St. Albans Microtransit Study

Summary Memo

Green Mountain Transit

May, 2023

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Green Mountain Community Network

Microtransit Feasibility Study: Phase II Summary Memo

Executive Summary

This memo was prepared for Green Mountain Transit's (GMT) St. Albans Microtransit Study, which constitutes the second phase (Phase II) of Via's work with GMT. As with Phase I, the Study was performed as a component of the Vermont Public Transportation Association (VPTA) and Vermont Department of Transportation's (VTrans) Statewide Microtransit Study. This study employs the same approach and methodology as Phase I, but considers a separate Study Area.

This analysis documents population demographics, mode share and travel patterns, and travel generators in and around St. Albans. It also examines the performance of current GMT services, considers the strengths and weaknesses of current transportation options in town, and identifies opportunities for improvement and innovation. Building on this analysis, the Study identifies microtransit alternatives to investigate using simulation technology. On the basis of this analysis and simulation work, as well as conversations with GMT, local stakeholders, and Via's experience with similar services around the United States and abroad, two viable service alternatives were identified.

Area Overview and Study Opportunities

St. Albans City is a community of slightly under 7,000 residents in Northwest Vermont. It is surrounded by St. Albans Town, which also has a population of ~7,000 residents. The St. Albans area is located 29 miles north of Burlington, and is 30 minutes driving distance from the City. As the largest City in Franklin County, the St. Albans area attracts trips from smaller towns in the area, particularly from communities to the north.

Green Mountain Transit operates several routes in the St. Albans area, including two locally-focused routes, and commuter routes which provide longer-distance connections to communities including Swanton, Alburgh, Richford, and Burlington. GMT also offers several categories of demand-response service in the area, which have various customer groups and provide trips throughout Chittenden and Franklin Counties.

The Study originally focused on the City and Town of St. Albans. However, input from local stakeholders and a review of travel patterns in the region resulted in an expansion of the Study Area to include the nearby community of Swanton. The Study considered opportunities to improve mobility for residents of the greater St. Albans area by introducing microtransit as well as high-level changes to the local bus route operating in St. Albans. Key findings and opportunities identified in this study include:

- **Microtransit is a suitable supplement to fixed-route service in St. Albans.** Microtransit can improve mobility for residents of St. Albans by working in tandem with existing fixed-route services. Microtransit was not considered as a replacement for commuter routes, and GMT's Route 110 St. Albans Downtown Shuttle provides efficient service along a N/S alignment through the center of the City. But many residents live beyond walking distance of stops, and the route currently operates with a relatively limited frequency of 1 hour. Microtransit can expand transit coverage to residents outside of the City center, and fill gaps for trips which are currently unserved by Route 110.

  To ensure microtransit supplements, rather than competes with fixed-route service, this Study recommends that GMT prevent customers from using microtransit for a trip which could be

otherwise taken on a fixed-route. For example, if a customer attempts to book a trip in downtown St. Albans which could be easily-served by Route 110 *(i.e. there is a stop within short walking distance and a scheduled arrival within a timeframe deemed reasonable by GMT)*, that customer should be referred to Route 110 rather than be allowed to book a microtransit trip.

- **Microtransit can allow GMT to streamline and improve service on Route 110.** Route 110 follows a N/S alignment through town, but makes several diversions to serve destinations outside of the City center. The route also makes on-request deviations to serve customers with mobility limitations, which can make schedules unpredictable for customers. Microtransit can address both of these issues by serving destinations outside of the City's central N/S corridor, and by offering improved accessibility for customers with limitations with direct, curb-to-curb trips. By eliminating scheduled and unscheduled deviations, and streamlining the route's alignment, GMT may be able to double service frequency on Route 110 to 30 minutes (while still using only one bus for service).

- **GMT may consider using microtransit to serve Swanton in addition to St. Albans.** Stakeholder input and a review of travel demand data showed that there is a significant amount of daily travel between Swanton and St. Albans. Accordingly, this Study considered the possibility of using microtransit to cover Swanton, which is located 9 miles (approximately 15 minutes drive) north of central St. Albans. Generally, microtransit services are less efficient at providing intercity trips than local trips. However, because it is unlikely that a frequent bus route between Swanton and St. Albans can be supported, microtransit may be the best option to connect these communities. Simulations indicate GMT can serve Swanton in addition to St. Albans with an additional 1-2 vehicles in service per day.

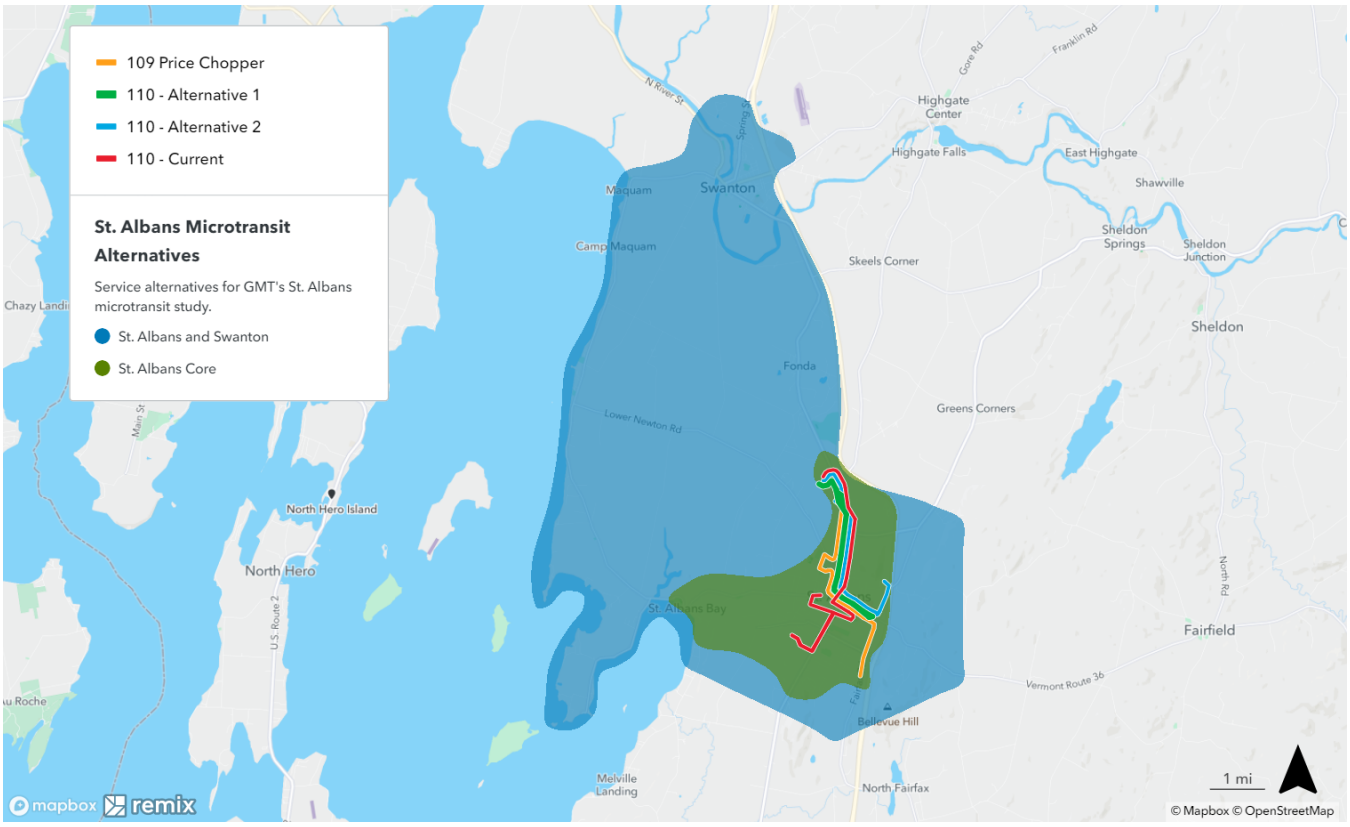
- **GMT should consider commingling demand-response services in the St. Albans area.** Demand-response data provided by GMT showed that currently, around 20-25 trips per day both start and end in the St. Albans area, indicating relatively high demand for intracity trips. Some of these customers may transition to microtransit without prompting, but most are likely to continue using established demand-response programs with which they are familiar. GMT may consider pooling microtransit customers with customers from existing demand-response services, especially if the microtransit system has capacity to deliver additional trips. The demand scenarios investigated in this Study do not include demand from existing demand-response services (i.e. the scenarios are not commingled), but GMT can likely deliver commingled trips more efficiently than treating each program separately. GMT may also consider working with SSTA to deliver commingled trips.

Summary of Results

The Study considered two alternatives for serving St. Albans

1. Service in core areas of town, including St. Albans City and portions of St. Albans town, along with an alternative alignment for Route 110
2. Service in greater St. Albans, including the entire Town of St. Albans and central Swanton

This Study illustrates the cost differences between providing these two services. The Study found that either alternative would offer high-quality service for customers, and recommends that GMT choose an option that fits within its financial constraints.



Alternative	Annual Ridership[1]	Peak Fleet Size	Estimated Annual Cost[2]	Average Productivity[3]
Focused Zone	7,300	2	$620,000	3.5 - 4.5
Larger Zone	9,900	3	$884,000	3.0 - 4.0

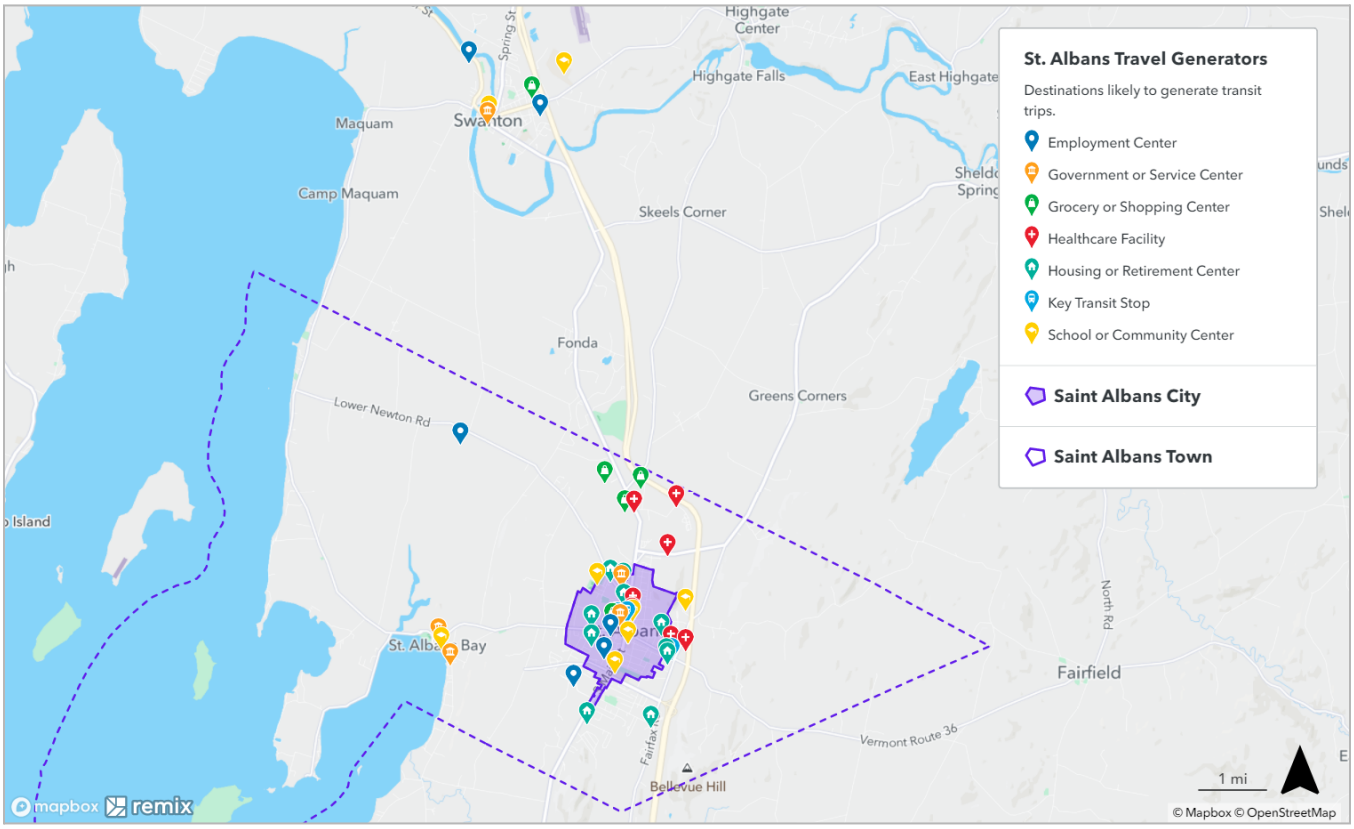
Detailed results for both alternatives are included in Section 3. Summary and Recommendations at the conclusion of this memo.

[1] Annual ridership, peak fleet size, and estimated annual costs are based on medium demand scenarios detailed in Section 2. Alternatives Analysis.
[2] Estimated Annual cost based on an assumed operating expense per vehicle revenue hour of $85.
[3] Productivity is defined as customers per vehicle hour.

1. Existing Conditions Analysis

1.1. Study Area and POIs

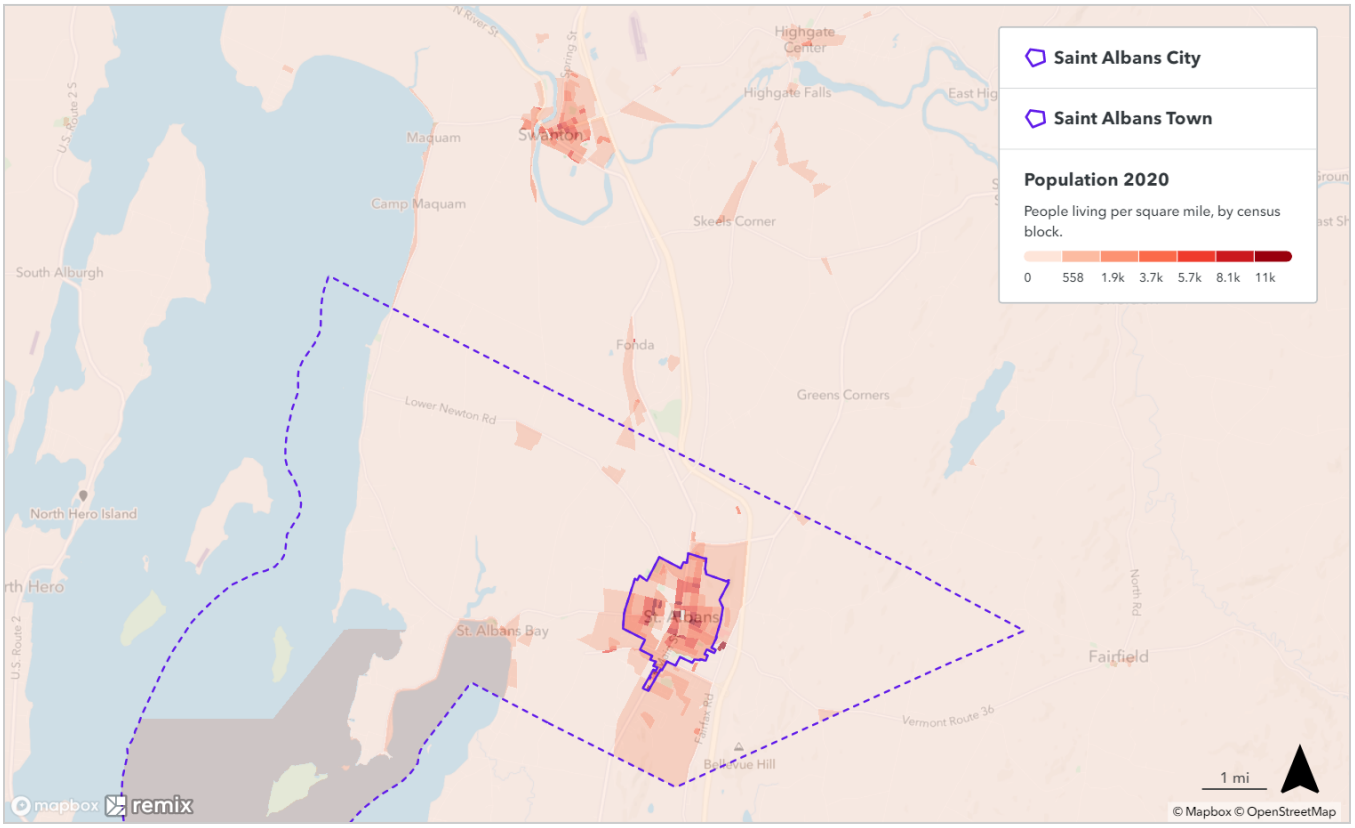
St. Albans (including both the Town and City) has a population of roughly 14,000. Travel generators are concentrated in the City center and at big-box stores to the north of the City center (along Swanton road). There are smaller clusters of travel generators at St. Albans Bay and in the town of Swanton. Throughout the Study Area, housing is primarily single-family, with the exception of some apartment complexes and residential medical care facilities in St. Albans City.



1.2. Demographic and Socioeconomic Factors

1.2.1. Population density

St. Alban City has a relatively compact population of 7,000 residents, and the Town has a dispersed population of 7,000 additional residents. The Town of Swanton has 6,500 residents, most of whom reside in the town center.

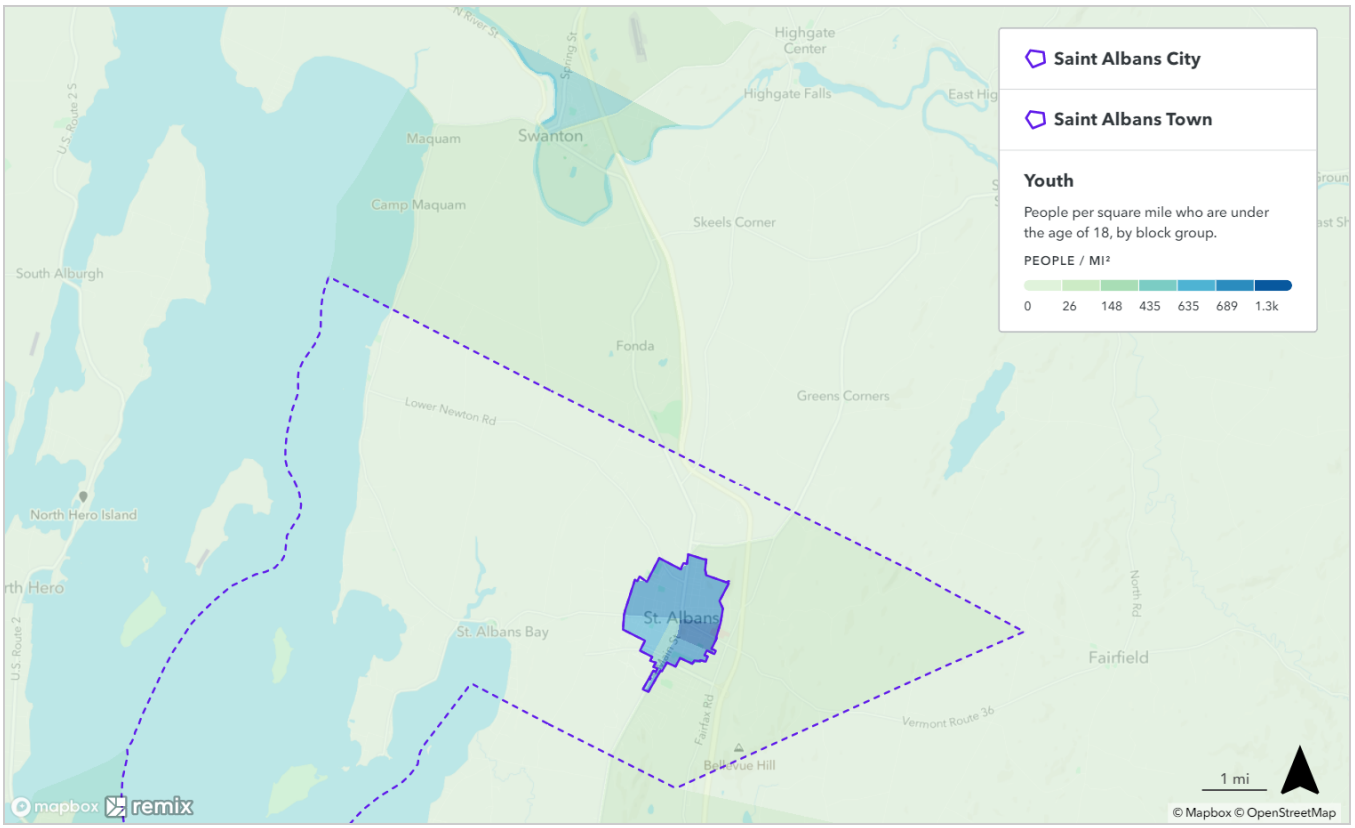


1.2.2. Job density

Employment density is an indicator of where people may travel on a daily basis. In the Study Area, jobs are concentrated in the City of St. Albans. The Study Area has roughly 10,500 jobs, and St. Albans City is a job center drawing commuters from smaller outlying towns.

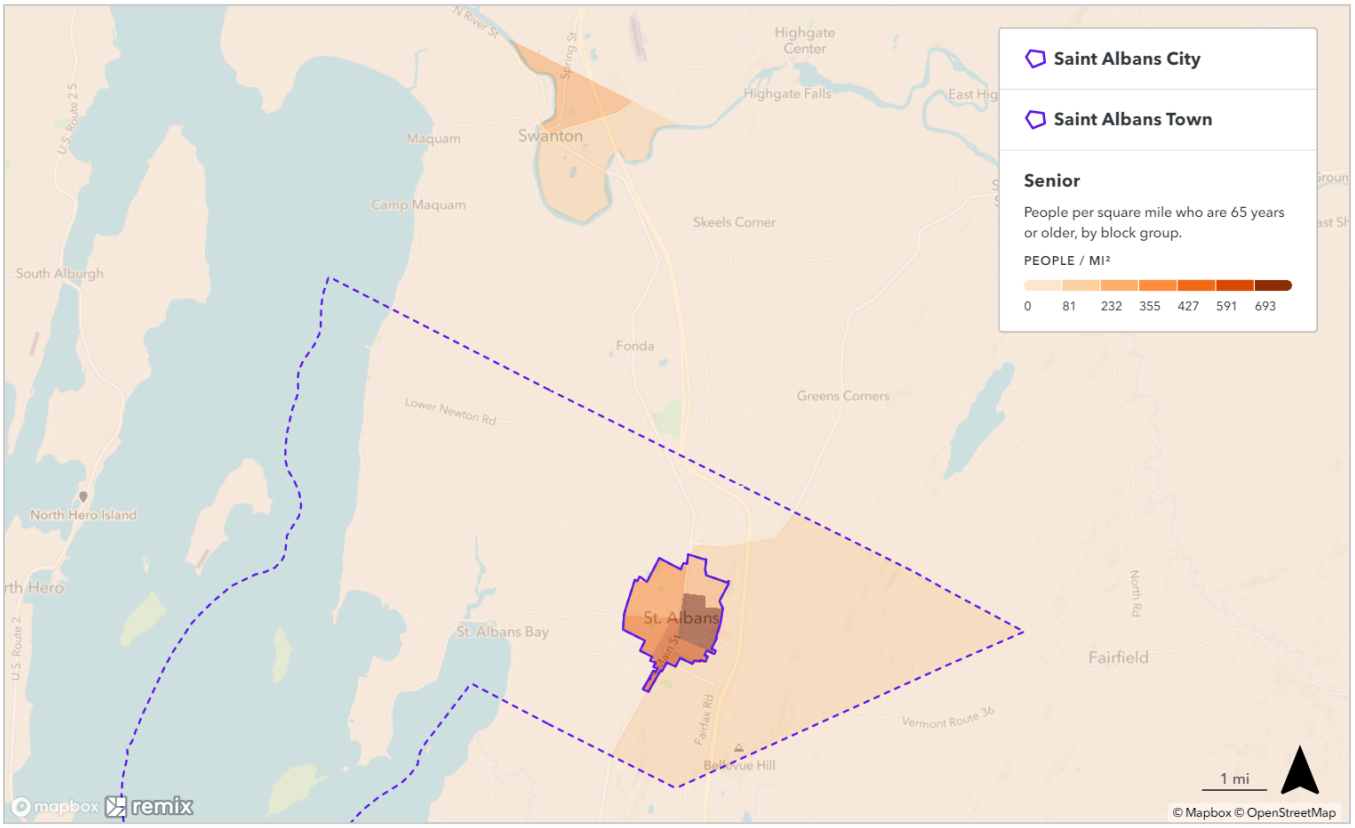
1.2.4. Youth population density

Youth are often frequent users of public transit as many are students and do not have access to private vehicles. Around 21% of the Study Area's population is under the age of 18, which is slightly higher than the State of Vermont's youth population more broadly (~18%).



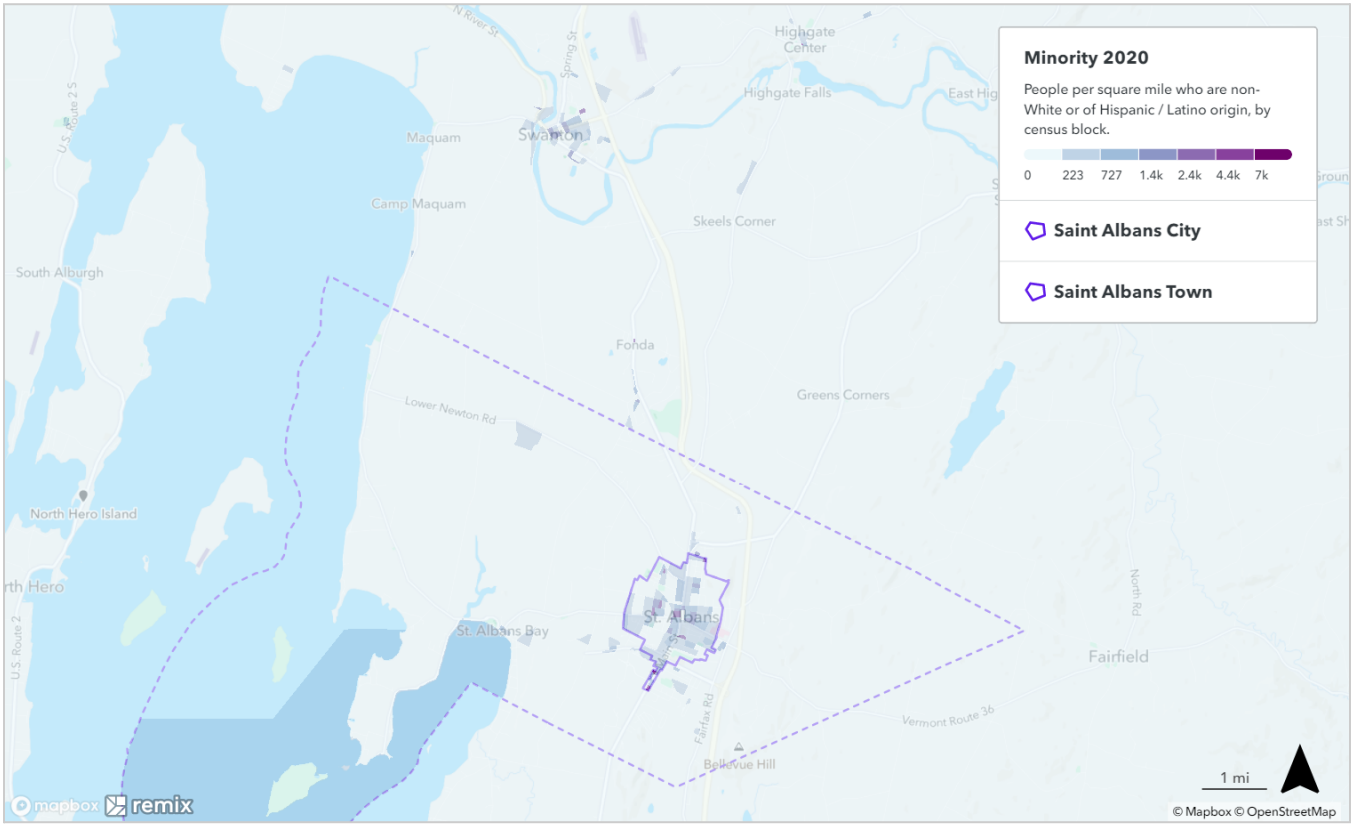
1.2.5. Senior population density

Older adults have a higher tendency to rely on public transit for many reasons, including lower incomes and lower rates of vehicle ownership and usage. The Study Area is home to several retirement communities, and around 17% of residents are seniors, a slightly lower proportion than the State of Vermont (20%).



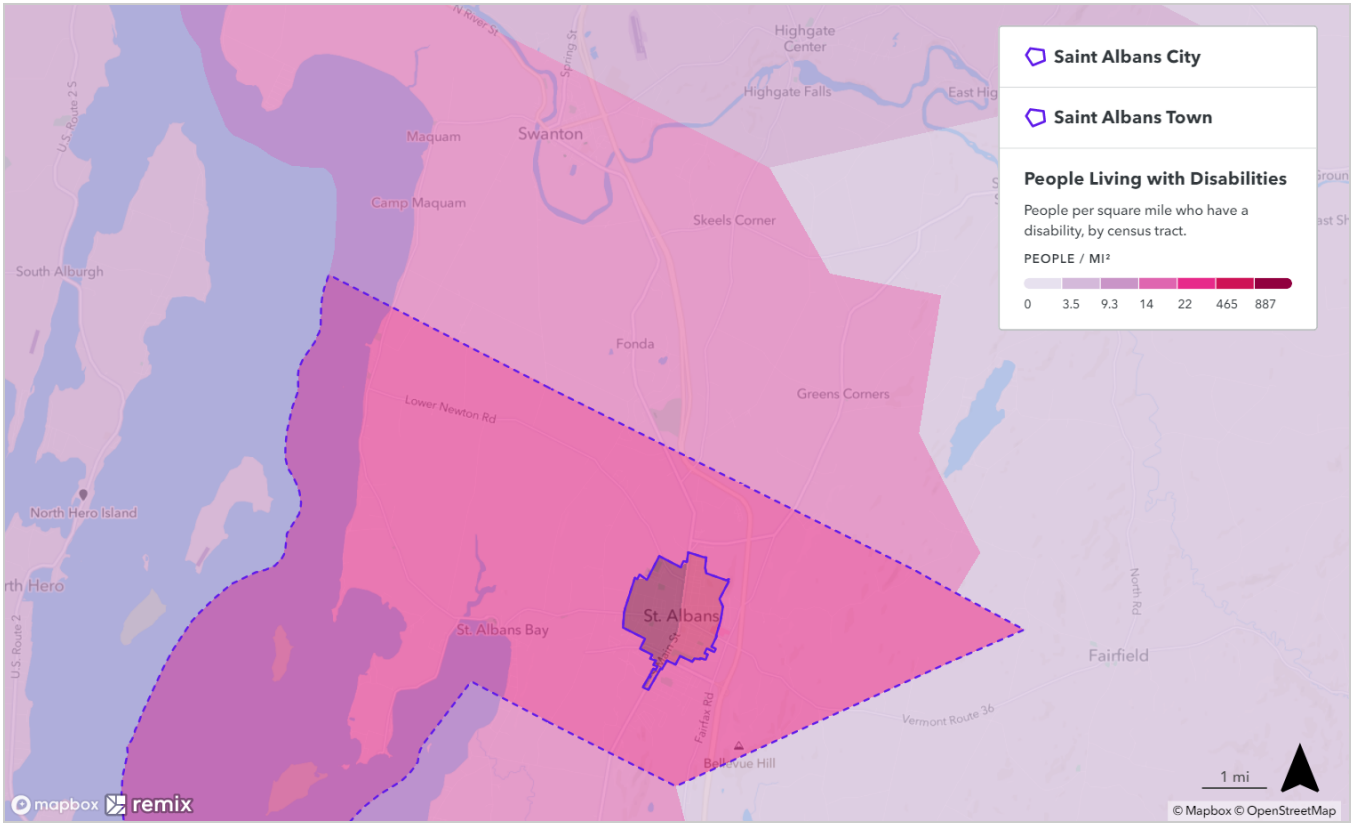
1.2.6. Minority population

Non-white and Hispanic/Latino communities may have a higher tendency to use public transit, with lower incomes and rates of vehicle ownership than white residents in most of the US. In some instances, communities of color have historically faced disadvantaged access to public transit. While St. Albans is primarily white, with about 8% of residents who are non-white or of Hispanic/Latino origin, the Town is slightly more diverse than the State of Vermont at large (6% non-white).



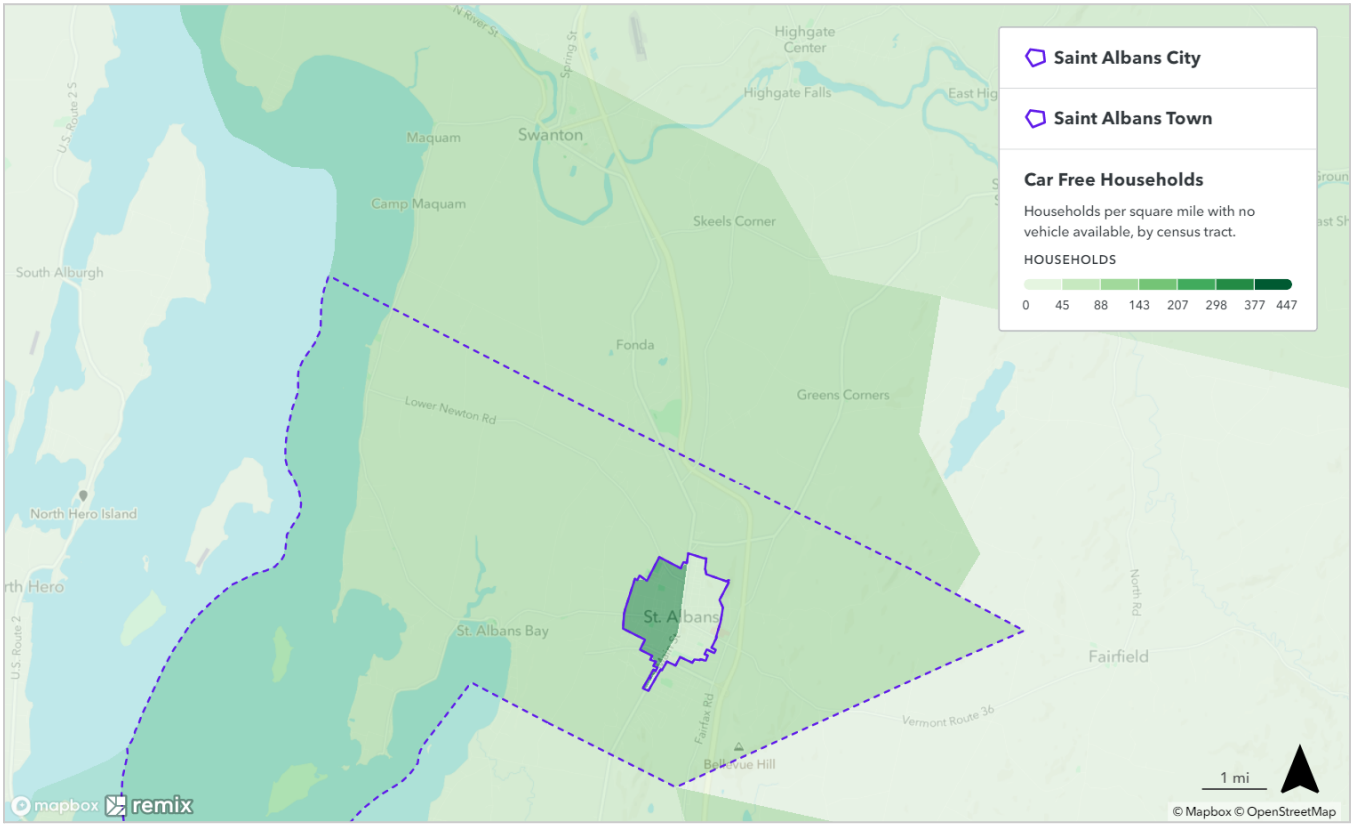
1.2.7. People living with a disability

Many people with disabilities cannot drive themselves or afford a private vehicle. These residents are more likely to rely on alternative forms of transportation, including public transit. About 16% of the Study Area's population lives with one or more disabilities, a higher share than the State of Vermont (10%).



1.2.8. Car-free households

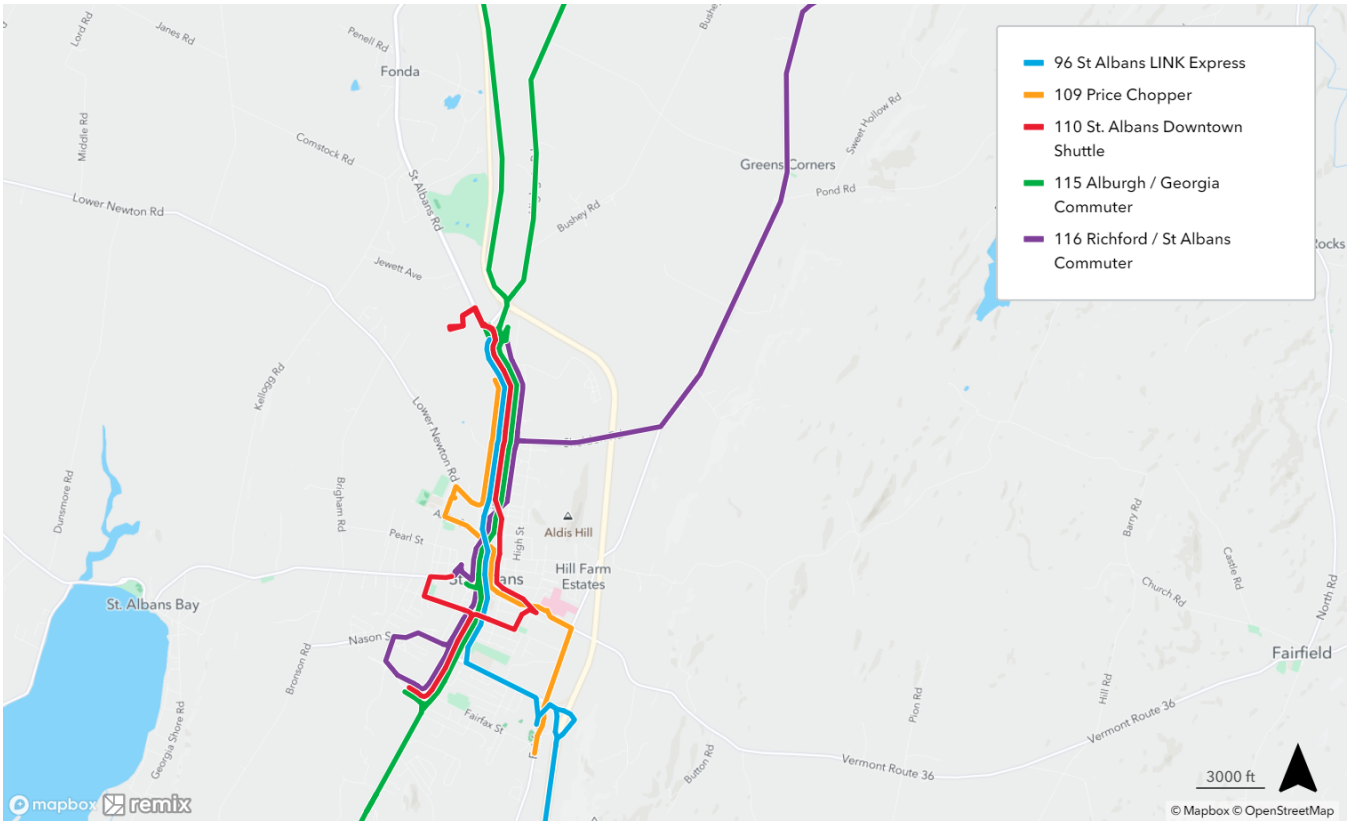
Households without access to a private vehicle are often reliant on public transit at higher rates than the general public. If public transit is not available, these households may rely on friends/family to drive them or have to take more expensive taxis/TNCs. If neither of those options are available, they may be unable to travel at all. While a majority of Study Area households have at least one vehicle, about 9% of households have no vehicles: a significant population for a small and rural town.



1.3. Transit Review

1.3.1. Fixed-Route Review

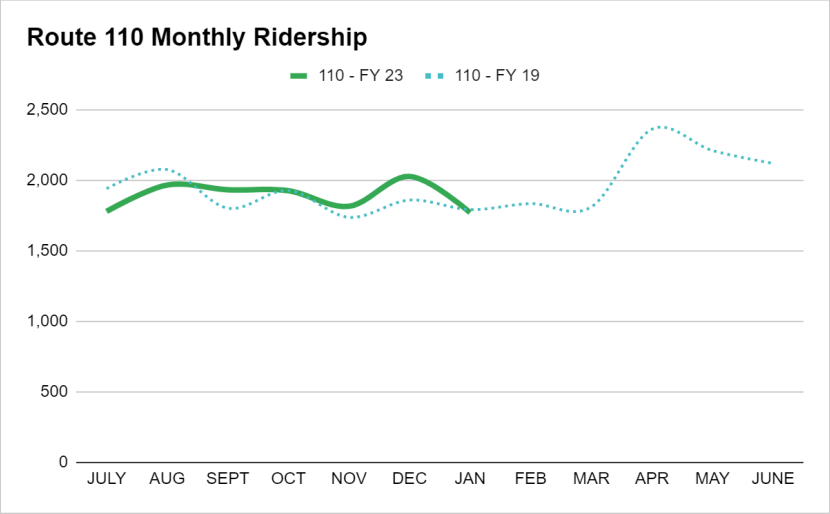
St. Albans is served by several fixed-routes, which provide both local and intercity trips. All routes follow a roughly N/S alignment through town and make stops on main street. Services are mapped below, followed by a high-level description of service.

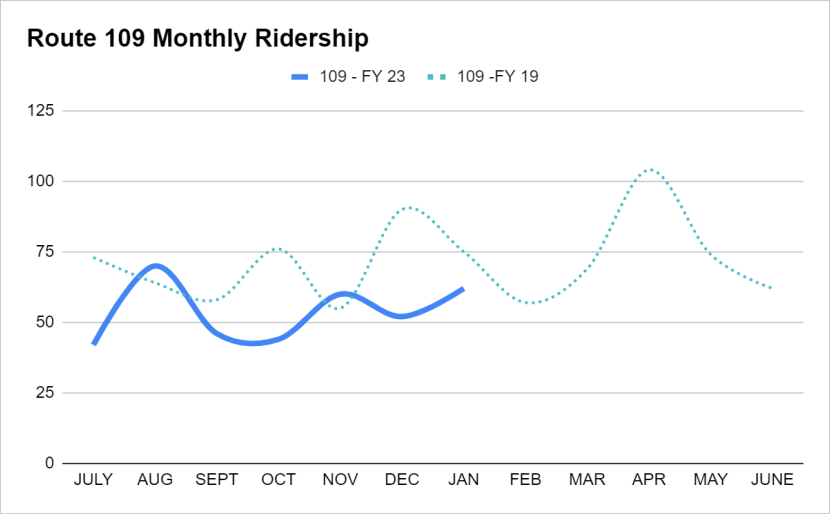


- Route 110 St. Albans Downtown Shuttle provides regularly-scheduled local service on weekdays and Saturdays with hourly frequency.
- Route 109 Price Chopper is a shopper route which operates a single run on Tuesdays only, making stops in both St. Albans and Swanton.
- Routes 115 Alburgh/Georgia Commuter and 116 Richford/St. Albans Commuter make a single weekday round-trip to smaller communities North of St. Albans
- The 96 LINK Express provides several weekday trips between St. Albans and Burlington.

1.3.1.1. Monthly Ridership on St. Albans Local Routes

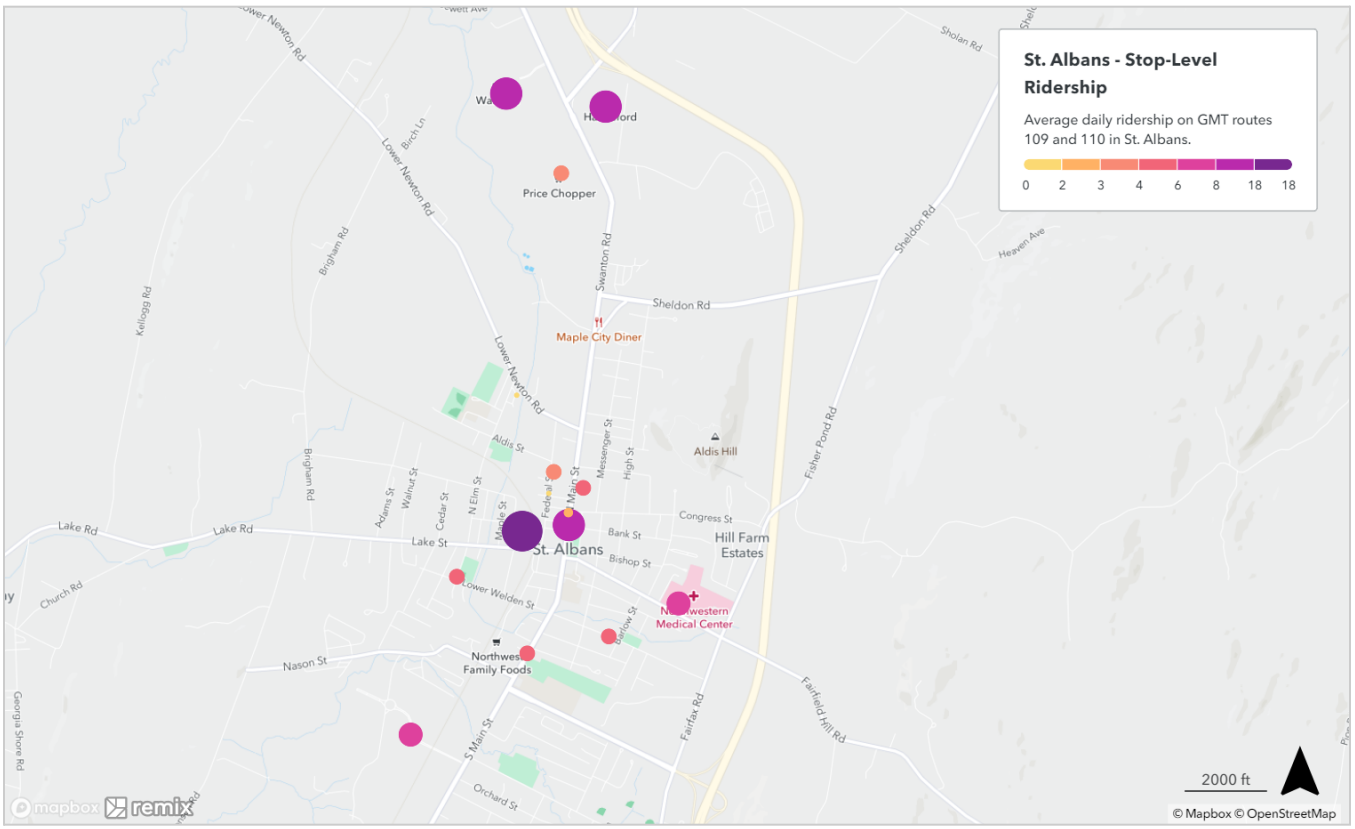
Route ridership data was provided for Route 110 St. Albans Downtown Shuttle and Route 109 Price Chopper. As shown in the charts below, both routes have recovered ridership lost during the COVID-19 pandemic. Route 110 delivers around 2,000 monthly trips, and Route 109 delivers 50-75 monthly trips (with a single shopper run on Tuesdays only).





1.3.1.2. Stop-Level Ridership

Stop-level ridership data was provided for GMT routes 109 and 110. GMT's highest-ridership stop in St. Albans is Food City, which has an average of 18 boardings per day. Other major stops are Main Street at Bank Street, which has an average of 9 boardings per day, and stops at Walmart and Hannafords, which both have an average of 8 boardings per day.



Larger dots and darker colors represent stops with higher levels of ridership.

1.3.1.3. Utilization by Route

The below table shows utilization or productivity (number of passengers per vehicle hour) on GMT's local St. Albans routes. Utilization is a measure of how efficient a service is to operate. The below ridership and utilization figures are averages from the most recent month of data provided by GMT (January, 2023).

Route Name	Schedule	Monthly Ridership (September, 2022)	Productivity[4] (FY23)	Productivity (FY19)
109 Price Chopper	M-F: 8:00am - 6:00pm	62	**3.8**	5.0
110 St. Albans Downtown Shuttle	M-F: 6:45am - 5:40pm S: 9:45am - 3:30pm	1,770	**7.5**	9.3

Though average productivity in January, 2023 is slightly lower than pre-COVID levels, Route 110 achieves a productivity higher than likely to be achieved by microtransit (see Section 2. Alternatives Analysis). Route 109 has a comparable productivity to that likely to be achieved by microtransit, but provides service for a specialized use case and receives external sources of funding. For these reasons, the Study considered microtransit as a way to supplement, rather than replace local fixed routes in St. Albans.

[4] Productivity figures are approximate figures based on annual average vehicle revenue hours (VRH).

1.4.2. Demand Response Review

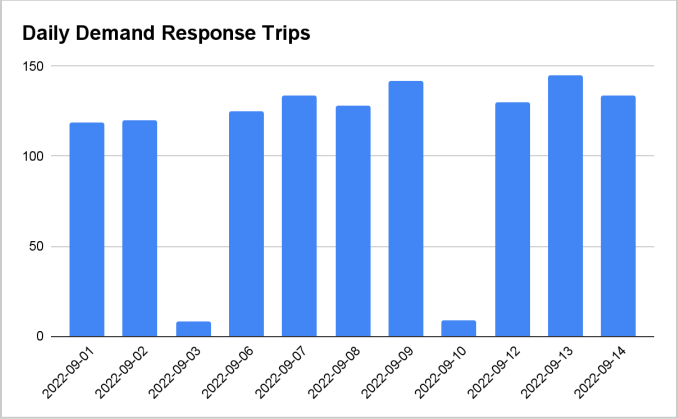
In addition to its fixed-route system, GMT coordinates three forms of demand-response services in St. Albans, many of which are delivered by Special Services Transportation Agency (SSTA):

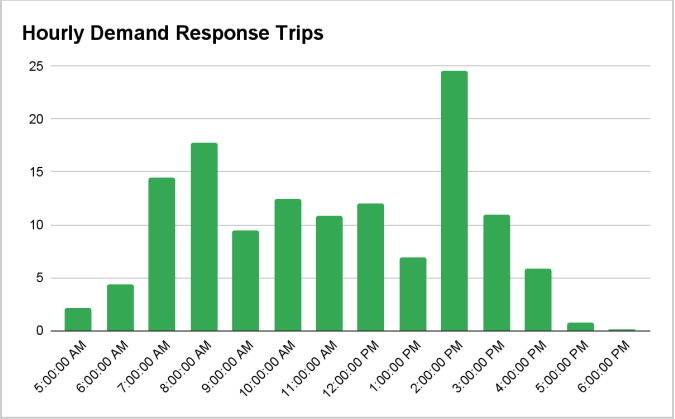
- **Medicaid**, which provides transportation to and from qualifying medical appointments;
- **Elders and Persons with Disabilities (E&D)**, which provides trips for seniors and individuals with ADA-qualifying disabilities;
- **Private Pay**, which includes trips from other payment sources

GMT provided demand-response data for a two-week period in September, 2022. In this period, 50% of demand-response trips were Medicaid, and 30% were E&D, and 20% were private pay.

1.4.2.1. Demand-Response Ridership

Between services, GMT delivers 100-150 demand-response trips weekdays, and significantly fewer trips on weekends *(~10 Saturday trips in the data provided)*. Trips are delivered between 5:00am and 6:00pm, with peaks during morning and afternoon hours.



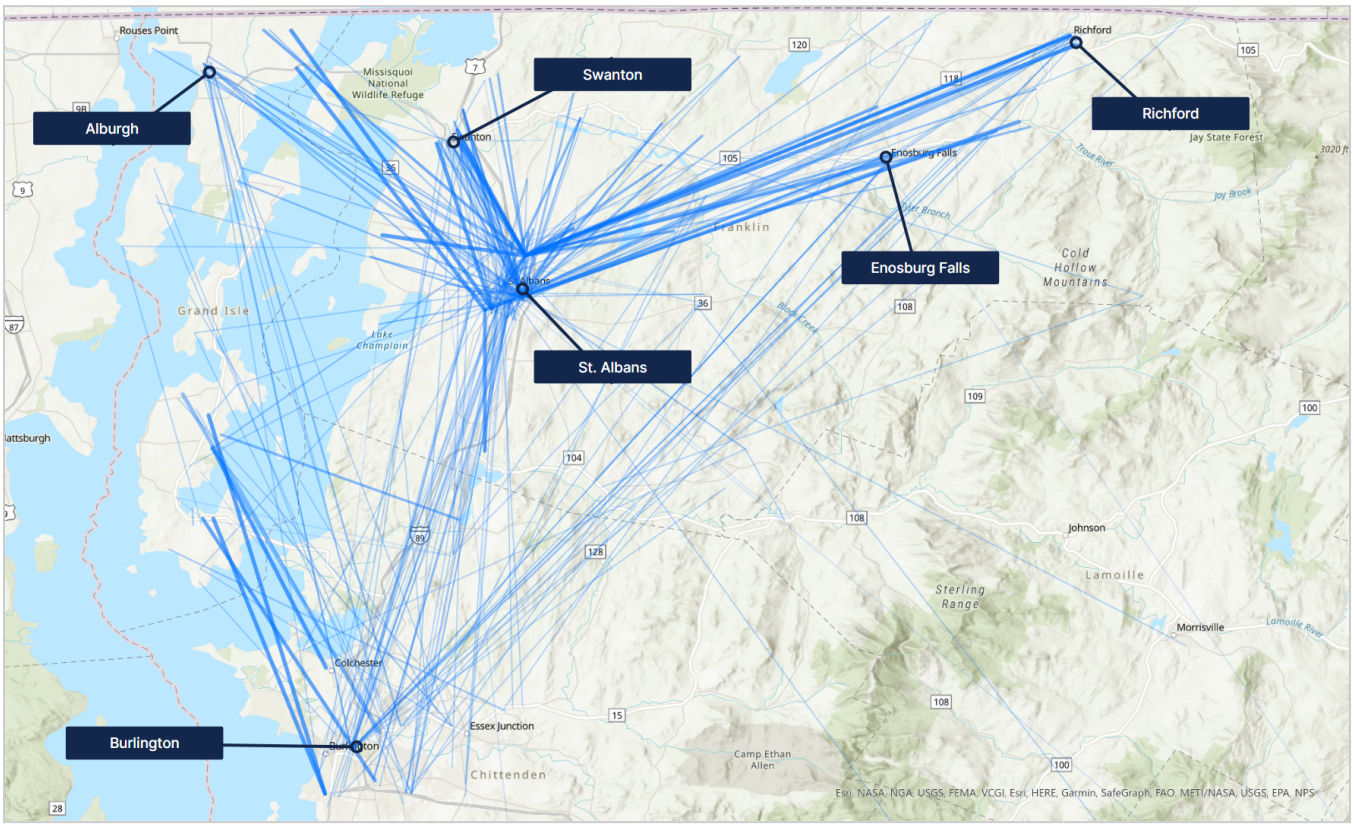


Note that in the data above, service was not provided on Monday, May 5th in observance of Labor Day.

1.4.2.2. Demand-Response Trip Patterns

St. Albans is a regional travel hub, with many customers using demand-response service to travel to/from the City and outlying areas. A smaller number of trips occur between St. Albans and Burlington. On average, of the ~125 daily trips:

- 20-25 trips start and end within St. Albans Town/City;
- 10-15 trips are to destinations in the Burlington area;
- ~10 trips are to/from Swanton, and;
- ~5 trips are to each of Richford, Enosburg Falls, and Alburgh.



Origin/destination map of trips in all GMT demand-response service categories in the St. Albans Area. Trip data were provided for a two-week period of September, 2022. Blue lines represent links between origins and destinations, with thicker lines indicating more frequently traveled journeys.

Locally-focused microtransit service would not replace intercity trips currently delivered on demand-response services. However, microtransit may be able to deliver some demand-response trips currently taking place within St. Albans and between St. Albans and Swanton. See additional information regarding how GMT may consider commingling demand between demand-response services in Section 3. Summary and Recommendations.

2. Alternatives Analysis

On the basis of the existing conditions analysis above, and guidance from GMT and its stakeholders, we elected to proceed with a small microtransit zone focusing on central St. Albans, and a larger zone including the full town of St. Albans and central Swanton. This alternatives analysis proceeds to simulate how microtransit service would perform in certain areas under certain parameters. For each alternative, microtransit simulations were performed to measure expected service performance according to several Key Performance Indicators (KPIs).

2.1. Methodology and Parameters

Microtransit simulations were performed at assumed levels of demand, and under assumed service parameters. Prior to performing simulations, we estimated demand, and worked with GMT to select simulation parameters designed to achieve certain quality-of-service targets. An overview of our approach to demand estimation and the parameters we considered can be found below.

2.1.1. Demand Estimate Methodology

It is important to estimate demand for a microtransit service to ensure that sufficient vehicles are available to complete all trips during peak hours. Demand estimates represent expected ridership for a zone. Low, medium, and high demand estimates intend to provide a range of possible future ridership levels, where medium demand is the most likely case scenario. Depending on the level of marketing and community support, it is likely to take 6-12 months for ridership numbers to grow.

Demand estimates are based on Via's internal demand model, along with our analysis of existing transit in the zone. Our demand model compares these factors to other Via deployments in Vermont and globally, and compares factors such as restrictions on origins/destinations, zone size, setting (urban, suburban, rural), and density.

Please find an overview of the demand assumptions used for simulations in St. Albans in 2.2.2. Demand Assumptions below.

2.2.2. Simulation Parameters

The simulations of each alternative allow for the identification of tradeoffs between quality of service (e.g., average wait time) and service efficiency. The simulations also predict the quality of service and ridership capacity of a given fleet. To simulate the various zone and demand alternatives, there are several parameters that need to be set including:

- **Service hours**: the times during which a passenger can book a ride, which typically align with or expand upon the fixed-route bus schedule.
- **Maximum wait time**: the maximum time a passenger will be asked to wait for a vehicle from the time they request a ride. Longer wait times are common in rural areas while shorter wait times are common in urban areas or when a service is competing with private vehicle travel. The average wait time is significantly shorter than the maximum. For example, a 30 minute maximum wait time typically has an average wait time between 5 and 20 minutes depending on the time of day and passenger demand.
- **Stop types:** where vehicles stop to pick up passengers, which may include curb-to-curb service (where passengers are picked up and dropped off at the exact location of their request) or

corner-to-corner, which asks passengers to walk to a nearby intersection in order to improve the overall efficiency of the service by minimizing detours.

- **Maximum detours**: the distance and length of time that a vehicle will detour from the direct route between a boarded passenger's origin and destination to serve additional customers. The standard setting for this parameter is 50% additional time or distance compared to the direct trip.
- **Maximum walking distance**: the maximum distance a passenger will be asked to walk to/from their origin/destination to meet their vehicle. Longer walking distances will increase the efficiency of a service, by helping aggregate more passengers at fewer pickup and dropoff locations. Longer walks may negatively impact customer experience.

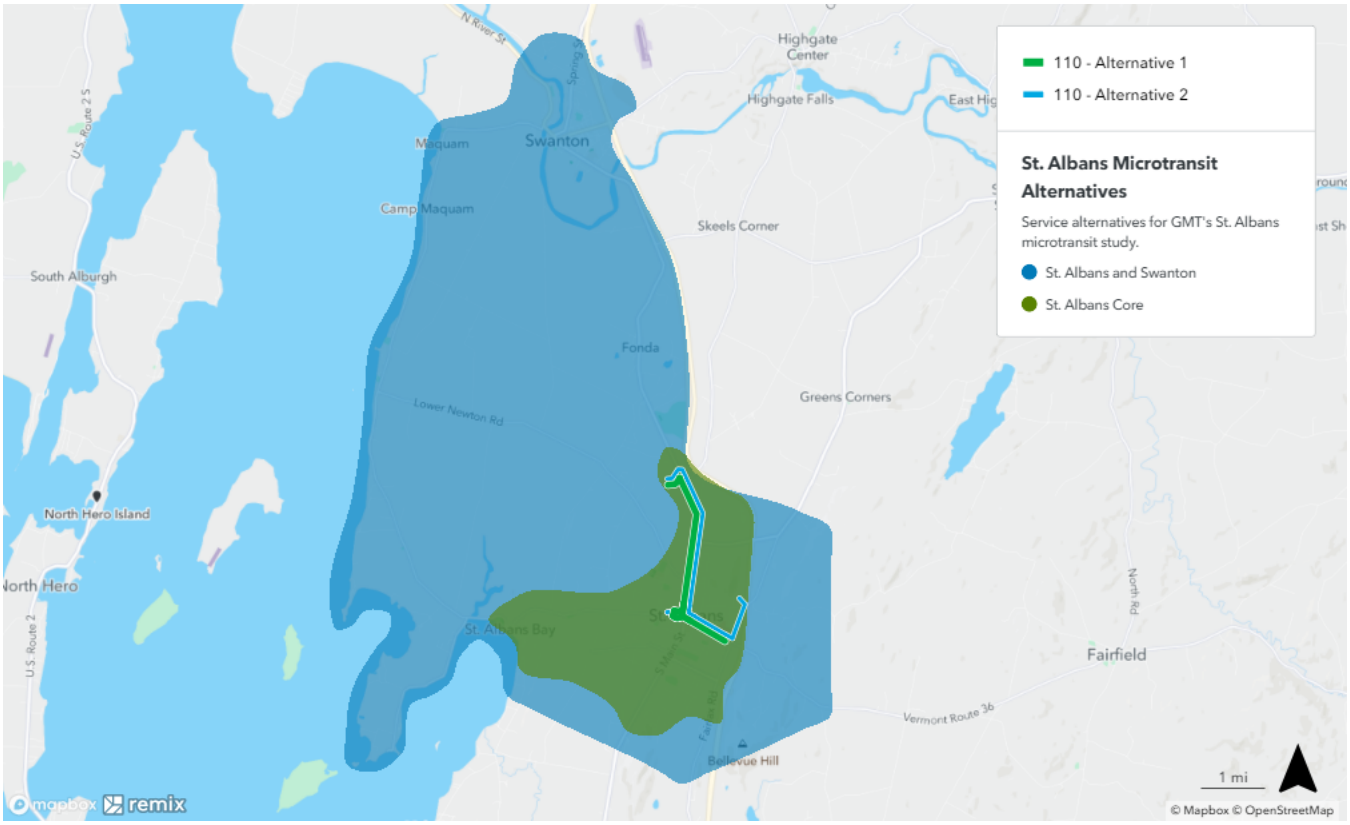
Please find an overview of the parameters used for the alternatives analysis in 2.2.3. Quality of Service below.

2.2. Alternatives

2.2.1 Alternatives Overview

In conversations with GMT, we selected two microtransit alternatives:

Zone	Area	Population (Census 2020)	Jobs (LEHD 2019)
St. Albans Core	9 mi²	10,400	8,400
St. Albans and Swanton	55 mi²	18,400	10,500



1. **Alternative 1: St. Albans Core with Adjusted Route 110.** A smaller zone was drawn to capture core areas of St. Albans Town and City, which includes most of the area's travel generators and its most settled areas. With Alternative 1, we considered alternative alignments for GMT route 110 which may allow for increased service frequency without adding additional vehicles. In this scenario, we assumed customers taking trips to areas which would lose service on Route 110 (areas south of the City center) would instead take those trips on microtransit.

2. **Alternative 2: St. Albans and Swanton**. A larger zone was drawn to include the full Town of St. Albans and central areas of Swanton. This scenario did not include changes to fixed-route ridership, which we assume would remain relatively unchanged with the introduction of microtransit, provided GMT implements rules to prevent overlap between the services.

In both alternatives, customers would be able to book trips to/from anywhere in the zone, but would be prevented from booking a microtransit trip which could otherwise be taken on a fixed-route.

2.2.3. Demand Assumptions

Using the demand estimate methodology described in Section 2.1.1. above, we developed the following demand estimates for simulation:

Zone	Area	Population (Census 2020)	Jobs (LEHD 2019)	Daily Demand Estimates		
				Low	Medium	High
St. Albans Core	9 mi²	10,400	8,400	50	90	130
St. Albans and Swanton	55 mi²	18,400	10,500	60	125	190

Assumed spatial demand distribution is based on an analysis of travel generators in St. Albans, and ridership patterns in incomparable on-demand transit services.

2.2.3. Quality of Service

For both St. Albans microtransit alternatives, we used a consistent quality of service scenario, which uses different configurations of the parameters defined in 2.2.2. Simulation Parameters above.

	Lower Quality of Service
Service Hours	Weekdays, 7:00am - 6:00pm; Saturdays, 8:00am - 6:00pm
Maximum Wait Time	30 minutes
Stop Types	Corner-to-Corner
Maximum Detours	50% additional time or distance vs. direct route
Walking Distances *(cumulative including walks on both ends of trip)*	Average: 400 - 800 ft Maximum: 1/4 mi (1320 ft)

Among the parameters listed above, maximum wait time has the most significant impact on service. Allowing longer waits typically increases the system's ridership capacity, and improves its ability to aggregate passengers.

2.3. Simulation Results

2.3.1. Alternative 1. St. Albans Core

Simulations indicated that at least two vehicles are likely needed to deliver service in the core St. Albans area. Importantly, fleet size indicates the number of vehicles required in peak service, not a recommendation for total microtransit fleet size (which should include additional vehicles in case one goes out of service, or in case high levels of demand are experienced).

Demand	Low	Medium	High
Weekday ridership (passengers)	51	92	132
Annual ridership (passengers)	15,000	27,000	40,000
Fleet size (vehicles required at peak)	**1**	**2**	**3**
Average weekday revenue hours (hours)	12	24	34
Annual revenue hours (hours)	3,600	7,300	9,900
Average wait time at peak (minutes)	7 - 13	5 - 11	5 - 11
Average trip duration at peak (minutes)	8	8	11
Average total walking distance at peak (feet)	470	460	460
Average productivity (passengers per revenue hour)	**3.7 - 4.7**	**3.3 - 4.3**	**3.4 - 4.4**

2.3.2. Alternative 2. Larger Zone

Simulations indicated that at least three vehicles in service would be needed for a zone including Swanton. A larger zone results in additional demand and longer allowable trip distances, resulting in a need for a larger fleet.

Demand	Low	Medium	High
Weekday ridership (passengers)	63	125	188
Annual ridership (passengers)	18,000	37,000	55,000
Fleet size (vehicles required at peak)	**2**	**3**	**4**
Average weekday revenue hours (hours)	24	34	46
Annual revenue hours (hours)	7,300	9,900	13,500
Average wait time at peak (minutes)	11 - 17	5 - 11	8 - 14
Average trip duration at peak (minutes)	76	76	76
Average total walking distance at peak (feet)	140	160	160
Average productivity (passengers per revenue hour)	**2.1 - 3.1**	**3 - 4**	**3.4 - 4.4**

3. Summary and Recommendations

3.1. Cost Analysis

The table below breaks down the anticipated cost structure of on-demand service in St. Albans, based on average expenses in microtransit services. We estimated costs using fully-burdened rates which include admin and overhead, along with technology costs.

Cost Category	Inclusions	Percent of Total Costs
Driver	Wages, hiring, training, benefits	~40%
Vehicle	Leasing, insurance, maintenance, fuel, cleaning	~40%
Admin and Overhead	Administrative tasks, dispatching, customer support	~15%
Technology	Software development, maintenance, hosting costs	~5%

In Franklin, we anticipate hourly microtransit costs will range from ~$85 per vehicle hour (based on NTD data, input from GMT, and Via's experience with similar services around the United States).

Demand Scenario	Annual Ridership	Peak Fleet Required	Cost per Vehicle Hour	Annual Cost	Cost per Passenger
Focused Zone					
Low	15,000	1	$85	$306,000	$20
Medium	27,000	2		$620,500	$23
High	40,000	3		$841,500	$22
Larger Zone					
Low	18,000	2	$85	$620,500	$34
Medium	37,000	3		$884,000	$24
High	55,000	4		$1,190,000	$22

3.2. Recommendations

3.2.1. Service Design

Based on the results of simulations, this memo includes service design specific to microtransit in the St. Albans area. These recommendations include:

- **Begin by serving core areas of St. Albans and consider expanding to Swanton after launch.** This Study indicates that a service focused on St. Albans would be less expensive and more efficient than a larger service including the town of Swanton. It is challenging to predict how many customers will use service for longer-distance trips between communities, but higher numbers of intercity trips generally lead to less efficient service. If a significant cohort of customers use trips for travel to Swanton, service could be less available for those living in St. Albans. For this reason, we recommend introducing service in St. Albans and expanding to Swanton at a later date if the system has capacity to absorb additional ridership, or if GMT has resources to add 1-2 vehicles per day to its in-service fleet.

- **Pursue Incorporating Medicaid Trips and Commingling Demand.** Many Medicaid trips start and end within St. Albans. GMT should consider delivering trips of this nature using vehicles designated for microtransit service in St. Albans, in a strategy known as “commingling”. By considering availability across its fleets (microtransit and other demand-response services), GMT may be able to conserve vehicle resources by grouping customers in different demand-response programs. However, because a relatively large number of customers use demand-response services within St. Albans, accommodating all of this demand using the microtransit fleet may require additional vehicles in service. GMT may consider working with an ex

- **Consider partnering with SSTA to deliver microtransit.** The Special Services Transportation Agency (SSTA) is an established GMT partner and has significant experience delivering demand-response services in Franklin and Chittenden Counties. GMT may consider partnering with SSTA to operate microtransit service in St. Albans, which would also make it easier to comingle trips between multiple demand response services.

- **Use microtransit to improve service on Route 110.** This Study considered potential alternative alignments for the St. Albans Downtown Shuttle. By using microtransit to serve areas south of the City Center, GMT could introduce an updated alignment which follows an “L” shape through town: beginning at the Hard’ack Community Center (a high-priority service destination for St. Albans Stakeholders), the Northwestern Medical Center, and Main Street as far north as Walmart.

- **Encourage Multimodal Travel**. GMT can use microtransit to feed trips to the fixed-route network, in particular by encouraging connection to intercity commuter services. We recommend GMT encourage transfer by offering information regarding the fixed-route system to microtransit customers, ideally through the microtransit app. We also recommend that GMT encourage connections by offering free transfers between modes. Last, it is important that microtransit be designed to support, and not compete with, existing fixed-route services. Particularly in the larger zone which would cover areas of town with fixed-route service, we recommend GMT implement a microtransit system which can direct customers to take fixed routes when they are available.

3.2.3. Launch Planning

GMT must take several steps prior to launching service. This process can be divided into three phases; preliminary service design, procurement, and launch preparation.

Phase 1: Preliminary Service Design. GMT should make the following determinations prior to issuing a procurement for microtransit service:

- **Select an operating/contracting model.** GMT can select between several operating models which best suit its budget, capabilities, and access to vehicles. Potential models generally include:
    - **Agency-operated service.** In this model, GMT procures a software platform for the operation of microtransit service, and delivers service using its own drivers, vehicles, and operations team. Partnerships of this nature may be described as Software-as-a-Service, or "SaaS". Software contracts may include ongoing customer support and service optimization services. An agency-operated service has the advantages of allowing GMT to utilize its existing resources and assume a high level of control over service delivery. The primary disadvantage of an agency-operated approach is that GMT would be required to develop administrative and operational capacity in a potentially unfamiliar service category, which has the potential to create inefficiencies and higher costs as the agency works to develop expertise in this area (vs. a contracted operator with developed expertise in operating microtransit service). When procuring software, we recommend GMT require the following capabilities at minimum:
        - Dynamic vehicle routing and passenger aggregation (shared rides)
        - Customer mobile application (available for iOS and Android) providing trip booking and providing real-time estimated time to arrivals (ETAs) and other trip updates
        - Driver mobile application for real-time transmission of routing and trip information
        - Ability for administrators/schedulers to book trips on behalf of customers (so customers can book trips over the phone)
        - Ongoing technical, operational, and marketing support
    - **Turnkey purchased transportation (vendor-operated).** In this model, the vendor provides a solution which includes a microtransit software platform, along with the vehicles, drivers, and management services needed to operate service. This partnership model may be described as Transportation-as-a-Service, or "TaaS", and/or as a "turnkey" model. Turnkey services sometimes have lower operating costs and are typically easier to scale quickly when compared to agency-operated alternatives, as third-party vendors can typically flex vehicle supply or extend operating hours more easily than transit agencies. Turnkey models also ensure the operator and technology platform are designed to work interoperably and efficiently. Disadvantages of using a turnkey model include reliance on a vendor for all aspects of service delivery, and less direct agency control over operational decisions (potentially including vehicle make/model, driver recruitment and pay, and maintenance). However, a well-designed contract can address many of these concerns.
    - **Non-dedicated transportation providers.** Rather than introducing microtransit as a dedicated service, GMT can consider contracting with one or more local taxi/Transportation Network Companies (TNCs) on a non-dedicated, or trip-by-trip basis. Under this model, TNCs would deliver agency-subsidized trips alongside trips for private consumers. While such a model may be appropriate for services with notably low levels of ridership *(i.e. a service with projected demand that would not require a single dedicated*

vehicle resource), we typically recommend against non-dedicated models. Disadvantages include limited oversight of operations, limited availability, higher costs per trip, and ineligibility for FTA funding (depending on whether the TNC is able to meet drug and alcohol testing requirements). Further, trips are typically harder to aggregate in a non-dedicated model, meaning costs increase linearly as demand grows (as compared to a shared-ride model, where cost per trip decreases as more customers are aggregated). We anticipate sufficient demand to justify at least a single dedicated vehicle in St. Albans (in any demand scenario), which will likely be more cost effective than dispatching trips to TNCs. Additionally, a dedicated model is more likely to offer stable and available service than relying on TNCs, which may have limited availability in St. Albans.

- **Designate vehicles for service (if applicable)**. If directly operating service, prior to commencing operations, GMT will need to designate a fleet of vehicles for the service. Based on the results of this study, only one dedicated vehicle will be required for operation, but it is important that GMT has access to at least one spare vehicle at all times, as the entire service would become unavailable if a single vehicle were to go out of service. GMT may need to procure new vehicles if none are available.

- **Secure Funding.** Once top-level service design and operating model have been chosen, GMT can estimate the costs of launching a new microtransit service. Funding can be secured through a number of channels including federal grants, existing operating budgets, local ballot initiatives, or partnerships with local companies.

Phase 2: Procurement. Depending on GMT's selected operating model, it will be necessary to procure either a software solution for GMT's microtransit operations, or a turnkey software plus operations package. We advise that GMT budget between 6 and 9 months (from publishing the procurement to launching service) for implementing services where vehicle procurement is unnecessary, and between 9 months and one year for implementing services which require vehicle procurement.

Phase 2: Launch Preparation. After a vendor or vendors have been selected, GMT can take the following steps to prepare for launch:

- **Finalize Service Design.** GMT will need to finalize high-level service parameters before implementing service. Primary service parameters consist of zone location and boundaries, service hours, fare structure, and target quality of service metrics. This should be done in partnership with the selected vendor to ensure the software is able to deliver all requirements.
- **Driver Training.** If GMT proceeds with an operating model where its drivers will deliver service, drivers will need to be trained in delivering microtransit service, including how to use the software platform, best practices for service delivery, and best practices for customer service. This will be particularly important for drivers who are new to microtransit, especially if they have experience operating other forms of demand-responsive transit.
    - For example, in the Montpelier “MyRide” microtransit service, which was introduced atop existing demand-response programs and is operated by experienced Agency drivers, drivers are often inclined to follow their preferred route rather than following directions provided through the microtransit app. While a driver’s preferred route may be more direct for an individual customer, the microtransit system generates routes which consider *all*

trips in the system, and allows the system to aggregate passengers traveling along a similar route. Non-adherence to routes limits the system's ability to aggregate passengers, and can create downstream delays and errors for customers awaiting pickup. Driver training should ensure drivers understand how the microtransit system operates, and why adherence to directions provided by the system are important to follow.

- **Administrator Training.** GMT's administrative staff (including dispatchers, schedulers, and customer service representatives) will need to be trained in the use of its selected microtransit platform. Depending on GMT's selected operating model, administrative requirements may include supervision of live service and responding to issues when needed, booking trips for customers making reservations over the phone, and familiarity with microtransit performance indicators (in order to assess system performance over time). Services of this scale typically require the supervision of a single administrator/dispatcher.
- **Marketing and Rider Education.** Marketing and community engagement are important steps to inform the public about the new service, particularly in instances where existing services will be adjusted. Many potential customers will be unfamiliar with this type of public transit and will need to learn how to book rides and use the service. GMT can do this in various ways, including creating a dedicated website for the service, developing informational videos, sharing information on social media channels, and meeting with local community organizations. Please find additional information in Section 3.2.3. Community Engagement & Marketing below.

3.2.4. Community Engagement & Marketing

We recommend that GMT conduct parallel community engagement and marketing activities to ensure the microtransit service's success.

3.2.4.1. Community Engagement & Changes to Existing Service

The ability to move conveniently and affordably between homes, work, school, childcare, and healthcare is central to a community's ability to thrive. The transit systems that enable this movement play such a crucial role in people's everyday lives, and any changes to these systems — even positive ones — can naturally be a source of apprehension. Service changes have the potential to catch customers unaware, and some customers may even assume they are excluded from the new service offering. Fears can be exacerbated by a lack of information regarding what changes to transit means for the community. Concerns about cost, access for those with accessibility needs and/or lack of technology, service coverage, and more, routinely create opposition to projects before they even get off the ground.

A high-touch and proactive approach to community engagement not only helps mitigate concerns, but can turn those in the community who could potentially be opponents of change into advocates. When launching a microtransit service, support from the community is essential, both to ensure a smooth launch and to set the service up for continued success and growth.

Pre-Launch
Community engagement should begin several months before launch, giving GMT time to incorporate feedback from stakeholders, and potentially to adjust service design. Starting community engagement early in the launch process also helps preempt passenger and stakeholder concerns through thorough education about service offerings. To start this process:

1. Identify subcommunities that may be sensitive to service changes, or might require personalized outreach in order to adapt service. As examples of communities which should play a central role in community engagement efforts:

Customers with High Barriers to Entry	Stakeholder Groups Sensitive to Service Changes
Seniors	Agency employees (drivers, call center staff, administrators)
Non-native English Speakers	Employee unions
Unbanked individuals, or those who prefer cash	Rider advocacy groups
Those without cellphones	Elected Officials
Homeless customers	Civic and business leaders
Customers with disabilities	Major local employers

   Once key stakeholders have been identified, steps can be taken to preemptively address their concerns. For example, if accessibility is an expected concern, educate customers about the wheelchair-accessible vehicles in the fleet and the ability to book door-to-door trips for mobility-impaired passengers.

2. Develop materials that engage with likely responses to the new service to proactively answer questions. These materials can include pamphlets, mailers, videos, or physical or digital advertisements. The materials should explain the mechanics of the service, how passengers will book trips, the service zone, and fare. Be sure to address how passengers in high-barrier groups will be able to access the service such as including information around phone booking, voucher payment, and accessibility features.

3. Speak with advocacy groups, elected officials, civic and business leaders, and major local employers as part of the broader community outreach.

Launch
Leading up to the launch of microtransit service, GMT can continue its community engagement strategy through three channels:

- **Stakeholder Organizations.** As GMT approaches launch and finalizes key service parameters, it should re-engage previously- contacted organizations to enlist their help in publicizing key information about the service. Helpful organizations may include libraries, health centers, care facilities, civic groups, and social services organizations. These organizations can help create

informational materials that are relevant to the audiences they serve, and can help distribute these materials.

- **Customers with high barriers to entry.** GMT can build a list of users who are likely to have trouble accessing service and conduct phone calls to help them create accounts, and alleviate any concerns they may have. This will be their first interaction with the service and can impact how much they promote the service to their peers, so it's important to keep the communication open and keep a detailed record of their feedback, both positive and negative.
- **The public.** GMT should make information available to the general public by posting information about service changes as early as possible and in as many places as possible. Particularly in instances where microtransit is introduced alongside changes to GMT's existing system, we recommend posting physical signage (e.g. at bus stops and aboard vehicles) to explain upcoming service changes, along with posting information digitally on local websites and social media.

Post-Launch

After microtransit service has been launched, community engagement activities can inform continuing improvements to the system. GMT can re-engage stakeholder communities to see how service is going, and identify opportunities for improvement. Stakeholder organizations can also play a central role in continuing to promote service to their constituent communities.

3.2.4.2. Marketing Microtransit Service

Marketing is an important step to ensure the public is aware of the new microtransit service, both to ensure existing transit customers are prepared for changes to service, and to attract new customers to the system. Many potential customers will be unfamiliar with microtransit as a type of public transit and will need to learn how to book rides and use the service. Creating sustained awareness of the microtransit service prior to launch is essential, and some of the following strategies may be useful:

- **Webpage.** Create a dedicated website for the microtransit service with key service information.
- **Press release.** Develop a pre-launch press release for distribution in local media that directs readers to download the microtransit app.
- **How-to video.** Create a short informative video on how to use the service and share on the service website and social media.
- **Targeted outreach**. Targeted emails or print and social media advertisements. Targeted outreach including "how-to" instructions may be particularly useful for seniors and at retirement communities.
- **Community announcements.** Announce on-demand transport service in municipal communications, newsletters, social groups.

Encouraging awareness of microtransit through word of mouth is especially important. Generating awareness via word of mouth can be achieved through some of the following approaches:

- **Focus groups.** Engage directly with the public through virtual outreach, focus groups, or public meetings held via Zoom or other communication tools. Focus groups can serve as a good opportunity to instruct customers who may be in need of assistance using new technology, like seniors, unbanked customers, non native english speakers
- **Street marketing.** Placing a wrapped microtransit vehicle at high foot traffic areas can increase awareness and encourage conversation about the service

- **Promotional fare discounts or free rides.** Offer reduced or promotional fares for new users.

GMT can conduct marketing activities in phases to ensure success at each phase of the service's lifecycle:

	Pre-launch	Months 1-3	Months 4+
Focus	Establish marketing channels and develop materials	Promote service visibility and attract first-time riders	Continue attracting customers and retain customers with engagement promotions
Activities	• Design marketing materials • Begin pre-launch awareness: social media, local press, and local government outlets	• Digital (social media) and physical ads (flyers, direct mail, bus station signage). • Press releases • Events and direct public engagement	• Rider surveys and focus groups • Referral campaigns • Promotion of discounted tickets and referral campaigns • Outreach to specific communities

3.2.5. Accessibility

GMT's microtransit system should prioritize accessibility to ensure all potential customers have access to service, including passengers with disabilities, and those without smartphones and credit cards. We recommend the following accessibility measures:

- **For customers with limited mobility**: The service should include at least 20% wheelchair-accessible vehicles (WAV). As only one 1-2 vehicles are recommended for service in St. Albans, both vehicles (along with any spare vehicles) should be wheelchair-accessible. As a point of comparison, around 3.5% of GMT MyRide trips require an additional level of accessibility (by customers who either require door-to-door service or who use wheelchairs, as of April, 2022)). A fleet with 20% WAVs will ensure an equivalent quality of service can be offered for customers using wheelchairs. To make the booking process simple for passengers with disabilities, the software platform should remember a passenger's need for a WAV, and ensure that a WAV request is the default for future bookings. To avoid operational problems, the system should automatically assign passengers to vehicles with an available wheelchair position.
- **For customers with hearing, vision, or cognitive impairments:** Passengers should be able to indicate their disability status, either directly through the app or through notifying the customer service agent at the time of booking. This information can be used to modify the service to better adapt for their needs, whether it's through enabling point-to-point pick-up and drop-offs, concessionary pricing, or notification to the driver to provide additional assistance.
- **For customers without smartphones:** In addition to the smartphone app for booking trips, offering web-based and phone booking options can ensure passengers without smartphones (or those who prefer not to use an app) can access service. GMT administrators should be able to easily book microtransit rides for customers calling in. GMT can also partner with community organizations to train workers on how to book trips on behalf of passengers.
- **For customers without credit cards:** Unbanked or underbanked passengers should be able to pay for services with several different options, which may include physical or digital vouchers (purchased in cash at community centers, transit hubs, or other key locations), prepaid debit cards, and cash on board the vehicle.