of the individual routes is provided in Exhibit 4.

Exhibit 3: Riverview transit routes

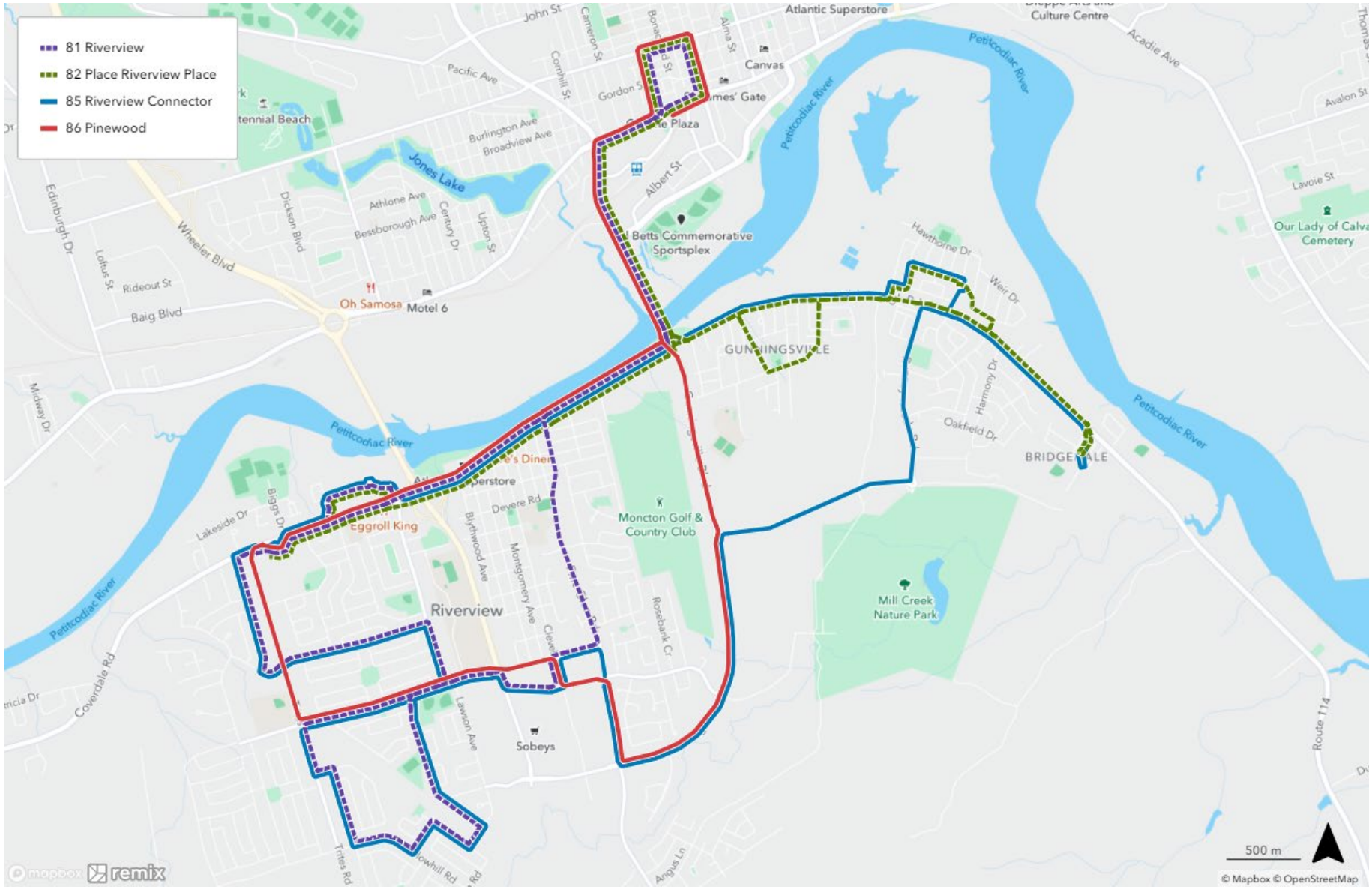


Exhibit 4: Summary of Riverview Transit Service in 2023-24

Route	Service Span	Headways	Annual Boardings (2023 & *2024 YTD**)	Average Daily Boardings*	Annual Service Hours (2023)	Schedule Adherence* (% on-time)
Route 81 Riverview	Saturday 6:30am-10:30pm Sunday 10:30am-6:30pm Weekday trip 9:30pm-10:30pm	Every 60 minutes	2023 – 17,043 *2024 – 8,000*	Saturday – 183 Sunday – 80 Weekday – 10	2,037	97.7%
Route 82 Riverview Place	Saturday 9:30am-10:30am and 1:30pm-2:30pm Sunday 12:30pm-1:30pm	2 trips on Saturday 1 trip on Sunday	2023 – 942 *2024 – 865*	Saturday – 26 Sunday – 7	151	100%
Route 85 Riverview Connector	Monday to Friday 6:30am-10:00pm	Every 60 minutes	2023 – 6,385 *2024 – 7,000*	Weekday – 56	3,028	97.8%
Route 86 Pinewood	Monday to Friday 5:45am-9:30pm	Every 40 minutes during peak periods Every 35 minutes during off-peak periods	2023 – 48,325 *2024 – 42,000*	Weekday – 336	3,142	84.8%

*Year-to-date boardings as of June 2024

For reference, Codiac Transpo had annual boardings of 1.71 million in 2022 and provided 94,342 annual service hours.

2.2.2 Ridership Performance

As shown in Exhibit 4, Route 86 is the highest performing route by a significant margin, with 336 daily boardings on average. This route is the most frequent, operates every weekday, services the highest density areas of Riverview, and connects to Downtown Moncton. Route 81 is a relatively well-performing route within Riverview despite only operating on weekends, with 183 average daily boardings on Saturdays and 80 on Sundays. Like Route 86, it services the highest density areas of Riverview and connects to Downtown Moncton. Route 85 has a similar service span to Route 86, but only operates hourly, providing no connection to Downtown Moncton, and takes one hour to complete the entire loop. As a result, ridership is relatively low, with only 56 daily boardings on average. Despite only operating 3 trips per week, Route 82 is moderately well-used on Saturdays, likely due to the connection to Downtown Moncton, with 26 daily boardings on average.

The “service productivity” of each route is provided in Exhibit 4 as the average boardings per trip and average boardings per hour. When looking at service productivity, the order of route performance is the same as overall ridership (from best- to worst-performing) - Route 86, Route 81, Route 82 and Route 85.

2.2.3 Fleet

The Town of Riverview owns 2 buses to operate their services. No spare buses are currently available for service in Riverview. Spare vehicles are important for any transit service to allow for preventative maintenance, thereby reducing breakdowns and extending the life of the vehicle and prevents service cancellations if the vehicle is unable to operate. As a result, Riverview uses buses from Moncton for spare vehicle, but only if these vehicles are available. A spare bus has been purchased and will be delivered in 2025 for the sole use of transit in Riverview. The arrival of the spare will allow Riverview to increase preventative maintenance and no longer rely on Moncton for spare vehicles.

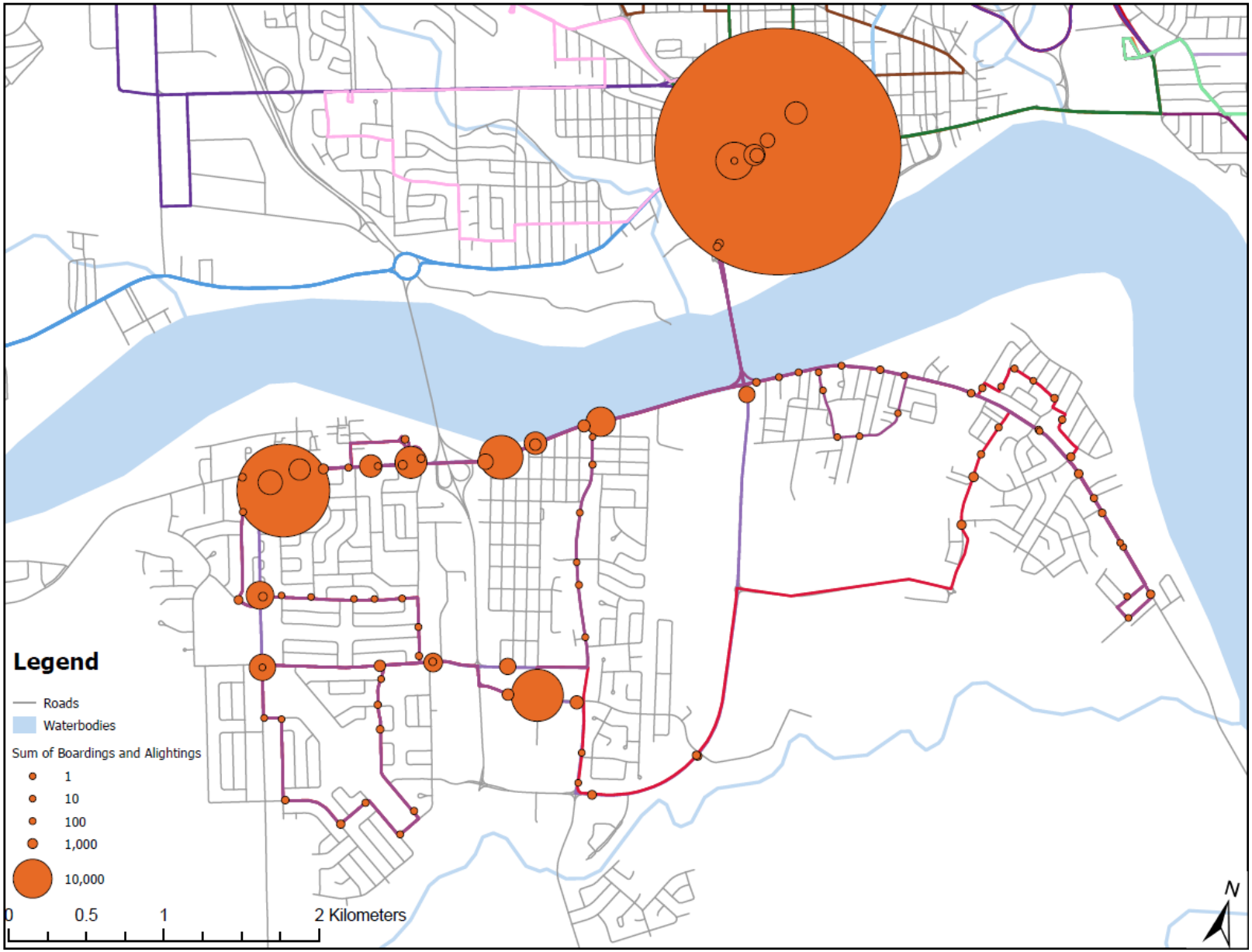
2.3 Travel Demand Analysis

Trip generators in Riverview are generally located on the Coverdale Road corridor and in Findlay Park. Riverview Place is the most popular travel destination within Riverview with a combination of retail-based and employment-based trips. The changing nature of Riverview Place may contribute to an increase in travel demand to the area, as the mall’s new owners have recently announced plans for demolition of the existing structure and expansion of retail options, with potential residential development as well. The expanding retail node of Findlay Park also has several major travel destinations including major retailers like Sobeys and Canadian Tire, as well as a higher residential density than other parts of Riverview with several recently completed apartment and townhouse developments. The Riverview Recreation Complex, which will be built at the intersection of Bridgedale Boulevard and Runneymeade Road, is likely to be a significant trip generator when it’s completed. At a regional level, Downtown Moncton remains the most popular travel destination for Town residents.

A travel forecasting model was conducted as part of the Destination 2040 RSTMP. This model estimated travel patterns based on a combination of existing, observed travel patterns and future land use to project how people would travel throughout Greater Moncton. This model showed Moncton as the most popular destination for travel from Riverview, followed by more dispersed internal trips within Riverview.

An analysis of existing transit ridership shows a similar pattern. The main transfer hub at the Avenir Centre has the most boarding and alighting activity, by far, of any other stop served by Riverview transit routes, with 20,733 boardings and 22,441 alightings observed in the first seven months of 2023. Riverview Place has the second-highest level of passenger activity, with 9,613 boardings and 6,379 alightings in the same time frame. Some other higher demand stops in Riverview are located on the Coverdale Road and Trites Road corridors, as well as in Findlay Park where new residential apartments and townhouses have been built. Interestingly, the stop in east Riverview with the highest level of current activity is located on Gunningsville Boulevard south of Hillsborough Road, suggesting that residents of east Riverview are willing to walk further to access better or more frequent transit service. A map of stop-by-stop ridership among Riverview transit routes is shown on the next page. The reader should note that the scale of ridership has been flattened slightly to better illustrate variance within Riverview, as the Avenir Centre drastically exceeds the ridership of any other stop.

Exhibit 5: Stop-by-stop Boarding and Alighting Activity in Riverview



2.4 Peer Review

An analysis of existing Canadian Urban Transit Association (CUTA) data was undertaken to understand the performance of Codiac Transpo's service in Riverview in comparison to peer transit systems in comparable jurisdictions. The selected public transportation services serve communities that have similar size, character, and/or population density as the study area. Some peers analyzed also are part of a smaller local transit system that also connects into the greater city or regional network.

The services reviewed from the CUTA/MTO Ontario Urban Transit Fact Book datasets include:

- **Caledon, Ontario:** Service provided by multiple service providers within the Town of Caledon, a rapidly growing municipality. Brampton Transit operates weekday conventional fixed-route service into several parts of Caledon that connect into the City of Brampton. Most of these services operate during peak periods only.
- **Quinte West Transit, Ontario:** Transit service providing connections within the City of Quinte West in the Trenton Ward, as well as to the City of Belleville and Prince Edward County. Fixed-route service operates Monday to Saturday within Quinte West, with a Saturday variation for 3 of these routes. Fixed-route service connecting to Belleville is provided Monday to Friday at a premium price. Additional on-demand service throughout Prince Edward County is provided Monday to Friday at a variable price based on distance.
- **Penticton, British Columbia:** BC Transit provides service to municipalities throughout British Columbia, including Penticton. Penticton is serviced by several local fixed routes as well as interregional routes that connect to nearby towns and the City of Kelowna, one of the most rapidly growing Census Metropolitan Areas (CMA) in Canada. Local services are provided Monday to Saturday. 4 trips to/from Kelowna are provided Monday to Friday. Fares are variable by distance.
- **Fort St. John, British Columbia:** Also serviced by BC Transit, Fort St. John is serviced by 5 local fixed routes. 3 routes provide service Monday to Saturday, and 2 routes provide school service for one trip during the morning and afternoon on weekdays.
- **Moose Jaw Transit, Saskatchewan:** Transit service providing local fixed-route service on 4 routes operating Monday to Friday that all connect in the downtown core. Additional trips are operated on school days for high school students.

Exhibit 8 presents a summary of each of the studied services and the communities they operate in. Compared to its peers, Riverview's annual and per capita ridership fall in the middle range of all agencies analyzed, although below the peer average, which is largely consistent with the overall level of investment and characteristics. Compared to its peers, Riverview's per capita service hours provided are in the middle range again, and once again below the peer average, demonstrating an opportunity to increase service to align more with peers and increase ridership. However, Riverview is the only service provider analyzed that provides Sunday service. Lastly, Riverview has the smallest available fleet despite having a larger service area and service population than some peers. This small transit fleet has been extended to its limit, as Riverview is operating as much service as it can with the constrained fleet it owns. To increase transit operating investment, Riverview must expand its bus fleet.

Exhibit 6: Fact Book Peer Review

City (System)	Description	Service area	Annual revenue hours	Annual revenue hours per capita	Service span	Average fare	Annual boardings	Annual rides per capita	Annual rides per revenue hour	Review Year
Caledon (Brampton Transit/ Voyago)[1]	Fixed route 4 buses	31 km^2 Population 37,260	4,473	12	Monday-Friday	$3.45	17,842	0.5	4.0	2021[2]
Quinte West Transit	Fixed-route 7 buses	35 km^2 Population 21,972	12,760	58.1	Monday-Saturday	$1.45	51,490	2.3	4.0	2021
Penticton (BC Transit	Fixed-route 6 buses	42 km^2 Population 32,802	23,079	70.4	Monday-Saturday	$1.57	384,566	11.7	16.7	2022
Fort St. John (BC Transit)	Fixed-route 4 buses	23 km^2 Population 20,840	11,076	53.1	Monday-Saturday	$1.27	190,540	9.1	17.2	2022
Moose Jaw Transit	Fixed-route 8 buses	47 km^2 Population 33,665	11,624	34.5	Monday-Friday	$2.18	148,450	4.1	11.8	2022
Peer Average	6 buses	36 km^2 Population 29,308	12,602	45.6	-	$1.98	158,578	5.5	10.7	-
Riverview (Codiac Transpo)	Fixed-route 2 buses	34 km^2 Population 21,155	8,356	39.5	Monday-Sunday	$1.75[3]	91,000[4]	4.3	10.9	2023

Source: Canadian Urban Transit Association (2022), Ontario Urban Transit Fact Book (2021), Codiac Transpo (2023)

[1] Brampton Transit replaced Voyago in 2024. Available data is presented for 2021 which includes Brampton Transit and Voyago.
[2] 2022 data was not available for Ontario Urban Transit Factbook so 2021 data was used.
[3] Average fare from 2022 for all of Codiac Transpo
[4] Due to COVID-related impacts to ridership, 2021 and 2022 for peers will appear lower than most recent Riverview data in 2023.

2.5 Policy Context

2.5.1 Growth and Future Land Use

Future urban growth in Riverview is projected by the Town's **Municipal Development Plan (MDP)**. Residential growth in recent years has primarily been directed to east Riverview along streets such as Runneymeade Rd and gradually extending towards the recently built Bridgedale Blvd. This growth pattern is expected to continue for the foreseeable future, with some longer-term residential growth also planned for southwest Riverview around extensions of streets like Whitepine Rd.

Commercial and mixed-use growth in Riverview has recently taken place in the Findlay Park area towards the south of town. This growth is expected to continue in the near term, with Findlay Park rapidly filling in with a combination of apartment residential buildings and commercial retail. In the future, commercial and mixed-use growth is also planned for the Gunningsville Blvd corridor, which is presently a two-lane street surrounded largely by forested land. These mixed-use hubs will constitute major travel origins and destinations in the future, with Findlay Park already beginning to act as a trip generator in the most recent transit ridership data.

Destination 2040, the Regional Sustainable Transportation Master Plan (RSTMP) of Greater Moncton, provides helpful background information on existing travel patterns in Riverview and across Greater Moncton while also providing long-term direction for transportation policy in the region. Destination 2040 also projects population and employment growth by sector across the region over a 25-year span from when the plan was approved in 2015. The results are in alignment with the MDP, with most growth concentrated in east Riverview, Findlay Park, and southwest Riverview to a lesser extent.

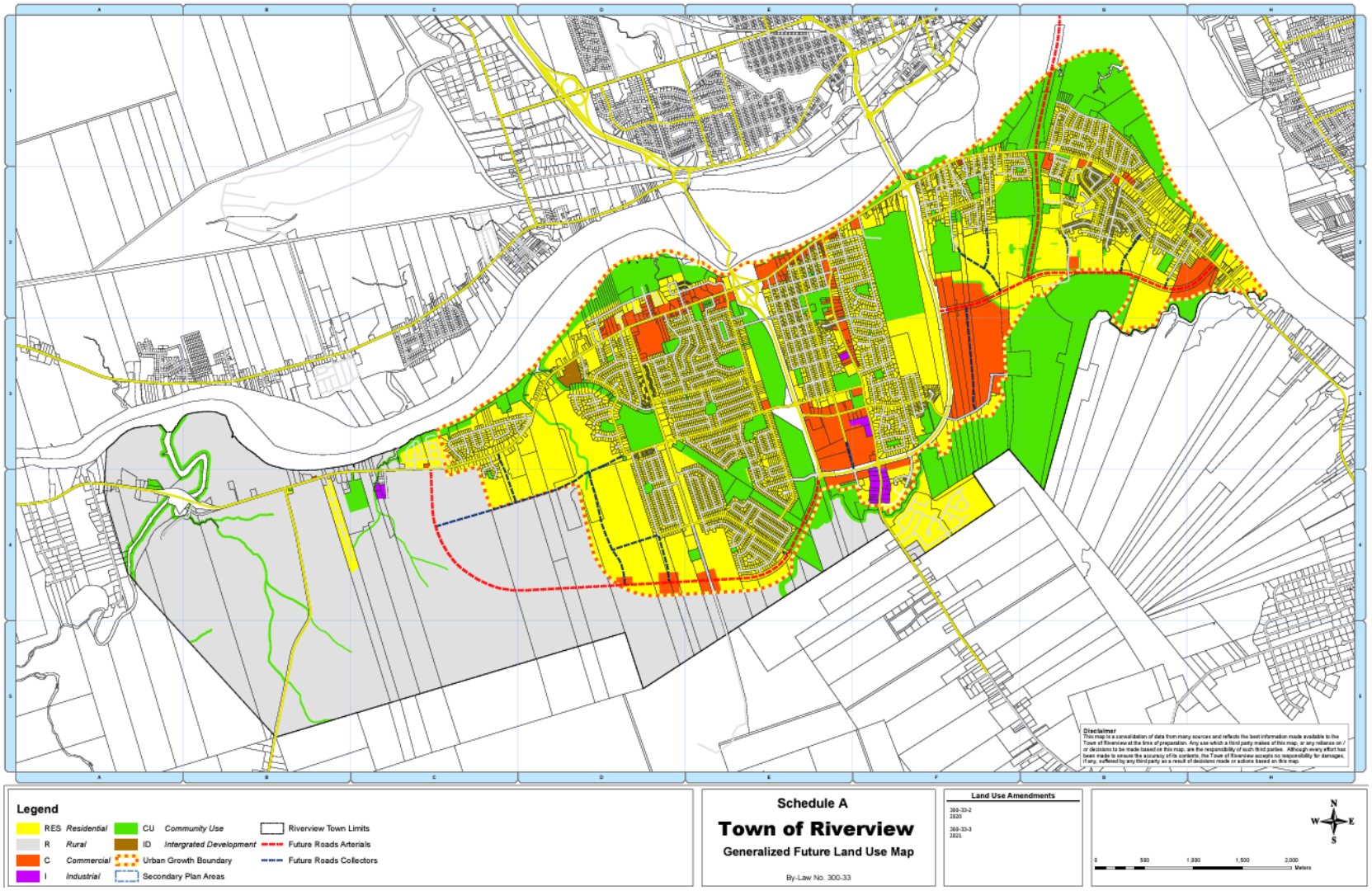
A map of the generalized future land use from the MDP is shown in Exhibit 7, with future population and employment growth from Destination 2040 shown in Exhibit 8.

2.5.2 Regional Transit Improvements

Many transit improvements recommended in Destination 2040 are at a regional level and cross municipal boundaries, which is beyond the scope of this study. Cross-regional routes from Riverview were recommended to connect to The Moncton Hospital and Champlain Mall in addition to downtown Moncton. The Plan also recommended a route connecting Riverview to Dieppe via a planned and unfunded future bridge connecting Bridgedale Boulevard with Melanson Road in Dieppe, but this connection is a very long-term proposal that is not funded and does not have a timeline for its construction.

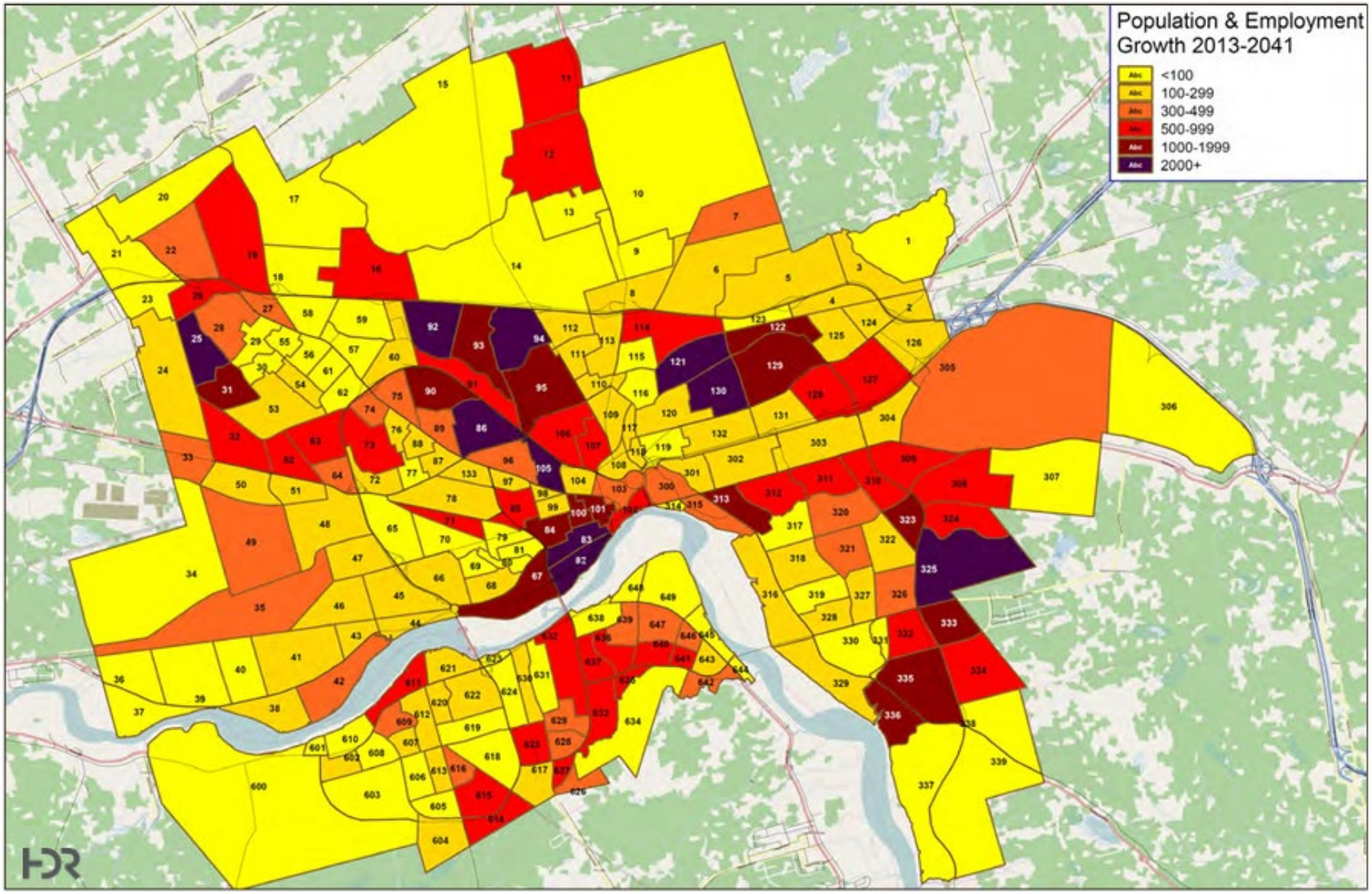
Other transit recommendations in the RSTMP include limiting the length of one-way loops where possible allow for symmetrical travel patterns for customers, the creation of a central bus terminal area in Downtown Moncton and merging or interlining transit routes across municipalities. The tri-community service agreement of Codiac Transpo is currently under review. If cross-regional routes are allowed under a future tri-community service agreement, routes proposed to terminate in Downtown Moncton under this study could be extended further into Moncton or to Dieppe. While cross-regional routes are not within the scope of this study, plans should not preclude regional routes in the future.

Exhibit 7: Riverview Future Land Use



Source: Town of Riverview Municipal Development Plan

Exhibit 8: RSTMP Population and Growth Projections



Source: Destination 2040 Regional Sustainable Transportation Master Plan

2.6 Key Takeaways

The project team conducted a review of existing transit ridership patterns, peer transit agencies, Town demographics, and growth development policy to determine how future transit service should be designed in Riverview to suit the Town's travel needs. This review found the following key takeaways that have been incorporated into the planning of transit in Riverview:

- Riverview and Greater Moncton are experiencing major growth in population and in transit ridership
- The Town's existing transit service is limited by the size of its fleet, which must be expanded to respond to ridership increases with appropriate investment
- The Town's transit fleet size, annual transit service hour investment, and overall transit ridership are below average compared to peer agencies. Service hour investment and ridership are closely correlated.
- Downtown Moncton is the busiest and most important travel destination for transit riders in Riverview
- In Riverview, transit demand is highest in major commercial and mixed-use areas, as well as in lower-income communities and where more frequent transit service is provided
- Riverview's current growth areas of Findlay Park and Carriage Hill are expected to continue growing, with long-term growth planned for Gunningsville Blvd and southwest Riverview

3 Service Design and Evaluation

Three transit service concepts have been developed for the Town of Riverview to address different needs and opportunities. All three service concepts were developed with an assumption of equal investment levels to illustrate different ways transit operations funding could be invested. The three concepts were evaluated in comparison to each other to determine the most effective service design for the Town, while the assumption of equal funding across concepts ensured funding-related bias was not part of this comparison. This evaluation is presented in Section 3.2.

All concepts require total of 17,000 annual service hours and 4 in-service vehicles plus one spare vehicle to operate at full-service levels. These service and investment levels represent a doubling of the existing annual service hour investment and number of buses in service at a time. This investment value was developed following discussions with Town representatives to align with the Town's financial capacity and ridership growth goals. These concepts include:

- Option 1: Moncton-centric
- Option 2: Continuity-based
- Option 3: Prioritize Ridership

Across all options, the existing practice of weekend-only or primarily-weekend routes would be removed. Routes would operate either on weekdays only or 7 days per week. Service levels would be adjusted according to demand on weekdays, while they would remain constant throughout the day on weekends. Service is proposed to operate during the following distinct service periods on weekdays:

- Early AM: 05:00-07:00
- AM Peak: 07:00-09:00
- Midday: 09:00-14:00
- PM Peak: 14:00-18:00
- Early Evening: 18:00-21:00
- Late Evening: 21:00-23:00

Service on Saturdays would operate from 06:00 until 21:00, while service on Sundays would operate from 10:00 until 18:00. More information about service levels is presented in the description of each individual concept.

All options also have the option to include additional demand-based taxi partnerships subsidized through the Town of Riverview to continue to provide access to transit in areas that have had routes removed as part of this redesign or in the past for minimal additional costs. These areas include the Bridgedale community in east Riverview and the Patricia Drive community in west Riverview. These services would operate as a home-to-hub service – with taxis picking up passengers in their respective zones and dropping them off at major transfer locations.

3.1.1 Option 1

Option 1 is a concept that prioritizes fast travel to Moncton. This concept has three routes, all of which serve downtown Moncton with direct, two-way travel. These routes include:

- West route: serves Coverdale Road and west Riverview
- Central route: serves Pine Glen Road, Findlay Park, and Cross Creek
- East route: serves east Riverview including Hillsborough Road and Runneymeade Road

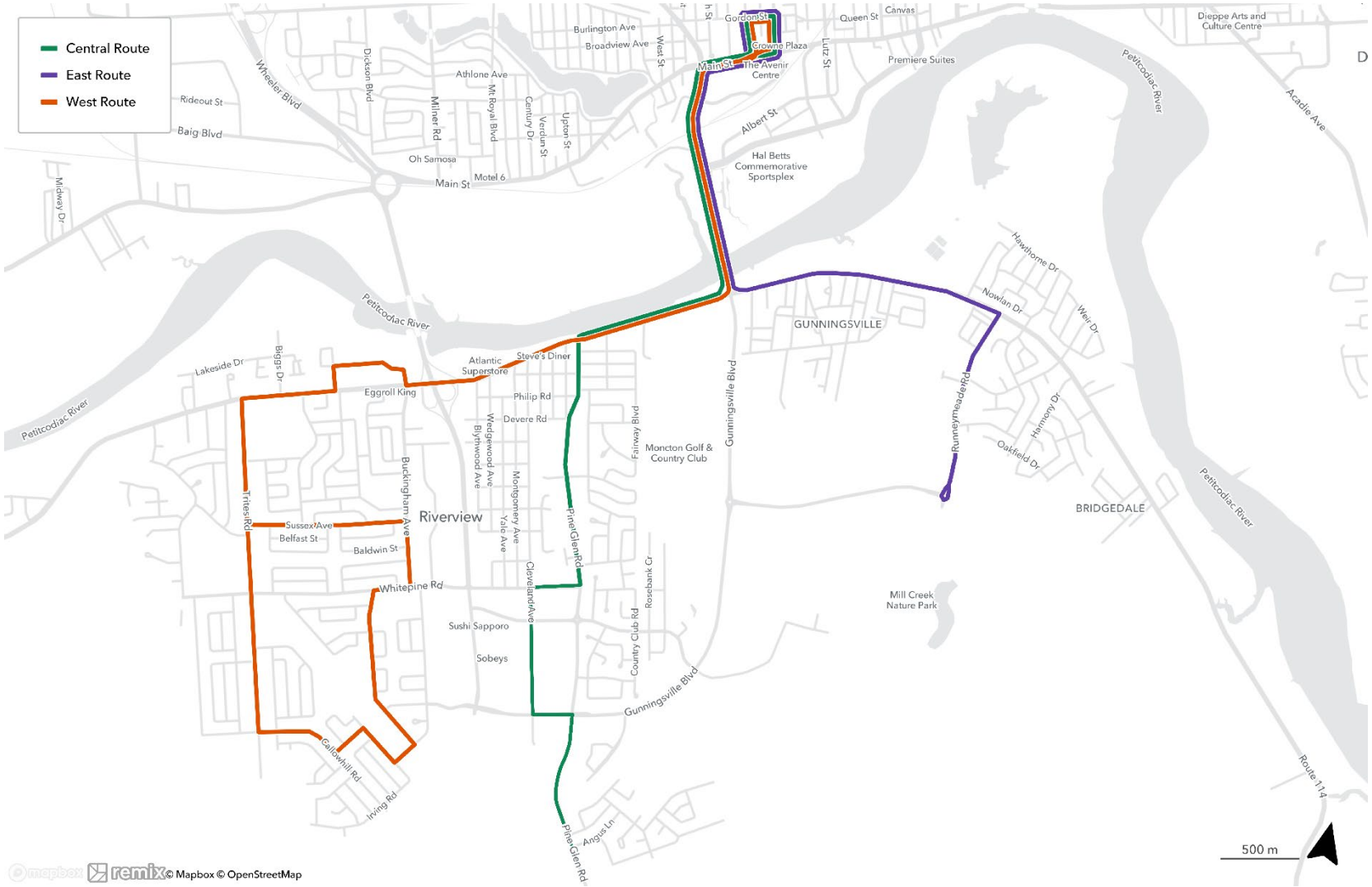
While this concept serves the most important destination effectively, travel entirely within Riverview may require customers to transfer buses in Moncton or elsewhere if they are trying to reach a destination that is not on their local route.

Projected headways for Option 1 are shown in Exhibit 9. All three routes would be proposed to be interlined together in Downtown Moncton to equalize their headways. A bus arriving downtown would take over another route after completing its layover, with each bus serving all three routes in sequence. The reason for this is that each route has a different round trip time, and this practice ensures that each bus route is just as frequent as the others. The combined operation of all three routes with four buses would provide a headway of 30 minutes on each route, while the combined operation of all three routes with three buses would provide a headway of 40 minutes and the combined operation of all three routes with two buses would provide a headway of 60 minutes.

Exhibit 9: Option 1 Headways

	Early AM	AM Peak	Midday	PM Peak	Early Eve	Late Eve	Saturday	Sunday
West Route	40	30	40	30	40	60	60	60
Central Route	40	30	40	30	40	60	60	60
East Route	40	30	40	30	40	60	60	60

Exhibit 10: Map of Option 1



3.1.2 Option 2

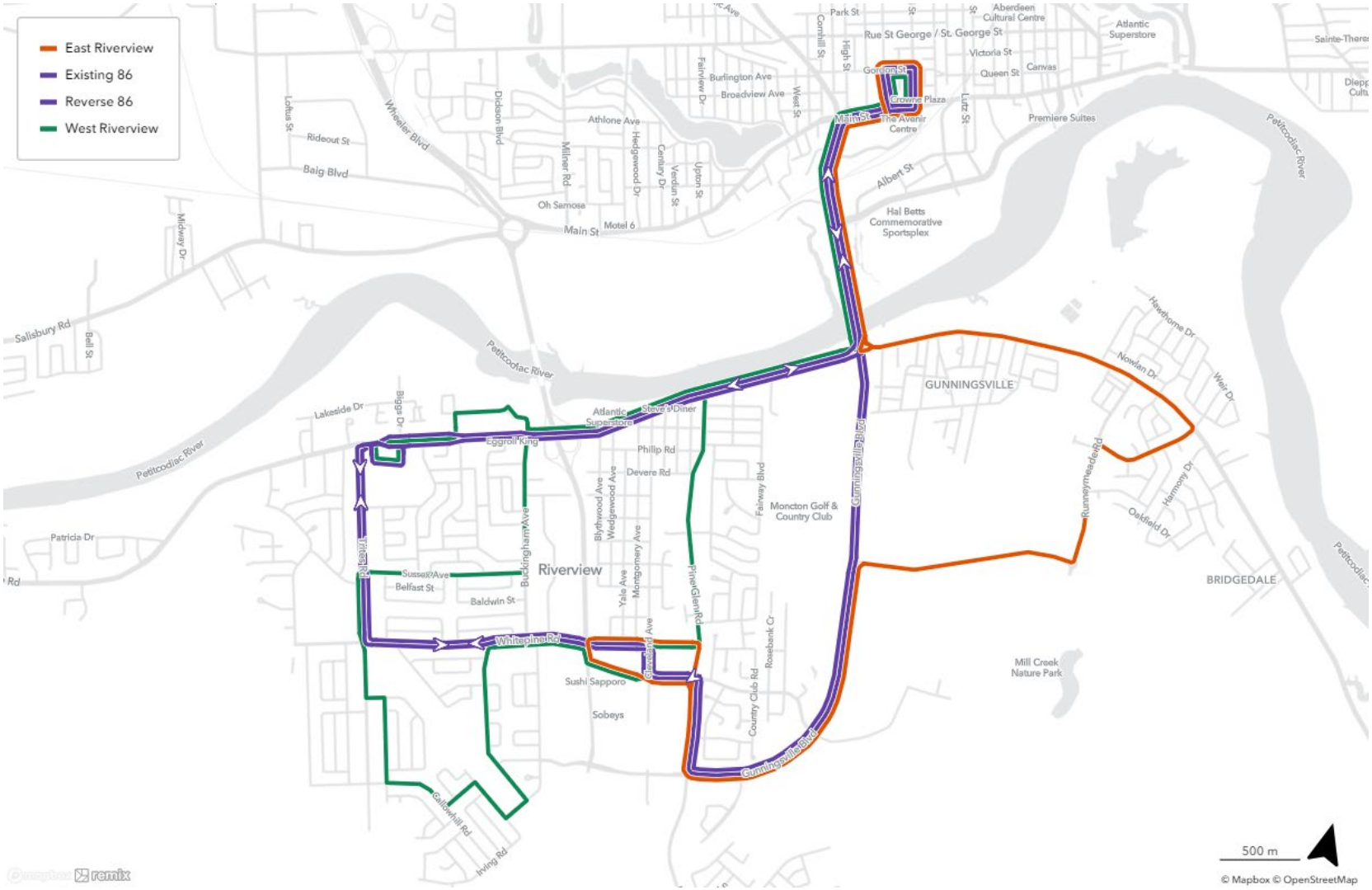
Option 2 is a service concept based on minimizing trip disruption for customers and capitalizing on the strengths of the current service network. This option maintains the 86 Pinewood as-is, while introducing a complementary version of the 86 that would operate the same loop in the opposite direction. West Riverview is served by a coverage-based route that is similar to the existing 81, while east Riverview is served by a new route that connects to downtown Moncton and Findlay Park.

Projected headways for Option 2 are shown in Exhibit 11. Service on the existing 86 would continue to operate every 40 minutes, but the service span would be extended to operate on weekends. The complementary loop, running in the opposite direction of the existing 86, operates only during peak hours (07:00-09:00 and 14:00-18:00). The west Riverview route (green), based on the existing 81, would operate once hourly at all times. The east Riverview route (orange) would also operate hourly but would not run after 21:00 on weekdays or on weekends.

Exhibit 11: Option 2 Headways

	Early AM	AM Peak	Midday	PM Peak	Early Eve	Late Eve	Saturday	Sunday
Route 86	40	40	40	40	40	40	40	40
Reverse 86	N/A	40	N/A	40	N/A	N/A	N/A	N/A
West Riverview	60	60	60	60	60	60	60	60
East Riverview	60	60	60	60	60	N/A	N/A	N/A

Exhibit 12: Map of Option 2



3.1.3 Option 3

Option 3: Prioritize Ridership is a service concept that maximizes investment into the 86 Pinewood and the proposed complementary loop, directing as much service as possible into the areas of town with proven transit ridership. Investment outside of this area is comparatively limited, with just one bus serving either a once-hourly route based on the existing 85 (as shown in Exhibit 14) or providing on-demand transit to residents who do not live within walking distance of the double-86 loop (Gunningsville area, Bridgedale area, and southwest Riverview).

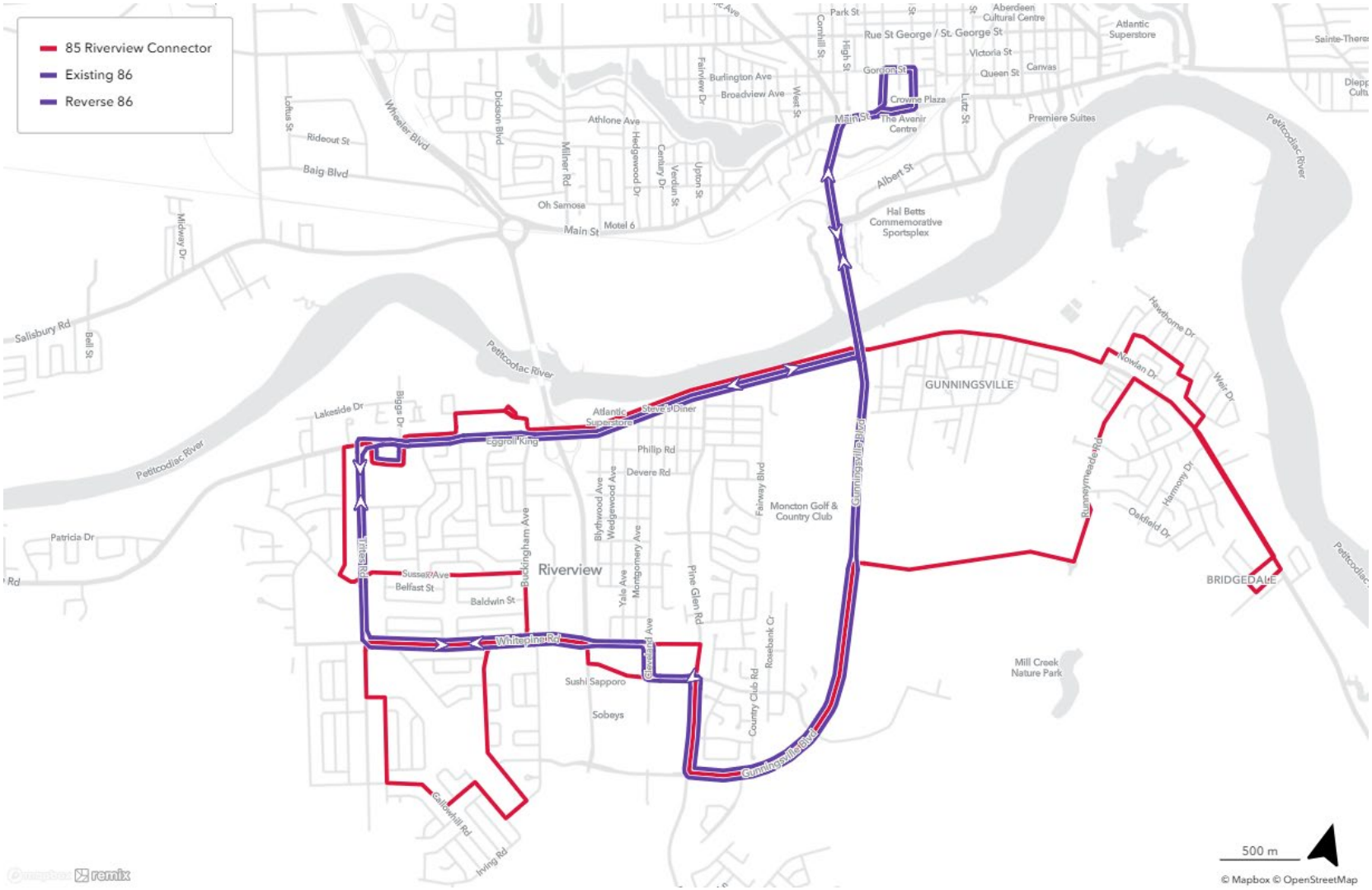
Projected headways for Option 3 are shown in Exhibit 13. During peak periods, both the existing and complementary loop of the 86 Pinewood are proposed to operate with a combined three buses and interline together in Downtown Moncton, providing a headway of 30 minutes on each route. At other times that both routes are operating, each route would operate with one bus on a 40-minute headway. The complementary loop would not operate after 21:00 on weekdays or on weekends. When both directions of the complementary loop system are operating, the number of trips per hour to downtown Moncton would be effectively doubled for those users who could reasonably use either side of the loop. Ideally, buses leaving downtown Moncton would alternate at equal intervals, allowing riders consistent service between Moncton and Riverview.

If the existing 85 is maintained, it would operate on a 60-minute headway during all service periods. If this service is provided by on-demand, service would be provided on a variable headway depending on how many riders are trying to access it.

Exhibit 13: Option 3 Headways

	Early AM	AM Peak	Midday	PM Peak	Early Eve	Late Eve	Saturday	Sunday
Route 86	40	30	40	30	40	40	40	40
Reverse 86	40	30	40	30	40	N/A	N/A	N/A
Route 85	60	60	60	60	60	60	60	60

Exhibit 14: Map of Option 3



3.2 Service Design Evaluation

Each service concept is evaluated in comparison with the other concepts and the existing service network. Concepts receive a 1-3 ranking which evaluates their effectiveness compared to the other concepts and ranking them as the best, middle, and worst. This is illustrated in Exhibit 15.

Exhibit 15: Evaluation Scale of Options

Evaluation	Meaning
1	Highest ranking concept
2	Middle ranking concept
3	Lowest ranking concept

3.2.1 Travel to Moncton

According to observed ridership data of the existing network, downtown Moncton is the most important travel destination for transit in Riverview to serve. The one route in the existing system that does not serve Moncton, the 85 Riverview Connector, has by far the system's lowest level of productivity at just 3.5 riders per hour. The evaluation of each concept for travel to Moncton is shown in Exhibit 16.

Exhibit 16: Evaluation of Service Concepts for Travel to Moncton

Option 1	Option 2	Option 3
1	2	3

Option 1 is the best option for travel to Moncton. The service concept proposes three routes, all of which are designed around transporting riders to Moncton as quickly as possible. One-way loops are limited, ensuring the most direct possible path for riders to get to Moncton with symmetrical travel times in each direction where possible.

Option 2 also provides improved travel to Moncton but does not rank as highly as Option 1. The existing route of the 86 Pinewood is retained, and a complementary loop is implemented, providing direct travel for riders during the busiest service periods when both loops are operating. The proposed route serving east Riverview is also a direct connector to downtown Moncton. The proposed west Riverview route, which is similar to the 81, does provide travel to Moncton but not in a direct way – its coverage-based routing requires riders to ride around a long loop in at least one direction of their trip. All routes do reach Moncton, but not always as directly as in Option 1.

Option 3 performs the lowest of the options for travel to Moncton. Riders who live or work in close enough proximity to the higher-ridership 86 Pinewood and its complementary loop will have a fast trip to and from Moncton, but riders using the 85 Riverview Connector or a potential on-demand service do not have direct Moncton trips. This is similar to the existing network, where riders on the 85 must transfer to the 86 to go downtown.

3.2.2 Ease of Understanding

One challenge riders face with the existing service network in Riverview is the difference between weekday, late-evening, and weekend service. These service periods differ not just in terms of headway, but in terms of the routes that are operating. While the 85 and 86 are standard weekday routes, the 81 operates one late-evening trip on weekdays and weekend service, while the 82 operates only on weekends, and with only two trips on Saturday and one on Sunday. This makes it difficult for riders who are not familiar with the network to learn how to get where they are going, presenting a barrier to attracting new riders. The evaluation of each concept for legibility is shown in Exhibit 17.

Exhibit 17: Evaluation of Service Concepts for Ease of Understanding

Option 1	Option 2	Option 3
1	2	3

Option 1 is the best option for ease of understanding. All three routes serve different areas of town with minimal duplication and overlay, while travelling in a straightforward manner without switchbacks. If the east route were to receive weekend service, it would perform better for ease of understanding as all routes would then operate at all times of service.

Option 2 performs better than the current network for ease of understanding, but not as well as Option 1. The complementary loop of the 86 Pinewood does not operate outside of peak hours, so potential users will need to make sure they are waiting at the correct stop to ensure their bus will arrive. The west Riverview route that is based on the existing 81 also experiences some challenges with legibility, as it travels around town in a long, looping pattern that can be challenging for users to assess by quickly glancing at a map. The potential user must investigate what the bus does carefully before trying to travel, presenting a barrier to use.

Option 3 performs the lowest of the options for ease of understanding. On-demand transit can present a barrier to some potential riders, as it is generally easier to navigate for younger and more technologically savvy riders and more difficult and less user friendly for older riders or riders who are not used to a system like this. It is therefore recommended that if on-demand transit is implemented, an “analog” booking option, such as scheduling trips by phone call, should be provided. If the 85 Riverview Connector is retained, this route suffers similar issues to ease of use as the west Riverview route in option 2, as it often switches back on itself and requires the user to do more research beyond looking at it on a map.

3.2.3 Demand Responsiveness

In transit scheduling, it is beneficial to have the flexibility to implement service according to levels of demand. This applies on both a network-wide and route-by-route basis. When demand is higher, more service is scheduled on the network as a whole, and also on routes that are more productive. This more-frequent service in higher-demand areas is more attractive to potential riders and can bring in more customers as a result. This is reflected in the existing weekday network: the 86, which has much higher demand and ridership than the 85, operates every 40 minutes as opposed to every 60. The evaluation of each concept for demand responsiveness is shown in Exhibit 18.

Exhibit 18: Evaluation of Service Concepts for Demand Responsiveness

Option 1	Option 2	Option 3
3	2	1

Option 1 performs the lowest of all concepts for demand responsiveness. The reason for this is the route that is expected to carry the highest ridership and demand levels, the west route, has the longest round-trip time. The three routes are proposed to be interlined together to equalize headways, ensuring they must always have the same headway. The network itself operates with more buses to carry more passengers when demand is higher, but the west and central route must operate at the same headways during all service periods.

Option 2 performs better for demand responsiveness. As with the existing network, the 86 Pinewood operates more frequently than the less-direct routes serving areas of lower demand. The complementary loop allows even more service to be implemented on this high-demand corridor during peak service periods.

Option 3 performs the best for demand responsiveness, as it allocates even more service to the higher-demand 86 Pinewood and its complementary loop. The least-frequent service period, with one bus on the 86, would still correspond to the most-frequent service provided by the network today. The on-demand service or the existing 85 would continue to provide limited levels of service to areas where ridership is lower.

3.2.4 Low-Income Communities

Serving low-income communities is important in transit planning from both an equity and demand perspective. Lower-income residents often have fewer travel options and will benefit proportionally more from transit investments than residents with higher incomes, while lower-income communities often generate higher levels of transit demand, which creates the need for more service. The evaluation of each concept for service to lower-income communities is shown in Exhibit 19.

Exhibit 19: Evaluation of Service Concepts for Service to Low-Income Communities

Option 1	Option 2	Option 3
3	2	1

For this analysis, low-income communities in Riverview were defined as Census Dissemination Areas (DAs) located along Coverdale Road, Trites Road, Suffolk Street, and Crystal Drive with over 15% of residents living below the Low-Income Cut-Off as of the 2021 Federal Census. Option 3, which has the most trips per day serving these communities, performs the best. Option 2 performs slightly better than Option 1, as the 86 Pinewood is proposed to operate with a 40-minute headway after 21:00 on weekdays and on weekends, compared to a 45-minute headway for the west route in Option 1.

3.2.5 Directness of Travel

Providing more direct trips enables transit agencies to attract more potential riders by making transit more competitive with other modes of travel. A potential rider will be more likely to choose transit if the trip is direct than if it is meandering and time-consuming. The evaluation of each concept for directness is shown in Exhibit 20.

Exhibit 20: Evaluation of Service Concepts for Directness of Travel

Option 1	Option 2	Option 3
1	3	2

Option 1 performs the best for directness. Each route is designed to limit the length of one-way segments and maximize two-way travel along its given corridors. One-way loops, where they do exist, are short enough that trip times are still similar from one side of the loop to the other.

Option 2 performs the worst for directness. The 86 Pinewood maintains fast and direct travel as today, while the coverage-based route in west Riverview takes far longer to get around its loop – much like the existing 81. The complementary loop, when it is operating, and the proposed route in east Riverview do provide improvements to directness compared to the existing network, as routes that require long there-and-back trips like the 82 Riverview Place are not proposed.

Option 3 performs better for directness. Because both the 86 and the complementary loop are proposed to operate from 05:00 to 21:00 on weekdays, it matters much less which side of the loop a rider is starting their trip from as they can choose whichever route provides a quicker trip. The on-demand service, if implemented, would be either approximately as direct or slightly more direct than the existing 85, depending on where else trips are being requested at a given time.

3.2.6 Future Growth Flexibility

Ideally, transit systems should be designed to respond to future growth and changes without requiring a significant overhaul. Changing transit routes can be a positive thing if done with a purpose, but a change inevitably disrupts the trips of existing riders and must thus be done carefully, thoughtfully, and not too often. No changes have been made to the existing transit network in Riverview since November of 2023. The evaluation of each concept for future growth flexibility is in Exhibit 21.

Exhibit 21: Evaluation of Service Concepts for Directness of Travel

Option 1	Option 2	Option 3
1	3	2

Option 1 performs the best for future growth. Its three routes serve places where demand and development currently exist, while all three routes are designed to be extendible to accommodate growth in the future. While Gunningsville Blvd doesn't currently have any destinations to serve, it is planned to experience significant mixed-use growth in the future. When that happens, a new route can be implemented to serve this without duplicating any existing service. This route could also be extended further into southwest Riverview via Whitepine Rd if urban growth is eventually extended further in this direction.

Option 2 performs the worst for future growth. As with Option 1, the route in east Riverview can be re-aligned as needed to accommodate residential growth. Extensions to southwest Riverview without duplicating existing routes would be more difficult, however, and would likely require either a service review or a deviation of an existing route. Extensions of loop-shaped routes are more difficult than extending linear routes, as the loop must be either extended, tacked on to, or broken.

Option 3 performs better for future growth. As with Option 2, future growth on Gunningsville Blvd can be served by the 86 Pinewood and its complementary loop. If the on-demand service is implemented, it can be used to track demand in growing communities and can ultimately be replaced with a standard fixed transit route when demand grows to a point where one is justified. Such a new route would be designed not to duplicate any other service. If the existing 85 is retained, it could be replaced with future fixed routes.

3.2.7 Travel Within Riverview

While downtown Moncton continues to represent the most important travel destination by a significant amount, riders may also want to travel to destinations within Riverview without having to go to Moncton first. Such destinations could include Riverview Place, Findlay Park, Atlantic Superstore, or the rec centre. The evaluation of each concept for travel within Riverview is in Exhibit 22.

Exhibit 22: Evaluation of Service Concepts for Travel Within Riverview

Option 1	Option 2	Option 3
3	1	2

Option 1 performs the worst for travel within Riverview. Transfers between the west route and central route can take place on Coverdale Road, though this may require riders to cross the street. Transfers to the east route from either of the other two, however, could only be done either in Moncton or at the Gunningsville Bridge. This would require a significant change to how the intersection operates. Even if improvements could be made, high traffic volumes would continue to make this a challenging location to cross the street and wait for a bus.

Option 2 performs the best for travel within Riverview. All routes serving west Riverview serve both Riverview Place and Findlay Park, connecting riders directly to the two most-important non-downtown destinations by existing ridership. When a transfer is required for riders to get to a destination, Riverview Place and Findlay Park constitute more convenient and less hazardous transfer points compared to the Gunningsville Bridge or Vaughan Harvey Blvd – travel time is also reduced for transferring riders.

Option 3 performs better for travel within Riverview. Two-directional service on the 86 and its complementary loop ensure that any riders could travel in either direction towards Riverview Place, Findlay Park, or anywhere else on the combined routing. Riders on the on-demand service or the existing 85 can connect to destinations throughout Riverview, though a wait may be required, and travel may not always be direct.

3.3 Proposed Service

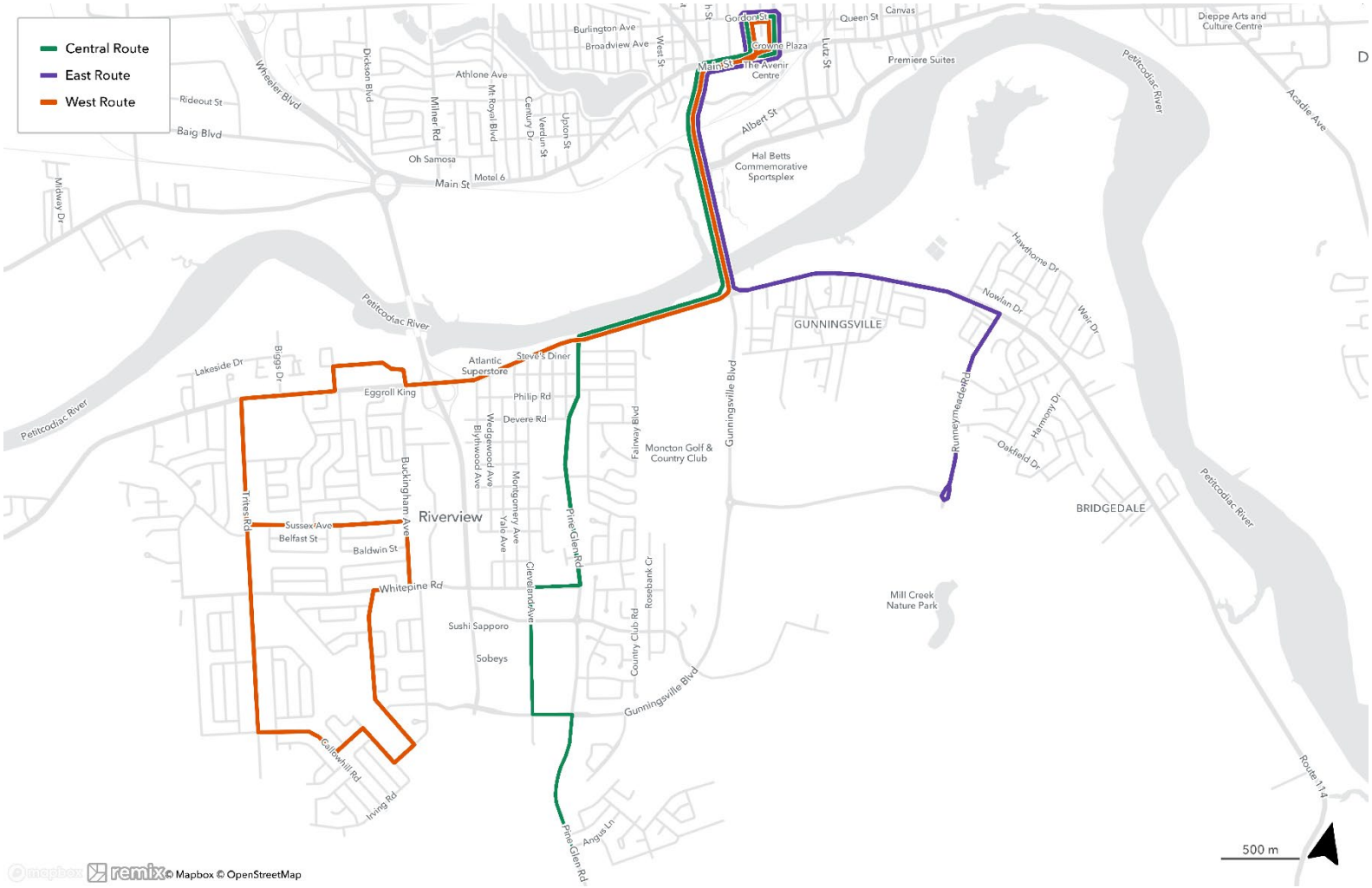
Option 1 is determined to have the highest level of benefit of the three options and is the recommended alternative. It performs best for connections to Moncton, ease of understanding, directness of travel, and future growth flexibility. It does not perform as well as other options for trips taken within Riverview, but these trips represent a small share of current ridership and could be addressed with future extensions of the west and east routes to Findlay Park, which would create a major transfer hub and destination for local travel. Of the other two options, Option 3 has stronger performance for demand responsiveness and trips to lower-income communities but does not connect all Town residents to Moncton, the most important travel destination, and loses out on ease of use and understanding due to the potentially non-user-friendly nature of on-demand transit or the long one-way

loop of the existing Route 85. Option 2 performs very well for serving trips within Riverview but is generally outranked by the other options in other evaluation criteria.

Exhibit 23: Summary Evaluation of All Concepts

Criterion	Option 1	Option 2	Option 3
Travel to Moncton	1	2	3
Ease of Understanding	1	2	3
Demand Responsiveness	3	2	1
Low-Income Communities	3	2	1
Directness of Travel	1	3	2
Future Growth Flexibility	1	3	2
Travel Within Riverview	3	2	1
Overall	**1**	**3**	**2**

Exhibit 24: Proposed Future Service



The proposed service in its ultimate configuration would operate as shown in Exhibit 25.

Exhibit 25: Proposed Future Service

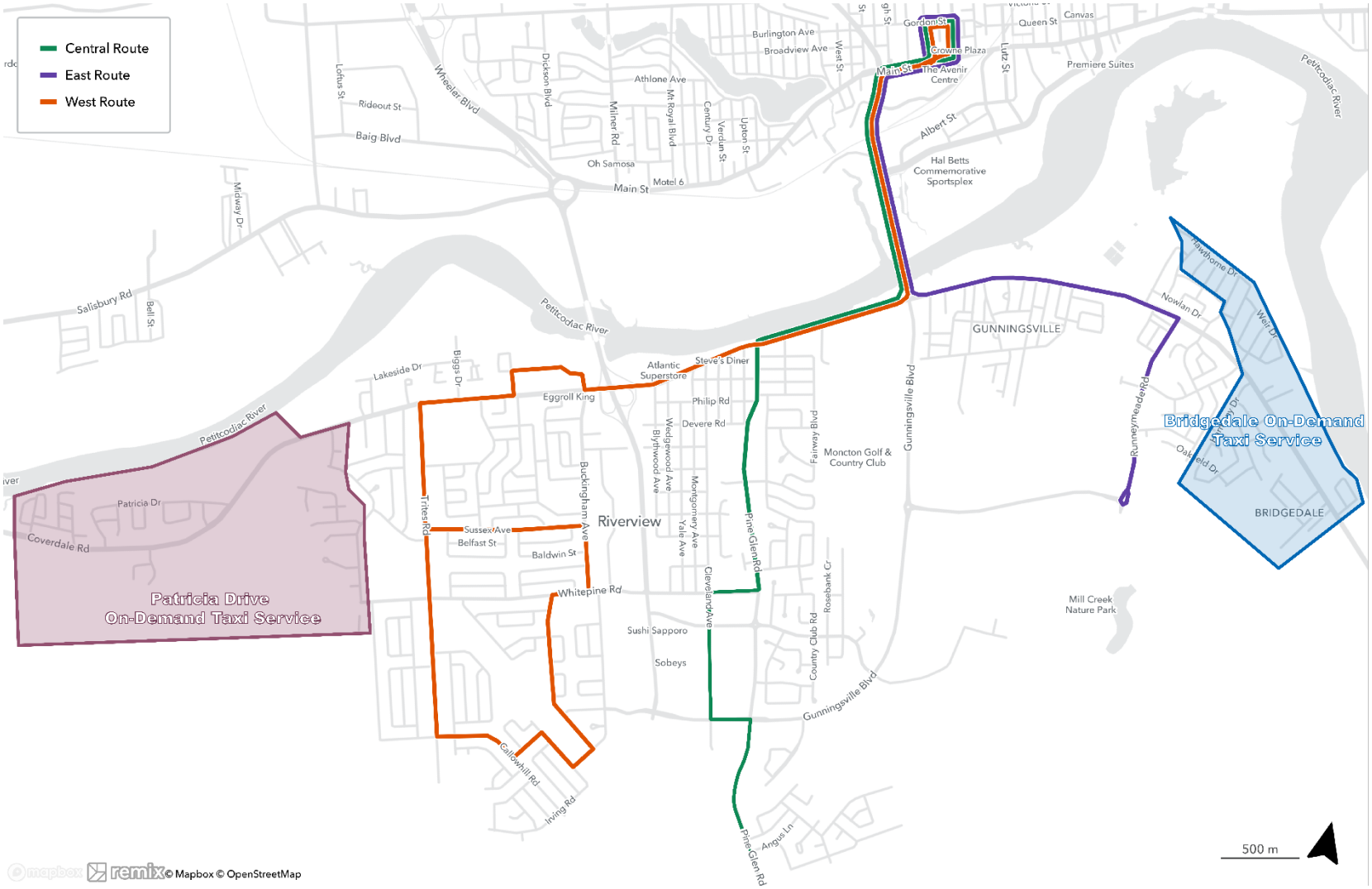
	West Route (orange)	Central Route (green)	East Route (purple)
Weekday Service Hours	05:30 to 22:30	05:30 to 22:30	05:30 to 22:30
Saturday Service Hours	06:30 to 22:30	06:30 to 22:30	06:30 to 22:30
Sunday Service Hours	10:30 to 18:30	10:30 to 18:30	10:30 to 18:30
Weekday Headway	• 30 minutes during peak periods • 40 minutes all other times until 21:00 • 60 minutes after 21:00	• 30 minutes during peak periods • 40 minutes all other times until 21:00 • 60 minutes after 21:00	• 30 minutes during peak periods • 40 minutes all other times until 21:00 • 60 minutes after 21:00
Weekend Headway	60 minutes	60 minutes	60 minutes
Round trip time[5]	46 minutes plus layover	36 minutes plus layover	26 minutes plus layover
Peak vehicles	4		
Required additional service hours	8,645		
Total service hours	17,000		

3.4 Supplemental Taxi Partnership

Additional demand-based taxi partnerships will also be incorporated into this service plan to continue to provide access to transit in areas that have had routes removed, either as part of this redesign or in the recent past, for minimal additional costs. Two service areas are proposed: one in east Riverview in the Bridgedale, Carriage Hill, and Point Park area, and one in west Riverview in the Patricia Drive area. Each of these service areas have observed extremely low transit ridership and could be administered with a taxi transfer program at relatively low cost, allowing the Town to dedicate transit service in a more cost-effective manner. These services would operate as a home-to-hub service – with taxis picking up passengers in their respective zones and dropping them off at major transfer locations. These hubs would consist of Runneymeade/Beacon Hill for the east Riverview service, and Riverview Place for the west Riverview service. It is estimated these taxi partnerships would cost $20,000 per year to operate with an estimated 2,300 riders per year.

[5] All three routes are interlined on weekdays, for a total round-trip time, including layover, of 120 minutes. The combined round trip time exclusive of layover is 108 minutes.

Exhibit 26: Taxi Partnership Service Areas



4 Toolkit for Right-of-Way Reallocation

In addition to the service changes proposed, supporting right-of-way improvements are important to provide a positive experience for transit riders. The existing streets in Riverview are car-oriented, creating barriers to passenger comfort outside a vehicle. This chapter focuses on how the existing active transportation infrastructure in Riverview can be assessed and improved to enhance the transit riders' experience.

4.1 Existing Conditions Review

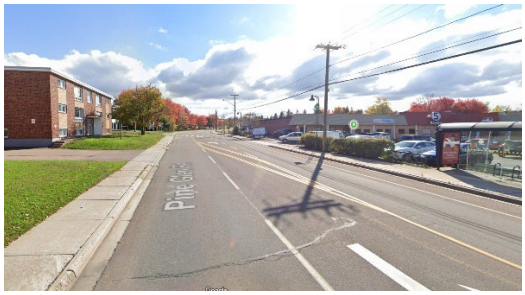
A review was conducted of the existing street network and bus stop conditions in Riverview by the project team. This review focused on street and sidewalk conditions and the waiting environment for transit riders. The existing street network in Riverview primarily prioritizes auto drivers, with limited infrastructure and amenities available for pedestrians and transit riders. Many bus stops have limited infrastructure or amenities for transit riders to wait for, board, or alight from the bus. This section explores the existing state of pedestrian and bus stop infrastructure in Riverview and identifies a toolkit of improvements the Town could implement to improve the state of this infrastructure.

4.1.1 Sidewalks and Pedestrian Infrastructure

The available sidewalk infrastructure in Riverview is limited. Many streets do not have sidewalks on one or both sides, while those that do often have narrow sidewalks that pose accessibility challenges and provide limited space for bus stop infrastructure and passenger waiting amenities. Sidewalks are generally found on arterial and collector streets, while many residential streets around Riverview do not have sidewalks at all. Overall, the existing pedestrian network poses accessibility and safety concerns for existing and potential transit riders aiming to get to and from transit stops. Some examples of street and sidewalk typologies can be found in the table below.

Exhibit 27: Street and Sidewalk Typologies

Street Type	Street Name	Photo Exhibit by Google Street View
Streets with narrow or deficient sidewalks on each side of the street.		
Arterial	Hillsborough Road	

Street Type	Street Name	Photo Exhibit by Google Street View
Arterial	Coverdale Road	
Collector	Pine Glen Road	
	White Pine Road	
Streets with narrow or deficient sidewalks on only one side of the street.		
Arterial	Coverdale Road	

Street Type	Street Name	Photo Exhibit by Google Street View
Collector	Whitepine Road	
	Pinewood Road	
Streets with no sidewalks on either side of the street.		
Residential	Sussex Ave (to be constructed in 2025)	
	Callaghan Road	

Street Type	Street Name	Photo Exhibit by Google Street View
	Henderson Ave	
	Leonard St	

4.1.2 Bus Stop Infrastructure and Amenities

Many bus stops located on busy arterial and collector roads are not equipped with shelters, benches, concrete pads, or waste receptacles. Bus stop signs typically consist of a small sign post mounted in a grass boulevard and many signs are not very visible or easily recognizable. Some bus stops do not have any signage (e.g. Gunningsville / Pinewood). Where signposts are placed, the signage does not always reflect the current transit routes available at the bus stop. For example, some bus stops in east Riverview still depict the former 80 Gunningsville route. Bus stop signage should convey current and accurate information about the transit service available at the stop, with dual-sided signage in high-contrast colours to make it as easy as possible for riders to read. Several bus stops on arterial roads do not have pedestrian crossings, sidewalk connections, or concrete pads, which can pose a safety concern for those crossing the street or waiting for the bus (e.g. Coverdale / Pine Glen).

Bus stops located on residential streets, many of which do not have sidewalks, generally consist of a signpost on a grass boulevard without a concrete pad, though a signpost is not always present. Passengers at these stops must wait either in the street, on the grass, or on unobstructed residential driveways during winter weather conditions. This prevents level-boarding onto buses, posing accessibility issues. Streets with curbs pose further accessibility issues by creating an additional physical barrier. The following table illustrates some examples of bus stops in Riverview.

Exhibit 28: Example Bus Stops in Riverview

Road/Stop Type	Examples	Street View
Bus stops with no shelter, benches, concrete pads, or waste receptable.		
Major Destination	720 Coverdale Stop ID: R0568	
Major Destination	Riverview Mall Entrance Stop ID: R1178	
Arterial	Coverdale / Pine Glen	

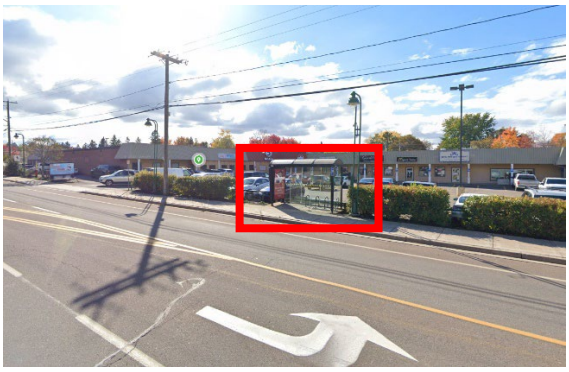
Road/Stop Type	Examples	Street View
Bus stops signs providing minimal information and not easy to identify.		
Arterial	Hillsborough / Hillview Stop ID: R0540	
Collector	528 Pinewood Stop ID: R1056	
Residential	Leonard St Stop ID: R0565	

4.1.3 Accessibility, Multi-Modal Integration, and Security

Many bus stops on arterial and collector roads lack multimodal and accessible infrastructure, such as bicycle parking and tactile strips, despite Riverview's road network including numerous bike lanes. While buses are currently equipped with bike racks, riders have limited opportunities to park bikes before boarding a bus. Bicycle parking at major transit hubs can encourage multi-modal transit trips and allows for passengers to access transit from a wider catchment area. Tactile strips, where implemented, provide enhanced accessibility for passengers with vision loss to find the boarding area of a stop more easily.

There are several trails within Riverview with bus stop connections. Many of these bus stops have inadequate lighting that may pose safety and security risks compared to bus stops along sidewalks that are closer to the roadway. Along the trail route on Coverdale Road, which is an arterial road, several bus stops suffer from poor lighting, representing a potential hazard for transit users.

Exhibit 29: Examples of Roadway Issues

Road Type	Examples	Street View
No bicycle parking or tactile strips.		
Arterial	500 Hillsborough Stop ID: R0544 *Shelter to be relocated by the Town following 2023 removal*	
Collector	121 Pine Glen Stop ID: R0577	
Inadequate lighting near trails that lead to bus stops.		
Arterial	Coverdale / Pine Glen Stop ID: R1172	

Road Type	Examples	Street View
Collector	Gunningsville / Robertson Stop ID: T8604	

4.2 Toolkit of Infrastructure Improvements

This section presents a detailed toolkit of infrastructure improvements to improve the streetscape of Riverview.

4.2.1 Infrastructure Improvement Objectives

Streetscape infrastructure improvement can help support the delivery of transit service improvements envisaged by the recommended network outlined in Chapter 3. The key objectives for streetscape improvements are as follows:

- **Enhance pedestrian areas**: incorporate necessary streetscape elements including providing a continuous pedestrian throughway to encourage more walking and transit use.
- **Promote accessibility**: facilitate better, continuous, and more accessible access routes between public transit stops and nearby residential neighbourhoods, community facilities, commercial and employment destinations, parks and open space. With the implementation of accessible bus service when Riverview's spare bus arrives in 2025, accessible bus stops and streets are essential to providing a transit service without barriers.
- **Optimize mobility and safety**: identify intersection enhancements, crossings, sidewalks, public transit facilities (bus stops and shelters), cycling facilities, and other complete streets elements. Recommend opportunities for enhanced traffic safety for transit users and residents.
- **Seek opportunities for environmental sustainability**: consider stormwater management and energy conservation in streetscape recommendations.

4.2.2 Streetscape Best Practices & Policy Context

The following local policy documents, and streetscape and best practice case studies were referenced in the development of the streetscape toolkit.

- Policy Context
  - Active Transportation Plan, Town of Riverview (2013)
  - Town of Riverview Municipal Plan (2017)
  - Town of Riverview Strategic Plan 2021-2026
  - Integrated Community Sustainability Plan (Sept 2015)

  - PlanMoncton: The City of Moncton Municipal Plan (2012)

- Case Studies
  - St. George Street Streetscape Improvement Projects, Moncton (Sept 2013)
  - Niagara Region Complete Streets Design Guidelines (June 2017) IBI Group/Arcadis
  - Downtown Streetscape Study, Brampton, ON
  - Urban Design Vision & Streetscape Master Plan for Ontario Street, Lincoln, ON (January 2022)

4.2.3 Streetscape Zones & Elements

Located within a road right-of-way in an urban context, the streetscape treatments presented below focus on public realm elements beyond the vehicular roadway, which can be divided into three functional zones (pedestrian, planting and furnishing, and frontage) and one edge zone, with the potential addition of transit infrastructure (transit stop zone) where transit is present, and an active transportation zone (bikeway). The streetscape zones are as follows:

- Edge Zone
- Transit Stop Zone
- Furnishing and Planting Zone
- Pedestrian Through Zone
- Frontage Zone
- Transit Stop Zone
- Bikeway Zone

These zones, paired with streetscape amenities, should be combined to create complete streets. In ideal conditions, all streetscape zones would be provided on all roadways. However, with spatial and budgetary constraints and varying land use contexts, incorporating all streetscape zones is not always feasible. In these instances, decisions must be made informed by the unique priorities of the surrounding land use and mobility context. Universally, accessible and safe pedestrian movement should be prioritized, through providing a continuous Pedestrian Through Zone and a sufficient Edge Zone. Once sufficient pedestrian infrastructure has been provided, the land use context and policy context will inform which other streetscape zones and elements should be prioritized.

Exhibit 30: Illustrative Streetscape Zones

4.2.3.1 Edge Zone

The Edge Zone is located immediately adjacent to the roadway and provides clearance between the traveled portion of the road/parked vehicles and other sidewalk functions.

- Character: This zone provides a safety buffer against such things as door swings and mirrors, and it can possibly accommodate sign and utility posts, garbage set out and snow storage.
- Dimension: Best practices suggest a minimum of 0.5 metres wide, including the width of the curb.
- Material: Often concrete or decorative paving.

4.2.3.2 Transit Stop Zone

The Transit Stop Zone is the space designated for the waiting and boarding of transit riders and can be integrated into the sidewalk, the median, or on a dedicated boarding island.

- Character: The Transit Stop Zone may include one or more of the following streetscape elements, depending on the surrounding land use content and frequency of stop usage- transit stop pole for wayfinding and transit

information, pedestrian lighting, bench, waste receptable, bicycle parking, bus shelter, real-time arrival information displays.
- Material: Where feasible, a concrete pad should be provided at transit stops of transit users to wait, and access/egress busses in an accessible manner.

4.2.3.3 Furnishing and Planting Zone

The Furnishing and Planting Zone is located directly adjacent to the Edge Zone, and may contain street furniture, trees, lighting, hydro pole, transit stops and other fixed objects. This zone can consist of sod in residential areas, or hardscape along main street and mixed-use areas.

- Character: This zone can be characterized by sod of decorative paving features. It is desirable to have coordinated alignment of services within this zone, and features should be placed in a manner that does not obstruct the Pedestrian Clearway. The Furnishing and Planting Zone provides an important comfort buffer between pedestrians and vehicular traffic.
- Dimension: The Furnishing and Planting Zone typically varies in width between 1.0 and 2.2 metres, depending on available space. To accommodate tree planting in this zone, the preferred minimum width is 1.8 metres, and no less than 1.2 metres. If the Furnishing and Planting Zone is less than 1.0 metre, consider placing furniture in an alternate location.
- Material: Sod, concrete, or decorative paving, dependent on the land use context and available funding.

4.2.3.4 Pedestrian Through Zone

The Pedestrian Through Zone is a clear, unobstructed continuous linear path of sidewalk that accommodates pedestrian movement. Provision of this zone is a high priority, and the width should be determined prior to the width of the Furnishing and Planting Zone to ensure it supports the existing and projected volume of pedestrian traffic.

- Character: Pedestrian through zones are critical for promoting active transportation and healthy communities.
- Dimension: Best practices suggest a minimum width of 1.5-2.2m for pedestrian through zones. For the width less than 1.5m there should be passing bump outs for wheelchair, strollers and walkers.
- Material: Concrete or paving.

4.2.3.5 Frontage Zone

The Frontage Zone is the interface between the streetscape and adjacent uses. On main streets and in commercial or mixed-use areas, the Frontage Zone will often abut the building frontage, including entrance zones, patios, or public plaza spaces. In areas where buildings are further setback from the right-of-way, the area may consist of surface parking or green spaces. In residential areas, the Frontage Zone can be adjacent to front yards. Regardless of the adjacency, the Frontage Zone should consider and cater to the adjacent use.

- Character: The frontage zone defines the transition from the public to the private realm and is particularly important in collector streets typology with urban presence.
- Dimension: The dimension will vary dependent on the right-of-way width and land use context.
- Material: The materiality should be informed by the adjacent use, but may include sod, concrete, or paving

4.2.3.6 Bikeway Zone

The Bikeway Zone consists of cycling infrastructure, which could take on various forms, either within the roadway or streetscape, including on-road shared cycling/vehicular lanes ('sharrows'), painted on-road bike lanes, separated on-road or streetscape level cycle tracks, and/or multi-use paths (shared between pedestrians and other active transportation users). Cycling infrastructure should be considered where feasible within Riverview to encourage multi-modal connectivity and first and last mile connectivity to transit.

- Character: The primary objective of the bikeway is to increase cycling across the town by accommodating a wider range of cycling ability and experience. Increased separating between cycling infrastructure and vehicular circulation is encouraged where feasible.

4.2.3.7 Streetscape Elements & Amenities

Riverview transit corridors share extensive uses by pedestrians and transit users. Streetscape amenities are important contributors to a vibrant and cohesive public realm. The appropriate combination, placement and enhancement of these elements is necessary in the creation of functional streetscapes.

Exhibit 31: Streetscape Elements

Elements	Description	Conceptual Cost*
Continuous Streetscape Elements		
Concrete Sidewalk	Concrete is the primary choice as the paving surface for pedestrians.	$140/m^2
Planting Zone	Continuous sod with potential for street tree planting.	$25/m^2
Furnishing Zone	Continuous hardscape zone for streetscape amenities and/or street trees.	$140-500/m^2
Multi-Use Paths	Located within the boulevard and are large paths designed to accommodate multiple modes of active transportation including pedestrians, cyclists, and other non-motorized modes of movements.	$120/m^2
Cycle Track	Physically protected, off street bicycle lanes that are located within the boulevard	$120/m^2
Site Specific Streetscape Elements		
Transit Facility- Bus Shelter	Accessible shelter that provides weather protection, seating, waste receptacles, lighting and route information	$20,000/unit
Street Trees	Trees should be selected that are appropriate to streetscape use. Trees need sufficient soil and space to grow, and can be planted in sod (as priced), within planters, or utilizing tree grates.	$700/ tree
Green Infrastructure - Drainage Swales	An approach to managing stormwater run-off at the source by replicating natural watershed functions. It uses simple, cost-effective methods to capture, detain and treat stormwater.	varies

Elements	Description	Conceptual Cost*
Lighting- Roadway	Focus on illuminating the environment to anticipate and respond to the needs of users	$20,000/unit
Lighting- Pedestrian	To enhance safety and visibility, pedestrian scale lighting can be added in areas with high volumes of pedestrian activity.	$8,000/unit
Street Furniture- Bench	Coordinated street furnishing can be provided in close proximity to transit stops, and/or within the planting and furnishing zones to provide amenities for pedestrians, cyclists, and transit users.	$3,000/unit
Street Furniture- Waste Receptacle		$3,000/unit
Street Furniture- Bike Racks		$700/unit

* Costing provides a high-level estimate of the material for information purposes. Capital costing for installation likely to exceed material costs, resulting from potential infrastructure conflicts/relocations required. Exact costing subject to change based on fluctuating costs, local availability and labour markets.

4.2.4 Streetscape Toolkit Application

The Town of Riverview Municipal Plan By-law defines future roads as arterial streets, collector streets and local streets, to assist in addressing the Town's various mobility needs, land use contexts, and natural heritage and built form conditions. With the guidance of the preferred transit service option, the transit routes can be developed into three typologies that reflects the three types of streets the Municipal Plan identified.

The application of the recommendations in this toolkit can be used to by the Town as part of future roadway reconstruction or streetscaping to inform cross-section design and streetscaping.

Exhibit 32: Streetscape Toolkit Application

	Arterial Street	Collector Street	Local Street
Street Character	Efficient movement, primarily for private vehicles, along with transit facility, recreational cycling facilities and connection to pedestrian network.	Collectors infiltrate into residential neighbourhoods and connect the local streets to arterials.	Municipal streets that provide access to property. Local streets provide the lowest level of mobility and through traffic is generally discouraged.
Example Streets	• Coverdale Rd • Hillsborough Road • Gunningsville Blvd	• Pine Glen Rd • Pinewood Rd • Trites Rd	• Henderson Road • Cobblestone Rd • Sussex Ave
Right-of-Way Width (Municipal Plan)	Over 23 metres	20-23 metres	18-20 metres
Edge Zone	Concrete or decorative paving (min. 0.5m)	Concrete or decorative paving (min. 0.5m)	Concrete (min. 0.5m)

	Arterial Street	Collector Street	Local Street
Furnishing and Planting Zone	• Pedestrian Lighting • Street Trees • Bike Racks	• Pedestrian Lighting • Street Trees • Bike Racks	• Street Trees
Pedestrian Through Zone	• Enhanced sidewalk on both sides of the street	• Enhance sidewalk on both sides of the street	• Add sidewalk to both sides of the street
Frontage Zone	• Green Space	• Patio Space • Enhanced Entrance	• Green Space
Bikeway Zone	• Cycle Track • Multi-use Path	• Cycle Track • Protected Bike Lane • Shared Road	• Shared Travel Lanes
Transit Stop Zone	• Bus Shelter • Lighting • Concrete Landing Pads • Benches • Waste Receptacle	• Bus Shelter • Lighting • Concrete Landing Pads • Benches • Waste Receptacle	• Concrete Landing Pads

5 Implementation Plan

Riverview will need to take several actions to deliver the recommended new service concept. New vehicles, new staff, and new operating funding will be required to deliver these improvements, which must be accomplished over several years, largely due to vehicle availability. Once additional vehicles are available, transit investment in Riverview can be increased, and so the overall implementation timeline for service growth is relatively short. Additionally, demand-based taxi service partnerships would be implemented at the same time as the full network reconfiguration. This section summarizes the required investments over the next five years, although all operating cost increases are implemented in the first three years.

5.1 Service Implementation Timeline

5.1.1 Staff

In addition to capital costs and service hour costs, a new transportation coordinator position that will manage all traffic and transportation work for the Town of Riverview, including transit, will be hired in 2025. As a result, this position will be budgeted as 0.5 Full Time Equivalent (FTE) on the part of transit, with the other 0.5 FTE funded by other transportation portfolios such as traffic and road construction.

5.1.2 Fleet

The required fleet to implement the proposed transit network is shown in Exhibit 33 below. Riverview's current fleet is less than 8 years old, so fleet replacement is not within the scope of this plan. As a spare bus was ordered in early 2024, it is not included in the capital requirements, but will begin revenue service in mid-2025. The purchase of two growth buses will essentially double Riverview's current fleet, and thereby its service hours, and will bring it closer to its peers' average fleet size of six. In later years, additional buses may be purchased to further expand the fleet to achieve or surpass peers, although this will require additional service hours for vehicles to operate in service.

Exhibit 33: Yearly Bus Requirements for Service Changes

Year	Fleet Requirements	Buses put in service
2025	Purchase of 2 growth buses	Spare bus in service in June 2025
2026	-	2 growth buses in service in June 2026
NET INCREASE		**2 buses**

5.1.3 Service Hours and Changes

The yearly service changes to move to the redesigned transit network are shown in Exhibit 34 below. The ultimate service levels in 2027 represent a doubling of current service hours, in line with the number of growth buses purchased. Weekends improvements are implemented initially as a relatively simple improvement that can be achieved without any additional vehicles and positions the network as simpler to understand by having weekday and weekend service match. Service on weekdays cannot be increased until additional vehicles are available in 2026. Service changes are assumed to begin when buses are delivered, which equates to all service changes

occurring in June each year. As a result, the first year of the plan only accounts for six months of additional service, and full-service implementation will carry over costs into the following year.

Exhibit 34: Yearly Service Changes and Required Service Hours

Year	Service Change	Service Hour Increase	Total Service Hours
2025	• Discontinue Route 81 and Route 82 on weekends and replace with Route 85 and Route 86 to match weekday service in June.	1,650	10,000
2026	• Discontinue Route 85 and Route 86 in June and replace with proposed routes at full-service levels as outlined in Chapter 3. • Introduce taxi partnership in June to provide demand-based service in Bridgedale Neighbourhood and Patricia Drive area.	3,500 N/A	13,500
2027	• 2026 service changes are provided for the full year. • Taxi partnership in 2026 is provided for the full year.	3,500 N/A	17,000
	NET INCREASE	8,650	-

5.1.4 Infrastructure

As part of the network redesign, new stop poles will be necessary for new stops. In order to provide infrastructure improvements for transit stops, the toolkit of infrastructure improvements in Chapter 4 should be utilized to prioritize upgrading major stops in Riverview. It is also recommended that an annual capital budget be made available for yearly priority stop improvements, including concrete bus pads and bus shelters. The yearly requirements and recommended infrastructure improvements per year are outlined in Exhibit 35 below. The yearly number of improvements increases following the increase in service.

Exhibit 35: Yearly Infrastructure Improvements

Year	New Stop Poles	New Concrete Bus Pads	New Shelters
2025	0	5	2
2026	45	5	2
2027	0	7	3
2028	0	7	3
2029	0	7	3

Note that 38 existing stops would be discontinued in 2026, the same year the 45 new stops are introduced.

6 Financial Plan

The 5-year financial plan for the Riverview Transit Service Review with respect to capital and operating revenues and expenses is provided below. The assumptions for the financial plan and associated forecasts are as follows:

- All costs are in current dollars.
- Costs are provided by the Town where possible, and where Town estimates could not be provided, high-level estimates were based on the consultant's best judgement and peer comparables.
- Annuals revenues and expenses are tied to phasing of recommendations identified throughout the Plan.
- All service changes are assumed to begin in June of their respective years.
- Ridership estimate is provided in linked trips (excluding transfers).
- Farebox revenues are based upon a static average fare of $1.75 (CUTA Fact Book, 2022), multiplied by the ridership estimate.
- Riverview is not assumed to receive U-Pass funding.

Administration costs are based upon 0.5 of a full-time equivalent (FTE), corresponding to the new Transportation Coordinator role which will oversee a portfolio which includes transit. Pay rate is based upon the Town of Riverview Engineering Technologist role at 2024 rates, excluding additional cost of benefits.

Exhibit 36: Financial Plan

	2025	2026	2027	2028	2029
Municipal Population	21,750	21,900	22,100	22,300	22,500
Service Hours	10,000	13,500	17,000	17,000	17,000
Ridership Estimate	107,300	129,800	150,000	152,700	155,500
Peak Fleet / Spare Fleet	2/1	4/1	4/1	4/1	4/1
Operating Revenues					
Farebox	$187,000	$227,000	$262,000	$267,000	$272,000
Total	**$187,000**	**$227,000**	**$262,000**	**$267,000**	**$272,000**
Operating Costs					
Administration (0.5 FTE)	$40,000	$40,000	$40,000	$40,000	$40,000
Transportation Operations	$1,091,000	$1,473,000	$1,854,000	$1,854,000	$1,854,000
Taxi Subsidy Program	$20,000	$20,000	$20,000	$20,000	$20,000
TOTAL	**$1,151,000**	**$1,533,000**	**$1,914,000**	**$1,914,000**	**$1,914,000**
Operating Metrics					
Net Operating Spend	**$964,000**	**$1,306,000**	**$1,652,000**	**$1,647,000**	**$1,642,000**
Cost Recovery Ratio	16%	15%	14%	14%	14%
Capital Costs					
Diesel Buses - Growth	$1,800,000				
Stop – Signposts (45 total)		$27,000			
Stop - Concrete Pads (31 total)	$10,000	$10,000	$14,000	$14,000	$14,000
Stop – Shelters (13 total)	$41,000	$41,000	$62,000	$62,000	$62,000
TOTAL	**$1,851,000**	**$78,000**	**$76,000**	**$76,000**	**$76,000**

7 Future Considerations

7.1 Future Routes and Extensions

The proposed transit service network is designed to serve the existing developed extent of Riverview as well as some areas experiencing growth in Findlay Park and east Riverview. Gunningsville Blvd, which has no residential or commercial buildings facing it at this time, does not have transit service in the proposed five-year service plan. According to the Town's Municipal Development Plan, Gunningsville Blvd is projected to experience commercial and mixed-use development growth in the future. As Gunningsville Blvd grows, transit service should be phased in to serve development. This route could also connect to the growing commercial hub of Findlay Park, with a future extension further west along Whitepine Rd to serve projected long-term residential growth in southwest Riverview. A map of this future Gunningsville Blvd/Whitepine Rd route is shown below. The proposed route is shown turning around in the existing driveway at Claude D. Taylor School, but a transit turnaround could also be built on Whitepine Rd if it is extended further.

Exhibit 37: A Future Route on Gunningsville Blvd & Whitepine Rd

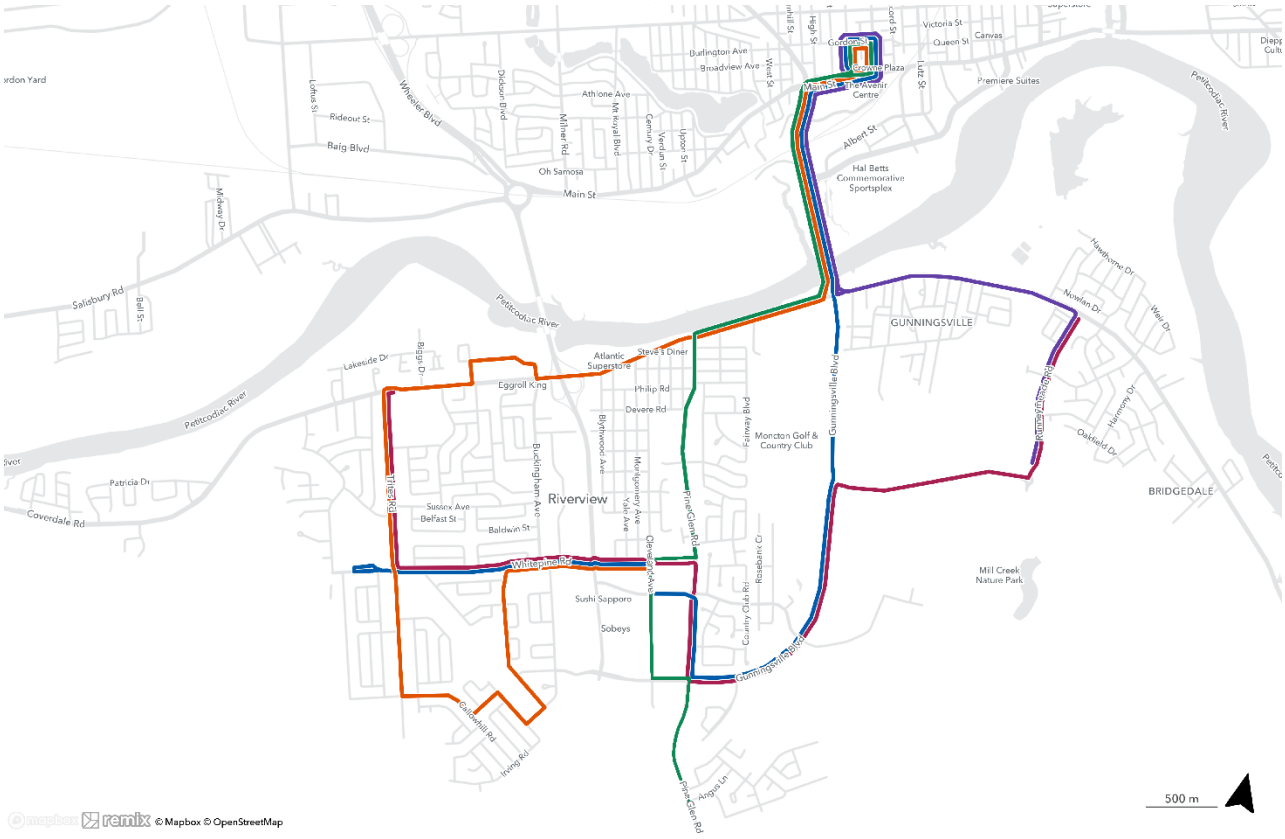
A Gunningsville Blvd route along Whitepine Rd could also enable the town to re-organize the west route to provide two-way service in residential southwest Riverview, allowing residents the ability to travel back and forth from Findlay Park.

An east-west connector route between Hillsborough at Runneymeade in the east and Riverview Place in the west may be introduced beyond the five-year plan horizon. The proposed short-term routing focuses on transporting riders quickly from Riverview to Downtown Moncton. This east-west route would allow for more travel within Riverview but would require additional vehicles and would not prioritize the current major origins and destinations; thus, its ridership could be lower. A map of this future route is shown below.

Exhibit 38: A Future East-West Riverview Connector Route

A map showing the transit network with these extensions is shown below. Future service in east Riverview should be planned to coincide with future growth and development, potentially serving the extension of Bridgedale Blvd. In lieu of an east/west connector route within Riverview, there may be an opportunity to extend the east route to Findlay Park if this is determined to be more efficient.

Exhibit 39: Provisional Future Transit Network of Riverview

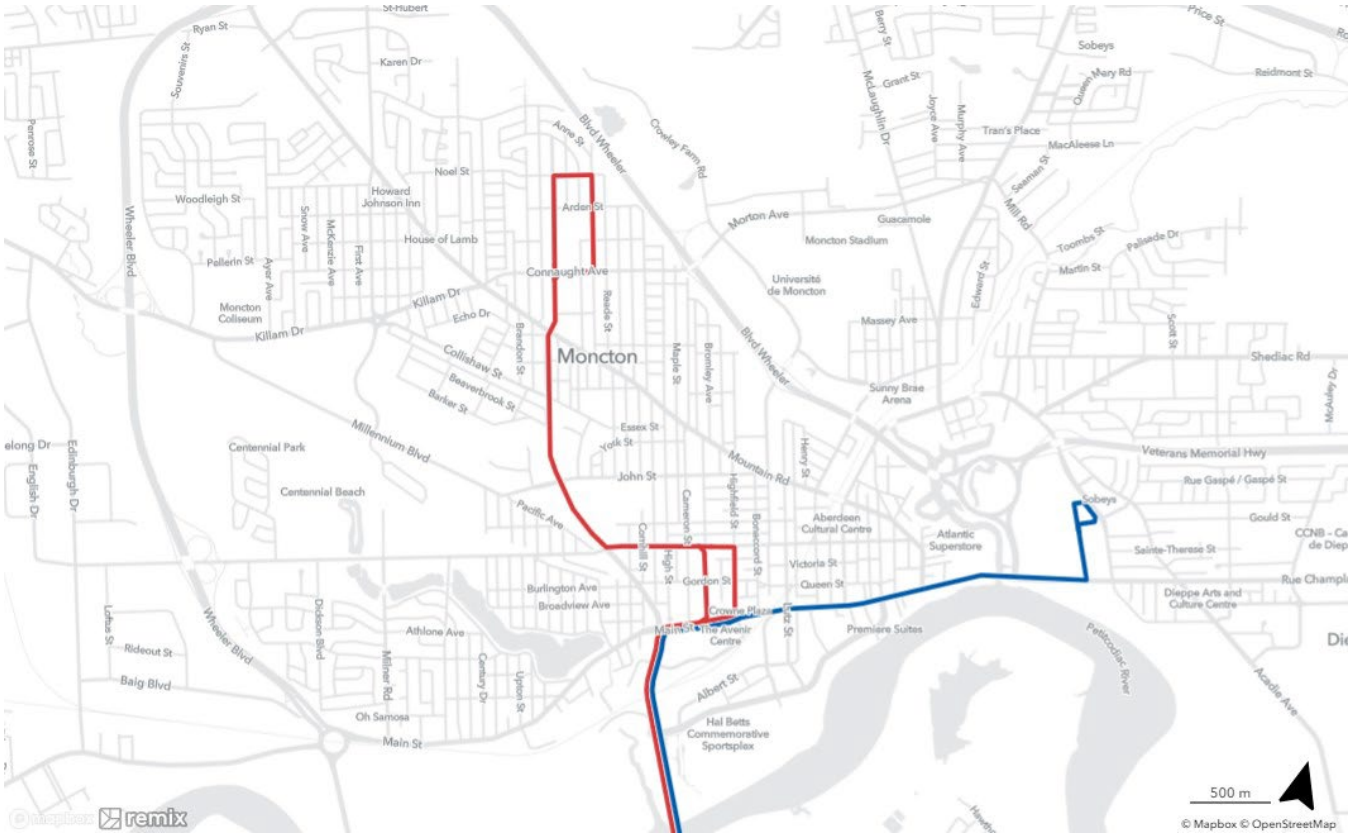


7.1.1 Cross-Regional Routes

Future extensions of transit could also be applied outside the boundaries of Riverview. While extensions of transit services into Moncton and Dieppe were not included in the scope of this report, the review of the existing service agreement with Codiac Transpo could allow for the three municipalities of Riverview, Moncton, and Dieppe to combine transit routes and provide cross-regional service. This would require municipalities to share operations of a given route, with each municipality operating an agreed-upon number of buses along the regional routes. The updated agreement would also require provisions for fare revenue distribution between communities.

Examples of regional route extensions from Riverview through Downtown Moncton include a route on Vaughan Harvey Blvd towards Moncton Hospital and a route to Champlain Mall via either Main St or Assomption Blvd. As all Riverview routes are planned to terminate downtown in the immediate term, extensions to destinations beyond could apply to any Riverview-based route as long as an agreement could be reached between municipalities and an appropriate number of buses and service hours could be invested into such extensions. Depending on travel needs in other municipalities, extended routes could also be combined with other transit route across the region: for example, a route to Champlain Mall could be combined with an existing Dieppe route to allow customers to travel even further. A diagram of future route extensions from Riverview to Champlain Mall and Moncton Hospital is shown below.

Exhibit 40: Route Extensions from Riverview to Champlain Mall and Moncton Hospital



7.2 Fare-Free Transit

The project team's review of fare-free transit pilots from other jurisdictions across North America found that ridership could be expected to increase approximately 30% ridership if the Town chose to make fares free. However, the investment may also be better put to use investing in more service to bolster the network rather than making existing service free while limiting investment potential. Based on ridership through to July of 2024, compared month-by-month to 2023, approximately 127,000 riders are projected to use the service over the course of 2024 accounting for revenue of about $220,000. In order to maintain the same operating budget for the service plan developed in Section 3, the Town would have to make up for this lost revenue if fares were made free, or else service levels would have to be scaled back. Based on a gross annual operating cost of $109 per hour as projected for 2025, this would equate to around 2,000 annual service hours, or one bus on the road for 8 hours every weekday of the year.

If the Town elects to make fares free in the future, it is recommended that service levels be maintained and not cut back. If ridership increases due to the lack of a financial barrier to using transit, further service increases may be needed to accommodate this demand.

7.3 Infrastructure Considerations

As there is a general lack of bus stop waiting pads in Riverview, the Town should explore opportunities to improve pedestrian and transit passenger waiting infrastructure by combining with other projects or partners. A common practice among transit service providers is to implement upgrades to corridors as part of road reconstruction projects. When roads served by transit are being rebuilt in the future, the Town should design the re-constructed road with transit-related infrastructure including sidewalks and concrete pads. Development application review can also be an opportunity to implement pedestrian and passenger infrastructure.

To prioritize the installation of new transit shelters and benches, the Town should prioritize stops with the highest number of boardings, as this type of waiting infrastructure is less critical for alighting passengers. Other factors the Town could consider in the prioritization of passenger waiting infrastructure include weather exposure, nearby vulnerable populations such as senior citizens and low-income residents, or potential funding opportunities.

8 Summary of Recommendations

This report recommends that the Town adopt the following recommendations:

- The Town should hire a Transportation Coordinator in 2025. This role will be responsible for all traffic and transportation-relate work within the Town, including the administering of public transit in Riverview and regular discussion with Codiac Transpo.
- The Town should purchase two new buses in 2025, with the buses estimated to be delivered for revenue service in mid-2026.
- The Town should begin to construct 5 new bus pads and install 2 new bus shelters each year in 2025 and 2026.
- To align weekend services with weekday services, the Town should discontinue Routes 81 & 82 and implement weekend service on Routes 85 & 86 when one new bus is delivered in mid-2025. When this is done, the Town should introduce a supplemental transfer-based taxi partnership as a pilot project in the Patricia Drive community.
- The Town should begin installing new bus stop posts in early 2026 to prepare for the launch of the new service network.
- The Town should adopt the new service network, discontinuing Routes 85 & 86 and introducing the new west, central, and east routes when two new buses are delivered in mid-2026.
- When the new service network is adopted, the Town should introduce a supplemental transfer-based taxi partnership to provide transportation service to the communities of Patricia Drive and Bridgedale, allowing residents of those communities to connect with public transit.
- The Town should continue to upgrade transit service infrastructure in 2027 and beyond, constructing 7 new bus pads and installing 3 new bus shelters per year.
- The Town should continue to monitor ridership and growth trends, increasing service investment levels where appropriate.
- The Town should maintain consistent, transparent, and ongoing communications with Codiac Transpo and the cities of Moncton and Dieppe regarding the updated service agreement for the operation of Codiac Transpo and the potential introduction of cross-regional transit routes.

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