



City of Kingston
Information Report to Environment, Infrastructure & Transportation Policies
Committee
Report Number EITP-24-004

To:	Chair and Members of the Environment, Infrastructure & Transportation Policies Committee
From:	Brad Joyce, Commissioner, Infrastructure, Transportation & Emergency Services
Resource Staff:	Justin Bromberg, Project Manager, CAO's Office
Date of Meeting:	December 12, 2023
Subject:	Rural Transportation Study Update for Kingston and Neighbouring Municipalities

Council Strategic Plan Alignment:

Theme: 3. Build an Active and Connected Community

Goal: 3.3 Improve public transit and active transportation options.

Executive Summary:

As part of the City of Kingston's 2019-2022 Strategic Plan, City Council set the vision to make Kingston a smart, livable, and leading city. This included five major priorities, with one being to improve walkability, roads, and transportation. Within that category, the City wished to address the specific challenge of exploring a pilot model for providing transportation connections in rural Kingston. This challenge is rooted in the need to better serve the rural residents of Kingston (including in the Countryside and the Pittsburgh districts) as well as the increasing workforce challenges in and around rural Kingston. This initiative also aligns with the City's efforts to create more regional synergies with surrounding municipalities. City Council's 2023-2026 Strategic Plan also included direction to report on the Rural Transportation Study and Business Case.

As indicated in Council [Report Number 23-069](#), the need for rural public transportation was repeatedly emphasized by major employers and organizations in Kingston, as well as those in

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the neighbouring municipalities of Gananoque, South Frontenac, and Loyalist. Following a successful funding application to the Rural Transit Solutions Fund, and a thorough Request for Proposals (RFP) process, the City of Kingston retained Arcadis IBI Group to conduct a complete a rural transportation needs assessment, along with public and stakeholder engagement, and work with neighbouring municipalities and major stakeholders to identify the appropriate transportation connections, route design and schedules, and financial models.

The study began in October 2022 and was completed in September 2023 within the forecasted budget and schedule. The project included three consultations, including two direct stakeholder consultation sessions (in December 2022 and April 2023), as well as a widely distributed public survey in Winter 2023 that received more than 1,750 responses across the four municipalities. A project team consisting of staff from the four municipalities worked collaboratively throughout the study period to provide feedback and achieve consensus on the study outcomes, taking into consideration the needs and requests identified by the public and stakeholders.

With the study completed, the partners – including the City of Kingston – must determine how they wish to proceed with the study’s recommendations and timelines for implementation. The partners may also potentially use the outcomes to apply for additional future funding, pending the availability of capital and/or operational funds for rural transportation projects at the federal and provincial levels.

This report is for information purposes only and City staff will report in 2024 with options for implementation and cost sharing following discussions with municipal partners.

Recommendation:

This report is for information only.

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Authorizing Signatures:

ORIGINAL SIGNED BY COMMISSIONER

**Brad Joyce, Commissioner,
Infrastructure, Transportation &
Emergency Services**

ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER

**Lanie Hurdle, Chief
Administrative Officer**

Consultation with the following Members of the Corporate Management Team:

Paige Agnew, Commissioner, Development & Growth Services	Not required
Jennifer Campbell, Commissioner, Community Services	Not required
Neil Carbone, Commissioner, Corporate Services	Not required
David Fell, President & CEO, Utilities Kingston	Not required
Peter Huigenbos, Commissioner, Major Projects & Strategic Initiatives	Not required
Desirée Kennedy, Chief Financial Officer & City Treasurer	Not required

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Options/Discussion:

Background

The Kingston Public Transit System began service in July 1962, when the City's Public Utilities Commission took over the operation of transit services. It was not until 1975 that the Kingston Transit name was adopted. Kingston Transit provides bus service within the urban area of the City of Kingston and, under contract, to the neighbouring community of Amherstview. The current system offers 18 local routes, four seasonal routes, eight express routes, and a dial-a-bus option.

The City has long sought to evaluate expanded public transportation and commuter options for its rural areas, for commuter purposes but also for tourism, recreation, and providing residents from rural Kingston and the surrounding municipalities with an affordable, effective, and environmentally friendly method of traveling to and from downtown Kingston. To better understand the requirements and financial implications of such a service, it was necessary to first conduct a business case study to explore the available options and best practices for the development of an integrated, affordable, and sustainable rural transportation system.

As explained in Council [Report Number 23-069](#), although Kingston Transit currently offers public transit in the City's urban areas, this project has examined the feasibility, demand, and cost of creating and operating a rural public transportation network, for commuters traveling to work – primarily but not exclusively to downtown Kingston – but residing in rural Kingston and its neighbouring municipalities: the Town of Gananoque to the east, the Township of South Frontenac to the north, and the Township of Loyalist to the west.

The analysis of study needs and opportunities identified a strong case for improved rural transportation options, including:

- 64% of public survey respondents reported facing barriers to accessing transportation;
- Residents 65 and older, who are more likely to be unable to safely drive themselves, are significantly more prevalent in the study area compared to the Ontario average;
- The 25-and-under demographic, which often lacks vehicle access to get to destinations like employment or school, makes up nearly a quarter of the study area population;
- A strong commuting pattern into Kingston was noted, with over 80% of commuters from the townships of South Frontenac and Loyalist working in Kingston; and
- Access to Kingston for non-commuting trips is essential for healthcare and recreation.

Within the region, it was found that there is a strong local interest in public transportation as a means of facilitating economic development in rural areas. Furthermore, groundwork has already been laid to develop inter-community transit services in the study area, and there is strong support among partners and stakeholders for commuter public transportation service to connect rural residents with job opportunities, and active initiatives to fund service pilots.

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Analysis

As a way to bridge large distances inherent in rural communities, transit is seen as an opportunity to connect rural residents to urban jobs, provide lifeline connections to critical services, and provide new options to auto travel. However, as these types of services can be difficult to operate efficiently, recommendations are based on considerations of local conditions, operational trade-offs, and emerging best practices.

The following service types were evaluated for their applicability to the study area and rated according to how well they could accomplish the objectives of the future commuter public transportation service:

- Conventional fixed route
- Flexible route
- On-demand transit
- Rideshare and taxi vouchers
- Specialized transit (exclusively)
- Volunteer driver networks

The various service concepts were studied and advanced to meet the needs and leverage opportunities identified in the report, with an objective of carrying forward feasible service delivery approaches. The recommended service concept is as follows:

- East Rural Kingston & Gananoque: A fixed route or flexible route connecting Gananoque and the eastern rural areas of Kingston to the Downtown Transfer Point in downtown Kingston;
- North Rural Kingston & South Frontenac: A fixed route or on-demand zone connecting population centres in South Frontenac and northern rural areas of Kingston to the Cataract Centre Transfer Point (and potentially other Kingston Transit transfer points);
- Loyalist: Two fixed routes connecting population centres and industrial areas in Loyalist to Kingston Transit transfer point(s) in western Kingston;
- Supplementary transportation access program: The provision of program(s) to provide lifeline access to transportation in rural areas which cannot support fixed route or on-demand transit, such as taxi vouchers or vanpooling.

The three geographic areas outlined above were selected due to the nature of travel demand in the study area, which was found to be mostly Kingston-centric, with some self-contained travel. The study findings did not indicate a strong need for commuter public transportation service between rural municipalities.

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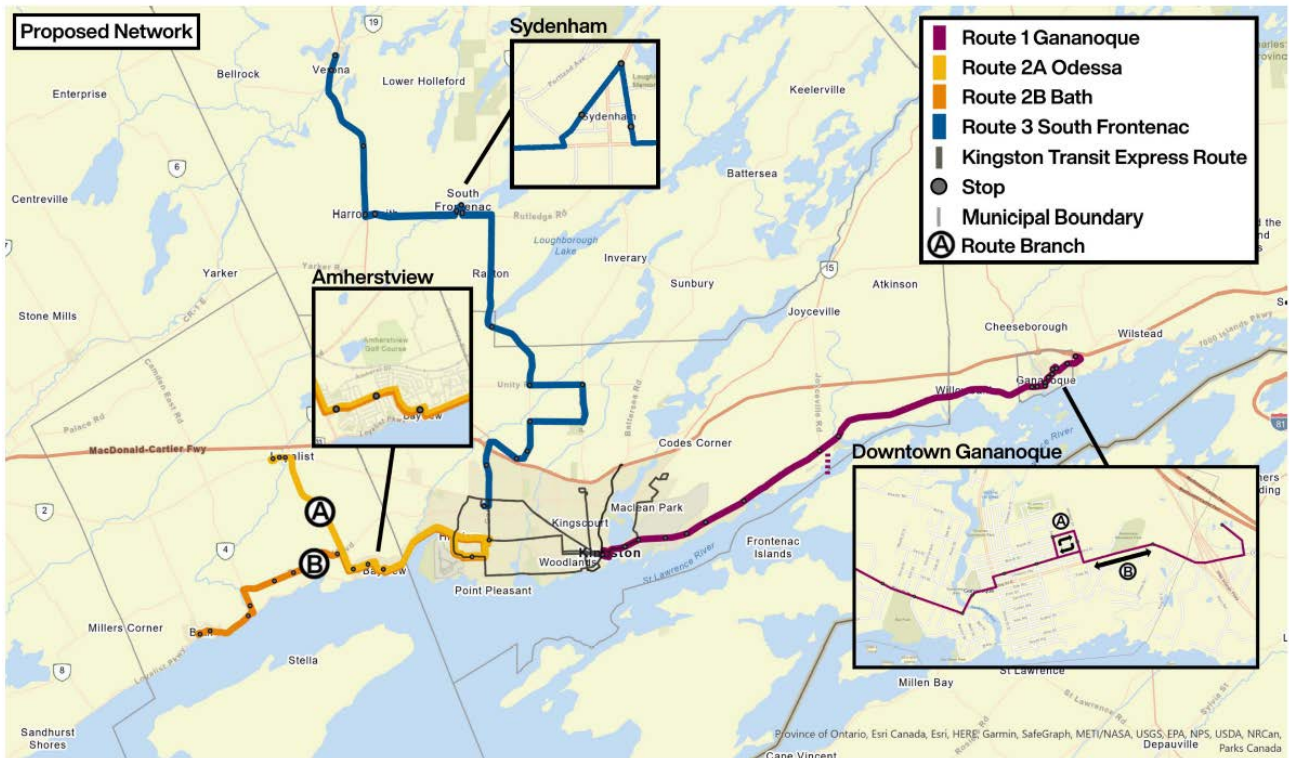
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Further specific details about the proposed commuter public transportation service for the study area can be found in Section 4 of the report, included as Exhibit A. The proposed network would connect major population centres in the study area to Kingston. In addition, Kingston Transit's 501/502 express routes connect all three transfer points, creating the possibility of transfers between rural routes.

The proposed service is comprised of the following preferred alternatives:

- Loyalist: Option A – Two New Rural Routes
- Gananoque & East Rural Kingston: Option B – Flex Route
- South Frontenac & North Rural Kingston: Option C – “Frequency” Fixed Route

Image 1: Map of Proposed Service Routes



The service span would initially provide Monday-Friday service on all three routes. This initial service would allow for weekday access to jobs, recreation, healthcare, and other services. Once the service is established, service span could be expanded to include weekends. Conceptual schedules are based on the current understanding of major employer shift schedules and may change as needs are better understood.

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Table 1: Proposed Transit Network

Number of routes	4 routes
Daily round trips	Up to 22 round trips
Number of buses	3 buses
Residents within walking distance (500m) of public transportation	23,200 residents
Wider Service area population	53,200 residents
Initial annual ridership estimate	23,000-25,000 boardings by Year 5

Consideration of which operating model would be most suitable for each route was undertaken in collaboration with Kingston Transit and City of Kingston staff. As Kingston Transit resources are highly constrained in the near-term due to labour shortages and a mandate to restore local service to pre-pandemic levels, it was determined that all three routes would be best initially implemented using a third-party contracted operator.

Public Engagement

Throughout the course of the project, public consultation was a major component in helping to identify rural transportation needs and opportunities, particularly in respect to who is traveling, where they are going, and what features of a transit service are most important to them. The feedback will inform the development of the service concepts and delivery options.

Consultation and stakeholder engagement occurred in two parts, with the first being a series of direct meetings to engage regional stakeholders, including employers and social service agencies, and receive their input on the needs and opportunities for transit service within the study area. These meetings were held in December 2022 (in-person in Kingston) and April 2023 (virtually). Kingston City Councillors attended the stakeholder meetings, in addition to other local elected officials, and a presentation to Council is included within the scope of the consulting team’s mandate.

The second part of the consultation was a much larger online survey that targeted widespread public participation across the four partner municipalities, to identify and understand needs and

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opportunities from individual transportation users' perspective. The survey was launched in mid-January 2023 and closed in mid-February 2023, and received more than 1,750 responses.

Consultation materials were shared with the project team in advance to solicit feedback and tailor them to the local context, and distributed through Get Involved Kingston, local employers, regional stakeholders, social services agencies, and school boards (including post-secondary education institutions), to reach residents who would rely most on a future transit service. The results of the consultation will be summarized and incorporated into the final report.

Identified stakeholders included, but were no means limited to:

- Canadian Forces Base Kingston
- Cardinal Health
- Correctional Service of Canada
- County of Frontenac
- Downtown Kingston BIA
- Gananoque Wheels of Care
- INVISTA
- Islamic Society of Kingston
- KFL&A Public Health
- Kingston Access Bus
- Kingston Coalition for Active Transportation
- Kingston Economic Development Corporation
- Kingston Health Sciences Centre
- Kingston Rural Advisory Committee
- Limestone District School Board
- Loyalist Family Health Team
- Queen's University
- Rural Frontenac Community Services
- Southern Frontenac Community Services Corporation
- St. Lawrence College
- Tourism Kingston
- Victorian Order of Nurses

Financial Considerations

The financial case component of the study considered only direct cash flows, being revenues and expenses. The primary source of revenue would be from user fares, with advertising revenue expected to be a minor secondary revenue source.

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Table 2: Revenue Projections

Benefit	Fare Revenue in Year 5 (\$) Low Scenario	Fare Revenue in Year 5 (\$) High Scenario	Advertising Revenue (\$)
Route 1 Gananoque & East Rural Kingston	\$48,000	\$53,000	\$1,500
Route 2 Loyalist	\$82,000	\$88,000	\$1,500
Route 3 South Frontenac & North Rural Kingston	\$37,000	\$41,000	\$1,500
Total	\$167,000	\$182,000	\$4,500

The costs of operating the service are as follows:

- Operating contract: the most significant expense is the provider operating the service;
- Dedicated staff: an in-house transit coordinator (estimated at 0.5 FTE) will be required for marketing, customer service, reporting, service changes, and long-term planning;
- Marketing and communications: to ensure the success of the service, funding must be dedicated towards promoting use of the service, including marketing, advertising and maintaining an updated website – which would decrease once the service is established;
- Taxi voucher program: subsidized taxi vouchers would provide supplementary access in areas which do not have the population densities to support public transportation service;
- Parallel specialized transportation contract: to fulfill AODA requirements, accessible transit service is proposed to be provided via contract with a local accessible taxi service.

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Table 3: Breakdown of costs over a five-year period

Item	Plan Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Revenue Hours	9,500	9,500	9,500	9,500	9,500
Annual Ridership	12,000	17,000	24,000	24,000	24,000
Revenue					
Fare Revenue	\$83,000	\$127,000	\$171,000	\$172,000	\$174,000
Advertising Revenue	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total Revenues	\$88,000	\$132,000	\$176,000	\$177,000	\$179,000
Capital and Operating Costs					
Operating Contract	\$889,000	\$906,000	\$924,000	\$942,000	\$961,000
Marketing and Communications	\$20,000	\$10,000	\$10,000	\$10,000	\$10,000
Dedicated Transit Coordinator (0.5 FTE)	\$42,000	\$43,000	\$43,000	\$44,000	\$45,000
Taxi Voucher Program	\$13,000	\$19,000	\$25,000	\$25,000	\$25,000
Parallel Specialized Transit Contract	\$13,000	\$19,000	\$25,000	\$25,000	\$25,000
Total Expenses	\$977,000	\$997,000	\$1,027,000	\$1,046,000	\$1,066,000
Cost Recovery Ratio	0.09	0.13	0.17	0.17	0.17
Gas Tax Funding ¹	\$219,000	\$224,000	\$228,000	\$231,000	\$233,000
Net Municipal Investment	\$670,000	\$641,000	\$624,000	\$638,000	\$653,000
Net Investment Per Capita	\$3.80	\$3.60	\$3.47	\$3.51	\$3.55
2. Available in year one with a pro-rated contribution; amount to be confirmed					

The proposed operating model would see an initial model where a private third-party contractor would be operating the commuter public transportation service under contract. The operator would provide drivers, fleet, and service management. It is recommended that this operator be contracted through a competitive RFP process, which would allow respondents to propose “value-added” services that may enhance the operation and delivery of the service.

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A competitive bid process also ensures that the cost to operate the service reflects market conditions while also providing the flexibility to modifying services without incurring high capital costs or to alter the level of service as needed. The RFP would include a full description of the service to be provided, performance expectations and accountability.

Prioritization of the routes should be considered carefully, as tendering the entire system as a package may yield economy of scale benefits. However, Loyalist Township has received funding to pilot a rural transportation service, which it must spend by 2025. The report therefore recommends that Loyalist Township proceed with the implementation of its two routes to make use of available funding but be re-tendered with the other two routes after 2025.

Viable federal, provincial, and private funding opportunities for public transit projects include:

- Ontario’s Dedicated Gas Tax Funds for Public Transportation Program
- Canada Rural Transit Solutions Fund (for some capital expenditures)
- Canada Community-Building Fund
- Industry Partnerships

Additional cost-sharing models were explored for consideration, including:

- Equal cost sharing (25% for each partner);
- Costs split by number of stops within each municipality;
- Costs split based on annual vehicle-kilometres covered within each municipality;
- Costs split based on annual ridership within each municipality.

Scenario		Kingston			South Frontenac			Loyalist			Gananoque		
		Cost in Year 5	Share of Total	Per Capita Cost	Cost in Year 5	Share of Total	Per Capita Cost	Cost in Year 5	Share of Total	Per Capita Cost	Cost in Year 5	Share of Total	Per Capita Cost
NRT, Simcoe County LINX	Share of assessed property	\$490,000	75%	\$3.70	\$91,000	14%	\$4.51	\$59,000	9%	\$3.29	\$13,000	2%	\$2.42
SMART	70% ridership, 30% population ¹⁹	\$359,000	55%	\$2.71	\$65,000	10%	\$3.63	\$170,000	26%	\$8.46	\$65,000	10%	\$12.08
Loyalist Route 10	Direct payment, largest municipality excluded ²⁰	\$0	0%	\$0.00	\$209,000	32%	\$10.35	\$276,000	42%	\$15.38	\$168,000	26%	\$31.21
FVE	Share of assessed property, largest municipality excluded	\$0	0%	\$0.00	\$366,000	56%	\$18.13	\$229,000	35%	\$12.76	\$65,000	10%	\$12.08
Equal share		\$163,000	25%	\$1.23	\$163,000	25%	\$8.07	\$163,000	25%	\$9.08	\$163,000	25%	\$30.28
Split by # of stops		\$266,000	41%	\$2.01	\$120,000	18%	\$5.97	\$173,000	27%	\$9.66	\$93,000	14%	\$17.22
Split by veh-km		\$335,000	51%	\$2.53	\$146,000	22%	\$7.26	\$139,000	21%	\$7.77	\$32,000	5%	\$5.93
Split by ridership		\$298,000	46%	\$2.25	\$60,000	9%	\$2.99	\$213,000	33%	\$11.90	\$82,000	13%	\$15.19

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Climate Risk Considerations:

Public commuter service would reduce the number of individual vehicles and hence should contribute to a reduction in community GHG emissions.

Indigenization, Inclusion, Diversity, Equity & Accessibility (IIDEA) Considerations:

Rural commuter transportation would provide transportation access to the population located in rural areas, therefore increasing accessibility to services. Significant consideration was also given to vulnerable populations as part of the study, including persons experiencing poverty, seniors, persons with disabilities and mobility issues, and newcomers to Canada. For example, through the consultation phase, one goal of the rural transportation network was with respect to improving health outcomes by connecting rural residents to healthcare appointments in urban areas.

Existing Policy/By-Law:

Not applicable.

Notice Provisions:

Not applicable.

Financial Considerations:

Outlined in the Options/Discussion section of this report.

Contacts:

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Lanie Hurdle, Chief Administrative Officer, 613-546-4291 extension 1231

Other City of Kingston Staff Consulted:

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Ian Semple, Director, Transportation & Transit

Kristen Lawrie de Jesus, Grant Administrator

Troy Beharry, Partnership & Grant Development Manager

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Exhibits Attached:

Exhibit A: Final Report – Bringing Commuter Public Transportation to Rural Kingston, Gananoque, South Frontenac, and Loyalist (prepared by Arcadis IBI Group)

Final Report

Bringing Commuter Public Transportation to Rural Kingston, Gananoque, South Frontenac, and Loyalist



Prepared for the City of Kingston
By Arcadis
November 7, 2023

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Executive Summary

Introduction

The City of Kingston has identified rural public transportation as one of its strategic priorities, to improve access to employment and services, and facilitate rural economic development. Arcadis was retained in October 2022 to move forward with the development of a rural public transportation feasibility study and business case. The City of Kingston partnered with the neighbouring rural municipalities of the Town of Gananoque, South Frontenac Township, and Loyalist Township (“the Partners”) to oversee both the study process and implementation of its recommendations upon completion. The plan developed assumes the full participation of all Partners, but there are alternative viable pathways to implementation of the service if only certain Partners wish to proceed.

Needs and Opportunities

An analysis of study needs and opportunities identified a strong case for improved rural transportation options:

- 64% of public survey respondents reported facing **barriers to accessing transportation**
- Residents aged 65 and older, who are more likely to be **unable to safely drive themselves**, are significantly more prevalent in the study area compared to the Ontario average
- The age 25-and-under demographic, which often **lacks vehicle access to get to destinations like employment or school**, makes up nearly a quarter of the study area population
- A **strong commuting pattern into Kingston** was noted, with over 80% of commuters from the Townships of South Frontenac and Loyalist working in Kingston

- It was heard in public consultation that access to Kingston for non-commuting trips is essential for **services such as healthcare and recreation**

Service Design

Based on the results of the needs and opportunities work, it was determined that the study area should be divided up into three distinct service areas: **South Frontenac & North Rural Kingston, Gananoque & East Rural Kingston, and Loyalist**. Various service delivery approaches were evaluated for each service area, and **fixed routes** were ultimately recommended for the South Frontenac & North Rural Kingston, and Loyalist service areas, while a **flexible route** was recommended for the Gananoque & East Rural Kingston service area (to be able to directly connect riders with the Howe Island ferry by request). The network is seen below in Exhibit E.1. For areas not covered by the proposed routes, a **taxi voucher program** is recommended to support universal transportation access.

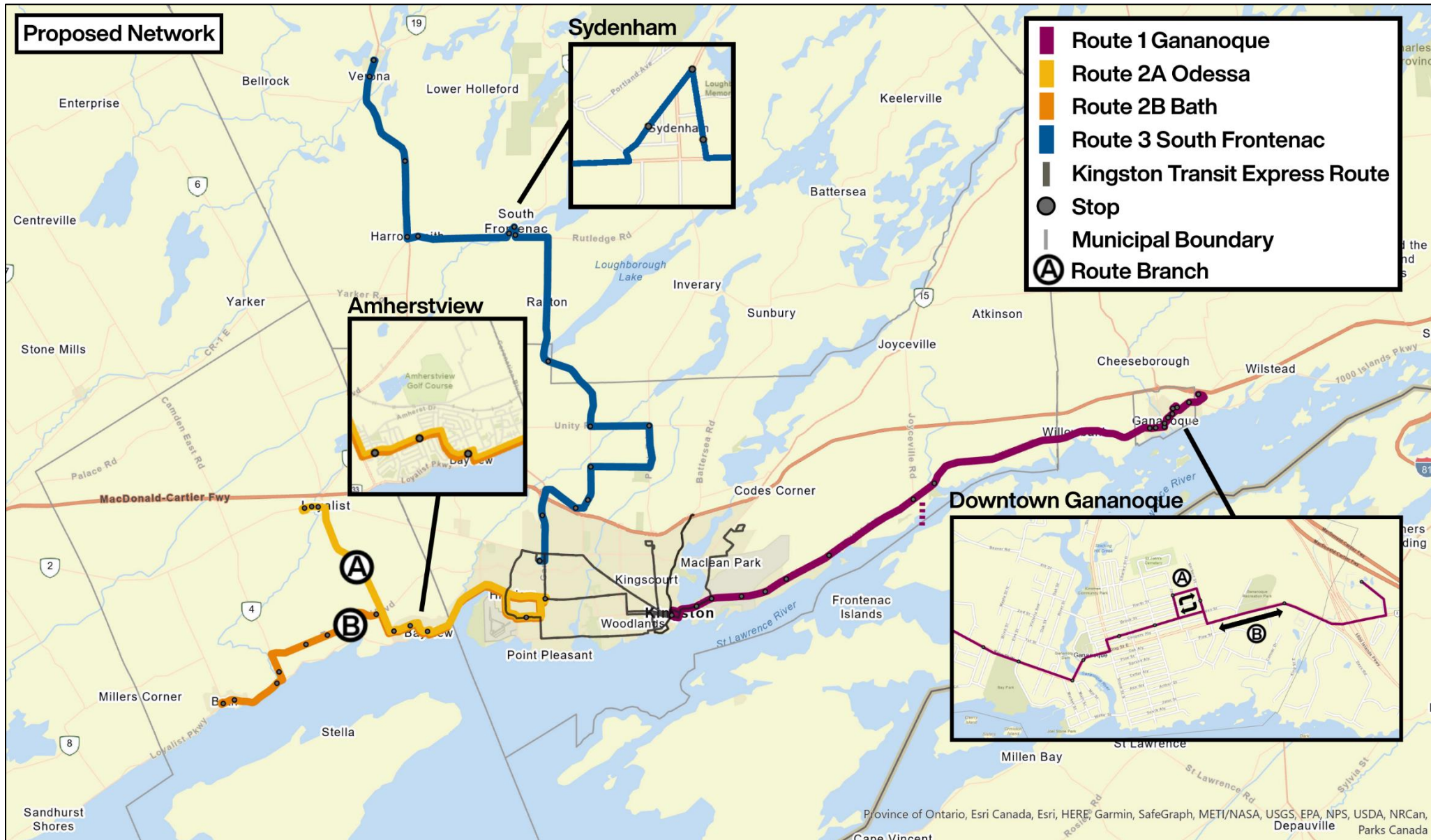
Initially it is envisioned that all routes would operate during the weekdays only, although it is recommended that opportunities with Shorelines Casino be explored to provide weekend and evening service on the route to restore casino shuttle service, and further conversations are held with major employers in Loyalist regarding shift timings.

The proposed fare structure would see trips within Kingston cost \$3.25, trips within a municipal boundary cost \$5.00, and trips between municipal boundaries cost \$10.00. Monthly passes could provide per-trip discounts and encourage ridership uptake. A concession fare would provide additional discounts to youth, seniors, and low-income residents.

ARCADIS FINAL REPORT

BRINGING COMMUTER PUBLIC TRANSPORTATION TO RURAL KINGSTON, GANANOQUE, SOUTH FRONTENAC, AND LOYALIST

Exhibit E.1: Proposed Commuter Public Transportation Service Design



Business Case

A business case was prepared which outlines the “four cases” for advancing the project in accordance with provincial guidance: The Strategic Case, Economic Case, Financial Case, and Deliverability and Operations Case. The business case assumed full implementation of all routes.

The Strategic Case outlined the qualitative and policy-based impetus for implementing the project, especially to directly support major policy initiatives such as **rural economic development, workforce development, aging in place, and increased sustainable/active transportation.**

The Economic Case identified that the proposed service is projected to see an **annual ridership of 24,000 boardings** by the fifth year of operation, putting over **23,000 residents within walking distance** of daily public transportation service. The service would also **connect over 1,750 planned new jobs** over the next three years to an increased labour pool with newfound access to mobility. The public transportation service will also yield additional socioeconomic benefits such as improved health outcomes associated with increased active travel, and fewer missed healthcare appointments.

The Financial Case determined that by Year 5 of operations, the service will be generating **\$178,000 of annual revenue**, with an annual **net municipal contribution of \$653,000**. This includes the introduction of provincial Gas Tax funding which provides up to 75 cents per \$1.00 of net municipal investment. The net contribution equates **to an annual per-capita contribution of less than \$4**. The Financial Case summary is provided in Exhibit E.2.

The Deliverability and Operations Case included considerations for service implementation, funding, marketing, and monitoring. Lastly, considerations for future service enhancements such as service expansion, fare integration, Park & Rides, and zero-emission buses were discussed.

ARCADIS FINAL REPORT

BRINGING COMMUTER PUBLIC TRANSPORTATION TO RURAL KINGSTON, GANANOQUE, SOUTH FRONTENAC, AND LOYALIST

Exhibit E.2: Proposed Commuter Public Transportation Service Financial Case

Item	Plan Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
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Total Revenues	\$88,000	\$132,000	\$176,000	\$177,000	\$179,000
Capital and Operating Costs					
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Cost Recovery Ratio	0.09	0.13	0.17	0.17	0.17
Gas Tax Funding ¹	\$219,000	\$224,000	\$228,000	\$231,000	\$233,000
Net Municipal Investment	\$670,000	\$641,000	\$624,000	\$638,000	\$653,000
Net Investment Per Capita	\$3.80	\$3.60	\$3.47	\$3.51	\$3.55
1. Available in year one with a pro-rated contribution; amount to be confirmed					

1 Introduction

The City of Kingston has identified rural public transportation as one of its strategic priorities, to improve access to employment and services, and facilitate rural economic development. To move forward with the development of a rural public transportation feasibility study and business case, Arcadis was retained in October 2022. The City of Kingston partnered with the neighbouring rural municipalities of the Town of Gananoque, South Frontenac Township, and Loyalist Township (“the Partners”) to oversee both the study process and implementation of its recommendations upon completion.

The purpose of this study is to explore the feasibility of new commuter public transportation services connecting central Kingston with its outlying rural areas and Partners and prepare a business case which outlines the benefits and costs of the proposed system. The plan developed assumes the full participation of all Partners, but there are alternative viable pathways to implementation of the service if only certain Partners wish to proceed.

1.1 Background

The City of Kingston has operated public transit since 1962, but rural transit service has not been a priority due to financial constraints and lower ridership potential than in urban areas. Several major shifts in the Kingston area have prompted the Partners to re-visit the feasibility of commuter public transportation:

- **Emerging population growth:** The City of Kingston and its outlying areas have seen new residents arriving in record numbers, in part due to job growth and the availability of relatively affordable housing.
- **Rural economic development and access to employment:** Rural areas such as Loyalist Township have been successful in attracting major employers, such as Umicore, which will bring hundreds of new jobs to

areas unserved by transit. At the same time, a labour shortage is projected within Kingston for industries such as manufacturing, construction, accommodations and food services, and there is a stronger push to leverage the labour pool of existing rural residents.

- **Environmental leadership:** As the first Ontario municipality to declare a Climate Emergency in 2019, Kingston has been an environmental leader. The provision of commuter public transportation service has the potential to reduce automobile-related greenhouse gas emissions and traffic congestion, and help the City meet local and federal climate change targets.
- **Accessibility and social equity:** A greater focus on accessibility and social equity has prompted a fresh look at commuter public transportation service as a way of benefitting equity-deserving populations such as seniors, new immigrants, and low-income residents, who may have limited or no vehicle access. A notably older population lives in Kingston’s rural areas, with a median age of 49.5 years compared to 41.3 years in the urban areas.
- **Seasonal tourism opportunities:** Kingston and Gananoque are both popular summer tourism destinations, bringing with them seasonal workers and tourists. Commuter public transportation can be one method of boosting the seasonal tourism economy, by providing sustainable transportation to both tourists and seasonal workers.

1.2 Objectives

The primary objective of this study is to provide a resource and roadmap for effective decision-making regarding future commuter public transportation services to be established by the Partners. To meet this objective, the report includes the following:

- Establishment of the need for commuter public transportation via an assessment of needs and opportunities;
- A plan to initiate future rural commuter public transportation services;

- Business case analysis that outlines the benefits and costs of providing new commuter public transportation services; and
- Recommendations, presented as a clear schedule of actions, for the Partners to take towards implementation.

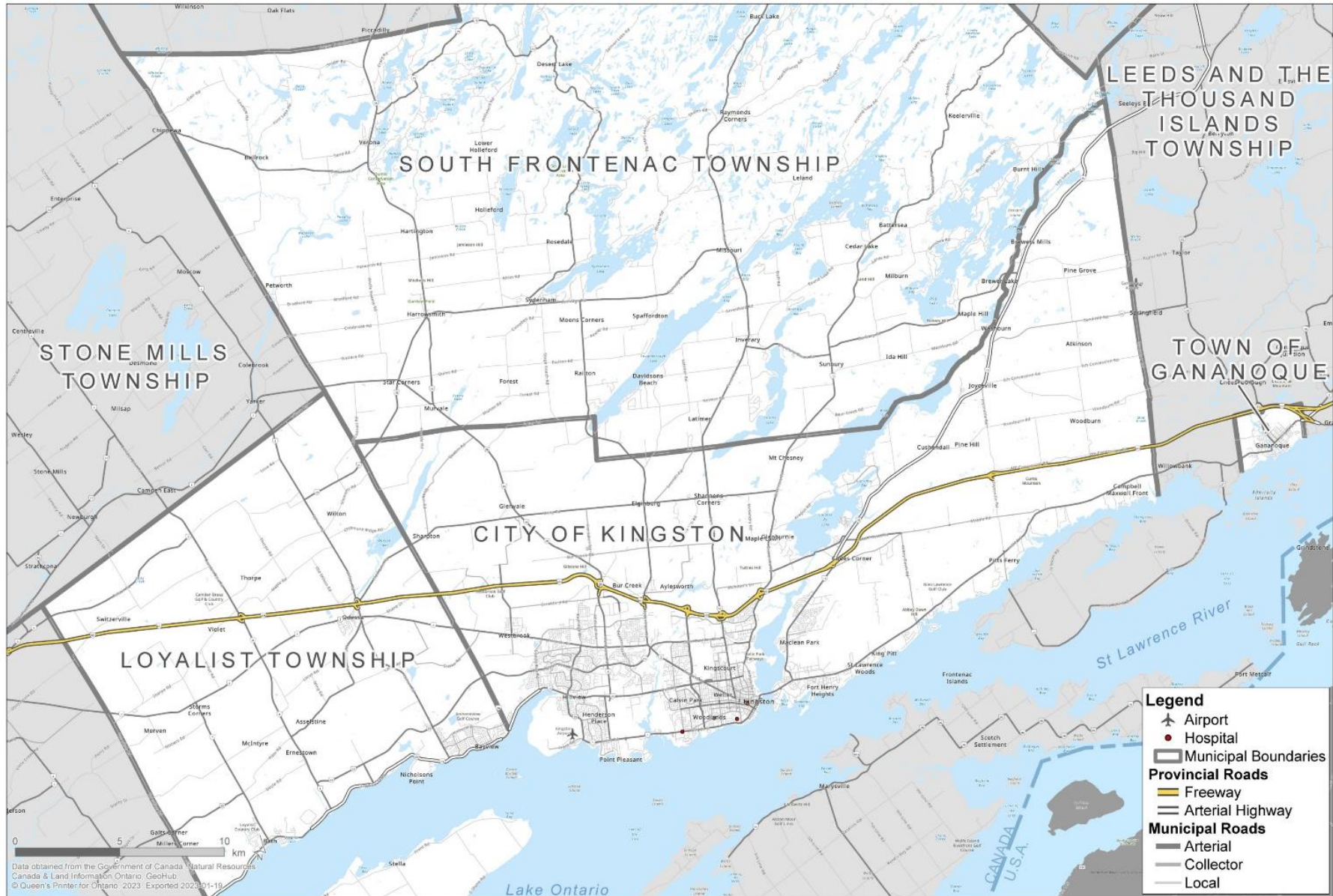
1.3 Study Area

The study area for this project consists of the City of Kingston (with a particular focus on the rural Countryside District as well as portions of Pittsburgh District, Loyalist-Cataraqui District and Collins-Bayridge District), the Town of Gananoque, South Frontenac Township, and Loyalist Township. This can be seen in Exhibit 1.1 below.

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BRINGING COMMUTER PUBLIC TRANSPORTATION TO RURAL KINGSTON, GANANOQUE, SOUTH FRONTENAC, AND LOYALIST

Exhibit 1.1: Study Area



2 Needs and Opportunities Analysis

This section identifies the current and future need for new commuter public transportation services in the Kingston area, and opportunities to be able to facilitate the implementation of these services. The assessment includes:

- **An outline of the study policy context** that will guide service provision in the study area;
- **A demographic analysis** across each municipality to understand the potential market for commuter public transportation;
- **A review of existing and past transit services** in the study area to understand transit service gaps and identify challenges and opportunities for service provision;
- **An analysis of existing travel patterns** and key connection points to inform service design and integration;
- **A peer review** of transit systems in operating environments similar to the study area to understand service performance and productivity; and
- **Identification of future opportunities** for commuter public transportation service within the study area.

2.1 Policy Context

A review of local policies and initiatives was conducted to understand the context for commuter public transportation service provision. The purpose of this review is to align the potential service with local strategic priorities and build on previous studies and plans rather than duplicate them.

The following policies, plans, and reports were reviewed:

- 2019-2022 Kingston Strategic Plan

- 2023-2026 Kingston Strategic Priorities Implementation Plan
- Kingston Integrated Economic Development Strategy
- Rural Kingston Economic Development Strategy
- Kingston Transit 2017-2021 Business Plan
- Kingston Climate Leadership Plan
- Gananoque Transit Feasibility Study
- Gananoque Age-Friendly Action Plan 2022-2031
- Loyalist Township 2019-2023 Strategic Plan
- Loyalist Township “Improving Public Transit” Staff Report
- ResiLienT Loyalist Township Climate Action Plan
- South Frontenac 2040 Policy Directions
- Eastern Ontario Leadership Council Commuter Strategy and Call for Expressions of Interest
- Canada 2030 Emission Reduction Plan

The analysis of existing policy context was used to inform the business case. Section 6.1 contains descriptions of relevant policies and how they support the implementation of commuter public transportation services.

2.1.1 Key Findings

Key findings from these policies and initiatives include:

- Strong local interest in public transportation as a means of facilitating economic development in rural areas
- Groundwork has already been laid to develop inter-community transit services in the study area
- Regional support for commuter public transportation service to connect rural residents with job opportunities, and active initiatives to fund service pilots

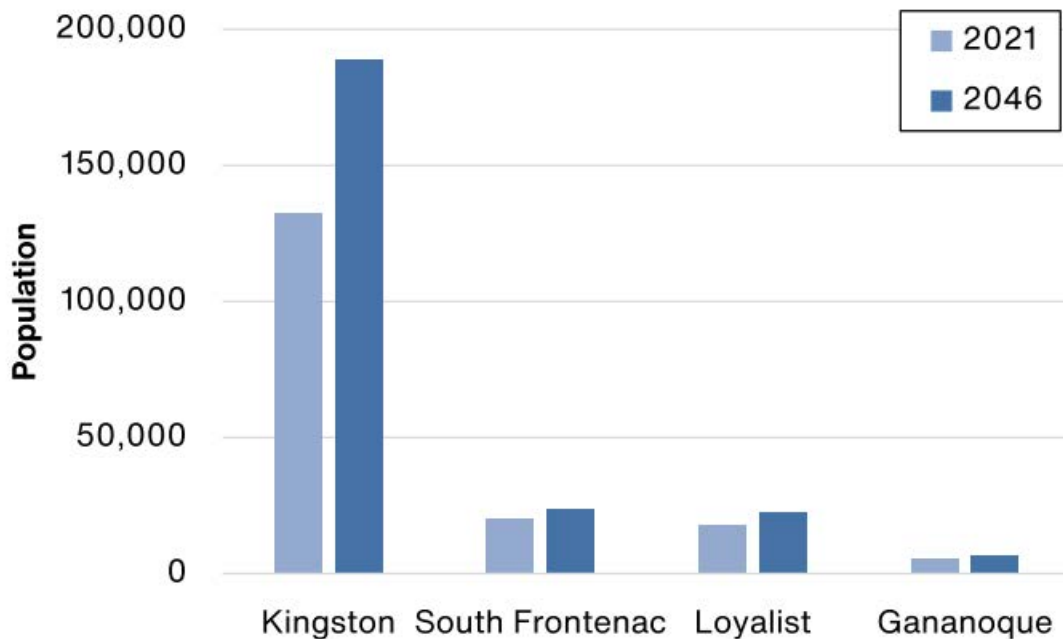
2.2 Demographic Analysis

As of 2021, Census data indicates that the total population of the partner municipalities is 176,000 residents. According to individual municipal projections, this number is expected to grow 35% by 2046, to approximately 242,000 residents.

2.2.1 Population Growth by Municipality

Significant population growth is being projected for the next 25 years for each municipality. The fastest-growing municipality by percentage is Kingston, at 43% population growth by 2046, followed by Gananoque (27%), Loyalist (26%) and South Frontenac (18%). The actual population for 2021 and 2046 projections are shown below in Exhibit 2.1.

Exhibit 2.1: Population 2021 Actuals and 2046 Projections by Municipality



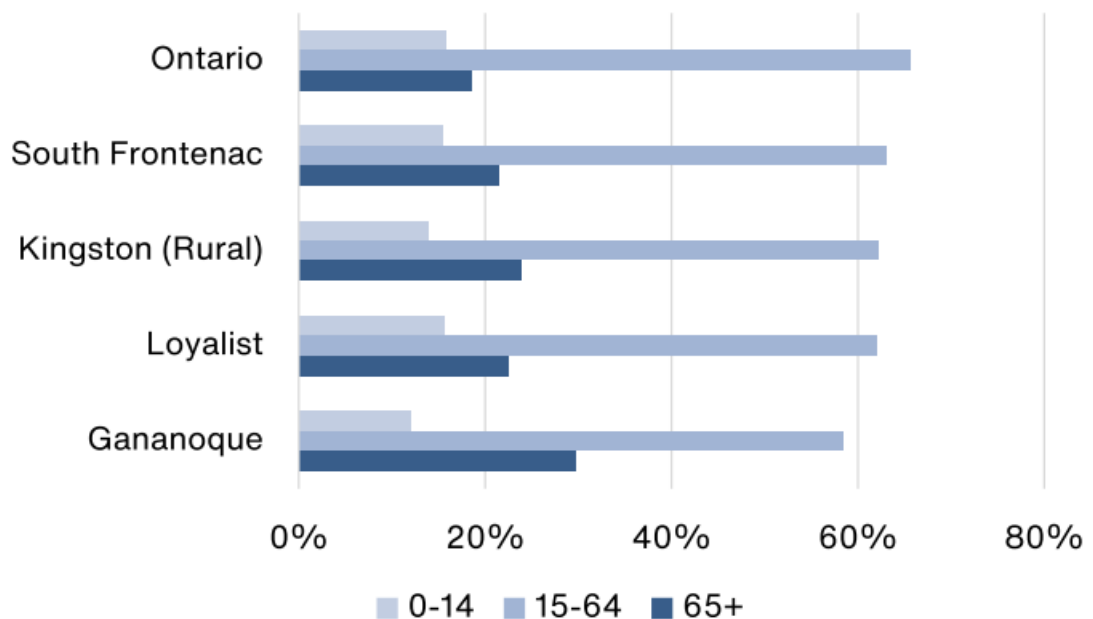
Source: Statistics Canada 2021 Census of Population, City of Kingston Population, Housing, and Employment Forecast Study (2023), South Frontenac Township Growth Analysis Study 2016-2046 (2020), Loyalist Township Population, Housing and Employment Projections to 2046 (2019), Gananoque Development Charges Background Study (2020)

In light of record population growth, the City of Kingston is updating its population growth projections, but the final results of this study will not be available until 2024. As a preliminary projection, work to date has indicated that the Kingston Census Metropolitan Area (CMA) will have a growth rate of approximately 43% between 2021 and 2051. Likewise, population projections for each municipality were developed prior to the impacts of the COVID-19 pandemic, and actual population growth since has generally outpaced projections for 2021. It is therefore possible that actual population growth in the study areas could continue to exceed expectations and outpace projections.

2.2.2 Age Segmentation by Municipality

The demographic composition of the municipalities in the study area was examined against the provincial average, as shown in Exhibit 2.2. All municipalities have larger shares of seniors (65+), and smaller shares of residents aged 64 and under. Within the study area, Gananoque has the oldest average population, with 30% of their population over age 65. South Frontenac has the youngest average population within the study area, although it is still below provincial averages.

Exhibit 2.2: Population Age Segmentation by Municipality (2021)



Source: Statistics Canada 2021 Census of Population

2.2.3 Social Equity

In the context of commuter public transportation, the aim of a review of social equity is to investigate where equity-deserving population (such as low-income residents, seniors, visible minorities, etc.) reside, and determine how their access to transportation compares to the wider community. As a commuter service, it is essential to understand which populations may be more likely to use commuter public transportation, and where they are located. For example, ensuring that future services connect disadvantaged neighbourhoods to new employment opportunities.

The social equity factors selected for analysis were the following:

- Youth: Residents aged 0-14
- Seniors: Residents aged 65+
- Single-Parent Households: Households with one parent
- Low-Income: Residents with an after-tax income before the federal After-Tax Low-Income Cut-Off (LICO-AT)
- Unemployment Rate: Residents in the labour force who are not currently employed
- CERB Recipients: Residents who received federal COVID-19 income supplements
- Visible Minorities: Residents who are non-Caucasian
- Recent Immigrants: Residents who immigrated to Canada between 2016-2021

Exhibit 2.3 below compares the rates of these factors for each municipality against provincial averages. Generally, municipalities in the study area were below the provincial average for most social equity factors. This can be explained by the tendency for equity-deserving groups to settle in larger urban areas with a greater concentration social services and cultural communities. Despite this, all communities in the study area had a higher prevalence of seniors than the rest of the province, and Loyalist had an equal share of youth (as described in Section 2.2.2).

Comparing municipalities within the study area, Gananoque exhibits the highest prevalence of social equity factors, in all categories except for youth and visible minorities. Loyalist had the highest share of visible minorities and youth within the study area.

Exhibit 2.3: Prevalence of Equity/Socioeconomic Factors by Municipality

	Rural Kingston	South Frontenac	Loyalist	Gananoque	Ontario
Youth (0-14)	14%	15%	16%	12%	16%
Seniors (65+)	24%	22%	22%	30%	19%
Single-Parent Households	10%	10%	16%	20%	17%
Low-Income ¹	2%	2%	2%	3%	5%
Unemployment Rate	11%	9%	10%	12%	12%
CERB Recipients	16%	17%	17%	23%	28%
Visible Minorities	3%	2%	4%	3%	34%
Recent Immigrants	0%	0%	0%	1%	4%

Higher prevalence than the Ontario average

Higher prevalence than the study area average

Source: Statistics Canada 2021 Census of Population, rounded to zero decimal places

2.2.4 Key Findings

The study area is comprised of four municipality with their own unique demographics and needs.

- Tens of thousands of new residents are expected to live in the study area by 2046, with the fastest percentage-basis growth occurring in Gananoque

¹ The low-income statistics collected in the 2021 Census were affected by COVID-19 income supplements, and low-income prevalence in typical years was generally observed to be several percentage points higher than 2021.

- The study area has a population which is generally older than the provincial average, although South Frontenac has the youngest average age of the Partners
- Gananoque has the highest observed equity need, particularly with respect to the needs of the unemployed, low-income residents, single-parent households, and seniors

2.3 Existing Service Review

There are several existing and past public transportation services offered in the study area, although coverage is minimal in rural areas.

- **Kingston Transit:** Route 10 operates between Amherstview and the Cataraqui Centre mall hourly, between 6:30am-11:00pm. Accessible transit is provided via a contract with an accessible taxi provider. In the past, a limited-service Dial-a-Bus route was operated to Glenburnie and Elginburg, although this has since been discontinued due to low demand.
- **Kingston Access Bus:** Accessible transit is provided throughout all of Kingston, including rural areas. The service requires pre-booking a trip in advance, and provides door-to-door service between 6:00am-12:00am Monday to Saturday and 8:00am-9:00pm on Sunday.
- **Shorelines Casino Shuttle:** The casino ran a free shuttle prior to COVID-19 which connected downtown Kingston to the casino in Gananoque.
- **Volunteer-operated community transportation:** Various non-profit organizations provide community transportation services to those who are unable to access transportation otherwise. Current organizations providing these services include Gananoque Wheels of Care, Frontenac Transportation Services, South Frontenac Community Services, and Victorian Order of Nurses.
- **Taxis and ride-hailing services:** For-profit taxi companies operate in most of the study area, with the exception of South Frontenac.

The City of Kingston and Loyalist Township jointly run the Kingston Area Taxi Commission to manage taxi licensing, while the Town of Gananoque licenses taxis independently. Operators are permitted to travel outside their licensed areas to drop off passengers. Conventional taxi services include Amey's Taxi, Modern City Taxi, and TI Taxi. Major ride-hailing services (i.e., Uber) are available in Kingston only.

2.3.1 Urban Transit Services

Kingston Transit provides urban transit services throughout the City of Kingston, and Amherstview within Loyalist Township. Beyond local city routes, Kingston Transit also operates a network of Express Routes that operate at weekday peak headways of 15-minutes or better².

The Express Route network connects major transfer points such as the Downtown Transfer Point, Catarauqui Centre, Kingston Centre, Gardiners Centre, and King's Crossing Centre. A future commuter public transportation service could greatly improve its connectivity within Kingston by leveraging these transfer points, including ratification of a transfer agreement between Kingston Transit and the commuter public transportation service.

2.3.2 Key Findings

Although only one fixed route service is offered in the study area, there are a number of community transportation and specialized transit services in the study area. These services provide a basic level of service which supports the needs of many current residents who face the most challenges with transportation access, particularly those with mobility challenges. However, not all needs are met by existing services, and a significant transportation gap is noted for able-bodied residents who may lack access to a personal vehicle or prefer to take transit for environmental or convenience reasons. Kingston Transit is well-positioned to transport rural residents within Kingston via its Express Route network and numerous transfer points.

² These service levels have been impacted temporarily by COVID-19 related labour shortages and decreased demand

2.4 Travel Pattern Analysis

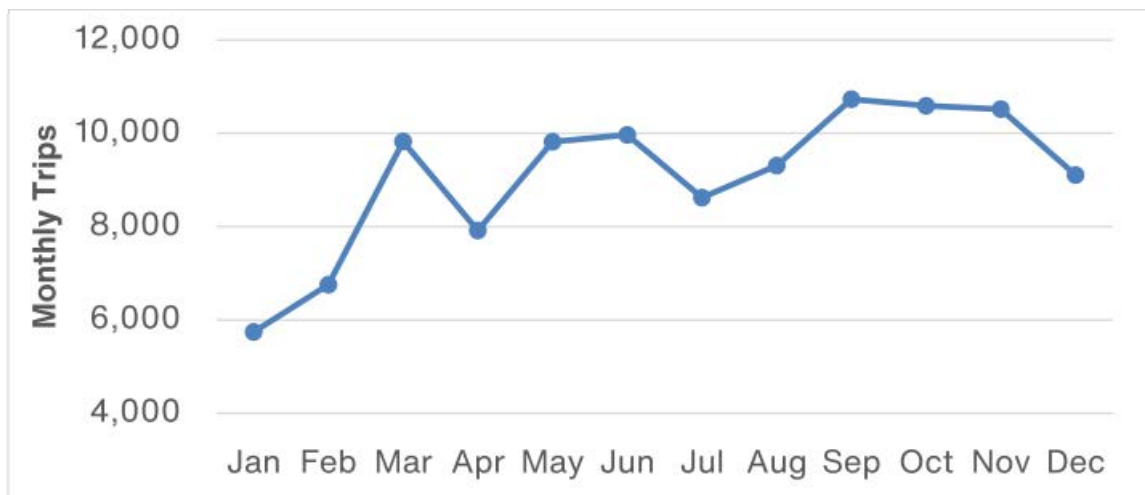
To develop commuter public transportation services that meet the needs of residents, existing travel patterns can reveal where demand exists and not currently met. A successful commuter public transportation service fills gaps in existing networks and supplies convenient transportation options to where people need to go.

2.4.1 Transit Service Review

The only transit route operating in the study area is the Kingston Transit Route 10 to Amherstview. Route 10 served 109,000 riders in 2022, with a peak monthly ridership of 10,700 riders in September 2022. Exhibit 2.4 shows the monthly ridership of Route 10.

Kingston Transit data shows that Route 10’s on-time performance is significantly below service standards. This is due to delays related to traffic congestion, tight schedules, and road-rail at-grade crossings.

Exhibit 2.4: Kingston Transit Route 10 Monthly Ridership (2022)



Source: Kingston Transit ridership data

2.4.2 ‘Journey to Work’ Census Data Analysis

To determine travel patterns between study area municipalities, the 2016 Census ‘Journey to Work’ commuting dataset was utilized.³ The dataset

³ 2016 data was used as COVID-19 had significant impacts on commuting and travel patterns within the 2021 Census.

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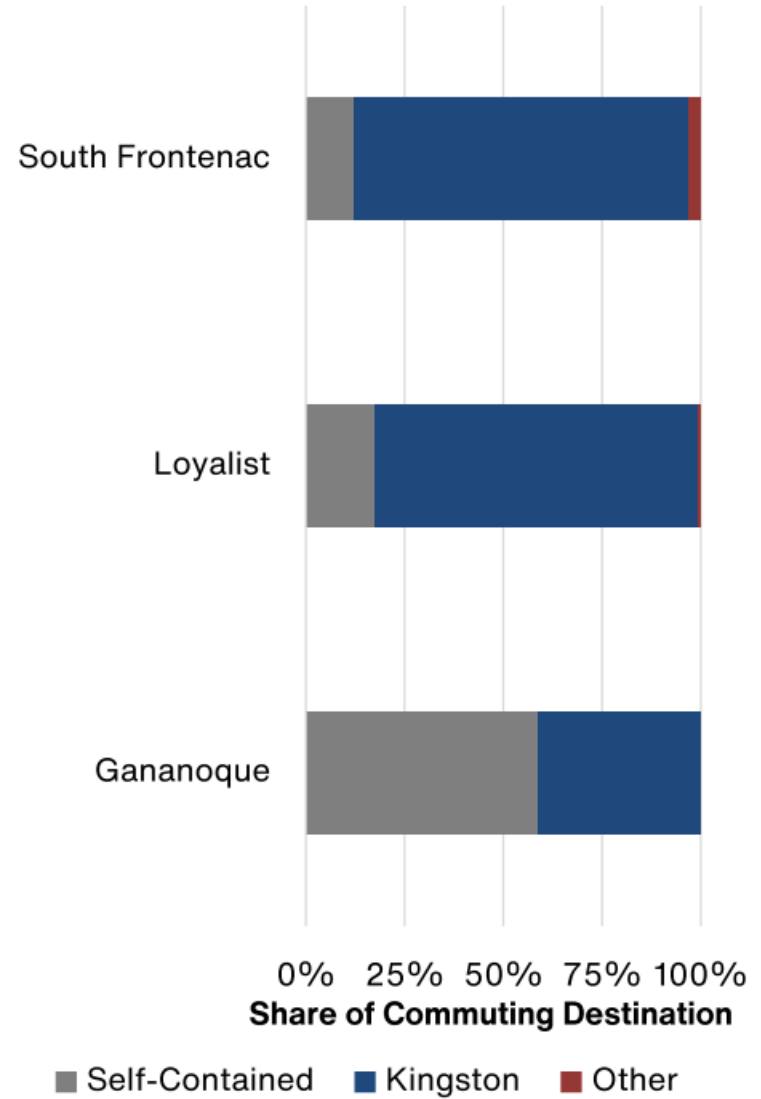
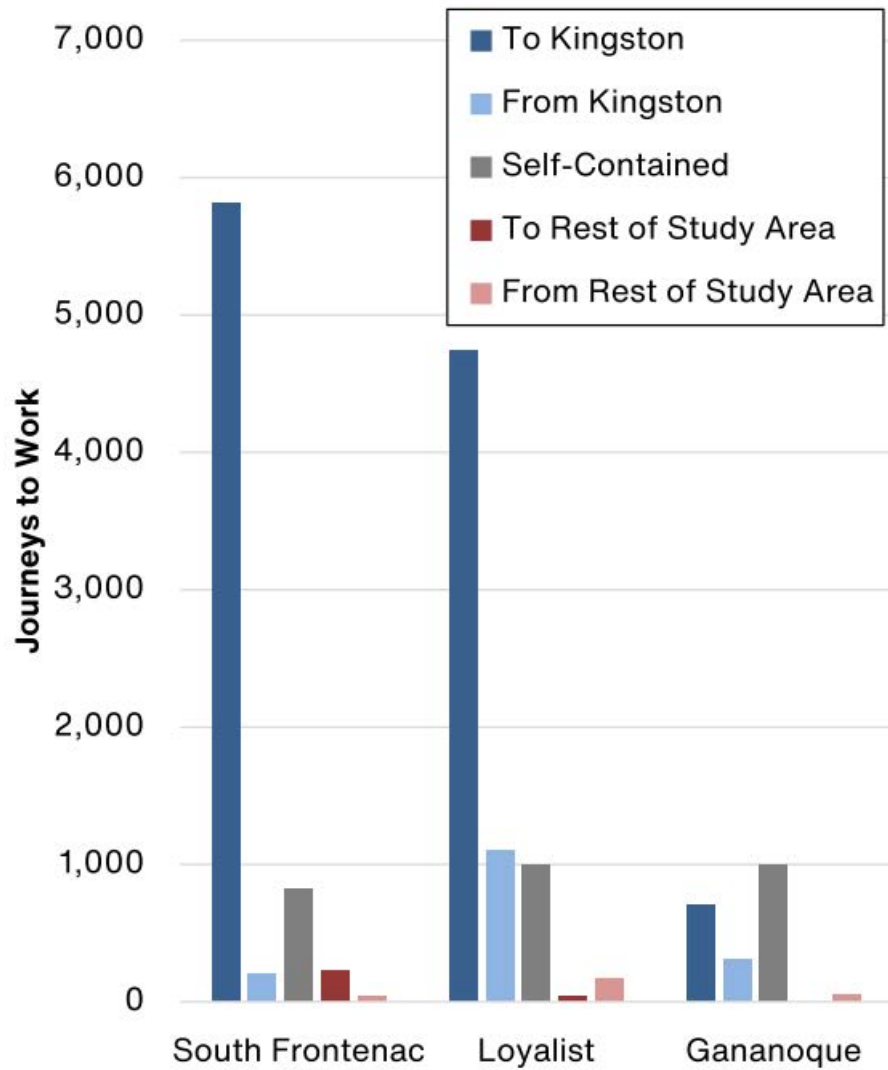
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indicates each census respondent's commuting origin and destination to establish how many trips are made within and between municipalities.

Exhibit 2.5 outlines the travel patterns observed from the commuting data. South Frontenac has the largest volume (5,800 respondents) and share of travel (85%) to Kingston, but minimal 'reverse commuting' in the other direction. Loyalist has a similar level of commuting towards Kingston (4,800 respondents), but also has notable levels of reverse commuting into Loyalist from Kingston (1,100 respondents). Gananoque has the highest levels of self-contained travel (1,000 respondents, 59% share), with fewer respondents reporting commuting to or from Kingston.

It should be noted that this dataset is limited only to work-related trips, and therefore does not account for travel demand related to access to healthcare, recreation, services, or tourism.

Exhibit 2.5: Study Area Travel Pattern Analysis



Source: Statistics Canada 2021 Census of Population

2.4.3 Trip Generators

Identifying major generators of travel can help indicate where a future commuter public transportation service would be most beneficial – while most major destinations are located within central Kingston, the remainder of the study area has significant employment, tourism, and educational clusters.

Within central Kingston, major trip generators include:

- **Hospitals:** Kingston General Hospital, Hotel Dieu, Providence Care
- **Education:** Queen’s University, St. Lawrence College, Royal Military College of Canada
- **Canadian Forces Base Kingston**
- **Industry:** INVISTA, industrial parks in the northern areas of the city
- **Transportation:** Kingston VIA Rail station, Kingston Bus Terminal
- **Retail:** Cataraqui Centre, Kingston Centre, King’s Crossing Centre

Within the remainder of the study area, the following rural trip generators are significant regional destinations:

- **Employment:** Industrial parks in Millhaven, Cardinal Health in Gananoque, Joyceville and Millhaven institutions
- **Grocery Stores:** Located in Gananoque, Bath, Sydenham, Verona, and Glenburnie
- **Recreation and Tourism:** Cataraqui Trail, K&P Rail Trail, Shorelines Casino and 1000 Islands cruises in Gananoque
- **Education:** Sydenham High School, Ernestown Secondary School

2.4.4 Key Findings

The travel pattern analysis paints a clear picture of where travel demand exists in the study area:

- Strong commuting into Kingston from South Frontenac and Loyalist, with some reverse demand into Loyalist from Kingston
- Travel from Gananoque into Kingston for work, healthcare, and recreation, and seasonal reverse demand into Gananoque for tourism
- Dense clusters of trip generators in central Kingston, and distributed employment, educational, and recreational services located in population centres within the study area

2.5 Peer Service Review

An analysis of existing Canadian Urban Transit Association (CUTA) and Ministry of Transportation (MTO) data was undertaken to understand the potential performance of a new commuter public transportation service. The selected commuter public transportation services serve communities that have similar size, demographics, character, and/or population density as the study area.⁴

The services reviewed from the CUTA/MTO Fact Book dataset include:

- **Central Hastings Transit:** An inter-municipal transit service, connecting Marmora to Central Hastings and Belleville. The service is fixed-route with certain stops only made by request, and utilizes an accessible fleet. Service is provided Monday-Friday.
- **Deseronto Transit:** An accessible inter-municipal fixed-route service connecting Deseronto to Napanee, Belleville, Tyendinaga Territory and Prince Edward County. Some trips operate early in the morning or late in the evening.
- **Ride Norfolk:** A transit service operating daily in Simcoe and Brantford, and connecting other communities within Norfolk County to Simcoe on alternating days. The service is entirely fixed-route and the fleet is fully accessible.

⁴ CUTA data is sourced from the 2019 CUTA and MTO Fact Books to reflect pre-COVID operational conditions

- **Simcoe County LINX:** A regional transit service connecting communities within Simcoe County. Service is provided Monday-Friday on all routes. Fares are variable and based on the distance travelled by customers. Customers can connect to GO Transit at Barrie and Bradford. LINX does not provide local transit service in larger cities of Simcoe County, as they have their own municipal systems. LINX+ provides door-to-door paratransit service for customers who cannot use the fixed-route service.
- **Quinte Transit:** A transit service providing connections within Picton, as well as to Trenton and Belleville. An on-demand route also provides additional service coverage within Prince Edward County. The service operates Monday-Friday using an accessible fleet, with the County fixed route running four round trips per day.

These services were compared to the project study area below in Exhibit 2.7. Overall, the services provide inter-community rural transit service with fixed routes, often including ‘flex stops’ (where the bus will deviate slightly from its route on request), and ‘flag stops’ (where the bus will make an unscheduled stop between fixed stops on request).

In addition, the following peer transit services have been established recently and have not yet reported data to CUTA/MTO, but were included for qualitative consideration:

- **Guelph to Owen Sound Transportation (GOST):** A fixed-route service which provides two round trips, seven days a week, connecting Guelph to Owen Sound. The bus stops at numerous rural municipalities along its route, and services the route using a fully accessible vehicle. A zoned fare structure is used, with a \$20 fare charged for the full route.
- **Grey Transit Route (GTR):** An inter-municipal transit service which provides regional connections in Grey County, Bruce County, and Dufferin County. Owen Sound acts as a hub, with routes towards Orangeville, Blue Mountains, and Wiarton. Trips are booked in advance to ensure the rider is picked up at the stop, and a flat fare is charged for all trips. All buses are equipped with bicycle racks to facilitate inter-modal trips.

- PR Transpo (Prescott and Russell):** An on-demand transit service which uses smartphone-based booking to dynamically route vehicles throughout the service area. Two accessible buses operate from Monday-Saturday. Fares are charged by distance to ensure the municipality can operate longer trips in a financially sustainable manner.⁵

These peer transit services (GOST, GTR and PR Transpo) are funded by the provincial Community Transportation Grant program until 2025, which subsidizes up to 100% of operational costs. Their performance and characteristics are described in Exhibit 2.6.

Exhibit 2.6: Non-Fact Book Peer Review

System	Service Type	Service Area and Population	Service Span	Fare	Annual Ridership
GOST	Fixed route	Guelph, Wellington County, Grey County Est. 85,000 residents	Mon-Sun	\$5.00-\$20.00 fare zones	5,000
GTR	Fixed route	Grey County, Bruce County Est. 101,000 residents	Mon-Sun	\$5.00 flat fare	9,500
PR Transpo	On demand	Prescott and Russell United Counties Est. 96,000 residents	Mon-Sat	Min. \$5.00 fare by distance (per-km)	6,100

While the peer transit services described in both tables above serve a diverse mix of travel needs, they are generally geared towards residents with limited vehicle access or mobility challenges and serve long-distance regional travel markets. For these rider groups, affordability of the service is a key consideration which may be reflected in ridership uptake of the service.

⁵ PR Transpo is temporarily suspended as a result of labour shortages and slow ridership uptake

Exhibit 2.7: Fact Book Peer Review⁶

System	Description	Service Area and Population	Annual Revenue Hours	Service Span	Average Fare	Annual Ridership (Linked Trips)	Annual Rides Per Capita
Central Hastings Transit	2 routes, 2 buses, fixed and flex stops	2,294 km ² 21,731 residents	5,530	Weekdays: 7:00-19:00	\$6.77	5,036	0.25
Deseronto Transit	2 routes, 4 buses, fixed-route/on-demand service	1,898 km ² 48,725 residents	6,930	Weekdays: 05:00-23:59 Weekends: 05:00-17:00	\$9.07	10,799	0.22
Ride Norfolk	3 buses, fixed routes which alternate days	1,648 km ² 31,000 residents	4,759	Weekdays: 07:45-18:30	\$3.83	10,698	0.35
Simcoe County LINX	5 routes, 16 buses, fixed-route service	4,841 km ² 158,377 residents	26,127	Weekdays: 05:30-21:00	\$1.17 ⁷	91,140	0.58
Quinte Transit (2021)⁸	4 routes, 5 buses, fixed-route/on-demand service	50 km ² 25,704 residents	3,521	Weekdays: 06:30-18:30	\$7.22	2,258	0.3
For comparison, the project study area comprises of 52,000 residents over 1,445 km ² .							

Source: Canadian Urban Transit Association, Ontario Urban Transit Fact Book (2019), Statistics Canada 2021 Census of Population

⁶ Data is provided directly by the transit systems and is not able to be independently verified.

⁷ In 2019, Simcoe County LINX begun operating new routes and offered a period of fare-free operation. These factors may have affected average fare calculations.

⁸ County service was not initiated until 2021, so the 2021 Fact Book data was used for this system

2.5.1 Key Findings

The key findings of the peer review include:

- Inter-community systems have **focused operating hours** when compared to urban transit systems, which are more likely to operate all day, every day. Services which provide consistent daily service tend to see higher ridership, while services which maximize coverage such as Quinte Transit see lower ridership as a result.
- The performance of **on-demand services** is comparable to, or less than that of fixed-route in the rural context. Municipalities operating on-demand services (i.e. PR Transpo) have reported that the main constraint on ridership has been supplying drivers and vehicles to meet peaks in trip demand. Along corridors of higher travel demand, fixed-route services deliver a more scalable service, as seen by Grey Transit Route.
- The operations of peer systems are most commonly **contracted** to third party operators. Contracted operations can be a way of minimizing costs through competitive bids. This may also allow municipalities that do not have transit operations experience to lean on the expertise of companies that are accustomed to running a transit system.
- Many peer systems use **flat or zone-based fare structures**. Flat fares are viewed as more equitable, as they provide long-distance travel at more affordable costs, while zone-based fares can be a way to offset the high operating cost of long distances in commuter public transportation systems from the farebox. GOST is a good example of this, with trips to nearby stops costing one-quarter the fare of the full route distance.

2.6 Stakeholder and Public Engagement – Phase 1

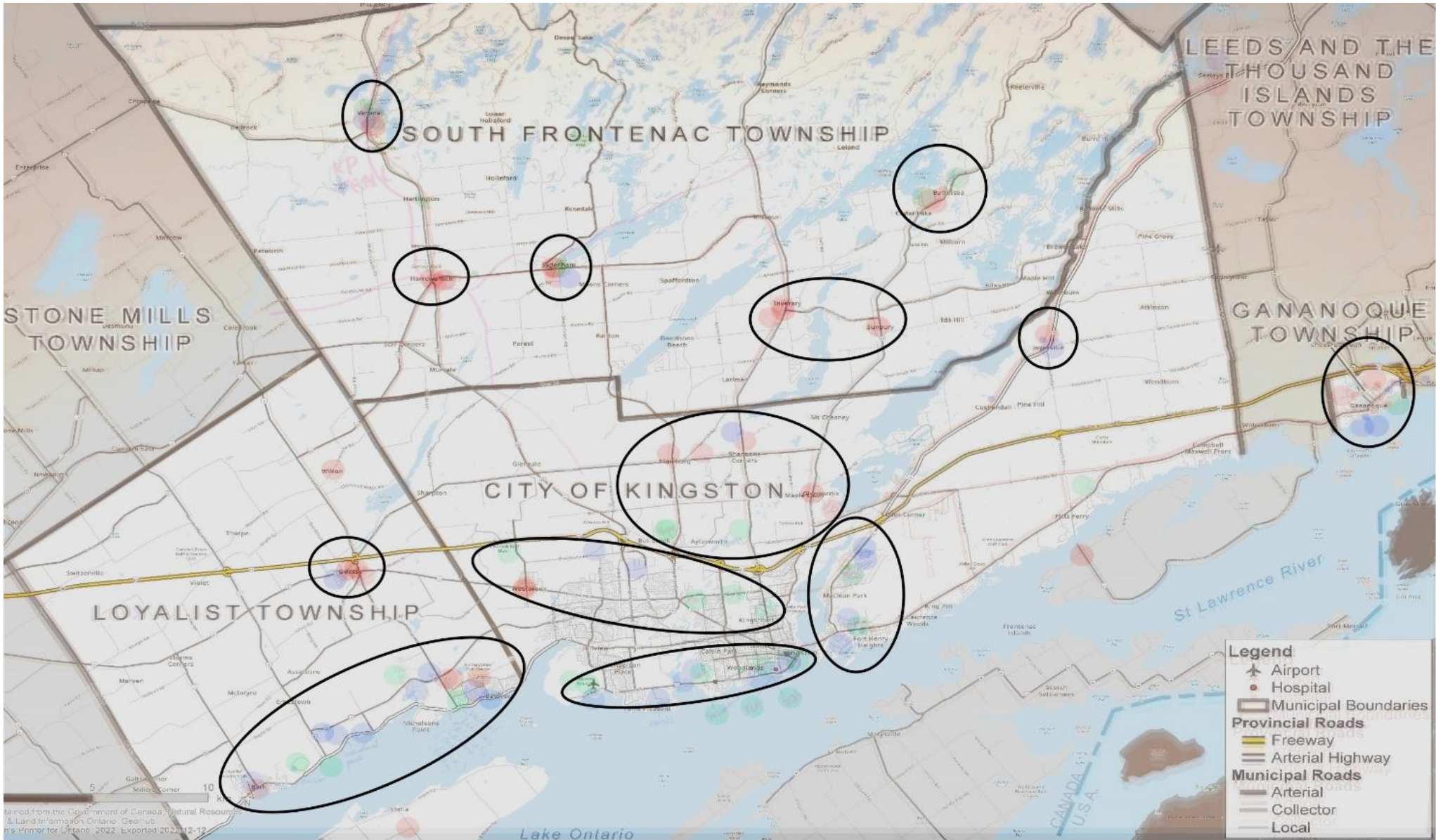
To develop an understanding of commuter public transportation service needs and priorities directly from local residents and stakeholders, engagement activities were conducted. For this study, public and stakeholder engagement was organized in two phases, with the first phase occurring in December 2022-February 2023. A full summary of the feedback received is detailed in Appendix A.

Phase 1 engagement focused on identifying needs and opportunities, including current travel patterns, reasons for travel, and how commuter public transportation could be implemented most effectively. With respect to the public, this was facilitated through a public opinion survey, which received nearly 1,750 responses.

In addition, Arcadis staff travelled to Kingston to conduct in-person stakeholder engagement sessions held at the INVISTA Centre on December 13th, 2022. A total of 30 stakeholders attended, representing local government, major employers, healthcare providers, post-secondary institutions, and social services. Targeted input into how to best tailor commuter public transportation service to the needs of stakeholder clients, constituents, and employees was solicited. This includes a mapping exercise shown in Exhibit 2.8, which identified hotspots of residential areas, employment, or other major destinations.

Feedback from both the public and stakeholder engagement activities was critical to informing the development of the service concepts and delivery options.

Exhibit 2.8: Stakeholder Engagement Activity, Overlay of Travel Demand 'Hotspots'



2.6.1 Engagement Key Takeaways

Key findings of the public and stakeholder engagement include:

- A future commuter public transportation service should facilitate not only trips into Kingston from rural areas, but also “reverse commuting” trips to help major employers in rural areas expand their labour pool to Kingston and facilitate rural economic development.
- Ensure connectivity for seniors and youth to access Kingston for non-work-related travel, such as access to healthcare, social services, places of worship, recreation, and entertainment. A particular trend noted in stakeholder workshops was the tendency for post-secondary international students to seek out affordable housing in rural areas and commute long distances to classes.
- In light of limited parking availability in downtown Kingston, commuter public transportation services should be directed to park & rides and urban transit transfer points to develop an efficient multi-modal transportation network.
- Explore partnerships with community transportation services to connect riders from the bus stop to their final destinations (first/last-kilometre). This has the added benefit of improving the efficiency of community transportation services, allowing them to provide more daily trips.

2.7 Summary of Needs and Opportunities

The preceding sections provide context for the needs and opportunities associated with the provision of new commuter public transportation services. They can be summarized as follows:

2.7.1 Needs

- **Gaps in existing transportation system:** Current transportation offerings are focused on providing lifeline connections for those with mobility challenges. Access to reliable, everyday transportation is still a major barrier for low-income residents, seniors, and youth. This was noted as a particular challenge in Gananoque, which was determined to have a larger equity need than the other study Partners.
- **Addressing labour shortages:** Employers have indicated a significant need to provide connections between the labour force and growing employment areas. Hundreds of new jobs are expected by 2025, while existing manufacturers report ongoing issues with filling open positions. Improved rural transportation would also advance rural economic development goals.
- **A changing population:** Residents aged 65+ are more prevalent in the study area compared to provincial averages, while many of these residents will continue to drive into old age, they represent a potential market for public transportation. In addition, the under-25 demographic will continue to make up a large share of the population, and often lack vehicle access to get to destinations like employment or school.
- **Responding to local travel patterns:** Over 80% of commuters in Loyalist and South Frontenac work in Kingston. Meanwhile, Gananoque sees over 40% of commuter travel to Kingston and high travel demand for non-work trips. These travel patterns are not currently met with existing transit services.

2.7.2 Opportunities

- **Supportive policy framework:** The City of Kingston as well as its regional partners (Eastern Ontario Leadership Council) recognize the benefits of commuter public transportation service in supporting strategic initiatives such as rural economic development, aging in place, and active transportation. In addition, the Partners have previously explored the feasibility of commuter public transportation and have signalled interest in facilitating it.
- **Tapping into the local transit network:** Kingston Transit operates a frequent Express Route network which connects major hubs in the city. A commuter public transportation service could improve its connectivity and efficiency by integrating into the network, allowing riders to easily reach destinations across Kingston.
- **Building on the success of other rural systems:** The aforementioned interest in rural public transportation has resulted in a growing number of commuter public transportation service offerings, including Quinte Transit that operates in Prince Edward County and Prescott and Russell's PR Transpo service. These systems present valuable case studies for the potential deployment of commuter public transportation in the study area to inform the development of financial projections, marketing and communications, service design, and several other elements of a potential commuter public transportation system.
- **New technologies:** Recent advances in mobile computing, vehicle dispatching algorithms, and the near-ubiquity of smartphones have resulted in an increase in the efficiency of on-demand transit. This means that some services that would not have been feasible in the past can now be offered more cost-effectively to the benefit of rural municipalities and their residents.

These findings confirm both the need for commuter public transportation services in the study area, and highlight opportunities associated with the development of a potential commuter public transportation system serving Kingston, Gananoque, South Frontenac and Loyalist.

3 Service Approach

To the end of identifying a commuter public transportation network for the study area, this chapter investigates and evaluates alternative high-level approaches to deliver public transportation in the region.

3.1 Potential Service Types

The following service types were evaluated for their applicability to the study area and rated according to how well they could accomplish the objectives of the future commuter public transportation service:

- Conventional fixed route;
- Flexible route;
- On-demand transit;
- Rideshare and taxi vouchers;
- Specialized transit (exclusively); and
- Volunteer driver networks.

3.1.1 Conventional Fixed Route

This type of service is characterized by a formal, defined route and a formal, defined schedule. Customers can determine where and when the bus is coming by consulting its schedule. The bus will not depart from its route to reduce customer walk distance, as that would compromise its reliability. Fixed transit routes are good for connecting major centres and destinations and in built-up urban areas, but are less effective in dispersed areas, where the number of potential customers is lower and walking distance to stops is higher.

Exhibit 3.1: Kingston Transit Bus ⁹



In a rural context, a fully fixed-route system is more expensive due to higher operating costs and has a limited service area compared to more flexible options. Many rural fixed-route transit systems, such as Perth County Connect, are based around connecting towns with a critical mass of residents, jobs and services.

3.1.2 Flexible Route

A flexible route is similar to a fixed route, as it normally follows a defined route on a defined schedule. However, the bus is able to deviate a certain distance away from the normal route if a customer asks the operator to do so, or if the customer books the deviation ahead of time. Departure times are typically provided from a series of set points that the route will always serve. Deviation requests are easier for a transit provider to accommodate if they are made further in advance. A flexible route will allow for wider service coverage than a fully fixed route, but the deviations made by a flexible route can also cause travel time impacts for other customers on the

⁹ GHN83613 (https://commons.wikimedia.org/wiki/File:Kingston_Transit_in_front_of_City_Hall.jpg), Kingston Transit in front of City Hall", <https://creativecommons.org/licenses/by-sa/4.0/deed.en>

bus. An example of this type of service is provided by Muskoka Community Transit with its Rural Community Connector service.

Exhibit 3.2: Muskoka Community Transit Vehicle¹⁰



A system of flexible routes could serve the study area’s dispersed population more equitably than a system of fixed routes, but this service type otherwise encounters many of the same challenges. Flexible routes would be able to serve an increased coverage area compared to fixed routes, but a route can only deviate so much before its reliability is compromised. As such, a flexible route system would not be able to cover all residents of the study area in a sustainable way; it could only serve some corridors and some residents within walking distance.

3.1.3 Demand-Responsive (On-Demand) Transit

Demand-responsive, or on-demand transit is a type of transit service that does not operate on a fixed route or a fixed schedule. Customers request or book trips using either an app on a mobile device, or by calling a customer service centre. On-demand transit has less certainty for a customer in terms of when the bus arrives, but it has more flexibility in its routing, which may allow for a customer to travel more directly to their destination. On-demand transit services can be more cost-efficient in

¹⁰ District of Muskoka (<https://www.muskoka.on.ca/en/community-services-and-support/community-transit.aspx>), “Rural and Community Connection Bus”

lower-density, lower-demand areas, as the bus will only go out to a pickup or drop-off location if a customer requests it. An example of this type of service is provided by the City of Stratford Transit on Saturdays, when the fixed-route network is replaced by a demand-responsive service. Belleville Transit also operates a similar service which replaces its previous night route with a city-wide on-demand zone.

Exhibit 3.3: Stratford Transit On-Demand Bus¹¹



Demand-responsive transit is good at serving lower-demand, lower-density areas, like much of the study area, in a cost-effective manner. Vehicles only go out when and where they are needed, and vehicles which allows them to be utilized more effectively than a bus that must follow a fixed route and schedule regardless of where customers need it to be. Longer trips using demand-responsive transit are more expensive to operate, and a customer's wait time will be limited by the number of vehicles in service at once, so these are important considerations in how the service should be designed. Each hour of in-service or on-call time for an operator and vehicle adds cost to operating the system.

¹¹ City of Stratford (<https://www.facebook.com/cityofstratford/posts/saturday-on-demand-transit-begins-feb-6starting-february-6-2021-in-conjunction-w/3738670419531782/>)

3.1.4 Rideshare & Taxi Vouchers

Municipalities may also partner with existing private transportation providers that are already operating in their jurisdiction, such as rideshare and taxi companies. These companies employ drivers who can be hired by anyone, either by booking a trip on a mobile app (rideshare) or calling a dispatch office (taxi). The cost of hiring a rideshare vehicle or a taxi typically exceeds that of an average transit fare. Municipalities partnering with these companies can subsidize customers' trips in order to bring down the cost to the customer to a level more in line with a public transit service. An example of this type of service is provided by the Town of Innisfil, which has partnered with Uber for its transportation service.

Rideshare systems and taxi vouchers have similar positive and negative attributes; the main difference between the two is the booking interface. Rideshare apps also allow for the pooling or sharing of customer trips to increase service productivity. Contracting service to a rideshare or taxi company provides a similar service to customers as demand-responsive transit but requires less start-up infrastructure from the municipality. Rather than paying to operate a service, the study Partners would subsidize the trips of an individual customer.

There are pros and cons to this approach. It requires less direct involvement from the municipality but depends on factors such as vehicle and driver availability that are outside the government's control. This can make finding wheelchair-accessible vehicles more complex, as it is up to an individual rideshare driver to determine their vehicle. The program can become very expensive; in Innisfil's example, customers are limited to a maximum of 30 trips per month to keep costs down.

3.1.5 Specialized Transit (Exclusive)

A specialized transit service is similar to an on-demand transit system, but it requires customers to meet eligibility criteria. Specialized transit systems are designed to be fully accessible for people with disabilities and will often transport customers door-to-door. Because the cost per trip of a specialized transit service is very high, access to the system is restricted to those who need it most. Many larger transit agencies will operate a parallel specialized transit system to provide service for those who cannot use

other transit routes due to physical or other limitations. Under the Accessibility for Ontarians with Disabilities Act (AODA), discussed further in Section 5.4, it is mandatory for providers of conventional transit to provide a specialized transportation alternative for anyone who is not able to use the conventional system because of a disability. An example of a specialized transit system restricting potential customers is Kingston Access Bus, which requires customers to apply and pass an eligibility check before they can use the service.

Exhibit 3.4: Example of a Specialized Transit Vehicle



A specialized transit system may be necessary in parallel to a transit system in the study area, depending on the accessibility of the chosen service delivery. A specialized transit service requires customers to be eligible. It would provide highly accessible door-to-door service to those who qualify but would not provide transportation to all residents. A system that only provides specialized transit service would be in line with the Ingersoll approach of allocating limited resources to those with the highest need.

3.1.6 Volunteer Driver Networks

Networks of volunteer drivers are another potential way to transport residents in rural municipalities. The Greater Kingston chapter of the Victorian Order of Nurses (VON) employs a network of volunteer drivers to transport clients to medical appointments, shopping, and appointments

with government or social programs. As with specialized transit systems, VON requires clients to be eligible for the service. While the service provides value to the community, it is not recommended for a transit service operated by the study Partners to depend on volunteer drivers as their availability cannot be guaranteed. Carpooling incentives, or other types of travel demand management, could be an option for the study Partners to pursue to address some demand for transportation in the study area, particularly for work purposes.

3.2 Service Operation Models

Several models were contemplated for the operations of the commuter public transportation services. They are as follows:

- **New Public Operator (In-House):** The Partners would develop a new jointly administered body to oversee and operate commuter public transportation services in the study area.
- **Contracted Operator:** The Partners would jointly plan and oversee commuter public transportation services in the study area, while day-to-day operations would be contracted out to a local private-sector service provider.
- **Existing Public Operator (Kingston Transit):** The Partners would jointly plan and oversee commuter public transportation services in the study area, with Kingston Transit operating the service using its own labour force and fleet.

It is important to note that the service operator may differ for each proposed commuter public transportation service – what may work best in Loyalist may not be an ideal solution to Gananoque. Generally, the pros and cons of each model are described below in Exhibit 3.5.

Recommendations are provided for each service design in Section 5.

Exhibit 3.5: Advantages and Disadvantages of Service Operating Models

	In-House	Contracted Operator	Kingston Transit
Flexibility	Medium flexibility as service is directly managed but reliant on fixed resources	Highest flexibility, in accordance with the operating agreement	Lowest flexibility as bound by Kingston Transit operating practices
Capital Cost	Highest capital costs associated with the acquisition of fleet and potentially land	Minimal capital costs, built into the hourly rate of the operating agreement	Dependent on if new fleet would be required to operate
Operating Cost	No markup on labour, fuel, and maintenance costs	Costs built into hourly rate of the operating agreement	Costs built into hourly rate of the operating agreement
Grant Funding	Eligible for grants related to capital costs	Not eligible for grants related to capital costs	Eligible for grants related to capital costs
Labour Implications	Operate within existing collective agreements, ongoing labour shortages	Ongoing labour shortages	Operate within existing collective agreements, ongoing labour shortages
Risk to Operation and/or Finances	Highest risk as service is directly operated by the Partners	Least risk, contained via the terms of the operating agreement	Some risk as operating agreement would likely have less oversight than that of a contracted operator

3.3 Evaluation of Service Approach

Prior to conducting the evaluation, evaluation criteria were derived from industry best practices:

- **Equitable:** Allows as many residents as possible to access transportation at an affordable price.
- **Connected:** Connects residents to essential services, employment, and other major destinations, along with linkages to other transportation services.
- **Accessible:** Meets the needs of riders with mobility challenges, through the provision of accessible vehicles and the ability to minimize travel distance to/from the drop-off/pick-up location.
- **Affordable:** The cost-effectiveness of the service from the perspective of the government and taxpayer.

The service types are evaluated in Exhibit 3.6 using shaded circles (○◐◑◒◓) to indicate how well a potential service type aligns with each goal. The more filled-in a circle is, the more it accomplishes the goal. The results are as follows:

- **Fixed routes** are most effective at connecting long distances with reliable, schedule transportation. This provides many benefits for riders, although fixed routes alone would not satisfy the need for equitable transportation access for residents within the study area. **Suitable for implementation. Carried forward to service design.**
- **Flexible routes**, or fixed routes with the ability to deviate slight off-route on request, would provide slight improvements to service coverage. However, many residents within the study would still not be served by transit. Customer trips would be less frequent overall due to the need to build flexibility into the route schedule. **Suitable for implementation. Carried forward to service design.**

- **Demand-responsive**, or on-demand transit, would dynamically route vehicles to match riders desired trip origins and destinations. However, on-demand transit does not perform as efficiently as fixed-route transit over vast rural areas, meaning additional vehicles would be required to carry the same number of passengers. Fuel and maintenance costs could be lower, as the service only runs when needed, but on-demand transit often require long distances of non-revenue travel (deadheading) between trips. A start-up cost would be required to set up the technology required for such a system. **Suitable for implementation. Carried forward to service design.**
- **Rideshare or taxi voucher** transportation, like on-demand transit, could cover low-density regions of the study area with a smaller number of vehicles and at a lower cost. While capital cost would be reduced due to the lower amount of start-up infrastructure required, the system would be less scalable than a demand-responsive one, and total subsidies would vary depending on demand. In addition, the service would be limited by the driver availability of ridesharing and taxi services. **Suitable for implementation. Carried forward to service design.**
- An exclusively **specialized transit** system would limit services to only residents with the highest amount of need. The system would operate in a manner similar to on-demand, but the eligibility of potential customers would be restricted. It is important to provide a service that addresses the unique needs of residents with disabilities, but operating a system exclusively for these customers would restrict the overall utility of the service. **Not suitable for implementation.**¹²
- **Volunteer driver networks** would provide a system that is very low-cost to the Partners, but could not reliably or consistently serve local residents due to the inconsistent availability of volunteer drivers. Additionally, it would duplicate the market

¹² Note: As discussed within the report, the provision of accessible public transportation options is a legal requirement. The screening out of an exclusively specialized transit system does not preclude the inclusion of accessible transportation alongside other services (as discussed in Section 5.4).

share of existing volunteer-operated services. **Not suitable for implementation.**

Exhibit 3.6: Service Type Evaluation

Service Type	Equitable	Connected	Accessible	Affordable	Overall
Fixed Route					
Flexible Route					
Demand-Responsive					
Rideshare & Taxi Vouchers					
Exclusive Specialized Transit					
Volunteer Driver Networks					

As a result of the above evaluation, Fixed Route, Flexible Route, Demand-Responsive, and Rideshare & Taxi Vouchers were carried forward to the service design stage. As discussed in Section 4.1 below, various combinations of the first three service approaches were considered for the three distinct service areas, while Rideshare & Taxi Vouchers were used to supplement these three service designs where necessary, to ensure universal transportation access.

4 Service Design and Evaluation

The purpose of this section is to detail the development and evaluation of service design options based on the service delivery approaches identified as feasible in the previous section. The evaluation informs the recommended commuter public transportation service for the study area.

4.1 Service Concept

The overarching service concept guides the detailed design and evaluation of commuter public transportation services in the study. The service concept was advanced to meet the needs and leverage opportunities identified in Section 2, in addition to carrying forward feasible service delivery approaches outlined in Section 3. The service concept is as follows:

- **Gananoque & East Rural Kingston:** A fixed route or flexible route connecting Gananoque and the eastern rural areas of Kingston to the Downtown Transfer Point in downtown Kingston
- **Loyalist:** Two fixed routes connecting population centres and industrial areas in Loyalist to Kingston Transit transfer point(s) in western Kingston
- **South Frontenac & North Rural Kingston:** A fixed route or on-demand zone connecting population centres in South Frontenac and northern rural areas of Kingston to the Cataraqui Centre Transfer Point (and potentially other Kingston Transit transfer points)
- **Supplementary transportation access program:** The provision of program(s) to provide lifeline access to transportation in rural areas which cannot support fixed route or on-demand transit, such as taxi vouchers or vanpooling

The three geographic areas outlined above were selected due to the nature of travel demand in the study area, which was found to be mostly Kingston-centric, with some self-contained travel. The study findings did not indicate

a strong need for commuter public transportation service between rural municipalities.

4.2 Gananoque and East Rural Kingston

4.2.1 Service Design Alternatives

It was determined that the linear routing and concentrated areas of demand within the service area indicate towards a fixed route solution. However, based on stakeholder feedback, a flexible route option was also considered, to provide direct access to the Howe Island Ferry Dock. Therefore, the two service options carried forward to evaluation are as follows:

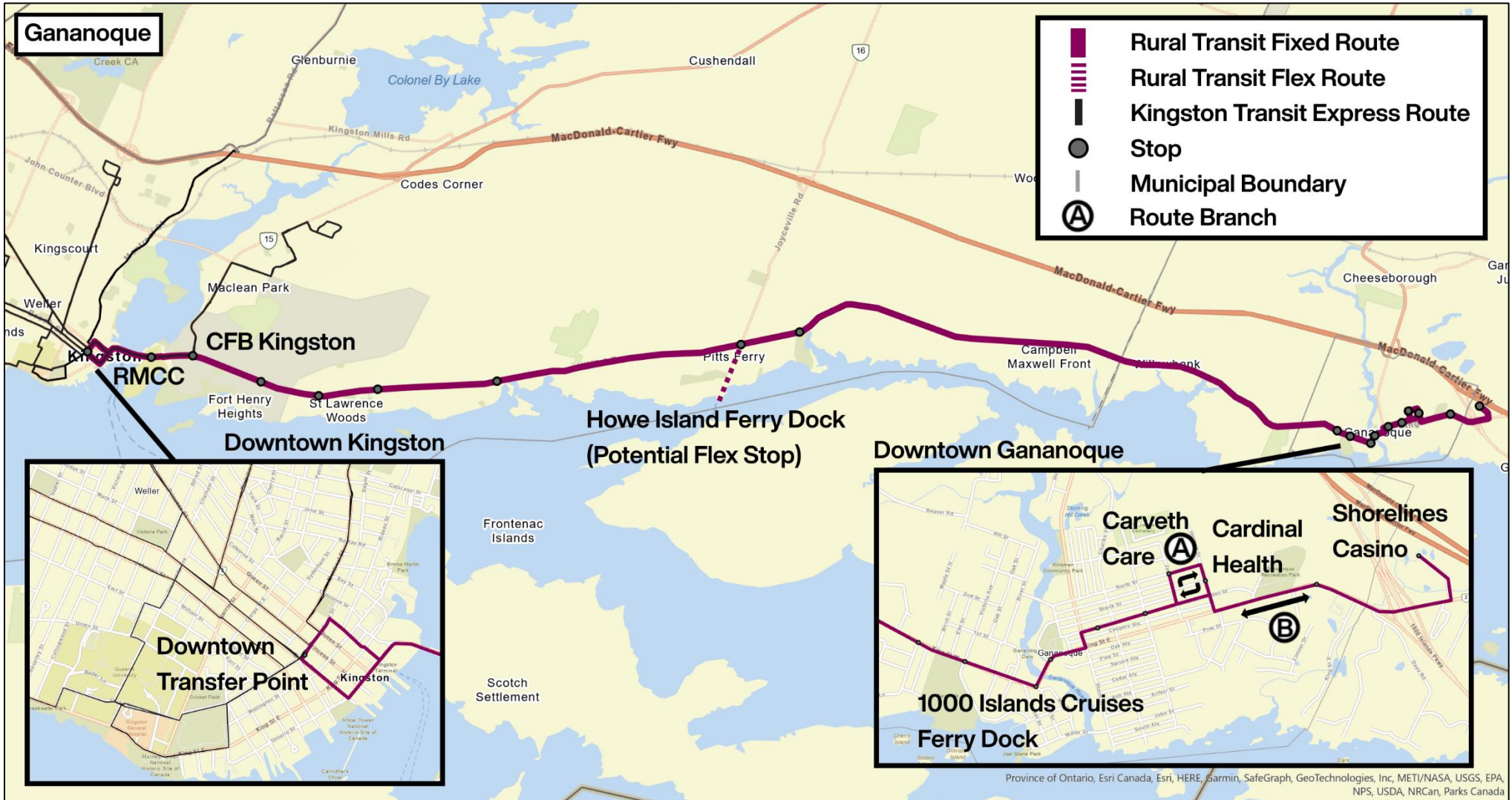
- **Option A - Fixed Route:** A fixed route service, operating approximately every two hours, between downtown Kingston and Gananoque. The route would terminate either within central Gananoque or at Shorelines Casino, depending on time of day.
- **Option B - Flex Route:** Similar to Option A, with a route deviation to the Howe Island Ferry Dock which would only be made if requested ahead of time, by calling to notify the service operator. There is sufficient padding in the schedule to accommodate the route deviation within the two-hour cycle time.

The two options are illustrated in Exhibit 4.1 below.

ARCADIS FINAL REPORT

BRINGING COMMUTER PUBLIC TRANSPORTATION TO RURAL KINGSTON, GANANOQUE, SOUTH FRONTENAC, AND LOYALIST

Exhibit 4.1: Gananoque and East Rural Kingston Route Options



4.2.2 Service Design Evaluation

While similar in nature, the two options were evaluated against each other in Exhibit 4.2.

Exhibit 4.2: Gananoque and East Rural Kingston Route Option Evaluation

	A – Fixed Route	B – Flex Route
Daily round trips	Up to 6 round trips	Up to 6 round trips
Round trip travel time	120 minutes	120 minutes
Residents within walking distance (500m) of public transportation	6,700 residents	6,700 residents
Annual ridership estimate ¹³	5,500-6,000 boardings	5,500-6,000 boardings
Major destinations	<ul style="list-style-type: none"> • CFB Kingston • RMCC • Downtown Transfer Point • Shorelines Casino • Cardinal Health • Carveth Care • 1000 Island Cruises 	<ul style="list-style-type: none"> • CFB Kingston • RMCC • Downtown Transfer Point • Shorelines Casino • Cardinal Health • Carveth Care • 1000 Island Cruises • Howe Island Ferry Dock

As seen in the comparison above, the flex route option would not impact the number of daily trips or round-trip travel time. The impact may be felt in variability and reliability of one-way trip schedules, as certain trips would be required to deviate to the ferry dock, and trips may be delayed if the ferry is running late. Despite these potential downsides, it would enable travel for hundreds of residents living on Howe Island, many of whom who are seniors who may face mobility challenges and transportation barriers (the median age of Frontenac Islands Township is 60 years old). Therefore, **it is recommended that Option B – Flex Route is carried forward** as the preferred alternative for this service area.

¹³ Note: Ridership estimates were developed using a conceptual schedule (Appendix C) which does not include evening and weekend service. Contributions from private-sector partners to enhance service span would induce a positive effect on ridership estimates.

4.3 Loyalist

4.3.1 Service Design Alternatives

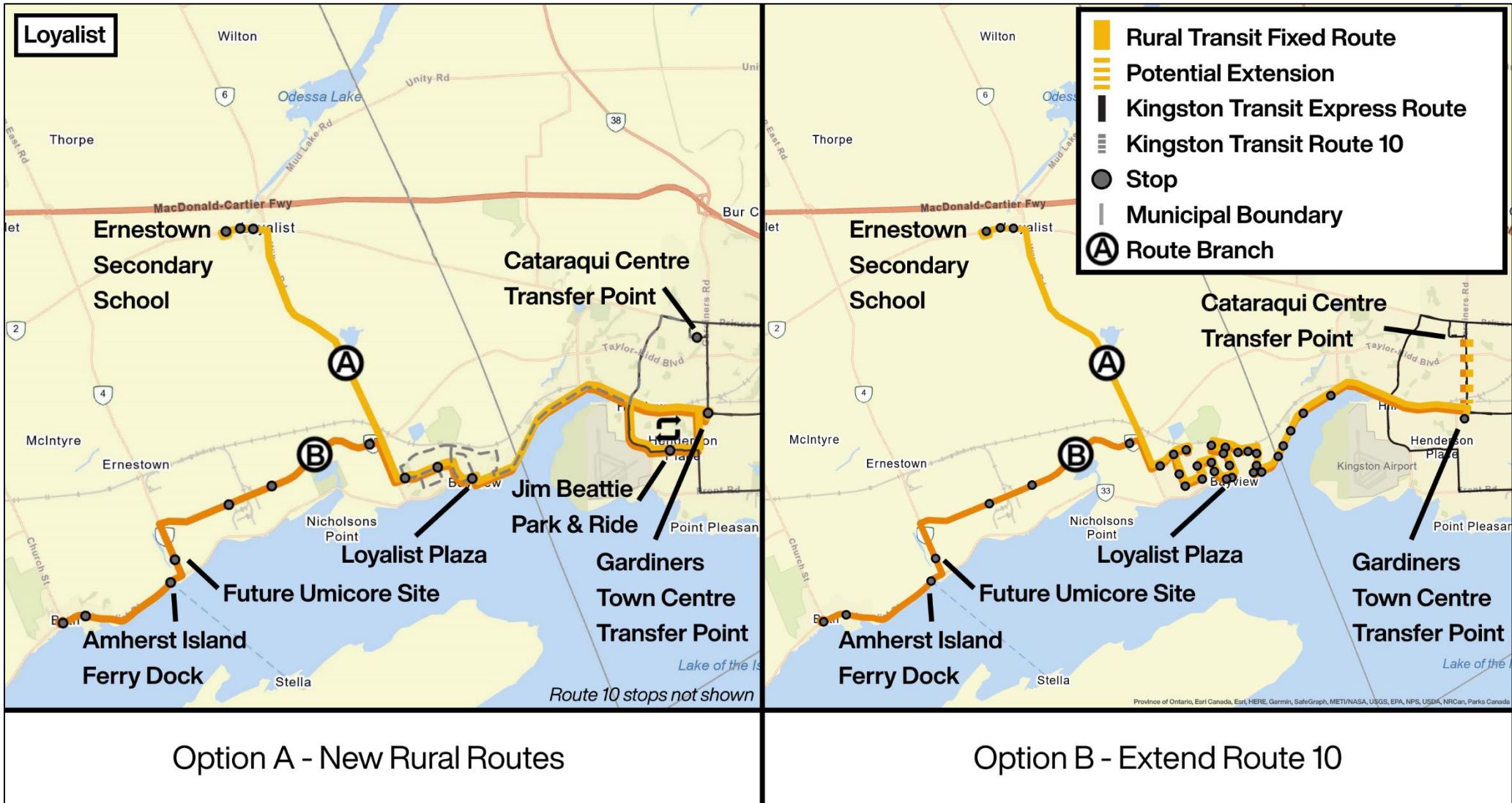
Initial service designs were focused on connecting the Cataraqui Centre to Loyalist's industrial parks. However, based on stakeholder feedback and recent developments with respect to the previously proposed Kingston-Napanee route, the need for a more holistic commuter public transportation service in Loyalist Township was identified (particularly to connect Ernestown Secondary School, the only high school in the township, to other destinations).

Arcadis worked with Township staff to develop two viable options which extend service to Bath and Odessa:

- **Option A – New Rural Routes:** A fixed route service which would utilize one minibus. Beginning at Gardiners Town Centre Transfer Point, the route would continue to the Jim Beattie Park & Ride to connect to Kingston Transit Express routes, then provide limited-stop service through Amherstview before splitting into two branches. The first branch would continue to Bath via the Taylor Kidd Industrial Park. The second branch would travel north to Odessa. This option would maintain Route 10, providing additional service to Amherstview.
- **Option B – Extend Route 10:** Route 10 would be modified within Amherstview, but extended with two new branches out to Bath via the Taylor Kidd Industrial Park, and Odessa. The service would use two Kingston Transit vehicles which would make all local stops within Amherstview. Service would terminate at Gardiners Town Centre or Cataraqui Centre Transfer Point.

The two options are illustrated in Exhibit 4.3 below.

Exhibit 4.3: Loyalist Route Option



4.3.2 Service Design Evaluation

The two options presented above were evaluated below in Exhibit 4.4.

Exhibit 4.4: Loyalist Route Option Evaluation

	A – New Rural Routes	B – Extend Route 10
Daily round trips (each branch)	Up to 5 round trips	Up to 6 round trips
Round trip travel time (each branch)	80 minutes	120 minutes
Residents within walking distance (500m) of public transportation	13,400 residents	13,400 residents
Annual ridership estimate (including baseline Route 10)	132,000-133,000 boardings	123,000-125,000 boardings
Annual ridership estimate (excluding baseline Route 10)	12,000-13,000 boardings	3,000-5,000 boardings
Major destinations	<ul style="list-style-type: none"> • Taylor Kidd Industrial Park • Umicore Battery Plant • Loyalist East Business Park • Ernestown Secondary School • Amherst Island Ferry Dock • W.J. Henderson Recreation Centre • Loyalist Plaza • Gardiners Town Centre 	

Option A would provide a faster throughout Loyalist and into Kingston. It would utilize a single minibus which could be operated independently of Kingston Transit, alternating between each route branch. Option A would stop in Bath and Odessa roughly every 3 hours but provide 80-minute service to select stops in Amherstview in addition to existing Route 10 service. This would in effect boost transit capacity between Amherstview and Kingston and offer a connection along Bath Rd. to the Gardiners Town Centre Transfer Point. This would save commuters heading to downtown

Kingston time versus travelling north to Cataraqui Centre to connect to express routes. Route 10 would continue to service the Cataraqui Centre.

Option B would utilize two Kingston Transit buses with alternating schedules to provide one-hour frequency within Amherstview and two-hour frequency in rural areas. The service would rely on Kingston Transit's participation, which has indicated it would not have the capacity to operate the route in the near-term due to ongoing labour shortages. The use of full-size Kingston Transit buses for the entire length of the route will likely see the capacity underutilized in rural areas ("empty buses"). Extra time at the terminal stops would be scheduled to keep buses on schedule, although the number of stops will may impact schedule adherence.

Discussion with Loyalist Township and Kingston Transit revealed that the current operating agreement with Primaris (Cataraqui Centre's owner) only allows Kingston Transit vehicles to access the transfer point. Previous discussions with Primaris regarding amending the operating agreement to allow external transit operators have not been productive, despite the mutual economic benefits of providing access to the mall for rural residents. Therefore, use of the Gardiners Town Centre Transfer Point is recommended until the operating agreement can be amended to allow the envisioned transit operator to access the Cataraqui Centre Transfer Point.

Based on the considerations discussed above, **Option A – New Rural Routes is recommended to be carried forward** as the preferred alternative for this service area.

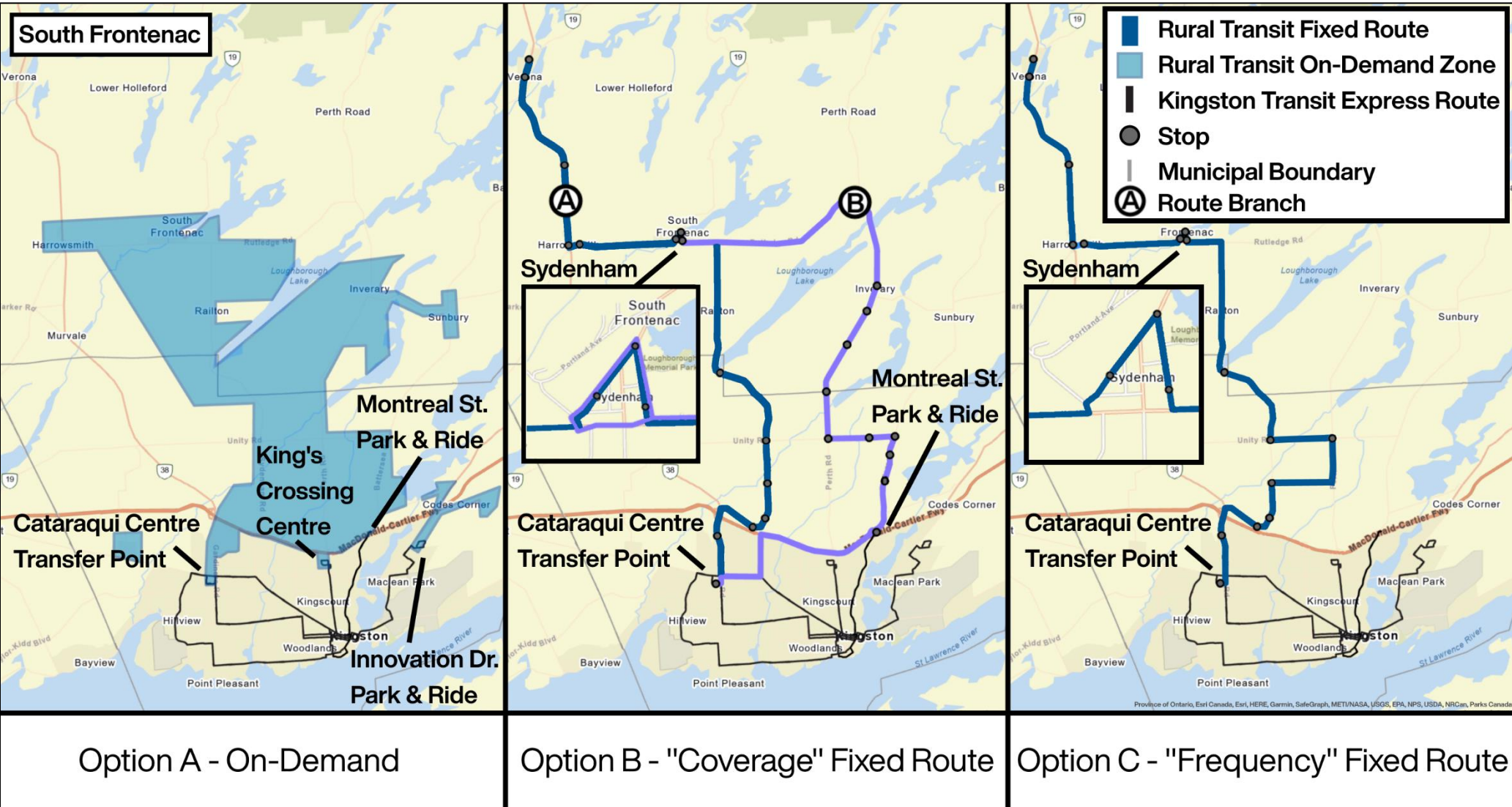
4.4 South Frontenac & North Rural Kingston

4.4.1 Service Design Alternatives

This service area presents the most challenging environment for the provision of commuter public transportation service, as travel demand is highly directional into Kingston, while also being dispersed over a wide rural area. The service design would also need to balance convenient connections into Kingston with facilitating travel between local population centres, including to Sydenham High School, the only high school in the township. Three feasible options were identified for South Frontenac and are illustrated in Exhibit 4.5 below:

- **Option A – On-Demand:** A 150 sq-km zone in which a rider can book door-to-door trips to and from “virtual stops” using their smartphone or by calling a call centre. 1-2 accessible vans would provide service within the zone, which would cover most of the largest population centres in the service area. The service would connect into four Kingston Transit transfer points.
- **Option B – “Coverage” Fixed Route:** Designed to maximize service coverage with a fixed route, one minibus would service two routes, one between Verona and Cataraqui Centre via Sydenham, and one between Sydenham and Cataraqui Centre via Inverary. Each route would operate up to every four hours, with a combined frequency of approximately two hours between Sydenham and Kingston.
- **Option C – “Frequency” Fixed Route:** Designed to maximize service frequency while connecting major population centres, one minibus would service Option B’s Verona-Cataraqui Centre route, with service approximately every 2 hours.

Exhibit 4.5: South Frontenac & North Rural Kingston Route Options



4.4.2 Service Design Evaluation

The three options presented above were evaluated below in Exhibit 4.6.

Exhibit 4.6: South Frontenac & North Rural Kingston Route Option Evaluation

	A – On-Demand	B – “Coverage” Fixed Route	C – “Frequency” Fixed Route
Daily round trips	N/A	Up to 3 per branch	Up to 6
Round trip travel time	N/A	120 minutes per branch	135 minutes
Residents within walking distance (500m) of public transportation	11,400 residents	4,100 residents	3,100 residents
Annual ridership estimate	2,500-3,000 boardings	4,500-5,000 boardings	4,500-5,000 boardings
Major destinations	<ul style="list-style-type: none"> • Islamic Centre • Sydenham High School • Southern Frontenac Community Services • Cataraqui and K&P Rail Trails • Cataraqui Centre • Fairmount Home • Glenburnie Grocery • Montreal St. Carpool Lot (transfer point) 	<ul style="list-style-type: none"> • Islamic Centre • Sydenham High School • Southern Frontenac Community Services • Cataraqui and K&P Rail Trails • Cataraqui Centre • Glenburnie Grocery 	

Option A, the on-demand service, would provide the most service coverage of the options, even after reducing the zone size considerably after stakeholder feedback indicated a preference for service efficiency. It is still likely that one vehicle will not be sufficient to provide true “on demand” service, and trips would need to be booked well in advance to secure a booking. Additionally, using one vehicle over vast areas would likely result in a high rate of unaccommodated trips, such as if one rider in Sydenham and one rider in Glenburnie both want to travel into Kingston at the same

time. Increasing the service to two vehicles would mitigate this issue, but effectively double operating costs compared to the other two options.

Peer systems such as PR Transpo and RIDEWELL in Wellington County have demonstrated that rural on-demand services are possible, but the number of trips able to be serviced per hour will typically be lower than a fixed route service due to the vast distances involved. These services have also reported a high rate of deadheading (travel between trips without passengers), which increases fuel and maintenance costs. As a result, these rural systems have resorted to per-kilometre fare structures which impact the affordability of the service.

Options B and C, the fixed route options, are better able to accommodate the long-distance, directional travel patterns. The use of fixed schedules limits convenience relative to on-demand service, but ensures that all riders are able to have their trips accommodated.

Option B services 1,000 more residents than Option C via its eastern route through Inverary, at the expense of up to three additional round trips on the western Verona route. Despite having the smallest service coverage area, Option C maximizes the usability of the service for the most residents.

It is expected that Option C's more frequent service for the majority of residents (including a frequency which could support travel to/from the mosque north of Highway 401) will improve the attractiveness of the service over time.

Based on the considerations discussed above, **Option C – “Frequency” Fixed Route is recommended to be carried forward** as the preferred alternative for this service area.

4.5 Supplementary Service Options

While the proposed commuter public transportation services seek to provide the maximum benefit to the greatest number of residents, there continue to be residents outside of the proposed catchment areas who may face barriers to transportation. Typically, these unserved residents are in extremely low-density rural environments, and face mobility challenges or limited/no access to a vehicle. Therefore, an analysis of supplementary transportation options was undertaken to determine how these residents could be supported.

The following options were identified as potential solutions:

- **Taxi vouchers:** To accommodate trips beyond the proposed commuter public transportation service area, the local municipality would provide subsidies to residents who need to take taxi or ride hailing (i.e., Uber) trips. Taxi vouchers are typically administered via booklets of vouchers which can be means-tested and distributed on a limited basis to ensure resources are being directed to those with the highest need.
- **Vanpooling:** A small fleet of vans would be acquired (purchased or leased) by participating municipalities and supplied to groups of residents for a fee to provide coordinated transportation amongst themselves. Major employers would partner with the municipalities to offer free vanpool parking on-site to incentivize their use.
- **Carpooling/Ridesharing:** Participating municipalities would supply a software platform which would allow local residents to coordinate carpooling trips, using their own personal vehicles.¹⁴

The alternatives proposed above are assessed in Exhibit 4.7.

¹⁴ Rural Frontenac Community Services, in partnership with the Counties of Frontenac, Lennox & Addington, and Lanark, operates a “Community Car Pool” software platform. All residents in the study area, except Gananoque residents, are therefore eligible to use this service. At report publication, there are no available rides or ride requests on the platform, suggesting low uptake.

Exhibit 4.7: Supplementary Transportation Option Evaluation

	Taxi Vouchers	Vanpooling	Carpooling
Equitable	Able to means-test to ensure resources are directed to those most in need. Does not require resident to drive themselves.	User fees can be set by the municipality but may require resident to drive themselves to participate.	User fee and trip availability is determined by the driver.
	●	◐	◑
Connected	Taxi trips would be able to connect the rider from their origin to their desired destination.	Vans would be stationed at designated spots which would require first/last-kilometre travel to access.	Trip pick-up and drop-off locations would be determined by the driver.
	●	◐	◑
Accessible	Accessible taxi service is compliant with AODA requirements.	No requirement to meet AODA.	No requirement to meet AODA.
	●	○	○
Affordable	Ongoing annual cost to the municipality and trip cost to the rider would still be determined by distance travelled.	High initial costs to acquire fleet and ongoing fuel/maintenance costs, although these would be recouped through reasonable user fees.	Low ongoing cost to the municipality to establish the platform and reasonable trip costs to the rider (subject to individual pricing).
	◑	◐	●
Overall Score	◑	◐	◑

A taxi voucher program was carried forward as the preferred alternative.

The preferred alternative would be the most effective option to provide an equitable and accessible transportation service which facilitates access to healthcare, services, and recreation.

The exact subsidy amount and program structure would require further discussion and refinement between the Partners prior to implementation. To provide context into subsidization of taxi/ridehailing programs, Exhibit 4.8 below lists several peer examples.

Exhibit 4.8: Peer Taxi and Ridehailing Program Costs

Municipality	Description	Total Subsidy	Per Resident Subsidy	Per Trip Subsidy
Innisfil	Use of Uber to provide on-demand transit throughout the town in lieu of a conventional fixed-route transit system	\$826,000	\$19.06	\$8.70
Waterloo	A taxi voucher program to provide MobilityPLUS customers (specialized transit service) with access to convenient transportation via accessible taxi	\$40,000	\$0.07	Not available
Peel Region	A taxi voucher program to provide TransHelp customers (specialized transit service) with access to convenient transportation via accessible taxi	\$26,000	\$0.01	\$5.00
Peterborough¹⁵	A conceptual taxi voucher program to incentivize the use of accessible taxis to reduce the overall program cost of Handi-Van (specialized transit service).	\$40,000	\$0.50	\$5.00

¹⁵ Peterborough's taxi voucher costing is a conceptual estimate derived as part of a previous Public Transit Operations Review (2012).

4.6 Stakeholder Engagement – Phase 2

The second phase of stakeholder engagement focused on reviewing the needs and opportunities findings and presenting initial service delivery approaches and service design concepts. A virtual meeting with project stakeholders occurred in April 2023. Feedback from the session was used to refine the service designs into the final versions proposed in Sections 4.2-4.4 above.

4.6.1 Engagement Key Takeaways

The second phase of stakeholder engagement provided the following input into the service designs, which is outlined along with respective responses in Exhibit 4.9 below:

Exhibit 4.9: Stakeholder Comments and Resulting Actions

Type	Comment	Action(s)
General	Discussions with Kingston Transit should be held to understand their capacity to operate commuter public transportation.	Discussions between the project team and Kingston Transit have since been held, which reflect the final recommendations.
General	Transit vehicles not operated by Kingston Transit are not covered within the City’s operating agreement with Cataraqui Centre and therefore cannot access the transfer point.	Near-term alternatives routed to other transfer points on public rights-of-way. Recommended for the City to continue discussions with the mall owner.
Gananoque & East Rural Kingston	The Howe Island ferry runs on-demand, and so an on-request transit stop would be able to serve residents boarding/alighting the ferry.	A flex route option serving the ferry dock was added, and ultimately recommended.
Gananoque & East Rural Kingston	More stops along Highway 2 are needed to adequately serve CFB Kingston.	An additional stop was added.
Loyalist	Service concepts are focused on serving the industrial parks and do not provide service to other areas of the township such as Odessa and Bath.	The final service design was re-worked with the input of Loyalist Township staff to provide service to Bath and Odessa.
Loyalist	Residents of Wilton, a hamlet in Loyalist Township, would not be served by the proposed service concepts.	Wilton’s population size and location provided challenging conditions for transit service provision – a taxi voucher program was recommended.
South Frontenac & North Rural Kingston	The on-demand service concept (Option A) is too large of a service area to effectively complete trips.	The on-demand zone service concept was reduced from approximately 350 sq-km to 150 sq-km.
South Frontenac & North Rural Kingston	The frequency fixed route service concept (Option C) would maximize access to the mosque for religious observances and programming.	Considered in evaluation process.

5 Proposed Service

The proposed commuter public transportation service is comprised of the following preferred alternatives:

- **Gananoque & East Rural Kingston Service Area:** Option B – Flex Route
- **Loyalist Service Area:** Option A – New Rural Routes
- **South Frontenac & North Rural Kingston Service Area:** Option C – “Frequency” Fixed Route

5.1 Commuter Public Transportation Network

The proposed commuter public transportation network would connect major population centres in the study area to Kingston. In addition, Kingston Transit’s 501/502 express routes connect all three transfer points, opening up the possibility of transfers between rural routes. The proposed network characteristics are provided below in Exhibit 5.1, and the route map in Exhibit 5.2. A list of stops for each route are provided in Appendix B

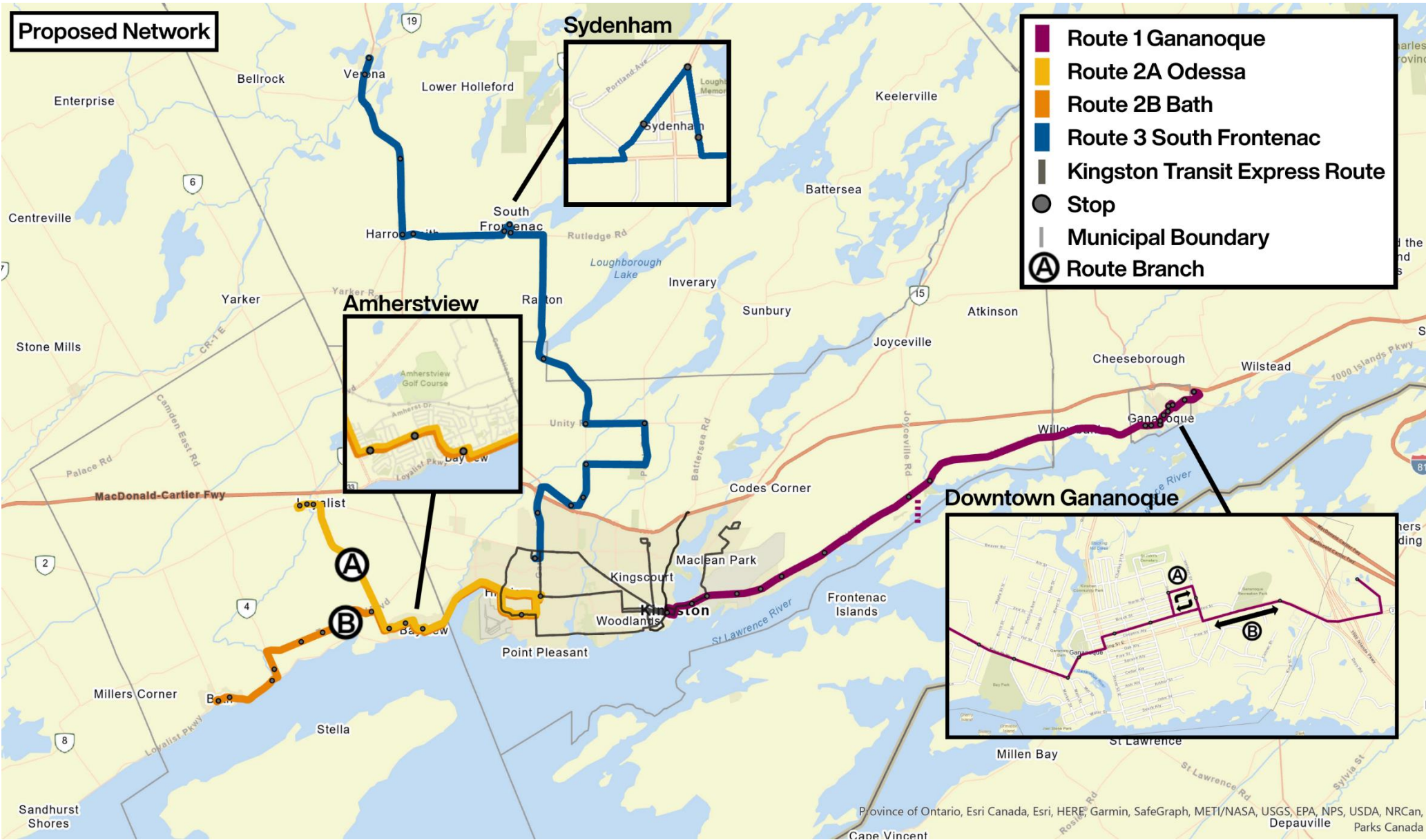
Exhibit 5.1: Network Characteristics

	Proposed Transit Network
Number of routes	4 routes
Daily round trips	Up to 22 round trips
Number of buses	3 buses
Residents within walking distance (500m) of public transportation	23,200 residents
Wider service area population	53,200 residents
Initial annual ridership estimate	23,000-25,000 boardings by Year 5

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Exhibit 5.2: Proposed Commuter Public Transportation Network



5.2 Service Span

The service span would initially provide Monday-Friday service on all three routes. This initial service would allow for weekday access to jobs, recreation, healthcare, and other services. Once the service is established, service span could be expanded to include weekends. The proposed service span is indicated in Exhibit 5.3. These conceptual schedules are based on the current understanding of major employer shift schedules, and may change as needs are better understood.

Exhibit 5.3: Proposed Service Span

	Monday-Friday	Saturday	Sunday
Route 1 Gananoque & East Rural Kingston	6:00AM-TBD ¹⁶	TBD ¹⁴	TBD ¹⁴
Route 2 Loyalist	6:00AM-6:45PM	N/A	N/A
Route 3 South Frontenac & North Rural Kingston	6:00AM-7:15PM	N/A	N/A

5.3 Operating Model

Consideration of which operating model would be most suitable for each route was undertaken in collaboration with Kingston Transit and the City of Kingston staff. Kingston Transit communicated that its resources (labour and fleet) are highly constrained in the near-term, due to labour shortages and a mandate to begin restoring local service to pre-pandemic levels. Therefore, it was determined that **initially, all three routes would be best implemented using a third-party contracted operator.**

Kingston Transit indicated an openness to future discussions regarding responsibility for the operations of the Loyalist (Bath and Odessa) route in the medium-term (2025 or beyond). It is recommended that ongoing discussions are held to determine if and when this arrangement could be implemented if Loyalist Township and the City of Kingston wish to continue

¹⁶ Pending potential contributions from Shorelines Casino to operate evening and weekend service.

service upon the end of the pilot period. It is recognized that in the near-term, Kingston Transit's immediate focus is to restore service to pre-pandemic service levels.

It was also determined that the establishment of a distinct, jointly-managed regional transportation body would initially be a complex and costly undertaking, with a higher degree of financial risk. It is recommended that the benefit and drawbacks of the establishment of such a body are re-examined once comprehensive operating and financial data is available.

5.4 Accessibility and Legislative Requirements

This sub-section outlines the legislative requirements for providing public transportation services and suggests supporting policies for the implementation of the service.

The provision of public transportation in Ontario is guided by various regulations which outline the municipal obligations when providing public transportation service. The main regulations guiding the provision of a public transportation service and their requirements are:

- The **Accessibility for Ontarians with Disabilities Act (AODA)**, 2005, which requires that all public transportation services are compliant with the Act. AODA aims to have a fully accessible province by 2025. To be compliant with the Act, all public transportation services must work to remove barriers from their operations and provide convenient services for all users, including those with disabilities. The legal obligations for a public transportation service operating in the Province are outlined in Ontario Regulation (O. Reg.) 191/11 and include:
 - Providing an alternative accessible method of transportation if the conventional service provided is not accessible and a specialized service is not provided;
 - Providing information on the accessibility equipment and features on their vehicles, routes and services in an accessible format;

- Accessibility training for employees and volunteers;
 - Developing public emergency preparedness and response policies that provide for the safety of all users;
 - Developing equitable fare policies including allowing support persons accompanying a person with a disability to travel for free;
 - Developing accessibility plans that include processes for managing, evaluating and taking action on customer feedback;
 - Ensuring there is clearly marked priority seating on all vehicles;
 - Establishing booking policies that either provide same day service to the extent that it is available or accept booking requests up to three hours before the published end of the service period on the day before the intended day of travel; and,
 - Providing accessible means to accept bookings.
- **Accessible Vehicles Regulation**, 1990 O. Reg. 629 which identifies the features required to ensure a public transit vehicle is accessible;
 - **Ontario’s Canadian Content for Transit Vehicle Procurement Policy**, 2008, requires that all transit vehicles procured with provincial funding must have at least 25% Canadian content. Specialized transit buses are exempted from this requirement and instead the transit operator and entity would apply a 5% price preference to the price for the submission with the highest percentage of Canadian content; and,
 - The **Municipal Freedom of Information and Protection of Privacy Act**, 1990, requires municipalities to protect the privacy of individual’s personal information existing in government records, and gives individuals the right to request access to municipal

government information, including most general records and those containing their personal information.

5.4.1 Actions

It is necessary that the study Partners take the following steps to ensure regulatory and legal compliance when implementing the proposed commuter public transportation service:

- Ensure an alternative accessible method of transportation is provided to riders in the service area;
- Adopt accessibility training procedures for all staff associated with implementing the public transportation service, including those developing marketing and promotional materials;
- Adopt operating policies that are compliant with the O. Reg. 191/11 requirements for fare policies, booking procedures, and communications; and,
- Establish policies and procedures for the monitoring the compliance of the service with the legislative requirements outlined in this report.

5.5 Fare Structure

The following principles were considered when developing a fare structure that would balance financial sustainability, affordability, and social equity:

- Fares should be kept low enough to provide an attractive option for rural residents who may have fewer transportation alternatives available to them;
- The fare structure should be simple and easy to understand;
- Multiple options for fare payment should be provided, but cash fares should always be allowed;
- Bulk fare products such as monthly passes should offer an appealing discount relative to single-use fares to incentivize use of public transportation;

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- Rural commuter public transportation services typically recoup a marginal share (typically less than 20%) of its operating costs from the farebox;
- The cost of fare collection should not exceed revenues from the farebox; and
- What is considered affordable for one rider may not be considered affordable for another.

When acknowledging these principles, the following fare structure is proposed in Exhibit 5.4:

Exhibit 5.4: Proposed Fare Structure

Trip Type	Trip Example (To ↔ From)		General Fare	Concession Fare
Trips crossing a municipal boundary	Gananoque	Downtown Transfer Point	\$10.00	\$8.00
Trips which do not begin or end in Kingston	Verona	Sydenham	\$5.00	\$4.00
Trips within Kingston or existing Kingston Transit service area	Amherstview	Gardiners Town Centre	\$3.25 ¹⁷	Free ¹⁶

Trips within Kingston and the existing Kingston Transit service area would cost the same as a Kingston Transit fare. Trips which do not begin or end in Kingston would cost \$5.00. Trips which begin outside of Kingston and end within Kingston would cost \$10. In addition, a concession fare with a 20% discount would be provided for equity-deserving groups such as seniors, students, and low-income residents.

It is also recommended that “commuter passes” and “monthly passes” are available, with similar percentage discounts to the ones which Kingston Transit offers. These passes would provide unlimited travel on weekdays, or for the full week (if service span is extended), to any destination for a fixed monthly cost.

¹⁷ Equal to existing Kingston Transit fare, subject to change. Concession fare applicable only to children aged 14 and under.

The proposed fare structure has been developed considering costs of comparable transportation options, peer system fare structures, and affordability to the Partners. It is important to review the fare structure periodically to ensure that it continues to adhere to the fundamental principles, as well as ensuring the system remains financially sustainable.

5.6 Fleet Considerations

Based on expected ridership levels, service span, and the geography of the routes, it is recommended to utilize “cutaway” style minibuses. It is expected that three in-service vehicles will be required (plus any spare vehicles required to maintain continuity of service). These vehicles are comparable to those shown in Exhibit 3.2, Exhibit 3.4, and those used by Kingston Access Bus. The seating arrangement would be optimised for a higher seating capacity- comparable vehicles offer room for up to 20 passengers, with flip up seats to accommodate multiple mobility devices.

The service must be accessible to users with mobility devices as it would be the only municipally-led rural public transportation service available in much of the service area. Therefore, the vehicles will need to accommodate users with mobility devices. The vehicles should have a capacity for two or more wheelchairs or mobility devices. A spare vehicle with similar characteristics should be available in the event of capacity constraints on the main vehicle, or for maintenance activities.

The Partners have the option to purchase or lease vehicles for the service or require the contractor to provide vehicles. Due to potential funding availability, it is possible that the Partners could procure vehicles at a minimal expense and provide them to the contractor to operate. While this arrangement would be financially beneficial, it may introduce complexity and contractual risk and should be analysed further before proceeding.

Another option would be to utilize a Kingston Transit bus for the Loyalist routes, as discussed in Section 5.3. Further discussions will be required between Kingston Transit and the Partners to explore possibilities related to this approach, or others (such as Kingston Transit operating and maintaining a minibus owned by the Partners).

6 Business Case Analysis

This section provides a holistic look at the benefits, costs, and key considerations with respect to implementing the proposed service as described in Section 4. To align with provincial guidance, the business case is structured using four different lenses:

- **Strategic Case:** Identifies the project's alignment with relevant plans, policies, and goals at all three levels of government.
- **Economic Case:** Outlines the overall societal value through direct and indirect economic benefits and costs associated with the project.
- **Financial Case:** Quantifies the project's direct capital and operating costs, along with expected revenues and funding sources.
- **Deliverability and Operations Case:** Describes a pathway to project feasibility via an implementation plan which includes procurement, operations, and service monitoring next steps.

The business case assumes full implementation of the proposed routes and participation of all Partners. Any changes to the final service plan could impact the results of the business case.

6.1 Strategic Case

6.1.1 Enhancing Transit Options

The proposed commuter public transportation service will expand transportation access to areas which have never previously had alternative transportation options. This satisfies the respective priorities in the **2019-2022 and 2023-2026 City of Kingston Strategic Priorities** to improve the connectivity of the transit network.

The rural municipalities have investigated and supported the expansion of commuter public transportation in the past. Gananoque conducted a **Transit Feasibility Study** which recommended a route between downtown Kingston and Gananoque in partnership with the casino. This concept was

refined and carried forward within this study, and satisfies the Feasibility Study's original objectives.

The **Loyalist Township 2019-2023 Strategic Plan** highlights “infrastructure” as a strategic priority, which includes enhancements to the local transit system. In addition, Loyalist Township's **Improving Public Transit** report identified a need to introduce transit service in Odessa and expand existing services in Amherstview. The proposed Loyalist routes will connect Bath and Odessa to Amherstview, as well as into Kingston, satisfying these priorities.

6.1.2 Developing Urban and Rural Economies

Rural economic development and access to employment were significant policy drivers for this study. The **Rural Kingston Economic Development Strategy** outlines that public transit service is a key amenity to facilitate rural “Hamlet-led Development” and connect rural growth nodes to urban Kingston. The proposed commuter public transportation services will connect rural communities along Highway 2, Sydenham Road to Kingston Transit transfer points that will open up these areas to a larger labour pool.

The **Eastern Ontario Leadership Council Commuter Strategy** identifies lack of access to cross-boundary transportation as a barrier to employment in the area, and recommends the development of commuter transportation business cases. The proposed commuter public transportation services will fulfill these objectives and allow rural residents to access a significant employment base (and vice versa).

In particular, Loyalist Township is preparing to greatly expand the number of employees working in rural industrial parks, particularly due to the Umicore Battery Plant which will ramp up over the next several years. Lack of transportation was identified as a major barrier to workforce development. Thus, major employers have indicated they are willing to work with the Township to provide transportation options to their workforce.

6.1.3 Building Age-Friendly and Equitable Communities

Rural public transportation is a key driver in the development of communities which are both age-friendly and equitable. This includes the

significant benefit of connecting residents to healthcare and social services. A US research study found that the avoidance of missed medical appointments by providing reliable rural transportation provides the highest quantifiable economic benefit of any socioeconomic factor studied (estimated at \$733 million USD annually, or \$713 USD per round trip).¹⁸

All of the Partners have a share of senior residents greater than the provincial average, as shown in Section 2.2.2. This need is particularly great for Gananoque, and was noted in stakeholder and public consultation. The **Gananoque Age-Friendly Action Plan 2022-2031** clearly establishes the creation of a new daily public transportation link between Gananoque and Kingston as one of its key priorities.

In addition, a lack of parking at the major hospitals in Kingston makes access a challenge for both patients and employees. This was noted by Kingston Health Sciences Centre during stakeholder engagement. The proposed commuter public transportation services will allow residents within the study area to reliably access medical and social services within Kingston.

The **South Frontenac 2040 Policy Directions Report** recommended the development of transit-supportive communities to increase the future potential of rural public transportation services. Stakeholder input in the report included strong support for rural public transportation as an age-friendly community initiative.

6.1.4 Advancing Climate Action

In 2019, the City of Kingston was the first municipality in Ontario to declare a climate emergency. Therefore, it is worth noting that public transportation can be an effective tool in the reduction of carbon emissions and particulate matter associated with automobile usage. The **Kingston Climate Leadership Plan** includes a relevant objective to “encourage a shift to sustainable modes and a reduced reliance on personal vehicle use”. It also references previous plans which target a 15% transit mode share by 2034.

¹⁸ Godavarthy, Ranjit, Jeremy Mattson, and Elvis Ndembe. “Cost-Benefit Analysis of Rural and Small Urban Transit.” National Center for Transit Research, July 2014. <https://www.nctr.usf.edu/wp-content/uploads/2015/01/77060-NCTR-NDSU03-508.pdf>.

The **ResiLienT Loyalist Township Climate Action Plan** targets a 5% transit mode share by 2030, and encourages the implementation of “a transit plan which will meet the needs of urban and rural communities”. The Loyalist routes will connect Bath and Odessa to Amherstview and Kingston, reducing the number of trips currently made by automobile and expanding transportation access in rural areas.

The **Canada 2030 Emission Reduction Plan** is the guiding document for the federal government’s overarching climate action initiatives. It highlights that transportation is the second-highest emitter federally and the Plan targets an 40% reduction in total emissions from 2005 levels. The Plan states, “Public transit systems contribute to the decarbonization of the transportation sector by encouraging modal shift, combatting congestion, and reducing reliance on personal vehicles.”

As proposed, the commuter public transportation system is not projected to reduce carbon emissions within the first five years of operation. However, climate action and emission reduction benefits may be better realized in the future as ridership grows and/or zero-emission buses are procured to operate along the routes.

6.1.5 Supporting Seasonal Tourism and Recreation

Another major driver of rural public transportation service is improving access to seasonal tourism, particular in Gananoque. Gananoque is a popular destination from Kingston, where tourists enjoy the 1000 Islands cruises, visit Shorelines Casino, and explore downtown Gananoque. Public transportation access also allows these employers to source seasonal labour from Kingston. During stakeholder consultation, it was also remarked that Gananoque residents frequently travel to Kingston to access recreation and activities in the city. The proposed Gananoque route would provide up to 6 daily round trips, with additional service possible via operating support from the casino.

The proposed South Frontenac & North Rural Kingston route will also connect residents across the study area to numerous recreational cycling and hiking opportunities in the area, including the Cataraqui Trail and K&P Rail Trail. Many residents mentioned this as a benefit of rural public

transportation during public consultation. The route would run up to 6 round trips to connect to these recreational sites.

6.1.6 Summary

The proposed commuter public transportation services would align with goals and objectives in the following policy documents:

- 2019-2022 Kingston Strategic Plan
- 2023-2026 Kingston Strategic Priorities Implementation Plan
- Rural Kingston Economic Development Strategy
- Kingston Climate Leadership Plan
- Gananoque Transit Feasibility Study
- Gananoque Age-Friendly Action Plan 2022-2031
- Loyalist Township 2019-2023 Strategic Plan
- Loyalist Township “Improving Public Transit” Staff Report
- ResiLient Loyalist Township Climate Action Plan
- South Frontenac 2040 Policy Directions
- Eastern Ontario Leadership Council Commuter Strategy
- Canada 2030 Emission Reduction Plan

In addition to these policy documents, the proposed services would also fulfill commitments and objectives outlined in other plans and reports.

6.2 Economic Case

6.2.1 Number of Residents Served

The proposed commuter public transportation service would provide significant economic benefits to the communities located in the vicinity of its four routes. The service would put new public transportation service within **walking distance of over 23,000 residents**, connecting them with daily weekday service to Kingston

and other rural communities. The total **service area population of over 53,000 residents** would be able to access the commuter public transportation service via connecting community transportation service, drop-offs, and potential park & rides.

6.2.2 Number of Jobs Served

Commuter public transportation will be an essential economic development tool for both Kingston and its rural partners. Manufacturers in Kingston have indicated they expect **750 new jobs over the next three years**, while existing roles are already going unfilled. This is in addition to even higher job growth expected across the broader Kingston economy. Access to commuter public transportation will overcome existing transportation barriers to connect the rural labour force to these employment opportunities.

Major rural employers such as Umicore, Cardinal Health, Latham Pools, Direct Coil and Alstom will be able to tap into an expanded labour pool via the enhanced rural transportation network. These **major employers will provide over 1,000 rural manufacturing jobs by 2025** to urban Kingston and rural residents.

6.2.3 Ridership Projections

Ridership on the proposed commuter public transportation service is projected to reach **23,000-25,000 annual boardings** by Year 5. This projection was based on the service area population, growth projections, performance of peer services, and unique considerations such as historical casino shuttle ridership.

6.2.4 Mode Shift

Weighing both academic research and the results of the public survey with respect to access to alternative transportation options, it is expected that 65% of commuter public transportation trips would have otherwise been taken using an automobile. This equates to up to **16,000 automobile trips per year diverted onto public transportation**, contributing to reduction in traffic congestion.

6.2.5 Health Benefits

An often-overlooked benefit of public transportation is encouragement of healthy lifestyles via the active travel (walking/cycling) required to reach the bus stop from the trip origin and destination. Based on average travel distances to/from bus stops, is estimated that riders will make up to **an additional 13,000 kilometres of active travel every year**, providing physical activity and promoting better health outcomes.

Another consideration with respect to improving health outcomes is connecting rural residents to healthcare appointments. Missed appointments are a significant financial and operational drain on the healthcare system, and appointments for vulnerable patients are often missed due to transportation barriers. The commuter public transportation service will also better connect rural residents to local communities, promote social inclusion, and improve the independence of seniors, all of which lead to tangible, but difficult to monetize, socioeconomic benefits.

6.3 Financial Case

The Financial Case considers only direct cash flows – revenues and costs. The Financial Case assumed full participation of the Partners, and changes to the final service plan could affect actual revenues and costs.

6.3.1 Project Revenues

The primary source of revenue is from the farebox. Fare revenue was estimated by applying the fare structure in Exhibit 5.4 to the ridership estimate, by expected fare distribution. Additionally, advertising revenue is expected to be a minor secondary revenue source. The projected revenues for each route are provided in Exhibit 6.1:

Exhibit 6.1: Annual Project Revenues

Benefit	Fare Revenue in Year 5 (\$)		Advertising Revenue (\$)
	Low Scenario	High Scenario	
Route 1 Gananoque & East Rural Kingston	\$48,000	\$53,000	\$1,500
Route 2 Loyalist	\$82,000	\$88,000	\$1,500

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Route 3 South Frontenac & North Rural Kingston	\$37,000	\$41,000	\$1,500
Total	\$167,000	\$181,000	\$4,500

6.3.2 Project Operating Costs

The costs of operating the service are broken down as follows:

- **Operating contract:** The most significant expense, this cost is the payment to the service provider to operate the service.
- **Dedicated staff:** While operations will be handled by the service provider, an in-house transit coordinator will be required to handle activities such as marketing, customer service, reporting, service changes, and long-term planning. This role is estimated at 0.5 FTE (full-time equivalent).
- **Marketing and communications:** To ensure the success of the service, funding must be dedicated towards promoting use of the service. This cost includes printing marketing materials, buying advertisements and maintaining an updated website, and is expected to decrease once the service is established.
- **Taxi voucher program:** As discussed in Section 4.5,
- subsidized taxi vouchers would provide supplementary transportation access in areas which do not have the population densities to support public transportation service. This cost is not allocated equally between routes, so it is only provided for the total system financial case.
- **Parallel specialized transportation contract:** To fulfill AODA requirements, accessible transit service is proposed to be provided via a contract with a local accessible taxi service.

The costs vary by year, so are detailed in the following sections.

6.3.3 Funding Source Assumptions

Section 6.4.6 below outlines all potential capital and operating funding sources. For the purposes of the Financial Case, it is assumed that the

Provincial Gas Tax is the only funding source provided. Kingston and Loyalist are already allocated Gas Tax funding for public transit, and therefore they are excluded from the funding allocation calculation. It is important to note that the remaining municipalities of Gananoque and South Frontenac are only eligible for Gas Tax funding if they commit to sustained operation of commuter public transportation– a pilot project would not qualify.

6.3.4 Route 1 Gananoque & East Rural Kingston

The Financial Case for Route 1 is provided in Exhibit 6.2 below:

Exhibit 6.2: Route 1 Gananoque & East Rural Kingston Financial Case

Item	Plan Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Revenue Hours	2,900	2,900	2,900	2,900	2,900
Annual Ridership	2,900	4,400	5,900	6,000	6,100
Revenue					
Fare Revenue	\$24,000	\$37,000	\$49,000	\$50,000	\$51,000
Advertising Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Total Revenues	\$26,000	\$39,000	\$51,000	\$52,000	\$53,000
Capital and Operating Costs					
Operating Contract	\$268,000	\$273,000	\$278,000	\$284,000	\$290,000
Marketing and Communications	\$7,000	\$3,000	\$3,000	\$3,000	\$3,000
Dedicated Transit Coordinator (0.5 FTE)	\$14,000	\$14,000	\$14,000	\$15,000	\$15,000
Parallel Specialized Transit Contract	\$4,000	\$6,000	\$8,000	\$8,000	\$8,000
Total Expenses	\$293,000	\$296,000	\$303,000	\$310,000	\$316,000
Cost Recovery Ratio	0.09	0.13	0.17	0.17	0.17

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6.3.5 Route 2 Loyalist

The Financial Case for Route 2 is provided in Exhibit 6.3 below:

Exhibit 6.3: Route 2 Loyalist Financial Case

Item	Plan Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Revenue Hours	3,300	3,300	3,300	3,300	3,300
Annual Ridership	6,300	9,600	12,900	13,000	13,100
Revenue					
Fare Revenue	\$41,000	\$62,000	\$84,000	\$85,000	\$85,000
Advertising Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Total Revenues	\$43,000	\$64,000	\$86,000	\$87,000	\$87,000
Capital and Operating Costs					
Operating Contract	\$304,000	\$310,000	\$316,000	\$322,000	\$328,000
Marketing and Communications	\$7,000	\$3,000	\$3,000	\$3,000	\$3,000
Dedicated Transit Coordinator (0.5 FTE)	\$14,000	\$14,000	\$14,000	\$15,000	\$15,000
Parallel Specialized Transit Contract	\$4,000	\$6,000	\$8,000	\$8,000	\$8,000
Total Expenses	\$329,000	\$333,000	\$341,000	\$348,000	\$354,000
Cost Recovery Ratio	0.13	0.19	0.25	0.25	0.25

6.3.6 Route 3 South Frontenac & North Rural Kingston

The Financial Case for Route 3 is provided in Exhibit 6.4 below:

Exhibit 6.4: Route 3 South Frontenac & North Rural Kingston Financial Case

Item	Plan Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Revenue Hours	3,400	3,400	3,400	3,400	3,400
Annual Ridership	2,400	3,600	4,900	5,000	5,100
Revenue					
Fare Revenue	\$18,000	\$28,000	\$37,000	\$38,000	\$38,000
Advertising Revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Total Revenues	\$20,000	\$29,000	\$39,000	\$40,000	\$40,000
Capital and Operating Costs					
Operating Contract	\$316,000	\$323,000	\$329,000	\$336,000	\$343,000
Marketing and Communications	\$7,000	\$3,000	\$3,000	\$3,000	\$3,000
Dedicated Transit Coordinator (0.5 FTE)	\$14,000	\$14,000	\$14,000	\$15,000	\$15,000
Parallel Specialized Transit Contract	\$4,000	\$6,000	\$8,000	\$8,000	\$8,000
Total Expenses	\$341,000	\$346,000	\$354,000	\$362,000	\$369,000
Cost Recovery Ratio	0.06	0.09	0.11	0.11	0.11

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6.3.7 Total Financial Impact

The Financial Case for the full system is provided in Exhibit 6.5 below:

Exhibit 6.5: Overall Financial Case

Item	Plan Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Revenue Hours	9,500	9,500	9,500	9,500	9,500
Annual Ridership	12,000	17,000	24,000	24,000	24,000
Revenue					
Fare Revenue	\$83,000	\$127,000	\$171,000	\$172,000	\$174,000
Advertising Revenue	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total Revenues	\$88,000	\$132,000	\$176,000	\$177,000	\$179,000
Capital and Operating Costs					
Operating Contract	\$889,000	\$906,000	\$924,000	\$942,000	\$961,000
Marketing and Communications	\$20,000	\$10,000	\$10,000	\$10,000	\$10,000
Dedicated Transit Coordinator (0.5 FTE)	\$42,000	\$43,000	\$43,000	\$44,000	\$45,000
Taxi Voucher Program	\$13,000	\$19,000	\$25,000	\$25,000	\$25,000
Parallel Specialized Transit Contract	\$13,000	\$19,000	\$25,000	\$25,000	\$25,000
Total Expenses	\$977,000	\$997,000	\$1,027,000	\$1,046,000	\$1,066,000
Cost Recovery Ratio	0.09	0.13	0.17	0.17	0.17
Gas Tax Funding ¹	\$219,000	\$224,000	\$228,000	\$231,000	\$233,000
Net Municipal Investment	\$670,000	\$641,000	\$624,000	\$638,000	\$653,000
Net Investment Per Capita	\$3.80	\$3.60	\$3.47	\$3.51	\$3.55
2. Available in year one with a pro-rated contribution; amount to be confirmed					

6.4 Deliverability and Operations Case

6.4.1 Service Delivery Responsibilities

The proposed operating model, described in Section 5.3, would see an initial operating model where a private third-party contractor would be operating the commuter public transportation service under contract to the Partners. The operator would provide drivers, fleet, and service management. It is recommended that this operator is contracted via a competitive RFP process.

The RFP process also allows respondents to propose “value-added” services that may enhance the operation and delivery of the service. A competitive bid process also ensures that the cost to operate the service reflects market conditions while also providing the flexibility to modify services without incurring high capital costs or to alter the level of service as needed.

The RFP would include a full description of the service to be provided, performance expectations and accountability. The RFP should be developed to be flexible and allow for various service providers to respond.

In recognition of ongoing issues with driver availability, it is recommended that the RFP incentivise the contractor to ensure they have sufficient workforce to operate the service reliably and penalize any service cancellations due to labour shortages.

With a contracted service, the Partners are responsible for oversight of the contract and service as well as some supportive administrative tasks as outlined in the delivery structure below in Exhibit 6.6.

Exhibit 6.6: Recommended Administrative Roles and Responsibilities

Task	Province	Partner Municipalities	Operator
Planning			
Approving a service strategy (including operating model, service levels and coverage areas)		✓	
Developing supporting policies and procedures (e.g. fares, training)		✓	
Marketing and promotion		✓	
Funding			
Gas Tax funding	✓		
Local funding		✓	
Operations and Management			
Scheduling and dispatch			✓
Service delivery			✓
Contract management		✓	
Operations management		✓	✓
Fare collection/fare product distribution			✓
Customer service		✓	✓
Fleet maintenance			✓
Operator training, labour relations			✓

6.4.2 Staff Resource Requirements

Administrative staff resources will be required for the planning, management, and marketing of the service. The main responsibilities of this position will include:

- Administration and monitoring of contracts and operating agreements. This may include periodic inspection of the vehicles used for service;
- Marketing and communications, including preparing and distributing customer information and promotional materials,

- communicating service disruptions, and updating (or coordinating updates to) the website;
- Coordinating the distribution of any fare products (e.g. passes, tickets);
- Responding to customer enquiries and feedback;
- Reconciliation of ridership and revenue – including coordinating the daily collection of fare revenues from the contractor. This task can be incorporated into the operator contract to streamline administrative costs;
- Regularly reviewing and updating supporting policies and procedures as needed;
- Preparing all necessary reports and documentation on the performance of the service for Council updates, the Ministry of Transportation (MTO), the Canadian Urban Transit Association (CUTA), and other agencies that request information on the service; and
- Reviewing the eligibility requirements for receiving funding from other levels of government (e.g. Gas Tax) and exploring additional funding options as required.

At this time, it is recommended that this staff resource is situated within City of Kingston Transportation Services or Kingston Transit, to better promote integration with Kingston Transit and support regional initiatives. This is subject to further discussion between the Partners.

6.4.3 Marketing and Communications

A marketing and communications plan is integral to raising awareness of a future commuter public transportation service. Increasing awareness can be particularly challenging because the relatively infrequent service and lack of physical infrastructure make them less visible than urban fixed route services.

A simple way to make the service more visible is by developing recognizable branding. The purpose of branding is to develop an image of the service to potential users. It involves two key considerations:

- a brand message, which should convey the vision, goals and objectives of the services; and
- a visual identity, which makes the service recognizable and confirms its authenticity.

The brand message is communicated to users through their experience of the service (i.e. in the day-to-day operation) and influences their perception of the system. The vision, goals and objectives of the service should be communicated internally so that all staff are aware of them, and the actions being taken toward meeting them. The visual identity should be applied to all the materials used for the service, including vehicle livery, marketing materials, and online communications.

For the launch of the service, branding should be paired with targeted marketing to make people more aware of the service. Targeted marketing can take two main forms: community-based marketing, and media advisories or paid advertising. Community based marketing would primarily involve communicating with existing services that work with the demographic groups that would benefit most from the service, such as seniors and low-income residents. This is a more engaged form of promotion, and requires on-going two-way communication with community groups.

In addition to communicating through existing service providers, it will be important for the service to be promoted at community events, such as festivals and farmers markets. Media advisories and paid advertising (including targeted social media advertising) can be a one-time undertaking to promote the launch of the service.

Following the launch of the service, it is important to communicate information about the service on an on-going basis to help grow ridership. The following tasks are recommended as part of the marketing and communications plan:

- **Develop customer information materials** including a website and a transportation service brochure. These will incorporate all of the essential information about the service, such as hours of

operations, coverage area, fare structure and where to purchase fare media.

- **Website:** The website should also include a trip booking form, contact information, service policies, a feedback form and rider alerts. It should be promoted on the service’s website landing page, as well as on the local municipalities’ websites.
- **Print brochure:** The brochure should be available on the vehicle, at service agencies and retailers, municipal offices and other municipal facilities, and should feature the visual brand.
- **Digital trip planning:** To improve ease of trip planning for customers, especially those connecting to other services, it is recommended that the service develops a General Transit Feed Specification (GTFS) feed. A GTFS feed contains the operating data which allows trip planning services such as Google Maps to “see” the routes and schedules and integrate them into its trip planning algorithms.
- **Establish a customer information line** for feedback. This should be a dedicated telephone number for customer information that is coordinated by the contractor and staffed during the regular business hours. An email address or comment form on the website can also be provided for the same purpose.
- **Update participating Councils regularly** regarding the performance of the transportation service and any other relevant occurrences.
- **Create special promotion days** that allow people to try the service for special fares or to community-wide events. This could include targeted outreach to senior care centres, schools, or social services.
- **Maintain regular community involvement** to promote the benefits of a public transportation system and communicate service changes or disruptions. This can include regular communication with community agencies, and the media.

Financial and administrative resources will be required to support and implement the marketing and communications plan. The main cost will be developing the branding of the service, which will require retaining the services of branding professionals if none are available between the Partners. The typical cost to develop a brand for this purpose and scale is approximately \$10,000. In addition to the branding, a special promotional budget of \$10,000 should be established for the launch of the service, including development and distribution of promotional materials. In terms of staffing resources, there should be expected to be high volumes of customer enquiries with the launch of the service, and for the first few months of service.

An annual budget for on-going promotional activities should be established based on the promotional activities selected (e.g. the special promotion days). The full-time employee will be required to manage and update the marketing and communication plan. This budget can be supplemented by cross-promotional activities with other municipal services, local businesses and community services.

6.4.4 Monitoring and Reporting

On the basis of contracting out the service to a third party, the Partners would be responsible for monitoring the operations and maintenance of the service, as well as reporting on the performance of the service to participating Councils and residents.

The contract for services should outline the information the operator must provide, including usage metrics and public feedback.

Exhibit 6.7 identifies the recommended performance indicators that should be collected to monitor the performance of the system and who should be responsible for collecting it.

The purpose of collecting this data is to identify usage trends, including common destinations, usage peaks, service utilization, and the cost effectiveness of the service. Collection of these metrics is required to qualify for Gas Tax funding. In addition, these metrics are shared by trade associations such as CUTA and the Ontario Public Transit Association (OPTA). It is useful internally for benchmarking the system against peer

communities, monitoring trends, and providing regular Council updates on the service’s performance.

Exhibit 6.7: Recommended Performance Indicators

Recommended Performance Indicators	Collected By
Operating Data	
Revenue Vehicle Kilometres	Operator
Total Vehicle Kilometres	Operator
Revenue Vehicle Hours	Operator
Total Vehicle Hours	Operator
Passenger Data	
Total ridership	Operator
Ridership by stop/route	Operator
Number and nature of complaints	Operator
Operating Expenses	
Administrative costs	Partners
Number of employees (by role)	Partners/Operator
Contract costs	Partners
Maintenance	Operator
Fuel	Operator
Capital Expenses	
Vehicles purchases	Operator
Other capital expenses	Partners
Operating Revenue and Funding Contributions	
Total operating revenue	Partners
Federal contributions	Partners
Provincial contributions	Partners
Municipal contributions	Partners

6.4.5 Implementation Timeline and Prioritization

Prioritization of the routes should be considered carefully, as tendering the entire system as a package may yield economy of scale benefits. As a dueling consideration, Loyalist Township has received funding to pilot a rural transportation service which it must spend by 2025. Therefore, **it is recommended that Loyalist Township proceed imminently with the implementation of their routes** to responsibly make use of available funding. Further, **it is recommended that Loyalist is re-tendered with the other two routes post-2025** when Loyalist's funding agreement expires.

The following implementation actions are outlined in Exhibit 6.8 to guide the Partners from the presentation of this report to Council in Q1 2024, tendering the service, and officially launching the proposed public transportation service. The timeline is conceptual, based on alignment and buy-in from all stakeholders. It is also reported in number of months prior to service initiation, to allow for flexibility in case the service is extended or terminated early.

Exhibit 6.8: Implementation Plan Actions

Actions
Q1 2024
Present report to Kingston City Council
Consult participating Councils and the public on the detailed proposal for commuter public transportation service
Q3 Year 0 (12 months to service launch)
Budget approval of the commuter public transportation service
Pass by-laws at participating Councils to affirm continued financial support, to qualify for Gas Tax funding
Establish implementation date
Development procurement strategy and refine service plan to develop RFP
Prepare RFP and Contract Documents
Council approval for RFP and Contract
Issue RFP: Allow 6-8 weeks for responses
Q1 Year 1 (6 months to service launch)
RFP Closes
Evaluate bids and award contract
Finalize contract with successful bidder
Develop system branding
Q2 Year 1 (3 months to service launch)
Prepare communication and information materials: e.g. website, promotional materials
Targeted marketing: Paid advertising; community-based marketing; promotional efforts to gain publicity
Q3 Year 1 (0 months to service launch)
Launch new public transportation service: Plan promotional events
Ongoing after launch
Monitor performance and report to participating Councils regularly
Provide contract and service oversight
Work with contractor to improve efficiency and consider service enhancements discussed in Section 7.

6.4.6 Funding Sources

Federal and Provincial funding opportunities for public transit projects are outlined below:

Provincial Gas Tax Funding

Ontario's Dedicated Gas Tax Funds for Public Transportation Program (Gas Tax) supports public transit in municipalities across Ontario by providing two cents per litre of Provincial Gas Tax to improve and expand transit. Funding can be used for capital and operating costs for public transit and is prorated if the Partners join the program mid-year. The funding allocation is capped at 75% of the net municipal investment, and is based on 70% ridership and 30% municipal population. If the Partners apply before the service is operational, only the population will be used to determine funding allocation in the first year of operation. **This is a viable funding source.**

It is recommended that the Partners apply for the Provincial Gas Tax program prior to the operation of the future transit service. In order to be eligible for the Gas Tax program, the eligible Partners must adopt a by-law or resolution committing to ongoing financial support of public transit. The by-law or resolution should include the expected municipal contributions that are being committed. In addition, "double dipping" is not allowed, meaning Kingston and Loyalist would not be eligible to receive additional funding beyond their existing allocations. MTO requires ridership data to be collected and reported to CUTA to calculate funding allocations.

Provincial Community Transportation Grant

The Provincial Community Transportation Grant is a funding program to support areas of Ontario that are unserved or underserved by transit services. Municipalities can use the funding to plan, implement and operate public transportation services in their community. The program was initiated with a five-year funding term (2018-2023) and was subsequently extended in 2021 to provide funding until 2025. The program intake has closed, meaning this is **not a viable funding source.**

Given the Province's support for addressing transportation barriers and improving access and availability of transit, there could be an opportunity for the province to extend the program. However, current messaging to

municipalities enrolled in the program suggest that the program is likely to be discontinued in 2025, as planned. Communications from municipalities, such as the Partners, that are considering expanding their rural public transportation systems could help to support or influence the Province's decision.

Federal Rural Transit Solutions Fund

The Federal government's Rural Transit Solutions Fund program is targeting the development of transit solutions in rural, remote, northern and Indigenous communities to improve mobility within and between communities. The fund is available for five years beginning in 2021. Eligible applicants can seek grants of up to \$50,000 in support of project planning; up to \$3 million to cover capital costs (e.g. purchase of a vehicle, digital platforms, bus shelters, sidewalks, etc.); and up to \$5 million to support zero-emission transit solutions (e.g. purchase of a zero-emission vehicle(s)). The Federal contribution, from this program and other programs, is limited at 80% of capital expenses.

The application period for the planning program closed on October 8, 2021, and the capital program intake is now open on a continuous basis until further notice. If capital program intake continues, the fund **may be a viable funding source to fund capital expenditures such as bus shelters, sidewalks, and start-up costs for software (i.e. trip booking or bus tracking).**

Canada Community-Building Fund

Canada Community-Building Fund, previously named the Federal Gas Tax Fund, is a source of infrastructure capital funding for provincial and municipal governments. The funding is distributed from the Federal government to the Province, and then to AMO (Association of Municipalities of Ontario) before being distributed to the municipalities. Municipal allocation is based on population per capita. The Partners were allocated a total of \$9.7 million in 2023. Public transit infrastructure is eligible for funding under this program.

Dependent on the existing and planned allocation of the Partners' funding for 2023 (and beyond), they could recommend allocating a portion of the

funding for any capital investment incurred from a future transit service. As such, this fund is a **viable funding source for capital expenditures**.

Investing in Canada Infrastructure Program (ICIP) – Public Transit Stream

The Public Transit stream of ICIP provides funding for planning and feasibility studies and capital investments in public transit. The program was originally designed to allocate funding based on ridership and population for established transit systems. As part of the COVID-19 Resilience stream, funding eligibility was expanded to include inter-community transit projects that are not connected to an existing transit system. These projects were required to start construction by September 30, 2021. As such, this is **no longer a viable funding source**.

Industry Partnerships

It may be advantageous for major industry partners to support the proposed commuter public transportation service in lieu of funding and operating their own dedicated shuttle services. In particular, Shorelines Casino, CFB Kingston, and Umicore are three major partners who have expressed interest in transit service to their locations. There may also be potential for new Provincial support to fulfill their obligations to major employers to supply a skilled workforce. These options should continue to be explored as **potentially viable funding sources**.

It is recommended that the Partners consider applying for funding under future intakes of the ICIP Public Transit stream if the future commuter public transportation service requires major capital investment.

6.4.7 Cost Sharing

Partner municipalities could consider sharing capital and operating costs using a variety of different approaches used by peer transit systems to ensure fairness.

Niagara Region Transit

Niagara Region Transit (NRT) amalgamated the region’s local transit services in 2023, forming a single system which provides both local and regional services across Niagara Region, including Niagara Falls, St. Catharines, and Welland. For inter-municipal routes, NRT allocates costs

by the municipal share of the total Region-wide property assessment. The property assessment is the assessed value on properties as calculated by the Municipal Property Assessment Corporation. This method factors in property values, therefore considering equity at the municipal level.

Simcoe County LINX

Simcoe County LINX provides regional bus service within Simcoe County, including Barrie, Orillia, and Collingwood. The service is funded primarily via the County's tax levy. This means that municipalities do not pay directly for service, but local residents instead contribute via County taxes. As County taxes are paid by each property, this functionally means that on a per-municipality basis, costs are allocated the same way as NRT, by the municipal share of total County property assessment.

Saugeen Mobility & Regional Transit

Saugeen Mobility & Regional Transit (SMART) is a door-to-door specialized public transit service for residents of 10 municipalities in Bruce County and Grey County. SMART has elected to use the same formula that the Province uses to calculate Gas Tax funding allocation: 70% ridership and 30% population. Functionally, this means that 70% of the total cost is allocated by calculating the number of annual trips made from each participating municipality as a share of the total, and 30% of the cost is allocated based on share of the total service population. This method may be more complicated to apply to a fixed route system where less accurate data regarding stop-level ridership exists.

Loyalist Township

Loyalist already has an existing agreement in place which could be looked at as a model for the sharing of costs for the commuter public transportation service. The agreement stipulates that Loyalist pays Kingston Transit for the entirety of the Route 10 service, including an hourly rate to operate the route and a fixed amount for capital costs. However, Route 10 operates through certain areas of Kingston which are not otherwise served by transit service. To reflect this, Loyalist keeps all fare revenue collected via operation of the route.

Fraser Valley Express

The Fraser Valley Express (FVE) is a commuter bus route to Vancouver operated by the municipalities of Abbotsford and Chilliwack in British Columbia. As per provincial legislation, roughly half of costs are paid for by the Province, with the other half borne by local municipalities. Abbotsford and Chilliwack negotiated an agreement to share costs based on share of the total assessed property value. Based on this formula, Abbotsford pays approximately two-thirds of the total municipal share, with Chilliwack paying the remaining one-third. Notably, Vancouver does not pay for the service.

Additional Cost-Sharing Models

The following additional cost-sharing models were explored for the Partners' consideration:

- Equal cost sharing (25% for each Partner)
- Costs split by number of stops within each municipality
- Costs split based on annual vehicle-kilometres covered within each municipality
- Costs split based on annual ridership within each municipality

Exhibit 6.9: Potential Cost Sharing Scenarios (Illustrative Examples)

Scenario		Kingston			South Frontenac			Loyalist			Gananoque		
		Cost Year 5	Share of Total	Per Capita Cost	Cost in Year 5	Share of Total	Per Capita Cost	Cost Year 5	Share of Total	Per Capita Cost	Cost Year 5	Share of Total	Per Capita Cost
NRT, Simcoe County LINX	Share of assessed property	\$490,000	75%	\$3.70	\$91,000	14%	\$4.51	\$59,000	9%	\$3.29	\$13,000	2%	\$2.42
SMART	70% ridership, 30% population ¹⁹	\$359,000	55%	\$2.71	\$65,000	10%	\$3.63	\$170,000	26%	\$8.46	\$65,000	10%	\$12.08
Loyalist Route 10	Direct payment, largest municipality excluded ²⁰	\$0	0%	\$0.00	\$209,000	32%	\$10.35	\$276,000	42%	\$15.38	\$168,000	26%	\$31.21
FVE	Share of assessed property, largest municipality excluded	\$0	0%	\$0.00	\$366,000	56%	\$18.13	\$229,000	35%	\$12.76	\$65,000	10%	\$12.08
Equal share		\$163,	25%	\$1.23	\$163,	25%	\$8.07	\$163,	25%	\$9.08	\$163,	25%	\$30.28
Split by # of stops		\$266,	41%	\$2.01	\$120,	18%	\$5.97	\$173,	27%	\$9.66	\$93,0	14%	\$17.22
Split by veh-km		\$335,	51%	\$2.53	\$146,	22%	\$7.26	\$139,	21%	\$7.77	\$32,0	5%	\$5.93
Split by ridership		\$298,	46%	\$2.25	\$60,0	9%	\$2.99	\$213,	33%	\$11.90	\$82,0	13%	\$15.19

¹⁹ Approximate calculation based on high-level estimate of trip origin-destination flows

²⁰ Assumes gas tax revenue is allocated to eligible municipalities, proportional to 70% ridership/30% population formula

7 Future Considerations

This section discusses how the service could evolve in the future, and how to best support the growth of the service to meet its goals.

7.1 Service Expansion

In the event that ridership growth, community feedback, or local priorities prompt the need for a longer span of service, the Partners could explore investing additional funds to do so. Based on public consultation feedback, the following times of day should be considered for new service: Weekday evenings, Saturday mid-day, Sunday mid-day, Friday nights, and Saturday nights.

Over time, if ridership exceeds the projections and vehicle capacity becomes strained due to high demand, it is advised to switch to a higher-capacity vehicle before operating increased service.

7.2 Fare Integration

The provision of a truly affordable commuter public transportation service will rely on the implementation of a fare integration agreement with Kingston Transit. This agreement would allow riders on the commuter public transportation service to transfer for free onto Kingston Transit without paying a second fare. Conversations with Kingston Transit regarding the possibility of such an agreement have been optimistic. A fare integration agreement may require transfer payments between the Partners and the City of Kingston depending on expected revenue loss to the City. The City may alternatively forego these payments on the basis that the rural transit service will increase ridership on local Kingston Transit routes and improve ridership, and in turn increase the share of its' Gas Tax funding allocation.

7.3 Park & Ride Opportunities

A key strategy identified by project stakeholders to support ridership growth has been the construction of new Park & Rides. Park & Rides allow riders to drive their car to the lot, park at no cost, and continue their trip on public transportation. This strategy has been successful in urban Kingston, where limited downtown parking availability is an opportunity for transit service.

Partnerships can be sought with municipalities and private property owners of existing under-utilized parking lots to allocate parking spots for park-and-ride purposes. Potential locations for new rural Park & Rides for further consideration and discussion are listed below in Exhibit 7.1. These locations are only conceptual, based on potential need along the routes.

Exhibit 7.1: Potential Park & Ride Locations

Location	Address
Kingston	
Islamic Centre of Kingston	1477 Sydenham Road
Glenburnie	Perth Road & Unity Road
Gananoque	
Municipal parking lot	155 Garden Street
Municipal parking lot	79 Pine Street
Loyalist	
Bath	Church Street, between Loyalist Boulevard and Academy St
South Frontenac	
Sydenham	Rutledge Road & Wheatley Street
Harrowsmith	Harrowsmith Road, east of Road 38
Hartington	Road 38 & Holleford Rd
Verona	Road 38, between Easy Street and Sand Road

Park & Rides should be located either at the end of a route, or at a point where a wide area of adjacent residents unserved by public transportation can conveniently access the lot. If multiple locations for a potential Park &

Ride are available in the same area, it is expected that it will be easier to obtain permission, and be more cost-effective, to use publicly-owned property than private property.

7.4 Stop Infrastructure Upgrades

Initially, it is recommended that rural fixed route stops consist of a signpost with adequate wayfinding that indicates the service, route, and directs riders where to find the schedule. As ridership grows, investments in stop infrastructure should be made at the highest-volume stops. Infrastructure can include a concrete pad, bus shelter, benches, garbage bins, and other amenities to improve the waiting experience. Capital funding sources to implement these improvements are discussed in Section 6.4.6.

7.5 Zero Emission Buses

As a long-term consideration that would require further analysis, the Partners could explore the opportunity to invest in zero emission buses (ZEBs) for the commuter public transportation system. In addition to the Federal Rural Transit Solutions Fund for ZEBs, the Federal Zero Emission Transit Fund is a potential source of capital funding.

ZEBs primarily comprise of two separate technologies: battery-electric buses (BEBs) and hydrogen fuel-cell buses (FCEBs). While FCEBs have superior range, they are hindered by fueling costs, as hydrogen production is highly sensitive to economies of scale and is very expensive in small quantities. BEBs are the more common choice in an urban environment due to relative affordability and ease of implementation, but current BEB range may not be able to accommodate the length of the routes proposed for the commuter public transportation service, especially when factoring in degraded performance in cold weather conditions.

ZEB technology and best practices are quickly evolving, and further study would be required to properly assess if/which ZEB technology would be feasible for the commuter public transportation service presently or in the future.

8 Conclusion and Recommendations

This section provides a summary of the study and presents the recommendations for the initiation and ongoing operation of commuter public transportation service as described in the report.

8.1 Conclusion

8.1.1 The Need for Commuter Public Transportation

This study has determined a strong need for commuter public transportation service in the rural areas within and surrounding Kingston.

The existing policy framework is highly supportive of public transportation on the basis of **economic development, equity and accessibility, age-friendliness, and personal independence**. In addition, federal and provincial policy has driven the availability of funding for certain capital and operating expenses.

Implementation of commuter public transportation can act as a solution to many of the challenges facing **workers, employers, students, seniors, and equity-deserving communities** by removing barriers to transportation and connecting rural residents to services and opportunities.

The proposed commuter public transportation service would **effectively serve commuting travel demand into Kingston** from the participating rural municipalities, particularly South Frontenac and Loyalist. Public transportation will also facilitate essential non-commuting trips, such as for **healthcare, services, along with recreation and tourism**.

With a particular study focus on commuting, it is clear that commuter public transportation can be a solution for ongoing and expected labour pressures. The study area is expected to **add over 1,750 manufacturing jobs over the next three years**, many in rural Loyalist. Kingston can play a key role as both a producer of highly qualified

university and college graduates, and as a major population centre with a significant labour pool.

8.1.2 Service Approach and Design

Based on the expected long distances, vast rural areas, and highly directional travel patterns, a **fixed route service** would be best able to meet transportation needs. This design will provide capacity along major corridors of travel demand and allow for riders to “just show up” at the bus stop without needing to pre-book their trip.

The best operating model for this service is a **third-party contracted operations model**, which would operate the routes using **minibuses** which are able to seat up to 20 passengers.

For areas which face transportation barriers but cannot support public transportation, a **taxi voucher program** is proposed to help vulnerable residents access lifeline transportation service.

8.1.3 Business Case

The results of the business case indicate a strong strategic impetus to begin operating commuter public transportation service. The ability to connect residents to employment, healthcare, social services, and recreation will yield socioeconomic benefits, while also reducing the number of automobiles on the road.

The service as proposed will result in a similar cost recovery ratio to peer transit systems studied, and result in an annual municipal subsidy which is less than \$4.00 per resident within the study area. This equates to a net municipal contribution of \$670,000 in the first year of operations, decreasing to \$653,000 by the fifth year of operations.

8.1.4 Funding Sources

The service can take advantage of available funding sources, such as federal and provincial grants, to fund improvements to the system. The Rural Transit Solutions Fund can be leveraged as a capital funding source for infrastructure, fleet, and software. For operating funding, it is recommended that the Partners apply for provincial Gas Tax funding, which is estimated to cover approximately one-fifth of net operating costs.

8.2 Recommendations

The final study recommendations are divided into three distinct phases, Planning, Implementation and Monitoring, to reflect how the next steps for the commuter public transportation service are grouped.

The following recommendations provide a guide for the Partners to initiate a new commuter public transportation service should the participating Councils decide to endorse the service. These recommendations assume full participation of all Partners involved in the study, but implementation of the service could proceed with whichever municipalities wish to move forwards.

The recommendations provided below are based on the best technical information available at the time of study completion. As work continues towards implementing the service, adjustments may be made to the final service plan based on the new/updated project realities.

8.2.1 Phase 1 – Service Planning

- Consult with project Partners and local stakeholders on the recommended plan and critical success factors. Specific items to confirm with the Partners will include:
 - Organizational structure of the commuter public transportation service and the transit coordinator role
 - Contractual structure with the operator
- Initiate conversations with major rural employers (including Umicore and CFB Kingston) to understand and confirm shift timings in relation to the final route schedules.
- Begin negotiations with Kingston Transit to work towards an integrated fare structure (i.e. free transfers to/from Kingston Transit fare for commuter public transportation riders)
- Hold discussions with all project stakeholders and Primaris to modify the operating agreement for the Cataraqui Centre Transfer Point to allow contracted fleet to use the facility.

- Determine the feasibility of tendering the Loyalist routes as an initial pilot project to responsibly make use of available funding opportunities.
- Pursue a long-term permanent solution for the remaining two routes (South Frontenac & North Rural Kingston and Gananoque & East Rural Kingston).
- Following consultation and budget approval from participating Councils, proceed with the development of an operating RFP for the entire service as outlined in Section 6.4.

8.2.2 Phase 2 – Service Implementation

- Dedicate 0.5 FTE (50% of a full-time staff's time) to be responsible for coordinating day-to-day operations and long-term planning of the commuter public transportation service. This staff resource would manage municipal investment, monitor KPIs, and report to participating Councils/other levels of government. It is recommended that this FTE is situated within the City of Kingston Transportation Services / Kingston Transit.
- Launch a local marketing campaign to grow interest in the service, including social media posts, physical advertising, outreach to stakeholder groups, and pop-ups at local events.
- Supporting policies:
 - Adopt a by-law or resolution committing to ongoing financial support of public transit.
 - Adopt accessibility training procedures for all staff associated with implementing the public transportation service, including those developing marketing and promotional materials.
- Coordinate with the provincial Ministry of Transportation to apply for and obtain Gas Tax funding.

8.2.3 Phase 3 – Service Monitoring

- Provide regular performance reporting to participating Councils, CUTA, OPTA, and other transportation bodies as required.
- Continue discussions with Kingston Transit to determine if/when to transfer operations of the Loyalist routes
- Identify where Park & Rides may be required based on resident feedback and identified ridership patterns
- Implement improved bus stop infrastructure (shelters, benches, concrete pad, etc.) at high ridership stops along the fixed routes, as the capital budget and funding sources allows.

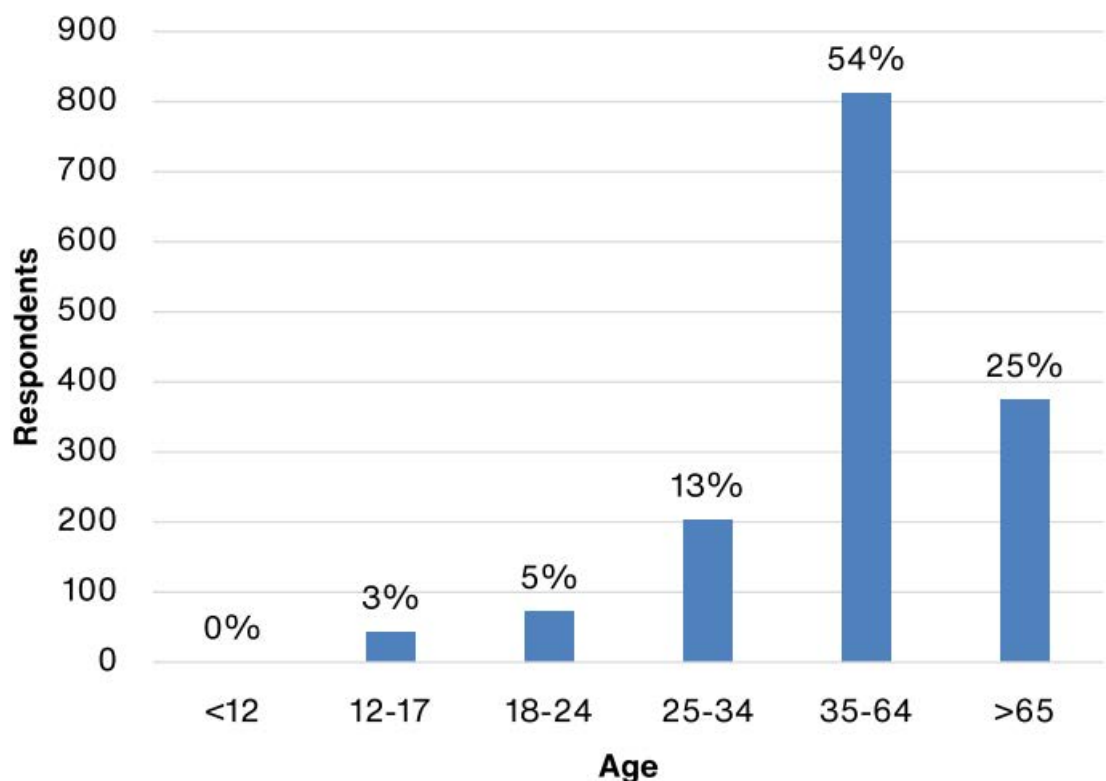
Appendix A – Engagement Summary

Engagement Summary

Respondent Profile

Exhibit A.1 shows the age distribution of respondents. 68% of respondents were of working age (25-64 years old). Census data show that this group is slightly over-represented, making up only 60% of the population. The proportion of seniors is representative, at 25% of respondents versus 25% of population. Youth (12-24 years old) are therefore under-represented, at only 8% of respondents despite making up 14% of residents.

Exhibit A.1: Survey Respondent Age Distribution

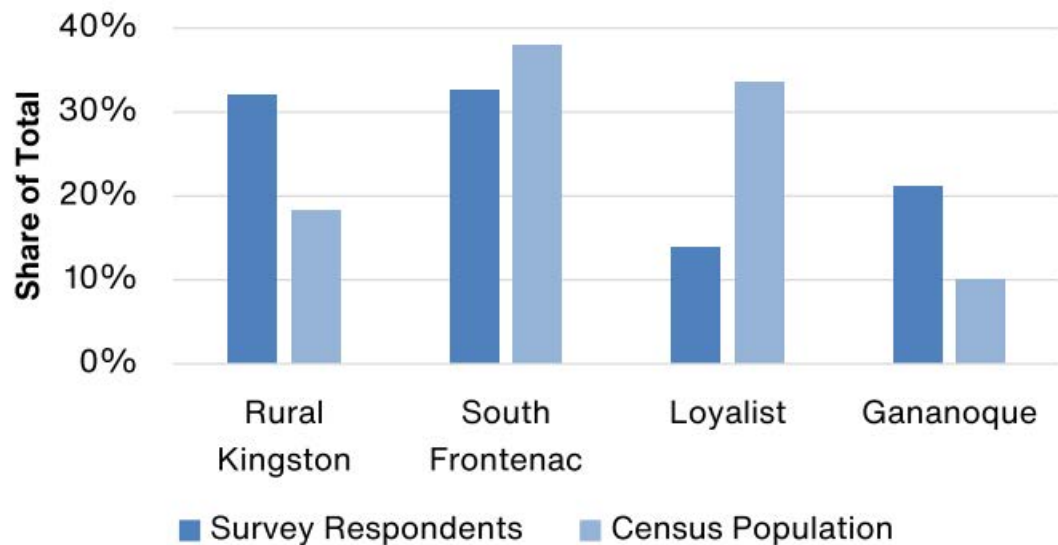


The distribution of respondents over the four municipalities, along with actual population, is provided in Exhibit A.2. Most surveys were collected through the South Frontenac (33%) and Kingston (32%) collector links, followed by Gananoque (21%) and Loyalist (14%). Gananoque was over-represented, at 10% of the study area population. Kingston’s rural areas, with a population of approximately 10,000, were also over-represented,

although this is likely explained by non-rural residents also completing the survey. Loyalist and South Frontenac were under-represented.

Interpretation of these comparisons is limited by the collection approach, where respondents; location was determined by which collector link URL they used. The results could thus be distorted by sharing of collector link across municipal boundaries via word-of-mouth, for example.

Exhibit A.2: Survey Respondent Geographic Distribution



Source: Statistics Canada 2021 Census of Population

Respondents appear generally favourable to public transit. Three-quarters (77%) of respondents have used transit, while 23% have not. An even larger majority is open to using transit, with 90% of respondents reporting they would use transit to travel to or from rural areas surrounding the City of Kingston, if services were available.

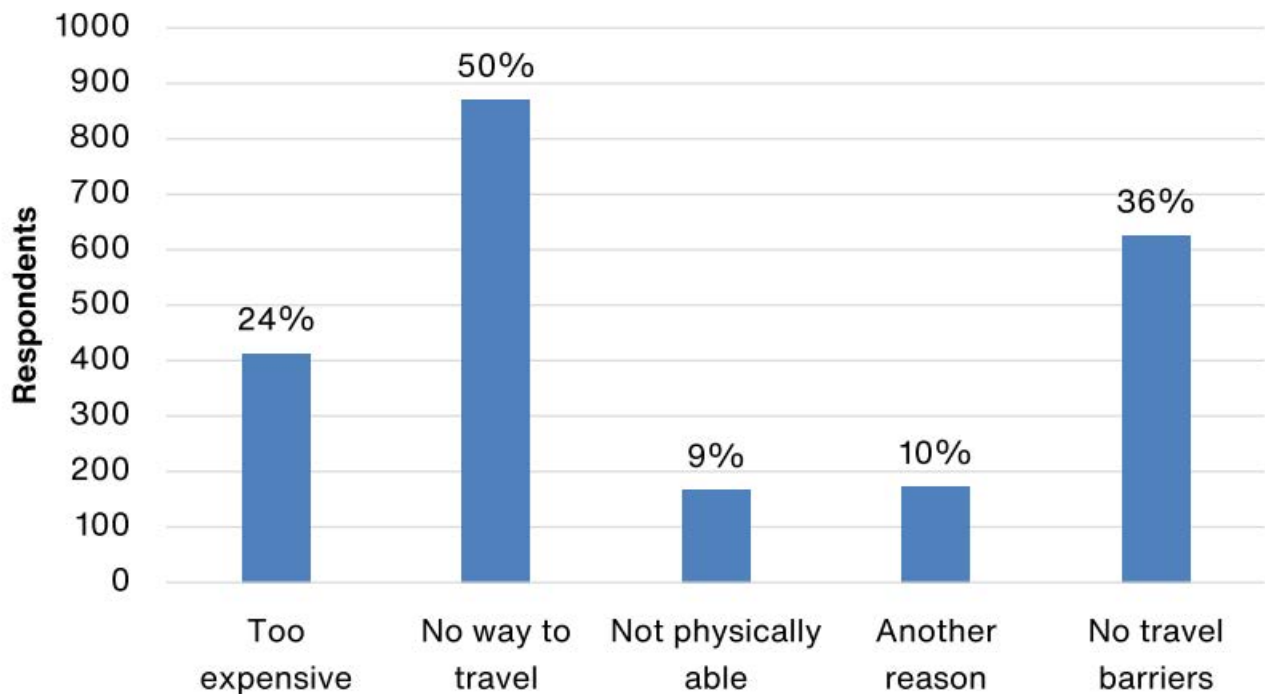
Mobility

Survey participants were asked about their mobility levels, such as their access to a vehicle. 81% of respondents had both a driver’s license and at least occasional access to a vehicle, 5% had a license but no access to a vehicle, and 14% had no license.

Survey participants were asked about barriers they faced to transportation: cost, access, or physical limitations. Exhibit A.3 shows the distribution of

reasons people were unable to travel. The most common barrier was having no way to travel, experienced by almost half of all survey participants. 24% could not afford to travel, while 10% have been physically unable to. One in three respondents (36%) either did not experience any of the suggested barriers or did not complete the question.

Exhibit A.3: Reasons Respondents Were Unable to Travel



Respondents who lack either a driver’s license or vehicle access were much more likely to experience transportation barriers. Over three-quarters (76%) have had no way to travel, 32% have been unable to afford travel, and 17% have found transportation physically inaccessible.

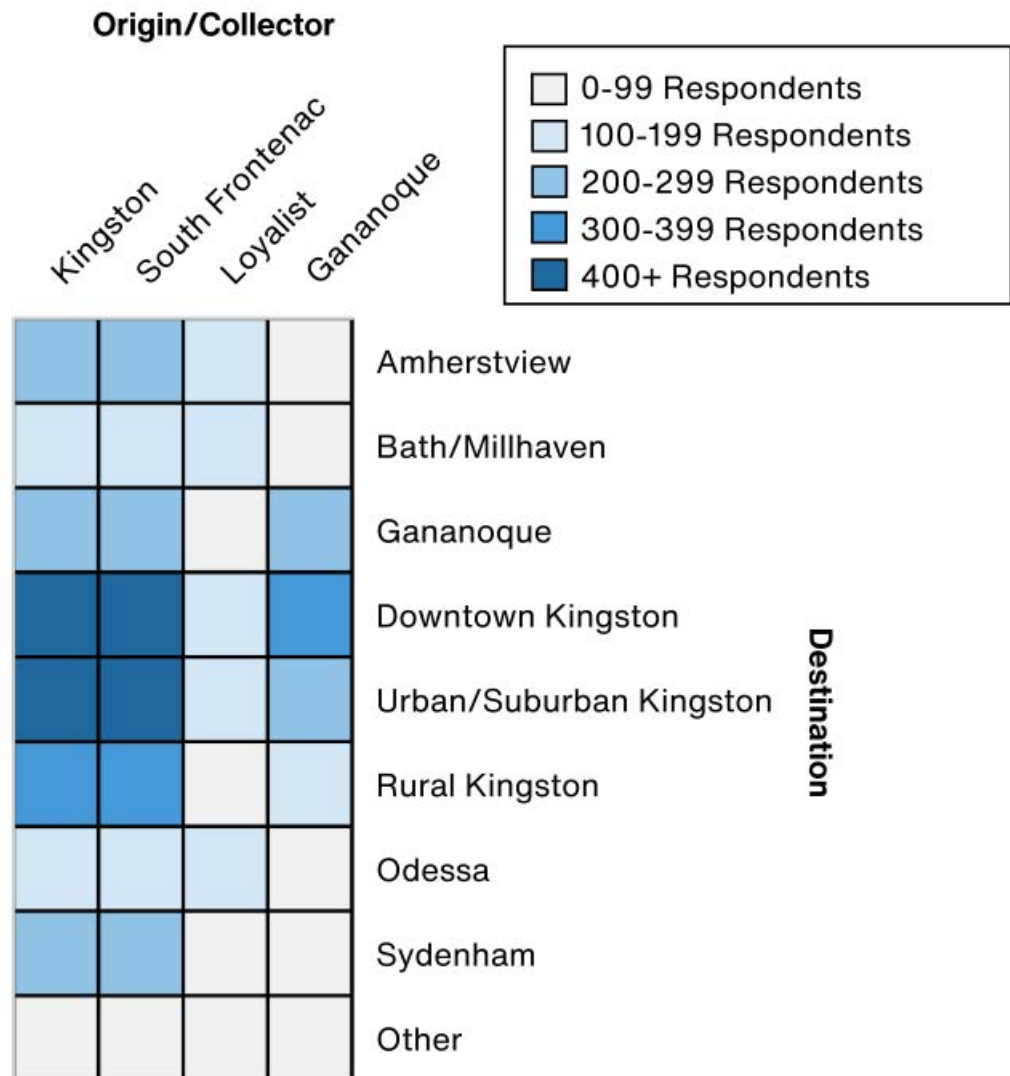
Travel Patterns

Survey participants were asked where and when they usually travel.

Respondents associated with different collection links had different distributions of destinations. Exhibit A.4 shows the destinations respondents reported travelling to in the last year. Regardless of origin, areas in Kingston, especially downtown, were the most common

destination. Within each collector, more respondents travelled to local destinations than further ones.

Exhibit A.4: Destinations by Collector

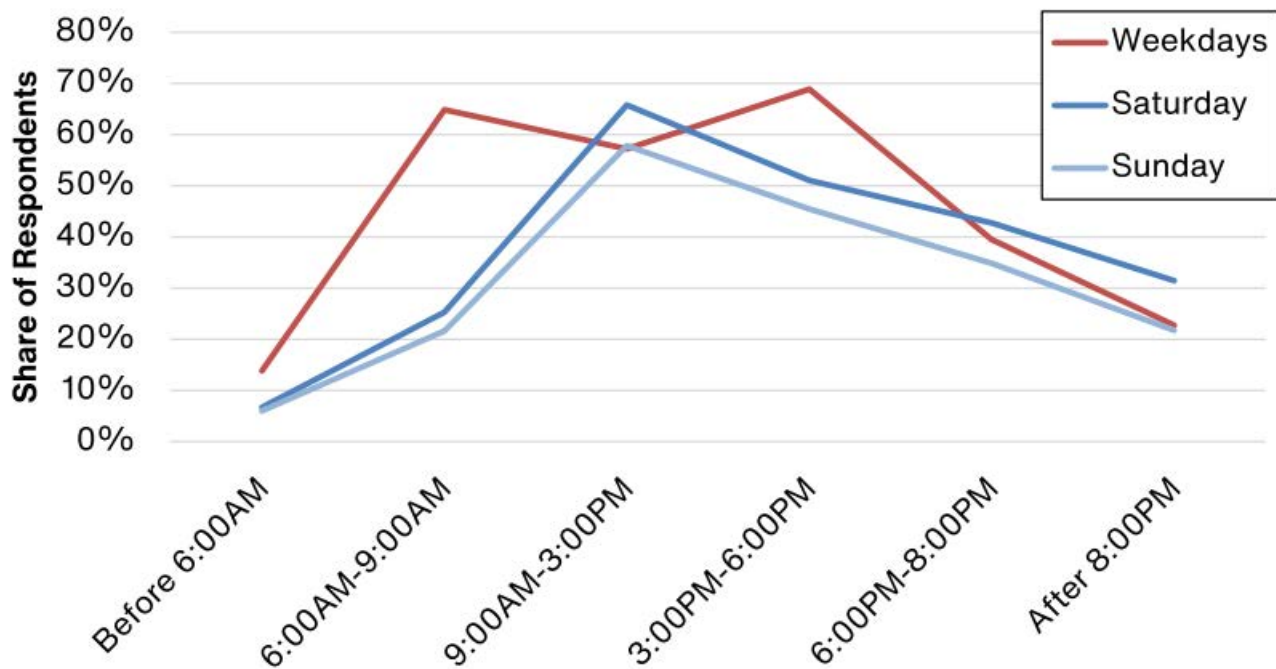


Survey participants were also asked when they usually travelled by any means of transportation. The resulting curve, plotted in Exhibit A.5, shows the highest-demand times to be weekday mornings and early evenings and Saturday mid-day, with 65-69% of respondents travelling during these periods. Mid-day demand is high throughout the week. This distribution changes dramatically when isolating for respondents over or under 65

years of age. More seniors travel on weekdays than Saturdays or Sundays, regardless of time of day. They travel mainly at mid-day (88% weekdays, 51-63% weekends), and have very limited early morning or late evening travel. Respondents under 65 years old had more pronounced weekday peaks (82-83%) but were less likely to travel weekends.

Regardless of age, few respondents travelled at early or late hours: depending on the day of the week, 6-14% of respondents travel before 6AM, and 22-31% travel after 8PM. Saturdays are the most common day for evening travel.

Exhibit A.5: Times of Day Respondents Travel

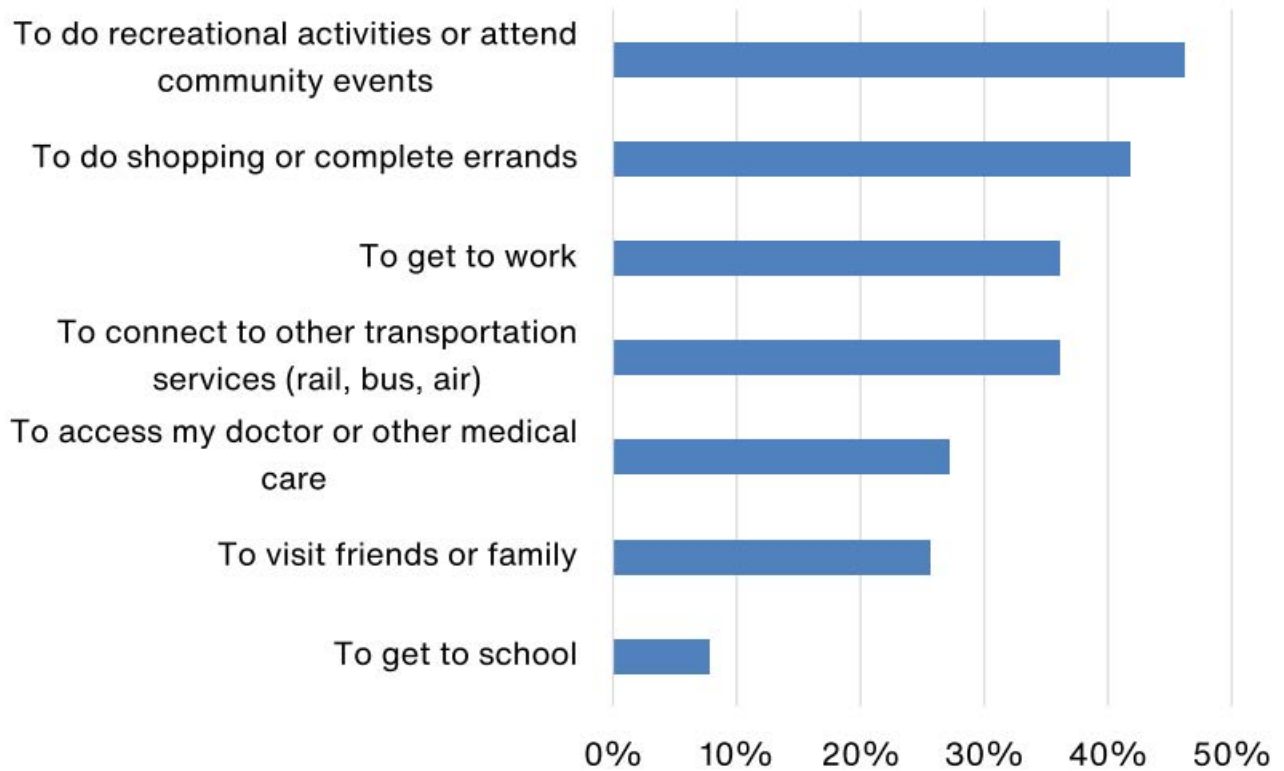


Transit Opinions

Survey participants were asked about the kinds of transit services they would find useful.

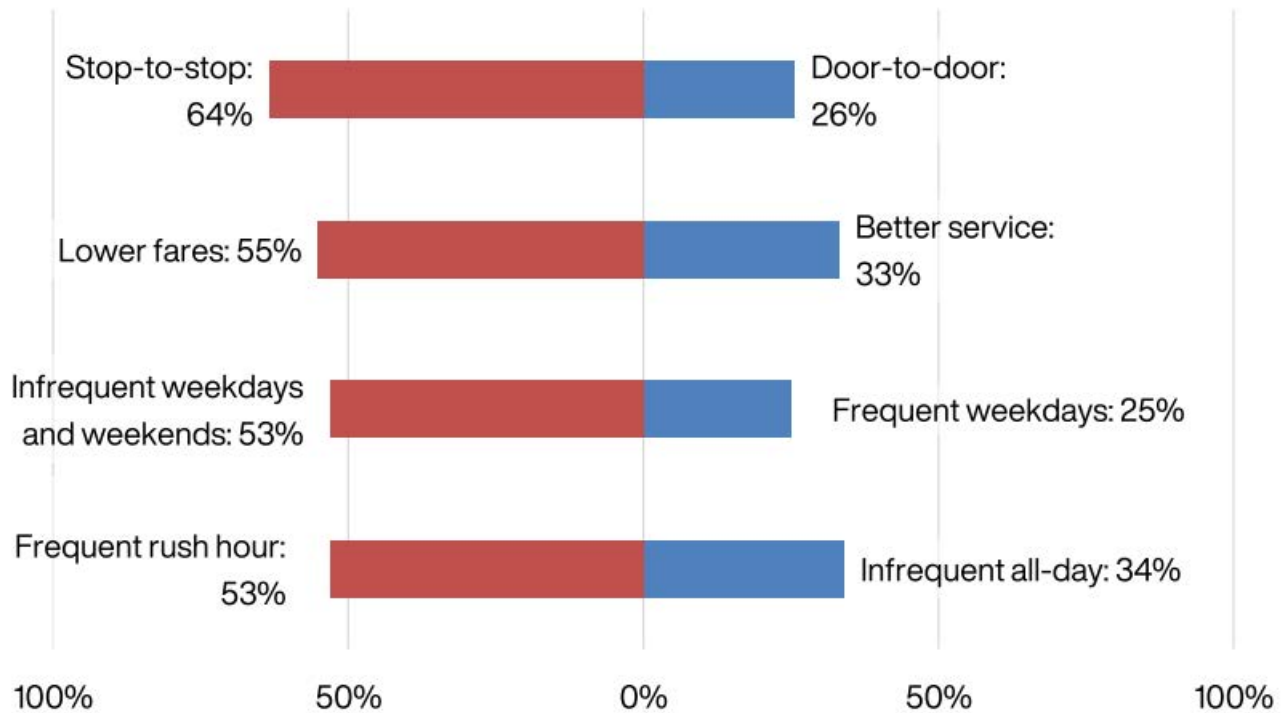
Respondents who indicated they would take transit were asked the top three types of trips they would use it for. The most common purposes, as shown in Exhibit A.6, were to access recreation or community events (46%), to do shopping (42%), to get to work (36%) and to connect to other transportation services (36%).

Exhibit A.6: Predicted Purpose for Transit



Survey participants were asked to decide between alternative transit service approaches, arranged as multiple-choice questions. Exhibit A.7 indicates their preferences; not all options sum to 100% as up to 20% of respondents selected “Neither” for some choices. Though all choices had a clear preference with over 50% of responses, respondents strongly preferred seven-days-a-week service over more frequent weekday-only service, but also showed a slight preference for frequent rush hour over infrequent all-day schedules. Stop-to-stop service was strongly preferred over door-to-door service, by a greater than two-to-one ratio, and lower fares were prioritized over better service.

Exhibit A.7: Preferred Service Approaches



Survey respondents were asked an open-ended question about what they would like to see in a future commuter public transportation service. Respondents were generally supportive, including benefits for specific communities, their needs for public transportation, and challenges it could resolve.

Equity benefits of public transportation services were highlighted, especially youth access to employment and activities, independence for seniors, and rural communities. Services should be designed to work for these groups.

Destinations and places around public transportation services were emphasized. Respondents want services to connect to active transportation networks, especially sidewalks, and to support park & rides. Destinations of interest included medical facilities, work, and recreation, especially rural recreational areas.

Some respondents indicated aspects of their current transportation patterns that they hope public transportation could address, like difficulty finding parking and isolation due to low mobility. Respondents with connections to long-term care commented on challenges accessing these destinations, including resulting difficulty visiting family or volunteering.

Other respondents expressed concerns about adding new services. These included costs to taxpayers, personal and road safety, and traffic impacts.

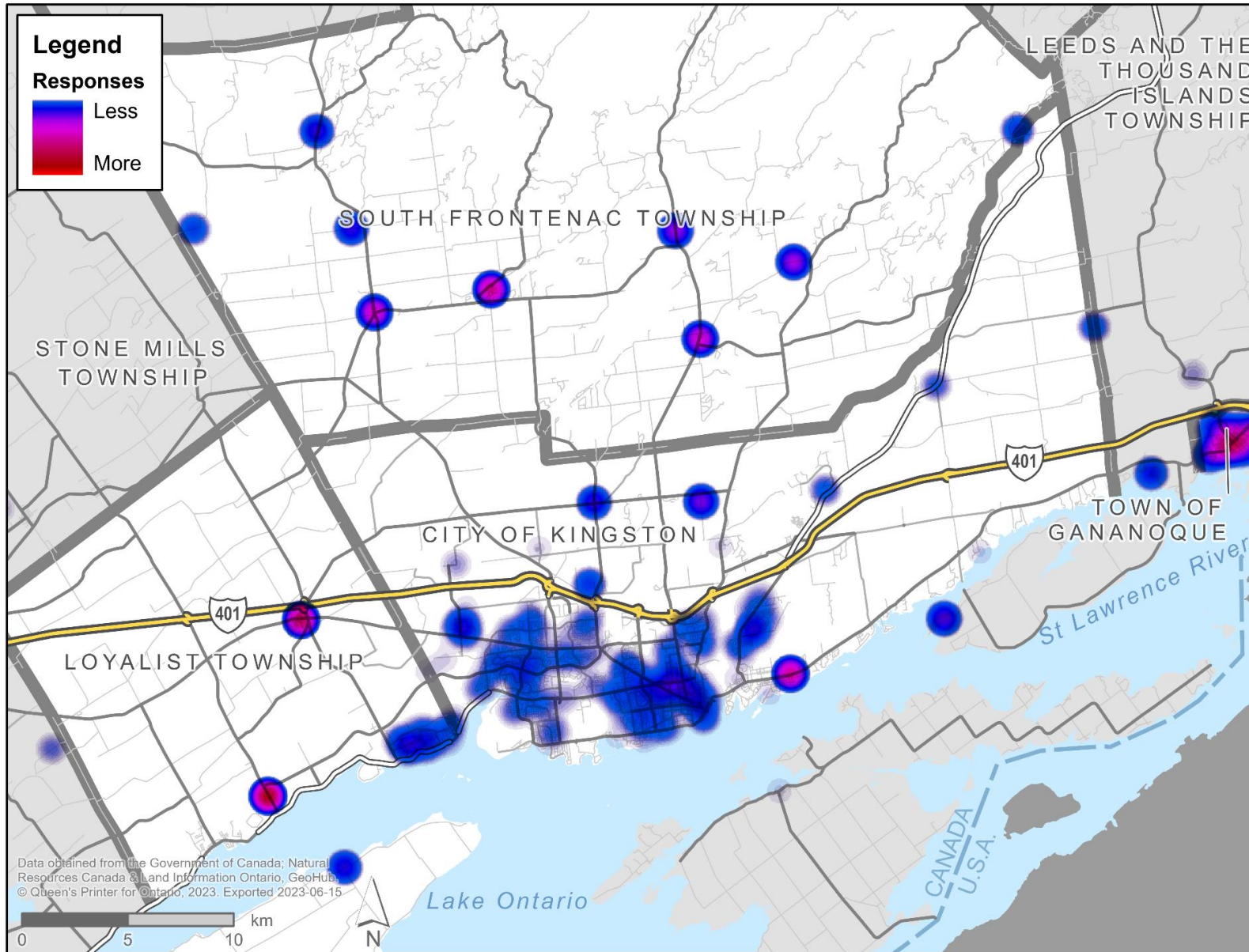
Lastly, anonymized postal code information was obtained to understand where respondents live and work. Exhibit A.8 and A.9 provide a heatmap of the respective home and work postal codes belonging to participating survey respondents.

Due to limitations of the analysis, particularly the size of the geographic areas contained within rural postal codes, the mapping appears to show denser concentration of responses in rural areas than the likely actual distribution of these responses. Therefore, the analysis should be used mainly to identify major areas of employment within Kingston: Downtown, Queen's University, Kingston General Hospital, INVISTA, and St. Lawrence College. Additionally, corridors of employment were noted along Princess Street, Division Street, Bath Road, and northern areas of Gardiners Road.

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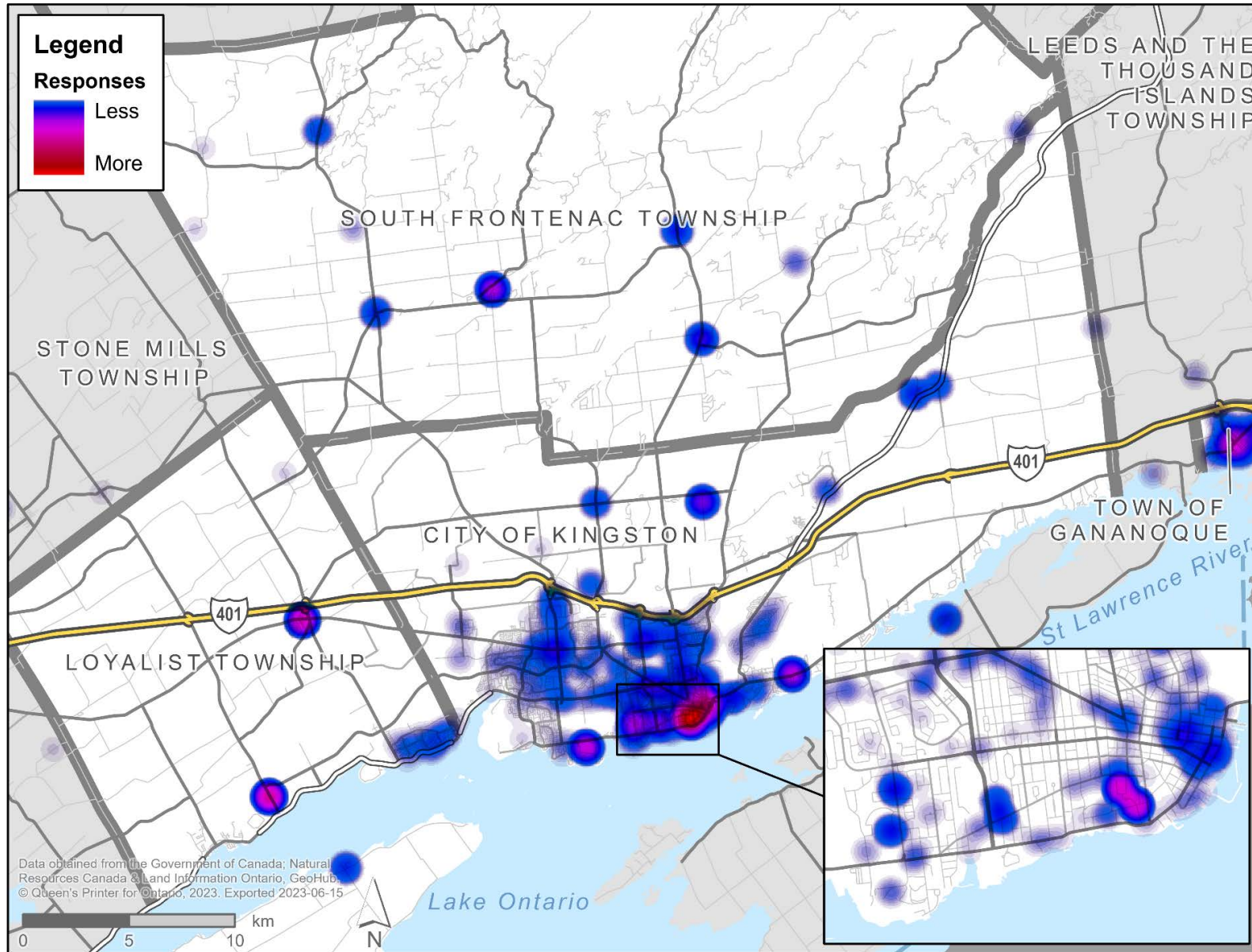
Exhibit A.8: Survey Respondent Location of Residence



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Exhibit A.9: Survey Respondent Place of Work



Appendix B – Conceptual Stop Locations

Conceptual Stop Locations

Route 1 Gananoque & East Rural Kingston

Exhibit B.1: Route 1 Gananoque & East Rural Kingston Stop Locations

Community	Stop	Branch	Stop Type	Point(s) of Interest
Urban Kingston	Downtown Transfer Point		Fixed	Kingston Transit connection
	Highway 2/Verite Ave.		Fixed	Royal Military College of Canada
	Highway 2/Niagara Park		Fixed	CFB Kingston
	Highway 2/Craftsman Blvd.		Fixed	CFB Kingston
Rural Kingston	Highway 2/Gates Blvd.		Flag	
	Highway 2/Faircrest Blvd.		Flag	
	Highway 2/Abbey Dawn Rd.		Flag	
	Highway 2/Joyceville Rd.		Flag	
	2 Howe Island Ferry Rd.		Flex	Howe Island Ferry Dock
	Highway 2/Grass Creek Park		Seasonal	Grass Creek Park
Gananoque	King St. W/Maple St. S		Fixed	
	King St. W/Victoria Ave.		Fixed	
	Main St./Water St.		Seasonal	1000 Islands cruises
	King St. E/Park St.		Seasonal	Gananoque Visitor Centre
	155 Garden St.		Fixed	Potential Park & Ride
	North St./Herbert St.	A	Fixed	Carveth Care, Cardinal Health
	380 Highway 2	B	Fixed	Shorelines Casino

Route 2 Loyalist

Exhibit B.2: Route 2 Loyalist Stop Locations

Community	Stop	Branch	Stop Type	Point(s) of Interest
Kingston	Gardiners Town Centre		Fixed	Kingston Transit connection
	Henderson Blvd./Glen Castle Rd.		Fixed	Kingston Transit connection, Jim Beattie Park & Ride
Amherstview	Sherwood Ave./Manitou Cres.		Fixed	Loyalist Plaza
	Kildare Ave./Kidd Dr.		Fixed	
	Kildare Ave./Pratt Dr.		Fixed	
	Taylor Kidd Blvd./William Henderson Dr.	B	Fixed	Loyalist East Business Park
Millhaven	Taylor Kidd Blvd./Jim Snow Dr.	B	Fixed	Taylor Kidd Industrial Park
	County Road 4/Taylor Kidd Blvd.	B	Fixed	Umicore Battery Plant
	120 County Road 4	B	Fixed	Royal Canadian Legion Branch 623
	5604 Bath Rd.	B	Fixed	Amherst Island Ferry Dock
Bath	Main St./Heritage Dr.	B	Fixed	
	Main St./Church St.	B	Fixed	
Odessa	Main St./Factory St.	A	Fixed	
	Main St./Old Wilton Rd.	A	Fixed	
	50 Main St.	A	Fixed	Ernestown Secondary School

Route 3 South Frontenac & North Rural Kingston

Exhibit B.3: Route 3 South Frontenac & North Rural Kingston Stop Locations

Community	Stop	Stop Type	Point(s) of Interest
Urban Kingston	Cataraqui Centre	Fixed	Kingston Transit connection
	Gardiners Rd./Cataraqui Woods	Fixed	
	Gardiners Rd./Fortune Crs.	Fixed	Cataraqui Estates Business Park, INVISTA Centre
Rural Kingston	Mclvor Rd./Sunnyside Rd.	Fixed	Cataraqui Arena
	1477 Sydenham Rd.	Fixed	Islamic Centre of Kingston
	Sydenham Rd./Unity Rd.	Fixed	Elginburg Public School
	Perth Rd./Unity Rd.	Fixed	Glenburnie Grocery
	Sydenham Rd./Kepler Rd.	Flag	
Sydenham	4295 Stage Coach Rd.	Fixed	South Frontenac Community Services
	Wheatley St./Rutledge Rd.	Fixed	Sydenham High School, Loughbrough Public School
	Wheatley St./Sydenham William St.	Fixed	Township Office, Kingston Frontenac Public Library, Foodland
	Sydenham William St./Brewery St.	Fixed	Royal Canadian Legion Branch 496, Loughbrough Housing Corporation
Harrowsmith	3876 Harrowsmith Rd.	Fixed	Harrowsmith Free Methodist Church, New Leaf Link
	Road 38/Maria St.	Fixed	
Hartington	Road 38/Boyce Rd.	Fixed	Kingston Frontenac Public Library, South Frontenac Museum
Verona	Road 38/Bank St.	Fixed	ServiceOntario
	Road 38/Pine Ridge Dr.	Fixed	Prince Charles Public School

Appendix C – Conceptual Timetables

Conceptual Timetables

The following conceptual timetables are provided for each proposed route.²¹ It should be noted that these timetables were developed to determine high-level service hour requirements and may be subject to modification by the service provider based on evolving traffic conditions and any stop/route changes.

Exhibit C.1: Route 1 Gananoque & East Rural Kingston Eastbound Timetable

Run	1	2	3	4	5	6
Branch	A	B	B	B	B	B
Kingston Downtown Transfer Point	6:00	8:00	10:15	12:15	14:15	16:30
Gananoque Main St./Water St.	6:42	8:43	10:57	12:57	14:57	17:12
Gananoque Highway 2/Park St.	6:44	8:44	10:59	12:59	14:59	17:14
Gananoque North St./Herbert St.	6:48	8:48	11:03	13:03	15:03	17:18
Gananoque Shorelines Casino		8:52	11:07	13:07	15:07	17:22

Exhibit C.2: Route 1 Gananoque & East Rural Kingston Westbound Timetable

Run	1	2	3	4	5	6
Branch	A	B	B	B	B	B
Gananoque Shorelines Casino		8:52	11:07	13:07	15:07	17:22
Gananoque North St./Herbert St.	6:48	8:56	11:11	13:11	15:11	17:26
Gananoque Highway 2/Park St.	6:52	9:00	11:15	13:15	15:15	17:30
Gananoque Main St./Water St.	6:54	9:02	11:17	13:17	15:17	17:32
Kingston Downtown Transfer Point	7:36	9:45	11:59	13:59	15:59	18:14

²¹ Only timepoints are shown in conceptual schedules.

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Exhibit C.3: Route 2 Loyalist Eastbound Timetable

Run	1	2	3	4	5	6	7	8	9	10
Branch	B	A	B*	A	B*	A	B*	B	A	A
Bath Main St./Church St.	6:55		9:15		12:05		14:15	15:35		
Millhaven Taylor Kidd Blvd./Jim Snow Dr.	7:03		↓		↓		↓	15:43		
Odessa Ernestown Secondary School	↓	8:05	↓	10:25	↓	13:15	14:35	↓	17:15	18:20
Amherstview Loyalist Plaza	7:15	8:22	9:35	10:42	12:25	13:32	14:52	15:55	17:32	18:37
Kingston Gardiners Town Centre	7:27	8:33	9:46	10:53	12:36	13:44	15:03	16:07	17:43	18:48

Exhibit C.4: Route 2 Loyalist Westbound Timetable

Run	1	2	3	4	5	6	7	8	9	10
Branch	B	A	B	A	B	A	B*	B*	A	A
Kingston Gardiners Town Centre	6:10	7:29	8:35	9:46	11:25	12:37	13:45	15:05	16:39	17:44
Amherstview Loyalist Plaza	6:29	7:48	8:54	10:05	11:44	12:56	↓	↓	16:58	18:01
Odessa Ernestown Secondary School	↓	8:05	↓	10:25	↓	13:15	↓	↓	17:15	18:18
Millhaven Taylor Kidd Blvd./Jim Snow Dr.	6:41		↓		↓		↓	15:25		
Bath Main St./Church St.	6:52		9:14		12:04		14:15	15:35		

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Exhibit C.5: Route 3 South Frontenac & North Rural Kingston Southbound Timetable

Run	1	2	3	4	5	6
Verona Prince Charles Public School	6:00	7:45	9:40	12:25	14:40	17:05
Harrowsmith Road 38/Maria St.	↓	7:58	9:53	12:38	14:53	↓
Sydenham Township Office	6:18	8:08	10:03	12:48	15:03	17:23
Glenburnie Perth Rd./Unity Rd.	6:34	8:30	10:25	13:10	15:25	17:39
Kingston Islamic Centre	↓	8:38	10:33	13:18	15:33	↓
Kingston Cataraqui Centre	6:55	8:52	10:45	13:32	15:45	18:00

Exhibit C.6: Route 3 South Frontenac & North Rural Kingston Northbound Timetable

Run	1	2	3	4	5	6
Kingston Cataraqui Centre	6:55	8:52	11:15	13:32	16:15	18:00
Kingston Islamic Centre	↓	↓	11:29	13:46	↓	18:14
Glenburnie Perth Rd./Unity Rd.	↓	↓	11:37	13:54	↓	18:22
Sydenham Township Office	7:25	9:22	11:59	14:16	16:45	18:44
Harrowsmith Road 38/Maria St.	↓	↓	12:09	14:26	↓	18:54
Verona Prince Charles Public School	7:43	9:40	12:22	14:39	17:03	19:07