Tri-Town Area
(Jericho, Underhill, Cambridge)
Transit Feasibility Study

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1. INTRODUCTION

The three contiguous communities of Cambridge, Underhill, and Jericho are seeking to develop a comprehensive "alternative" transportation system (i.e. one that does not rely heavily on single-occupancy auto) to serve their residents. This area has come to be called the "Tri-Town" area. The purpose of this study is to examine the range of possibilities for accomplishing this including various modes and services, organizational and administrative structures, and funding. It is intended that the results be relevant not only to the Tri-Town area but also for other rural portions of the GMT region.

This report begins with a profile of the area, considering residential density, development patterns and the demographic characteristics of the population. An inventory of existing transit service follows that profile, highlighting the Jeffersonville Commuter operated by GMT and demand response service operated by SSTA and RCT.

Town residents have been surveyed a number of times over the past four years. Chapter 4 describes the results of earlier surveys in a brief summary and presents the detailed results of a new survey conducted by CCRPC in spring 2021.

Chapter 5 examines potential transit service improvements for the Tri-Town area and relates them to mobility goals that the towns may choose to pursue. Each mobility option is described in detail and then cost and ridership estimates, and the assumptions behind them, are laid out.

The rest of the report considers critical elements of initiating a new transit service, including funding, governance, technology, information, branding, and coordination. These chapters focus on two of the service options that offer the greatest potential benefits: a volunteer-based microtransit service and a Senior Bus.

The final chapter considers next steps for the two primary options and lays out a high-level implementation timeline.

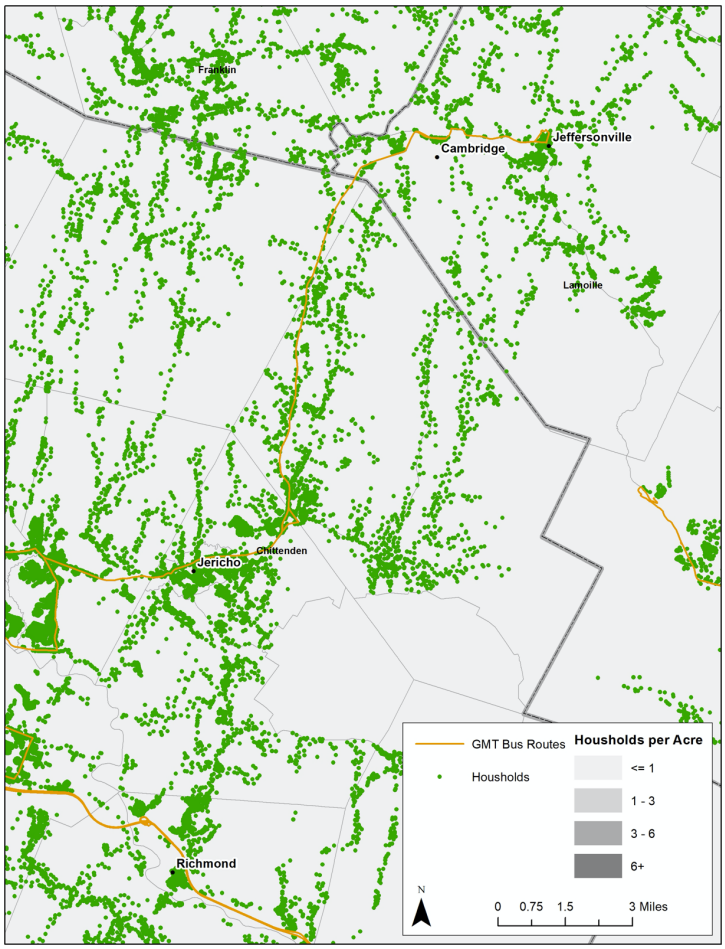
2. PROFILE OF THE TRI-TOWN AREA

The three towns of Cambridge, Underhill and Jericho have a combined population of just under 12,000 residents and a total land area of 150 square miles. This works out to an average population density of 79 people per square mile, which is slightly higher than the statewide average (67 people/sq. mi.), but very rural by any standard. Jericho has more density than the other towns, as shown in Table 1 below. Indeed, the densest part of the area is Jericho Village, which has a population of about 1,350 and a land area of 1.4 square miles, resulting in a density of nearly 1,000 people per square mile.

Table 1 – Population and Density

	Population	Land Area (Sq. mi.)	Density
Jericho	5,052	35.4	143
Underhill	3,060	51.3	60
Cambridge	3,776	63.2	60
Tri-Town Area	11,888	149.9	79

Figure 1 – Location of Housing Units



The distribution of population in the region is more precisely shown by Figure 1. Each green dot on the map represents one residential housing unit, based on the Vermont e911 database. The background shade represents the overall household density by Census block group. The fact that there is no variation in the background shade reflects that every block group shown on this map has a household density of less than one household per acre. The three towns each have only two or three block groups, so that the portions of the towns that have higher density (such as Jericho Village) are "diluted" by other parts of the block group that have little or no housing.

In the transit industry, a density of 3 households per acre is considered the minimum threshold for regular fixed route bus service to be viable.[1] That density is roughly equivalent to 4,500 people per square mile. There is no part of the Tri-Town area that has a density that high or even half that high. As noted above, the 1.4 square miles of Jericho Village has a density of just under 1,000 people per square mile.

[1] See TCRP Report 100, *Transit Capacity and Quality of Service Manual*, page 3-33. Employment density of 4 jobs per acre is also considered supportive of transit service. Transit corridors that have both sufficient residential and employment density can support higher frequency service than would be suggested by each of the measures separately.

The fact that the three towns do not have sufficient population density to support fixed route transit does not mean that there is no need for transit service. The American Community Survey of the US Census provides information on the characteristics of the population. The figures presented below represent a five-year average (2015-2019) of responses collected in the three towns and expanded to reflect the full population.

Age

An important determinant of the need for public transit is age. Teenagers may be too young to drive or not be able to afford an automobile. Older adults may lose their ability to drive because of issues with their eyesight or other disabilities. Table 2 below shows statistics about relevant age groups in the three towns.

Table 2 – Age

	Jericho	Underhill	Cambridge
Total Population	5,030	3,060	3,776
Median Age	41.4	49.0	38.1
Teens (15–19)	255	279	188
Younger Seniors (65–74)	420	359	342
Older Seniors (75+)	322	200	112

Underhill has the highest median age, not because it has the greatest number of older adults, but because it has fewer residents in the 25–40 range and more in the 45–60 range than the other two towns. Underhill also has relatively few young children (0–15), but it has the highest number of teenagers. About 30% of Jericho's population and 37% of Underhill's are in the 45–70 age group, while only 25% of Cambridge's population is in that age group. Over the coming decade, Jericho will have a large number of older seniors who will be more likely to need transportation assistance. Underhill will have fewer older seniors in this decade, but many more in the following decade (2030s).

Income

Owning an automobile is expensive, with a national average annual cost of about $9,000.[2] Low-income households face a real challenge to afford that cost, not to mention the cost of owning two cars if both adults need to travel regularly and there are no alternatives available. Table 3 below shows the number and percent of residents in the three towns who are below the federal poverty line and who are eligible for Medicaid.

Table 3 – Poverty and Medicaid

	Jericho	Underhill	Cambridge
Total Population	5,030	3,060	3,776
Below Poverty Level	224	64	561
Percent	4%	2%	15%
Medicaid Members	679	450	1,042
Percent	14%	15%	27%

[2] https://www.aaa.com/autorepair/articles/average-annual-cost-of-new-vehicle-ownership

The federal poverty line varies with the size of the household and Medicaid eligibility varies with age and other factors. Relatively small percentages of Jericho and Underhill residents have incomes below the federal poverty line, but 15% of Cambridge residents do. Much higher numbers of residents are currently Medicaid members, including over one thousand in Cambridge.

Vehicle Availability

A more direct measure of the need for transit access is the number of households without a vehicle available. In urban areas, some people choose to live without a car because they are able to accomplish most or all of their trips on foot, by bicycle or via transit. In rural areas such as the Tri-Town area, with few exceptions it is very difficult to live without a car. Table 4 shows the number of households with various numbers of cars, and while the numbers with zero vehicles are low, they likely represent the people who are unable to drive or afford a car because of age, disability or income. Many more households have one vehicle available, and these may represent single-person households, low-income households, or households with lower mobility needs because they are retirees or because they are able to work from home.

Table 4 – Vehicle Availability

	Jericho	Underhill	Cambridge
Total Households	1,975	1,200	1,502
0 vehicles available	21	8	41
1 vehicle available	392	246	329
2 vehicles available	1,003	526	679
3+ vehicles available	559	420	453

For all three towns, between 75% and 80% of households have at least two cars available. It is important to recognize that it will be a challenge to convince these people to give up driving and use any new transit services that may be offered because they have invested significantly in their cars and are accustomed to driving everywhere. Transit service would have to be *very* convenient and attractive to convert these drivers to riders, and it is difficult to see how such a high level of service could be sustainably operated and funded in an area with such low population density overall.

Employment

Besides the number and characteristics of residents in an area, it is also important to consider the number of jobs, as commuters have traditionally constituted a majority of riders on public transit services. Figure 2 on the next page shows the locations of employers as of 2016-2017, as recorded by Dun & Bradstreet. Employers with fewer than 10 jobs at a work site are not shown on the maps.

In general, there is not a great deal of employment in the Tri-Town area. As of 2019, the total employment in the three towns combined was about 2,400 jobs. The only employer with more than 100 jobs is Smuggler's Notch in the southern part of Cambridge. Several small employers are located in Jeffersonville, and some small and medium size employers are in Jericho, but there is relatively little employment in Underhill. School districts, fire districts and the US Army account for most of the circles in Jericho.

The small size of employers in the three towns and the lack of any significant concentration of jobs means that it is unlikely that there is a viable transit market to serve commuting trips *to* these towns. Rather these towns serve more as bedroom communities for employment in Chittenden County, primarily in Burlington and Essex, as shown below.

Commuting

According to the Census Bureau's Longitudinal Household-Employer Dynamics database, about 5,900 residents of the three towns had jobs in 2019. About 600 of these residents worked in the same town where they lived (mostly in Cambridge) and another 110 or so worked in another of the three towns, so that just over 700 commuting trips—12% of the total—were "internal" to the Tri-Town area. For those residents commuting to jobs outside of the three towns, the vast majority commuted to the "urban core" of Chittenden County, with Burlington, Essex, South Burlington and Williston the primary destinations. These four destinations accounted for nearly 2,700 commuters from the three towns, about 46% of the total. A detailed list of top commuting destinations from the three towns is shown below in Table 5.

Figure 2 – Tri-Town Employers

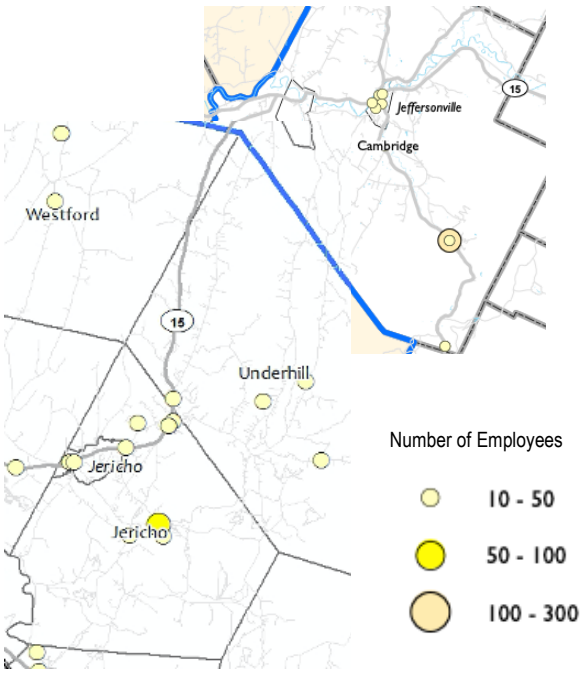


Table 5 – Commuting Destinations

Destination \ From	Jericho	Underhill	Cambridge
Burlington city	515	302	134
Essex town	309	185	144
South Burlington city	301	151	141
Williston town	267	143	99
Cambridge town	21	30	386
Colchester town	198	71	72
Jericho town	183	31	22
Richmond town	135	77	13
Morristown town	29	14	73
Milton town	43	37	35
Hartford town	40	25	48
Stowe town	26	23	35
Winooski city	37	17	27

The destinations listed in Table 5 are mostly in line with expectations, with job centers in Chittenden and Lamoille counties capturing most of the commuting trips. The Town of Hartford, is perhaps surprising, since it is more than 90 minutes away from the Tri-Town area. It is likely that the Veterans Administration Hospital in White River Junction (which is part of Hartford) is the primary employment draw.

As would be expected in a rural area with little in the way of public transportation options, the great majority of Tri-Town commuters drive themselves to work. Overall, the percentage of commuters driving alone is 80%. Another 9% of commuters participate in carpools or vanpools. Three tenths of one percent use transit to get to work. The remaining 11% either work at home, walk to work or use another means.

The census data tell us that the median age of drive alone commuters is higher than the median age of carpoolers, especially in Underhill where the gap is 11.5 years and in Jericho where the gap is 6.2 years. It makes sense that younger workers would be less likely to own their own cars, and thus seek out carpools, than older workers. It may be that Millennials are also more environmentally conscious than prior generations.

Conclusions

By traditional measures, the Tri-Town area is not a strong market for transit. The population density is very low, and even in the most densely populated portion—Jericho Village—the density barely reaches the threshold for supporting bus service. There is relatively little employment in the three towns, and they function more as bedroom communities for the urban core of Chittenden County, and less so for employment centers in Lamoille County.

There is a large and growing population of older adults in the three towns, but relatively few people living in poverty (especially in Jericho and Underhill). The number of households without vehicles is very small, as nearly four in five households have at least two cars available.

The commuting market to Burlington is strong, but it is already served—albeit in a minimal way since the pandemic started—by GMT's Jeffersonville Commuter route. The next section of the report presents information on all existing transit services in the Tri-Town area.

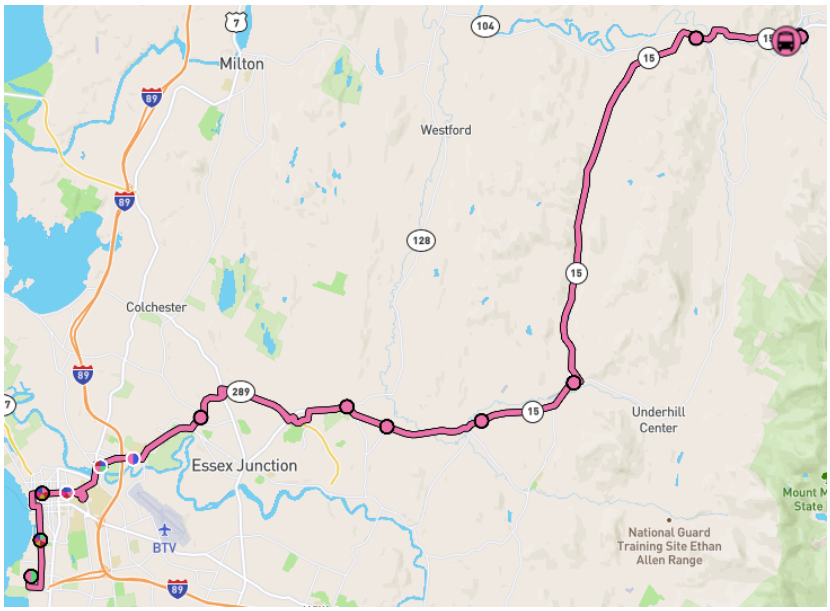
3. EXISTING TRANSIT IN THE TRI-TOWN REGION

Commuter Bus Service

The most visible form of public transit in the Tri-Town region is the Jeffersonville Commuter, Route 36 operated by Green Mountain Transit. The route was initiated in October 2013 as the last of a batch of commuter express routes that began with the Montpelier LINK Express in 2003 and grew to include LINK routes to Middlebury and St. Albans, and regional commuter routes to Milton and Hinesburg/Middlebury via Route 116. The Jeffersonville Commuter was initiated with four daily round-trips and it was operated that way until March 2020 when several services were cut back in response to the onset of the COVID-19 pandemic. Until the pandemic, morning trips left from Jeffersonville Post Office at 6:20 and 6:50 arriving in downtown Burlington at 7:45 and 8:15, and afternoon trips left from the Downtown Transit Center at 4:30 and 5:10 arriving back in Jeffersonville at 5:45 and 6:25. During the pandemic, there has been one trip leaving from Jeffersonville at 6:35 a.m. and one return trip leaving from the DTC at 4:35 p.m.

Ridership on the Jeffersonville Commuter has never been very strong, averaging about 50 riders per day at its peak in 2014-15 and dropping to 40 riders per day by FY2019 and only 35 riders per day in FY2020 before the pandemic struck. During the pandemic, the two round-trips have carried a total of about 8 riders per day. These figures indicate that even before the pandemic, most of the bus trips had single-digit ridership. The most recent on-board passenger counts in 2018 showed 14 riders on the 6:40 a.m. inbound trip and 18 riders on the 4:05 p.m. outbound trip, but an average of only 3.3 riders on the other six trips.

The bus stops in the Tri-Town area generate small numbers of riders. In Fall 2018, the highest number of boardings at any stop was seven at Dickinson Street in Underhill Flats, followed by three boardings each at North Woods Joinery in Jeffersonville, the Cambridge Health Center and the Jericho Post Office. Five people boarded at various stops in Essex (mainly the Essex Outlets Fair). Most of the riders were bound for either the UVM Medical Center or the Downtown Transit Center.



Route 36 had a total operating cost of about $292,000 in FY2019, and with total annual ridership of 10,332, it had a gross cost of about $28 per passenger trip. Fare revenue of $23,000 defrayed only about 8% of that operating cost.

Demand Response

Several forms of demand response transit currently serve the Tri-Town area. The great majority of the service is operated under the Non-Emergency Medical Transportation (Medicaid) program or the Elders and Persons with Disabilities Transportation Program (E&D). The Medicaid program is a combination of federal and state funds (about a 57/43 ratio) while the E&D program is 80% federal funding with the 20% match supplied by local funding partners. In Jericho and Underhill, the local funding is provided by AgeWell, the Commission on Aging for the area, and the service is operated by Special Services

Transportation Agency (SSTA), under contract to GMT and the Vermont Public Transportation Association, respectively. In Cambridge, the service is operated by Rural Community Transportation (RCT). The SSTA service is almost exclusively provided by professional drivers using agency vans, while the RCT service is almost exclusively provided by volunteer drivers in their private automobiles. With all of its E&D partners, RCT uses the value of time volunteered by its drivers to serve as in-kind match for the federal funds.

In addition to these two large programs, there is a small amount of additional demand response service in the area. The Vermont Kidney Associate sponsors a small number of trips (mostly operated by SSTA). Local volunteer-based organizations also provide some transportation services. Cambridge Cares, a collection of volunteers who seek to help out their neighbors, provides a handful of rides to Cambridge residents, mostly to get them to medical appointments. Before the pandemic, there were typically six to eight rides per month driven by volunteers, but during the pandemic, that figure has dropped to about two or three rides per month. Mount Mansfield Villages (MMV) is a nonprofit organization to support older adults in Jericho, Underhill and Cambridge, with the goal of helping them "stay in their homes, live independently and remain connected," according to its website. The organization has a pool of about 30 volunteers to provide services, although only about nine of them routinely provide rides to members. Prior to the pandemic, MMV provided about 70 rides per month, but in Spring 2021, that figure was down to about 19 rides per month. Most of the rides stay within the Tri-Town area, but the volunteers will also take members to places like Burlington and Morrisville when requested. Rides can be for any purpose.

GMT and RCT provided detailed information on the demand response trips operated in the Tri-Town area in FY2019 and FY2020. Table 6 below shows the origin and destination towns of trips that were provided under the E&D program. The greatest number of trips occurred within the town of Jericho, while trips between Jericho and Burlington and between Jericho and other core communities in Chittenden County (South Burlington, Winooski, Colchester and Essex Junction) were the next most common. Trips originating in Cambridge were less likely to head into Chittenden County, mostly staying Cambridge or linking to other destinations in Lamoille County such as Morrisville or Stowe. Underhill generated far fewer trips than Jericho, but more trips than Cambridge.

Table 6 – FY2019 E&D Trip Origins and Destinations

Origin\Destination	Jericho	Underhill	Cambridge	Burlington	Other Core	Other Chittenden	Other Lamoille
Jericho	113	25		47	47	19	
Underhill	25			38	36	11	
Cambridge			23	3	4		26
Burlington	46	34	3				
Other Core	49	36	16				
Other Chittenden	16	6					
Other Lamoille			18				

The origin-destination pattern for Medicaid trips is somewhat different, as shown below in Table 7. There were no trips that stayed within either Jericho or Underhill, but there were 21 trips that stayed within Cambridge. Jericho generated a much higher number of Medicaid trips than the other towns, and many more than in the E&D program as well. An in-depth analysis of these trips revealed that just five Jericho

residents were responsible for 1,333 trips in FY2019, constituting almost 90% of the Medicaid trips operated. It can be seen that the great majority of these trips were between Jericho and the urban core communities of Burlington, South Burlington, Colchester and Essex Junction. In spite of the UVM Medical Center being in Burlington, just about as many trips went to clinics in other core communities than went to Burlington. As with the E&D program, trips originating in Cambridge were more likely to go to destinations in Lamoille County than they were to go to Chittenden County.

Table 7 – FY2019 Medicaid Trip Origins and Destinations

Origin\Destination	Jericho	Underhill	Cambridge	Burlington	Other Core	Other Chittenden	Other Lamoille
Jericho				320	298	151	
Underhill				32	36	10	
Cambridge			21	1			49
Burlington	288	16	1				
Other Core	296	27	2				
Other Chittenden	139	12	4				
Other Lamoille			58				
Other	1		1				

Table 8 below presents a summary of demand response service operated by SSTA and RCT in the Tri-Town area in FY2019 and FY2020. Because of the pandemic, the figures in FY2020 are lower across the board, though the drop in ridership caused the cost per passenger to increase. Demand response trips in Cambridge are much less expensive on a per-trip basis because these are arranged by RCT using volunteer drivers. Trips provided by SSTA are almost all operated by professional drivers in vans. The ridership and cost of the Jeffersonville Commuter are provided for reference and comparison.

Table 8 – Summary of Demand Response Service and Costs, FY2019 and FY2020

FY2019	Trips	Cost	Cost/Pass.	FY2020	Trips	Cost	Cost/Pass.
DR Totals	2,293	$ 115,595	$ 50	DR Totals	1,560	$ 80,974	$ 52
E&D	597	$ 24,803	$ 42	E&D	511	$ 23,381	$ 46
Medicaid	1,696	$ 90,792	$ 54	Medicaid	1,049	$ 57,343	$ 55
Jericho	1,825	$ 94,962	$ 52	Jericho	944	$ 50,409	$ 53
Underhill	349	$ 17,081	$ 49	Underhill	473	$ 26,828	$ 57
Cambridge	119	$ 3,552	$ 30	Cambridge	143	$ 3,487	$ 24
Route 36	10,332	$ 291,786	$ 28	Route 36	8,995	$ 259,372	$ 29

Overall, the Medicaid transportation program is more than twice as large as the E&D program and in FY2019, it was nearly three times as large. As noted above, the number of Medicaid trips was primarily determined by five individuals who made heavy use of the service. Their use dropped in FY2020, as there were only 595 Medicaid trips for Jericho residents (compared to 1,493 the prior year). Four individuals were responsible for 494 of those trips.

Ridesharing

Another important component of mobility for the Tri-Town are, though not strictly qualifying as public transit, is ridesharing. Carpooling and vanpooling activities are coordinated by Go Vermont, a program funded and overseen by the Vermont Agency of Transportation. According to the Go Vermont database, there are 37 members in the three towns, 22 from Jericho, 4 from Underhill and 11 from Cambridge. Members are asked to list their employer, but only a few have done so. Four members listed the UVM Medical Center, three listed the State of Vermont, and one each listed UVM, Saint Michael's College and Champlain College. Twenty-seven of the members indicated an association with CATMA, the transportation management association for the major institutions in Burlington (such as the hospital and the colleges). Go Vermont members are encouraged to record their carpooling and transit activity, but many do not, and so it is difficult to say how many active carpools there are in the Tri-Town area.

4. SURVEY RESULTS

Prior Surveys

Prior to the initiation of this study, residents of the Tri-Town area responded to three earlier surveys about travel patterns and transportation usage. Two of these surveys were conducted in Spring 2017 and focused on the Jeffersonville Commuter bus route. A survey in March was completed by 82 Cambridge residents, and a similar survey in April was completed by 220 residents representing all three towns (66 from Jericho, 87 from Underhill and 64 from Cambridge, with three from other locations but related to the three towns).

The questions on these surveys sought information on whether and why residents used the Jeffersonville Commuter or not, how the route could be improved (stop locations and schedule) and whether they supported using local tax dollars to help pay for the service. In both surveys, about 43% of respondents said that they had used the bus at some point, which indicates a large degree of selection bias in who answered the survey. That is to say, the survey does not represent the population at large in the towns but rather a subsegment which is more interested in public transportation issues, because given the historical ridership levels of the route, the percentage of the nearly 12,000 residents of the three towns who have ridden the bus has to be much lower than 43%. That selection bias has to be kept in mind when interpreting the other answers to the survey.

In both surveys, when asked why they did not ride the bus, the most common answer by far was that the schedule did not work for them. Among current users, travel to work was the most common reason for using the bus. Respondents overwhelmingly endorsed the current stop locations, with nearly 90% in favor. Similar percentages agreed that "public transportation is an important tool to reduce environmental/climate pollution and traffic," and in terms of local funding support, 75% of the Cambridge respondents and 70% of the respondents in the three-town survey said that the towns should provide funding support for the bus route. Here it is important to remember that the respondents are likely much more pro-transit than the full population of the three towns.

The conclusion that can be drawn from these surveys is if that more trips were operated, offering additional times to get to and from Burlington during peak periods and the midday, more people would ride, though it seems unlikely that the overall productivity of the service would increase, since GMT already operates trips at the most popular times. There is a group of people in these towns who are open to using transit if it is convenient, but given the overall density of population, it is difficult to offer a convenient service that is also cost effective and productive.

The third prior survey was conducted in Underhill in March 2018 in conjunction with Town Meeting. This survey considered travel and transportation options more broadly, rather than being focused on the Jeffersonville Commuter route. Given that 87% of respondents said that they drive alone to work and only 5% said they take the bus, this survey is more representative of the population of Underhill as a whole, rather than people who are more pro-transit. About 70% of respondents said that they would or might consider "alternative modes of transportation if the schedule worked" for them. This finding is consistent with other surveys of this type, reflecting a general openness to alternatives, provided they are convenient.

Among six options that "would encourage you to use alternative modes of travel," respondents chose "more frequent bus service" more than twice as much as any other option. In identifying the primary barriers to using transit, they reinforced this choice by citing scheduling issues far more than any other option. Some people did note that the Jeffersonville Commuter did not offer a direct connection to where they needed to go, but these responses were much less frequent than those discussing the schedule.

In response to a question about how much they would be willing to pay per household in property taxes to support public transit, more than half of the respondents chose figures above the $13 that is part of the current town budget. Almost a third of respondents said they would be willing to pay $50 or more per household for transit, which is a substantial increase. It is unclear whether the respondents knew that the current support was at the $13 level.

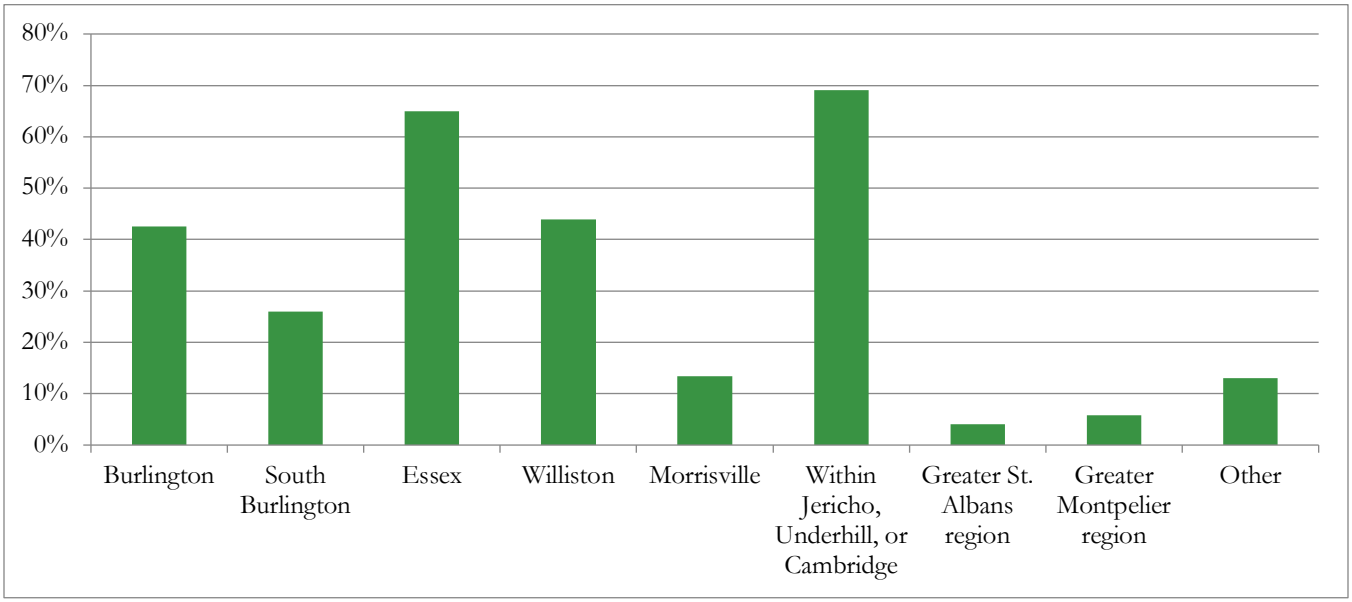
The conclusion from this survey is that Underhill residents are generally supportive of transportation options and are willing to pay for them, but they will not actually use them unless they are comparable in convenience to driving.

2021 CCRPC Survey

In Spring 2021, the Chittenden County Regional Planning Commission conducted a new survey of residents in the three towns, seeking additional information on travel patterns and their openness to alternatives. The survey included 24 questions and elicited 223 responses, 82 from Jericho, 81 from Underhill, 53 from Cambridge, and 7 from other locations. The average age of the respondents was 54, and the great majority of them (85%) were between the ages of 35 and 74. The respondents were relatively affluent, with an average household income of $87,500 and 2.2 vehicles available. There were no respondent households with zero vehicles. About two thirds of respondents were employed (83% of those employed full time) and the other third were retired.

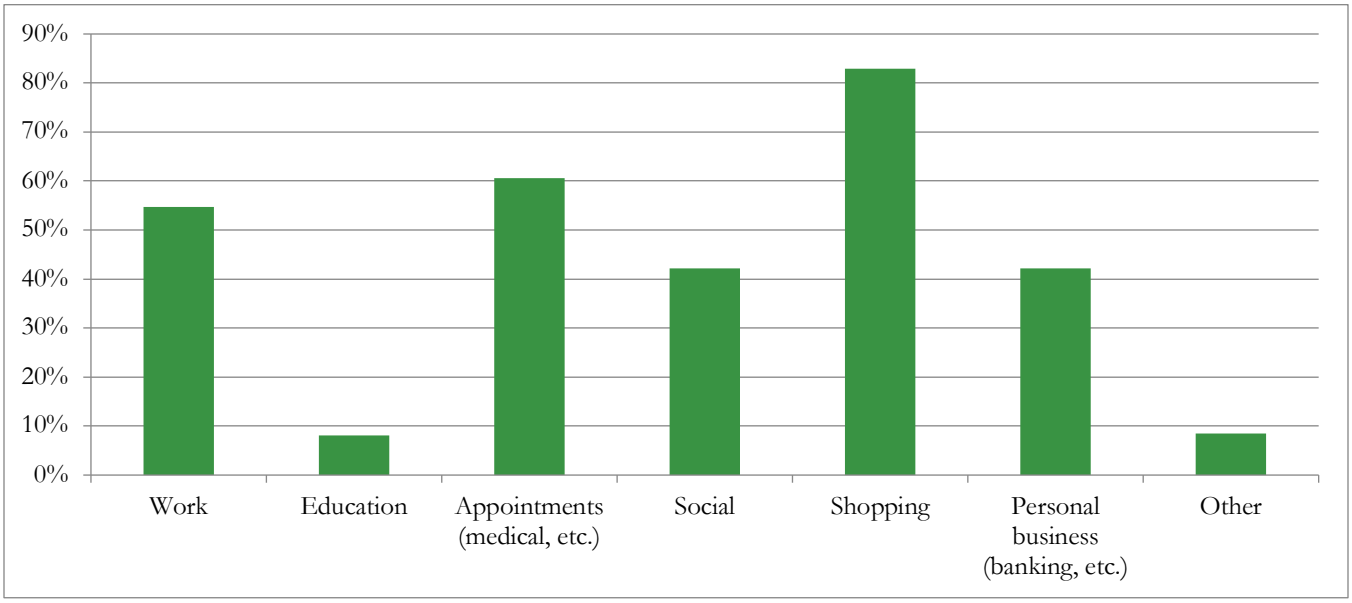
Respondents were asked where and why they travel. Figure 3 below shows the destinations visited at least weekly by the respondents. The most common destinations were within the Tri-Town area, followed closely by destinations in Essex. Williston and Burlington were also frequently cited, though at lower rates than the top four locations.

Figure 3 – Frequent Destinations



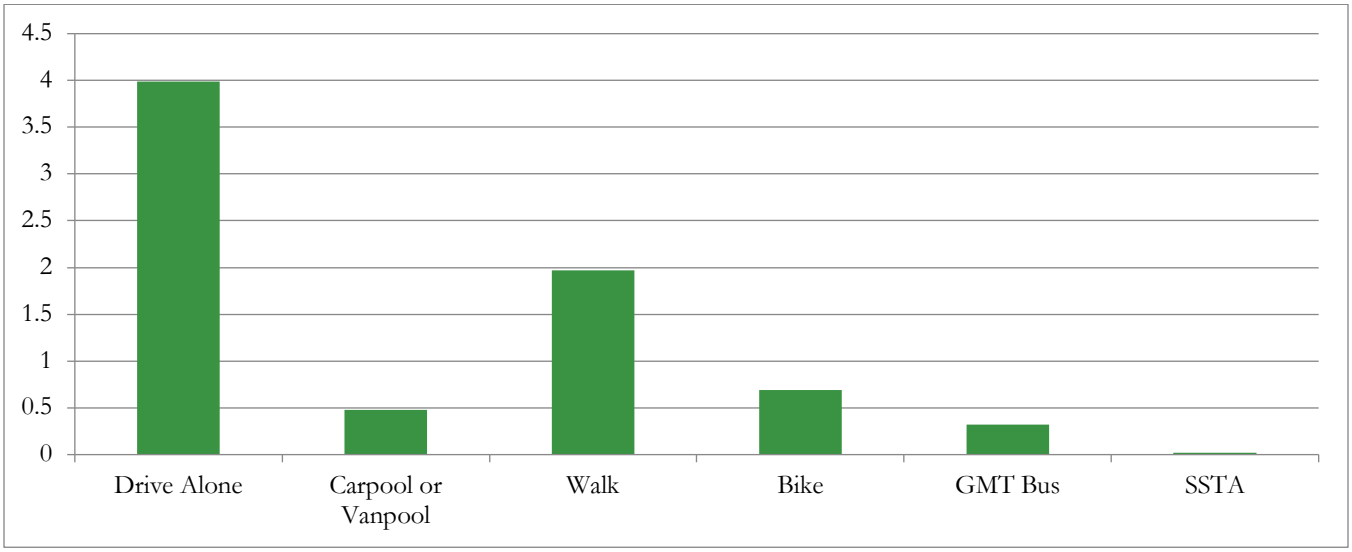
The most common reasons for travel included shopping, work and appointments. The results of this question are shown below in Figure 4. The fact that shopping and appointments outpaced work reflects the older demographics of the survey sample and that a third of all respondents were retired. Education ranked very low, both due to demographics and also because pandemic conditions may have resulted in classes taking place online rather than in person.

Figure 4 – Travel Purposes



In addition to where and why they travel, respondents were also asked how they travel. Figure 5 below shows the average number of days per week that respondents use each of the travel modes. Not surprisingly, they drive four days per week on average, more than twice as frequently as the next most common mode (walking) and five to twelve times as frequently as other "alternative" modes such as bus, carpool or biking. Presumably, the walking trips were accomplished by those living in Jericho Village, Underhill Flats, Cambridge Village and Jeffersonville who were able to shop, work or take care of personal business with a short trip within the village. Hardly anyone in the survey made use of SSTA's services (for Medicaid or E&D trips as described earlier).

Figure 5 – Travel Modes



Respondents were asked how the pandemic affected their travel. They indicated that travel by all modes dropped slightly during the pandemic, but that they expected to be traveling at essentially the same rates after the pandemic is over as they were before it started.

The final question related to current travel was whether the respondent was "adequately able to get where you need to go." Just over two thirds of respondents replied "Yes, all the time" while another 25% said "Yes, most of the time." That leaves only 8% who face significant mobility challenges, divided into 5% who said "only some of the time" and 3% who said "no." That 8% represents 16 respondents, nine of whom were over 65 years of age, and another three of whom were 55 to 64. Only two of these respondents had used SSTA services at some point. Among the six respondents who said, "no," none of them had used SSTA.

The next section of the survey sought information on ways that transit service could be more attractive. Ten possible factors were presented covering availability, fares, incentives, information, comfort, amenities, parking and pedestrian access. The three factors that were clearly more important than the others were:

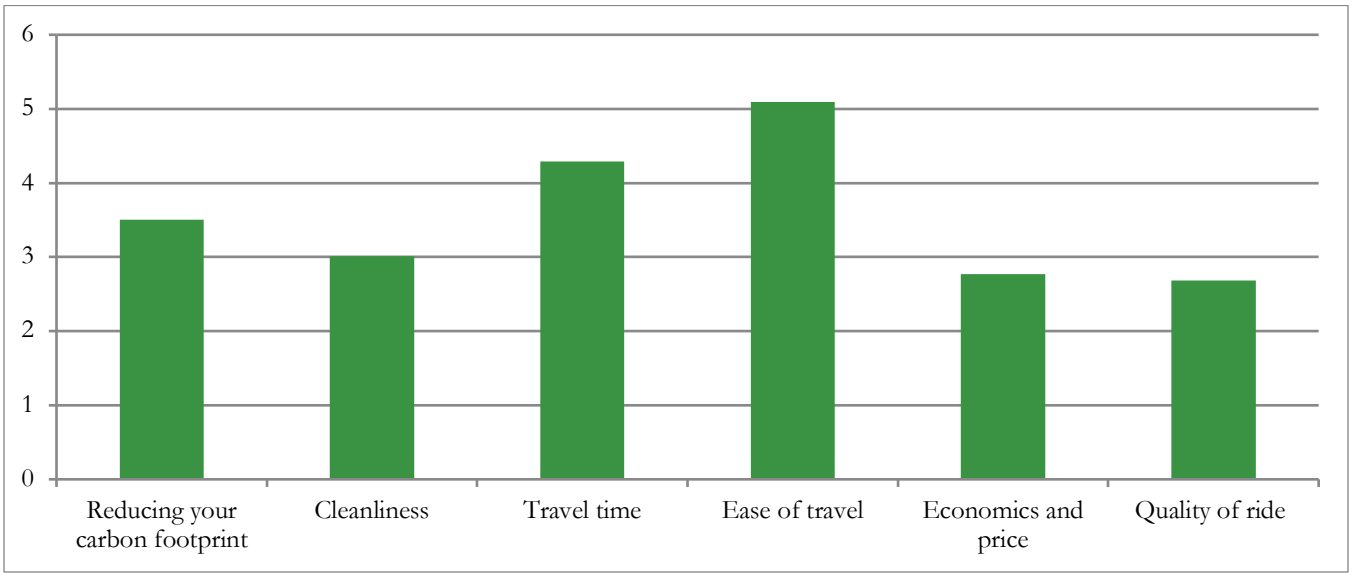
- Bus service that is available where I live or where I want to go
- Bus service that is available when I need it
- Easy accessibility to transportation information

These choices indicated that the basic availability of service is key, supplemented by adequate information so that the riders know about the service and can be confident in choosing it.

Respondents were asked specifically about the Jeffersonville Commuter and ways it could be improved to make it more attractive. Half of the respondents were not familiar with the route and offered no suggestions. Another 11% thought that no improvements were needed. The remaining 39% was divided among people who suggested different stop locations (13%), an increase in morning service (9%), an increase in midday service (14%) and an increase in evening service (3%).

Another angle that was used to determine why people do or do not use transit was to ask about the importance of factors that affect the use of transit. Seven factors were offered and the respondents were asked to rank them. The factors and results are shown below in Figure 6.

Figure 6 – Factors Affecting Transit Use

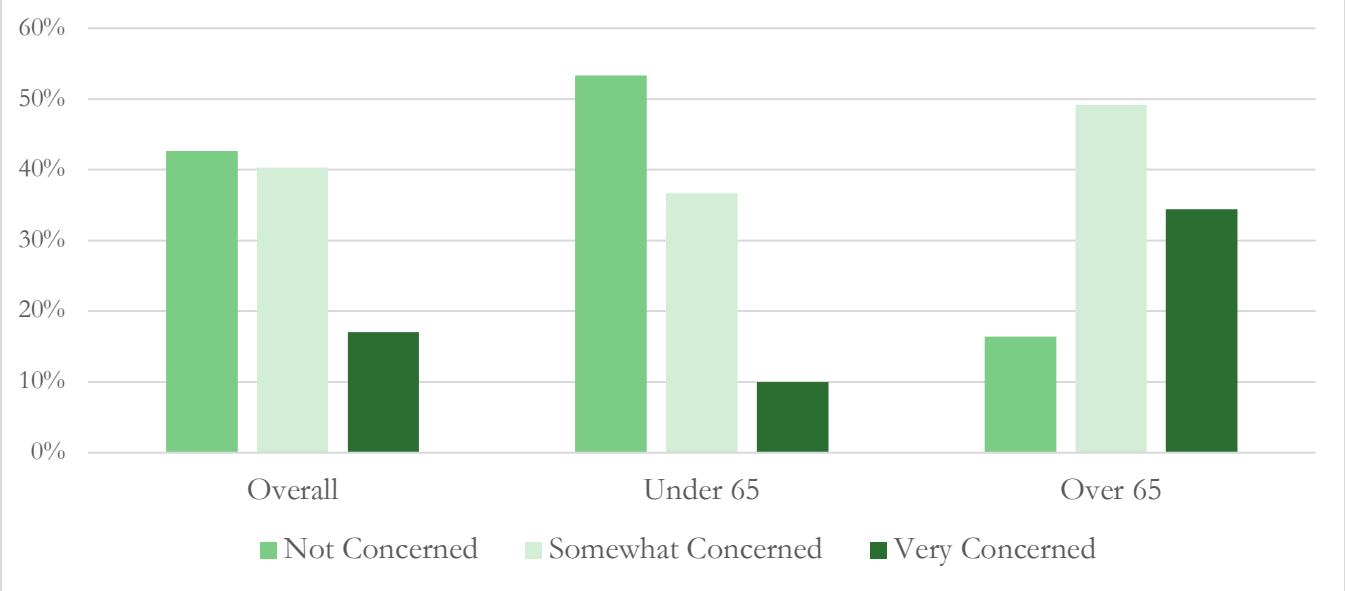


The most important factor affecting use was "ease of travel," which reinforces the earlier findings that the availability and convenience of service were decisive factors affecting transit use. Travel time was second

most important; this is an important component of "convenience" and so this is not unexpected. Environmental and economic factors were less important, as were the cleanliness and ride quality of transit vehicles. None of these factors were unimportant, and a dirty bus with a bumpy ride could easily discourage people with a car in their driveway from using a transit route, but they are still less important than having a route that is quick and easy to use.

The final phase of the survey asked forward-looking questions about transportation concerns and potential participation in various transportation programs. All respondents were asked if they were concerned about their future mobility. Overall, a slight plurality of respondents said they were not concerned, but there was a large disjunction between younger and older survey respondents, as shown below in Figure 7.

Figure 7 – Concern about Future Mobility Options



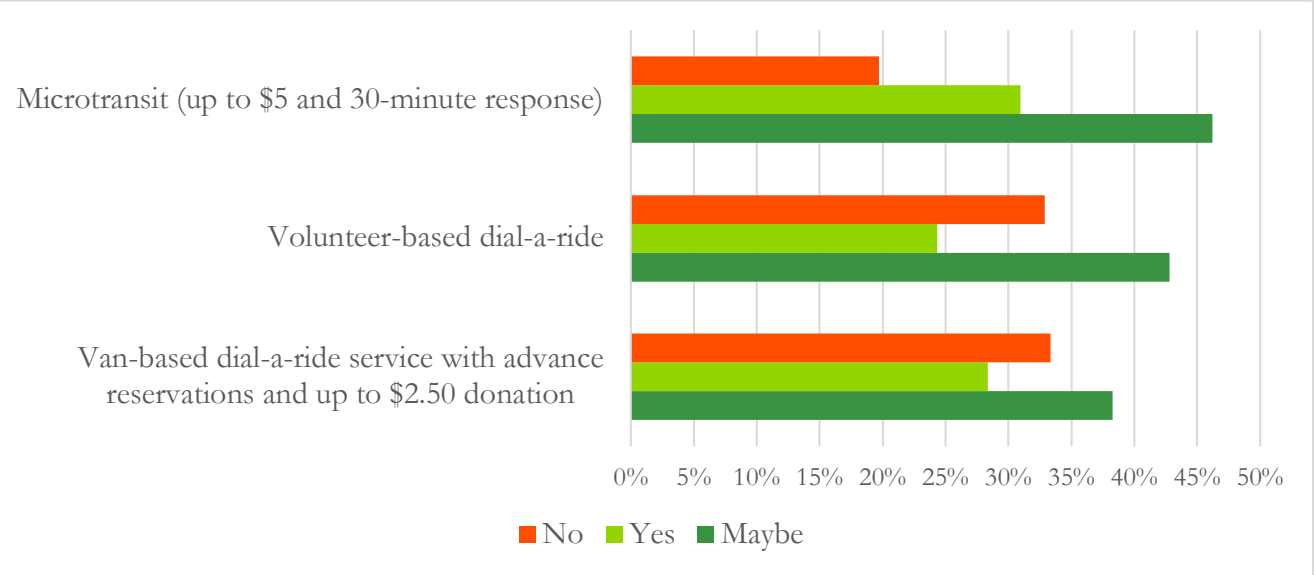
A majority of respondents under the age of 65 said they were not concerned about future mobility and only 10% said they were very concerned. However, among respondents over 65, a third said they were very concerned and almost half said they were somewhat concerned. As the average age in Vermont, and in the three towns, continues to rise, there will be greater concerns about mobility and perhaps more openness to funding transportation alternatives.

The survey asked specifically about three transportation alternatives and whether respondents would be willing to use these alternatives:

- Traditional dial-a-ride service requiring a 24-hour advance reservation and operated by an agency such as SSTA with accessible vans. The trip would require a $2.50 donation.
- Dial-a-ride service similar to the above but operated with local volunteer drivers rather than SSTA vans.
- Microtransit service (described as "similar to Uber and Lyft") with a 30-minute response time and a per trip charge of up to $5.

The responses to these potential services are shown below in Figure 8.

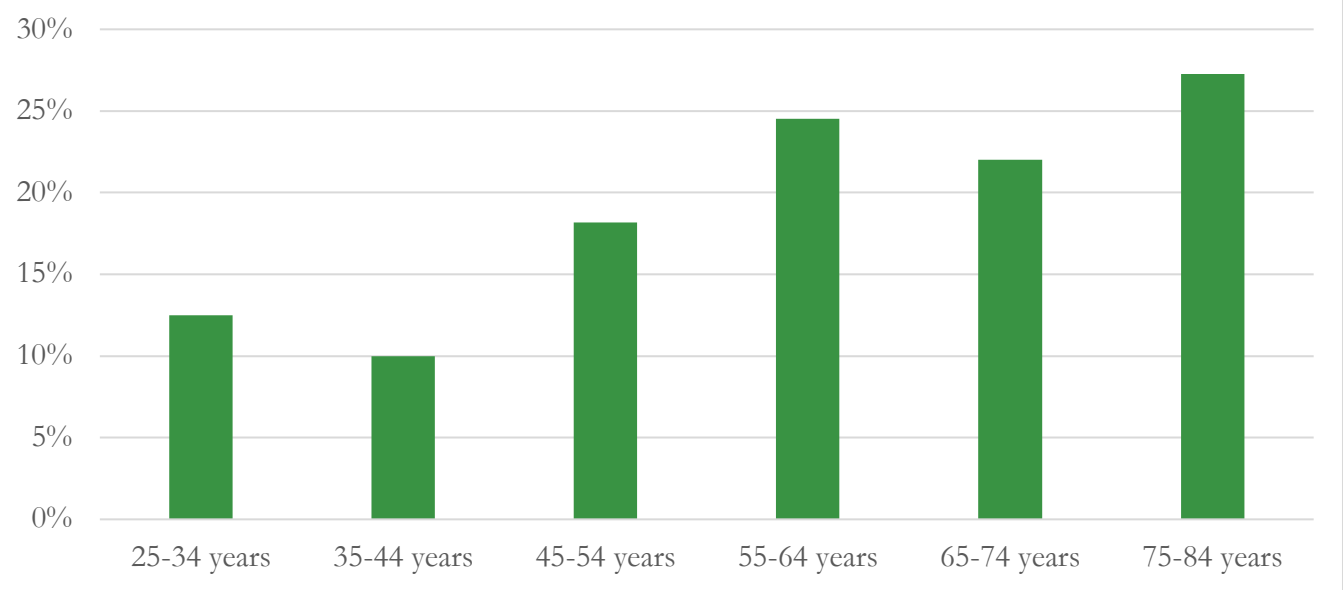
Figure 8 – Use of Potential Services



Of the three options, the microtransit service got the most favorable response with only 20% rejecting the idea and 77% either saying yes or maybe. For the other two options requiring advance reservations, a full third of respondents rejected the idea and less than 30% said yes. Obviously, the descriptions of the potential services were lacking in detail, but the fact that microtransit offered trips within 30 minutes of requesting them rather than requiring a day-before reservation was an important factor for respondents.

In addition to asking about these services, respondents were also asked whether they would be willing to serve as a volunteer driver. Overall, 41% of respondents said no, while 40% said maybe and 19% said yes. There was a large disparity in willingness to drive depending on the age of the respondent, as shown in Figure 9. Younger respondents, particularly those most likely to have children, were much less likely to be

Figure 9 – Willingness to Drive as a Volunteer by Age



willing than those nearing or in retirement. It is interesting that those over the age of 75 were the most willing to serve as volunteer drivers, when that age group is also the one most likely to need rides provided by others.

Conclusions

All of the surveys confirmed some openness to using transit as an alternative to driving, but for people who have the choice to drive, as almost all of the residents of the Tri-Town area do, the transit service has to be convenient, easy to use and time competitive with driving. As mentioned above, it is a challenge to provide high-frequency service in an area with such low population density because there is no way that the expensive service will attract enough riders to make it cost effective. There are just too many different destinations and too many different times that people want to travel to be able to fill transit vehicles—even small ones—sufficiently to justify the service.

We know there is demand to get to Essex, Burlington and Williston, as well as traveling within the three towns. There is also concern among older residents about being able to maintain their independent mobility as they age. The next section will consider possible services that could address these markets and concerns in a sustainable way.

5. POTENTIAL SERVICE

Goals

Before considering potential service options in detail, it is important to recognize that transit could serve several different roles in the Tri-Town area. These roles are laid out below as four possible goals that the residents of the towns would hope to achieve through investing in transit. The goals represent increasing levels of investment and broader potential reach among the residents of the towns.

1. **Address needs of people with mobility challenges**
   Population segments with mobility challenges include older adults, people with disabilities, low-income individuals and youth. Under this goal, transit investments would seek to provide essential services to those who cannot easily get to their desired destinations, most likely because they do not have access to an automobile or are unable to drive.
2. **Provide options to commuters**
   The commuter market is often the best market for transit services because many people are traveling at the same time to areas with a dense concentration of jobs. Convincing commuters to use transit rather than driving reduces traffic congestion during peak hours, reduces the need for parking capacity in urban areas, and lessens the need for a household to have multiple cars. For the Tri-Town area, the commuter market consists mainly of trips to Burlington and Essex.
3. **Improve local mobility with the Tri-Town area**
   The surveys showed that residents of the three towns take many trips that stay within the three towns. Better local circulation could improve mobility for vulnerable residents (see number 1), reduce the need for parking in the three towns and lessen the need for households to have multiple cars.
4. **Create a robust transit alternative for all Tri-Town area residents**
   This goal is essentially "all of the above," as it would address the needs of mobility-challenged populations, improve commuter options and improve local circulation. Providing convenient and comprehensive mobility that would be attractive to all residents would require a massive investment in service.

The next section lays out a series of service options that could be feasible in the Tri-Town area. At the end of that section, the services are related to the four goals to show which types of services should be pursued in order to achieve each of the goals.

Mobility Options

Although the Tri-Town area does not have sufficient population density to support traditional bus routes, as discussed in section 2, there is a range of other transportation options that can enhance mobility. These options are discussed below.

Traditional Demand Response

Traditional demand response service is already operated in the Tri-Town area, consisting mostly of Medicaid and E&D service provided by SSTA and RCT, but this mode can be expanded beyond the amount of service that exists today. AgeWell, which provides the local match funding for E&D service for Jericho and Underhill, limits the number of trips per month that any individual can take within the program. Up to six round-trips per month for medical purposes, and up to three additional round-trips per month for non-medical purposes are allowed. In Cambridge, the trip limits, set by CVCOA, are four round-trips per month for medical purposes and two additional round-trips for shopping or personal trips. If the towns or another funding partner contributed additional cash to the program, these limits could be relaxed and more people

could be served. The amount of federal funding is not limitless, so that the additional service for the three towns would need to be negotiated through the relevant E&D committees (GMT's for Chittenden County and RCT's for Lamoille County/Northeast Kingdom).

Another way to expand this mode of service is to establish new funding programs. Over the past four years, VTrans has obtained federal grants for pilot projects for new programs to address unmet transportation needs. The Rides to Wellness program has five pilot projects across the state, including one in Lamoille County in partnership with Lamoille Health Partners. This program helps people get to medical appointments if they have no other options available. A second pilot program is Recovery and Job Access, being pursued in partnership with the Agency of Human Services. This program helps people in recovery get to opioid treatment centers, therapy sessions, and job-related activities including interviews, training, and up to two weeks of access to a new job. The job access component of the program is not limited to people in recovery. Recovery and Job Access has been very successful in the Northeast Kingdom and Lamoille County.

As discussed in the Public Transit Policy Plan, VTrans is investigating expanding each of these programs statewide, as well as rolling them into a more comprehensive "Community Rides" program that addresses needs beyond medical and job access trips. A funding source has not been identified, nor details about the scope and timing, but the Tri-Town area could potentially put itself forward as a pilot area for the Community Rides program. While this type of program would address some unmet needs in the three towns, it is unlikely to appeal to the broader public as long as it remains in the realm of traditional demand response; that is, requiring reservations a day in advance and having limited flexibility on the day of travel.

Micromobility

The term micromobility refers to a number of conveyances that are intended to expand accessibility beyond the typical distance people are willing to walk. It is most often discussed within the context of "first mile/last mile" connections allowing more people to have access to a transit route from their homes or allowing people to reach more destinations from a transit stop. Micromobility is also relevant within a community to promote more widespread access and circulation when the distance from one end of town to the other might be too long for most people to walk.

Until the past few years, micromobility has centered around short-term bicycle rentals, but electric bikes and electric scooters have now become the focus of these efforts. In urban areas, eBike and eScooter vendors negotiate deals with municipalities to place their vehicles on the streets and then derive revenue from the short term rentals. In a rural area such as the Tri-Town region, it is unclear if any of the vendors would judge it to be financially viable to place their equipment on the street without a subsidy.

Micromobility faces an even greater limitation in the Tri-Town context because eBikes and eScooters are only attractive for most potential riders in fair weather. That could mean that the vehicles are only available from May through October when there is the greatest chance of their being used. Furthermore, national experience shows that older adults are less likely to use bikes and scooters than younger people.

Thus, while micromobility could be part of a solution for expanded transit access in the Tri-Town area, it is likely to have limits on its geographic reach, seasonal availability, and appeal to older residents.

Ridesharing

Ridesharing already exists in the Tri-Town area and it is heavily promoted by Go Vermont and by the Chittenden Area Transportation Management Association (CATMA). Participation in carpools and vanpools is historically tied very strongly to gasoline prices. As the region and the nation have seen low gasoline prices (in real terms) since 2014, interest in ridesharing has ebbed.

Other than waiting for gasoline prices to increase, the only way to increase ridesharing is through additional promotion and direct incentives from CATMA and other employers. Possible incentives could include preferential parking for carpoolers, cash incentives, cash in lieu of free parking, employee recognition or other financial or non-financial rewards.

Ridesharing and vanpooling should generally be seen as complementing rather than competing with other forms of transit. There are currently no vanpools originating in the Tri-Town area. If some people decide to form one, it is possible that a few Jeffersonville Commuter riders may choose to use the vanpool instead of the bus, but from a societal point of view, that is not a negative change.

Microtransit

In the survey conducted by CCRPC, 77% of respondents indicated an openness to trying microtransit. It was described as a service similar to Uber or Lyft in which a person would be picked up within 30 minutes of requesting a ride and the fare would be up to $5. While the survey result is encouraging, the key question is whether a microtransit service can be designed and operated so that it can deliver the quality of service necessary to attract riders while remaining financially sustainable.

In order to answer this question, information from the ongoing microtransit pilot project in Montpelier was gathered and analyzed to serve as a basis for comparison to the Tri-Town area. The Montpelier service, called MyRide by GMT is operated Monday through Saturday with three vehicles serving a zone that extends for 9.5 square miles in the City of Montpelier and the mall/hospital portion of the Town of Berlin. This area contains about 8,000 residents and 11,000 jobs. The annual cost of the service is about $800,000 and is currently (Spring 2021) carrying about 550 riders per week. MyRide replaced three bus routes: the Montpelier Hospital Hill route (between Montpelier and Berlin), the Montpelier Circulator (serving several parts of the city surrounding the downtown) and the seasonal Capital Shuttle, which would have operated between National Life and the State House during the legislative session. The weekly ridership is roughly equivalent to the figure that ride the Hospital Hill and Circulator routes in the Fall of 2020. It is important to note that because of the ongoing pandemic conditions, GMT has not yet made an aggressive push to market the new service or encourage people, outside of those who rode the former bus routes, to make use of the service.

Considering possible microtransit for the Tri-Town area, three potential service zones were evaluated:

- The entire extent of all three towns
- A broad definition of the Route 15 corridor
- A narrow definition of the Route 15 corridor

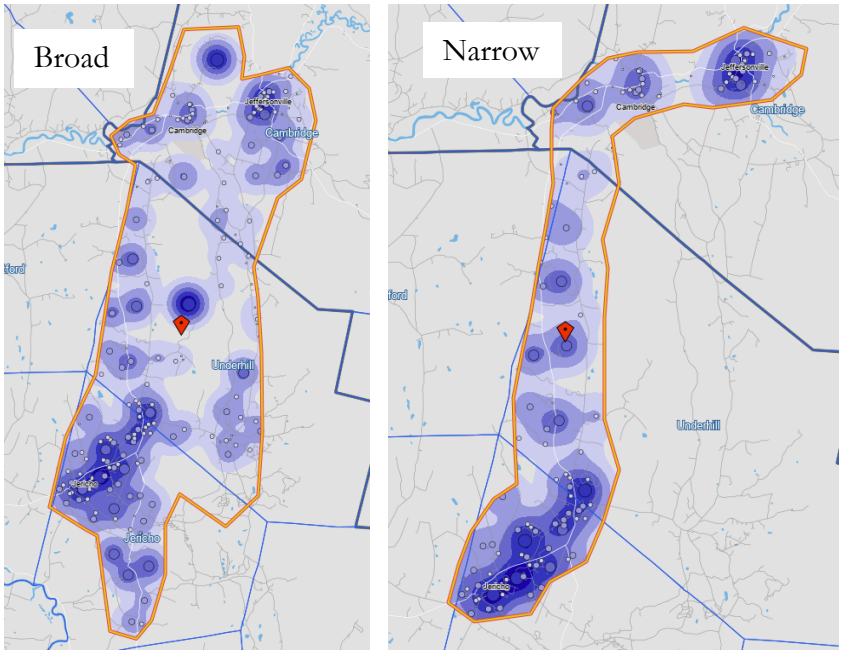
Maps showing the second and third potential zones are presented in Figure 10. The underlay of the maps is the concentration of jobs within the corridor. The broad definition is intended to include all of Route 15 plus other populated areas in the western portion of Cambridge, the central portion of Underhill and the southern portion of Jericho. The narrow definition stays much closer to Route 15 and encompasses only the most densely populated areas and those with the most jobs (other than Smuggler's Notch).

The more restricted the microtransit service zone is, the less expensive it is to serve. For any given level of service quality—defined as the average trip fulfillment time and the directness of the passenger trip—a smaller zone requires fewer vehicles in service and thus less expense. Restricting the zone to a narrow band around Route 15 would allow the service to achieve the highest efficiency and least amount of time negotiating dirt roads and far-flung addresses. However, restricting the zone also limits the potential

ridership and undermines the appeal of the service to town residents who don't live within the zone. It is crucial to keep this trade-off in mind when deciding which service design to pursue.

A comparison of the three potential microtransit zones to the Montpelier zone is presented in Table 9. Even the smallest of the zones, the Narrow Route 15 corridor is triple the size of the Montpelier/Berlin zone, but it has only half the population, one tenth of the jobs and half the employed residents.

Figure 10 – Route 15 Microtransit Service Zones



Trying to serve the whole towns with only a few vehicles would be a daunting task and would result in a very low service quality, with long wait times and long passenger trips, as the land area is more than 15 times greater than the Montpelier/Berlin zone. In spite of this geographical extent, it has far fewer jobs and only 50% more people.

Table 9 – Comparison of Microtransit Zones

Zone	Land Area	Population	Jobs	Employed Residents
Montpelier/Berlin	9.5 sq. mi.	8,000	11,000	5,200
Whole towns	150 sq. mi.	11,900	2,400	5,900
Broad Route 15	72 sq. mi.	5,800	1,600	4,700
Narrow Route 15	28 sq. mi.	4,200	1,150	2,800

The Broad zone is about 7.5 times as large as the Montpelier/Berlin zone but has only 72% as many people and far fewer jobs. The challenge of providing attractive service quality at a reasonable cost is nearly as great in this zone as it is for the whole towns area.

Beyond the trade-offs of zone size vs. service quality and financial feasibility vs. town-wide acceptance, a third trade-off is whether the microtransit service would stay entirely within the three towns or offer a connection to Essex Junction. As can be seen in Table 9, there are few jobs within the zone and not many

shopping opportunities. The CCRPC survey showed that Essex was a very common destination for residents of the Tri-Town area. Essex Junction also is a key access point to the GMT bus system, with frequent service to Colchester, Winooski and Burlington, and hourly service to Williston.[3] While a connection to Essex Junction would make the service more useful for riders, it would increase the operating cost (or degrade the level of service) because of the time vehicles would spend traveling between Essex Junction and the Tri-Town area.

Given the $800,000 operating cost of the Montpelier/Berlin pilot project, and the fact that even the smallest zone for the Tri-Town area is triple the size of the Montpelier/Berlin zone but has only half the population, it seems clear that operating a microtransit service in the three towns with agency vehicles and professional drivers is not financially sustainable. Even if federal funding could be secured, the local match portion would be way beyond what the towns have been accustomed to pay for transit service.

Volunteer-based Microtransit

The technology behind microtransit is not limited to transit agencies or professional drivers. The tablets in the transit vehicles that tell a driver where to go for the next pick up or drop off can be used and understood by anyone.

The largest cost component of the Montpelier/Berlin microtransit pilot is the money paid for driver wages and benefits. Thus, the most effective way of reducing the operating cost of potential microtransit service in the Tri-Town area is to operate it with volunteer drivers rather than professional drivers. As was demonstrated in the relative costs of E&D and Medicaid trips between Cambridge and Jericho/Underhill, RCT's reliance on volunteer drivers and SSTA's reliance on professional drivers leads to a substantial difference in the cost per trip.

In a volunteer-based microtransit system, the drivers would be town residents who would agree to drive their neighbors either on a purely voluntary basis or with a mileage reimbursement up to the federal limit (currently 56 cents per mile). The system would also need to have an accessible van "on call" to transport passengers using wheelchairs or other mobility aids that cannot be accommodated by automobiles. This van could be operated by SSTA or RCT or both, but the program would only be charged for its use when it is actually operating a trip. This condition may require passengers needing the accessible vehicle to book their trip a day, or at least several hours in advance.

The towns would likely need to work with GMT or RCT, or possibly another organization, to procure the microtransit software and assist in managing the system. It is possible that once a system becomes operational, the management could be handed over to town employees or to a new non-profit company that is set up cooperatively by the towns to operate the service.

Because volunteer drivers would not be paid on an hourly basis to keep vehicles "on the street," there is no penalty associated with expanding the service zone. Thus, to maximize the likelihood of town funding requests being approved, the service zone should include all three whole towns and connect to Essex Junction.

In order to make this system work, there would need to be a substantial pool of volunteer drivers, with representation from each town. The required number depends on how many hours the volunteers would decide to make themselves available on a regular basis, but having ten per town should be considered a minimum. Maintaining a pool of that size would require ongoing recruitment efforts and events to

[3] The connection between Essex and Williston has been temporarily changed by the pandemic and currently runs at a 75-minute headway for most of the day.

recognize and reward participation in the program. The volunteers must feel a personal connection to the program to motivate their ongoing contributions.

An essential ingredient in generating and maintaining a high level of volunteer participation is a local "champion" in each town. A champion is someone who is committed to making the project work and who has the time available to reach out to neighbors, friends, local organizations and others to generate excitement and support for the effort. A champion could be a municipal employee, but it is cheaper and more effective if the champion is just a community member who really cares about improving mobility. Although some volunteer drivers may be motivated by the cash they get from mileage reimbursements, most of them need to feel a connection to their neighbors and the community to stimulate participation in such a program.

In Vermont, the volunteer program in the Champlain Islands, run by Champlain Islanders Developing Essential Resources (C.I.D.E.R.), is looked to as a successful model. Besides highly competent and experienced management, part of what makes C.I.D.E.R. successful is the "island mentality" of the residents of Grand Isle County. The island mentality refers to the sense of "we're on our own" and "we have to take care of our own" because people from the "mainland" will not help us. This mentality creates stronger community bonds and boosts the willingness of people to take care of their neighbors. The island mentality does not have to be restricted to actual islands. With the right leadership, the community spirit that already exists in the Tri-Town area, as evidenced by Cambridge Cares and Mount Mansfield Villages, could be expanded to generate enough volunteer resources to make the microtransit system functional.

Other components of the program would be the procurement of tablet computers for the volunteers and training in how to use the system and other aspects of handling riders. The drivers would be covered by an umbrella insurance policy, as is already provided for other volunteer driver programs in the state.

Because not all riders have smartphones or are comfortable with technology, all microtransit services include a call center through which people can make reservations by telephone. The Tri-Town microtransit service would establish an agreement with GMT, SSTA or RCT to serve as its call center. This function could be part of the overall management agreement.

If all of the funding and logistical hurdles can be surmounted, the last essential ingredient to making this service successful is an extensive marketing campaign through word of mouth and local media. Cars driven by volunteer drivers, even if they have a magnetic sign on the side announcing what they are doing, are not the most visible forms of transit. Potential riders need to be made aware of the service and reassured that it is safe and reliable. See chapter 8 for more discussion of information and branding.

Traditional Bus Service

With the end of the pandemic hopefully in sight, GMT is considering restoring service that was cut in March 2020. As mentioned earlier, the number of round-trips on the Jeffersonville Commuter was cut in half, from four to two, at that time. It is likely, though not assured, that GMT will restore the original schedule and make a renewed effort to encourage commuters to use the route.

In the near term, a volunteer-based microtransit service would enhance the Jeffersonville Commuter rather than compete with it. It could provide first mile access to the route for commuters who live beyond easy walking distance. Microtransit in general would not be used to provide trips all the way into Burlington except in cases of medical need or other special circumstances. It definitely would not be available to provide worktrip access at the same time that Route 36 is operating. Microtransit's midday access to Essex Junction would enhancing the Jeffersonville Commuter's attractiveness by providing a midday means to get to or from Burlington from the Tri-Town area.

If a volunteer-based microtransit system is established and over time demonstrates a consistent and substantial pattern of demand from the three towns into Essex Junction, then it may be possible to institute a scheduled bus route that serves that demand. This route, which would likely be a midday service only, would function as an feeder into GMT's Essex Junction-Burlington route. In the three towns, it could be operated by GMT, SSTA, or RCT or it could be operated by municipal employees using a town-owned vehicle as described in the next subsection. It is likely that a 12-passenger van would be sufficient for this service and it would probably not require a CDL-certified driver.

Senior Bus

Because mobility for older adults is going to be an increasing challenge in the coming years, the towns could cooperatively develop a bus service specifically for older adults and people with disabilities of any age. A scheduled bus service may be preferable to a microtransit service for some older adults because the technology associated with microtransit can be a barrier, and the requirement to reserve a trip on microtransit is less convenient than just walking out to a bus stop. The towns could contract with SSTA or RCT to provide the service, or they could jointly purchase a van and operate it with municipal employees.

There are several reasons why this service should be named and promoted as a senior bus rather than a general-purpose bus route. First, funding for a van is much more available through the federal 5310 program than other programs (see chapter 5 for more detail) and that program is restricted to capital investments for people age 60 and over and those with disabilities. Second, older adults are more likely to use a service like this if they feel that it caters to their needs, rather than worrying about a "bunch of rowdy teenagers" on the vehicle with them. It is the case that a van service for older adults is allowed to carry other passengers if there are seats available and if no eligible passenger is denied service because of capacity constraints. However, to remain eligible for the federal funding, that extra capacity cannot be promoted more prominently than the overall orientation toward older adults and people with disabilities.

The Town of Essex provides an excellent example of a municipally operated bus service for E&D-eligible passengers. The town owns two vans that were purchased through GMT using federal section 5310 funds. The town paid 10% of the purchase price as the required local match (with the federal government paying 80% of the cost and the state paying the other 10%). That local match amounts to about $8,000 per van and is paid every seven years or so as the vans are replaced.

The annual operating cost for the service is about $200,000, paid exclusively out of the Town budget. This cost covers a staff member to coordinate rides and oversee the program, part-time drivers to operate the vehicles, maintenance costs (paid to GMT) and other incidental expenses such as drug screening tests. Prior to the pandemic, there were six part-time drivers who shared the operations. One van was in service from 9:00 a.m. to 4:00 p.m. every weekday, and a second van operated three days per week. During the pandemic, the amount of service has dropped to only one van in service from 9:00 a.m. to 2:00 p.m. Monday through Thursday. On Fridays, the van is sometimes used for special trips and excursions.

The Essex van service is demand response rather than a scheduled route. People wanting rides are asked to call the Town office on Monday and put in their requests for the week. Some requests come in on other days and they are accommodated to the extent possible. Riders have to be registered with the Town and each year the Town does a registration drive. There are currently between 300 and 350 registered riders.

If the three towns were to procure a van through a lease agreement with one of the transit providers, they could operate it a series of scheduled trips throughout the week with some time reserved for on demand trips to serve needs not covered by the scheduled route. One of the towns could handle trip requests (as Essex does) or the towns could contract with SSTA, GMT or RCT to handle calls and schedule trips.

Mobility Options Related to Goals

No one other than the residents and elected officials of the three towns can decide what their goals are with respect to local transit. They could decide to focus on essential needs, commuter options, local mobility, or to expand their scope to robust transit system. Depending on which goal is chosen, various service options as described above will contribute toward meeting that goal.

Table 10 below relates the mobility options to the goals. A capital X indicates that the option would contribute substantially toward the goal. A small (x) in parenthesis indicates that the option would contribute in a minor way toward the goal. The table is not intended to mean that to achieve a given goal, all of the options marked with an X or (x) would need to be pursued. Rather, it is intended to show that if a given option is pursued, that it would promote one or more of the goals either in a minor or substantive way. Thus, ridesharing is noted as promoting commuter options and also being part of a robust alternative. A volunteer-based microtransit service would address essential needs, local mobility and be part of a robust alternative. In general, micromobility is shown having only a minor impact on three goals, for the reasons described above.

Table 10 – Mobility Options Related to Goals

Service	Essential Needs	Commuter Options	Local Mobility	Robust Alternative
Targeted Demand Response	**X**			
General Public Demand Response	**X**		(x)	
Micromobility		(x)	(x)	(x)
Ridesharing		**X**		**X**
Microtransit (volunteer-based)	**X**		**X**	**X**
Traditional Bus		**X**	(x)	(x)
Senior Bus	**X**		(x)	

Costs and Demand

In order to judge whether any of the mobility options are worth pursuing, it is useful to estimate the potential operating cost and the potential ridership demand. These estimates are by necessity speculative and involve a number of assumptions. Table 11 below presents a summary of the cost and demand estimates for the various options. The assumptions inherent in those estimates are described following the table.

Table 11 – Cost and Demand Estimates

Service	Annual Riders	Annual Costs	Cost per Rider	Initial Capital Cost
Targeted DR	2,300	$116,000	$50	$0
General Public DR	5,000	$225,000	$45	$0
Micromobility	7,500	Minimal	n/a	<$10,000
Ridesharing	4,700	$20,000 (mktg.)	n/a	$0
Microtransit (vols.)	14,000	$287,000	$20	$55,000
Traditional Bus	10,500	$300,000	$28	$0
Senior Bus	4,600	$110,000	$24	$100,000

- The cost and ridership figures for Targeted Demand Response are based on the experience of FY2019. They assume that demand and cost will be roughly the same after the pandemic is over as they were before the pandemic.
- For General Public demand response service, it is assumed that overall demand would just about double if the services were opened to everyone rather than just older adults and people with disabilities. This increase in ridership would not happen on its own, but would follow a concerted push by local officials and advocates to encourage people to use the dial-a-ride service. The annual cost is based on the assumption that the cost per rider would drop about 10% as vehicles are more fully utilized.
- The ridership for micromobility assumes that among the three towns, about 50 people per day would use one of the bikes or scooters for a trip, and that this level of patronage would occur for five months of the year. There are assumed to be no or minimal operating costs as micromobility vendors typically conduct maintenance on their equipment. The capital cost is also assumed to be low. In urban areas, micromobility vendors typically put their equipment on the street at no charge to the municipality, seeking to earn back their investment through rental fees by the users. It is unclear whether a vendor would be willing to do this for a rural area where usage is likely to be much lower. In any case, the equipment is not very expensive (assuming that eBikes are not part of the offering).
- The ridership estimate for ridesharing assumes that 30 Go Vermont members carpool for three trips per week on average. There is no operating cost associated with this, but it was assumed that $20,000 would be spent on marketing and/or incentives.
- The estimates for the volunteer-based microtransit service involved many assumptions. The ridership figure was approached two ways. It was assumed that service would operate for 30 vehicle hours per day, six days per week. This was based on an assumption of 10 volunteer drivers active per day and driving three hours each. With an average productivity of 1.5 boardings per vehicle hour (which is typical of rural demand response services), that yields 270 rides per week, or 14,000 rides per year. The second approach was to look at the survey responses and estimate usage based on the stated preferences. Of the 11,900 total population in the three towns, two thirds were taken off the top as being people who will never use transit, young children or families with full time jobs and children who are unlikely to find a transit alternative attractive. This leaves a potential population of 4,000. In the survey, 31% said that they would be interested in microtransit as briefly described. (The 46% who said "maybe" are discounted as likely riders.) That yields 1,240 potential riders. Research on non-commitment bias suggests that the majority of people who say they will ride transit will not actually do so, especially if they automobiles available. Everyone in the survey had at least one vehicle available. The factor from the research suggests that 11% of people saying they will ride will actually do so. This yields 136 riders. Assuming that they each take two trips per week, the annual usage figure comes out to 14,200. This is very close to the productivity-based estimate of 14,000.

  The cost estimates are equally complex. It was assumed that SSTA would provide a van for 10 hours per week (2 hours per day) to provide accessible service. The hourly rate for that is $60 resulting in an annual cost of $31,200. With 180 vehicle hours of service per week for the volunteers, it was assumed that they would travel at an average speed of 30 MPH resulting in 5,400 miles per week. At 56 cents per mile, this results in an annual cost of $157,000. The software to run microtransit has an annual cost of $23,000. Finally, there is the management and administrative cost, which was assumed to be $75,000 annually. This adds up to an annual cost of $287,000.

The capital cost for microtransit includes a $50,000 estimate for the installation and planning cost for a vendor such as Via Mobility, and $5,000 for tablets for up to 30 volunteers.

It should be noted that if microtransit were implemented, a portion of the targeted demand response service currently provided by SSTA and RCT would be folded into the microtransit. E&D and Medicaid transport is not fundamentally different from any other demand response service; it just has specific dedicated funding sources. It doesn't really make sense to create a new demand response service for the three towns and then continue to run another parallel demand response system. As the report states, there would be an accessible van "on call" for the service area to handle any riders with accessibility challenges. That should address any concerns that E&D or Medicaid passengers may have. With some of the existing funding transferred into the new microtransit system, the net new cost of microtransit would be lower than $287,000, perhaps between $200,000 and $250,000.

  - The average trip lengths and speeds used to calculate costs assume some trips into Burlington and other areas as are currently operated by SSTA and RCT under the existing E&D and Medicaid programs.
  - Microtransit software includes eligibility information about every registered individual, thus the software can attribute costs and generate revenue for eligible riders as necessary. GMT intends to make use of this capability in its MyRide by GMT project in Montpelier, but because no fares are being charged at present, and because Via has encountered some technological challenges, it has not yet been implemented.
  - Transferring E&D and Medicaid trips currently operated by SSTA and RCT to a new microtransit service (and with them, the funding), will require negotiation and face some logistical hurdles. With respect to E&D, GMT has a significant amount of discretion as it leads the E&D committee for Chittenden County. Working with AgeWell, GMT could decide to have a new Tri-Town entity operate E&D service within the three towns. RCT would, of course, also have to agree with respect to E&D trips in Cambridge. Assuming that the volunteer-based microtransit service would offer a cost advantage over current service, it is likely that GMT and AgeWell would support transferring those funds to the new entity, and VTrans would strongly support this as well.
  - Medicaid funding is based on a per member per week rate rather than actual reimbursement of costs. All Medicaid funding flows through VPTA to its subcontractors including SSTA in Chittenden County, GMT in its rural areas, and RCT in Lamoille. That funding could continue in its current stream, while SSTA "brokers" trips to the new microtransit service. If that service is cheaper than its own professional drivers in vans, then SSTA in theory would make out better than the current situation. Overall, the agency wouldn't see a substantial loss of business because Jericho and Underhill are a relatively small piece of their overall service.
  - Alternatively, through negotiation, Jericho and Underhill could be transferred from SSTA's region to be appended to GMT's Franklin/Grand Isle region. Those towns could also be appended to RCT's Lamoille County region.
  - In sum, there would be complications in folding E&D and Medicaid into the new microtransit service, but none of the hurdles are insurmountable. It will require many discussions and negotiations to figure out the best jurisdictional responsibilities, but if the service is more cost effective than the present service, a mutually agreeable solution should be obtainable.

- The ridership and cost figures for traditional bus reflect just the cost of the Jeffersonville Commuter if it were to be operated at its pre-pandemic service level.
- The estimates for the Senior Bus assume that it would be operated six hours per day for six days per week. The operating cost was assumed at $60 per hour, equivalent to the rate that SSTA would

charge. The cost might be lower if the towns hired their own drivers, but then additional management costs would be incurred. The ridership uses an assumed productivity of 2.5 boardings per hour, based on the experience of the Bradford Circulator, operated by Tri-Valley Transit. The capital cost is for a new cutaway bus, which would either be leased by the towns or by SSTA. In any case, 80% of this cost would be paid for with federal money and the towns would be responsible for 10%.

There are several factors that could have significant impacts on the ridership estimates of the options. If gasoline prices were to rise substantially, then many more people would seek to carpool and many other would start using (or return to using) the Jeffersonville Commuter. If the pandemic returns or never leaves, then ridership on all of the services would be lower. If the federal government passes an aggressively larger transportation funding law, ridership would likely increase, as more service could be offered. Fare policy can also affect ridership. All of Vermont's transit services will remain fare free through FY2022 and could continue fare free after that. This has the potential of increasing ridership.

If the Tri-Town area implements the Senior Bus or the volunteer-based microtransit service and finds it is more successful than what is forecast here, then it is likely that VTrans would work to find additional funding within federal and state resources to increase the level of service. VTrans would also seek to encourage other rural areas to follow the example of the Tri-Town area.

6. FUNDING

In order to operate any new service in the Tri-Town area, new funding would have to be obtained. There are five broad categories of potential funding that will be described in this chapter:

- Federal funding
- State funding
- Local funding
- Private sector funding
- Fare revenue.

Funding Sources

Each category includes several potential funding sources. These are described in the sections below.

Federal Funds

Operating funds for transit service from the Federal Transit Administration flow mainly through two programs: section 5307 for urban areas and setion 5311 for non-urban areas. The Burlington Urbanized Area, most recently defined in 2012 using data from the 2010 Census, includes the Route 15 corridor through Jericho and Underhill Flats. The remainder of the Tri-Town area, including the vast majority of Underhill and all of Cambridge, is classified as non-urban.

Generally speaking, transit service that enters an urbanized area is eligible for funding through section 5307. The federal rules and definitions mostly concern bus routes rather than demand response zones, but it is likely that a microtransit zone that includes Jericho Village and offers connections to Essex Junction would be considered an urban service. Green Mountain Transit is the direct recipient of section 5307 funds and has jurisdiction in allocating those funds. Because it is the only urban operator in Vermont, GMT has used all of the available 5307 funds for its own operating and capital needs.

Section 5311 funds flow through the Vermont Agency of Transportation. VTrans has grant agreements with all of the transit providers in the state and can amend those agreements to include funding for an additional subrecipient. For the Tri-Town area, 5311 funds could flow through GMT or RCT (or both).

Both the 5307 and 5311 programs have a 50/50 match requirement for operations so that half of the net cost of service has to be something other than FTA funds. When used for capital purchases, these funds have an 80/20 match, so that only 20% is non-federal. VTrans has traditionally used state funds to pay for half of the capital match.

The section 5310 program provides capital funds to purchase vehicles to serve older adults (60+) and people with disabilities. These funds also have an 80/20 match.

Chapter 3 described existing federal funding for E&D and Medicaid service. Most E&D funding in Vermont comes from federal highway funds that have been "flexed" into the transit program. In recent years, the amount of federal E&D funding in the three towns has been about $20,000 and the federal portion of Medicaid transportation funding has been about $50,000.

In addition to the regular formula programs, FTA periodically makes funds available through special programs and grants. These programs tend to be of limited duration (two or three years, typically) and require that a competitive grant application be written. Examples of such programs that would be relevant

to the Tri-Town area include the Integrated Mobility Innovation program, the Mobility on Demand program as well as special emergency funding in the CARES act.

State Funds

In Fiscal Year 2019, Vermont spent nearly $8 million in state funds on public transit. Most of this funding came from the Transportation Fund (or T-fund) which generates revenue through motor fuel taxes and license and registration fees. About three quarters of this money was for State Operating Assistance, which various transit agencies used to match their federal dollars and expand their service. Another 10% or so was used as matching funds for capital projects (vehicles and facilities). State funding is not limited to the T-fund as the Vermont Legislature can create special appropriations to support ongoing service or special projects.

Local Funds

Local municipal funds are derived primarily from property taxes. Seventeen Vermont communities have local option sales taxes, and 21 communities (many of which are the same ones with sales taxes) have local option taxes on the three other items. Most of these municipalities are among the more populous in the state, or are noted tourist destinations. There are no small rural towns among them that are not the home of a tourist destination or immediately adjacent to one (Winhall). Of course, most small rural towns have very limited retail sales and few lodging/restaurant establishments, so that a local option tax would not generate much revenue. All of the core communities in Chittenden County except Essex and Shelburne already have local option taxes.

Private Funds

A wide array of entities in the private sector have contributed to support public transit service in the past. Large institutions such as hospitals and universities are frequently partners to transit agencies as they generate many trips and often have a limited parking supply. They may make direct payments to the transit provider or work through a transportation management association (such as CATMA). These payments could be for rides taken by students, faculty and staff; they can fund a specific route, such as a shuttle service to a health clinic; or they can be general contributions to support the agency overall.

Businesses are another potential private sector partner. Transit agencies often reach out to large employers to get them to encourage their employees to take transit either through direct subsidies or other incentives. Partnerships with business help both the transit agency and the employer as ridership goes up and access to the workplace improves.

Foundations and individuals can support public transit through philanthropy. Most transit providers in Vermont are non-profit corporations to which contributions are tax deductible. Advance Transit in the Upper Valley region has an active program to promote philanthropy, and it has been able to expand some service due to contributions from wealthy individuals and foundations.

Fare Revenue

Fare revenue can be an important component of operational funding, though in rural areas, it rarely accounts for more than 10% of the operating cost. During the pandemic, all of Vermont's transit services have been fare free, and that policy will continue at least through June 2022. Fare collection, if it involves cash, is costly to administer, but new technology, especially that associated with microtransit, reduces the administrative burden and costs.

Likelihood of Obtaining Funding

Funds at every level of government are very much in demand, so that even if various sources exist, there is no guarantee that new or expanded transit service will be able to tap into those sources. For many years,

appropriations for the Federal Transit Administration have been essentially level funded. If that continues to be the case for the coming years, it is unlikely that new service in the Tri-Town area would receive 5311 or 5307 dollars, given the competing services already on the street. If, however, the federal government expands the amount of formula funds available through a new infrastructure package, then it is reasonably likely that some 5307 or 5311 dollars could be available for a pilot project. If the pilot project succeeds, then it could receive regular funding in future years. Whatever the level of operating funds turns out to be, it is likely that the Tri-Town area could secure capital funds through VTrans or GMT to be able to purchase/lease a vehicle or buy tablets and other systems to support a microtransit service.

At the state level, the Vermont legislature is very interested in innovative programs to increase rural mobility. It is likely that VTrans would approve the use of some state funds to support a pilot project in the Tri-Town area if the towns demonstrated a high level of local engagement and support, including local financial support.

Voters in the three towns would need to decide if they are willing to allocate scarce local funds to increased transit mobility. The surveys that have been taken over the past few years (see chapter 4) indicate that up to one third of residents are willing to pay substantially more than they currently do (about $13 per household per year). In order to obtain broad local support, local officials and transit activists would have to engage with their fellow residents and explain clearly what the benefits of expanded service would be.

With regard to the private sector, the Tri-Town area suffers from a lack of large institutions and employers who would be obvious partners. It is possible that there are wealthy individuals or foundations that would contribute funds, but it is beyond the scope of this study to identify such sources. Organizations such as AgeWell, United Way and AARP would likely be supportive of new transit service in the three towns, but they are unlikely to be a source of cash to help pay for the service. On the plus side, it may well be the case that vendors for microtransit service will be eager to test out the concept of a volunteer-based microtransit system since that could potentially open up a market for rural services across the country (which thus far have had limited applicability for microtransit). That eagerness could translate into discounts or reduced fees for implementation, training and operations.

As indicated above, fare revenue is unlikely to be a source of funds for the near term, given the fare-free status of all transit service in Vermont. It could play some role in the future, especially for longer trips, but it will still be only a small piece in the funding puzzle.

Potential Local Funding Needs

A critical question that the three towns need to answer before pursuing one of the service options described in this report is how great the impact will be on local town budgets. This section focuses on two of the options listed above in Table 11: the volunteer-based microtransit service and the senior bus. General public demand response service is unlikely to attract many riders and is expensive on a per-trip basis. Micromobility and ridesharing can be pursued in parallel to other options and are not expensive, but will not have a significant impact on mobility. Traditional bus service consists of the Jeffersonville Commuter, which will be restored to its regular service level in the coming months.

Volunteer-based Microtransit

Given the innovative nature of the service and the likelihood that transit funding from the federal government will increase over recent levels, there is a good chance that the Tri-Town area could obtain 80% federal funding for a two-year pilot project. If the service quickly achieved the ridership level shown in Table 11 and if the volunteers all asked for reimbursement for the mileage they drive, the local share could be as high as $60,000 per year, to be split among the three towns. In fact, the local share is likely to be lower

than that as the ridership (and thus miles driven) will be lower than the estimated total within the first two years as awareness of the service just begins to grow. Thus the local share per town for the first two years may be in the range of $10,000 to $15,000.

However, the cost estimate in Table 11 assumes that there are "local champions" who will take the lead in recruiting volunteers and promoting the service on an unpaid basis. If there are not enough individuals who have the time, skills, and capacity to take on these tasks, a full-time staff person would need to be hired to perform this work. It is estimated that the total cost for this staff person, including benefits, would be in the range of $100,000, with a resulting local share of $20,000 to be split among the towns. Thus, the total local share per town including operations and staffing would be in the range of $17,000 to $22,000.

After the pilot period is over, assuming that the service is successful, continued federal funding would come from either the 5307 or 5311 formula programs, each of which require a 50% local match for operating expenses. While it is certainly possible that VTrans may offer state funds to help pay for some of that local match, it is prudent to consider the worst-case scenario where the towns would have to supply the entire local match. If, by the third and following years, the system will have reached or exceeded the forecast 14,000 annual trips, then the total operating cost would probably exceed $300,000 and the local share, to be split among the towns, could be as high as $150,000.

Senior Bus

A Senior Bus, as described in the previous chapter, would be eligible for E&D funding from VTrans through the E&D committees run by GMT and/or RCT. That is not to say that it could actually obtain such funding, since the current allocations are fully spoken for to support existing services. If the federal government increases the amount of money available to VTrans, the State would likely increase the amount available for E&D service, thereby allowing the Senior Bus to proceed.

The local share for E&D service has been 20%. With the $110,000 annual cost estimate shown in Table 11, that local share amounts to $22,000 annually to be split among the towns. In addition to operating costs, the towns would need to pay 10% of the capital cost for the van, which can be estimated at about $10,000 every seven years, as vans need to be replaced. If the towns decide to allow for a significant amount of demand response service with the van, the cost would increase as more staff time would be needed to field calls and schedule rides.

7. GOVERNANCE

For any new service based in the Tri-Town area, the towns would need to determine a governance structure to handle the funding and decision-making process. This chapter considers several alternative structures.

Assumptions

In laying out governance options for the towns, the study establishes the following assumptions:

- Towns would like a significant degree of control
- Towns would seek to make use of federal and state funds if available
- Partnership with an existing transit agency (GMT or RCT) would be necessary
    - VTrans would oppose having a new independent agency it would have to oversee
    - Reporting and regulatory requirements for a transit agency are onerous
- A single operation for the three towns—rather than three separate operations–is the goal

These assumptions point strongly toward cooperation among the three towns—which entails a strong consensus—as well as collaboration with existing transit agency partners. The discussion below of various governance alternatives considers how well each option matches with the above assumptions.

Alternatives

Contract with a Service Provider

Perhaps the simplest option for the towns is to collectively establish a contract with either GMT, SSTA or RCT to provide the services they want. This contract could cover either the volunteer-based microtransit service or the senior bus. Administering the contract would take some effort on the part of the towns, but significantly less effort than managing the service themselves. Using a contract for service may even save the towns some money, depending on which contractor they used, because the transit providers can benefit from some economies of scale (since they already perform most of the tasks involved with operating services) rather than building this capacity from scratch.

However, using a contract for service would have some downsides as well. Compared to managing the service directly, the towns would have less control over how the service is operated. Having an "outside" operator also reduces the sense of local "buy-in" and ownership of the service. This lack of local ownership is especially important with respect to the volunteer-based microtransit service, because if town residents don't feel a strong connection to the entity operating the service, they will not volunteer to be part of it. A lack of volunteers will doom the service to failure.

Three Towns Administer as Equals

Under this option, all three towns would have an equal hand in administering the service. A detailed interlocal agreement would be drafted to define how this would work. Existing or newly hired staff at each town would perform a portion of the work involved in managing the service. The three towns together would draft an agreement with GMT or RCT for management assistance and to enable the flow of federal funds to the service.

This option would allow for detailed local control, but it would require an extensive amount of coordination and a very close working relationship between the staff members. Finding three staff members with the necessary skills to manage the service is less likely than finding one person, as described below. There would be some duplication of effort and inefficiency in splitting up the work three ways.

One Town Takes the Lead

Under this option, by mutual agreement one town would take the lead in administering the service and the other towns would provide support. The lead town would hire a program manager and sign a contract with GMT or RCT for management assistance and to enable the flow of federal funds to the service. The other towns would provide funding to the lead town by agreement. A memorandum of understanding would be drafted to lay out a decision-making process so that all towns have equal input into service and investment choices.

This option allows for detailed local control and would be more efficient than the three towns managing the service jointly. Finding one person with the skills to run the system is easier than finding three, and there is less time wasted in communication and coordination if one person is doing most of the work. However, there would have to be a high level of trust among the towns and the staff member would need to take direction from a Tri-Town board rather than from just the lead town. Some residents and local officials in the non-lead towns may worry that the lead town is not acting in their interest and distrust could arise.

Non-Profit Takes the Lead

Rather than having the management be within existing town government, the three towns could form a new non-profit that they would govern jointly. Alternatively, the towns could work with an existing non-profit to take on this effort. Mount Mansfield Villages (MMV) could be a possibility since it covers the three towns already, but it is not at all clear that this volunteer-based organization would be interested in or willing to take on such a large commitment.

Having the staff be at a non-profit rather than working directly for the town(s) reduces the potential of distrust arising among the towns. However, it also could decrease the sense of "ownership" among town residents, since the non-profit may be viewed as an "outside entity." If a new non-profit is formed, care will have to be taken to integrate volunteers currently associated with Cambridge Cares or MMV into the volunteer pool for the microtransit service (if that option is pursued).

In general, if the towns are seeking to start the volunteer-based microtransit service, it will be critical to find a means of promoting a feeling of connection to the organization so that volunteers will sign up and continue to be associated with the organization. It is likely that many of the MMV and Cambridge Cares volunteers give of their time because they know other people in the organization personally. They may be friends or neighbors of the board members or have family members who have been helped by the organizations. Because a volunteer is not getting paid (by definition), they must be getting some other type of reward from their work, and an emotional reward is more likely to happen if the volunteer feels that they are part of the community, helping their neighbors, and being recognized for their contribution.

This discussion again leads back to the concept of local champions, as the paid staff envisioned in any of the above governance options would probably not have time to do the work of building community support and recruiting volunteer drivers. Community members would be most effective at these tasks, but if none step forward with the time and commitment to make it happen, then paid staff, beyond the program manager, could accomplish this work.

Summary

Any of the governance structures above could manage an expanded transit service successfully. The towns need to weigh the pros and cons of each and discuss specific individuals who have the skills and the personal commitment to make it work. If such a person already works for one of the towns, then it may make sense for that town to take the lead. If none of the towns want to take on the burden themselves, then it would make sense to use a non-profit to manage the service.

8. OTHER ASPECTS

Technology

Over the past 25 years, technology has had a transformative effect on public transportation, and the pace of change seems only to be increasing. While the Senior Bus alternative is not particularly dependent on advanced technology, the volunteer-based microtransit service could not function without technology. The heart of a microtransit system is an automated scheduling algorithm that takes trip requests and assembles them into driver manifests in real time. The most efficient way for riders to interact with the service and request their trips is through a smartphone app. Because not everyone has a smartphone, microtransit systems also allow for people to request trips by telephone or to establish standing requests or subscriptions for repetitive trips.

Technology not only makes microtransit possible, it also makes it more attractive to people with mobility choices. App-based ridehailing services, such as Uber and Lyft, have grown explosively over the past decade and have raised expectations, especially among younger people, about the convenience and ease of getting around without using a car. Microtransit takes that paradigm and applies it to shared-ride transportation. The technology allows someone to request a ride with little or no advance notice and without having to call someone and go through a reservations process. It makes payment easy and seamless. The app also provides real-time information on when your vehicle will arrive to pick you up. For generations (Millennials and Generation Z) that are more skeptical about buying cars than their parents were, technology-based mobility solutions for areas that are not served by traditional transit routes can offer an attractive and more affordable alternative to automobiles.

Microtransit thus has the capacity to appeal to and serve all segments of the population. Younger and more tech-savvy people will appreciate the convenience of the smartphone interface. At the same time, trips can be reserved by telephone similar to the way traditional demand response has always worked. Older adults and people with disabilities can make use of microtransit without any loss of freedom or benefits—in fact, with greater convenience—while younger people can find a mode that works better for them.

As noted above, the Senior Bus does not rely on technology to as great an extent. If it is mostly operated on a fixed schedule, then there is not a large benefit to real-time trip aggregation. For the limited periods when it operates in demand response mode, it may be sufficient to have riders call to reserve trips as they do at present. At the same time, all bus services benefit by tracking the location of the vehicle in real time, using GPS on the bus. This information helps to maintain reliable operations and it can be communicated to riders so that they know where the bus or van is and when it will arrive at their stop.

Information

The importance of information goes well beyond real-time updates on vehicle location. Any initiative that the three towns choose to pursue will require a major awareness-raising campaign. This includes the restoration of full service on the Jeffersonville Commuter, but it is doubly important for a brand new service, like the Senior Bus or a microtransit service.

How this campaign is designed depends partly on which service is pursued and the primary target markets. For the Senior Bus, outreach should be focused on older adults and people with disabilities. The Town of Essex does an annual registration drive among its older residents; the three towns would need to do similar direct outreach to explain how the Senior Bus works, allay fears about using it, and encourage people to give it a try. For the volunteer-based microtransit service, once enough volunteers have been recruited to operate it, a widespread marketing campaign would be necessary. In general, the service would more likely be used for non-work trips than for commuting, and so it could be marketed as providing access to shopping and

medical locations. It could also be marketed as an aid to busy parents to help chauffeur children to and from activities. For parents to have sufficient comfort with the system to allow their children to ride unaccompanied, there should be "meet the volunteer driver" events, which can both serve to increase familiarity with the service, as well as recognize the drivers' contribution to mobility in the community.

The campaign for microtransit service would also need to encourage all town residents who have smartphones to download the app associated with the program. There could be rewards for being the 100th rider, then the 500th rider and so forth. There could be friendly competitions among the towns to see which generates the most riders. People will use the service more if they feel a sense of ownership and pride in it, but the most important thing is that they are aware that the service exists.

Pride and ownership are also essential ingredients in obtaining votes at Town Meeting to provide the local funding for the service. The more volunteers and riders there are, the easier it will be for residents to see the benefits and vote to approve the funding request. Since new votes will have to be taken each year, it is critical that outreach and visibility events continue to happen on a regular basis after the initial launch.

Branding

A component of the visibility of the service and the sense of ownership that town residents have for it is the branding associated with the service. Ideally, the three towns would agree on a common brand to which they all can feel a sense of attachment. In the case of the microtransit service, the volunteers would need to feel an attachment as well as the residents (potential riders) feeling that the service is intended for all of them to use.

A common brand should be reinforced by a common source of information. While each town should promote the service individually to its residents, they should all point to a single website and telephone number for more information about it.

Coordination

This brand and information sharing raises a critical question that the towns must answer before proceeding: are they all equally committed to this initiative? The service will be undermined if only one or two of the towns strongly support it. Furthermore, a joint program with solid commitments from the towns has much greater appeal to VTrans and FTA.

This statement is not intended to underestimate the challenges the towns face in establishing a new form of transit. The fact that two different transit agency partners (GMT and RCT), two different regional planning commissions (CCRPC and LCPC), and two different E&D partners (AgeWell and CVCOA) would all be involved makes this effort significantly more complicated. That's not to say that efforts at coordination couldn't overcome these hurdles, but the table that everyone would need to come to would be very large.

9. RECOMMENDATIONS AND NEXT STEPS

Because of its rural nature, the Tri-Town area is a challenging environment for public transit. Nonetheless, it offers the opportunity for innovative mobility options if enough residents are committed to making them happen.

The two most significant enhancements examined here, with the best likelihood of success, are a volunteer-based microtransit service and a Senior Bus service. While they are not mutually exclusive, it seems unlikely that the towns would be able to pursue both simultaneously. Thus the first step toward enhanced mobility is to choose which of these initiatives (if either) to pursue.

As mentioned earlier, the Senior Bus would be easier and less expensive to implement, though it would have a smaller overall impact on mobility. It would significantly enhance the mobility of the target populations, and other residents could use the Senior Bus on a limited basis, but it would not be viewed as relevant to most town residents under the age of 60.

The volunteer-based microtransit service would be a truly innovative effort. Microtransit itself is relatively new, and thus far, there have been no applications of the concept where the drivers are volunteers rather than transit agency personnel or employees of a microtransit vendor. There is no technical reason why it couldn't work with volunteers instead of professional driver; it is just a matter of being able to recruit, train and retain enough volunteers who are committed to being part of a new mobility system.

A Senior Bus service may be able to be implemented as soon as July 2022, although if a new vehicle is required (rather than using an existing van owned by SSTA or RCT), that may delay the start because of the lead time needed to obligate the funding and procure the vehicle. Discussions would need to start immediately with VTrans, GMT, SSTA, and RCT to determine how the service would work and who would operate it. The towns would also need to begin immediate discussions regarding the governance options laid out above. Planning activities would be pursued through the fall of 2021 to determine the following:

- Staffing needs
- Route alignment (including destinations outside of the three towns)
- Schedule of trips
- Capacity to handle special trip requests
- Branding
- Budget and funding sources.

Volunteer-based microtransit would likely have a longer lead time, perhaps with implementation (soft launch) during spring of 2023. While there would be no vehicles to procure, additional staff would need to be hired (assuming that there are no volunteer local champions to do volunteer recruiting), and the towns would need to come to an agreement on governance and probably form a non-profit. In addition, the non-profit (or towns) would need to issue an RFP for the microtransit software (a process that takes a couple of months) and then work with a vendor to customize the software and develop training materials for the volunteer drivers. It is unlikely that all of that could be figured out prior to the FY23 budget cycle (which will take shape in the fall of 2021). The outreach and awareness-raising campaign for microtransit would also be more complex and broad than outreach for the Senior Bus. That campaign could begin in early 2023 with a soft launch, with full launch planned for July 2023.