AECOM

Southwestern Community Services Short Range Transit Operations Plan

Final Report

Upper Valley Lake Sunapee Regional Planning Commission

Southwestern Community Services

June 2019

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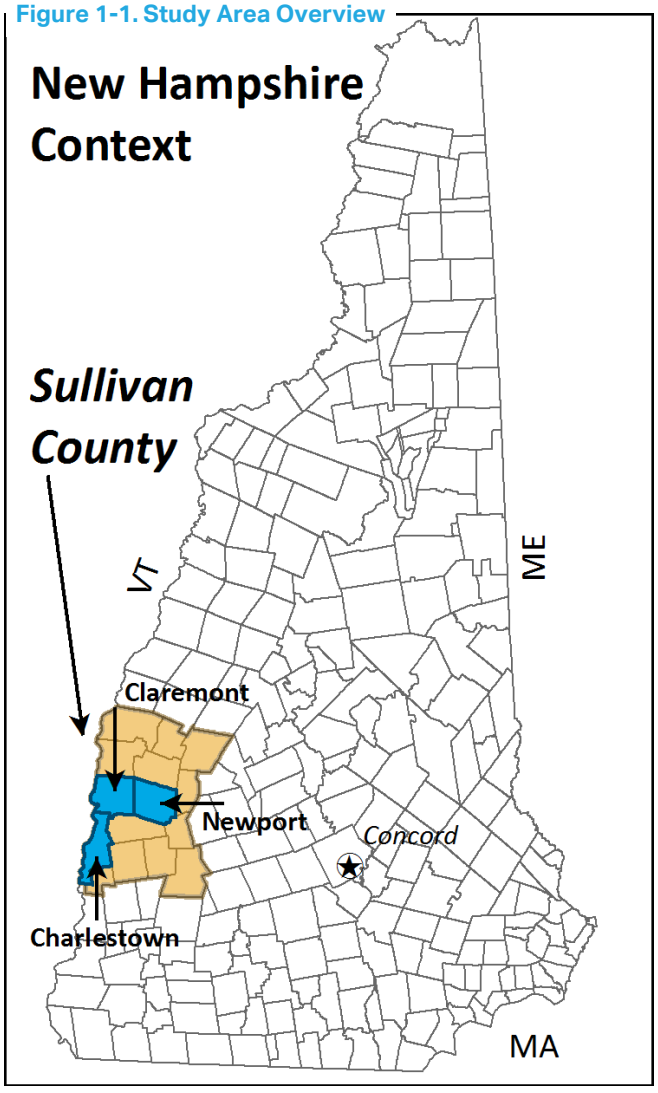
1. Study Overview

Transit service in Sullivan County, New Hampshire, has recently undergone substantial changes and is now operated by Southwestern Community Services (SCS), herein referred to as Sullivan County Transit (SCT). SCT has been serving the needs of the Sullivan and Cheshire Counties since 1965. SCT, however, is new to the operation of transit services. SCT now operates general public demand response service in Claremont, route deviation service in Claremont, Charlestown, and Newport, and a volunteer driver program throughout Sullivan County. SCT currently has a planning assistance grant through the National Rural Technical Assistance Program (RTAP) that includes consulting support from the Community Transportation Association of America (CTAA)/United States Department of Agriculture (USDA) to complete Marketing and Branding Study for the community transportation services in Sullivan County, which is occurring simultaneously with this study.

In coordination with Upper Valley Lake Sunapee Regional Planning Commission (UVLSRPC) and the New Hampshire Department of Transportation (NHDOT), this study is designed to assist SCT in assessing current transit services, developing transit service alternatives that improve/enhance current services, identifying opportunities and strategies to coordinate/partner with local municipalities and employers to improve access to employment, identifying sustainable funding mechanisms, and working with project partners to ensure that marketing and branding strategies fit with the goals of the transit service and the character of the community.

Figure 1-1. Study Area Overview



2. Introduction to Sullivan County

Sullivan County is located in southwestern New Hampshire and covers an area of 552 square miles. It consists of 15 municipalities and is the second least populated county in New Hampshire. Current demographic and socioeconomic characteristics of the population, employment, and travel patterns are discussed in this section. Primary sources

of data used to conduct the analysis include: US Census Bureau American Community Survey (ACS) 5-Year Estimates 2016 and Business Survey 2012; the Longitudinal Employer Household Dynamics Dataset (LEHD) 2015; and New Hampshire Employment Security.

2.1 Demographics and Socioeconomics

Demographic and socioeconomic statistics are important in transit planning to understand the potential transit markets that exist in an area. Transit dependency is frequently related to level of income, age, vehicle availability, and disability status. Income is a key determinant in the type of transportation used to commute. People with lower incomes are often more likely to be in need of public transportation options than people with higher incomes who can afford private transportation. Table 2-1 includes a summary of statistics for the study area and major municipalities. The highest percentages of poverty are found in Claremont and Charlestown, while the highest percentage of individuals with disabilities is found in Newport. The statewide poverty level is 8.5 percent, putting Sullivan County consistent with the state. The median household incomes in all three of the major municipalities in the county are lower than the county average and at least $15,000 lower than the New Hampshire state average of $68,485.

Table 2-1. Demographic and Socioeconomic Characteristics

Region	Population (2016)	Percent in Poverty (2016)	Median Household Income(2016)	Percent Disabled under Age 65 (2016)
Sullivan County	43,051	9.0%	$58,454	8.3%
Claremont	13,022	13.3%	$47,555	9.4%
Newport	6,507	8.2%	$52,486	11.8%
Charlestown	5,001	13.1%	$50,568	7.5%

Source of Data: American Community Survey 5-Year Estimates, 2016

Population density maps can help identify where populations may be concentrated and where population distribution may be sparse. This can be particularly helpful in transit planning when considering how and where services can best meet the transportation needs of various populations. Population density in the region is mapped in Figure 2-1.

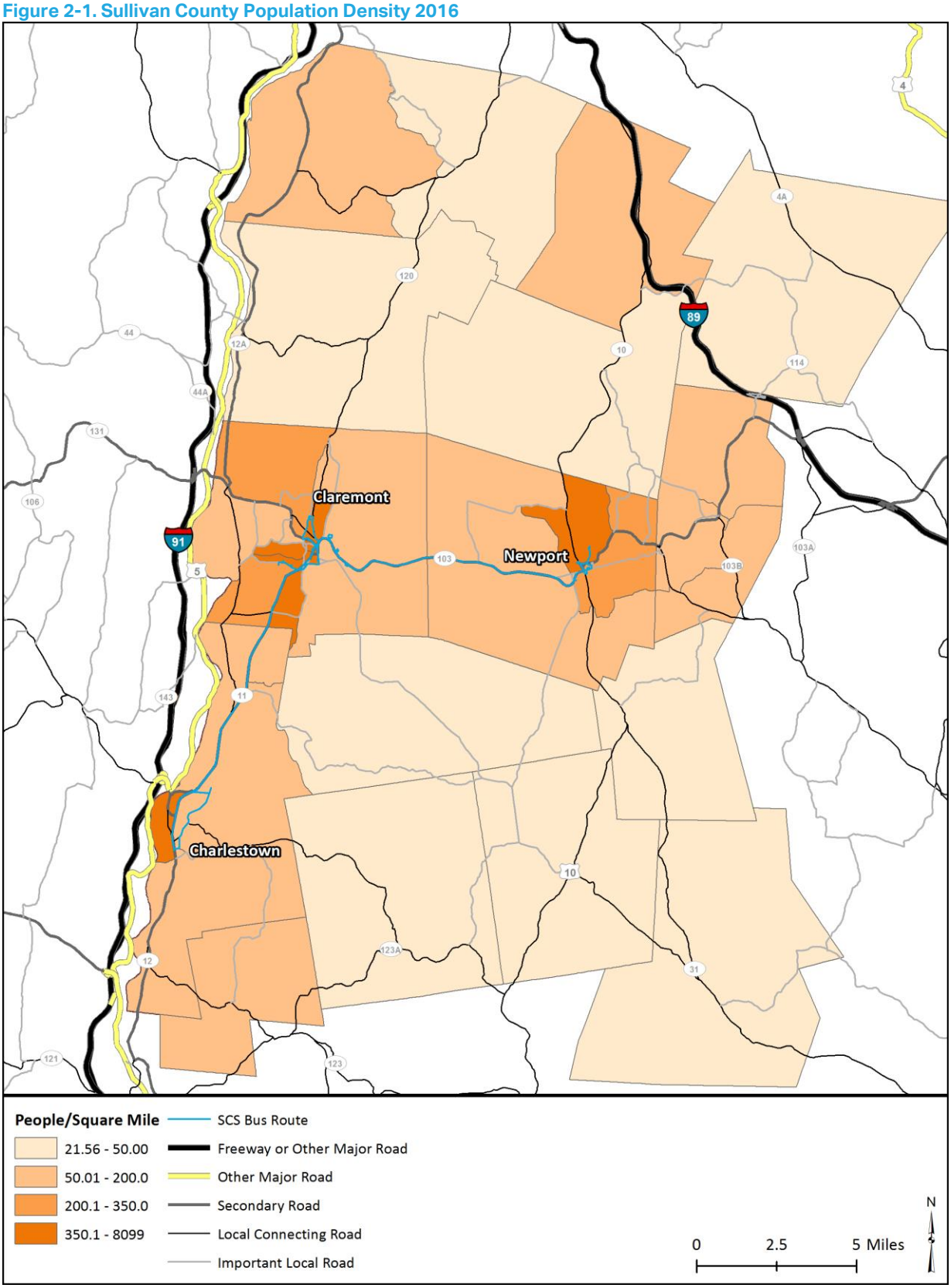
Another common measure of transit dependence and demand is the number of cars available per household. Zero-vehicle households are considered to be entirely dependent upon alternate transportation sources. Additionally, one-vehicle households with two adults are also partially dependent on alternate modes of transportation. Vehicle availability by household is presented in Table 2-2. The average number of people per household in Sullivan County is 2.4. Claremont has the highest percentage of households without a car (10.3 percent) and with only one car (39.3 percent) where Charlestown has the lowest.

Table 2-2. Vehicle Availability by Household

Region	0- car household	1- car household
Sullivan County	6.1%	32.0%
Claremont	10.3%	39.3%
Newport	9.9%	34.0%
Charlestown	5.5%	26.5%

Source of Data: American Community Survey 5-Year Estimates, 2016

Figure 2-1. Sullivan County Population Density 2016



2.2 Employment

The trip to work is often the most frequent trip taken; therefore, employment characteristics are important factors in the discussion of public transportation. Large employers are commonly destinations for significant numbers of people, which make them important to transit service planning. This section looks both at workers residing in the study area (labor force) and workers employed in the study area (employees/jobs).

Labor force and employer characteristics are provided in Table 2-3 for the study area. The three largest municipalities in the county: Claremont, Newport and Charlestown, make up over fifty percent of the population, though have lower percentages of individuals in the workforce. Newport has the lowest percentage of individuals in the workforce but the shortest travel time to work. The three largest municipalities make up 50 percent of all employers in the region but employ 79 percent of all employees, indicating that the more rural areas tend to have numerous small employers and the urban areas have more large employers. Claremont has the greatest number of employers and employees in the county.

Table 2-3. Labor Force and Employment Characteristics

Region	Population (2016)	Percent in Labor Force Age 16+ (2016)	Mean Travel Time to Work (min.)(2016)	Total Employer Establishments (2012)	Total Employment (2015)
Sullivan County	43,051	48.7%	24.5	4,521	13,505
Claremont	13,022	46.7%	22.5	1,146	5,277
Newport	6,507	46.1%	21.6	691	3,335
Charlestown	5,001	46.7%	26.2	456	2,118

Sources of Data: American Community Survey 5-Year Estimates, 2016; US Census Bureau Business Survey 2012, LEHD 2015

The top ten largest private employers in the study area are listed by employment range in Table 2-4. All of the top ten are located in Claremont, Charlestown or Newport with a significant cluster in Claremont. The two largest employers with over 1,000 employees are found in Charlestown (Whelen Engineering) and Newport (Sturm Ruger & Co). Claremont has several large employers that collectively employ roughly the same number of employees as Whelen Engineering and Sturm Ruger & Co.

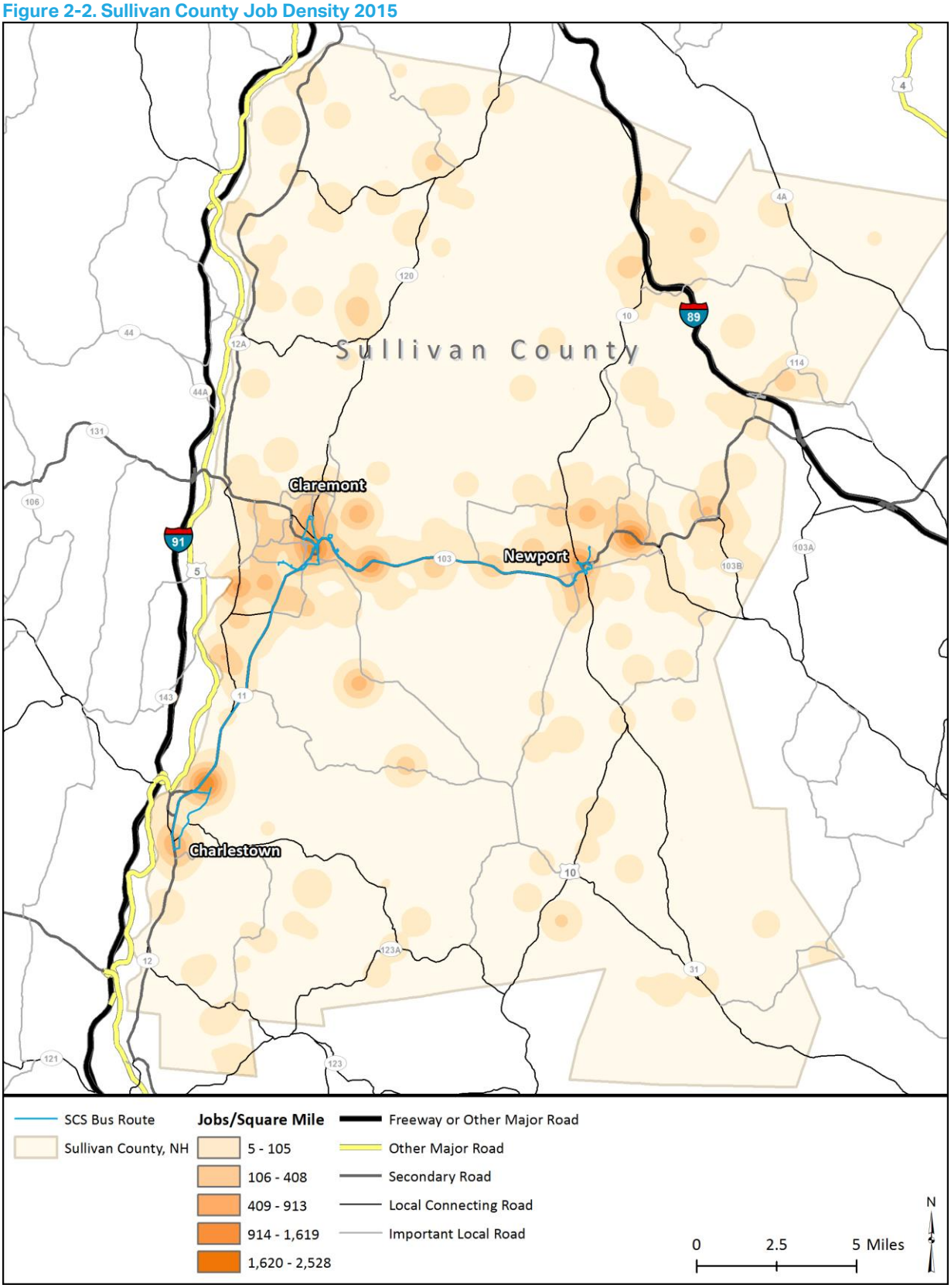
Table 2-4. Major Employers in the Study Area

Employer	Municipality	# Employees
Whelen Engineering	Charlestown	1,100
Sturm Ruger & Co	Newport	1,085
Valley Regional Hospital	Claremont	251
Walmart	Claremont	217
National Field Representatives	Claremont	161
CANAM Group	Claremont	154
Red River Computer	Claremont	120
Lake Sunapee Bank	Newport	119
Claremont Savings Bank	Claremont	105
NH Industries	Claremont	103

Source of Data: Economic and Labor Market Bureau, NH Employment Security, January 2018

Job density in Sullivan County is displayed in Figure 2-2. Not surprisingly, the highest concentrations of jobs in Sullivan County are located in Claremont, Newport, and Charlestown.

Figure 2-2. Sullivan County Job Density 2015



2.3 Travel Patterns

The labor force in the region comes from within the study area as well as from outside the study area. Sullivan County is a net exporter of workforce: more people who live in the county work outside of it than those who live and work in the county or those who live outside it and commute into the county (Figure 2-3). Sullivan County borders Vermont, so there is a lot of interstate travel in this region.

Figure 2-3. Sullivan County Commuting Patterns

Table 2-5 is a matrix of home and work locations for workers in the region. The most common home/work pairs are (greater than 10 percent):

- Live and work within the same community
- Live within the county but work in another New Hampshire county
- Live in Charlestown but work in Claremont
- Live in Charlestown but work in another state
- Work in Claremont or Charlestown but live in another state

Table 2-5. Travel Patterns

Live in...	Work in... Claremont	Charlestown	Newport	Elsewhere in Sullivan County	Other NH County	Out of State	TOTAL
Claremont	1,994	369	465	206	2260	1241	**6,535**
	30.5%	5.6%	7.1%	3.2%	34.6%	19.0%	
Charlestown	303	507	96	110	685	935	**2,636**
	11.5%	19.2%	3.6%	4.2%	26.0%	35.5%	
Newport	305	48	1,074	244	1173	360	**3,204**
	9.5%	1.5%	33.5%	7.6%	36.6%	11.2%	
Elsewhere in Sullivan County	498	168	649	994	4263	999	**7,571**
	6.6%	2.2%	8.6%	13.1%	56.3%	13.2%	
Other NH County	1,344	544	774	897			**3,559**
	37.8%	15.3%	21.7%	25.2%			
Out of State	833	482	277	324			**1,916**
	43.5%	25.2%	14.5%	16.9%			
TOTAL	**5,277**	**2,118**	**3,335**	**2,775**	**8,381**	**3,535**	**25,421**

Source of Data: LEHD 2015

3. CURRENT TRANSIT SERVICES

Sullivan County Transportation currently operates a variety of transit services across Sullivan County. Existing SCT services are described in this section as well as other regional transportation providers.

3.1 Southwestern Community Services Transportation Services

In October of 2016, Southwestern Community Services (now Sullivan County Transportation) took over public transit services from Community Alliance Transportation Services. SCT has an annual operating budget for transportation of $453,445 in fiscal year 2018.

SCT operates three deviated fixed routes, Dial-a-Ride (DAR) service, and a Volunteer Driver Program using a fleet of cutaway vehicles and Route Match scheduling/dispatching software. Service operates on non-holiday weekdays from approximately 6:30 AM to 5:00 PM. Route deviation is available within 1/4 mile of a route and to guarantee a pick-up, it must be requested by noon the business day before. Same-day deviation requests are accommodated as the schedule allows. Dial-a-Ride service is available in Claremont only. The Volunteer Driver Program operates throughout Sullivan County.

The three deviated fixed routes serve the municipalities of Claremont, Charlestown and Newport. The Claremont route provides circulating services within the city while the other two routes provide connections from Charlestown and Newport to Claremont. All three routes serve Opera House Square, Hannaford, Market Basket and Walmart in Claremont. For a complete description of each route and performance metrics see Appendix A – Route Profiles.

Table 3-1. Route Characteristics

Route Name	Hours of Service	Trips Daily	Towns Served
Newport Route	6:25 AM -4:45 PM	6	Newport, Claremont
Charlestown Route	7:15 AM -4:20 PM	3	Charlestown, Claremont
Claremont Route	8:00 AM – 4:25 PM	8	Claremont
Claremont Dial-a-Ride	9:00AM-10:30 AM 12:30 PM -2:30 PM	On-demand	Claremont

Figure 3-1. Existing Services Map

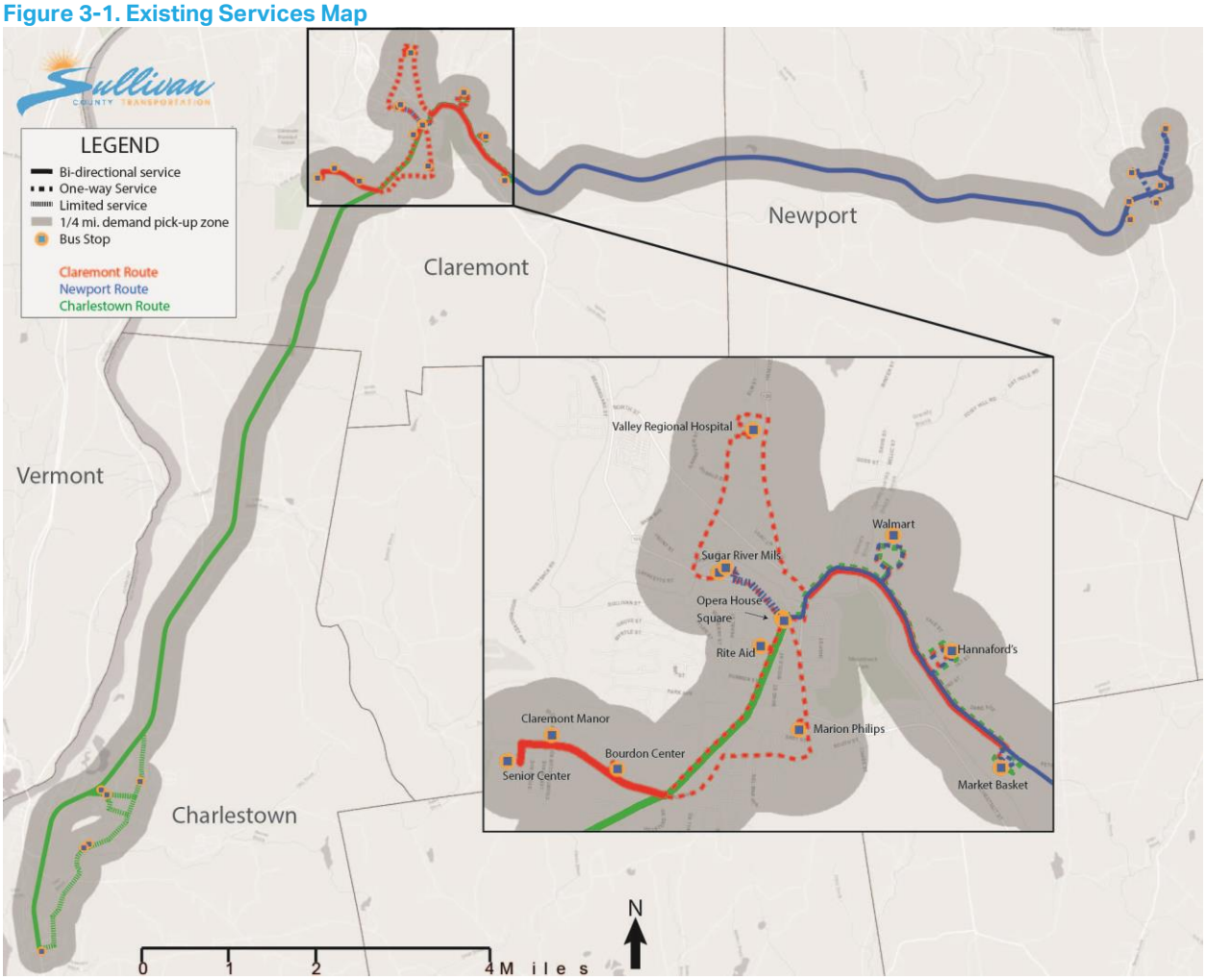


Table 3-2. SCT Fares and Passes

Fare Type	Fare
One-way within one city/town	$1.50
One-way between towns	$2.50
Deviation	$0.00
Children age 6-12	$0.50
Children 5 and under	$0.00
Eight-punch pass	$10.00
Unlimited in-town monthly pass	$25.00
Unlimited town-to-town and in-town pass	$35.00

Bus fares are based on the number of towns traveled. Travel within one city/town is $1.50 and between towns is $2.50. SCT does not offer discounts for transfers between routes. Each new route accessed is a new fare. A discounted fare of $0.50 is available to children ages 6-12 and those under 6 ride for free when accompanied by an adult. The Dial-a-Ride fare is the same as the one-way within one city/town fare: $1.50. Fares require exact amounts; drivers do not make change. SCT also offers monthly passes and an eight-punch pass. Monthly passes are $25-$35 and can be purchased on-board buses or at the SCT office in Claremont.

3.2 Route Diagnostics

Five data sets were collected or calculated from SCT fiscal year (FY) 2018 records to analyze route diagnostics: ridership statistics, revenue hours, revenue miles, operating cost, and farebox revenue. Route diagnostic statistics are described for each of the routes and services in Table 3-3. These diagnostics are used to measure performance (Table 3-4). SCT carried just over 20,000 passengers on the deviated fixed routes plus an additional 2,777 on the Dial-a-Ride, and 1,138 volunteer driver trips in FY2018.

Table 3-3. System-Wide Operating Statistics by Route

Route	Ridership	Revenue Hours	Revenue Miles	Operating Cost[1]	Fare Revenue[2]
Newport Route	4,452	2,234	31,579	$144,602	$5,510
Charlestown Route	2,585	841	15,769	$110,267	$2,918
Claremont Route	13,170	2,160	24,722	$133,220	$11,809
Claremont Dial-a-Ride	2,777	620	8,337	$54,301	$2,754
TOTAL	**22,984**	**5,855**	**80,407**	**$442,390**	**$22,991**

Table 3-4. Route Performance Statistics

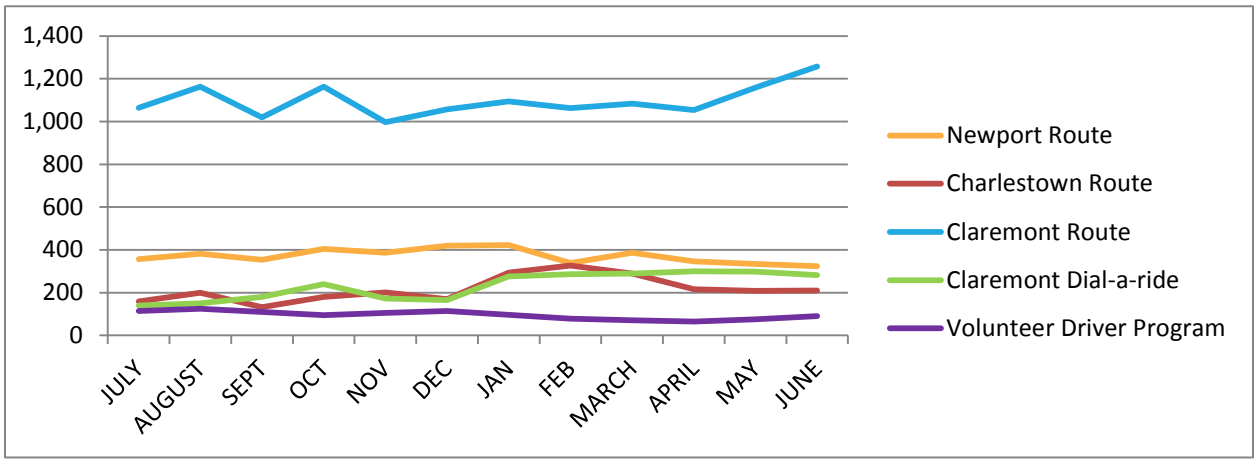
Performance Measure	Newport Route	Charlestown Route	Claremont Route	Claremont Dial-a-Ride	System Average
Pax/Rev. Mile	0.14	0.16	0.53	0.32	0.28
Pax/Rev. Hour	1.99	3.07	6.10	4.48	3.93
Cost/Rev. Hour	$64.73	$131.11	$61.68	$87.58	$59.73
Cost/Rev. Mile	$4.58	$6.99	$5.39	$6.27	$5.48
Cost per Passenger	$32.48	$42.66	$10.12	$19.55	$19.25
Subsidy per Passenger	$31.24	$41.53	$9.22	$18.56	$18.25
Farebox Recovery	3.81%	2.65%	8.86%	5.07%	5.2%

[1] From the FY2018 Cost allocation model

[2] From the SCT NHDOT quarterly reports for FY18

The monthly trend in ridership for FY2018 shows there has been an overall increase in each of the routes except the Newport Route. The month of September experienced the lowest ridership among all routes and January had the highest ridership. Overall ridership grew by 20.5 percent in FY2018, with the largest percent growth on the Claremont DAR service.

Figure 3-2. SCT 2018 Monthly Ridership by Route



The top three overall destinations were: Walmart, Market Basket and the Sugar River Mills, each with over 1,000 alightings in FY2018 (see Table 3-5). The Charlestown Route had 5 destinations with over 100 alightings; this includes Hannaford, Market Basket, Walmart, Rite Aid and Opera House Square (in descending order). There was very little ridership activity in Charlestown at Twin Maples Park, Mayflower & Lovers Lane Road, and Emma's Market.

The Claremont Route had 5 destinations with over 500 alightings, indicating that 2 or more people disembarked at this location daily. Stops included: Walmart, Market Basket, Sugar River Mills, Valley Regional Hospital and Marion Phillips. A complete Origin-Destination Matrix can be found in Appendix B.

The Newport Route had the highest number of alightings at Opera House Square in Claremont and in Newport high activity (over 100 alightings) locations included: Newport Health Center, Irving Oil Corporation, Department of Motor Vehicles (DMV) and Shaw's.

The top five destinations that are not a scheduled stop on a route are presented in Table 3-6. The top two destinations, Southwestern Community Services and McDonald's, are along the route. River Valley Community College is one mile from the closest stop, Claremont Arms is adjacent to Walmart and the Claremont Community Center is located by Marion Phillips.

Table 3-5. Top Destinations by Route

Stop	Charlestown	Claremont	Newport	Dial-a-Ride	Volunteer Vehicles	Total
Walmart Supercenter & Vision Center	138	1,782	203	130	3	**2,256**
Market Basket	138	1,100	98	61	0	**1,397**
Sugar River Mills	10	1,132	83	13	1	**1,239**
Marion Phillips	34	842	9	61	2	**948**
Opera House Square	108	468	261	58	0	**895**
Rite Aid	115	285	220	33	0	**653**
Valley Regional Hospital	8	524	17	72	0	**621**
Earl Bourdon Center	18	438	11	5	0	**472**
Hannaford Supermarket	152	204	19	3	0	**378**
Claremont Senior Center	4	240	N/A	92	0	**336**
Newport Health Center	N/A	N/A	149	0	0	**149**
Shaw's	N/A	2	117	0	0	**119**
Irving Oil Corporation	N/A	N/A	112	0	0	**112**
DMV	N/A	N/A	107	0	0	**107**
Claremont Manor	0	68	N/A	0	0	**69**
Mascoma Savings Bank - Charlestown	63	N/A	N/A	1	0	**64**
222 Lovers Lane	25	N/A	N/A	0	0	**25**
Maple Manor	N/A	N/A	21	0	0	**21**
Emma's Market	2	N/A	N/A	0	0	**2**
Mayflower and Lovers Lane	1	N/A	N/A	1	0	**2**
Twin Maple Park	2	N/A	N/A	0	0	**2**

Table 3-6. Top 5 Destinations that are not a Regular Stop

Destination	Charlestown	Claremont	Newport	Dial-a-Ride	Volunteer Vehicles	Total	On Route
Southwestern Community Services	152	85	71	149	0	**457**	Yes
McDonald's	218	67	50	113	0	**448**	Yes
River Valley Community College	10	196	186	19	0	**411**	No
Claremont Arms	9	335	12	4	0	**360**	No
Claremont Community Center	1	232	13	45	0	**297**	No

3.3 Fleet Analysis

As of August 2018, the SCT-owned fleet consisted of 6 vehicles: primarily 22-25 foot gasoline cutaway buses and vans, all of which were manufactured in 2010 or later (Table 3-7). The fleet consists of one Ford E-350's and five E-450's. All of the vehicles are wheelchair accessible in accordance with the requirements of the Americans with Disabilities Act of 1990 (ADA). All of the SCT vehicles are classified as light-duty small buses, cutaways with a useful life of 4 years or 100,000 miles. Half of the vehicles are past their useful life in terms of age and one in terms of mileage. All vehicles are housed at the SCT office in Claremont. Maintenance is performed at three different repair facilities on a rotating basis, based on price and availability. Bus washing and cleaning is done at McGee's, as it is the only facility with the vertical clearance needed. SCT has a snow removal contract to remove snow from the buses in the winter.

Table 3-7. SCT Fleet

Vehicle Make	Vehicle Model	Vehicle Year	Vehicle Length	Seating Capacity	Condition	Lifetime Mileage
Ford	E-450SD	2010	22'	8/2 wc[3]	3 Fair	150,343
Ford	E-4FF	2010	25'	16/2 wc	3 Fair	97,206
Ford	E-450SD	2013	25'	16/2 wc	4 Good	91,770
Ford	E-350	2016	21'	8/2 wc	4 Good	51,961
Ford	E-450SD	2016	23'	12/2 wc	4 Good	31,323
Ford	E-450	2017	23'	12/2 wc	5 Excellent	33,010

3.4 Other Regional Transportation Providers

There are no intercity bus providers in Sullivan County. Greyhound provides service in Vermont along Route 4 and in Bellows Falls. Dartmouth Coach provides service in Hanover to Boston and New York City and service in Lebanon and New London to Boston. While there is no intercity or commuter bus service in the region, The Current does operate a shopper shuttle from Chester and Springfield, Vermont to Claremont on the first and third Wednesdays of the month. Service on this route is free.

Rail service is available at the Claremont Amtrak station located approximately two miles outside of town. The station is served by the Vermonter with one trip in each direction daily. The station is not on the fixed route or within the deviation zone.

The Upper Valley Transportation Management Area (UVTMA) is a coalition of transit, rideshare, planning commissions, employers and municipalities that advocates for increases in alternative mode transportation including transit service and Park-and-Ride facilities. Their goals are to reduce the costs associated with employee parking, make commuting to work affordable, promote sustainability, improve traffic conditions, and improve parking conditions. They work with individual employers to create commuting programs and benefits that meet the needs of the employees. Municipalities currently participating include Enfield, Hanover, Hartford, Lebanon, and Norwich.

Outside of SCT, there are few other transportation services available. Of those that are available, most are program-specific or limited to a certain segment of the population. Table 3-8 outlines the alternative transportation services available in Sullivan County.

[3] wc=wheelchair tie-down

Table 3-8. Other Transportation Providers in Sullivan County

Provider Name	Service Area	Service Description	Fares
American Red Cross	Charlestown and Route 120 Corridor	Open to general public for medical appointments	Donations
Charlestown Ambulance Service	Charlestown	Ambulance, Non-emergency medical trips	Vary depending on distance
CNC Cab Company	Claremont	Traditional taxi service, non-accessible	$5 one-way in town
Easter Seals	Statewide	Transportation for seniors and individuals with disabilities	Vary by destination
Granite State Independent Living	Statewide	Persons with disabilities in areas with no public transit	Fee-for service
Golden Cross Ambulance	Claremont	Ambulance, Non-emergency and emergency medical trips	Vary by destination
Claremont Best Taxi	Claremont	Traditional taxi service, non-accessible	$2.5 per mile, $6 min. Seniors 10% discount
Newport Senior Center	Newport	Individuals 60+	$1 donation
Veterans Administration	Statewide	For Veterans to VA facilities	Free

4. UNMET TRANSPORTATION NEEDS

Transportation needs that have been identified in the region are documented in this section. This includes public outreach, surveys, stakeholder meetings and NHDOT findings. A detailed summary of survey responses and can be found in Appendix C.

Three mobility workshops facilitated by the Community Transportation of America (CTAA), one in each municipality, were held in early August of 2017. Thirteen attendees participated in addition to SCT and UVLSRPC staff. A series of eight questions were asked; a summary of the findings is presented below.

Figure 4-1.Mobility Workshop Findings

What words come to mind when you think of public transit in Sullivan County?

- Vital – filling a need
- Important
- Opportunity
- Flexible
- Community
- Lacking/limited
- Perception
- Underutilized
- Hard to access
- Inaccessible

How did you first hear about Public Transportation in Sullivan County?

- Community Alliance
- Community Partners
- Social service network
- Seeing the buses in the community
- County Coach 1986
- Google Search

What could Public Transportation do better?

- Inform- Better outreach and education
- Intermodal Connectivity
- Expand service area, route and to include later hours, weekends
- Marketing and education
- More efficient route design & timing
- Regional connections
- Route maps with color coding schedules
- Increase service to Charlestown
- Provide service to new medical buildings

What additional Public Transportation Services would you like to see in Sullivan County?

- Lebanon/Upper Valley (Route 120)
- More Door to Door bus service
- Charlestown/Keene/VT connections and crossover
- Inter-model Connections
- Expanded hours and locations; weekends
- I-89 Commuter
- Network/Collaborate w/other Transportation providers-
- Connection to Brattleboro
- Stop at high school in Newport
- Service to Whipple St. Caleb Group
- Park & Ride, Current/Windsor VT
- Van service to outlying Sullivan County communities

Where would you like to see public Transportation going?

- Sunapee
- Concord NH
- New London
- Unity
- Local Resorts – Mount Sunapee
- Arbor View
- Downtown Newport focus
- Claremont Soup Kitchen
- Bellow Falls train station

Do you use Public Transportation?

- Yes – 13%
- No 87%

Why do you not use public Transportation?

- Doesn't go where needed – Vermont, Walpole
- Lack of knowledge on how to use it or unaware of it
- Doesn't run when needed
- Not convenient to use
- Own a car

What can we do to improve public transportation services in Sullivan County?

- Improved social media
- Advisory Committee involvement
- Improve schedule and brochure
- Make presentations to senior and civic groups to inform them
- Coordinate with local employers
- Marketing – improve/change image
- Connect with civic groups and the tech centers in Newport and Claremont

A survey was developed to engage the community in a discussion of transportation needs and how public transportation can best fit into the fabric of the community now and into the future. The survey was available online through SurveyMonkey and hard copies were also produced. In total, 79 responses were received from the community and 11 from current riders. Below are key findings from the survey response.

Figure 4-2. Survey Finding Highlights

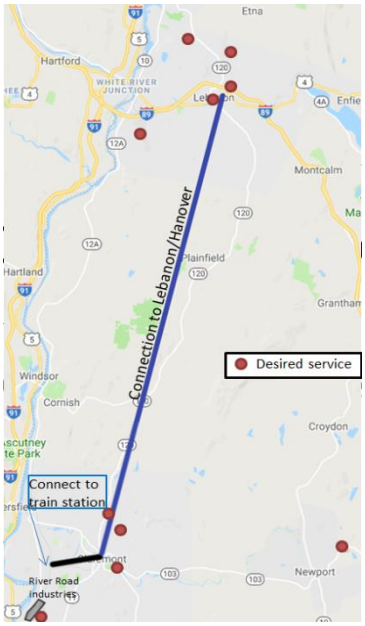
In addition to the community and rider surveys, SCT drivers and dispatchers were asked to anonymously fill out an eight question survey about the SCT service and mail their responses to the project team. Responses were received from 5 individuals. Survey questions ranged from their experience working for SCT transportation to passenger needs. Table 4-1 summarizes the survey responses.

Table 4-1. Driver Survey Results

Question	Responses
1. What is the best part about SCT transportation service?	• Buses (2) • Other drivers (2) • Management • Helping out the community (3) • Affordable (2)
2. What is the one thing that would most improve SCT transportation service?	• Drivers allowed to make change for passenger fares • Technology such as real-time information on where the bus is • Servicing more medical facilities • Improve routes to make them more visible to riders • Improve bus stops
3. What do you hear from riders about unmet needs – places they'd like to go or times/days they'd like to see more service?	• Weekend service (4) • Service later in the day (3) • Special events service
4. Where else/when do you think transit service should be provided?	• Dartmouth-Hitchcock (2) • Walpole • Lebanon • Ruger (Newport) (2) • Whelen • Upper Valley (3) • Amtrak station
5. Do you face any operational challenges?	• Timing between stops – more time is needed for some and others have too much (4)
6. Are the buses the right size?	• Yes (4) • No (1)
7. Do you have adequate equipment on the buses?	• Yes (5)
8. Do you have any suggestions on how to better connect to other transportation services regionally?	• A route to Lebanon via 120 (2) • Designated meeting/transfer points to connecting systems • Radio communication between systems
9. Other Comments	• Need more CDL drivers to drive the larger buses for the Claremont Route

A meeting with the Claremont Chamber of Commerce was held on October 18th, 2018. Nine attendees participated in addition to SCT and UVLSRPC staff. The group discussed transportation challenges, where people want/need to go, partnerships, marketing and technology. Figure 4-3 shows the connections the group discussed in addition to weekend service. Other items of discussion included:

Figure 4-3. Needed Connections – Chamber of Commerce Workshop



- People cannot always pay; possibility of a 'ride the bus for free' day
- Link with The Current in Asctuney to get individuals to Lebanon/Upper Valley
- Connect to the Claremont Amtrak Station
- Lots of employers on River Road in Claremont
- Create a partnership with Best Taxi; they would need an accessible vehicle to operate transit service
- Create a U-Pass program with RVCC
- Develop a training program for CDL drivers
- Get the schedule information into GTFS and develop a smartphone app
- Need to improve bus stops and posting of schedules
- More marketing/outreach about the service

5. Peer System Review

As part of the Short Range Transit Operations Plan Study, a peer review was prepared to gain an understanding of how other similar systems are operating transit service. This peer review explores eight transit services that operate in similar conditions or are located in proximity to the SCT service area. Although each transit system and route is unique, the similarities and differences in these eight peers provide useful insight into how rural transit service is provided and operated throughout the country. The eight peer systems were selected in conjunction with the study advisory committee and a description of each can be found in Table 5-1 and operating characteristics in Table 5-2, a more detailed description of each peer can be found in Appendix D.

Table 5-1. Peer Systems

System	Town	State	Other Services	Fixed Route	Demand Response	Taxi	DAR	Deviated FR
New River Transit Authority	Beckley	WV	No	No	No	No	Yes	Yes
Bluefield Area Transit	Bluefield	WV	NEMT	No	No	No	No	Yes
RTS Orleans	Albion	NY	No	No	No	No	Yes	Yes
SMOC/Prairieland Transit	Worthington	MN	Express	Yes	No	Yes	No	No
Brown Cab	Madison	WI	No	No	No	Yes	No	No
HCS Keene	Keene	NH	NEMT	Yes	Yes	No	Yes	No
Advance Transit	Lebanon	NH/VT	Shuttles	Yes	Yes	No	No	No
The Current	Brattleboro	NH/VT	Commuter; Volunteer drivers	Yes	Yes	Yes	Yes	No

Table 5-2. Peer Operating Characteristics

Peer System	Hours of Service	Weekend service
New River Transit Authority	8:30 AM- 4:20 PM	No
Bluefield Area Transit	7:00 AM- 6:00 PM	Yes- when Concord University is in session
RTS Orleans	6:30 AM - 5:30 PM	Saturday
SMOC/Prairieland Transit	7:00 AM - 6:00 PM	No
Brown Cab		
HCS Keene	8:00 AM - 5:00 PM FR and DR; 8:00 AM - 4:00 PM DAR; 8:00 AM - 4:30 PM NEMT	No
Advance Transit	6:00 AM - 7:00 PM	No
The Current	6:00 AM - 6:00 PM	Yes

Comparative operational statistics for the peer systems are provided in Table 5-3. Annual passenger count varies from 29,009 to 225,624, with the average being 111,054. Revenue hours and miles also vary greatly with the average revenue miles being 817,609 and hours 34,692.

Table 5-3. Peer Operating Statistics

Peer System	Annual Passengers	Annual Revenue Hours	Annual Revenue Miles
New River Transit Authority	35,182	19,129	252,747
Bluefield Area Transit	225,624	43,482	739,484
RTS Orleans	39,450	8,024	177,482
SMOC/Prairieland Transit	29,009	11,046	80,826
Brown Cab	---	---	
HCS Keene	45,302	10,156	129,247
Advance Transit	126,355	9,070	156,758
The Current	276,458	141,940	4,186,721
SCT	22,984	5,855	80,407

Source: 2016 NTD Data; 2018 SCT

Performance statistics measure the health of a system and are presented in Table 5-4. The peers range greatly for all performance statistics. The systems that travel greater distances tend to have a greater number of passengers per one-way trip. For all peers, the average passengers per revenue hour is 4.98, average farebox recovery is 6.81 percent and the average cost efficiency is $12.09 per passenger. SCT ranks 5th amongst peers for passengers per revenue hour, 4th for farebox recovery, and has a higher cost per passenger than most peers.

Table 5-4. Peer Performance Measures

Peer	Passengers/ Rev. Hr	Farebox Recovery	Cost Efficiency
New River Transit Authority	1.84	10.8%	$14.69
Bluefield Area Transit	5.19	13.0%	$5.35
RTS Orleans	4.92	8.1%	$17.44
SMOC/Prairieland Transit	2.67	1.2%	$11.16
Brown Cab	---	---	---
HCS Keene	4.46	4.5%	$13.53
Advance Transit	13.93	N/A	$5.76
The Current	1.95	3.3%	$16.67
SCT	3.93	5.9%	$16.08

There are a variety of fares, passes, and discounts available among the peers. Five of the peers used a single fare and one used zonal fares based on the origin and destination community. One system, Advance Transit, operates fare free. One-way fares ranged from $1 to $2.50 for fixed or deviated fixed routes.[4] For Dial-a-Ride, the fares ranged from $1 to $3 with only one peer charging more for a Dial-a-Ride trip than a fixed route trip. Two of the three peers that operate deviated fixed route service charge additional fares for the deviation. Two of the peers offer a discount for children and one offers a discount for seniors and individuals with disabilities. Passes were limited among the peers with only two offering a punch pass and two offering a monthly pass.

[4] This does not include Advance Transit, which operates fare free, or select routes on The Current, which also operate fare free

Table 5-5. Peer Fares

Fare	NRT	Bluefield Area Transit	RTS Orleans	SMOC/ Prairieland Transit	HCS Keene	Advance Transit	The Current
Single or zonal base fare	Single	Zonal	Single	Single	Single	Fare Free	Single
One-way fare	$2.50 all	$1.25-$2.25	$1 FR, DAR $3	$3 taxi $1.25 Express	$1 FR/DAR; $2 DR; $10 NEMT (donation)	Fare Free	$0-$2 (varies based on route type)
Children discount	Free under 12	No	Free under 5	No	No	0	No
seniors and individuals with disabilities	No	No	50%	No	No	0	No
Deviation charge	No	yes-varies	$2.00	n/a	N/A	0	N/A
Punch pass	No	No	Yes - 11 ride and 23-ride	No	Yes	No	No
Monthly pass	Yes	$30	No	No	No	No	No
Senior/disabled monthly pass	No	$25	No	No	No	No	No

Technology today serves a variety of functions in many aspects of everyday life, including transit. A review of the peer systems technology provides an understanding of trends within rural transit. This section explores two primary sectors of technology; schedule information, and fare. See Table 5-6 for a description of technology deployment in each of the peer services.

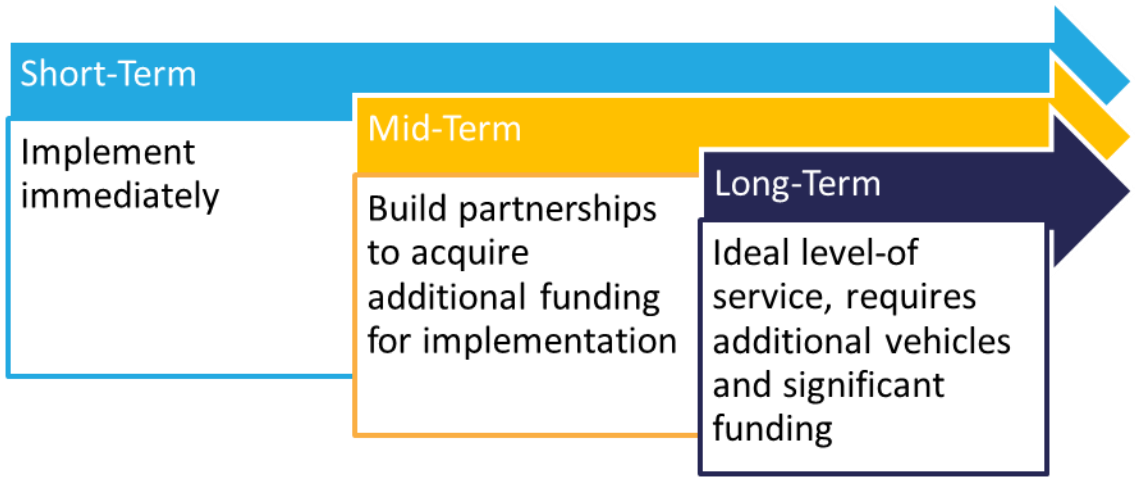
Table 5-6. Peer Technology Comparison

Peer	AVL/Real Time	Google Transit	Electronic Fare Payment
New River Transit Authority	No	No	No
Bluefield Area Transit	No	No	No
RTS Orleans	No	No	No
SMOC/Prairieland Transit	No	No	No
Brown Cab	N/A	N/A	N/A
HCS Keene	No	Yes	No
Advance Transit	Yes	Yes	N/A
The Current	No	Yes	No

6. ALTERNATIVE DEVELOPMENT

A long list of alternatives was developed and evaluated based on information provided through input from the public and by information from the peer review, operational and transit market analyses and results of previous studies. The long-list was used to develop short-, medium- and long-term recommendations that were based on need, funding availability, and capital requirements. Short-term recommendations are those that should be implemented immediately and would not increase the annual operating budget by more than 5 percent. Mid-term alternatives further expand service hours and locations. This alternative would require additional vehicles and operating funds. Mid-term alternatives were estimated for potential implementation in 1-3 years. The long-term alternatives require more capital equipment and have a significant cost associated with them. The long-term alternatives would likely take 3-5 years to secure funding and capital assets to implement.

Figure 6-1. Categorization of Alternatives



Three options for short-term service improvements were developed with each option focusing on a different priority. There are some general recommendations that apply regardless of the option chosen to move forward (Figure 6-2). Option 1 focuses on expanding the service area and hours by providing service later into the day in Claremont and adding medical trips to the Veterans Affairs Medical Center (VA) and Dartmouth Hitchcock Medical Center (DHMC) from each of the three communities on select days during the week. Option 2 focuses on Charlestown and Newport by adding to the number of trips daily to each. Option 3 is focused on Claremont and improving service within that community. Figure 6-3 presents the key elements of each option and Table 6-1 and Table 6-2 the pros and cons of each. A detailed Alternatives/Options memo can be found in Appendix E.

Figure 6-2. Summary of Short-Term Options

General Short Term Recommendations Regardless of Option

- Expand fixed route deviation zone to 3/4 mile
- Operate the Claremont route on a clockface schedule
- Serve RVCC on trips that the Claremont Senior center is not served
- Space out the service to Hannaford/Walmart/Market Basket among the routes so that the service to this area is not running back to back
- Install bus stop signs at fixed stops and benches/shelters at high ridership locations
- Designate each route as a color and coordinate schedules so people can easily identify the routes
- Only serve the Old Claremont Road area with deviations

Figure 6-3. Short-Term Options

Option 1

- Bi-directional service on all routes
- Extend service in Claremont to 6:00 PM
- Create clockface schedules on the Claremont Route every 90 min.
- Interline the Newport and Charlestown Routes
- Reduce the Newport Route to five trips daily
- Convert Newport to an on-demand zone
- Increase trips between Sugar River Mills and Washington St.
- Provide limited medical trips to VA and DHMC

Option 2

- Bi-directional service on Claremont and Charlestown Routes
- Extend service in Claremont to 6:00 PM
- Create clockface schedules on the Claremont and Newport Route every 90 min
- End Newport Route at Market Basket with timed transfers to the Claremont Route
- Add an additional Newport trip
- Add an additional Charlestown trip

Option 3

- Bi-directional service on Charlestown Route
- Scheduled service to Claremont Arms
- Create clockface schedules on the Claremont Route every 60 min.
- Add an additional Claremont trip
- Create clockface schedules on the Charlestown Route every 120 min.
- Add additional Charlestown trip
- Increase trips between Sugar River Mills and Washington St.

Table 6-1. Short-Term Option Pros

Pro	Option 1	Option 2	Option 3
Extended service on Claremont Route in evening	X	X	
Dial-a-Ride five days a week		X	X
Bi-directional service in Claremont	X	X	
Less tight Claremont schedule	X	X	
Bi-directional service in Newport	X		
Bi-directional service in Charlestown	X	X	X
Increase trips between Sugar River Mills and Washington St.	X		X
Medical trips to VA and DHMC	X		
Clock face schedule in Claremont	X	X	X
Clock face schedule in Newport		X	X
Increase number of Claremont trips			X
Increase number of Newport trips		X	
Increase number of Charlestown trips		X	
Scheduled service to Claremont Arms			X
Scheduled service to River Valley Community College (RVCC)	X	X	X
Schedule efficiency improved	X	X	X

Table 6-2. Short-Term Option Cons

Con	Option 1	Option 2	Option 3
No extended hours			X
Dial-a-Ride not five days a week	X		
No bi-directional service in Claremont			X
Tight Claremont schedule			X
Loop service in Newport		X	X
Longer headway on Claremont Route	X	X	
Reduction in trips between Sugar River Mills and Washington St.		X	
No medical trips to VA and DHMC		X	X
Transfer required to get to Washington Street and Opera House Square from Newport		X	
Transfer required to get to Washington Street from Newport and Charlestown on all trips		X	
Decrease number of Claremont trips from existing	X	X	
Decrease number of Newport trips from existing	X		
Decrease number of Charlestown trips from existing			
No scheduled service to Claremont Arms	X	X	
Additional revenue hours daily	X	X	X

A list of mid-term and long-term recommendations was developed. These are recommendations have significant capital and/or operating costs associated with them and would require creating partnerships and seeking additional funding. Figure 6-4 presents the proposed mid and long-term alternatives; more detail can be found in Chapter 8, the Financial Plan.

Figure 6-4. Proposed Mid and Long Term Recommendations

Mid Term	Long Term
• Taxi subsidy for after hours or weekends if scheduled in advance through dispatch • Begin service earlier on the Claremont Route • Extend service on Claremont Route to 8 PM • Add an additional trip on the Newport Route in the evening • Implement the Route 120 Bus Service • Evaluate fare structure • Extend service to River Road • New O&M facility • Expand Dial-a-ride in Claremont to 8 hours • Increase the number of official bus stops based on the capital Phase 2 plan	• Add weekend service • Add another bus to the Claremont Route between 8 AM and 4 PM to operate service every 45 minutes • Extend Dial-a-Ride to all of Sullivan County where the bus routes do not serve • Provide trips once a week to Keene and Concord • Add an evening trip to the Charlestown Route • Extend Newport service to Sunapee on select trips • Increase the number of official bus stops based on the capital Phase 3 plan

Following discussion with the study advisory committee and a public meeting held on December 19, 2018, in Charlestown, NH, the options were refined and a preferred alternative was selected. The preferred alternative will be further refined and developed in the operating plan, capital plan, and financial plan presented in Chapters 7-9.

7. Preferred Alternative

7.1 Operating Plan – Short-Term

The proposed operating plan for the short-term component of the preferred alternative is presented in this section. Service would be provided on weekdays between 6:15 AM and 6:40 PM but would vary across the three routes. The refined service would require three vehicles. The estimated operating cost, based on 29 revenue hours and 361 scheduled revenue miles[5] per day, would increase the annual operating cost by up to $19,000. This would include 248 days of service and is based on an average cost of $67.14 per hour[6]. Service would not operate on weekends or holidays. Detailed schedules and route maps for each route are presented in the sections below.

[5] This does not include the revenue miles from the dial-a-ride or any deviations on the routes.
[6] Based on current Southwestern Community Services operating cost per hour.

The proposed three deviated fixed routes deviate up to ¾ of a mile from the route to pick up and drop off passengers. Deviations must be requested the day before. In response to the change in the deviated fixed routes, the hours for Dial-a-Ride need to be adjusted to 10:15 AM to 12:05 PM and 1:25 PM to 3:00 PM. Dial-a-Ride will be restricted to trips in Claremont only and only where the pick-up and/or drop-off location is outside of ¾ of a mile of any deviated fixed route.

The preferred alternative includes 90-minute bi-directional service on the Claremont Route. The timing adjusted from the preliminary short-term options to create timed transfers with the Charlestown Route. Other refinements to the route included timing changes between stops, adding a mid-day trip to River Valley Community College (RVCC), and adjusting service to the senior center to better align with senior center operating hours. The Bourdon Center and Claremont Manor will only be served when the vehicle is heading south towards the senior center because of the difficulty in making a left-hand turn out of both of these destinations. Hannaford will only be served heading inbound towards Walmart because the signal timing is not conducive to left-hand turns.

The preferred routing for the Newport Route is based on Short-Term Option 3 with some timing modifications to create transfers. Summer Crest has been removed as a regular stop and will be served on-demand only. Ruger has been added to the schedule and will be served on the first and last trips of the day.

The preferred routing for the Charlestown Route is based on Short-Term Option 3 with timing modifications to create transfers. The first trip was adjusted so that transfer could be made from the Newport Route to the Charlestown Route. On the return trip in the morning this route will become the Claremont Route at Maple Street, serving the Bourdon Center, Claremont Manor, and Marion Philips before serving Opera House Square. Service could be expanded to River Road on this route on three out of the four trips daily but it would cost an additional $28,000 annually as it would increase the daily revenue hours and miles.

Figure 7-1. System Wide Map

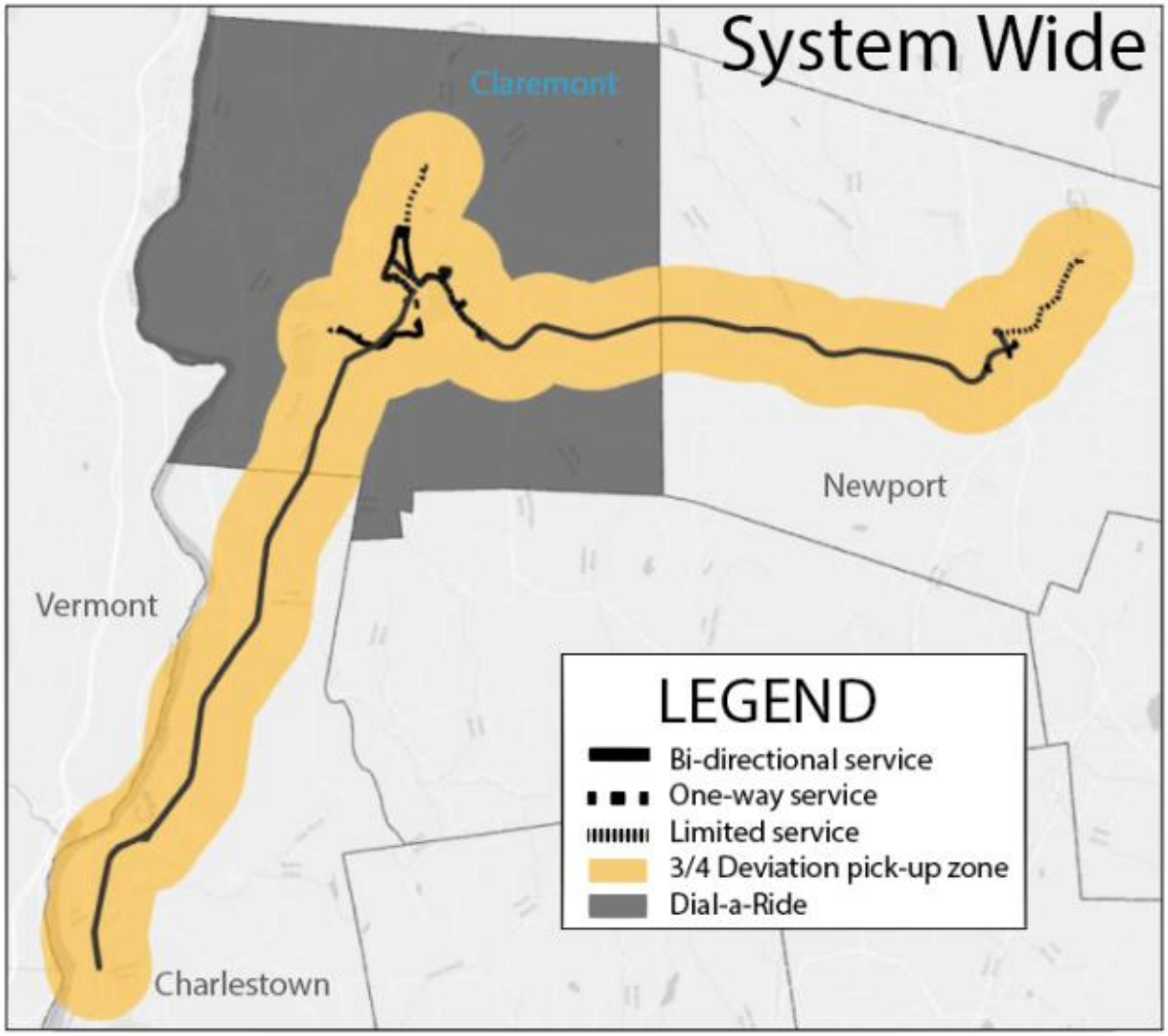
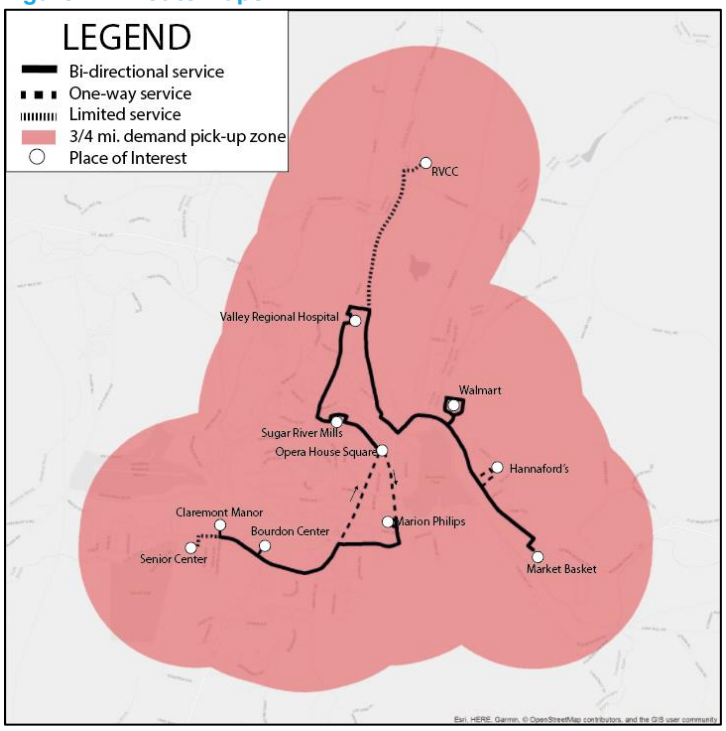
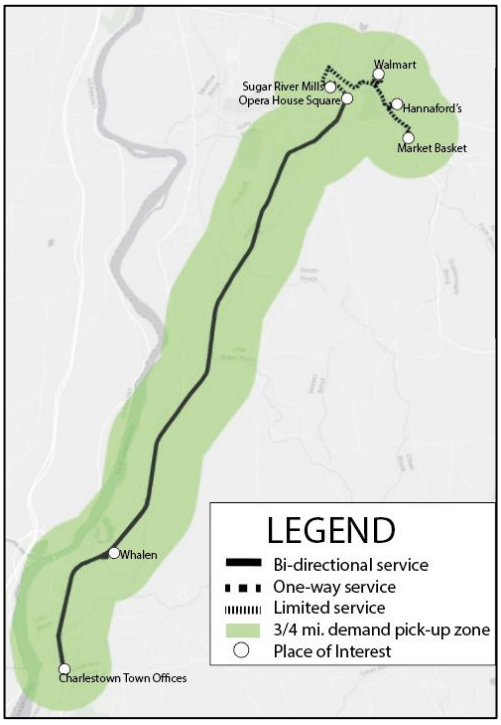


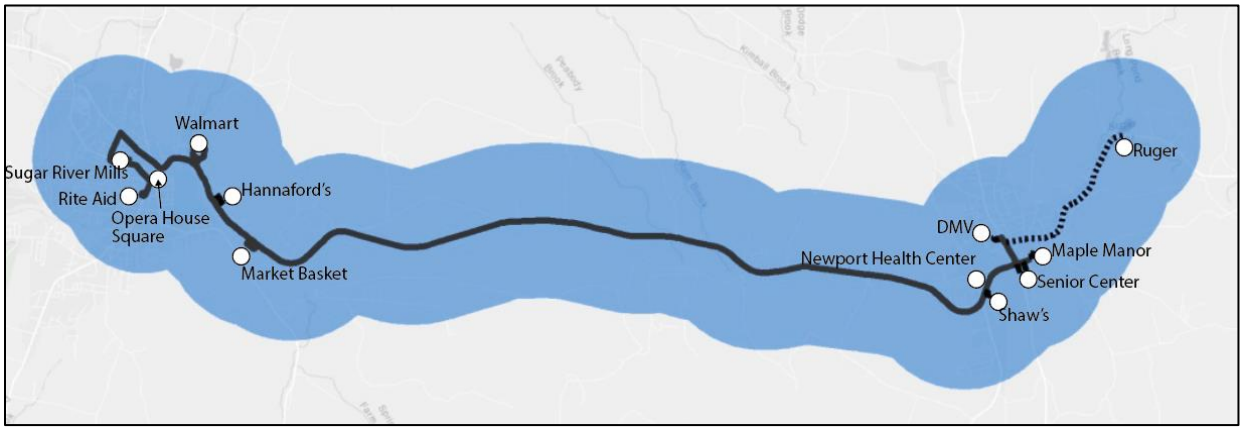
Figure 7-2. Route Maps



Claremont Route



Charlestown Route



Newport Route

Table 7-1. Proposed Claremont Route Schedule Northbound

Senior Center	Claremont Manor	Marion Phillips	Opera House Square	Sugar River Mills	Valley Regional Hospital	RVCC	Walmart	Market Basket
to Claremont Center				To Washington Street				
---	8:27	8:37	8:45	8:50	9:00	9:03	9:13	9:18
9:59	---	10:07	10:15 T	10:20	10:30	10:33	10:43	10:48
11:29	---	11:37	11:45	11:50	**12:00**	---	**12:10**	**12:18**
12:59	---	**1:07**	**1:15**	**1:20**	**1:30**	**1:33**	**1:43**	**1:48**
2:29	---	**2:37**	**2:45**	**2:50**	**3:00**	---	**3:10**	**3:18**
3:59	---	**4:07**	**4:15 T**	**4:20**	**4:30**	**4:33**	**4:43**	**4:48**
---	**5:27**	**5:37**	**5:45**	**5:50**	**6:00**	**6:03**	**6:13**	**6:18**

T= transfer from the Charlestown Bus

Table 7-2. Proposed Claremont Route Schedule Southbound

Market Basket	Hannaford	Walmart	Valley Regional Hospital	Sugar River Mills	Opera House Square		Marion Phillips	Bourdon Center	Claremont Manor	Senior Center
					Arrive	Leave				
to Claremont Center					To the Senior Center					
---	---	---	---	---	---	---	---	---	8:25	8:27	---
9:18	9:21	9:24	9:29	9:39	9:41	9:45	9:50	9:55	9:57	9:59
10:48	10:51	10:54	10:59	11:09	11:11	11:15	11:20	11:25	11:27	11:29
12:18	**12:21**	**12:24**	**12:29**	**12:39**	**12:41**	**12:45**	**12:50**	**12:55**	**12:57**	**12:59**
1:48	**1:51**	**1:54**	**1:59**	**2:09**	**2:11**	**2:15**	**2:20**	**2:25**	**2:27**	**2:29**
3:18	**3:21**	**3:24**	**3:29**	**3:39**	**3:41**	**3:45**	**3:50**	**3:55**	**3:57**	**3:59**
4:48	**4:51**	**4:54**	**4:59**	**5:09**	**5:11**	**5:15**	**5:20**	**5:25**	**5:27**	---
6:18	**6:21**	**6:24**	**6:29**	**6:39**	**6:41**	---	---	---	---	---

Table 7-3. Proposed Newport Route Eastbound

Rite Aid	Opera House Square	Sugar River Mills	Walmart	Market Basket	Ocean State Job Lot	Newport Health Center	Newport Senior Center	Maple Manor	DMV	Ruger
To Newport										
---	6:15	---	---	6:22	---	---	---	---	---	6:44
7:23	7:30	7:35	7:45	7:50	8:08	8:10	8:18	8:23	8:28	---
9:28	9:30	9:35	9:45	9:50	10:08	10:10	10:18	10:23	10:28	---
11:28	11:30	11:35	11:45	11:50	**12:08**	**12:10**	**12:18**	**12:23**	**12:28**	---
1:28	**1:30 N**	**1:35**	**1:45**	**1:50**	**2:08**	**2:10**	**2:18**	**2:23**	**2:28**	---
3:28	**3:30**	**3:35**	**3:45**	**3:50**	---	---	---	---	---	**4:12**

N= transfer from the Charlestown Bus

Table 7-4. Proposed Newport Route Westbound

Ruger	Irving	Newport Health Center	Market Basket	Hannaford	Walmart	Sugar River Mills	Opera House Square	Rite Aid
To Claremont								
6:44	6:49	---	7:07	---	---	---	7:15 **S**	7:17
---	8:31	8:33	9:00	9:03	9:06	9:16	9:21	9:22
---	10:31	10:33	11:00	11:03	11:06	11:16	11:21	11:22
---	**12:31**	**12:33**	**1:00**	**1:03**	**1:06**	**1:16**	**1:21**	**1:22**
---	**2:31**	**2:33**	**3:00**	**3:03**	**3:06**	**3:16**	**3:21**	**3:22**
4:12	**4:17**	**4:19**	**4:37**	**4:40**	**4:43**	**4:53**	**4:58**	---

S= transfer to the Charlestown bus available

Table 7-5. Proposed Charlestown Route Southbound

Market Basket	Hannaford	Walmart	Sugar River Mills	Opera House Square	Lovers Lane	Charlestown Town Office
To Charlestown						
---	---	---	---	7:25 **S**	7:50	7:55
---	---	---	---	9:15	9:40	9:45
12:05	**12:08**	**12:11**	**12:19**	**12:25**	**12:50**	**12:55**
3:00	**3:03**	**3:06**	**3:09**	**3:15**	**3:40**	**3:45**

S= transfer from the Newport bus available

Table 7-6. Proposed Charlestown Route Northbound

Charlestown Town Office	Lovers Lane	Opera House Square
To Claremont		
7:55	8:00 **M**	8:45 **C**
9:45	9:50	10:15 **T**
12:55	**1:00**	**1:25 N**
3:45	**3:50**	**4:15 T**

T= transfer to the Claremont bus

M= this bus will provide dual roles. It is the Charlestown bus until it comes to the Maple Ave intersection in Claremont where instead of continuing straight onto Pleasant St it will turn left onto Maple Ave. At this point it becomes the Claremont bus which goes into service at 8:25 at the Bourdon Center.

N= transfer to the Newport bus

C = this bus becomes the Claremont bus

Vehicle Schedules

Proposed vehicle schedules are outlined in this section. In general, each route is assigned one vehicle and that vehicle remains on the route throughout the day, with a few exceptions. The first run on the

Charlestown Route is performed by the vehicle that becomes the Claremont Route and the Claremont Dial-A-Ride service is performed by the Charlestown Route when it is not operating the Charlestown Route. In the vehicle schedules that follow, Vehicle A is in orange, Vehicle B is in purple and Vehicle C is in gray. The numbers across the top of the tables represent the trip number, in sequential order, that that vehicle is performing.

Table 7-7. Proposed Claremont Route Vehicle Schedule

Claremont Route	2	3	4	5	6	7	8
Opera House Square	---	9:45	11:15	12:45	14:15	15:45	17:15
Marion Phillips	---	9:50	11:20	12:50	14:20	15:50	17:20
Bourdon Center	8:25	9:55	11:25	12:55	14:25	15:55	17:25
Claremont Manor	8:27	9:57	11:27	12:57	14:27	15:57	17:27
Senior Center	---	9:59	11:29	12:59	14:29	15:59	---
Marion Phillips	8:37	10:07	11:37	13:07	14:37	16:07	17:37
Opera House Square	8:45	10:15	11:45	13:15	14:45	16:15	17:45
Sugar River Mills	8:50	10:20	11:50	13:20	14:50	16:20	17:50
Valley Regional Hospital	9:00	10:30	12:00	13:30	15:00	16:30	18:00
RVCC	9:03	10:33	---	13:33	---	16:33	18:03
Walmart	9:13	10:43	12:10	13:43	15:10	16:43	18:13
Market Basket	9:18	10:48	12:18	13:48	15:18	16:48	18:18
Hannaford	9:21	10:51	12:21	13:51	15:21	16:51	18:21
Walmart	9:24	10:54	12:24	13:54	15:24	16:54	18:24
Valley Regional Hospital	9:29	10:59	12:29	13:59	15:29	16:59	18:29
Sugar River Mills	9:39	11:09	12:39	14:09	15:39	17:09	18:39
Opera House Square	9:41	11:11	12:41	14:11	15:41	17:11	18:41

Table 7-8. Proposed Charlestown Route Vehicle Schedule

Charlestown Route	1	1	3	5
Market Basket	---	---	12:05	15:00
Hannaford	---	---	12:08	15:03
Walmart	---	---	12:11	15:06
Sugar River Mills	---	---	12:19	15:09
Opera House Square	7:25	9:15	12:25	15:15
Lovers Lane	7:50	9:40	12:50	15:40
Charlestown Town Office	7:55	9:45	12:55	15:45
Lovers Lane	8:00	9:50	13:00	15:50
Opera House Square	8:45	10:15	13:25	16:15

Bus A
Bus B
Bus C

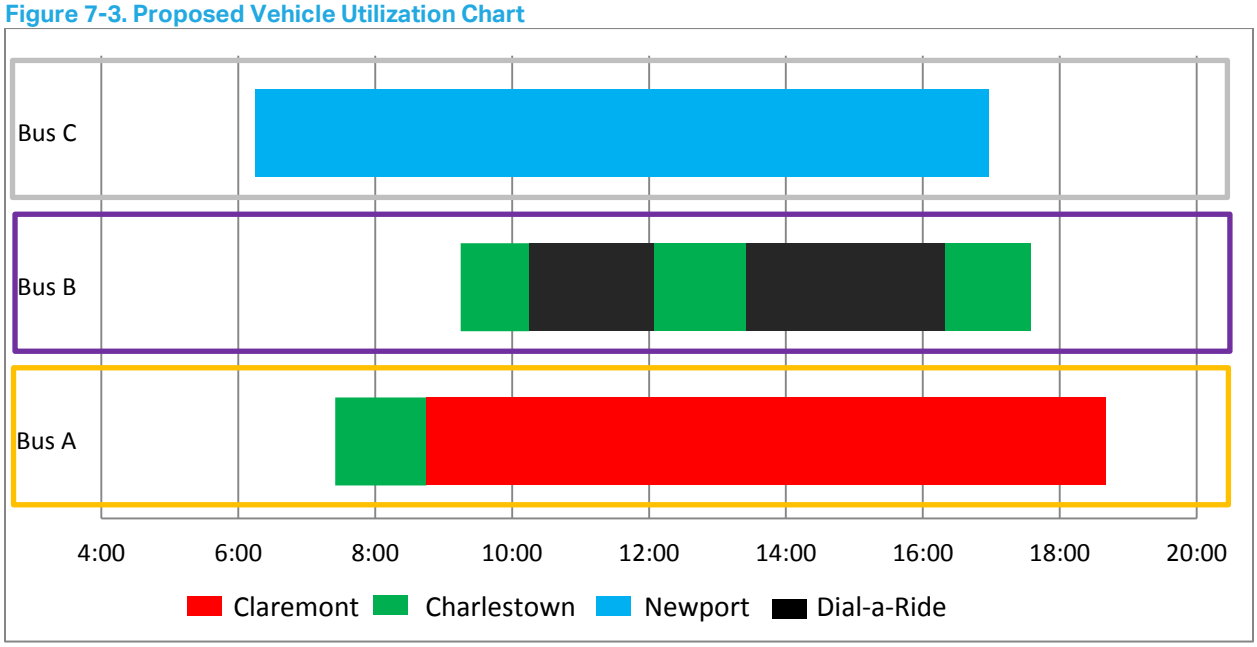
Table 7-9. Proposed Claremont Dial-A-Ride Vehicle Schedule

Dial-A-Ride	2	4
Start	10:15	13:25
End	12:05	15:00

Table 7-10. Proposed Newport Route Vehicle Schedule

Newport Route	1	2	3	4	5	6
Rite Aid	---	7:23	9:28	11:28	13:28	15:28
Opera House Square	6:15	7:30	9:30	11:30	13:30	15:30
Sugar River Mills	---	7:35	9:35	11:35	13:35	15:35
Walmart	---	7:45	9:45	11:45	13:45	15:45
Market Basket	6:22	7:50	9:50	11:50	13:50	15:50
Shaw's	---	8:08	10:08	12:08	14:08	---
Newport Health Center	---	8:10	10:10	12:10	14:10	---
Newport Senior Center	---	8:18	10:18	12:18	14:18	---
Maple Manor	---	8:23	10:23	12:23	14:23	---
DMV	---	8:28	10:28	12:28	14:28	---
Ruger	6:44	---	---	---	---	16:12
Irving	6:49	8:31	10:31	12:31	14:31	16:17
Newport Health Center	---	8:33	10:33	12:33	14:33	16:19
Market Basket	7:07	9:00	11:00	13:00	15:00	16:37
Hannaford	---	9:03	11:03	13:03	15:03	16:40
Walmart	---	9:06	11:06	13:06	15:06	16:43
Sugar Rive Mills	---	9:16	11:16	13:16	15:16	16:53
Opera House	7:15	9:21	11:21	13:21	15:21	16:58
Rite Aid	7:17	9:22	11:22	13:22	15:22	---

Figure 7-3. Proposed Vehicle Utilization Chart



Crew Schedules

A crew schedule was developed using the existing crew schedule as a template along with SCT work rules. Appendix F contains details on the crew schedule, assumptions and notes. SCT utilizes part-time drivers who work between 12 and 30 hours per week. In the proposed crew schedule there are six shifts a day, each between 4 and 6.75 hours in length and will require 10 part-time operators.

Table 7-11. Proposed Crew Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Total Hours
Claremont-AM 6:50-1:35 (6.75)						33:45
Claremont-PM 1:10-7:10 (6)						30:00
Charlestown/DAR – AM 8:40-12:40 (4)						20:00
Charlestown/DAR – PM 12:00-4:45 (4.75)						23:45
Newport - AM 5:40-11:55 (6.25)						31:15
Newport - PM 11:15-5:30 (6.25)						31:15

Operating Statistics

The operating statistics for each vehicle are presented in Table 7-12 and a summary of the routes are provided in Table 7-13. Operations will require 4.25 full-time equivalent (FTE) employees. Vehicle A and Vehicle C will require 2 operators per day in order to comply with Federal Motor Carrier Safety Administration regulations (FMCSA).

Table 7-12. Proposed Vehicle Statistics

	Vehicle A	Vehicle B	Vehicle C
Start time	7:25 AM	9:15 AM	6:15 AM
Start location	Opera House	Opera House	Opera House
End time	6:41 PM	4:15 PM	4:58 PM
End Location	Opera House	Opera House	Opera House
Span	11:16	7:00	10:43
Round trips	8	5	6
Revenue miles	129.0	80.6	151.4
Revenue hours	11:16	7:00	10:43
Non-revenue miles	1	1	4.4
Non-revenue hours	1:29	1:45	1:47
Total miles	130.0	81.6	155.8
Total hours	12:45	8:45	12:30

Table 7-13. Proposed Service Summary

	Claremont	Newport	Charlestown
Days of Service	248	248	248
Trips per day	7	6	4
Span of Service	8:25 AM – 6:41 PM	6:15 AM – 4:58 PM	7:25 AM – 4:15 PM
Headway	90 minutes	2 hours	2-3 hours
Vehicle Requirements	1	1	1
Annual Revenue Miles	26,635	37,547	25,346
Annual Revenue Hours	2,546:08:00	2,657:44:00	2,190:40:00

Capital Requirements

The short-term capital recommendations are focused around improving bus stops. With partnerships and grants, as discussed in Chapter 9, the responsibility for adding/upgrading bus stops could be shared. Bus stop improvements are recommended at 17 locations and include concrete work, and installing benches, signs and shelters. Table 7-14 provides an outline of proposed improvements by stop. Signs would be installed at all stops and either mounted on a building/existing column or be installed on freestanding breakaway poles. All proposed shelters would have a bench installed within the shelter. Additionally there are other locations that may warrant just installing a bench. Concrete work to make the stops ADA accessible is needed at three stops; this includes creating sidewalk connections where none exist, expanding areas to create 8'x5' ADA landing pads, and installing pads for shelters and benches.

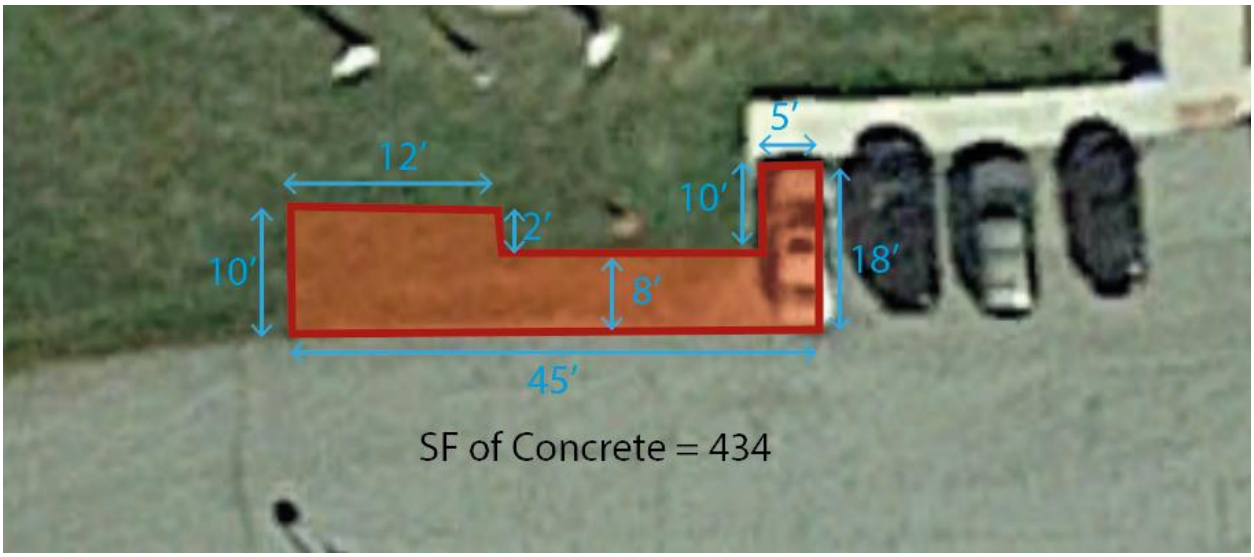
Table 7-14. Short-Term Bus Stop Improvements

Stop Name	Proposed Bench	Proposed Shelter	Sign Mounting	SF Concrete needed
Opera House Square	X		On Column	0
Rite Aid			On Column	0
Bourdon Center			On Column	6.875
Senior Center			On Column	0
Marion Phillips			On Column	0
Sugar River Mills			Replace 20 min parking sign with bus stop sign	0
Valley Regional Hospital			On Column	0
RVCC	X	X	New Post	See Transit Hub
Walmart	X	X	New Post	0
Market Basket	X		On Building	0
Hannaford			On Column	0
Charlestown Town Office	X		On existing post	15
Ocean State Job Lot			On Column	0
Newport Health Center			On Column	0
Newport Senior Center	X	X	New Post	900
DMV	X		New Post	0
Big Lots			On Column	0

The largest amount of concrete needed is at the Newport Senior Center. Due to limited parking, it is recommended that the vehicle does not pull into the parking lot but stops along Church Street. A sidewalk would need to be constructed along the south side of Church Street connecting to South Main Street. The sidewalk would need to be 160 feet long and five feet wide with an ADA landing pad and space for a bench.

A stop at River Valley Community College could be installed by the main entrance by the visitor parking. It would require relocating at least one visitor parking spot to the main lot and pouring a concrete pad that connects to the existing sidewalk and provides space to install a shelter. Figure 7-4 presents a diagram for dimensions. The 45' length is needed so that the vehicle can straighten out parallel to the curb after taking the turn from the perpendicular parking lane.

Figure 7-4. RVCC Transit Hub Concrete



7.2 Mid-Term Alternatives

Operating

There are six mid-term alternatives for service that would expand operating hours and extend the service area.

1. Taxi subsidy for after hours and weekends

Provide a taxi subsidy of up to five dollars to passengers wishing to take trips beyond SCT's operating hours. The trip would need to be scheduled in advance through SCT dispatch. SCT would pay up to $5 of the cost of the taxi trip; the remainder would be paid by the passenger. Implementing this option would require forming a partnership with a local taxi company. As a contracted operator of SCT, the taxi company would be subject to the same federal rules and regulations as SCT, including, but not limited to: safety, drug and alcohol, and ADA. The taxi company would also have to have an accessible vehicle.

2. Earlier service on the Claremont Route

Service would begin an hour and a half earlier than the existing span of service, at approximately 7 AM.

3. Later service on the Claremont Route

Service would end an hour and a half later than the existing span of service, at approximately 8 PM.

4. Additional Newport trip

The additional Newport trip would be in the evening, extending service to approximately 7:30 PM. It would serve all stops in Claremont and in Newport it would stop at Shaw's, Maple Manor, the Newport Health Center and any requested deviations within the deviation zone (3/4 mile of the route).

5. Implement the Route 120 Bus Service

The Route 120 Bus Service should be implemented based on the recommended alternative in the NH 120 Claremont-Lebanon/Hanover Transit Plan with three trips daily (weekdays only). This new service would require an additional vehicle. The service would start with a 16-passenger cutaway vehicle and move to a 30 passenger mid-size vehicle as ridership increases over time.

6. Expand Claremont Dial-a-Ride

In the proposed short-term operating plan there are 3.25 hours of Dial-a-Ride service, expanding it to 8 hours would add 4.75 hours daily. The Dial-a-Ride service would need its own vehicle and would no longer use the Charlestown vehicle when it is not in service.

Capital

There are thirteen mid-term capital recommendations, including work at nine bus stops, two vehicles, a new facility and a study to evaluate the fare structure. Bus stop improvements include concrete work, and installing benches and signs. Table 7-15 provides an outline of the improvements by stop. Signs would be installed at all stops and either mounted on a building/existing column or be installed on a freestanding breakaway pole. There are no proposed shelters in this phase and there is one proposed bench. Concrete work to make the stops ADA accessible would be needed at five stops; this includes expanding areas to create 8'x5' ADA landing pads and installing pads for benches.

Table 7-15. Mid-Term Bus Stop Improvements

Stop Name	Proposed Bench	Proposed Shelter	Sign Mounting	SF Concrete needed
Claremont Manor	X		New Post	30
Ruger			New Post	0
Irving			New Post	0
Glidden Street			New Post	0
School Street			New Post	0
Pizza Hut			New Post	15
Winter Street (E.)			New Post	15
Winter Street (w)			New Post	15
Elm & North			New Post	17.5

Two additional vehicles would be needed, one to implement the Route 120 bus and another to expand Dial-a-Ride to eight hours a day in Claremont. Sixteen passenger cutaways are the recommended vehicle type.

SCT currently operates out of the Southwestern Community Services building in Claremont. Space is tight and the vehicles are kept outside. Not having covered storage or a place to wash vehicles can lead to quicker deterioration of the vehicles as they are subject to weather conditions and road salt. Having a dedicated facility would allow for more space for SCT staff and indoor storage help preserve the vehicles, reduce costs associated with vehicle snow removal, and provide a space for vehicle cleaning. A facility of this nature would need to be around 6,000 square feet.

With the expansion of service to Hanover/Lebanon and Keene/Concord and additional service on existing routes, the fare structure should be re-evaluated. A zonal based system is currently used with no charges for transfers or deviations and Dial-a-Ride is same fare as the deviated fixed route service. SCT should examine their fare structure and perform an analysis to determine if a fare increase is warranted or alternative fare structure needed.

7.3 Long-Term Alternatives

Operating

There are six long-term alternatives for service that would expand operating hours and extend the service area. Implementing any of the long-term recommendations would require revaluating the schedules to ensure routes are operating efficiently.

1. Weekend Service

Weekend service would be implemented on each of the three deviated fixed routes, with service approximately mirroring the proposed the service outlined in the short-term operating plan, except for service to locations closed on weekends. The Claremont Route would operate 6 trips per day between 8:15 AM and 5:15 PM. Service would be provided to all locations on the schedule except the senior center and River Valley Community College (RVCC). The Newport Route would operate five trips per day between 7:30 AM and 5:30 PM. It would serve all stops in Claremont and in Newport but would not serve Ruger. The Charlestown Route would operate 4 trips daily with two in the morning and two in the afternoon. If timed transfers could not be made to connect to/from Washington Street, then the Charlestown Route would serve that area. No additional vehicles would be required.

2. Improve Mid-Day Claremont Service

Weekday service on the Claremont Route would be improved to 45 minute headways between 8:30 AM and 4 PM; this equates to 5 additional trips daily. All trips leaving Opera House Square heading southbound that depart after 9:30 AM and before 4:00 PM would serve the Senior Center. Three of the new five trips would serve RVCC. One additional vehicle would be required.

3. Extend Dial-a-Ride to all of Sullivan County

Dial-a-Ride service would be extended to all of Sullivan County that is not within ¾ mile of a deviated fixed bus route. Service would operate eight hours daily, on weekdays only. It is anticipated that two additional vehicles would be needed to operate this service.

4. Provide Trips Once a Week to Keene and Concord

Trips would be provided once a week from Sullivan County to Keene and to Concord with a different community each week in Sullivan County going to Keene. The route would begin at 8 AM and arrive in Keene and Concord by 9:30 AM with departures at 12:30 PM to arrive back in Sullivan County by 2:00 PM.

5. Add an Evening Trip on the Charlestown Route

Service would end an hour and fifteen minutes later than the existing Charlestown Route schedule, at approximately 5:30 PM. No additional vehicles would be required.

6. Extend Newport Service to Sunapee on select trips

The Newport Route would be extended to Sunapee on three trips daily. This recommendation would need to be studied further to determine where the demand exists, how the trips would fit into the overall schedule, which trips would be extended, if it would be operated seasonally or year-round, and the impact to the overall system.

Capital

There are 16 long-term capital recommendations, including work at eleven bus stops, four vehicles and a study to evaluate service expansion to Sunapee. Expanding service to Mount Sunapee/Lake Sunapee would require further study to determine the level of demand. During the outreach process, this area was mentioned several times as a candidate for service. Mount Sunapee is a major employer and destination in the winter as a ski resort and in the summer with a mountain bike park and several other outdoor activities.

Four additional vehicles would be needed in the long-term phase: one to increase service on the Claremont Route mid-day to every 45 minutes, two vehicles to extend Dial-a-Ride to all of Sullivan County and one to provide weekly trips to Keene and Concord. Sixteen passenger cut-away vehicles are the recommended vehicle type. Bus stop improvements are recommended at 11 locations and include concrete work, and installing signs. Table 7-16 provides an outline of the improvements by stop. All signs would be installed on freestanding breakaway poles. There are no proposed shelters or benches in this phase. Concrete work to make the stops ADA accessible would be needed at six stops; this includes expanding areas to create 8'x5' ADA landing pads and sidewalk work.

Table 7-16. Long-Term Bus Stop Improvements

Stop Name	Proposed Bench	Proposed Shelter	Sign Mounting	SF Concrete needed
Maple St.			New Post	80
Main & Mechanic			New Post	0
Elm & North			New Post	20
St. Joseph			New Post	20
163 Washington St (E.)			New Post	0
176 Washington St (W)			New Post	17.5
Monadnock Place			New Post	100
Pleasant Ln			New Post	20
Henry St			New Post	20
Mulberry St			New Post	15
Bible Hill Rd			New Post	40

8. CAPITAL PLAN

The elements for each phase of capital improvements were presented in Chapter 7. Appendix G contains a full inventory of all proposed bus stops; Appendix H has drawings to show concrete needs at each stop; and Appendix I has photos of each stop and the proposed location for the sign.

There are four basic steps to installing either a stop or structure at a stop: 1) determining ADA compliance, 2) obtaining permits and permissions, 3) installation, 4) maintenance. Figure 8-1 presents a summary of the requirements in each step and full bus stop guidelines can be found in Appendix J.

Figure 8-1. Four Steps in Bus Stop Improvements

Determine ADA Compliance	•Minimum standards based on Americans with Disabilities Act of 1990 and the subsequent ADA Accessibility Guidelines for Buildings and Facilities as well as universal design
Obtain Permits & Permissions	•Varies baes on state, municipal and private owned land •May require enginerring drawings and specs
Installation	•Hire a contractor - call Dig Safe - perfrom work - inspect work
Maintenance	•Develop a maintenance plan with roles and responsibilities

Figure 8-2 provides a flow diagram for installing a bus stop, and Figure 8-3 to install amenities/structures such as a shelter or bench at an established stop.

Figure 8-2. Steps to Installing a Bus Stop Sign

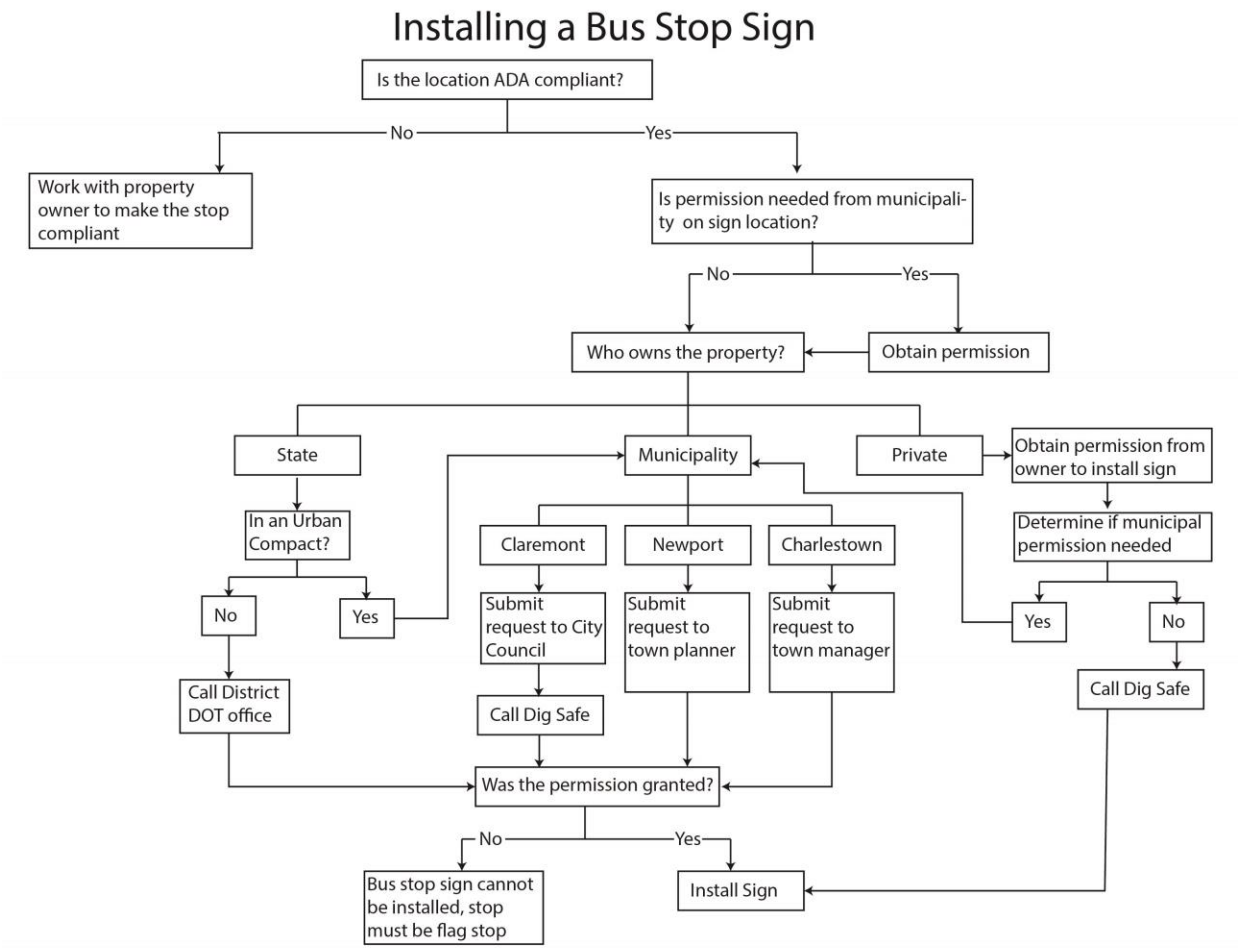
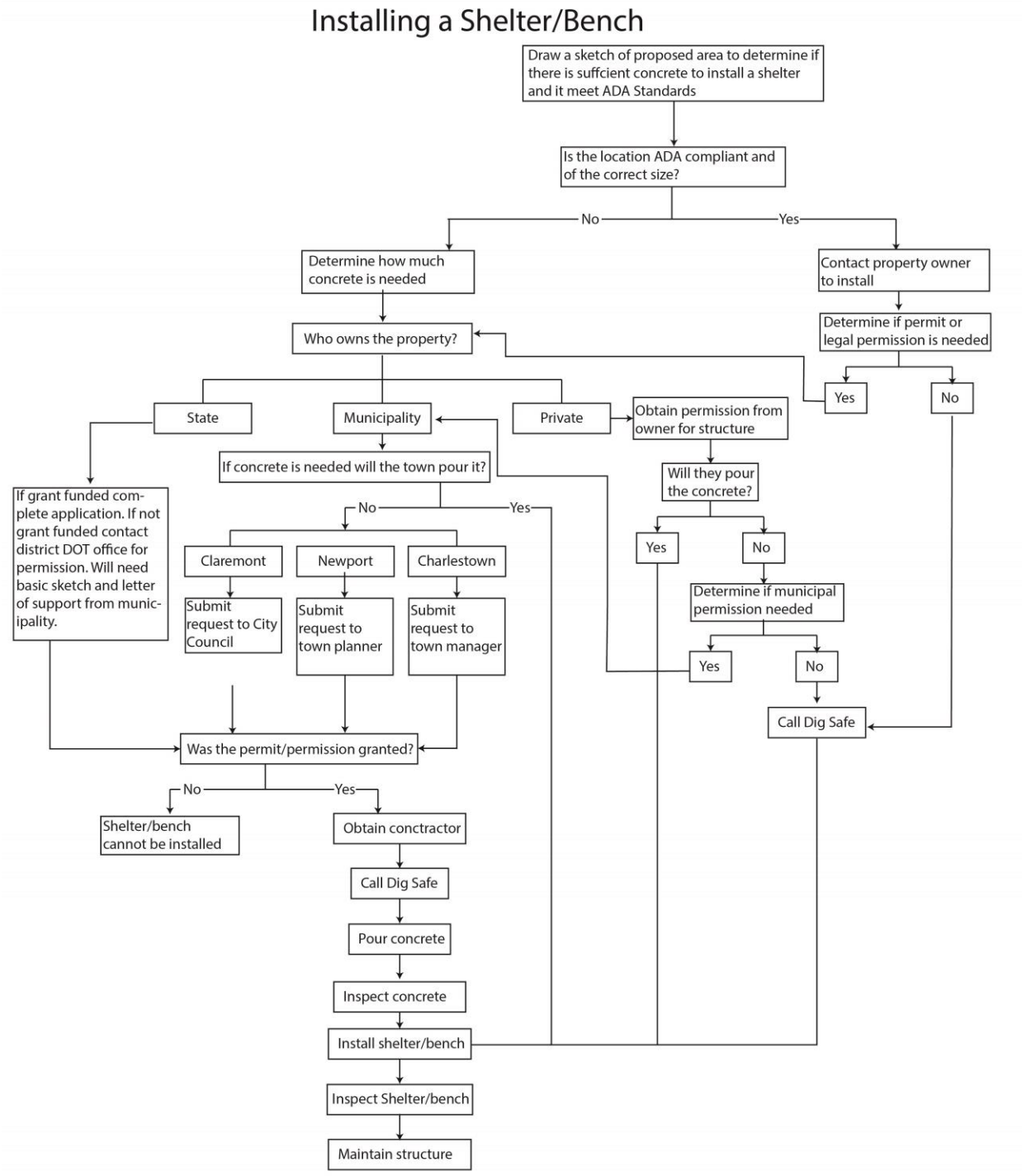


Figure 8-3. Steps to Installing a Shelter or Bench



9. FINANCIAL PLAN

9.1 Operating Costs

Operating costs are the annually recurring costs associated with operating transit service. They include expenses such as wages, benefits, insurance, fuel, fees, maintenance, etc. The cost per phase for the preferred alternative is presented in Table 9-1. The cumulative cost to implement all recommendations is just under $1.1 million annually. This is a 147 percent increase in the existing operating budget of $442,390, assuming all short-, mid-, and long-term recommendations are implemented over time.

The preferred short-term option has an increase in 1:09 hours per day, the estimated operating cost, based on 29 revenue hours and 361 scheduled revenue miles[7] per day would increase the annual operating cost by up to $19,000. This would include 248 days of service and is based on an average cost of $67.14 per hour. The operating costs presented below for the mid- and long- term fixed route recommendations are also calculated based on this hourly rate. The rate used for Dial-a-Ride is $87.58, the current cost per hour of operating that mode of service. The Short-Term + (extension to River Road) rate used is $75.56 per hour as the Charlestown route has a higher operating cost per hour. The additional annual operating cost to extend the service to River Road is $28,000.

Table 9-1. Operating Costs and Service Statistics by Phase

Phase	Cost	Annual Revenue Hours	Annual Revenue Miles
Short-Term	$19,000	285	22,161
Short-Term+	$28,000	370	2,933
Mid-Term	$380,000	4,278	57,863
Long Term	$667,000	9,945	157,817
Total	$1,094,000	14,878	240,774

There are six mid-term recommendations; to implement all recommendations would have an additional annual operating cost of $380,000. Each recommendation is presented in Table 9-2 with a summary of the increase in revenue hours and miles, if applicable, and annual costs. The taxi subsidy for afterhours was derived using national data on the percentage of weekend trips and after hour trips. Nationally, about 15.8 percent of weekly trips are taken on weekends, according to 2017 National Transit Database data. SCT averages 452 passenger trips each week and using the assumption that if the service were available on weekends, it would account for 15.8 percent of trips, the annual cost would be $21,000. To calculate the cost for potential weekday trips outside of SCT regular hours, it was assumed to be 10 percent of the daily trips. The annual cost would be $14,000 for weekday off-hour taxi service subsidy.

[7] This does not include the revenue miles from the dial-a-ride or any deviations on the routes.

Table 9-2. Mid-Term Operating Costs

Service Option	Cost	Annual Revenue Hours	Annual Revenue Miles
1.Taxi subsidy for after hours and weekends	$35,000	---	---
2. Earlier service on the Claremont Route	$26,000	383	4105
3. Later service on Claremont Route	$26,000	383	4105
4. Additional Newport Trip	$34,000	510	6120
5. Implement the Route 120 Bus	$165,000	1,929	33,226
6. Expand Claremont Dial-a-Ride	$94,000	1,073	10,306

There are six long-term recommendations; to implement all recommendations would have an additional annual operating cost of $667,000. Each recommendation is presented and Table 9-3 with a summary of the increase in revenue hours and miles, if applicable, and annual costs.

Table 9-3. Long Term Operating Costs

Service Option	Cost	Annual Revenue Hours	Annual Revenue Miles
1. Weekend service	$164,000	2,448	32,313
2. Improve mid-day Claremont Service	$128,000	1,913	20,527
3. Extend Dial-a-Ride to all of Sullivan County	$274,000	4,080	78,336
4. Provide trips once a week to Keene and Concord	$41,000	612	10,710
5. Add an evening trip on the Charlestown Route	$21,000	319	6,120
6. Extend Newport Service to Sunapee on select trips	$39,000	574	9,180

9.2 Capital Costs

Capital costs are one-time costs and include equipment, facilities and studies. The capital costs are broken down by phase and item. Unit costs are derived from recent purchase costs, national practices and literature, the NHDOT Weighted Average Unit Prices from 2018[8], and NCHRP Project 20-65 "Independent Cost Estimates for Design and Construction of Rural and Small Urban Transit Facilities"[9]. Table 9-4 provides a summary of capital cost by phase and Table 9-5 by item. Phase 2 has the highest cost because of the proposed operations and maintenance facility. The overall capital cost to implement all changes is $2.3 million.

Table 9-4. Cost by Phase

Phase	Cost
Phase 1	$125,750
Phase 2	$1,827,700
Phase 3	$379,700

[8] https://www.nh.gov/dot/org/projectdevelopment/highwaydesign/documents/WeightedAveragesImperial.pdf
[9] https://www.nap.edu/read/22086/chapter/1

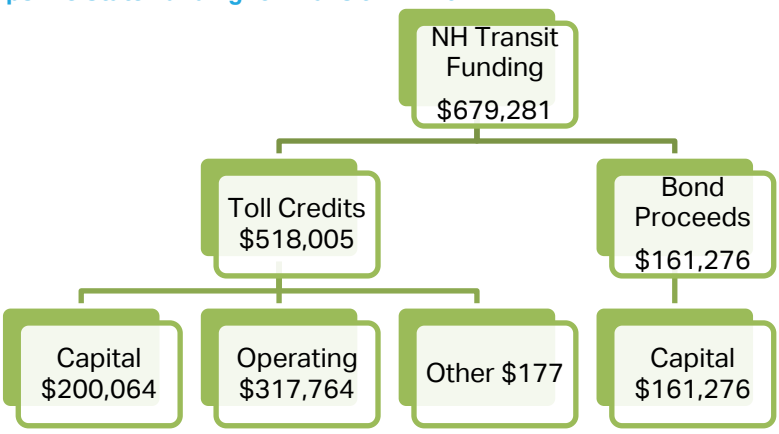
Table 9-5. Cost by Item

Item	Unit cost	Units	Quantity	Total Cost
Vehicles	$78,000	Each	6	$469,000
Facility[10]	$1,630,000	Each	1	$1,630,000
Fare Study	$30,000	Each	1	$30,000
Sunapee Study	$45,000	Each	1	$45,000
RVCC Hub[11]	$35,000	Each	1	$35,000
Bus Stop Work				
Concrete Work	$57.57[12]	s.f.	1,282	$73,850
Shelters[13]	$10,000	Each	3	$30,000
Benches[14]	$500	Each	8	$4,000
Signs[15]	$50	Each	38	$1,900
Sign install on pole[16]	$600	Each	24	$14,400

9.3 Funding Overview

Each state funds (or does not fund) transit services differently. State legislation is the primary driver in determining how local funds can be generated to support transit service provision. Historically funds generated locally were primarily generated in order to provide local match to receive federal funds. However, in recent years, as federal and state transit funds have been reduced, funds are being generated locally to support new/expanded services in addition to fulfilling local match requirements. A national review of innovative funding options was conducted as part of this study. Many of these methods would require state legislative change in New Hampshire in order for them to be adopted, but they are not out of the realm of possibility.

Figure 9-1. New Hampshire State Funding for Transit in FY2014



[10] Assumes 6,000 square feet using a unit cost of $250/ s.f. and including $130,000 for design

[11] Includes $25,000 for concrete and $10,000 for grading as this area is on a slope

[12] NHDOT 2018 Weighted Average unit prices used for concrete is for a 6" . spec for concrete found here:

[13] Assumes 4'x10' shelter constructed of square tube aluminum columns with a map/schedule case

[14] 4' long bench with backrest and seat divider

[15] Traffic Sign Type B 18"x30", single sided. Appendix I has pictures depicting the location of each stop and proposed sign location.

[16] All poles will be break away poles and installed by a contractor. The Unit cost includes installation and mounting the sign on the pole. Locations where the sign is to be mounted on an existing pole, side of a building or building column would be done by SCT.

9.4 Funding Strategies

Federal Funding

The FTA has a variety of programs used to fund public transportation. In December 2015 the Fixing America's Surface Transportation (FAST) Act, was signed into law. The Act supports transit funding through 2020. It reauthorizes FTA programs and includes changes/improvements for mobility, capital projects, and safety. The Act includes a predictable five-year formula funding program so that agencies can better manage long-term assets and address state of good repair issues. The Act also includes a competitive grant program. The competitive grant program includes grants for buses and facilities, innovative transportation coordination, workforce training, and public transportation research. Table 9-6 lists current federal funding programs for transit and each program is described in the following sections.

Table 9-6. Federal Funding Programs

Federal Funding Source	Requirement	Use	Eligibility
FHWA FHPP	Along NHS corridors; reduces delays; travel time savings on the NHS; cost effective		
CMAQ	Transportation focus; reduce air emissions; located in or benefit a nonattainment or maintenance area		
BUILD (formerly TIGER)	Minimum capital cost of $1 million in Rural	Capital	Yes
5307	Urban formula funds	Mostly capital	No
5309	Major transit capital investments for fixed guideway	Capital	No
5310	Benefits elderly and/or disabled	Operating & capital	Yes
5311	Rural formula funds	Operating & capital	Yes
5311F	Intercity bus	Operating	No
5339	Capital procurement	Capital	Yes
Access and Mobility Partnership Grants	Competitive capital funds for improved coordination for non-emergency medical trips	ICAM – Capital HSCR – Operating & capital	Yes

FHWA National Highway Performance Program

The Federal Highway Administration (FHWA) National Highway Performance Program (NHPP) provides funds to support the national highway system (NHS). The funds can be used on public transportation projects that are along NHS corridors and reduce delays and result in travel time savings that are more cost effective than an improvement such as widening the corridor. NHPP funds are apportioned to states based on a formula. A state can transfer up to 50 percent of NHPP funds each fiscal year to the National Highway Freight Program, Surface Transportation Block Grant Program, Transportation Alternatives, Highway Safety Improvement Program, and Congestion Mitigation and Air Quality (CMAQ) Improvement Program. In the study service area, Routes 202, 111, I-295, and I-95 are considered part of the NHS and implementing bus service along any of these corridors may be eligible for NHPP funding.

Flexible Federal Highway Funds

Flexible highway funds are legislatively defined and can be used for either highway or transit purposes. Funding sources include the Surface Transportation Program (STP), CMAQ, and FTA Urban Formula Funds. They allow the local areas to choose certain federal funds based on local priorities. The sections below describe each type of flexible fund available.

Congestion Mitigation and Air Quality (CMAQ)

CMAQ is administered by the FHWA and requires a 20 percent local match. To be eligible, projects must have a transportation focus, reduce air emissions, and be located in or benefit a nonattainment or maintenance area. Funds can be used to support startup costs of new services, expand service, procure vehicles, and act as fare subsidies for free transit or reduced fares. Funding for the states is determined based on a formula that includes the severity of air quality programs and can be used for both capital and operating costs (for a limited period of time)[17]. In Vermont, transit service expansions are funded with CMAQ and the transit provider applies for New Starts grants through the state.

In FY2018, New Hampshire received $10,686,775 in CMAQ funding. Sullivan County is not within nonattainment or maintenance areas; this project is therefore most likely not eligible for CMAQ funding.

Surface Transportation Block Grant Program

The Surface Transportation Block Grant (STBG) program replaced the Transportation Alternatives Program (TAP) with the authorization of the FAST Act. It is flexible funding that can be used on capital costs for transit projects.

Better Utilizing Investments to Leverage Development (BUILD) Grants

BUILD Grants are a competitive discretionary grants program administered by the FTA on an annual basis for capital projects and replace the Transportation Investment Generating Economic Recovery (TIGER) grant program. BUILD Grants fund investments in transportation infrastructure, both transit and roadway, that will have a significant impact on the nation, a metropolitan area, or region. The DOT

[17] Federal Highway Administration. CMAQ and Public Transportation https://www.fhwa.dot.gov/environment/air_quality/cmaq/reference/cmaq_public_transportation/ 2017

plans to award a greater percentage of BUILD grants to projects in rural areas that align with the criteria than in urban. The main differences between the BUILD grant and TIGER grant programs are that BUILD has a greater emphasis on non-federal revenue streams for infrastructure projects and does not allow new bond issuing to count towards a revenue stream.

The BUILD Grant program focuses on capital projects that generate economic development and improve access to reliable, safe, and affordable transportation for communities. Eligible applicants include state and local governments, transit agencies, port authorities, and metropolitan planning organizations. Several jurisdictions can also join together to submit multi-state or multi-jurisdictional applications. The BUILD grants may be used for up to 80 percent of the total project cost in urban areas and up to 100 percent in rural areas. The minimum award for projects in an urban area is $5 million and $1 million in a rural area. The current SCT service area is within an a rural area and the proposed Operations and Maintenance (O&M) facility meets the cost requirements to apply. In 2018 two BUILD grants were awarded to transit providers to design and construct new O&M facilities. One was awarded to Siouxland Regional Transit System, a rural transit provider, and covered 100 percent of the cost for the $7 million project. The other was awarded to North Central Regional Transit District for a maintenance facility, the grant covered $1.2 million of the $6.1 million cost.

Section 5307 Urbanized Area Formula Grants

The FTA Section 5307 is the Urbanized Area Formula Grants Program for urbanized areas. Urbanized areas are census designated areas with a population of 50,000 or more. Funding can be used for capital purchases, planning, engineering, design and evaluation of transit projects and other technical transportation-related studies. Systems can flex funding to preventative maintenance and some complementary paratransit costs and for urbanized areas with populations less than 200,000 operating assistance is an eligible expense. Up to 50 percent of the net cost for preventative maintenance, paratransit and operations can be paid for using 5307 funds. The 5307 share on capital projects requires a twenty percent match. The SCT region is not currently within a census designated urbanized region and is not eligible for 5307 funding.

Section 5309 New Starts/Small Starts

The FTA Section 5309 Capital Investment Grants program for New or Small Starts fund major capital investments for fixed guideway or bus rapid transit projects. To be eligible for Small Starts, the project must be under $300 million and seeking less than $100 million in addition to the operating requirements of stations, substantial weekday service, bidirectional, and frequent service. This project meets the eligibility requirements for New or Small Starts 5309 funding.

Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities

The FTA Enhanced Mobility of Seniors and Individuals with Disabilities (5310) program provides formula funding to states to increase the mobility of seniors and persons with disabilities. Funding is formula based and distributed directly to urbanized areas with populations over 200,000 and to the state for small urbanized areas (under 200,000) and non-urbanized areas. Funds allocated to the state for small urbanized areas must be used in set areas. Sub-recipients of the funds distributed to the state can be both urban and rural transit providers, non-profit organizations, state or local government authorities, and private taxi companies if they provide shared-ride taxi services to the general public. Eligible transit projects include mobility management, capital procurement, operating expenses, and purchased trips. Projects must be included in the locally developed coordinated public transit-human services transportation plan, and at least 55 percent of the funds are to be spent on capital projects. A 50 percent match is required to use the funds for operating costs 5310 funding in New Hampshire is

available to the nine Regional Coordination Councils and distributed through a lead agency. The funding to each region is formula based calculated based on the senior population (65+) and the population under 65 with a disability using the most recent American Community Survey 5-year estimate. Region 4 contains Sullivan County and SCT is the lead agency. Operating funding available for SFY2020 in region 4 is $82,260 and eligible projects include Capital/mobility management projects and operating expenses.

Capital funding through 5310 in New Hampshire is through a competitive solicitation and can be used for purchasing accessible vehicles or equipment such as radio systems, maintenance equipment and software. In SFY2018 $290,650 was awarded to four applicants to purchase vehicles and computer servers. Accessible vehicles require a 15 percent local match (the state often provides half of this equating to a 7.5 percent local match) and all other equipment a 20 percent local match.

Section 5311 Rural Formula Grants

The FTA Section 5311 is the Formula Grants Program for rural areas. Rural areas are areas with a population less than 50,000. Funding is formula based allocated to direct recipients (states, and federally recognized tribes) and can be used for capital, planning, and operations. The uses of 5311 funds require a 50 percent match for operating and 20 percent match for capital. Eligible sub recipients include local governmental authorities, non-profit organizations and public transportation operators. In New Hampshire 5311 is used for operating expenses, administration, job access and reverse commute projects, the acquisition of public transportation services in rural areas, preventative maintenance and ADA paratransit. No capital funds are available through 5311 projects, instead FTA 5339 funds are used. New Hampshire solicits for projects each in early January, with applications due the following month. The funding is for the next two state fiscal years which run July to June. The most recent solicitation was for $3.4 million annually. SCT is in a rural area and is eligible to apply for 5311 funding through the New Hampshire Department of Transportation biannual solicitation.

Section 5339 Buses and Bus Facilities

The Buses and Bus Facilities program (5339) is a federal program that provides funding for capital equipment including the replacement, rehabilitation, and purchase of vehicles and related equipment and the construction of new bus-related facilities. There are two types of funding; formula based and competitive grants.

Formula-based funding is, distributed to eligible direct recipients (fixed route operators in urban areas and state/local governments), and provides up to 80 percent of the net cost of regular vehicles and 85 percent for ADA-accessible vehicles .The region is non-urbanized and all formula funding under 5339 in this region would be funneled through the state and granted to subrecipients. Eligible subrecipients in New Hampshire include both public and non-profit transit providers and funding is competitive. In SFY2019 $3,802,919 was available. To receive funding, an application must be submitted to the state describing the need, fiscal responsibility, and commitment to the service. The notice for available funds is typically made in the fall of each year with applications due in late fall. Under the NHDOT State Management Plan, the emphasis is to replace aging vehicles over expansion. In SFY2018 SCT received $59,500 to purchase a new bus. Other projects statewide included transit vehicle overhauls, replacement buses, new maintenance equipment, and the introduction of Intelligent Transportation System (ITS) technology.

Competitive grants are discretionary and account for 58 percent of all 5339 funding. As with the formula based funding the federal share of a project must not exceed 80 percent of the net project cost but ADA costs directly related to vehicle equipment or facilities are eligible for up to 90 percent federal funding. All eligible activities under the formula program are eligible under the discretionary

program. Additionally there are two other discretionary categories: 1) bus and bus facilities based on age and condition, 2) low or no emissions bus deployment program. The notice of funding is released in early summer and due approximately six weeks later and at least 10 percent of funding is allocated to rural projects. Applicants are evaluated based on six criteria that demonstrate the need and benefit, local prioritization, local match, implementation strategy, and technical/legal & financial capacity.

Access and Mobility Partnership Grants

Access and Mobility Partnership Grants are competitive federal capital grants to improve transportation options for people with limited transportation choices and to help to bridge the gap between service providers in transportation and service providers in healthcare. The goal of the program is to build partnerships among health, transportation, and other service providers, particularly to improve coordination of non-emergency medical transportation services. The announcement of the grant is typically made in mid-September with applications due mid-November. In the recent round of funding $6.3 million was available under two initiatives: the Innovative Coordinate Access and Mobility Pilot Program (ICAM) ($3.9 million) and Human Services Coordination Research grants (HSCR) ($2.4 Million). Eligible recipients for ICAM include recipients and subrecipients of 5310 funding and HSCR grants are awarded to state and local government entities, public transportation providers and private or non-profit organizations. ICAM will provide funding for up to 80 percent of the project capital cost and HSCR will provide up to 80 percent of the capital cost and up to 50 percent of the operating cost for a project.

State Funding

Community Development Block Grant

Community Development Block Grants (CDBG) in New Hampshire are distributed by the Community Development Finance Authority (CDFA) to provide housing and expand economic opportunities for low to moderate income people. The program is funded through HUD and each year receives $8-10 million. All municipalities and counties are eligible to apply for Housing and Public Facilities grants which can include sidewalk and ADA access. The maximum amount award to any community is $500,000.

State Aid Highway

State AID Highway (SAH) is state funding for the reconstruction of Class I, II, and III state owned highways. Typical projects include improvements to unnumbered state routes and intersection improvements at town road and state highway. Projects under SAH require a 33 percent local match and are capped at $1,050,000. SCT should work with municipalities pursuing SAH funding along bus route to ensure their inclusion in the design and construction process.

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) replaces the Transportation Enhancement Program under MAP-21. The program is federally funded and provides funding for alternative transportation capital projects. Eligible activities include construction, design and planning of infrastructure and facilities that promote non-motorized transportation. Projects under TAP are competitive and require a 20 percent local match. To qualify the project must cost between $400,000 and $1,000,000. New Hampshire releases the solicitation on a bi-annual basis. In the last round of funding, 2018, the New Hampshire allocation for TAP was $3.2 annually ($6.4 total). New Hampshire awarded $5.7 Million to nine communities in New Hampshire for sidewalks, multi-use paths and rail trails.

Non Traditional Funding

Safe Routes to School

Safe Routes to School is an effort to encourage primary school student sot bike and walk to school. Much of the infrastructure needed to make routes safe is the same infrastructure needed to create connections between place and bus stops. NHDOT offers grants for infrastructure programs that promote walking and biking to school under the Transportation Alternatives Program. For projects to be eligible it must be within two miles of a primary school and be school oriented infrastructure such as sidewalks and bike lanes. By improving the sidewalk connections around schools it improves the connections to bus stops. Grants are competitive and will cover up to 80 percent of the local cost. In 2018 NHDOT awarded $5.7 million to nine recipients for constructing sidewalk/bike paths/multi-use trails and upgrading existing infrastructure to be ADA compliant. SCT should coordinate with the school systems for any Safe Routes to School infrastructure updates within the vicinity of bus stops.

AARP Community Grant Challenge

The AARP Community Challenge grant was launched in 2017 and is part of the nationwide AARP Livable Communities initiative that support efforts of neighborhoods, towns, cities and rural areas to become great places to live for residents of all ages. The funding is to be used to make immediate improvements that can spark linger term progress. The program is open to all nonprofit and government entities that create vibrant public places, support the availability of a range of housing, community improvements, or deliver a range of transportation and mobility options. Applications are typically due in late winter/early spring. In 2018 $1.3 million was distributed to fund 129 projects across the country including bus stop improvements such as benches and shelters, and training programs for older adults on public transportation.

Northern Border Grant

The Northern Border Regional Commission (NBRC) is a federal-state partnership for economic and community development in distressed communities of Northern New England and New York. Part of the NBRC is the Economic & Infrastructure Development Investment Program, which provides funding for infrastructure projects and business and workforce development projects. Funding is competitive and applications are typically due mid-May, grants of up to $500,000 are awarded for infrastructure and up to $250,000 for all other eligible projects. Awards typically require a 50 percent match and can be used as a match to leverage other Federal grant funds up to 80 percent of the total project. As with all federally funded projects, a 20 percent non-federal match is required. Counties that are designated as distressed are eligible to use NBRC funding for up to 80 percent of the cost of a project. In New Hampshire, Coos and Sullivan counties are both considered distressed and therefore eligible for this funding program.

Innovative Funding Options

A detailed review of innovative funding strategies from around the country can be found in Appendix K. Table 9-7 is a summary of potential state and federal funding sources, potential revenue and the requirements in order to implement the measure and generate the revenue. Many of the state and local funding sources would require state and/or local legislation to enact.

Table 9-7. State and Local Funding Sources

Source	Revenue Potential	Requirements
Mortgage Recording Fee	Unknown	Increase mortgage recording fee surcharge by $1 and dedicate to transit
Development Impact Fees	Unknown	A redefinition of authorized use under RSA 674:21, V. and the adoption of set legislation in municipality zoning
Paid Parking	Unknown	Implement parking fees
Underground Storage Fee	$15,000	Assessing a 1.0¢ fee per gallon to all tanks and dedicating percent50 to transit
Tolls	Unknown	Allow toll revenue to be used on non-tolled roads,
Vehicle Registration, Title and License Fees	$25,000-$78,500	Assessment of Fee by communities, increase in maximum fee from $5 to $10
Motor Carrier/Limo Fee	$56,000	Assessment of $100 annual fee on motor carriers
New Tire Fee	$43,300; $51,300; $68,600	Allow county or local fee assessment on new tires. Asses fee of 50¢; 75¢; $1
Vehicle Lease Fee	$331,000; $55,000; $414,000	Assessment of 50¢ monthly fee to all leased vehicles; $1 annual; 3 percent
Real-estate Transfer Tax	$982,000	A 1 percent increase in real estate transfer taxes to homes worth more than $1 million
Income Tax	Unknown	Imposing a tax on income in NH
Property Taxes	$136,000	Special assessment or local mill levy for transit. Increase tax rate by 0.1 mills in Claremont, Charlestown, and Newport
Sales Tax	$808,000	Change in state legislation to implement a sales tax and dedicate automotive related items to transit
Gas Tax	$2.6 million	Raise gas tax by 0.5¢ and dedicate to transit
Car Rental Tax	$483,000	Increase the Meal and Rooms tax by ½ a percent
Parking Taxes	Unknown	Local ability to implement tax
Utility Tax	$122,000-$488,000	Legislative action and levy adopted by counties
Hospitality Tax	$2 million	$1 per occupied room per night
Corporate Franchise Tax	Unknown	Legislative action
Payroll Tax	Unknown	Legislation enabling a payroll tax

Source	Revenue Potential	Requirements
Corporate Income Tax	$5.9 - $58.8 Million	Increase tax by 0.10 percent-1 percent
Occupational Tax	Unknown	Legislative action
Gambling/Lottery Tax	Unknown	Legislative action
Alcohol Tax	$1.2 million	Increase the tax by 3¢ per gallon on beer
Cigarette Tax	$1,078,000	Raise the rate by 1¢ and dedicate to transit
Businesses	Unknown	Coordination with local businesses
Colleges and Universities	Unknown	Coordination with local colleges
Special Assessment District	Unknown	Municipalities to create Downtown Development Districts, Maine law to allow for revenue from set district for transit
Tax Increment Financing	Unknown	Creation of TIF district by municipalities

Appendix A - Route Profiles

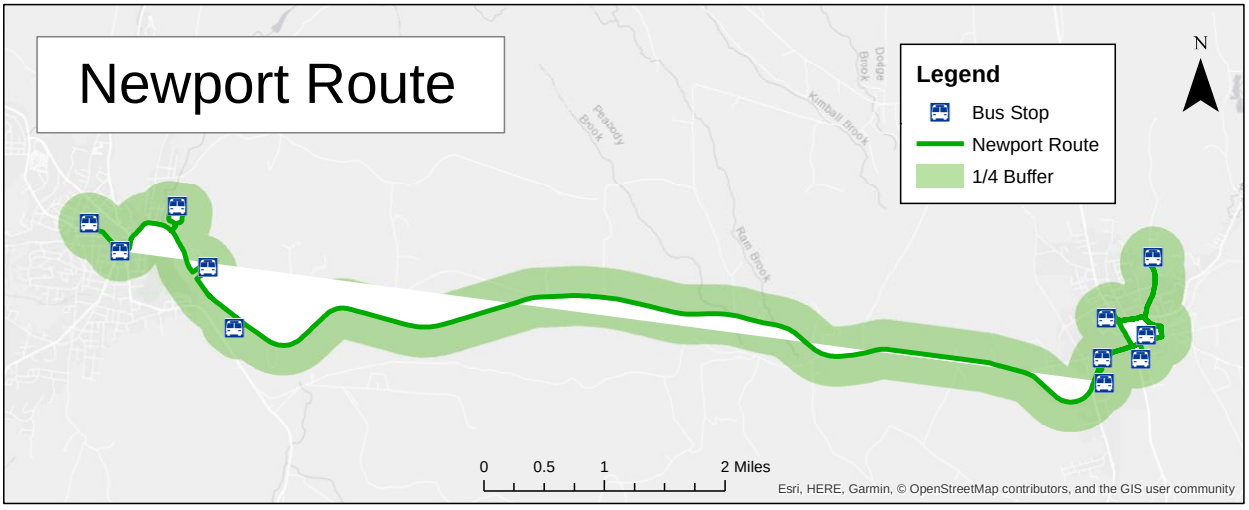
1 Description of Existing Routes/Services

SCS utilizes Routh Match software to manage the routes. Each stop is put into Route Match as a customer stop and the trips are built by linking the customer stops. The routes only stop at the stops in the public schedule unless a deviation is requested ahead of time. Deviations must be requested one day in advance. Each morning an operator is given a manifest that lists each stop and any deviations. Between stops the route follows consistent routing unless a deviation is requested.

1.1 Newport Route

The Newport Route connects the Town of Newport and City of Claremont. There are six trips daily in both directions between the Claremont Opera House Square and Newport. Service between Claremont and Newport is direct with no scheduled stops along Route 103. In Newport four of the six trips circulate within town, while two provide direct service between Claremont Opera House Square and either Irving or the Newport Health Center. Service circulating in Newport is provided to Shaw's, the Newport Health Center, Senior Center, Department of Motor Vehicles, Summercrest Senior Living, and Maple Manor. The route then travels to Sugar River Mills in Claremont via Route 103 with service to Market Basket, Hannaford, Walmart and Opera House Square. When returning back to Shaw's, the route travels direct along Route 103, unless a deviation is requested. The travel time between stops is inconsistent amongst trips.

Figure A-1. Newport Route



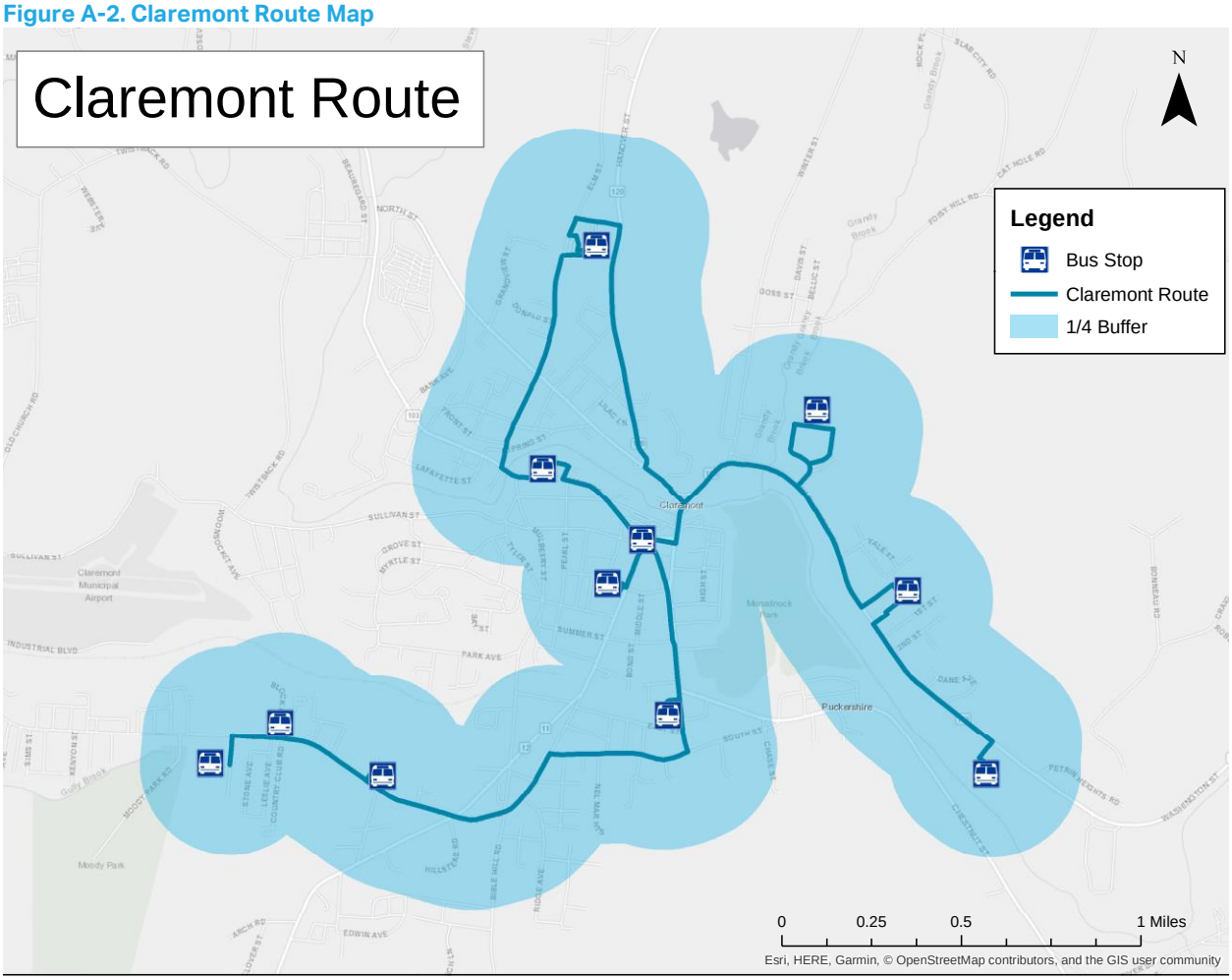
The Route operates from 6:25 AM to 4:45 PM, but each trip has a different variation. Non-revenue miles make up 17% of the total miles to operate the service. The average operating speed based on revenue miles and hours is 14.3 miles per hour.

1.2 Claremont Route

The Claremont Route serves the City of Claremont with service to the Senior Center, several housing/apartment complexes, the Valley Regional Healthcare Center and several shopping destinations off of Route 103. Service begins at Opera House Square, and then heads to Rite Aid where

it pulls into the parking lot. From there it returns to Opera House Square to Broad Street; if a deviation is requested, then Glidden Street may be used. It then heads south along Broad Street to Marion Phillips where it pulls into the facility. The route continues south on Broad Street to South Street and over to Pleasant Street and Maple Avenue. It then pulls into the Bourdon Center, then Claremont Manor and ends at the Claremont Senior Center. It then returns to Opera House Square via the fastest way possible, which varies based on deviation requests. At Opera House Square it then travels north to the Valley Regional Health Care Center via Sugar River Mills and then east along 103 to Market Basket. The route then returns to Opera House Square via the Broad Street Bridge serving Walmart and Hannaford along the way. The route pulls into both Walmart and the Hannaford Plaza, stopping at the main entrances.

Figure A-2. Claremont Route Map



The Route operates from 8:00 AM to 4:25 PM and it takes approximately 60 minutes to complete the 9.9 mile loop. Non-revenue miles make up 9% of the total miles to operate the service. The average operating speed based on revenue miles and hours is 11.4 miles per hour.

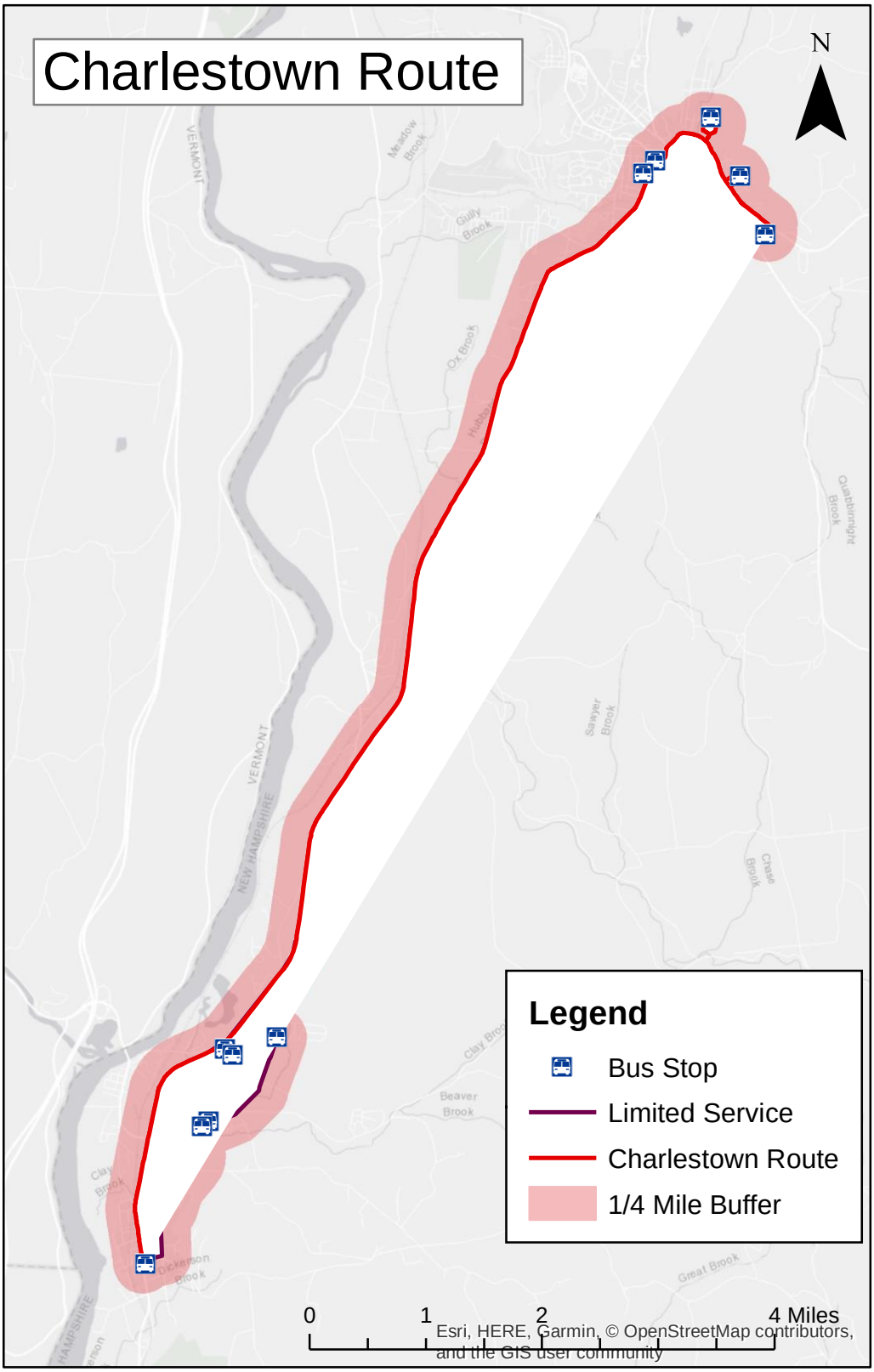
1.3 Charlestown Route

The Charlestown Route connects the Town of Charlestown and City of Claremont (Figure A-3). There are three trips daily in both directions between the Claremont Opera House Square and the

Charlestown Mascoma Savings Bank. Service between Claremont and Charlestown is direct with no scheduled stops along Route 11/Highway 12 until Lovers Lane Road. In Charlestown, service is provided to 22 Lovers Lane Road, Mayflower Apartments, Mascoma Savings Bank, Crown Point Park, Twin Maples Park, and Emma's Market. The route then returns to Claremont and serves Market Basket, Hannaford and Walmart. The travel time between stops is inconsistent amongst trips and not all stops are served on every trip unless a deviation is requested. For example, Crown Point Park and Twin Maple Park are only served on the mid-day trip.

The Route operates from 7:15 AM to 3:40 PM, with gaps in service from 8:30 AM – 10:30 AM and 12:07 PM – 2:40 PM. Non-revenue miles make up 37% of the total miles to operate the service; when not in service on this route, the vehicle operates DAR service. The average operating speed based on revenue miles and hours is 16.79 miles per hour.

Figure A-3. Charlestown Route



1.4 Dial-a-Ride

SCS operates a Dial-A-Ride program that provides curb-to-curb service open to the general public. Service is available Monday through Friday between 9:00 AM –10:30 AM and 12:30 PM – 2:30 PM and reservations must be made at least 24 hours in advance. The vehicle used for DAR operates the Charlestown runs when not being used for DAR. Service is available within Claremont and the fare is the same as the in-town fixed route fare. The average operating speed based on revenue miles and hours is 13.98 miles per hour.

1.5 Volunteer Drivers

The volunteer driver program is administered in-house with administrative assistance from UVSLRPC. Volunteer drivers are reimbursed based on mileage. The rate is set by the General Services Administration and the current rate is 54.5 cents per mile[1].

2 Service Effectiveness

Service effectiveness describes the amount of service utilized per unit of transit service provided. Service effectiveness is measured based on two indicators: passengers per mile or hour and the percentage of non-revenue time.

2.1 Passenger per Mile

Passengers per mile is a measure of efficiency and trip length[2]. Large numbers indicate shorter circulator type routes. Smaller numbers indicate either longer routes, where passengers are traveling greater distances, or poorer performing routes. SCS averages 0.28 passengers per mile on the deviated fixed routes, and 0.33 on the dial-a-ride service with an overall system value of 0.29. The Claremont Route had the highest passengers per revenue mile with 0.53 and the Newport Route the lowest at 0.14. The statewide average is 0.69 passengers per mile for bus routes and 0.11 for demand response. Statewide the bus average in rural areas for bus passenger trips per mile is 0.31 and 0.13 for demand response. According to the *2017 Rural Transit Fact Book* the national average for passengers per mile for rural transit service providers is 0.64 for bus, and 0.15 for demand response. The SCS passengers per mile statistic for bus service (0.28) is on par with the New Hampshire rural average (0.31), but less than the national rural average or state average. This indicates the system is performing more like a rural system than an urban one, as expected. In

Table A-1. SCS Passenger per Revenue Mile Statistics

Route	Passengers/ Rev. Mile
Newport Route	0.14
Charlestown Route	0.16
Claremont Route	0.53
Claremont Dial-a-ride	0.33
TOTAL	0.29

Table A-2. Passenger per Revenue Mile Statistics

BUS AVERAGES	
National Bus Average	15.35
National Rural Average	0.64
NH Bus Average	0.69
NH Bus Rural Average	0.31
SCS Bus	0.28
DEMAND RESPONSE AVERAGE	
National DR Average	0.32
National Rural DR Average	0.15
NH DR Average	0.11
NH DR Rural Average	0.13
SCS DR	0.33

[1] General Services Administration. *Privately Owned Vehicle (POV) Mileage Reimbursement Rates*. https://www.gsa.gov/travel/plan-book/transportation-airfare-rates-pov-rates-etc/privately-owned-vehicle-pov-mileage-reimbursement-rates

[2] National and state rural averages are from the 2017 Rural Transit Factbook https://www.surtc.org/transitfactbook/downloads/2017-rural-transit-fact-book.pdf. Non-rural national and state averages were derived using 2017 NTD data.

regards to demand response, the passengers per mile (0.33) is much higher than the state rural average (0.13), and more in line with the national average, including urban systems.

2.2 Passenger per Hour

Passengers per hour measures ridership as a function of the amount of service provided and will vary based on the type of route and average operating speed. Higher numbers indicate a more efficient system. SCS averages 3.72 passengers per hour on the deviated fixed routes, 4.48 for dial-a-ride, with an overall system value of 3.93 (Table A-3). The Claremont Route had the highest passengers per revenue hour with 6.10 and the Newport Route the lowest at 1.99. The statewide average is 9.24 passengers per hour for bus routes and 2.7 for demand response (Table A-4). Statewide the New Hampshire bus average in rural areas for bus passenger trips per hour is 4.26 and 1.28 for demand response. According to the *2017 Rural Transit Fact Book* the national average for passengers per hour for rural transit service providers is 11.2 for bus and 2.7 for demand response. The SCS passengers per hour statistic for bus service (3.85) is just below the New Hampshire rural average (4.96) and significantly less than the national rural average or state average. This indicates the system is performing more like a rural system than an urban one. In regards to demand response the passengers per hour (4.48) is much higher than the state rural average (1.28), and national averages for rural and non-rural areas (2.6 and 2.7 respectively).

Table A-3. SCS Passenger per Revenue Hour Route Statistics

Route	Passengers/ Rev. Hour
Newport Route	1.99
Charlestown Route	3.07
Claremont Route	6.10
Claremont Dial-a-ride	4.48
Average	**3.93**

Table A-4. Passenger per Revenue Hour Statistics

DEMAND RESPONSE AVERAGE		BUS AVERAGES	
National DR Average	2.6	National Bus Average	32.4
National Rural DR Average	2.7	National Rural Average	11.2
NH DR Average	1.32	NH Bus Average	9.24
NH DR Rural Average	1.28	NH Bus Rural Average	4.96
SCS DR	4.48	SCS Bus	3.72

2.3 Revenue vs non-Revenue Service

It is important to look at the percentage of service hours/miles that are in revenue service versus in non-revenue service. Vehicles in non-revenue service do not pick up passengers but still have associated costs, and by decreasing non-revenue hours a system can improve the financial efficiencies listed in the section below. Higher percentages of non-revenue hours can indicate insufficient vehicle and driver scheduling. It is expected that a certain percentage of time will be non-revenue hours as the vehicle must access its starting and ending locations and demand response service typically has greater percentages of non-revenue time than fixed route service. As a benchmark, a route with more than 10 percent of hours or miles as non-revenue should be examined to improve efficiencies. The Newport and Charlestown Routes had more than 10 percent of hours as non-revenue (15 percent and 44 percent, respectively).

3 FINANCIAL EFFICIENCY

3.1 Cost per Mile

Cost per mile measures the financial efficiency of providing service and will vary based on average operating speed[3]. The smaller the number indicates more financially efficient routes and/or faster operating speeds. SCS averages $5.38 per mile on the deviated fixed routes, with an overall system value of $5.50 (Table A-5). The Charlestown Route had the highest cost per mile at $6.99 and the Newport Route the lowest at $4.58. According to the *2017 Rural Transit Fact Book* the national average operating cost per mile for rural transit service providers is $3.51 for fixed-route and $2.22 for demand response. This cost difference is because operating speeds tend to be higher in rural areas due to less traffic which allows of a greater number of miles for the same cost. SCS costs per mile for both deviated fixed route and demand response are higher than state and national rural averages.

Table A-1. SCS Passenger per Revenue Mile Route Statistics

Route	Cost/ Mile
Newport Route	$4.58
Charlestown Route	$6.99
Claremont Route	$5.39
Claremont Dial-a-ride	$6.51
Average	**$5.50**

BUS AVERAGES	
National Bus Average	$6.81
National Rural Average	$3.51
NH Bus Average	$5.33
NH Bus Rural Average	$4.30
SCS Bus	$5.38
DEMAND RESPONSE AVERAGE	
National DR Average	$2.75
National Rural DR Average	$2.22
NH DR Average	$3.40
NH DR Rural Average	$2.38
SCS DR	$6.51

Table A3-2. Cost per Revenue Mile Statistics

3.2 Cost per Hour

Cost per hour also measures the financial efficiency of providing service and will vary based on the type of route and average operating speed. The percentage of non-revenue hours can greatly impact the cost/revenue hour. Costs per hour are typically lower for demand response service than fixed route service due to the type of vehicle, fuel consumption and costs, and maintenance needs. SCS averages $74.13 per hour o value of $75.56 (Table A-7). The Charlestown Route had the highest cost per hour at $131.11, more than twice the cost of the other deviated fixed routes and $45 more than dial-a-ride. Overall the cost per hour for deviated fixed route is much lower than national and state averages. The cost per hour for demand response is lower than

Route	Cost/ Rev Hr
Newport Route	$64.73
Charlestown Route	$131.11
Claremont Route	$61.68
Claremont Dial-a-ride	$87.58
Average	**$75.56**

Table A-4. SCS Cost per Revenue Hour Route Statistics

Table A-3. Cost per Revenue Hour Statistics

BUS AVERAGES	
National Bus Average	$130.83
National Rural Average	$71.19
NH Bus Average	$71.44
NH Bus Rural Average	$61.47
SCS Bus	$74.13

DEMAND RESPONSE AVERAGE	
National DR Average	$69.63
National Rural DR Average	$39.37
NH DR Average	$40.00
NH DR Rural Average	$27.31
SCS DR	$87.58

[3]Financial efficiency data was derived from the NTD for state and national data

national averages and on par with the state averages.

4 Cost Effectiveness

Cost effectiveness measures the effectiveness of the system from a financial standpoint – how well the dollars put into the system are being used to produce trips. The cost effectiveness indicators are: cost per passenger, farebox recovery and subsidy per passenger.

4.1 Subsidy per Passenger

Subsidy per passenger measures how much it costs to operate a route on a "per passenger" basis. It is calculated by subtracting passenger revenue from operating cost and dividing by the total number of passengers. It is the cost to operate after taking into account fare revenue and which must be subsidized by other sources. SCS averages a subsidy of $18.20 per passenger on the deviated fixed routes, with an overall system value of $18.25 (Table A-9). The Charlestown Route has the highest subsidy per passenger at $41.53 and the Claremont Route the lowest at $9.22.

Route	Subsidy/pax
Newport Route	$31.24
Charlestown Route	$41.53
Claremont Route	$9.22
Claremont Dial-a-ride	$18.56
Average	**$18.25**

Table A-1. Subsidy per Passenger by Route

4.2 Cost per Passenger

Cost per passenger is the overall cost to operate the route divided by the number of passengers. SCS averages a cost of $16.88 per passenger on the deviated fixed routes, with an overall system value of $19.25 (Table A-10). The Charlestown Route has the highest cost per passenger of $42.66 and the Claremont Route the lowest at $10.12. The statewide average is $7.73 per passenger for bus routes and $30.33 for demand response. Statewide, the New Hampshire average in rural areas for cost per passenger trip per is $10.36 for fixed route and $22.48 for demand response. SCS has lower cost per passenger for demand response service compared to other systems statewide. According to the *2017 Rural Transit Fact Book*, the national average for cost per passenger for rural transit service providers is $7.32 for bus and $14.31 for demand response. The SCS cost per passenger for fixed route bus service is higher than the national averages for rural and non-rural areas. Typically the cost per passenger is higher for demand response service because of vehicle capacity and nature of the service, but this is not the case for SCS. In regards to demand response service, SCS has a lower cost per passenger than state and national averages.

Table A-3. SCS Cost per Passenger by Route Statistics

Route	Cost/ Pax.
Newport Route	$32.48
Charlestown Route	$42.66
Claremont Route	$10.12
Claremont Dial-a-ride	$19.55
Average	**$19.25**

Table A-2. Cost per Passenger Statistics

BUS AVERAGES	
National Bus Average	$4.04
National Rural Average	$7.32
NH Bus Average	$7.73
NH Bus Rural Average	$10.36
SCS Bus	$16.88
DEMAND RESPONSE AVERAGE	
National DR Average	$35.55
National Rural DR Average	$14.31
NH DR Average	$30.33
NH DR Rural Average	$22.48
SCS DR	$19.55

4.3 Farebox Recovery

Farebox recovery measures the percent of operating cost covered by fares and is heavily influenced by the ridership productivity of a route against its total operating cost, as well as the fare policy of the system. It is calculated by dividing fare revenue by operating cost. For all SCS fixed routes, the overall farebox recovery rate is 5.2%.

Route	Farebox Recovery
Newport Route	3.8%
Charlestown Route	2.6%
Claremont Route	8.9%
Claremont Dial-a-ride	5.1%
Average	**5.2%**

Table A-4. Farebox Recovery

For demand response service, the average farebox recovery in the state is 3.1% with only 1.6% recovery in rural areas. These are much lower than the national averages, but SCS is closer to the national average than the state average. For fixed route service, the national rural average is 12%. The state average for fixed route service is 15.4% recovery with the rural average at 8.3%. SCS is lower than both for deviated route service.

Table A -5. Farebox Recovery Statistics

DEMAND RESPONSE AVERAGE	
National DR Average	7.7%
National Rural DR Average	7.0%
NH DR Average	3.1%
NH DR Rural Average	1.6%
SCS DR	5.1%

BUS AVERAGES	
National Bus Average	25.7%
National Rural Average	12%
NH Bus Average	15.4%
NH Bus Rural Average	8.3%
SCS Bus	5.2%

Appendix B - Origin-Destination Table

	Claremont Manor	Claremont Senior Center	DMV	Earl Bourdon Center	Emma's Market	Hannaford	Irving Oil Corporation	Maple Manor	Marion Phillips	Market Basket plaza	Mascoma Savings Bank	Mayflower and Lovers Lane	Newport Health Center	Newport Senior Center	Opera House Square	Rite Aid	Shaw's	Sugar River Mills	Twin Maple Park	Valley Regional Hospital	Walmart Supercenter & Vision Center
Claremont Manor	1	0	0	0	0	0	0	0	0	45	2	0	0	0	15	18	0	1	0	18	15
Claremont Senior Center	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	171	0	0	0
DMV	0	0	0	0	0	0	0	0	0	4	0	0	0	0	24	3	0	1	0	4	16
Earl Bourdon Center	0	0	0	71	0	0	1	0	1	59	4	0	0	0	8	12	0	5	0	36	180
Emma's Market	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Hannaford	3	0	0	7	0	0	0	0	3	0	0	2	0	4	17	0	0	0	0	18	1
Irving Oil Corporation	0	0	0	3	0	3	0	0	0	2	0	0	0	0	121	12	0	15	0	0	19
Maple Manor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Marion Phillips	0	2	0	0	0	0	1	0	9	219	0	0	0	0	74	23	1	2	1	90	326
Market Basket plaza	15	2	3	59	0	0	4	0	220	4	3	0	2	1	82	47	4	163	0	1	44
Mascoma Savings Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Mayflower and Lovers Lane	0	2	0	14	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
Newport Health Center	0	0	0	0	0	0	0	0	1	10	0	0	1	0	33	0	0	27	0	2	20
Newport Senior Center	0	0	0	0	0	2	0	0	0	5	0	0	69	0	5	0	0	0	0	0	21
Opera House Square	7	44	16	9	1	0	54	1	31	144	11	0	8	15	10	4	49	59	1	49	100
Rite Aid	2	4	1	13	0	0	0	0	49	51	26	0	2	0	1	1	0	39	0	14	60
Shaw's	0	0	0	0	0	142	0	1	0	3	0	0	0	3	26	0	0	1	0	1	13
Sugar River Mills	1	177	9	9	0	0	24	1	0	166	29	0	9	0	6	40	2	16	0	76	453
Twin Maple Park	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Valley Regional Hospital	5	1	1	34	0	0	0	1	77	24	2	0	0	0	25	50	0	54	0	2	60
Walmart Supercenter & Vision Center	26	0	4	190	0	0	8	1	335	19	16	0	3	19	94	36	12	538	0	4	0

Appendix C - Survey Summary

1 COMMUNITY SURVEY

The goal of this survey was to engage the community in a discussion of transportation needs and how public transportation can best fit into the fabric of the community now and into the future. The survey covered the period from October 24, 2018 to November 25, 2018. The following section contains an analysis of the survey results for the entire duration of the survey.

1.1 Methodology

The survey questions were prepared in consultation with the study advisory team which comprises of members from SCS, NHDOT, UVSLRPC, the UNH Extension Program, Sullivan County, and the City of Claremont. This process began in September 2018. The survey asked questions about residency, travel patterns, current public transit usage, destinations, amenities, the value of transit, and demographics. Targeted email blasts were sent to a large and diverse group of stakeholders with links to the survey. Flyers were posted in key locations. The survey was conducted by distributing paper copies to stakeholder groups, as well as a robust campaign to encourage people to complete the online version, produced using Survey Monkey. All of the survey promotional content included a brief description of the purpose of the survey, a link to the survey, and a QR code, which when scanned by a smartphone, provided a direct link to the survey. The data from both collection methods was combined into a single data set.

Online Survey

The online survey opened on October 24, 2018 and was available through November 25, 2018. The survey was open to all individuals who live, work, or visit Sullivan County regardless of current bus usage. Individuals where asked where the live and if they currently use any public transit services. Based on the response, they were directed to the appropriate set of questions about level of usage, trip purpose and level of satisfaction. All were then asked about their willingness to use bus service in the future and what improvements they would like to see. For those who responded that they would use a bus in the future, questions were asked about where and when they would like to go. Those that responded they would not use a bus in the corridor were asked questions to inquire why.

Responses

The survey received 79 responses[1]. Of these, 78 were completed online and one was completed on paper and entered into the online system by study staff. The peaks in responses (Figure C-1) correlate email blasts to stakeholder groups.

[1] It should be noted that not all respondents answered all of the survey questions. As such, the percentages in all figures are based on the number of responses received for that question rather than on the total number of responses.

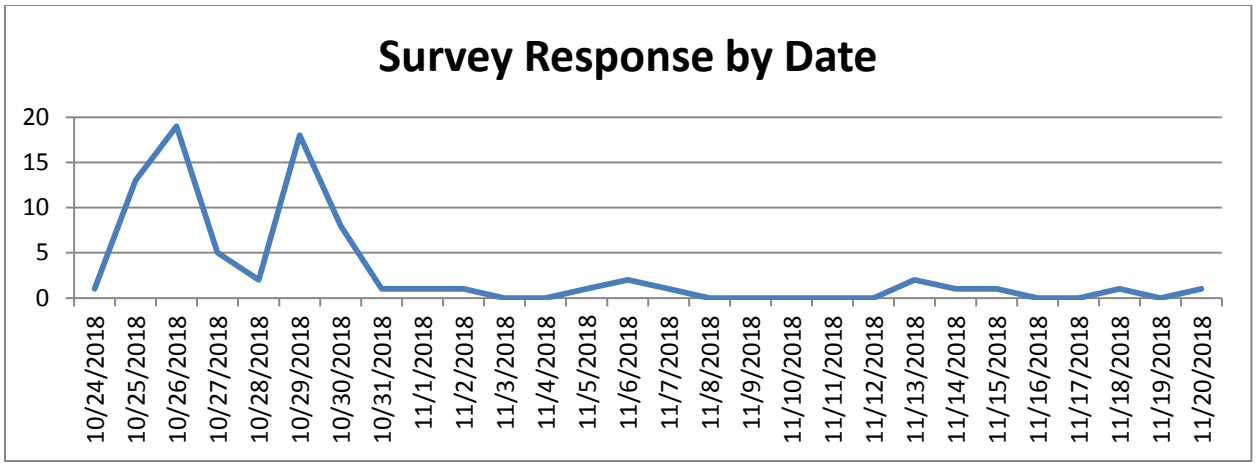


Figure C-1. Survey Response by Date

1.2 Question 1 – Which Community do you live or work in?

Respondents live or work in eight different communities throughout New Hampshire. Overall, the greatest percentage of respondents live in Claremont (65.8%) followed by Newport at 13.9% and other locations (6.3%). "Other" was comprised of five (5) different communities including Keene, Acworth, Lebanon, Meriden, and New London. Five "other" responses stated they live and work in all three communities (Newport, Claremont, Charlestown).

Table C-1. Community Responses

Community	Count	Percent
Newport	11	14%
Claremont	52	66%
Charlestown	5	6%
Other	11	14%
Total	**79**	**100%**

1.3 Question 2 – Where do you travel and for what reasons?

For this question respondents were able to select multiple locations and trip purposes. The greatest number of individuals reported going to Claremont (71 unique individuals, 216 overall), followed by Lebanon (52 unique individuals, 160 overall); the least reported going to New London and Springfield, VT. The trip purpose with the greatest response was shopping followed by recreation/entertainment, work and medical. The destinations with the highest for shopping, recreation/entertainment, and work were Claremont, followed by Lebanon. Medical appointment destinations were highest in Lebanon, followed by Claremont. The trip purpose with the lowest response was higher learning, followed by "other". There were an additional 10 respondents who indicated "other" as well but did not associate it with a community. Trip purposes listed include the train station, volunteering, and helping community members.

Table C-2. Destination for Activity by Community

	Work	School/ Training	Shopping	Recreation/ Entertainment	Medical Appts.	Social/ Family Visits	Other	Total
Charlestown	11	1	4	3	4	7	5	**35**
Claremont	40	20	54	37	26	32	7	**216**
Newport	16	3	3	4	11	7	4	**48**
Lebanon	21	8	39	28	40	19	5	**160**
Hanover	5	1	5	14	16	7	3	**51**
Concord	14	6	15	18	1	2	3	**59**
Springfield	4	3	3	4	8	5	3	**30**
Keene	8	4	18	19	8	11	2	**70**
New London	4	1	4	6	6	1	2	**24**
Total	**123**	**47**	**145**	**133**	**120**	**91**	**34**	

1.4 Question 3 – When you travel to your most frequent destination, how long is your one-way trip?

The majority of respondents (37%) have a travel time between 10 and 30 minutes or between 30 and 60 minutes, with the least traveling more than 60 minutes. Just over half of the respondents travel less than 30 minutes to reach their destination.

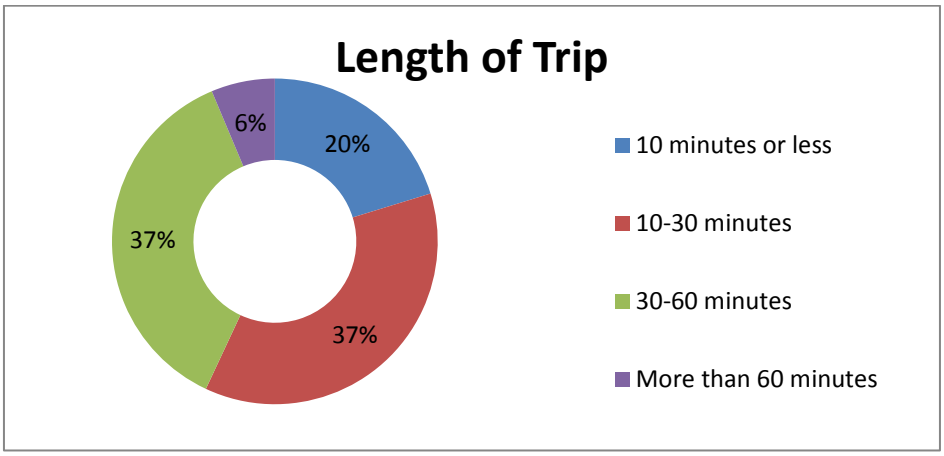


Figure C-2. Length of Trip

1.5 Question 4 – Do you use a wheelchair, scooter or walker?

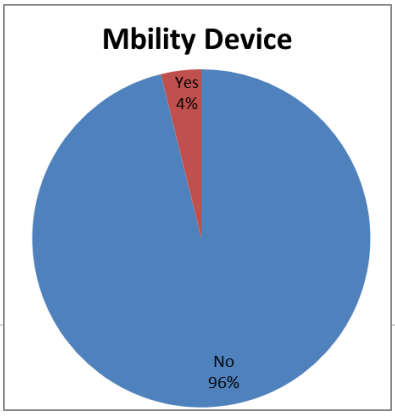


Figure C-3. Mobility Device Users

Ninety-six percent of respondents do not use a mobility device such as a wheelchair, scooter or walker. Of the four percent that do use a mobility device, all used a walker and all have used public transportation within the last year. The greatest numbers of mobility device users are in Claremont.

1.6 Question 5 – How do you most frequently travel to the places you need to go?

Eighty-seven percent of respondents drive alone; the remainder find alternate modes to make their trip. The greatest alternative mode is to walk or take public transit (3.8% each). There were zero responses for Uber/Lyft, get a ride with a volunteer driver, ride a bike, or other. Nearly thirteen percent are considered transit dependent and either get a ride from others (2.5%), carpool (1.3%), walk (3.8%), take a taxi (1.3%), or use public transportation (3.8%).

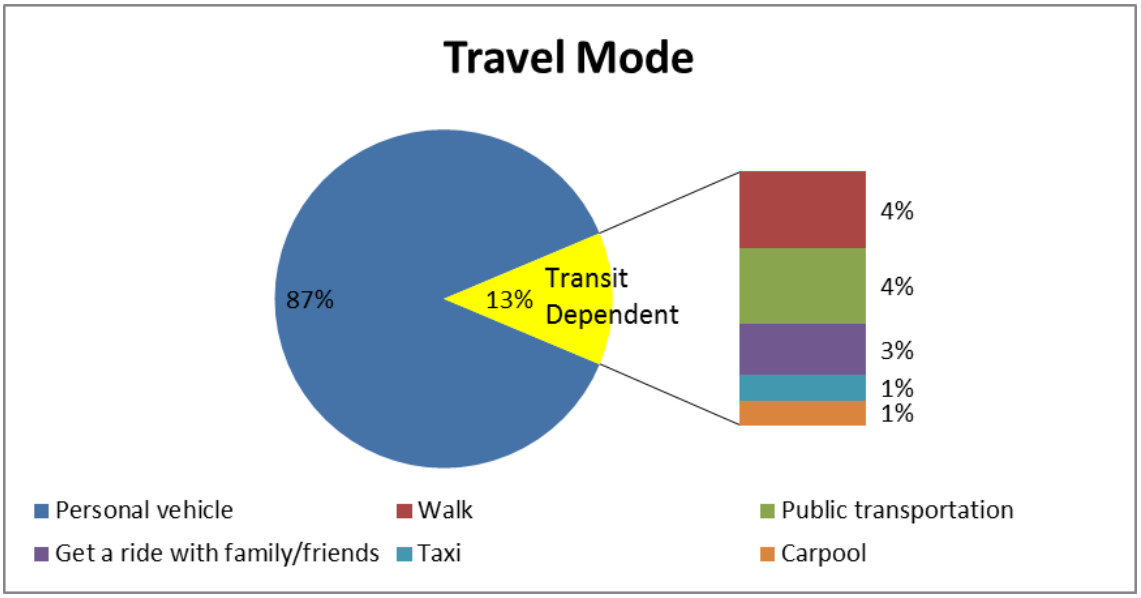


Figure C-4. Most Frequent Mode of Travel

1.7 Question 6 – Do you know which type of transportation services Southwestern Community Services provides?

Overall respondents had some level of familiarity with SCS. The majority of respondents (35 individuals or 44%) are familiar with the types of services SCS provides and 26.5% with somewhat familiar. Twenty-nine percent respondents said they were not familiar.

1.8 Question 7 - Have you ever used any of these public transportation services?

Respondents were asked if they have ever used SCS transportation, Advance Transit or The Current. Respondents could select more than one answer. Thirty-eight percent responded that they have used one of the transit providers listed. The greatest percentage of public transportation users reported using Advance Transit (17 responses) followed by SCS (14 responses) and The Current (6 responses).

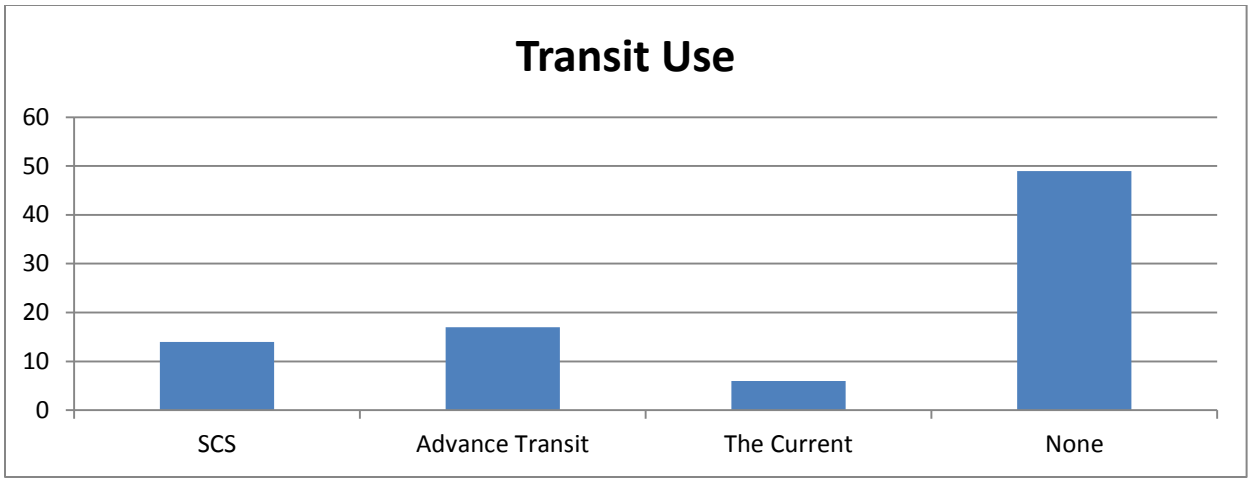


Figure C-5. Transit Use by Provider

1.9 Question 8 - When was the last time you used any of these public transportation services?

Only those who reported using public transportation were directed to this question; those who do not use public transit skipped to question 9. Figure C-6 shows the distribution of when individuals last used public transit. The greatest response (38%) was from those who used it two or more years ago. For those that have used it within the last week (31% of transit users and 11% of all survey respondents) the majority have used SCS.

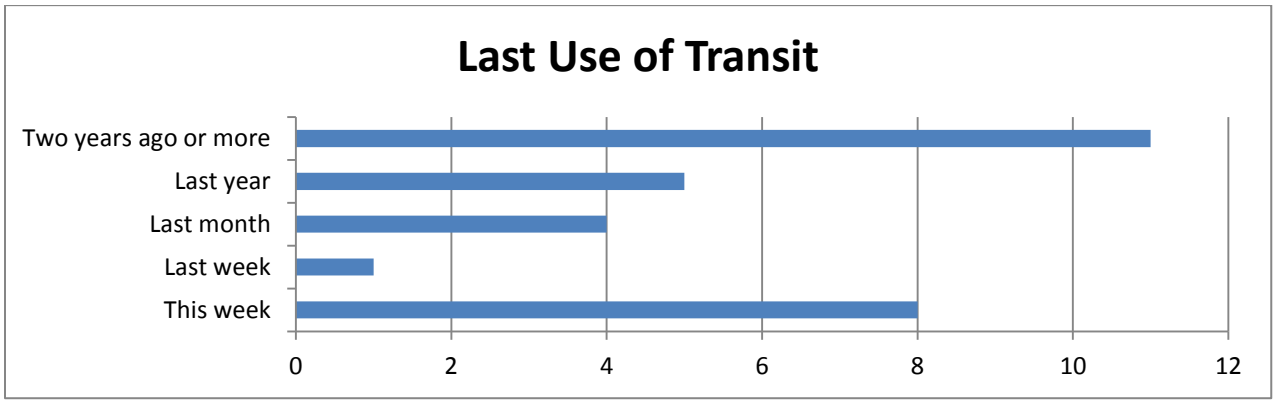


Figure C-6. Last Use of Transit

1.10 Question 9 - Why haven't you used public transportation in the past?

This question was asked of all respondents. Fifty percent of individuals that do not use public transit stated it was because they have access to a car, followed by 20.8% stating they do not take public transportation because it does not go where they need it to go. Only 4% did not know that the service was available. For those that responded "other," several indicated it was because it was not convenient or that their work schedule is too erratic. Among those that stated they have ever had used public transportation, the top reason why they might not have used it on past trips is because they had access to a car (37.5%) or the bus didn't go where they needed it to go (31.3%). Overwhelmingly, for

those that have never used public transit in the past for any trip, it was because they had access to a car.

Table C-3. Reasons for Non-Transit Use

Reason	Count	Percent
The bus doesn't fit my schedule	8	10.4%
I didn't know the service was available	3	3.9%
I don't want to ride a bus	3	3.9%
I have access to a car so I don't need to ride a bus	39	50.6%
I have mobility issues	2	2.6%
I think it is too expensive	0	0.0%
I'm nervous to ride a bus because I've never ridden one before	1	1.3%
The bus doesn't go where I need it to go	16	20.8%
Other	5	6.5%

1.11 Question 10 - Are there places you would like to go on the bus where it doesn't go now?

This question was asked of all survey takers and was split relatively evenly with 56.5% stating there were places they would like to go not currently served and 43.4% stating there were not. For those that stated there are places they would like to go, a follow up question was asked about where they would like to go. Respondents could select more than one response. The greatest response was for Lebanon, then Dartmouth Hitchcock Medical Center. Those that responded "other" had multiple answers including multimodal connections such as Amtrak, park-and-rides, Dartmouth Coach and locations such as River Valley Community College (RVCC) and Concord.

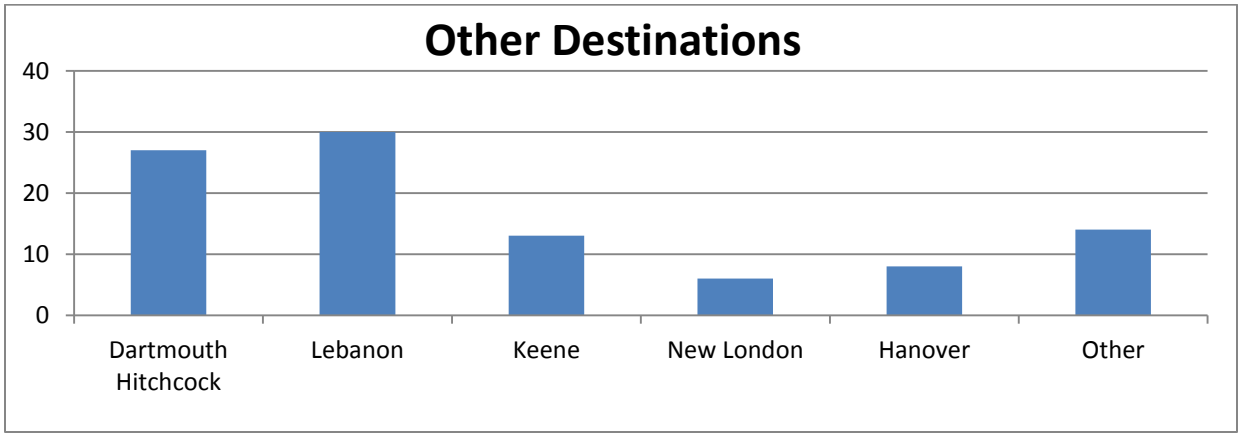


Figure C-7. Destinations Individuals Would Like to Access via Transit from Sullivan County

1.12 Question 11 - Are there times that you would like to ride the bus but it doesn't operate now?

Fifty-two percent responded that there were times or days they would like public transportation to be available when service is not currently offered. If respondents answered yes, they were asked at what time(s). The greatest response was for evening service (52.8%) and the least was for late evening

service after 8 PM (13.9%). Several respondents did indicate "other" and wrote in times that SCS already operates (midday, afternoon, weekdays, etc.).

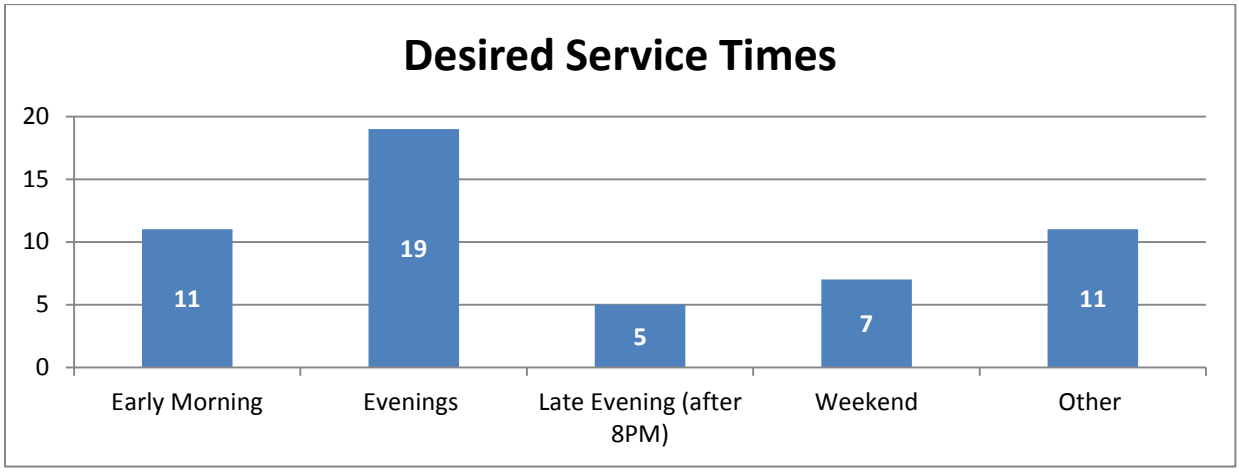


Figure C-8. Times Individuals Would Like to Access via Transit in Sullivan County

1.13 Question 12 - Which types of technology/amenities are important to you when thinking about the future of public transportation in the region?

For this question individuals could select more than one answer regardless of whether they have used transit in the past. The "Next bus" arrival times at major stops was the most desired amenity as indicated by 70% of responses. The least desired amenity was for autonomous vehicles. Twelve percent responded with "other;" these responses included easier to read schedules, bike racks on buses, and frequent and reliable service. In general, transit riders had higher response rates for all amenities than non-riders except for an online/app-based trip planner.

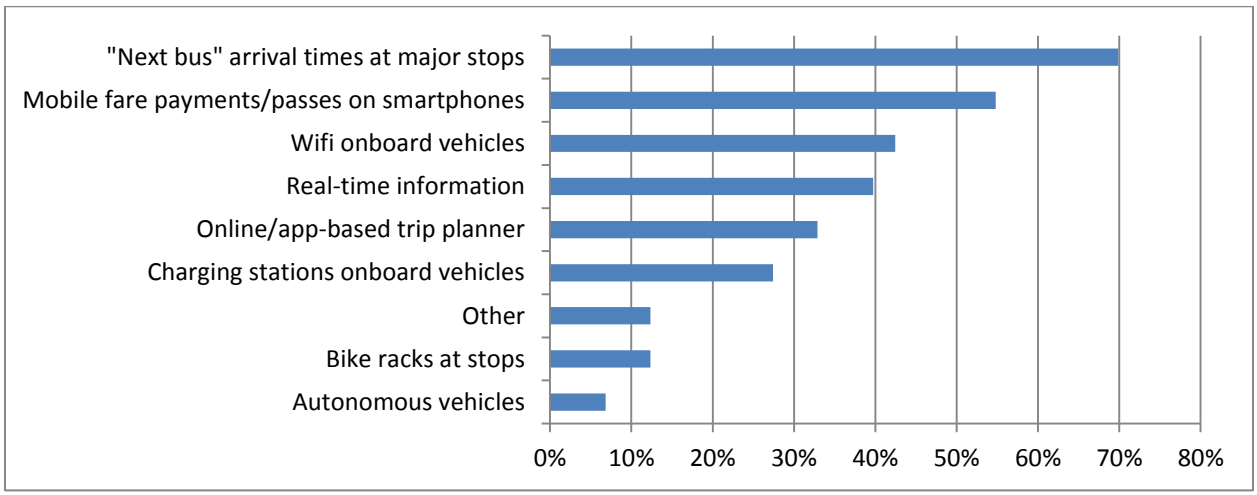


Figure C-9. Desired Amenities

1.14 Question 13 - What are the primary reasons you would use a bus in the future?

For this question individuals were able to select multiple responses. Fifty-seven percent of individuals would use a bus in the future because of cost savings, followed by 44.4% for convenience. This question was asked to all respondents and only 6.9% would not use the bus regardless of improvements made. This low number shows that with improvements to the service, ridership will increase. The "other" response stated that they would also use it because it is environmentally friendly mode of travel and as they get older they may be unable to drive.

Table C-4. Reasons for Using the Bus in the Future

Primary reasons to use a bus	Count	Percent
Convenience	32	44.4%
Cost Savings	41	56.9%
No Parking hassle	28	38.9%
Connect to other transit services	21	29.2%
I don't have a license	10	13.9%
I don't have access to a reliable vehicle	12	16.7%
I want to do something other than drive when I'm traveling	20	27.8%
I would not use a bus no matter what improvements/expansions are made	5	6.9%
Other	5	6.9%

1.15 Question 14 - I would not use a bus even if there were improvements to the transit system because:

This question was asked to all but analyzed separately for those that responded they would not use a bus no matter what improvements/expansions are made in the future and those that said they would.

For those who would not use the bus, they stated it was because they either need their car for work or have access to a car so don't need public transportation. For those that answered in question 13 that they would use a bus in the future but conversely that they would not in this question, responded it was because they have access to a car or need their car for work. Interestingly, 20 unique individuals state the only reason they would not use a bus in the future is because it doesn't fit their schedule or go where they need it to but recognize the cost savings (16 individuals or 80%) of transit, the convenience (55%), that it eliminates parking hassles (45%), and provides connections to other transit services (40%). Ten individuals did not answer Question 14 but did answer questions 13 and 15 indicating that they would use the bus if improvements were made. This is supported by the six "other" responses which stated they would use it.

Table C-5. Reasons for Not Using the Bus in the Future

Primary reasons to not use a bus	Count	Percent
I need my car for work	14	24.6%
The bus won't go where I need it to go	15	26.3%
Bus service won't fit my schedule	13	22.8%
I make other stops during my trip	9	15.8%
I have access to a car so I don't need public transportation	19	33.3%

1.16 Question 15 - Do you feel that public transportation is a valuable resource in Sullivan County even if you don't ride/likely won't ride yourself and why?

Ninety-six percent of respondents feel that public transportation in Sullivan County is a valuable resource even if they do not ride and likely will not ride in the future. Three percent stated it was not valuable and one percent was unsure and answered somewhat. Sixty-nine respondents indicated why they felt the way they did; only two were negative comments. People recognized the value it provides in increasing access to healthcare, education, employment, overall mobility and that not everyone has access to a car.

"This transit system connects employees to employers which is a huge need and limited resource in the upper valley. This is essential to our communities continuing to be viable and grow."
-Anonymous survey respondent

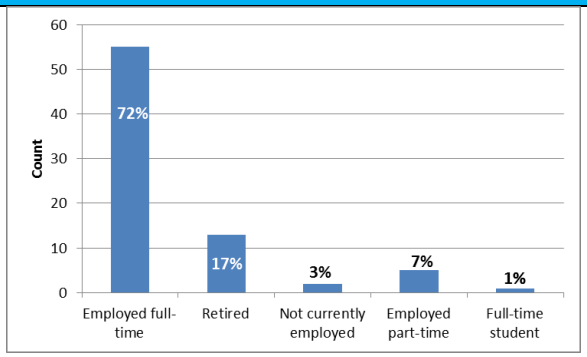
1.17 Question 16 - What would you like public transportation to look line in Sullivan County in the future?

Sixty-six individuals (83.5% of all survey respondents) left comments about how they would like to see public transportation in the future. Positive comments ranged from people encouraging and wanting more bus service, citing the criticalness of public transportation, to those that may not use it but understand the need for it. There were several comments about establishing designated bus stops with amenities, expanding service hours and days, and providing connections to the Upper Valley. Demographics of Respondents

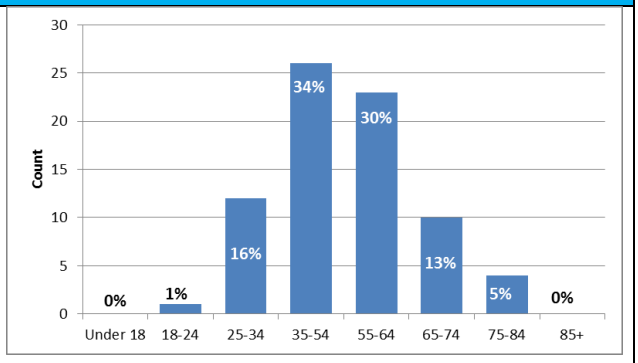
- Respondents are mostly employed full-time between the ages of 35-64 with access to 1 or more vehicles at home and have higher annual household incomes.

Table C-6. Community Respondent Demographics

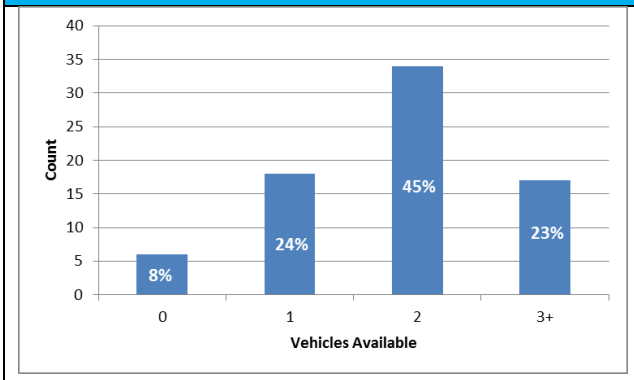
Employment Status



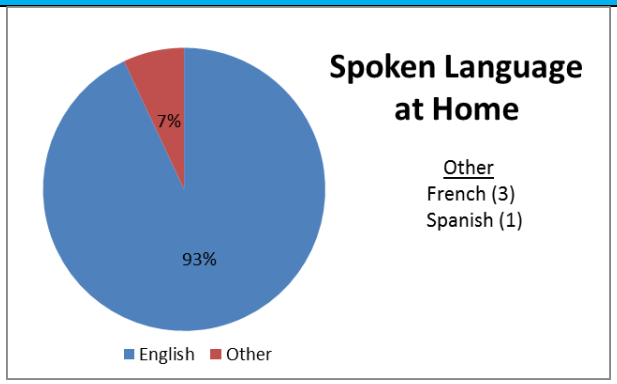
Age



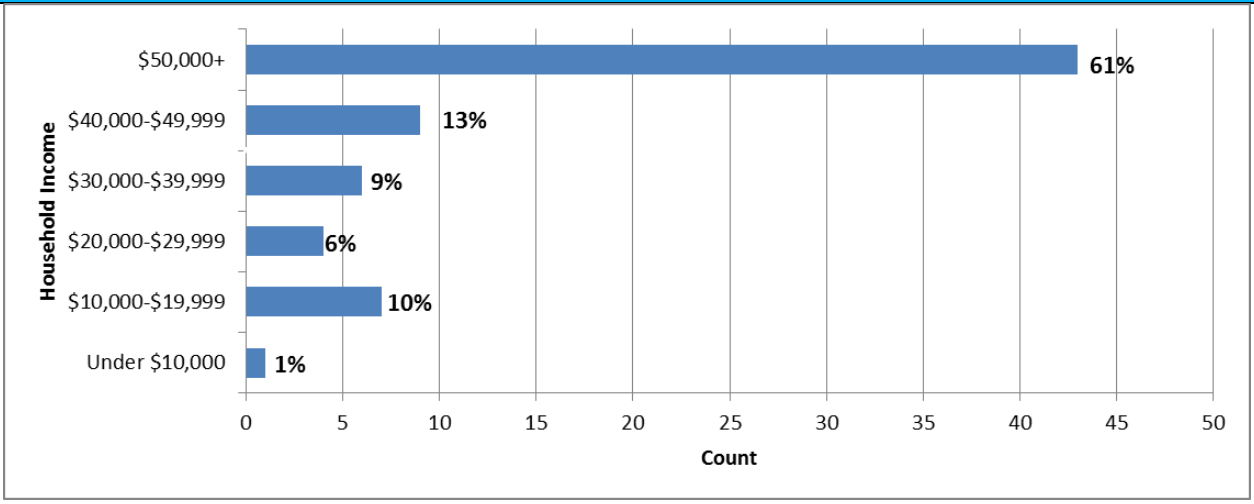
Vehicle Availability



Languages Spoken at Home



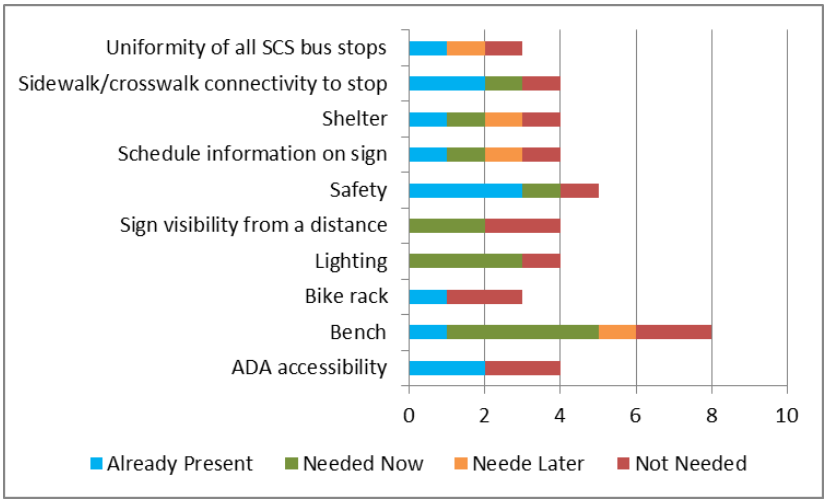
Annual Household Income



2 RIDER SURVEY

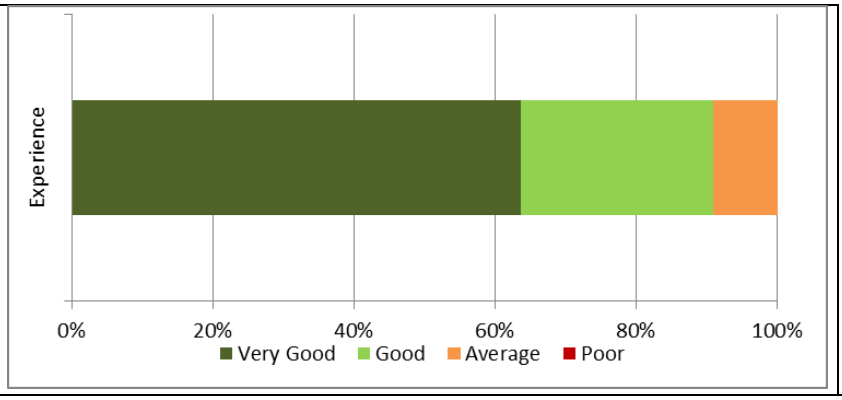
Copies of the passenger survey were available on board all vehicles between October 24 and November 25, 2018. The survey was also available online. The survey consisted of 20 travel-related questions plus five demographic questions. Responses were received from 11 individuals. Upon examining the results, questions two and five about how individuals got to the bus stop were removed over confusion on how to answer the questions[2]. Table C-7 presents the results from the survey questions and Table C-8, the demographics. Parentheses indicate the number of respondents that responded with a particular answer.

Table C-7. Transit Rider Survey Responses

Question	Responses
1. Where did your trip start? (see Figure C-10 for an origin destination map)	• Walmart (1) • Newport Montessori School (1) • Irving – Newport (1) • Marion Phillips (1) • Sugar River Mills (1) • Sullivan St. (1) • Tall Pines Apts. (1) • Maple Ave (1) • Claremont Manor (1)
3. Thinking about the bus stop you used to access the bus today, which improvements do you think are most necessary?	• Improved lighting, benches and better sign visibility from a distance were the top improvements needed now • Stops were already felt to be safe, accessible and have sidewalk access 
4. Where will your trip end? (see Figure C-10 for an origin destination map)	• Walmart (4) • Richards School (1)

[2] Many individuals stated they reached their bus stop from their origin or destination by getting dropped off. SCS operates curb to curb on deviations and demand response. Deviations or demand response make up a large percentage of trips thus undermining the intent of the question as many individuals so not access traditional bus stops when using SCS.

	• McCoy Home (1) • Blood Rd (1) • APC Paper (1) • Hannaford's (1) • Market Basket (1)
6. Did you need to transfer between bus routes to get to your destination?	• Yes (3 or 27.3%) • No (8 or 72.7%)
7. Did you use a wheelchair, scooter, or walker during your trip?	• Yes (1 or 9.1%) • No (10 or 91.9%)
8. Did you use the bike racks on your trip?	• Yes (0) • No (10 or 100%)
9. What is the purpose of your trip today?	• Shopping/Errands (5) • Work (2) • Medical (1) • School/College/Training (1) • Social/Fun/Entertainment (0)
10. Typically, how often do you ride the bus?	• 1-4 trips per week (5) • 5 or more trips per week (3) • A few times a month or less (3) • This is my first time (0)
11. How long have you been using the bus service in Sullivan County?	• More than 5 years (3) • 2 to 5 years (3) • 1 to 2 years (3) • 0 to 6 months (2) • This is my first day (0) • 7 months to less than 1 year (0)
12. If bus service had not been available today, how would you have made this trip?	• Walk (3) • Ride with someone (3) • Other public transit service (2) • Drive own vehicle (1) • Taxi (1) • Would not have made this trip (1) • No responses for Bike or Uber/Lyft

13. How would you rate your overall bus service experience over the past year?	
14. What is your primary reason for any level of satisfaction?	• Quality of service (4) • The person who schedules the trips (2) • Convenience (1) • Safety (1) • I don't have any other transportation option(1) • No responses for ease of use, low cost, cleanliness of vehicles or the driver
15. What is your primary reason for any level of dissatisfaction?	• It doesn't go where I need it to go (1) • I think it's too expensive (1) • No responses for I had to wait too long, the trip took too long, cleanliness, it doesn't operate when I need it to operate, or safety
16. Would you recommend SCS to your family and friends? Why?	• Yes 100% • "very polite and helpful with assist", "everyone is wonderful. It is a great service from start to finish", "great service", "If you cannot drive take the bus", "Transport for those who have nothing else. Buses go by all necessities to live and drivers are willing to make stops on the way"

17. Are there places that you'd like to go on the bus where it doesn't go now? If so where?	• No (3 or 30%)
	• Yes (7 or 70%)
	  • Lebanon (3)
	  • Library (1)
	  • Hanover Hospital (1)
	  • West Lebanon (1)
	  • Concord Hospital (1)
	  • Beach (1)
	  • Food Bank (1)

18. Are there times that you'd like to ride the bus but it doesn't operate now? If so when?	• No (5 or 50%)
	• Yes (5 or 50%)
	  • Later in the day (2)
	  • Saturday (2)
	  • Weekend (1)

19. Which three of the following service improvements would make SCS service	• Weekend service (50%) • Later evening service (30%)

better for you to use?	• More benches and shelters at bus stops (30%)
	• More routes/services (20%)
	• Improved on-time performance on existing routes (10%)
	• Improved security at stops and on buses (10%)
	• More visible bus stop signage (10%)
	• There were no responses for more frequent service on existing routes or more bike racks at bus stops
	• Other:
	  • No changes are needed (2)
	  • Don't turn lights off until sit down (1)

20. What would you like public transportation to look like in Sullivan County in the future?	Seven individuals provided responses. They see transportation in the future as having extended hours in the evening with more frequent service, in particular to the stores along Washington St. In regards to technology, one responded cameras on-board the vehicles.

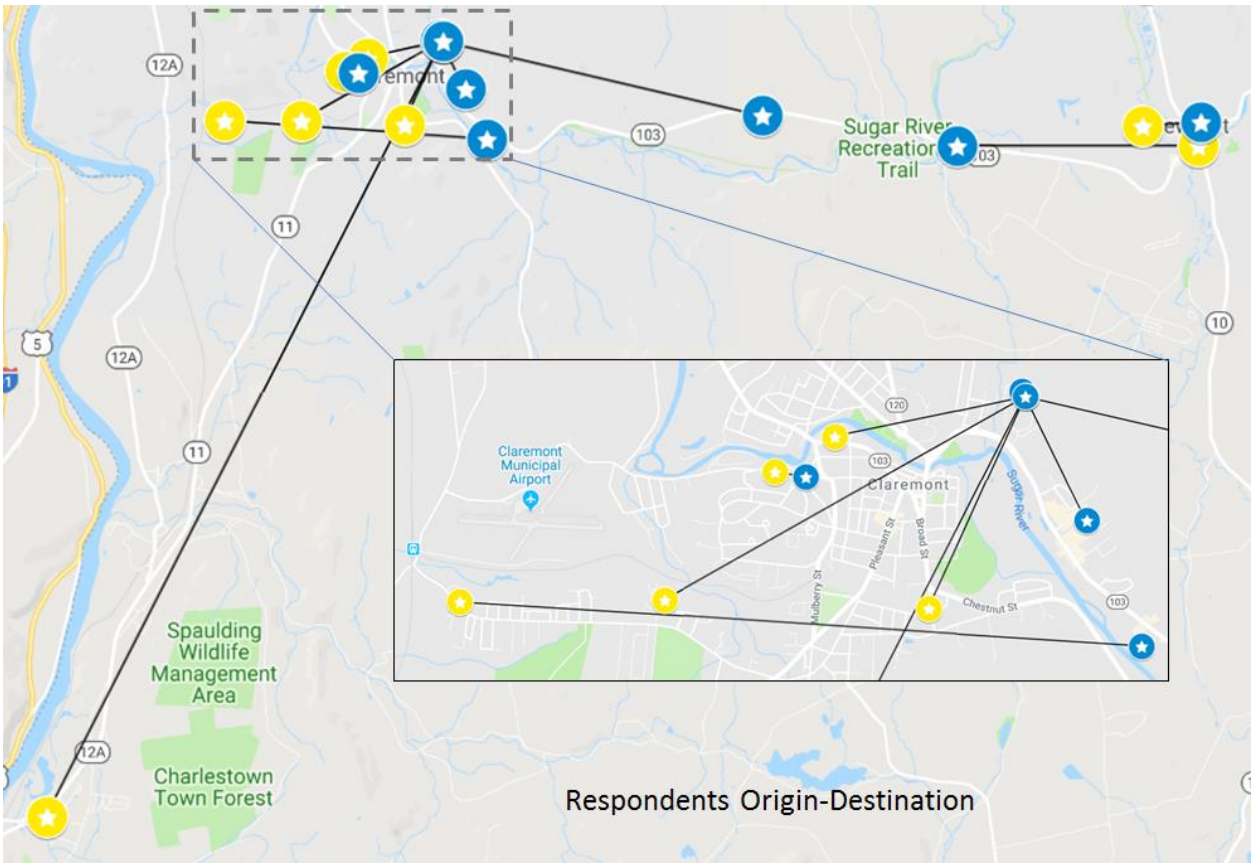


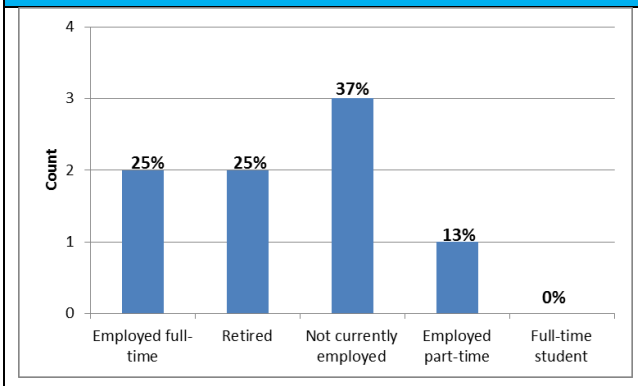
Figure C-10. Respondent Origin-Destination Map

2.1 Demographics of Respondents

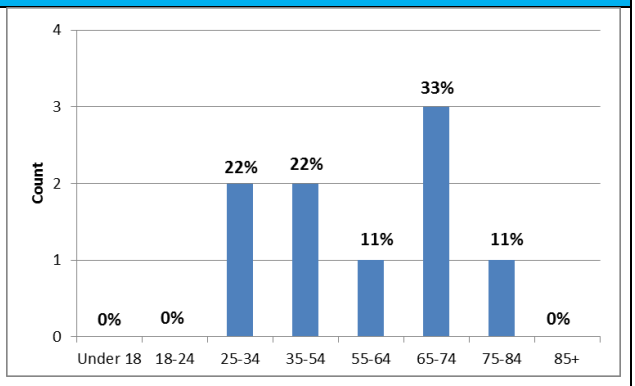
- Higher likelihood of being unemployed, older, less vehicle access and of lower income.

Table C-8. Rider Demographics

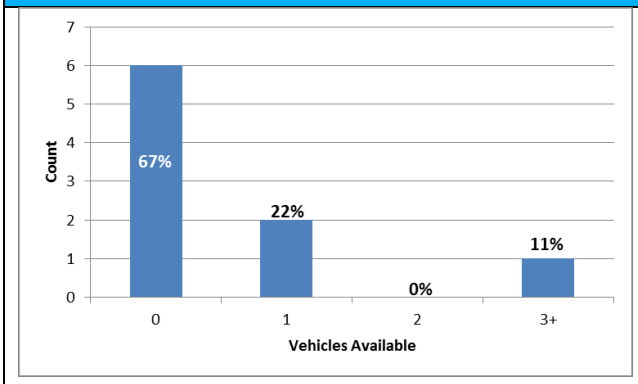
Employment Status



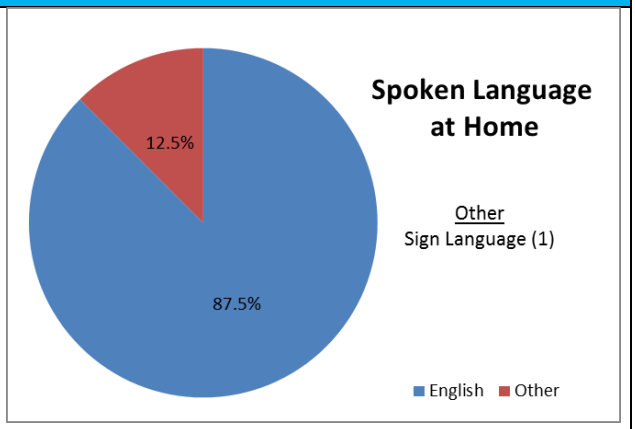
Age



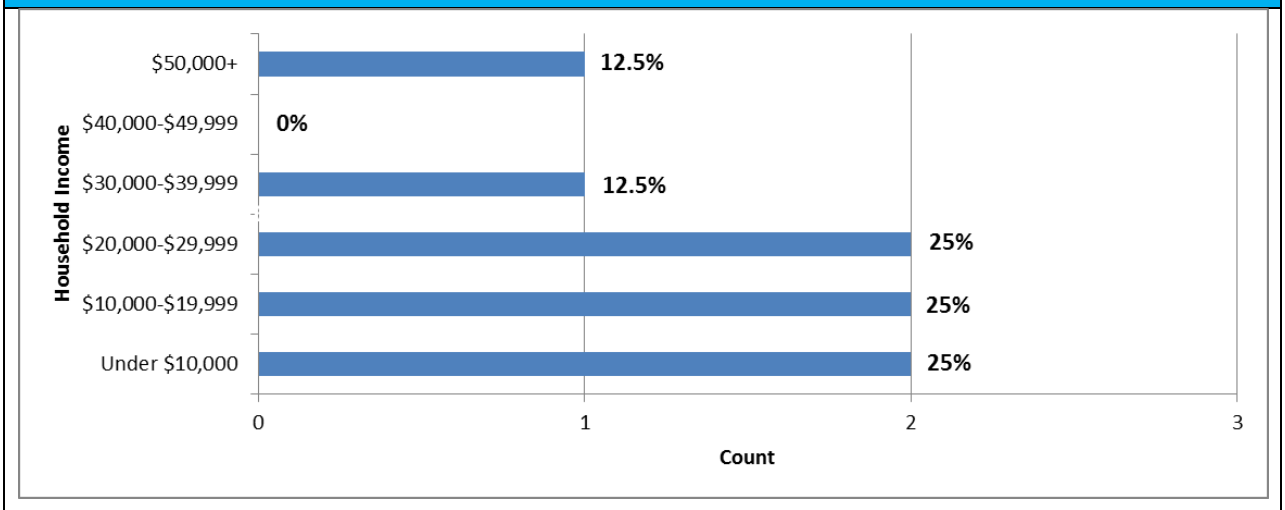
Vehicle Availability



Languages Spoken at Home



Annual Household Income



Appendix D - Peer Review

As part of the Short Range Transit Operations Plan Study, a peer review was prepared to gain an understanding of how other similar systems are operating transit service. This peer review explores eight transit services that operate in similar conditions or are located in proximity to the SCS service area. Although each transit system and route is unique, the similarities and differences in these eight peers provide useful insight into how rural transit service is provided and operated throughout the country.

1. Description of Peer Systems

Eight peer systems were selected to examine operating characteristics. The eight peer systems were selected in conjunction with the study advisory committee and can be found in Table 1-1.

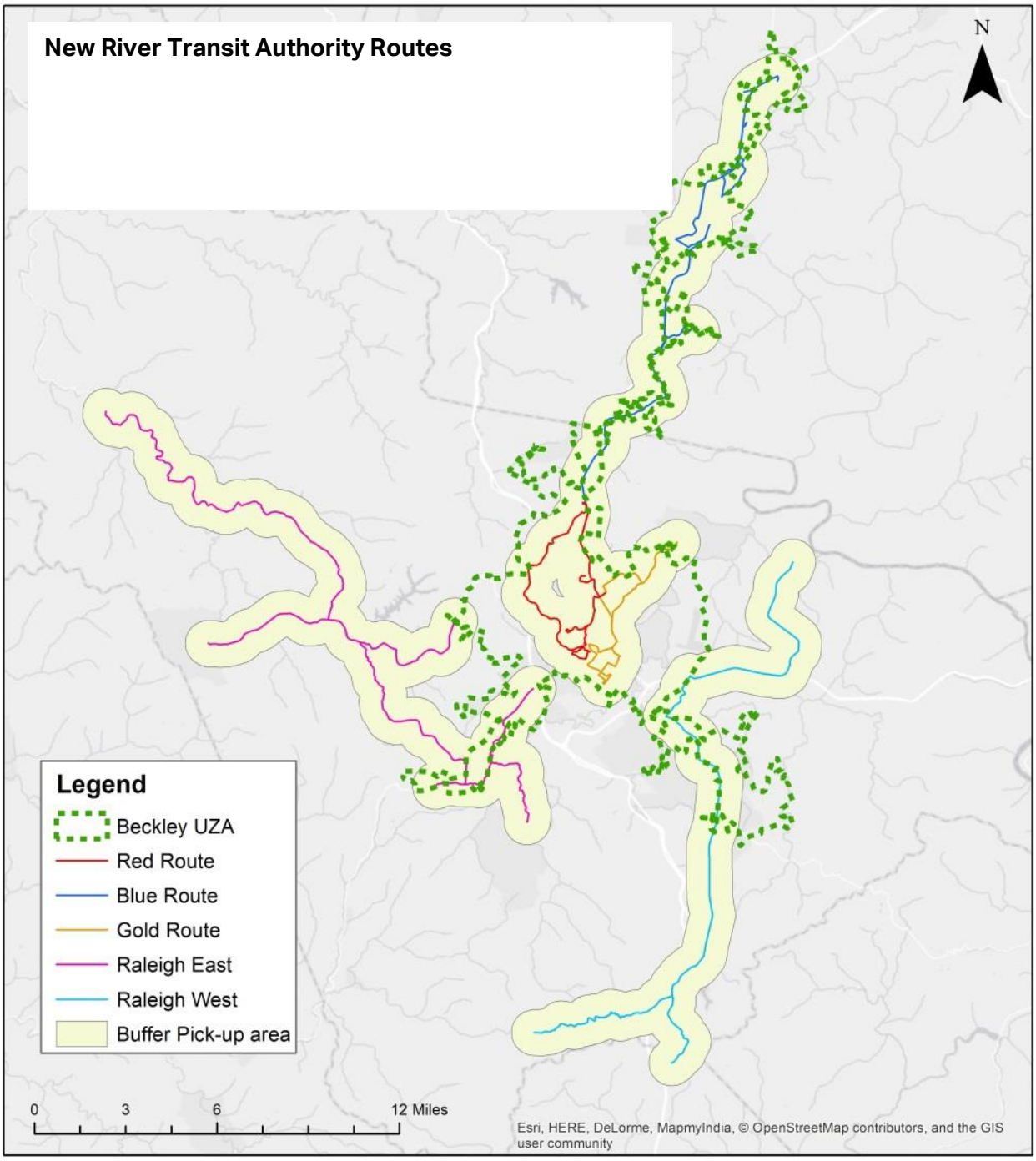
Table 1-1. Peer Systems

System	Town	State	Other Services	Fixed Route	Demand Response	Taxi	DAR	Deviated FR
New River Transit Authority	Beckley	WV	No	No	No	No	Yes	Yes
Bluefield Area Transit	Bluefield	WV	NEMT	No	No	No	No	Yes
RTS Orleans	Albion	NY	No	No	No	No	Yes	Yes
SMOC/Prairieland Transit	Worthington	MN	Express	Yes	No	Yes	No	No
Brown Cab	Madison	WI	No	No	No	Yes	No	No
HCS Keene	Keene	NH	NEMT	Yes	Yes	No	Yes	No
Advance Transit	Lebanon	NH/VT	Shuttles	Yes	Yes	No	No	No
The Current	Brattleboro	NH/VT	Commuter; Volunteer drivers	Yes	Yes	Yes	Yes	No

New River Transit Authority (WV)

New River Transit Authority (NRT) provides service to Raleigh and Fayette counties in Southern West Virginia using three deviated fixed routes, two flex zones, and dial-a-ride services (Figure 1-1). Service is operated throughout the weekdays from 8:30 AM to 4:20PM. A late night shuttle is currently being piloted in the Town of Fayetteville on Friday and Saturday nights from 5:00 PM to 1:00 AM. The dial-a-ride service is available on weekdays from 8:00 AM to 4:00 PM and is open to the general public. Reservations must be made a day in advance. The annual operating budget is $579,646 for New River Transit Authority.

Figure 1-1. New River Transit Authority Map



Bluefield Area Transit (WV)

Bluefield Area Transit provides service to Mercer and McDowell counties in Southern West Virginia using three deviated fixed routes and demand-response service for non-emergency medical trips. Service is operated on weekdays from 7:00 AM to 6:00 PM and on Saturdays on the Athens route when Concord University is in session. Deviations are available within ¾ mile of each route. The annual operating budget is $1,388,338.

RTS Orleans (NY)

RTS Orleans is a subsidiary of Rochester-Genesee Regional Transportation Authority providing deviated fixed route and dial-a-ride services in Orleans County, New York. Deviated fixed route service is operated Monday through Friday from 6:30 AM to 5:30 PM or four routes and on Saturdays on one route from 9:00 AM to 5:00 PM. The dial-a-ride is open to the general public Monday-Friday from 6:30 AM – 11:00 AM & 2:00 PM – 5:00 PM. The annual operating budget for RTS Orleans is $748,781.

SMOC/Prairieland Transit (MN)

Prairieland Transit System operates the Nobles County Heartland Express and coordinates discounted taxi rides with the Worthington Taxi Service. Service is available Monday through Friday from 7:00 AM to 5:30 PM on the Heartland Express. Reservations for the taxi service must be made between 7:00 AM to 6:00 PM by calling dispatch but rides can be scheduled for after hours. The annual operating budget is $336,447.

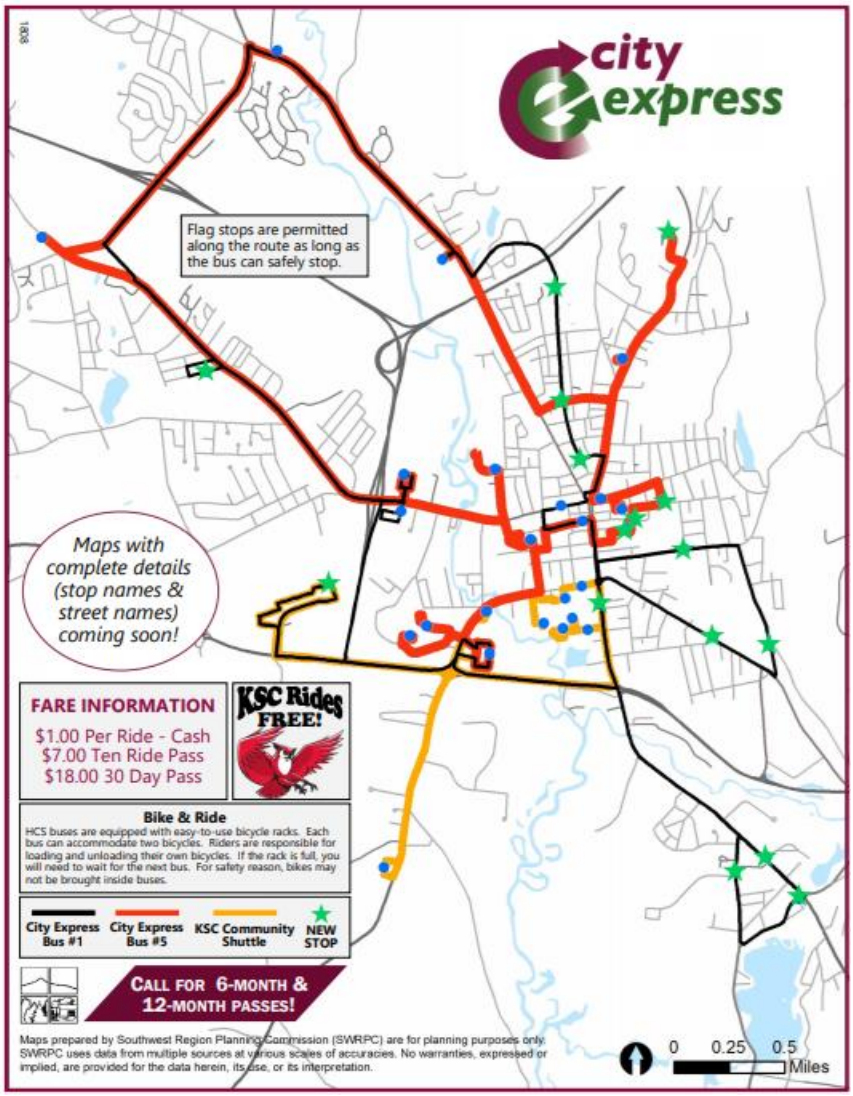
Brown Cab (WI)

Brown Cab Service, Inc. provides taxi and shared ride service in the area between Janesville and Madison, Wisconsin. Brown Cab operates shared ride taxi service in Fort Atkinson, Jefferson, Lake Mills, Waupaca, and Whitewater, WI.

HCS Keene (NH)

HCS Keene operates the City Express transit and paratransit system in Keene NH in addition to dial-a-ride for seniors in Keene and weekly non-emergency medical (NEM) trips to the Veterans Affairs (VA) healthcare facility in White River Junction and Dartmouth Hitchcock Hospital. Service is operated on 3 fixed routes from 8:00 AM to 5:00 PM on weekdays (Figure 1-2). Paratransit service is available during the same hours as fixed route. Dial-a-ride is available on weekdays from 8:00 AM to 4:00 PM and NEM provides service every Wednesday. The annual operating budget is $641,450.

Figure 1-2. HCS Keene Map



Advance Transit (NH)

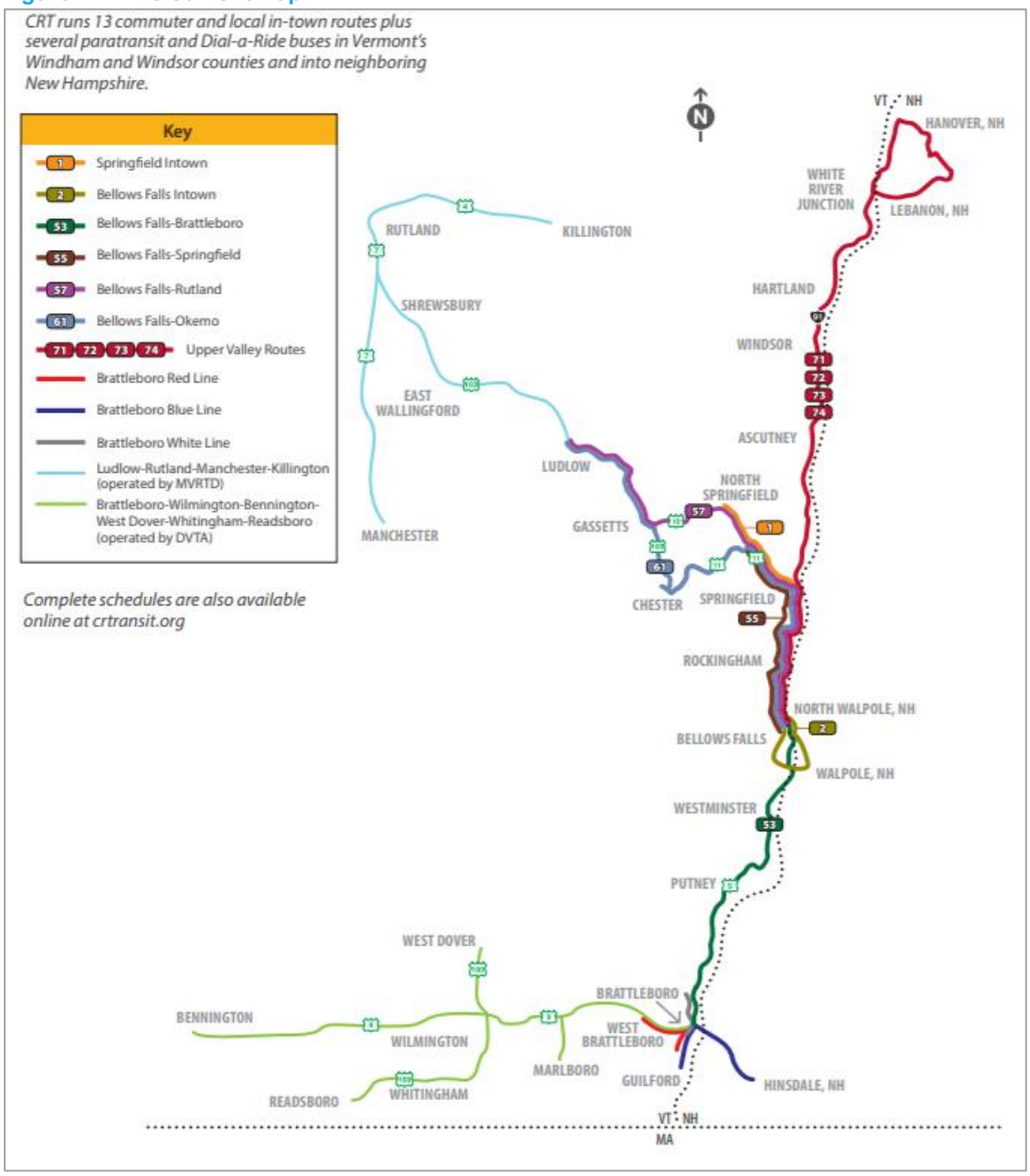
Advance Transit (AT) is the primary operator of local bus services throughout Upper Valley region, including the towns of Lebanon, Hanover and Enfield. Service, on seven fixed routes and the complimentary ADA demand response service, operates weekdays from approximately 6:00 AM to 6:00 PM; there is no weekend service. Demand response service is available within ¾ mile of all fixed routes. The annual operating budget is $903,441.

Figure 1-3. Advance Transit Map

The Current (NH/VT)

The Current provides fixed route, ADA paratransit, and dial-a-ride services in southeastern Vermont, with commuter service to Hancock, NH (Figure 1-4). There are five fixed routes, eight expresses/commuter routes, and one shopper shuttle. Service hours and operating days vary by route. Demand response service is available within ¾ mile of all fixed routes. Dial-a-ride is available in all 36 member municipalities. The annual operating budget is $4,769,321.

Figure 1-4. The Current Map



Peer Service Summary

The most common types of service provided were fixed route/deviated fixed route service with deviations, demand response service or taxi service to meet ADA requirements. Five systems operated other services such as NEMT, Express/Commuter bus or parking lot shuttles for large institutions. Dial-a-ride services are provided by half of the operators, two have eligibility requirements while two are open to the general public. Subsidized taxi service was provided by three of the peers, reservations must be made through transit dispatch. Hours of service were on average from 7:00 AM to 6:00 PM for deviated or traditional fixed route and 8:00 AM to 4:00 PM on dial-a-ride. Late night service was available on a pilot

program for New River Transit Authority. All of the peers required at least one day advance reservation for dial-a-ride, demand-response or deviations on the fixed route. Weekend service is provided by three of the peers. The Current operates on both Saturday and Sunday, RTS Orleans on Saturday only and Bluefield Area Transit only operates weekend service only when Concord University is in session.

Table 1-2. Peer Operating Characteristics

Peer System	Hours of Service	Weekend service
New River Transit Authority	8:30 AM- 4:20 PM	No
Bluefield Area Transit	7:00 AM- 6:00 PM	Yes- when Concord University is in session
RTS Orleans	6:30 AM - 5:30 PM	Saturday
SMOC/Prairieland Transit	7:00 AM - 6:00 PM	No
Brown Cab		
HCS Keene	8:00 AM - 5:00 PM FR and DR; 8:00 AM - 4:00 PM DAR; 8:00 AM - 4:30 PM NEMT	No
Advance Transit	6:00 AM - 7:00 PM	No
The Current	6:00 AM - 6:00 PM	Yes

2. Operations

Comparative operational statistics for the peer systems are provided in Table 2-1. Annual passenger count varies from 29,009 to 225,624, with the average being 111,054. Revenue hours and miles also vary greatly with the average revenue miles being 817,609 and hours 34,692.

Table 2-1. Peer Operating Statistics

Peer System	Annual Passengers	Annual Revenue Hours	Annual Revenue Miles
New River Transit Authority	35,182	19,129	252,747
Bluefield Area Transit	225,624	43,482	739,484
RTS Orleans	39,450	8,024	177,482
SMOC/Prairieland Transit	29,009	11,046	80,826
Brown Cab	---	---	
HCS Keene	45,302	10,156	129,247
Advance Transit	126,355	9,070	156,758
The Current	276,458	141,940	4,186,721
SCT	22,984	5,855	80,407

Source: 2016 NTD Data; 2018 SCT

Performance stats measure the health of a system and route and are presented in Table 2-2. Passengers per revenue hour measures ridership as a function of the amount of service provided. High values indicate a route that is performing well. Higher values also require larger

vehicles. The peers range greatly in the number of passengers per hour carried. The routes that travel greater distances tend to have a greater number of passengers per one-way trip. For all peers, the average passengers per revenue hour is 4.98. SCT ranks 5th among peers for passengers per revenue hour.

Table 2-2. Peer Performance Measures

Peer	Passengers/ Rev. Hr	Farebox Recovery	Cost Efficiency
New River Transit Authority	1.84	10.8%	$14.69
Bluefield Area Transit	5.19	13.0%	$5.35
RTS Orleans	4.92	8.1%	$17.44
SMOC/Prairieland Transit	2.67	1.2%	$11.16
Brown Cab	---	---	---
HCS Keene	4.46	4.5%	$13.53
Advance Transit	13.93	N/A	$5.76
The Current	1.95	3.3%	$16.67
SCT	3.93	5.9%	$16.08

The farebox recovery ratio is the percentage of operating costs covered by fares collected, calculated by the fares collected divided by the cost to operate the route. The peers vary greatly in the farebox recovery from 1.2 percent to 13 percent[1] (farebox revenue/operating cost). For all the peers, the average farebox recovery is 6.81%. This includes The Current which operates 5 of their 13 routes as fare free. SCT's farebox recovery is slightly less than the peers and ranks 4th out of seven.

Cost efficiency measures the cost of providing service, taking into account fare revenue collected per passenger. Cost efficiency, represented as subsidy per passenger, also varies greatly and ranges from $5.35 per passenger to $17.44 per passenger (operating cost – farebox revenue)/passengers). For all peers, the average cost efficiency is $12.09 per passenger. SCT has a higher cost per passenger than most peers.

3. Fares

There are a variety of fares, passes, and discounts available amongst the peers. Five of the peers used a single fare and one used zonal fares based on the origin and destination community. One system, Advance Transit, operates fare free. One-way fares ranged from $1 to $2.50 for fixed or deviated fixed routes.[2] For dial-a-ride, the fares ranged from $1 to $3 with only one peer charging more for a dial-a-ride trip than a fixed route trip. Two of the three peers that operate deviated fixed route service charge additional fares for the deviation. Two

[1] Does not include Advance Transit, which operates Fare Free

[2] This does not include Advance Transit, which operates fare free, or select routes on The Current, which also operate fare free

of the peers offer a discount for children and one offers a discount for seniors and individuals with disabilities. Passes were limited amongst the peers with only two offering a punch pass and two offering a monthly pass.

Table 3-1. Peer Fares

Fare	NRT	Bluefield Area Transit	RTS Orleans	SMOC/ Prairieland Transit	HCS Keene	Advance Transit	The Current
Single or zonal base fare	Single	Zonal	Single	Single	Single	Fare Free	Single
One-way fare	$2.50 all	$1.25-$2.25	$1 FR, DAR $3	$3 taxi $1.25 Express	$1 FR/DAR; $2 DR; $10 NEMT (donation)	Fare Free	$0-$2 (varies based on route type)
Children discount	Free under 12	No	Free under 5	No	No	0	No
seniors and individuals with disabilities	No	No	50%	No	No	0	No
Deviation charge	No	yes-varies	$2.00	n/a	N/A	0	N/A
Punch pass	No	No	Yes - 11 ride and 23-ride	No	Yes	No	No
Monthly pass	Yes	$30	No	No	No	No	No
Senior/disabled monthly pass	No	$25	No	No	No	No	No

4. TECHNOLOGY

Technology today serves a variety of functions in many aspects of everyday life, including transit. A review of the peer systems technology provides an understanding of trends within rural transit. This section explores two primary sectors of technology; schedule information, and fare. See Table 4-1 for a description of technology deployment in each of the peer services.

Automatic Vehicle Location (AVL) provides real-time information on the vehicles location and anticipated arrival at a stop, which allows passengers to plan accordingly. One of the peers (Advance Transit) has AVL/real time information available for the routes. Google Transit combines bus schedules with Google Maps to allow the public to plan their trip using Google Maps. Systems must convert their schedule information into a format called General Transit Feed Specification (GTFS) in order to display in Google. Three of the peers have their schedule information in Google. Nationally the standard is if a system has real time

information, then the schedules and routes are also in Google Transit because the software that generates the real-time information can be converted into a GTFS data set.

Table 4-1. Peer Technology Comparison

Peer	AVL/Real Time	Google Transit	Electronic Fare Payment
New River Transit Authority	No	No	No
Bluefield Area Transit	No	No	No
RTS Orleans	No	No	No
SMOC/Prairieland Transit	No	No	No
Brown Cab	--	--	--
HCS Keene	No	Yes	No
Advance Transit	Yes	Yes	N/A
The Current	No	Yes	No

The two primary electronic fare payment systems used in the United States are the contactless SmartCard and mobile payments. The most widely use electronic fare technology in transit is the contactless SmartCard system. The SmartCard fare instrument is the size of a credit card and can be loaded with stored value or any kind of pass. A user simply taps the card on a reader and enters the vehicle. Mobile ticketing is where users pay fares from a Smartphone. Transit agencies are now starting to experiment with fare payment through cellular telephone. This technology operates as the SmartCard with the ability to store multiple pass options and fare types. It requires that riders download an application (app) onto a Smartphone. Payment is processed through the app and a transit pass is produced on the person's phone. None of the peer systems have electronic fare payment systems.

5. Summary of Peers Analysis

Based on the peer analysis, the following generalizations can be made about peer services:

- The most common types of service provided were deviated fixed route service with deviations, demand response service or taxi service to meet ADA requirements.
- Two systems offered express/commuter services and two others offered NEMT service. One system also operated a parking lot shuttle service for a major institution.
- Dial-a-ride services are provided by half of the operators; two have eligibility requirements while two are open to the general public.
- All of the peers required at least one day advance reservation for dial-a-ride, demand-response or deviations on the fixed route.
- Subsidized taxi service was provided by three of the peers.
- Only one system offered late night service. This service was available through subsidized taxi vouchers when the trip was schedule in advance through the transit dispatch. One other system was piloting it.

- 3 out of 8 offered service on the weekend.
- Most peers do not advertise a discount for seniors and individuals with disabilities.
- Only one system offered a punch pass.
- Of those that operate deviated fixed route, 2/3 charge a premium fare for a deviation.
- The majority do not offer monthly passes.
- Single fares were more prevalent than zonal fares.
- In some cases the dial-a-ride or demand response fare was more expensive than the fixed route fare to incentivize people to use the fixed route.
- Technology use is limited.
- SCT performed slightly below average than peers for Farebox recovery and passengers per hours.
- SCT has a higher cost per passenger than most peers.

Appendix E - Alternatives Memo

This memo presents preliminary short-, mid-, and long-term transit service options. Recommendations were developed based on findings from existing service conditions; market analysis; public outreach: rider/driver/community surveys and stakeholder meetings; peer review and the results of previous studies. There are some general recommendations that apply regardless of the option chosen to move forward. The short-term options are designed to improve efficiency and expanded service within the current budget, where possible. Three options for short-term service improvements have been developed with each option focusing on a different priority. Option 1 focuses on expanding the service area and hours by providing service later into the day in Claremont and adding medical trips to the Veterans Affairs Medical Center (VA) and Dartmouth Hitchcock Medical Center (DHMC) from each of the three communities on select days during the week. Option 2 focuses on Charlestown and Newport by adding to the number of trips daily to each. Option 3 is focused on Claremont and improving service within that community. For each of the options, example schedules have been developed.

Mid-term alternatives further expand service hours and locations. This alternative would require additional vehicles and operating funds. Mid-term should be implemented in 1-3 years. The long term alternatives require more capital equipment and have a significant cost associated with them. Long-term would take 3-5 years to secure funding and capital assets to implement.

Following discussion with the study advisory committee and a public meeting held on December 19, 2018, in Charlestown, NH, the options were refined and a preferred alternative was selected. The preferred alternative will be further refined and developed in the operating plan, capital plan, and financial plan.

1. Preliminary Options

1.1 General Recommendations

- Use 3/4 mile instead of ¼ mile for deviations to be more in line with ADA complementary paratransit requirements; not very different from current practice, which regularly allows longer distance deviations
- Operate the Claremont service on a clock face schedule
- Serve the River Valley Community College on Claremont route trips when not serving the Senior Center because it is not open
- Space out the service to Hannaford/Walmart/Market Basket amongst the routes so that the service to this area is not running back to back
- Install bus stop signs and benches/shelters at Walmart, Opera House Square, Market Basket, Sugar River Mills and Marion Phillips, as a start, and at a minimum

- Designate each route as a color and coordinate schedules so people can easily identify the routes

1.2 Short Term Options

There are three short-term service options that have been packaged for efficiency and in such a way as to not increase the daily revenue hours by more than 7%. Each option requires three vehicles in revenue service per day, the current number. Below is a summary table of the pros and cons for each option:

Table 1. Short-Term Option Pros

Pro	Option 1	Option 2	Option 3
Extended service on Claremont Route in evening	X	X	
Dial-a-Ride five days a week		X	X
Bi-directional service in Claremont	X	X	
Less tight Claremont schedule	X	X	
Bi-directional service in Newport	X		
Bi-directional service in Charlestown	X	X	X
Increase trips between Sugar River Mills and Washington St.	X		X
Medical trips to VA and DHMC	X		
Clock face schedule in Claremont	X	X	X
Clock face schedule in Newport		X	X
Increase number of Claremont trips			X
Increase number of Newport trips		X	
Increase number of Charlestown trips		X	
Scheduled service to Claremont Arms			X
Scheduled service to River Valley Community College (RVCC)	X	X	X
Schedule efficiency improved	X	X	X

Table 2. Short-Term Option Cons

Con	Option 1	Option 2	Option 3
No extended hours			X
Dial-a-Ride not five days a week	X		
No bi-directional service in Claremont			X
Tight Claremont schedule			X
Loop service in Newport		X	X
Longer headway on Claremont Route	X	X	
Reduction in trips between Sugar River Mills and Washington St.		X	
No medical trips to VA and DHMC		X	X
Transfer required to get to Washington Street and Opera House Square from Newport		X	
Transfer required to get to Washington Street from Newport and Charlestown on all trips		X	
Decrease number of Claremont trips from existing	X	X	
Decrease number of Newport trips from existing	X		
Decrease number of Charlestown trips from existing			
No scheduled service to Claremont Arms	X	X	
Additional revenue hours daily	X	X	X

1.2.1 Option 1 – Expansion

Vehicle Requirements = 3

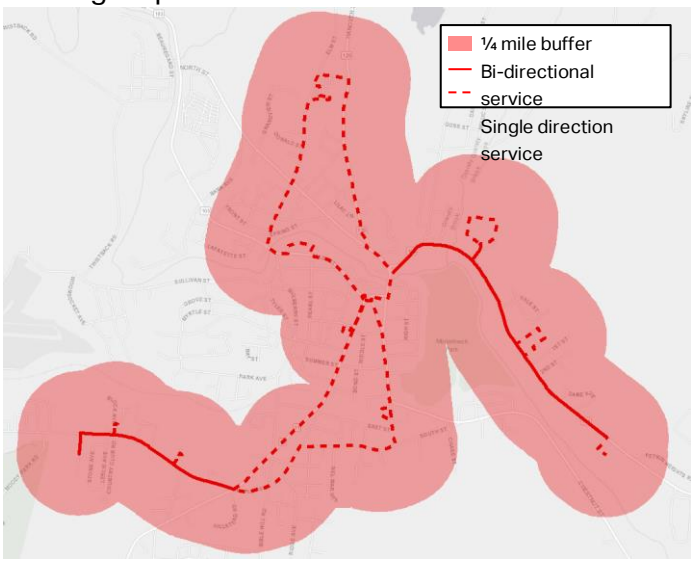
Daily Revenue hours = 28.75 (1.5 hour increase on existing)

1.2.1.1 Claremont

- Change route to every 90 minutes and provide bi-directional service. This will help drivers stay on schedule. Reduces from 8 trips daily to 7.
- Extend service to 6:00 PM. Draft schedule is below
- Provide trips on Tuesdays from town to DHMC in Lebanon, NH and the VA Medical Center in White River Junction, VT
    - 8AM - Pick up at Opera House Square 8 AM (Bus will make pick-ups along the way or in downtown on-request prior to leaving at 8 AM)
    - 8:45 - Arrive at VA
    - 9:15 - Arrive at DHMC
    - 13:15 - Leaves DHMC promptly
    - 13:30 – Leaves VA promptly
    - 14:15 – Arrives back at Opera House Square

Figure 1. Claremont Map 1

Existing Map



Proposed Map

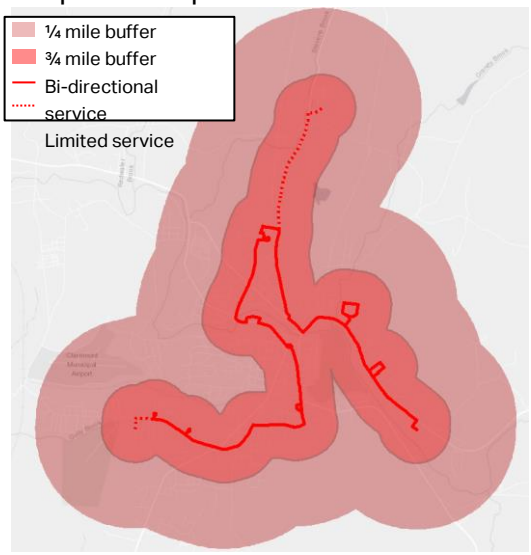


Table 3. Claremont Option 1 Schedule

Opera House Square	7:45	9:15	10:45	12:15	13:45	15:15	16:45
Marion Phillips	7:50	9:20	10:50	12:20	13:50	15:20	16:50
Bourdon Center	7:54	9:24	10:55	12:25	13:55	15:25	16:55
Claremont Manor	7:57	9:27	11:07	12:37	14:07	15:37	17:00
Senior Center	---	---	11:00	12:30	14:00	15:30	---
Bourdon Center	---	---	11:03	12:33	14:03	15:33	17:03
Marion Phillips	8:00	9:30	11:08	12:38	14:08	15:38	17:08
Opera House Square	8:05	9:35	11:13	12:43	14:13	15:43	17:13
Sugar River Mills	8:10	9:40	11:18	12:48	14:18	15:48	17:18
Valley Regional Hospital	8:20	9:50	11:28	12:58	14:28	15:58	17:28
RVCC	8:23	9:53	---	---	---	16:01	17:31
Walmart	8:33	10:03	11:38	13:08	14:38	16:11	17:41
Hannaford	8:36	10:06	11:41	13:11	14:41	16:14	17:44
Market Basket	8:41	10:11	11:46	13:16	14:46	16:19	17:49
Hannaford	8:44	10:14	11:49	13:19	14:49	16:22	17:52
Walmart	8:47	10:17	11:52	13:22	14:52	16:25	17:55
Valley Regional Hospital	8:52	10:22	11:57	13:27	14:57	16:30	18:00
Sugar River Mills	9:02	10:32	12:07	13:37	15:07	16:40	18:10
Opera House Square	9:04	10:34	12:09	13:39	15:09 **E**	16:42	18:12

E= transfer to the Charlestown Route available

1.2.1.2 Newport

- Reduce to five trips daily and serve Sugar River Mills, Walmart, Hannaford and Market Basket on all trips in both directions. See draft schedule below.
- Interline with the Charlestown Route
- Instead of scheduled stops in Newport Center, make Shaw's, Irving and the Newport Health Center and the Senior Center scheduled stops, and have 30 minutes in Newport to do demand based pick-ups/drop-offs using whatever routing makes the most sense for the day given the requests. Based on the survey results, most Individuals were going to Claremont or the Health Center, so doing a zone-based pick-up service instead of stops is more efficient and will save time.
- Provide trips on the second and fourth Thursday of the month from town to DHMC in Lebanon, NH and the VA Medical Center in White River Junction, VT.
    - 8AM - Pick up at Newport Senior Center 8 AM (Bus will make pickups along the way or in downtown on-request prior to leaving at 8 AM)
    - 8:45 - Arrive at DHMC
    - 9:00 - Arrive at VA
    - 13:00 - Leaves VA promptly
    - 13:15 – Leaves DHMC promptly
    - 14:15 – Arrives back at Newport Senior Center

Figure 2. Newport Map 1

Existing Map

Proposed Map

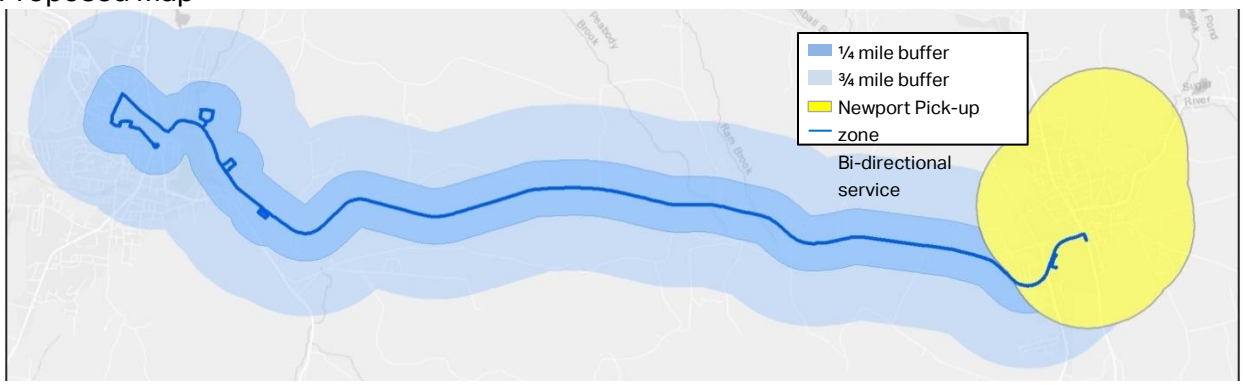


Table 4. Newport Option 1 Schedule

Opera House Square	6:25	8:15 C	11:15 C	13:05	15:00
Sugar River Mills	6:30	8:20	11:20	13:10	15:05
Walmart	6:40	8:30	11:30	13:20	15:15
Hannaford	6:43	8:33	11:33	13:23	15:18
Market Basket	6:46	8:36	11:36	13:26	15:21
Shaw's	---	8:54	11:54	13:44	15:39
Newport Senior Center*	---	9:24	12:19	14:09	16:14
Irving	7:04	9:25	12:20	14:10	16:15
Newport Health Center	7:06	9:27	12:22	14:12	16:17
Market Basket	7:24	9:45	12:40	14:30	16:35
Hannaford	7:27	9:48	12:43	14:33	16:38
Walmart	7:30	9:51	12:46	14:36	16:41
Sugar River Mills	7:40	10:01	12:56	14:46	16:51
Opera House Square	7:45	10:06 T	13:01	14:51	16:56

C = bus is coming from Charlestown

T= bus continues onto Charlestown

* = bus will do on-demand pickups in Newport between the Shaw's timepoint and the Irving timepoint.

1.2.1.3 Charlestown

- Only serve Old Claremont Road area with deviations
- Interline the Charlestown Road route with the Newport Route to more efficiently get people from Charlestown to shopping destinations on Washington St.
- Provide trips on the first and third Thursday of the month from town to DHMC in Lebanon, NH and the VA Medical Center in White River Junction, VT.
    - 8AM - Pick up at Charlestown Town Hall 8 AM (Bus will make pick-ups along the way or in downtown on-request prior to leaving at 8 AM)
    - 8:45 - Arrive at VA
    - 9:15 - Arrive at DHMC
    - 13:15 - Leaves DHMC promptly
    - 13:30 – Leaves VA promptly
    - 14:15 – Arrives back at Charlestown Town Hall

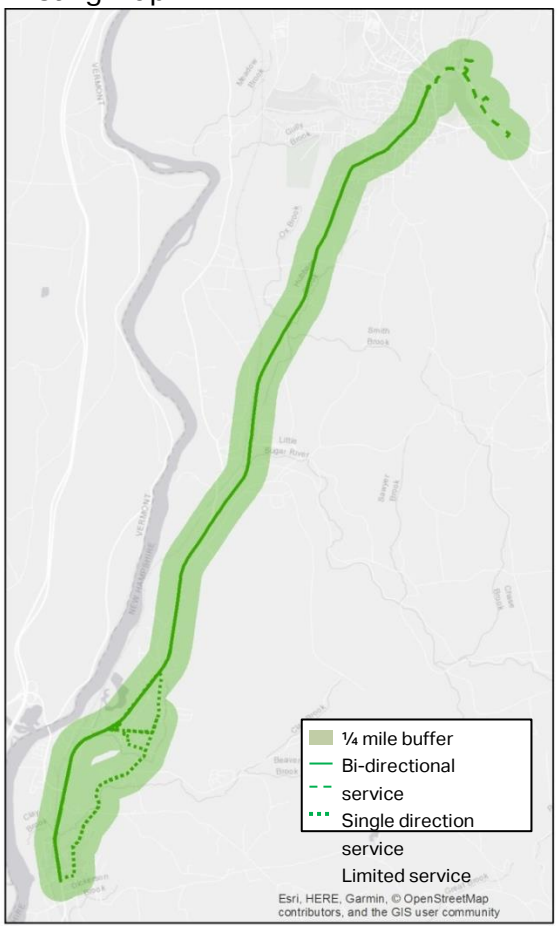
Table 5. Charlestown Option 1 Schedule

Opera House Square	7:15	10:15 G	15:15 K
Lovers Lane	7:40	10:40	15:40
Charlestown Town Hall	7:45	10:45	15:45
Lovers Lane	7:50	10:50	15:50
Opera House Square	8:15 N	11:15 N	16:15

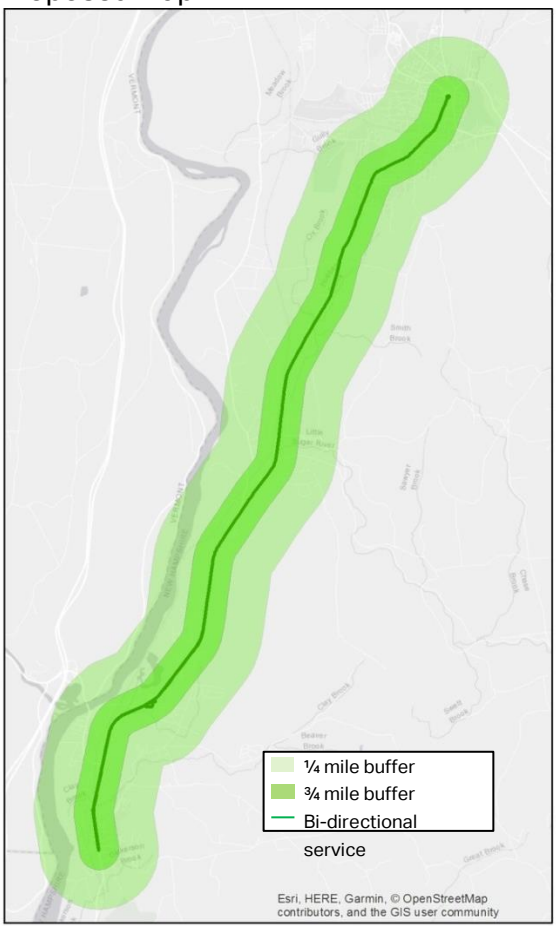
N = this bus continues onto Newport via Sugar River Mills, Walmart, Hannaford and Market Basket
G = this bus is coming from Newport via Sugar River Mills, Walmart, Hannaford and Market Basket
K = transfer from the Claremont bus for service from via Sugar River Mills, Walmart, Hannaford and Market Basket

Figure 3. Charlestown Map 1

Existing Map



Proposed Map



1.2.1.4 Dial-A-Ride Claremont

- Runs on Monday, Wednesday and Friday in Claremont from 8 AM – 2:15 PM
- No service on Tuesday and Thursdays

1.2.1.5 Summary

The table below presents the pros and cons for Option 1 followed by a map showing the existing routing versus the proposed routing for the system.

Table 6. Pros and Cons Option 1

Pros	Cons
1. More trips between Sugar River Mills and Shops on Washington Street. Previously the schedule had 8 trips to Walmart but all return trips needed a deviation or the passenger had to stay on the bus for 45 min as it completed its loop. Now there are 12 scheduled trips in each direction. This OD pair was the top one cited. 2. Bi-directional service on the Claremont schedule. 3. Claremont schedule is clock face 4. Claremont schedule is not as tight 5. Later service in Claremont 6. Scheduled service to RVCC, the top destination that isn't already on the schedule 7. Long layovers at Irving removed 8. Cleaner Charlestown schedule with more trips to/from shops on Washington St. 9. Medical trips to VA and DHMC 10. No longer need to call ahead to request Marion Phillips to Walmart/ Hannaford/Market Basket, scheduled in both directions	1. One less trip to Newport 2. One less trip on the Claremont route 3. DAR only operates three days a week in Claremont 4. 1.5 extra revenue hours a day 5. No additional trips on the Charlestown Route

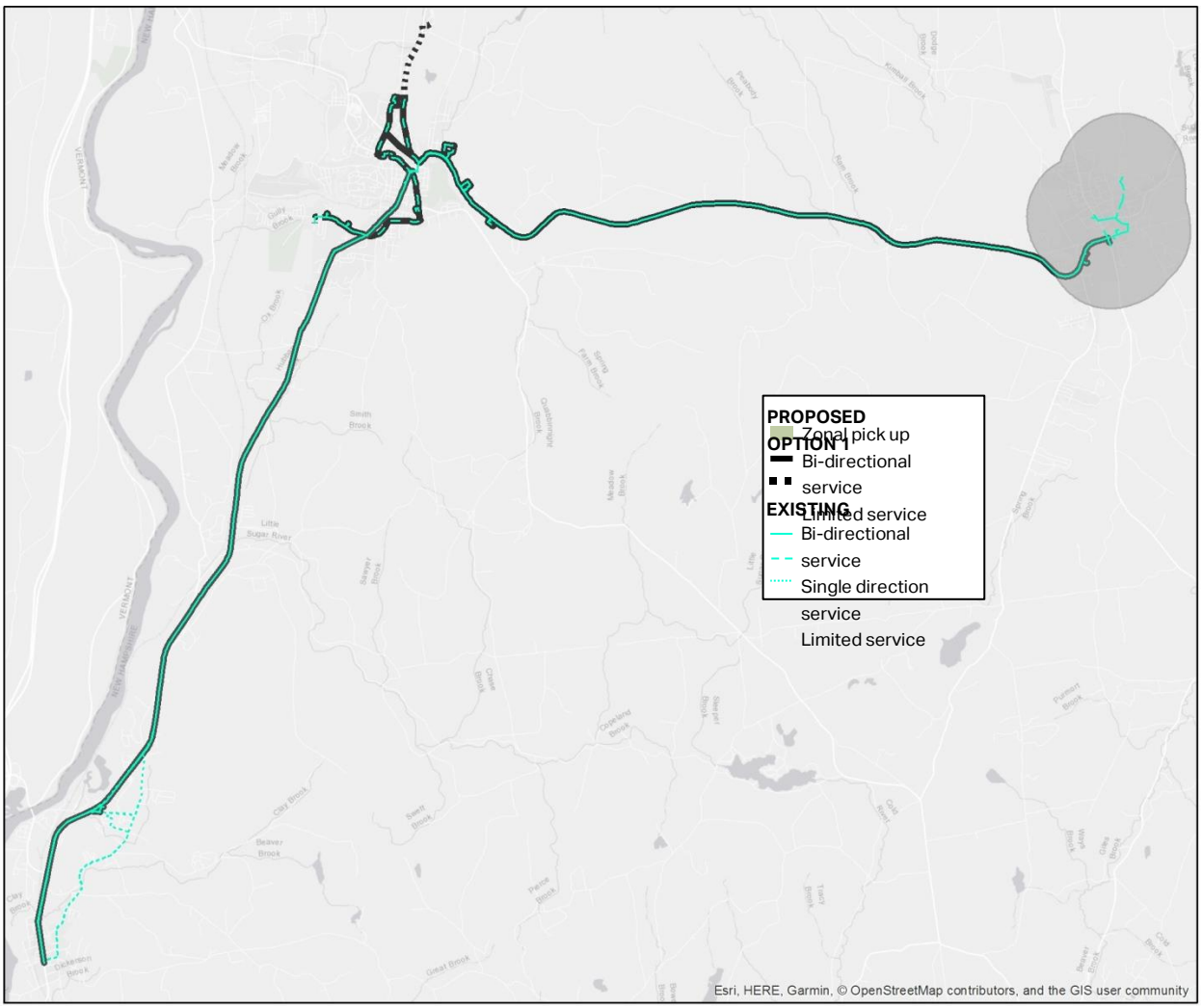


Figure 4. Existing Service vs. Option 1

1.2.2 Option 2 – Charlestown and Newport Centric

Vehicle Requirements = 3

Daily Revenue hours = 28.75 (1.5 hour increase on existing)

1.2.2.1 Claremont

- Change route to every 90 minutes and provide bi-directional service. This will help drivers stay on schedule. Doing this reduces service from 8 to 6 trips daily.
- Service to the RVCC in the morning and afternoon
- Timed transfers with the Charlestown Bus at Opera House Square and the Newport Bus at Market Basket
- Service extended later in the evening

Table 7. Claremont Option 2 Proposed Schedule

Opera House Square	8:00	9:30 **F**	11:00	12:30 **F**	14:00	15:30 **F**	17:00
Marion Phillips	8:05	9:35	11:05	12:35	14:05	15:35	17:05
Bourdon Center	8:10	9:40	11:10	12:40	14:10	15:40	17:10
Senior Center	---	---	11:15	12:45	14:15	15:45	17:15
Bourdon Center	---	---	11:18	12:48	14:18	15:48	17:18
Marion Phillips	8:15	9:45	11:23	12:53	14:23	15:53	17:23
Opera House Square	8:20	9:50	11:28	12:58	14:28	15:58	17:28
Sugar River Mills	8:25	9:55	11:33	13:03	14:33	16:03	17:33
Valley Regional Hospital	8:35	10:05	11:43	13:13	14:43	16:13	17:43
RVCC	8:38	10:08	---	---	---	16:16	17:46
Walmart	8:48	10:18	11:53	13:23	14:53	16:26	17:56
Hannaford	8:51	10:21	11:56	13:26	14:56	16:29	17:59
Market Basket	9:00 **B**	10:30 **B**	12:00 **B**	13:30 **B**	15:00 **B**	16:33	18:03
Hannaford	9:03	10:33	12:03	13:33	15:03	16:36	18:06
Walmart	9:06	10:36	12:06	13:36	15:06	16:39	18:09
Valley Regional Hospital	9:11	10:41	12:11	13:41	15:11	16:44	18:14
Sugar River Mills	9:21	10:51	12:21	13:51	15:21	16:54	18:24
Opera House Square	9:23	10:53	12:23 **D**	13:53	15:23 **D**	16:56	18:26

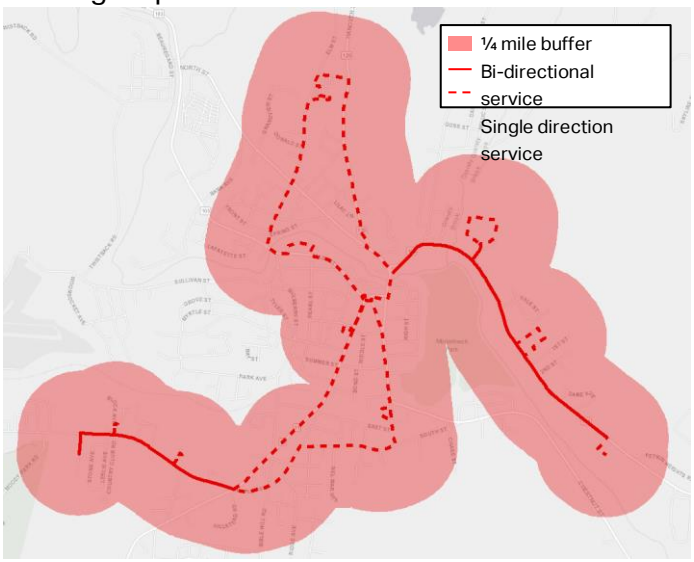
D = transfer to the Charlestown bus available

F = transfer from the Charlestown bus available

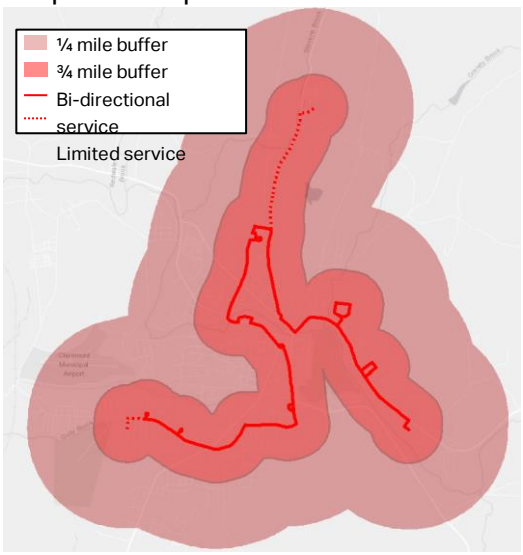
B = transfer to/from the Newport bus available

Figure 5. Claremont Map 2

Existing Map



Proposed Map



1.2.2.2 Newport

- Add an additional trip.
- Mid-day trips will circulate around Newport with timed connections at Market Basket to get to Hannaford/Walmart and Opera House Square.

Table 8. Newport Option 2 Proposed Schedule

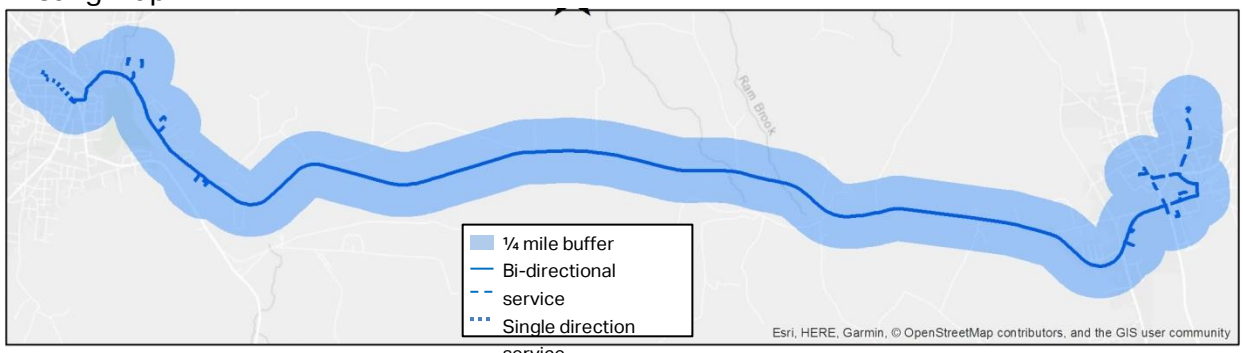
Opera House Square	6:25	7:45	---	---	---	---	---
Sugar River Mills	6:30	7:50	---	---	---	---	---
Walmart	6:40	8:00	---	---	---	---	---
Hannaford	6:43	8:03	---	---	---	---	---
Market Basket	6:46	8:06	9:00 V	10:30 V	12:00 V	13:30 V	15:00 V
Shaw's	---	8:24	9:20	10:50	12:20	13:50	15:20
Newport Senior Center	---	---	9:30	11:00	12:30	14:00	15:30
Maple Manor	---	8:31	9:37	11:07	12:37	14:07	15:37
Summer Crest	---	---	9:47	11:17	12:47	14:17	15:47
DMV	---	8:39	9:55	11:25	12:55	14:25	15:55
Irving	7:04	---	9:57	11:27	12:57	14:27	16:10
Newport Health Center	7:06	8:41	9:59	11:29	12:59	14:29	16:12
Market Basket	7:24	8:59	10:19 X	11:49 X	13:19 X	14:49 X	16:32
Hannaford	7:27	---	---	---	---	---	---
Walmart	7:30	---	---	---	---	---	---
Sugar Rive Mills	7:40	---	---	---	---	---	---
Opera House Square	7:45	---	---	---	---	---	16:42

X= transfer to the Claremont bus for Washington St. and Opera House Square

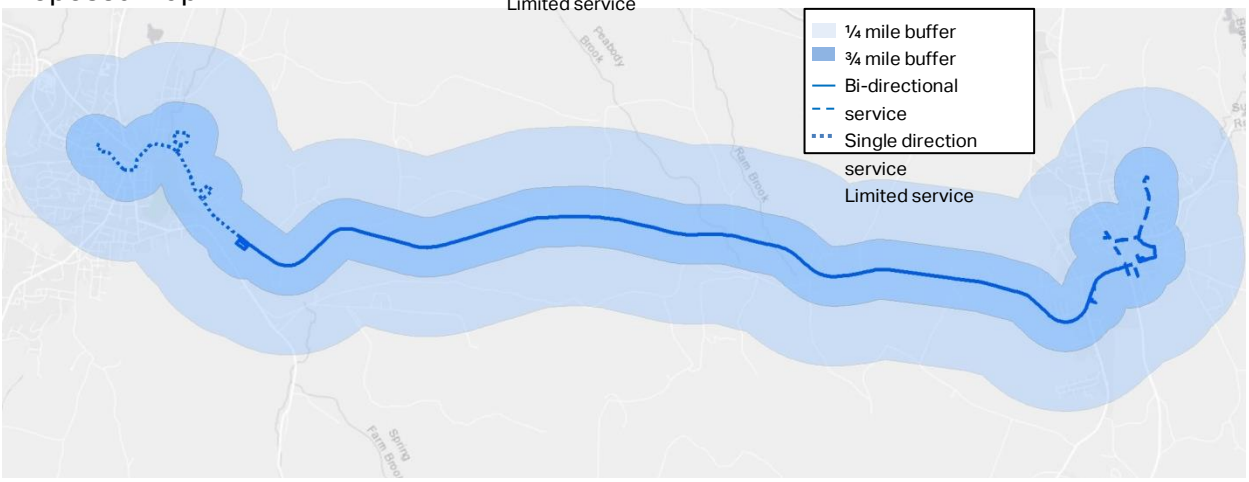
V= transfer from Claremont bus to get from Washington St. and Opera House Square

Figure 6. Newport Map 2

Existing Map



Proposed Map



1.2.2.3 Charlestown

- Only serve Old Claremont Road area with deviations
- Add one extra trip daily and create connections at Opera House Square to transfer to the Claremont Route to go to/from Washington St

Table 9. Charlestown Option 2 Proposed Schedule

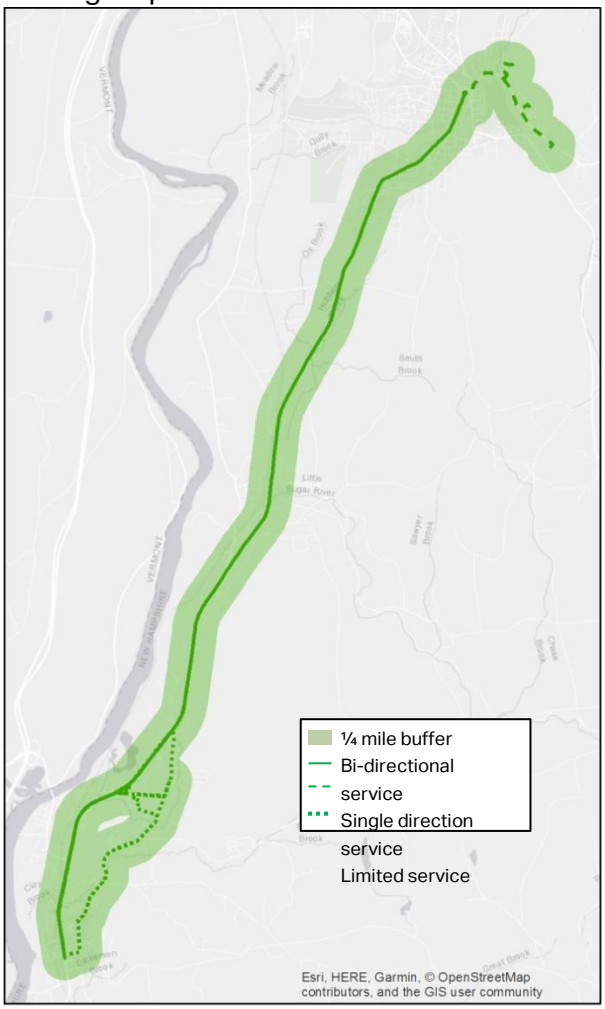
Opera House Square	7:00	8:15	12:30 V	15:30 V
Lover's Lane	7:25	8:40	13:00	15:55
Perry Ave.	7:30	8:45	13:10	16:00
Lover's Lane	7:35	8:50	13:20	16:05
Opera House Square	8:00 X	9:15 X	13:45 X	16:30

X=transfer to the Claremont bus for Washington St

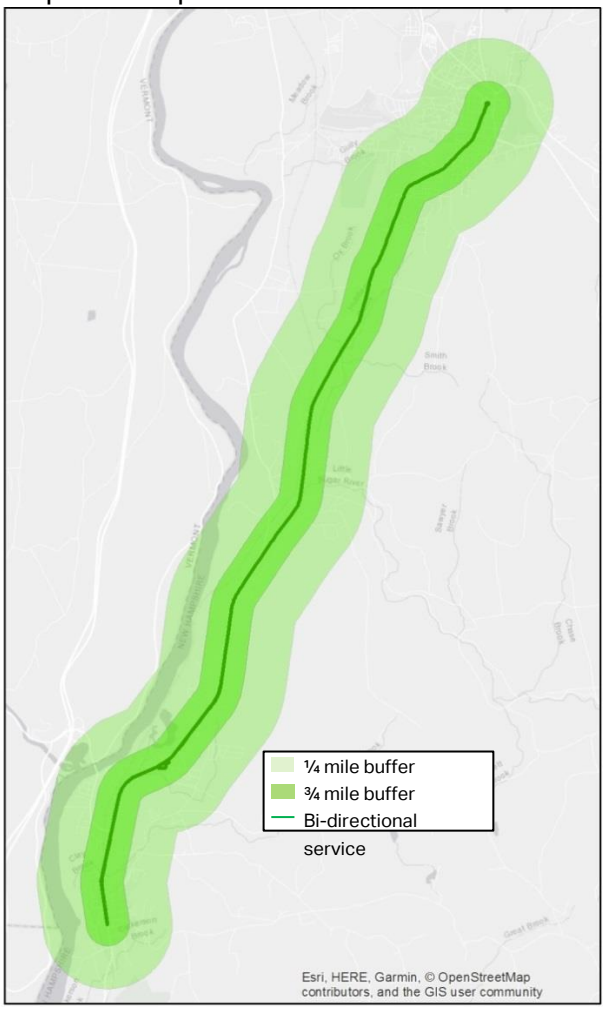
V= Transfer from Claremont bus to get from Washington St.

Figure 7. Charlestown Map 2

Existing Map



Proposed Map



1.2.2.4 Dial-A-Ride Claremont

- Daily between 9:15 – 12:15 and 1:45-3:30 in Claremont

1.2.2.5 Summary

The table below presents the pros and cons for Option 2 followed by a map showing the existing routing versus the proposed routing for the system.

Table 10. Pros and Cons Option 2

Pros	Cons
1. Bi-directional service on the Claremont schedule. 2. Scheduled service to RVCC, the top destination that isn't already on the	1. Fewer trips between Sugar River Mills and Washington St. Previously the schedule had 8 trips; then it would have 6.

schedule 3. Claremont schedule is not as tight 4. Later evening Claremont service 5. Long layovers at Irving removed 6. Claremont schedule is clock face 7. No longer need to call ahead to request Marion Phillips to Walmart/ Hannaford/Market Basket; scheduled in both directions 8. DAR every day of the week 9. Additional trip on the Charlestown Route 10. Additional trip on the Newport Route	2. From Charlestown, riders must transfer at Opera House Square to get to/from Washington St. 3. No medical trips to the VA and DHMC 4. Two fewer trips on the Claremont route 5. 1.5 extra revenue hours a day

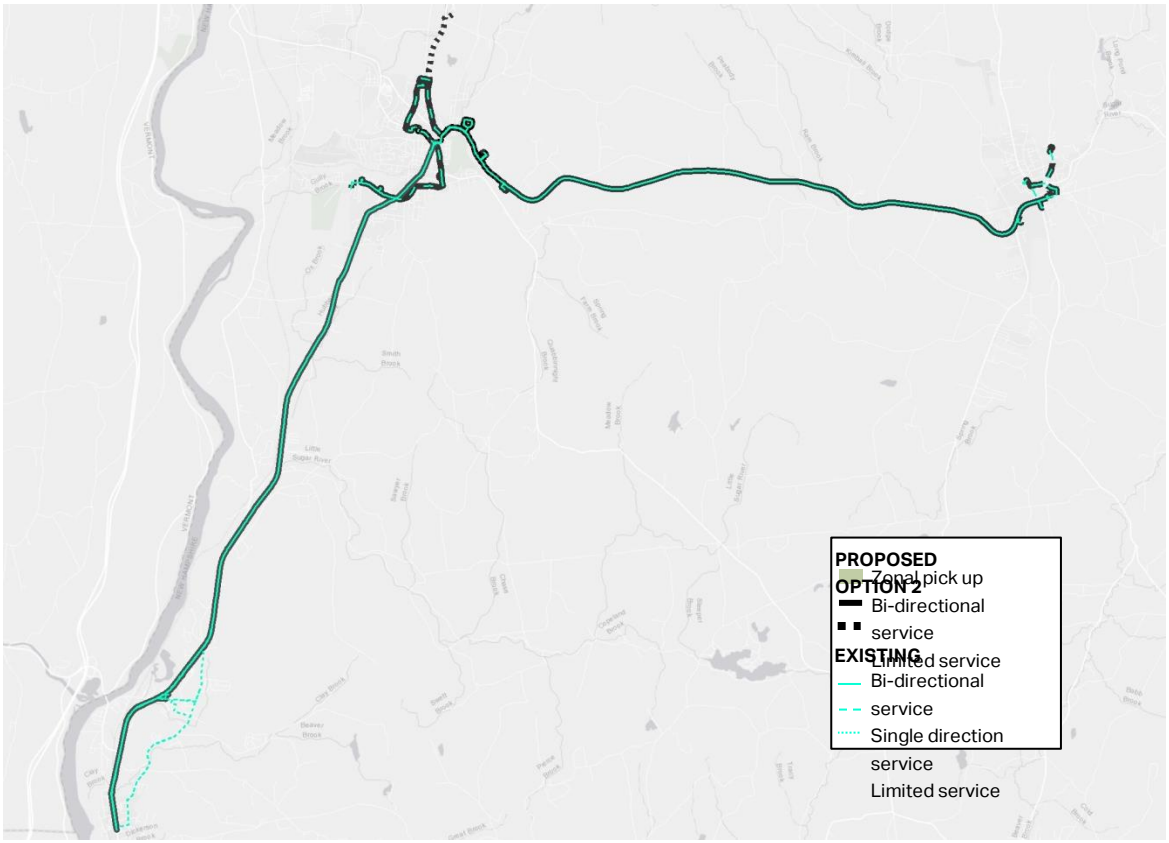


Figure 8. Existing Service vs. Option 2

1.2.3 Option 3 – Claremont Focus

Vehicle Requirements = 3

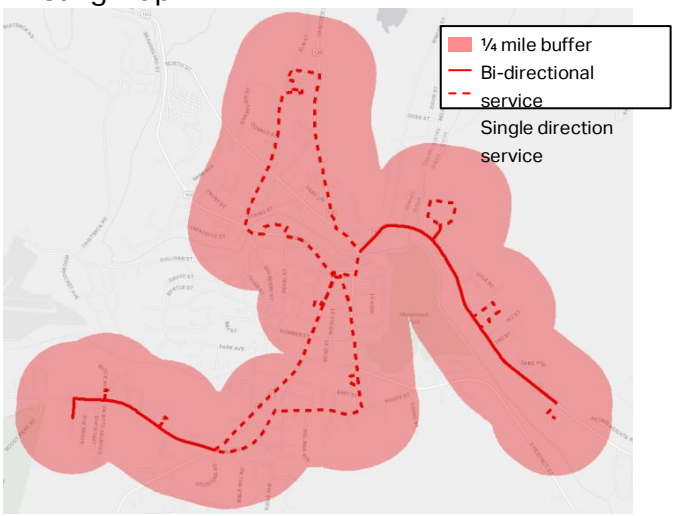
Daily Revenue hours = 29 (1.75 hour increase on existing)

1.2.3.1 Claremont

- One hour headways with consistent schedule
- Scheduled service to Claremont Arms
- Service to the RVCC in the morning and afternoon

Figure 9. Claremont option 3

Existing Map



Proposed Map

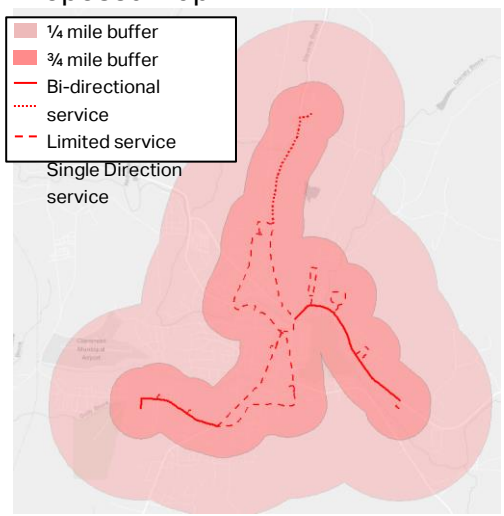


Table 11. Claremont Option 3 Proposed Schedule

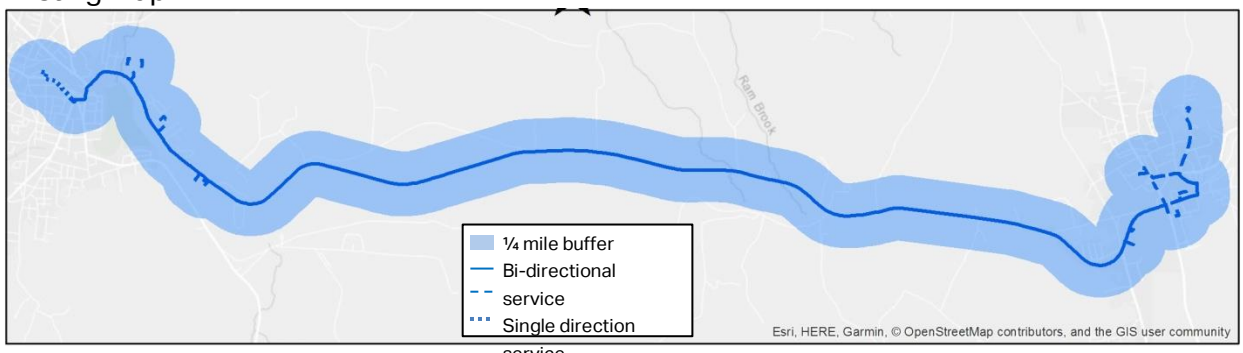
Opera House Square	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
Marion Phillips	8:05	9:05	10:05	11:05	12:05	13:05	14:05	15:05	16:05
Bourdon Center	8:09	9:09	10:09	11:09	12:09	13:09	14:09	15:09	16:09
Claremont Manor	8:13	9:13	10:13	11:13	12:13	13:13	14:13	15:13	16:13
Senior Center	---	---	10:16	11:16	12:16	13:16	14:16	15:16	---
Opera House Square	8:23	9:23	10:26	11:26	12:26	13:26	14:26	15:26	16:23
Sugar River Mills	8:28	9:28	10:31	11:31	12:31	13:31	14:31	15:31	16:28
Valley Regional Hospital	8:38	9:38	10:41	11:41	12:41	13:41	14:41	15:41	16:38
RVCC	8:41	9:41	---	---	---	---	---	---	16:41
Claremont Arms	8:47	9:47	10:47	11:47	12:47	13:47	14:47	15:47	16:47
Market Basket	8:51	9:51	10:51	11:51	12:51	13:51	14:51	15:51	16:51
Hannaford	8:53	9:53	10:53	11:53	12:53	13:53	14:53	15:53	16:53
Walmart	8:55	9:55	10:55	11:55	12:55	13:55	14:55	15:55	16:55
Opera House Square	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00

1.2.3.2 Newport

- Consistent schedule every two hours between 7:30AM and 5:00PM
- Serves Washington Street on almost all trips
- Heading towards Claremont serves Claremont Arms

Figure 10. Newport Option 3

Existing Map



Proposed Map

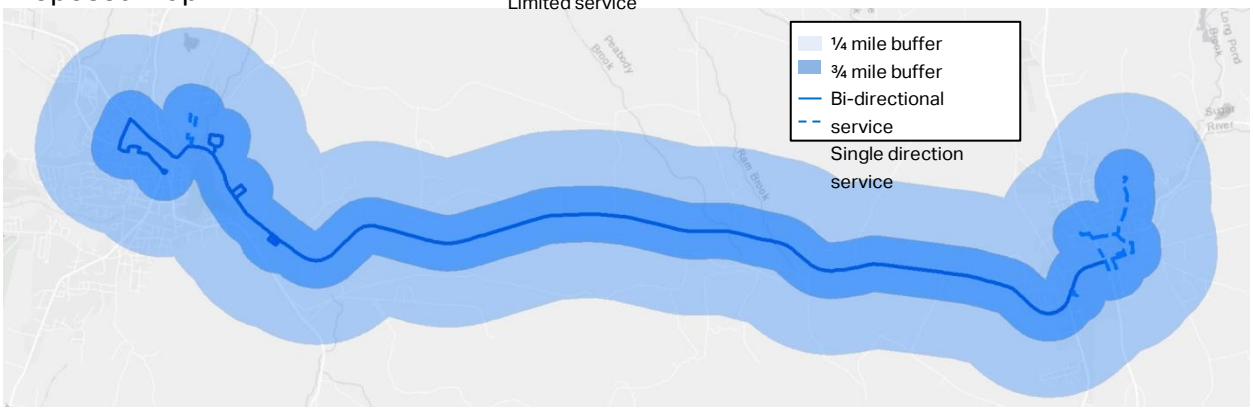


Table 12 Newport Option 3 Proposed Schedule

Opera House Square	6:25	7:30 **U**	9:30 **U**	11:30	13:30 **U**	15:30
Sugar River Mills	6:30	7:35	9:35	11:35	13:35	15:35
Walmart	6:40	7:45	9:45	11:45	13:45	15:45
Hannaford	6:43	7:48	9:48	11:48	13:48	15:48
Market Basket	6:46	7:51	9:51	11:51	13:51	15:51
Shaw's	---	8:09	10:09	12:09	14:09	---
Newport Health Center	---	8:11	10:11	12:11	14:11	---
Newport Senior Center	---	8:19	10:19	12:19	14:19	---
Maple Manor	---	8:24	10:24	12:24	14:24	---
Summer Crest	---	8:34	10:34	12:34	14:34	---
DMV	---	8:42	10:42	12:42	14:42	---
Irving	7:04	8:45	10:45	12:45	14:45	16:09
Newport Health Center	---	8:47	10:47	12:47	14:47	16:11
Market Basket	---	9:05	11:05	13:05	15:05	16:29

Hannaford	---	9:08	11:08	13:08	15:08	16:32
Walmart	---	9:11	11:11	13:11	15:11	16:35
Claremont Arms	---	9:15	11:15	13:15	15:15	16:39
Sugar Rive Mills	---	9:25	11:25	13:25	15:25	16:49
Opera House Square	7:25	9:30	11:30	13:30	15:30	16:54

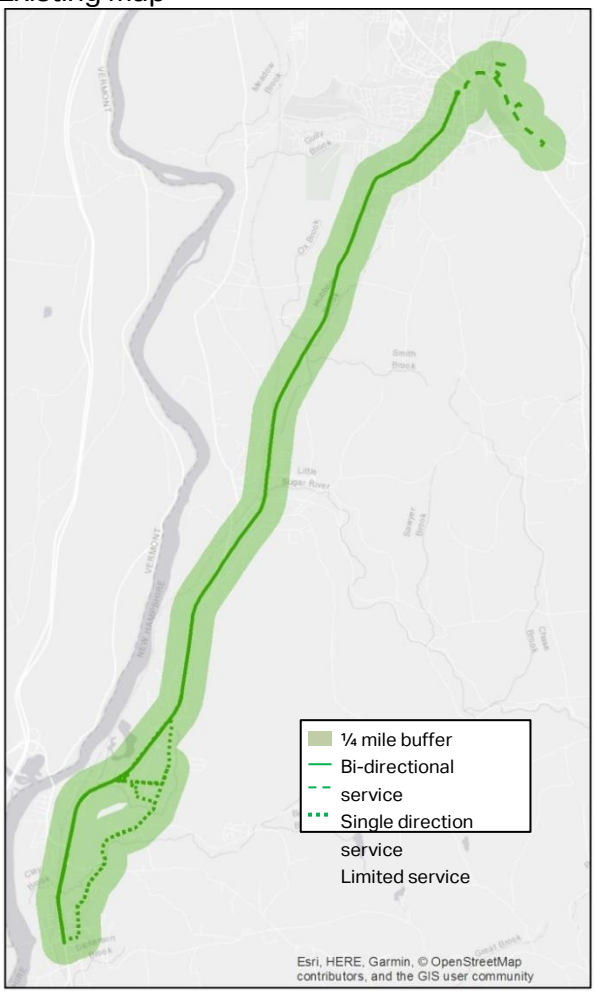
U=transfers from Charlestown bus for Washington St. and Opera House Square

1.2.3.3 Charlestown

- Only serve Old Claremont Road area with deviations
- Adds an additional trip daily
- Timed transfers at Opera House Square to either Claremont or Newport Route to access Washington St.

Figure 11. Charlestown Option 3

Existing Map



Proposed Map

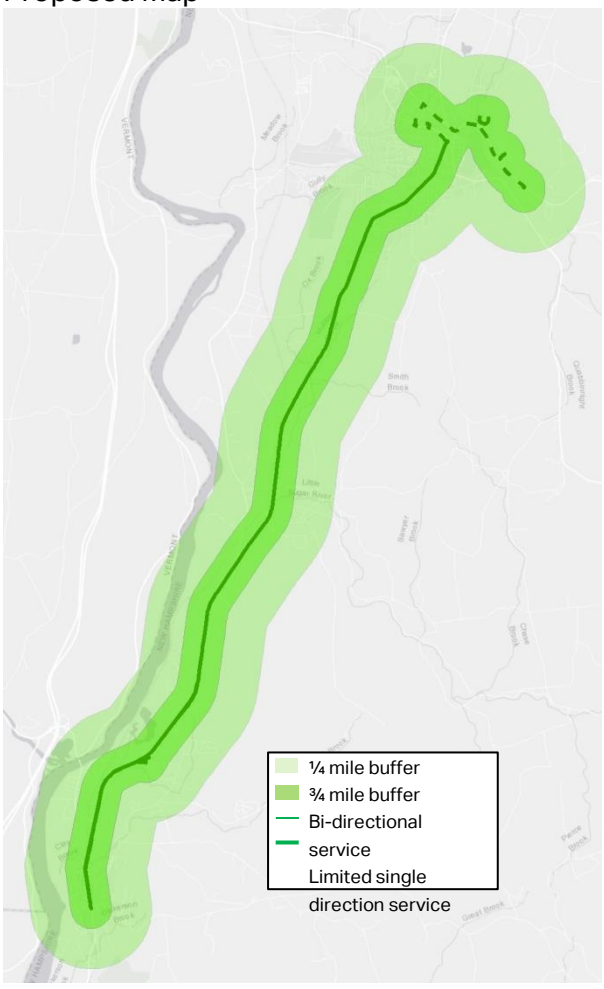


Table 13. Charlestown Option 3 Proposed Schedule

Market Basket	---	---	12:08	15:08
Hannaford	---	---	12:11	15:11
Walmart	---	---	12:15	15:15
Sugar River Mills	---	---	12:25	15:25
Opera House Square	6:30	8:30	12:30	15:30
Lover's Lane	6:55	8:55	12:55	15:55
Charlestown Town Hall	7:00	9:00	13:00	16:00
Lover's Lane	7:05	9:05	13:05	16:05
Opera House Square	7:30 **P**	9:30 **P**	13:30 **P**	16:30

P=transfer to the Newport bus for Washington St

1.2.3.4 Dial-A-Ride Claremont

- Daily between 9:30 – 12:00 and 1:30-3:00 in Claremont

1.2.3.5 Summary

The table below presents the pros and cons for Option 3 followed by a map showing the existing routing versus the proposed routing for the system.

Table 14. Pros and Cons Option 3

Pros	Cons
1. Scheduled service to Claremont Arms 2. Scheduled service to RVCC, the top destination that isn't already on the schedule 3. Long layovers at Irving removed 4. Claremont schedule is clock face every hour 5. Newport schedule is clock face 6. DAR every day of the week in Claremont 7. More trips between Sugar River Mills and shopping destinations on Washington Street. Previously the schedule had 8 trips to Walmart but all return trips needed a deviation or the passenger had to stay on the bus for 45 min as it did its loop. Now there would are 15 scheduled trips from Sugar Mills to Washington St and seven vice versa. This OD pair was the top one cited.	1. From Charlestown must transfer at Opera House Square to get to/from Washington St. 2. No medical trips to VA and DHMC. 3. 1.75 extra revenue hours a day. 4. Claremont schedule is tight. 5. Claremont is not bi-directional service.

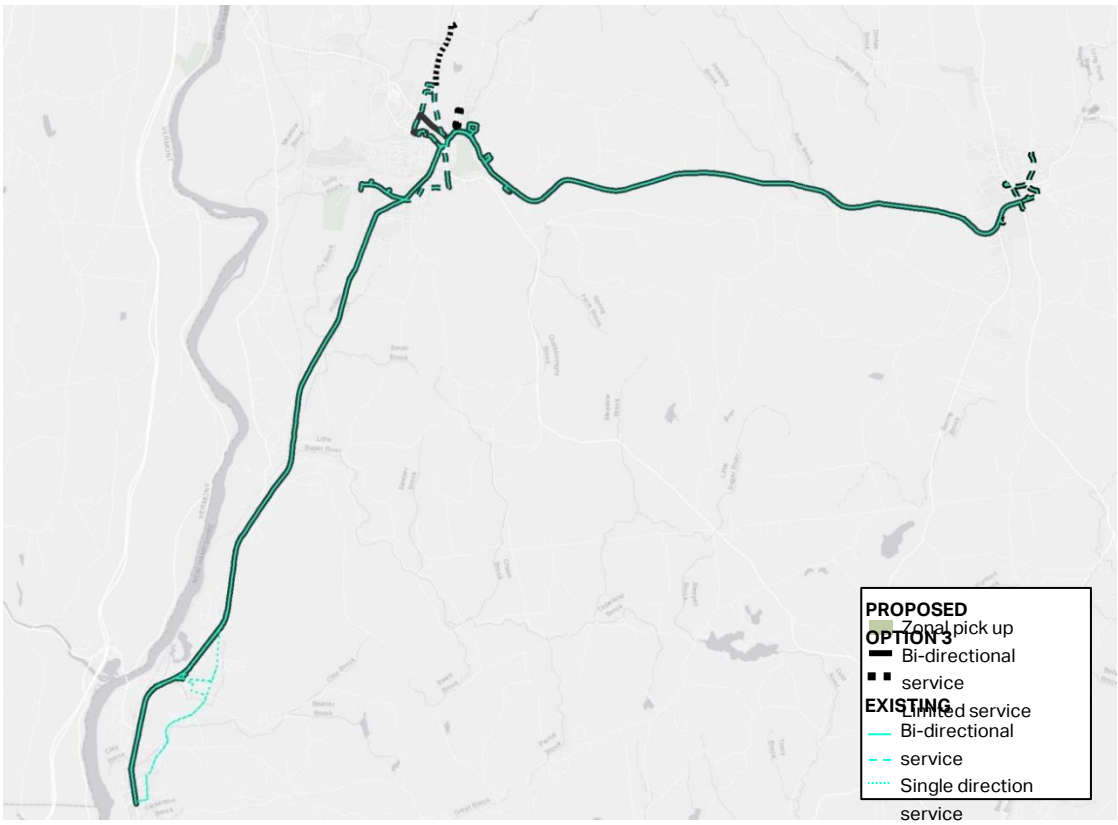


Figure 12. Existing Service vs. Option 3

1.3 Mid-term Service Options

- Taxi subsidy for after hours or weekends if schedule in advance through dispatch. Example: 50% of cost, not to exceed $5
- Begin service earlier on the Claremont Route
- Extend service on the Claremont Route to 8 PM
- Add a 5 PM trip on the Newport Route
- Implement bus service on Route 120
- Evaluate fare structure
- Extend service to River Road
- Increase the number of official bus stops based on the capital Phase 2 plan
- Expand Dial-a-ride in Claremont hours to 8 hours daily
- New operating and maintenance facility for SCT which includes indoor storage, bus washing/cleaning and basic maintenance.

1.4 Long-Term Service Options

- Add an evening trip on the Charlestown Route and the Newport Route
- Add weekend service
- Add another bus to the Claremont route to improve headway between 8 AM – 4 PM
- Extend Dial-a-ride to all of Sullivan County where the bus routes do not service

- Add a bus once a week from each town to Keene
- Add a bus once a week from each town to Concord
- Extend Newport service to Sunapee on select trips
- Increase the number of official bus stops based on the capital Phase 3 plan

1.5 Fare Options

- Implement half-fare for Elderly and Disabled who make a trip where the pick-up and drop-off time and location is listed on the schedule
- Have a flat fare of $1.50 on all routes plus $1 for any deviation
- Make Dial-A-Ride service in Claremont a $2 fare
- Instead of age for discount use height this makes it easier to enforce
- Use a 31-day pass instead of monthly so that someone can buy it mid-month. Keep the $25 for the flat fare and $35 for those who want to do deviations
- Provide more outlets for buying passes
- If service to the regional medical centers is implemented, fare could be $5 one way or $7 round trip.

2 Preferred Alternative

The Project Advisory Committee met on December 12, 2018 to discuss the short term options and choose a preferred option to move forward. After discussing the pros and cons of each, with a particular focus on streamlining the schedules, public input, bi-directionality, and destinations served, elements from Option 2 and Option 3 were combined and tweaked to create the preferred alternative. The preferred alternative was presented at a public meeting in Charlestown on December 19, 2018. No changes to the preferred alternative were offered by the public, but rather broad support was offered for enhanced transit service in the three communities and beyond to regional trade and healthcare centers.

2.1 Claremont Route

The preferred alternative includes 90-minute bi-directional service on the Claremont Route. The timing on it was tweaked slightly from the preliminary options to create timed transfers with the Charlestown Route. Other refinements to the route include timing changes between stops, adding a mid-day trip to River Valley Community College (RVCC), and adjusting service to the senior center to better align with senior center operating hours. The Bourdon Center and Claremont Manor will only be served when the vehicle is heading south towards the senior center because of the difficulty in making a right-hand turn out of both of these destinations. Hannaford will only be served heading inbound towards Walmart because the signal timing is not conducive to right-hand turns. A preliminary schedule for the Claremont Route is presented below:

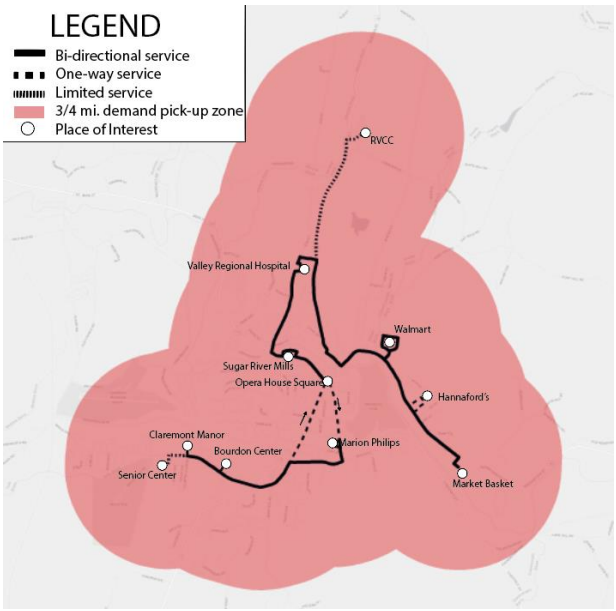
Table 15. Proposed Claremont Route Timetable

Claremont Schedule

Opera House Square	---	9:45	11:15	12:45	14:15	15:45	17:15
Marion Phillips	---	9:50	11:20	12:50	14:20	15:50	17:20
Bourdon Center	8:25	9:55	11:25	12:55	14:25	15:55	17:25
Claremont Manor	8:27	9:57	11:27	12:57	14:27	15:57	17:27
Senior Center	---	9:59	11:29	12:59	14:29	15:59	---
Marion Phillips	8:37	10:07	11:37	13:07	14:37	16:07	17:37
Opera House Square	8:45	10:15 T	11:45	13:15	14:45	16:15 T	17:45
Sugar River Mills	8:50	10:20	11:50	13:20	14:50	16:20	17:50
Valley Regional Hospital	9:00	10:30	12:00	13:30	15:00	16:30	18:00
RVCC	9:03	10:33	---	13:33	---	16:33	18:03
Walmart	9:13	10:43	12:10	13:43	15:10	16:43	18:13
Market Basket	9:18	10:48	12:18	13:48	15:18	16:48	18:18
Hannaford	9:21	10:51	12:21	13:51	15:21	16:51	18:21
Walmart	9:24	10:54	12:24	13:54	15:24	16:54	18:24
Valley Regional Hospital	9:29	10:59	12:29	13:59	15:29	16:59	18:29
Sugar River Mills	9:39	11:09	12:39	14:09	15:39	17:09	18:39
Opera House Square	9:41	11:11	12:41	14:11	15:41	17:11	18:41

T= transfer from the Charlestown Bus

Figure 13. Preferred Claremont Route Map



2.2 Newport Route

The preferred routing for the Newport Route is based on Option 3 with some timing modifications to create transfers. Summer Crest has been removed as a regular stop and will be served on-demand only. Ruger has been added to the schedule and will be served on the first and last trips of the day.

Table 16. Proposed Newport Route Timetable

Newport Schedule

Rite Aid	---	7:23	9:28	11:28	13:28	15:28
Opera House Square	6:15	7:30	9:30	11:30	13:30 N	15:30
Sugar River Mills	---	7:35	9:35	11:35	13:35	15:35
Walmart	---	7:45	9:45	11:45	13:45	15:45
Market Basket	6:22	7:50	9:50	11:50	13:50	15:50
Shaw's	---	8:08	10:08	12:08	14:08	---
Newport Health Center	---	8:10	10:10	12:10	14:10	---
Newport Senior Center	---	8:18	10:18	12:18	14:18	---
Maple Manor	---	8:23	10:23	12:23	14:23	---
DMV	---	8:28	10:28	12:28	14:28	---
Ruger	6:44	---	---	---	---	16:12
Irving	6:49	8:31	10:31	12:31	14:31	16:17
Newport Health Center	---	8:33	10:33	12:33	14:33	16:19
Market Basket	7:07	9:00	11:00	13:00	15:00	16:37
Hannaford's	---	9:03	11:03	13:03	15:03	16:40
Walmart	---	9:06	11:06	13:06	15:06	16:43
Sugar River Mills	---	9:16	11:16	13:16	15:16	16:53
Opera House Square	7:15 S	9:21	11:21	13:21	15:21	16:58
Rite Aid	7:17	9:22	11:22	13:22	15:22	---

N= transfer from the Charlestown Bus

S= transfer to the Charlestown bus available

Figure 14. Preferred Newport Route Map

2.3 Charlestown Route

The preferred routing for the Charlestown Route is based on Option 3 with timing modifications to create transfers. The first trip was adjusted so that transfer could be made from the Newport Route to the Charlestown one. On the return trip in the morning this route will become the Claremont Route at Maple Street serving the Bourdon Center, Claremont Manor, and Marion Philips before serving Opera House Square.

Table 17. Proposed Charlestown Route Timetable

Charlestown Schedule

Market Basket	---	---	12:05	15:00
Hannaford's	---	---	12:08	15:03
Walmart	---	---	12:11	15:06
Sugar River Mills	---	---	12:19	15:09
Opera House Square	7:25 S	9:15	12:25	15:15
Lover's Lane	7:50	9:40	12:50	15:40
Charlestown Town Office	7:55	9:45	12:55	15:45
Lover's Lane	8:00 M	9:50	13:00	15:50
Opera House Square	8:45 C	10:15 T	13:25 N	16:15 T

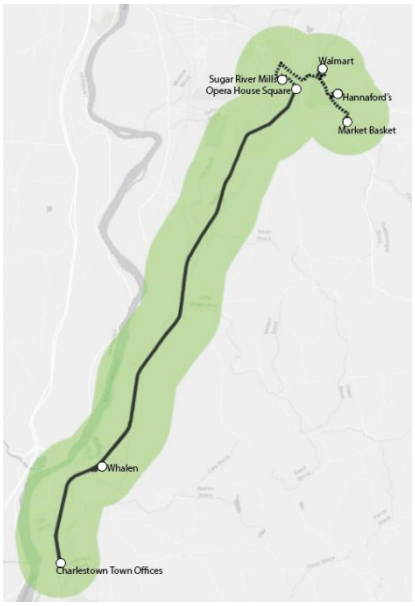
T= transfer to the Claremont bus

M= this bus will provide dual roles. It is the Charlestown bus until it comes to the Maple Ave intersection in Claremont where, instead of continuing straight onto Pleasant St, it will turn left onto Maple Ave. At this point it becomes the Claremont bus that goes into service at 8:25 am at the Bourdon Center.

N= transfer to the Newport bus

C = this bus becomes the Claremont bus

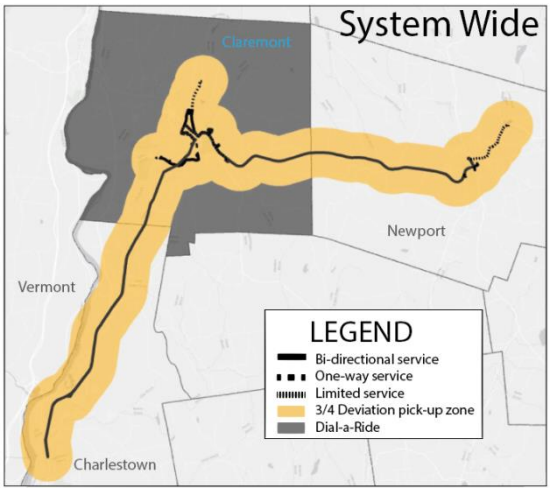
S= transfer from the Newport bus available



2.4 Dial-A-Ride Claremont

The hours for dial-a-ride service in Claremont will be adjusted to 10:15AM to 12:05PM and 1:25PM to 3:00PM to coincide with the routing changes on the deviated fixed routes. Dial-a-ride will be restricted to trips in Claremont only and within Claremont, only where the pick-up and/or drop off is outside of ¾ of a mile of any deviated fixed route.

Figure 15. Preferred Claremont Dial-A-Ride Service Area



2.5 Possible Expansion to River Road

If funding becomes available to serve River Road, the destination could be added by modifying the Charlestown Route. The schedule times would need to change to accommodate the River Road stop and to keep connections to Washington Street. River Road would be served on the first trip and last two trips of the day in both directions. Adding River Road would impact the dial-a-ride service in Claremont by adjusting the hours to between 8:00 AM and 9:30 AM and 1:05 PM and 3:30 PM.

Table 18. Proposed Modified Charlestown Route Schedule with River Road

Charlestown Schedule – Modified to Serve River Road

Opera House Square	7:15 S	9:30 N	11:30 N	15:30 N
River Road	7:35	---	11:50	15:50
Lover's Lane	7:47	9:55	12:02	16:02
Charlestown Town Office	7:52	10:00	12:07	16:07
Lover's Lane	7:57	10:05	12:12	16:12
River Road	8:10	---	12:25	16:25
Opera House Square	8:45 C	10:30	12:45	16:45
Sugar River Mills	---	10:35	12:50	16:50
Walmart	---	10:45	13:00	17:00
Market Basket	---	10:50	13:05	17:05

S= transfer from the Newport bus available

N= transfer from the Newport bus

C = this bus continues on as the Claremont bus

Appendix F - Crew Schedule Details

Crew Schedule Details

Run	Vehicle	Block	Report Time	Start time	Start location	End Time	End location	Sign out	Pay
1	A	CL-AM	6:50	7:25	OHS	13:17	SCT	13:32	6:45
2	A	CL-PM	13:10	13:17	SCT	18:41	OHS	19:10	6:00
3	B	CH-AM	8:40	9:15	OHS	12:05	MB	12:40	4:00
4	B	CH-PM	12:00	12:05	MB	16:15	OHS	16:45	4:45
5	C	N-AM	5:40	6:15	OHS	11:32	SCT	11:55	6:15
6	C	N-PM	11:15	11:32	SCT	16:58	OHS	17:30	6:15

Notes

- Vehicle A does Charlestown Loop then becomes Claremont
- Vehicle B – Charlestown and DAR
- Vehicle C – Newport Route
- Report time is the time they need to show up at base, Start time is when they start on their vehicle in revenue service. Start location is where they start in revenue service on route
- Sign out is when they are completely done for the day. End time is when they finish revenue service and the location is where.
    - Pre-Check = 30 min
    - Post Check = 20 min
    - Sign in = 5 min
    - Sign out = 15 min
    - Out of service to/from OHS = 5 min (either for a relief, deadhead or pull trip)
    - Out of service to/from Market Basket = 10 min (either for a relief, deadhead or pull trip)
- All report times and Sign out times were rounded to the nearest 5 minute increment.
- All shifts roundup to nearest ¼ hour

Vehicle A

Claremont Route	1	2	3	4	5	6	7	8
Opera House Square	---	---	9:45	11:15	12:45	14:15	15:45	17:15
Marion Phillips	---	---	9:50	11:20	12:50	14:20	15:50	17:20
Bourdon Center	---	8:25	9:55	11:25	12:55	14:25	15:55	17:25
Claremont Manor	---	8:27	9:57	11:27	12:57	14:27	15:57	17:27
Senior Center	---	---	9:59	11:29	12:59	14:29	15:59	---
Marion Phillips	---	8:37	10:07	11:37	13:07	14:37	16:07	17:37
Opera House Square	---	8:45	10:15	11:45	13:15	14:45	16:15	17:45
SCT	---	---	---	---	13:17	---	---	---
Sugar River Mills	---	8:50	10:20	11:50	13:20	14:50	16:20	17:50
Valley Regional Hospital	---	9:00	10:30	12:00	13:30	15:00	16:30	18:00
RVCC	---	9:03	10:33	---	13:33	---	16:33	18:03
Walmart	---	9:13	10:43	12:10	13:43	15:10	16:43	18:13
Market Basket	---	9:18	10:48	12:18	13:48	15:18	16:48	18:18
Hannaford's	---	9:21	10:51	12:21	13:51	15:21	16:51	18:21
Walmart	---	9:24	10:54	12:24	13:54	15:24	16:54	18:24
Valley Regional Hospital	---	9:29	10:59	12:29	13:59	15:29	16:59	18:29
Sugar River Mills	---	9:39	11:09	12:39	14:09	15:39	17:09	18:39
Opera House Square	---	9:41	11:11	12:41	14:11	15:41	17:11	18:41
Charlestown Route								
Market Basket	---	---	---	---	---	---	---	---
Hannaford's	---	---	---	---	---	---	---	---
Walmart	---	---	---	---	---	---	---	---
Sugar River Mills	---	---	---	---	---	---	---	---
Opera House Square	7:25	---	---	---	---	---	---	---
Lover's Lane	7:50	---	---	---	---	---	---	---
Charlestown Town Office	7:55	---	---	---	---	---	---	---
Lover's Lane	8:00	---	---	---	---	---	---	---
Opera House Square	8:45	---	---	---	---	---	---	---

Driver Change
CL-AM
CL-PM

Vehicle B

	LOOP				
Charlestown Route	1	2	3	4	5
Market Basket	---	---	12:05	---	15:00
Hannaford's	---	---	12:08	---	15:03
Walmart	---	---	12:11	---	15:06
Sugar River Mills	---	---	12:19	---	15:09
Opera House Square	9:15	---	12:25	---	15:15
Lover's Lane	9:40	---	12:50	---	15:40
Charlestown Town Office	9:45	---	12:55	---	15:45
Lover's Lane	9:50	---	13:00	---	15:50
Opera House Square	10:15	---	13:25	---	16:15
SCT	---	---	13:27	---	---
Dial-a-ride					
Dial-a-ride start	---	10:15	---	13:25	---
Dial-a-ride end	---	12:05	---	15:00	---

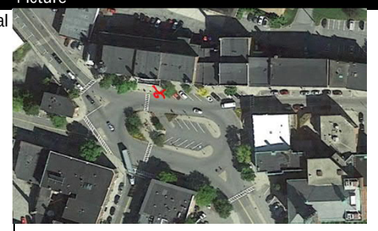
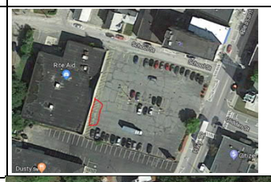
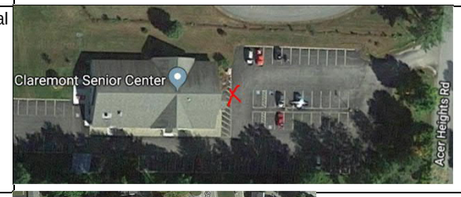
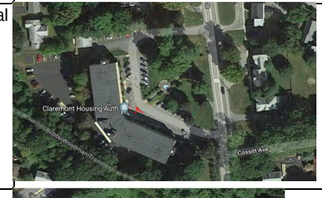
Driver Change
CH-AM
CH-PM

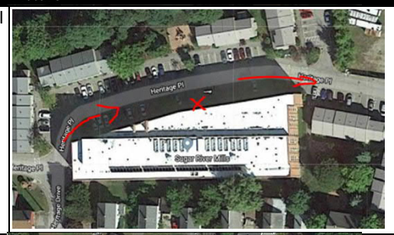
Vehicle C

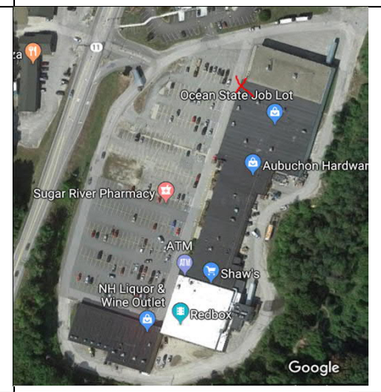
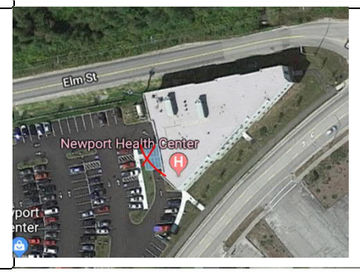
	LOOP					
Newport Route	1	2	3	4	5	6
Rite Aid	---	7:23	9:28	11:28	13:28	15:28
Opera House Square	6:15	7:30	9:30	11:30	13:30	15:30
SCT	---	---	---	11:32	---	---
Sugar River Mills	---	7:35	9:35	11:35	13:35	15:35
Walmart	---	7:45	9:45	11:45	13:45	15:45
Market Basket	6:22	7:50	9:50	11:50	13:50	15:50
Ocean State Job Lot	---	8:08	10:08	12:08	14:08	---
Newport Health Center	---	8:10	10:10	12:10	14:10	---
Newport Senior Center	---	8:18	10:18	12:18	14:18	---
Maple Manor	---	8:23	10:23	12:23	14:23	---
DMV	---	8:28	10:28	12:28	14:28	---
Rugers	6:44	---	---	---	---	16:12
Irving	6:49	8:31	10:31	12:31	14:31	16:17
Newport Health Center	---	8:33	10:33	12:33	14:33	16:19
Market Basket	7:07	9:00	11:00	13:00	15:00	16:37
Hannaford's	---	9:03	11:03	13:03	15:03	16:40
Walmart	---	9:06	11:06	13:06	15:06	16:43
Sugar River Mills	---	9:16	11:16	13:16	15:16	16:53
Opera House Square	7:15	9:21	11:21	13:21	15:21	16:58
Rite Aid	7:17	9:22	11:22	13:22	15:22	---

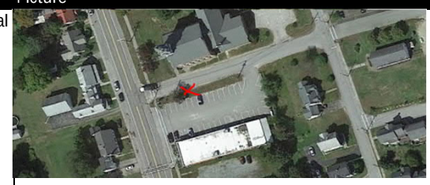
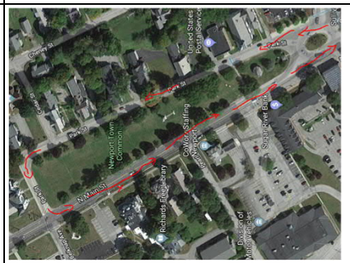
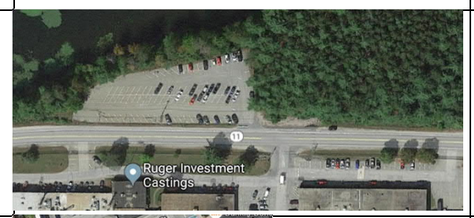
Driver Change
N-AM
N-PM

Appendix G - Bus Stop Spread Sheet

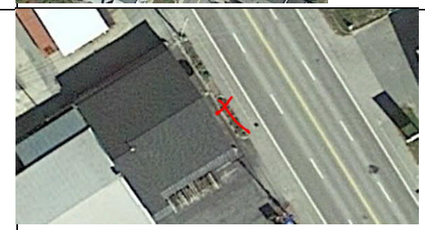
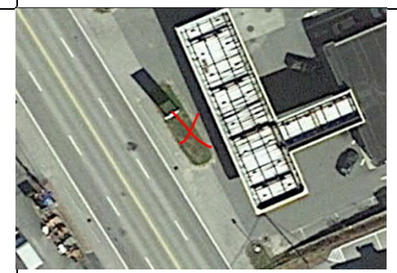
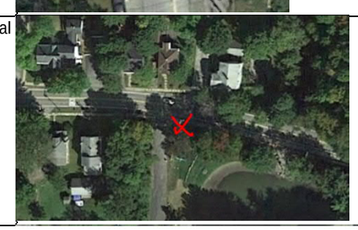
Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
Opera House Square	1	X	X	X	43.372881	-72.338033		X	X		X	On Column	No	0	1	Claremont	Municipal		Can use existing location assuming they don't put back the stone pillar and chain.
Rite Aid	2			X	43.370867	-72.340014			X		X	On Column	No	0	1	Claremont	Private		Enter from School Street. Only the Newport Bus pulls in.
Bourdon Center	3	X			43.363417	-72.352722	X		X		X	On Column	Yes	6.875	1	Claremont	Private		Vehicle to pull in
Claremont Manor	4	X			43.364704	-72.358022		X				New Post	Yes	30	2	Claremont	Municipal		Install a bench and servicing it on-street, it can pull in on requests but there is no good place to install a formal stop in the complex that is safe, could meet ADA requirements and turn around.
Senior Center	5	X			43.363605	-72.361869	X		X		X	On Column	No	0	1	Claremont	Municipal		The curb at entrance is flush to road and less than 2% slope so can stop in fire lane and use part of it to deploy ramp because there is still room for vehicles to pass
Marion Phillips	6	X			43.365857	-72.336825	X		X		X	On Column	No	0	1	Claremont	Municipal		Difficult to get tight to curb because of parking but curb at entrance is flush to road and less than 2% slope so can stop use part of it to deploy ramp because there is still room for vehicles to pass
Lover's Lane	7		X		43.261165	-72.409843					X	No sign On-demand only	No	0	2	Charlestown	Private		Convert to on-demand only. There appears to be little ridership and this area is not easily served.

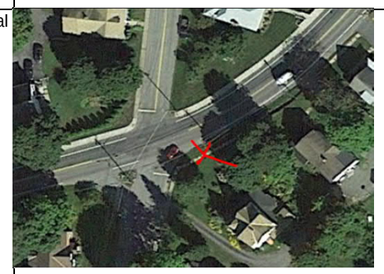
Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
Sugar River Mills	8	X	X	X	43.375839	-72.343609	X		X		X	Replace 20 min parking sign with bus stop sign	No	0	1	Claremont	Municipal		If the 20 minute parking and load/unload signs were removed then the bus could access the area because the curb is flush even if it can't get tight because of vegetation. Without the parking removed the lift cannot be safely deploy. Work with the City to design a stop at the corner of Union st and Route 12 once the
Valley Regional Hospital	9	X			43.384858	-72.341035	X		X		X	On Column	No	0	1	Claremont	Private		Back entrance
RVCC	10	X			43.398594	-72.333391		X		X		New Post	Yes	434	1	Claremont	Private		Work with RVCC to design this stop. Substantial concrete needed and grading.
Walmart	11	X	X	X	43.377571	-72.329651		X		X	X	New Post	No	0	1	Claremont	Private		
Market Basket	12	X	X	X	43.363651	-72.318828		X	X		X	On Building	No	0	1	Claremont	Private		If the driver has long time check they could park in any spot to wait it out and not be in the fire zone

Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
Hannaford's	13	X	X	X	43.37085	-72.324155			X			On Column	No	0	1	Claremont	Private		Use Southeast entrance but if larger vehicles used in the future then Northwest entrance will have to be used
Charlestown Town Office	14		X		43.234584	-72.424467		X			X	On existing post	Yes	15	1	Charlestown	Municipal		Would need to eliminate a parking space. Bench pad is poured but ADA landing pad is needed.
Ocean State Job Lot	15			X	43.359129	-72.175528	X		X		X	On Column	No	0	1	Newport	Private		Formal stop to be placed by the Ocean State Job Lot and the stop to be renamed
Newport Health Center	16			X	43.360619	-72.17629	X		X			On Column	No	0	1	Newport	Private		The bus can pull in and fit under the awning.

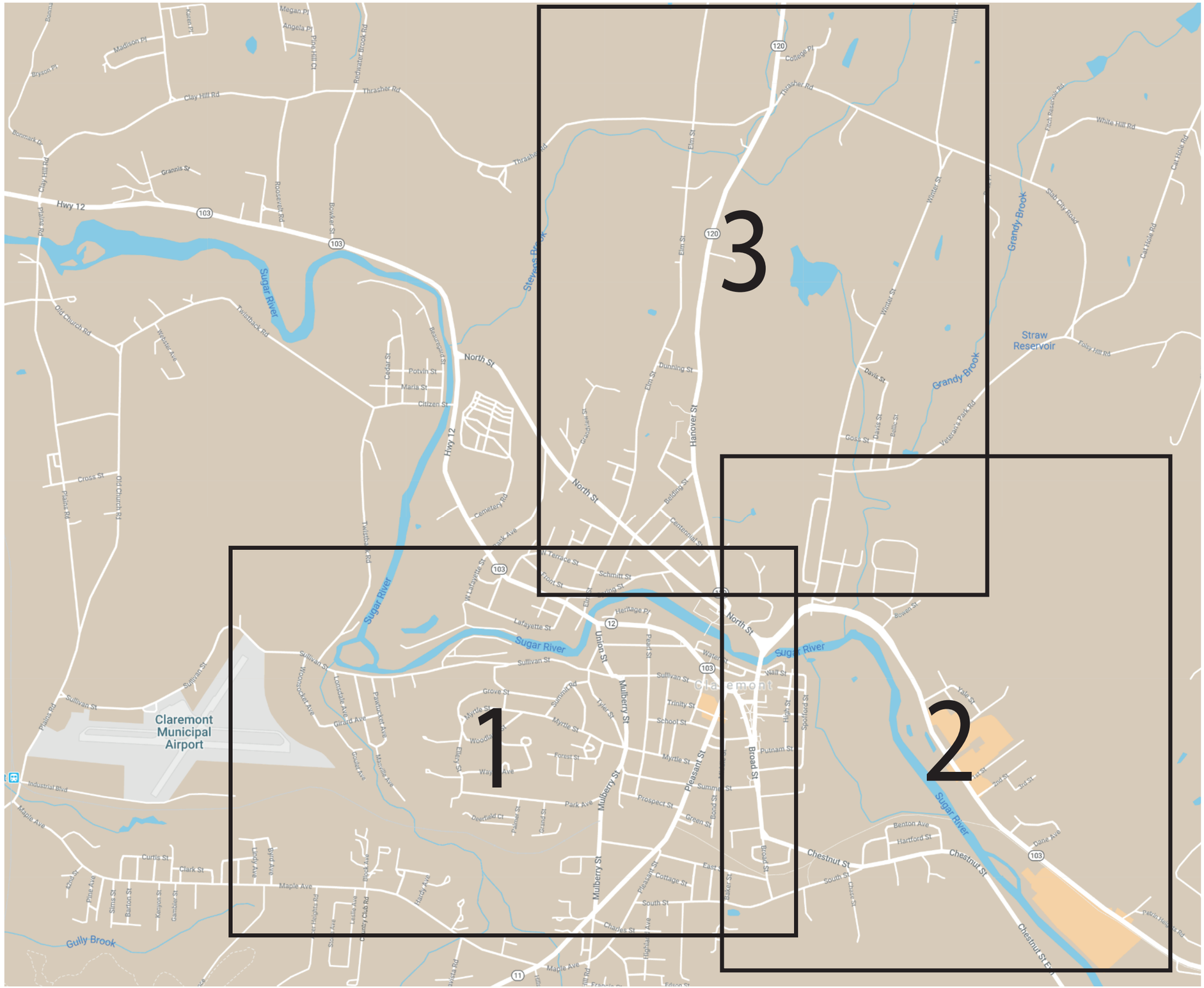
Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
Newport Senior Center	17			X	43.360642	-72.170169		X		X	X	New Post	Yes	900	1	Newport	Municipal		Should not pull into parking lot, it is small and full and no place to deploy lift. Keep on street and add sidewalk on Church Street in front of property.
Maple St.	18			X	43.362436	-72.169996						New Post	Yes	80	3	Newport	Municipal		
DMV	19			X	43.366671	-72.175178		X			X	New Post	No	15	1	Newport	Municipal		Circle around the town common and stop by the library. There is an ADA landing pad
Ruger	20			X	43.379766	-72.149654					X	New Post	No	0	2	Newport	Private		Drop off in paring lot
Irving	21			X	43.362188	-72.172423						On Building	No	0	2	Newport	State		Pull into parking lot unless parking can be removed along Main street and the stop located just north of Irving.
Glidden Street	22		X		43.370558	-72.339273						New Post	No	0	2	Claremont	State		Requires removing parking space. Serviced by the Charlestown Route only when heading to OHS. Work with city to install stop as part of street redesign in process.

Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
School Street	23		X		43.370957	-72.339224						New Post	No	0	2	Claremont	State		Unsure if would require pouring concrete for ADA landing pad. Serviced by the Charlestown Route only when heading to Charlestown. Work with city to install stop as part of street redesign in process.
Main & Mechanic	24			X	43.362757	-72.171758	X		X			New Post	No	0	3	Newport	Municipal		
Pizza Hut	26	X	X	X	43.369701	-72.325908						New Post	Yes	15	2	Claremont	State		For people going to Hannaford on the outbound and willing to walk from stop also to other businesses along Washington St. Would require pouring concrete for ADA landing pad.
Winter Street (E.)	27	X	X	X	43.375829	-72.332802						New Post	Yes	15	2	Claremont	State		To service Claremont Arms without having to go up there and businesses along Washington. Would require pouring concrete for ADA landing pad and slope stabilization
Winter Street (w)	28	X	X	X	43.376085	-72.333155						New Post	Yes	15	2	Claremont	State		To service Claremont arms without having to go up there and businesses along Washington. Would require pouring concrete for ADA landing pad.
Elm & North	29	X			43.379168	-72.344263						New Post	Yes	20	3	Claremont	Municipal		To provide service in the neighborhood between north St, Hwy12 and Elm street. Would require pouring concrete for ADA landing pad.

Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
St. Joseph	30	X			43.378244	-72.34502						New Post	Yes	20	3	Claremont	Municipal		To provide service in the neighborhood between north St, Hwy12 and Elm street. Would require pouring concrete for ADA landing pad.
163 Washington St (E.)	31	X			43.374168	-72.328983						New Post	No	0	3	Claremont	State		Intermediate stop along Washington street for those going to businesses along. Assumes path is 5' wide (sandwich board should not be blocking path regardless)
176 Washington St (W)	32	X			43.373805	-72.328391						New Post	Yes	17.5	3	Claremont	State		Intermediate stop along Washington street for those going to businesses along. Would require pouring concrete for ADA landing pad.
Big Lots	33	X			43.371001	-72.325755			X			On Column	No	0	1	Claremont	Private		
Monadnock Place	34	X			43.368395	-72.336582						New Post	Yes	100	3	Claremont	Municipal		Intermediate stop on Broad. Would require ADA landing pad connection to sidewalk/crosswalk
Pleasant Ln	35	X			43.364053	-72.338243						New Post	Yes	20	3	Claremont	Municipal		Would require pouring concrete for ADA landing pad. Intermediate stop for residential area, middle school valley tech and rec area

Stop Name	ID Number	Claremont Route	Charlestown Route	Newport Route	Latitude	Longitude	Existing Bench	Proposed bench	Existing Shelter	Proposed Shelter	Timepoint	Sign Mounting	Needs ADA landing Pad (concrete)	SF Concrete needed	Priority	Municipality	Road Type	Picture	Notes
Henry St	36	X			43.364203	-72.339128						New Post	Yes	20	3	Claremont	Municipal		Would require pouring concrete for ADA landing pad. Intermediate stop for residential area, middle school valley tech and rec area
Mulberry St	37	X			43.361765	-72.34598						New Post	Yes	15	3	Claremont	Municipal		Intermediate stop for residential area Would require pouring concrete for ADA landing pad.
Bible Hill Rd	38	X			43.36172	-72.345646						New Post	Yes	40	3	Claremont	Municipal		intermediate stop for residential area. Would require pouring concrete for ADA landing pad and new sidewalk
Elm & North	39	X			43.364637	-72.358903						New Post	Yes	17.5	2	Claremont	Municipal		For Claremont Manor to OHS. Would require pouring concrete for ADA landing pad.

Claremont Bus Stops



1

Stop Name	ID Number
Opera House Square	1
Rite Aid	2
Bourdon Center	3
Claremont Manor	4
Senior Center	5
Marion Phillips	6
Lover's Lane	7
Sugar River Mills	8
Valley Regional Hospital	9
RVCC	10
Walmart	11
Market Basket	12
Hannaford's	13
Charlestown Town Office	14
Ocean State Job Lot	15
Newport Health Center	16
Newport Senior Center	17
Maple St.	18
DMV	19
Ruger	20
Irving	21
Glidden Street	22
School Street	23
Main & Mechanic	24
Pizza Hut	26
Winter Street (E.)	27
Winter Street (w)	28
Elm & North	29
St. Joseph	30
163 Washington St (E.)	31
176 Washington St (W)	32
Big Lots	33
Monadnock Place	34
Pleasant Ln	35
Henry St	36
Mulberry St	37
Bible Hill Rd	38
Elm & North	39

2

- Phase 1
- Phase 2
- Phase 3
- Private Property

Stop Name	ID Number
Opera House Square	1
Rite Aid	2
Bourdon Center	3
Claremont Manor	4
Senior Center	5
Marion Phillips	6
Lover's Lane	7
Sugar River Mills	8
Valley Regional Hospital	9
RVCC	10
Walmart	11
Market Basket	12
Hannaford's	13
Charlestown Town Office	14
Ocean State Job Lot	15
Newport Health Center	16
Newport Senior Center	17
Maple St.	18
DMV	19
Ruger	20
Irving	21
Glidden Street	22
School Street	23
Main & Mechanic	24
Pizza Hut	26
Winter Street (E.)	27
Winter Street (w)	28
Elm & North	29
St. Joseph	30
163 Washington St (E.)	31
176 Washington St (W)	32
Big Lots	33
Monadnock Place	34
Pleasant Ln	35
Henry St	36
Mulberry St	37
Bible Hill Rd	38
Elm & North	39

3

- Phase 1
- Phase 2
- Phase 3
- Private Property

Stop Name	ID Number
Opera House Square	1
Rite Aid	2
Bourdon Center	3
Claremont Manor	4
Senior Center	5
Marion Phillips	6
Lover's Lane	7
Sugar River Mills	8
Valley Regional Hospital	9
RVCC	10
Walmart	11
Market Basket	12
Hannaford's	13
Charlestown Town Office	14
Ocean State Job Lot	15
Newport Health Center	16
Newport Senior Center	17
Maple St.	18
DMV	19
Ruger	20
Irving	21
Glidden Street	22
School Street	23
Main & Mechanic	24
Pizza Hut	26
Winter Street (E.)	27
Winter Street (w)	28
Elm & North	29
St. Joseph	30
163 Washington St (E.)	31
176 Washington St (W)	32
Big Lots	33
Monadnock Place	34
Pleasant Ln	35
Henry St	36
Mulberry St	37
Bible Hill Rd	38
Elm & North	39

Appendix H - Bus Stop Concrete Needs and Drawings

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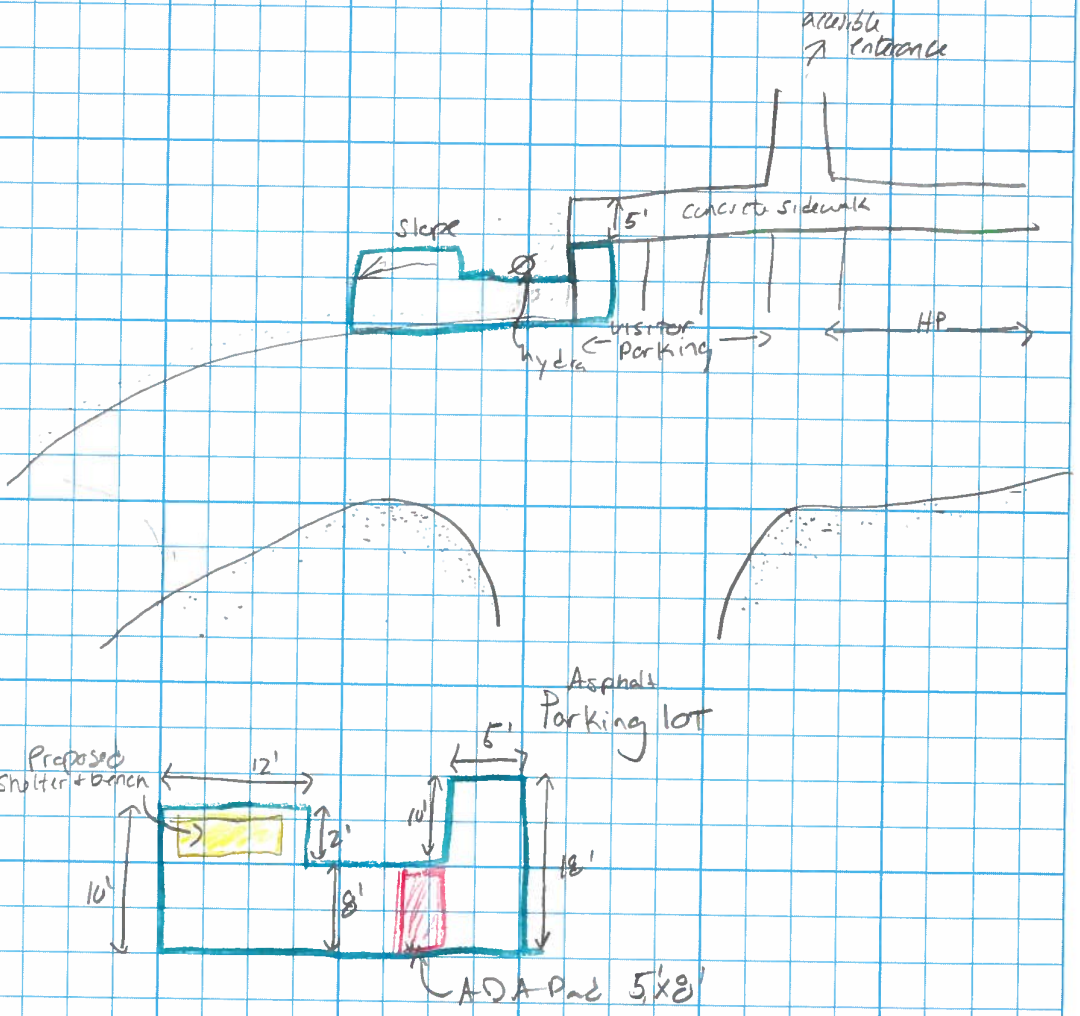
RVCC



4x4 = 1 in

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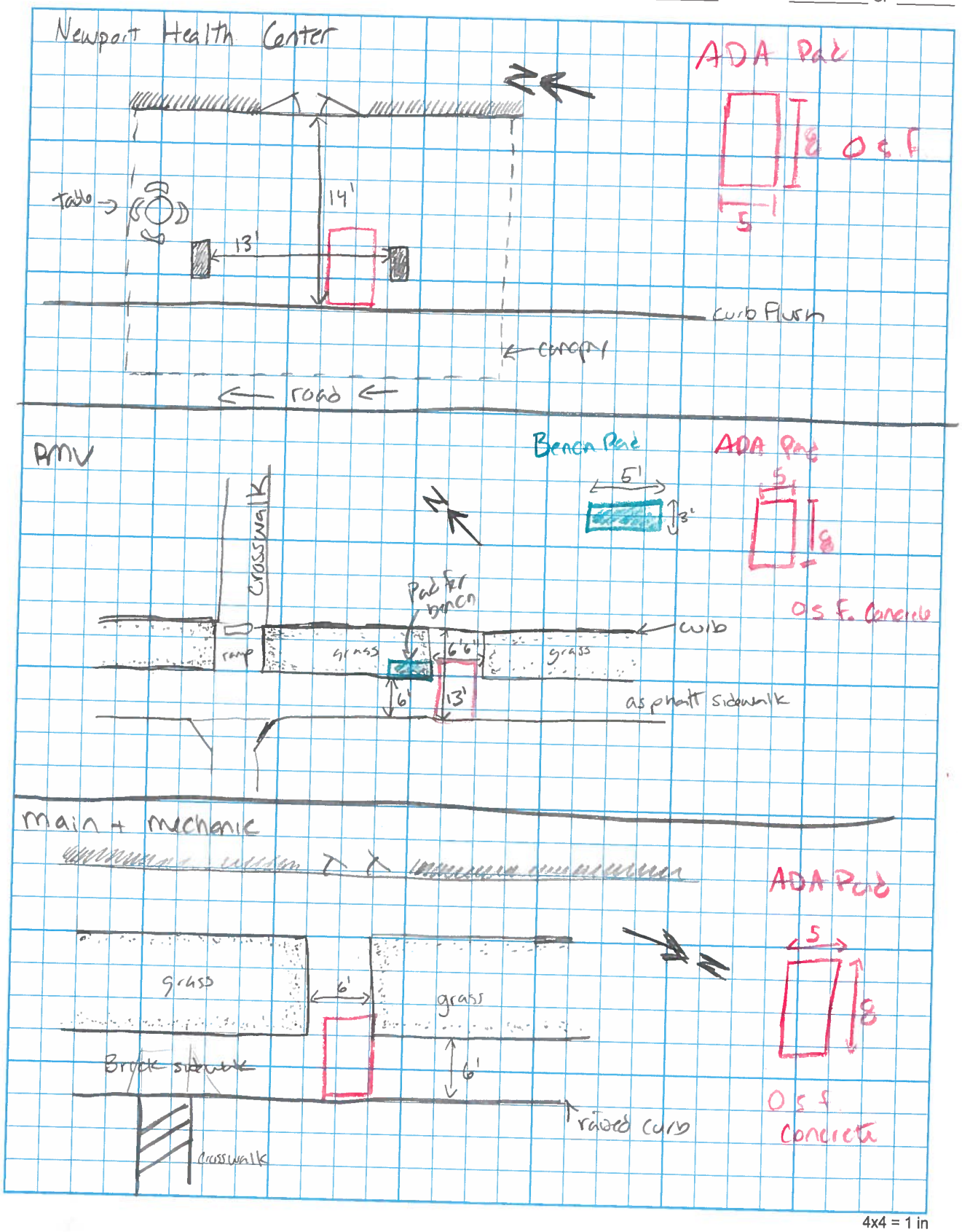

4x4 = 1 in

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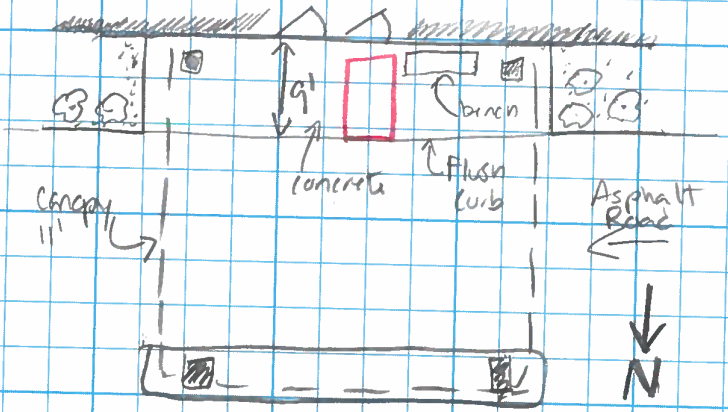
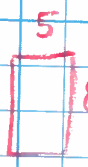
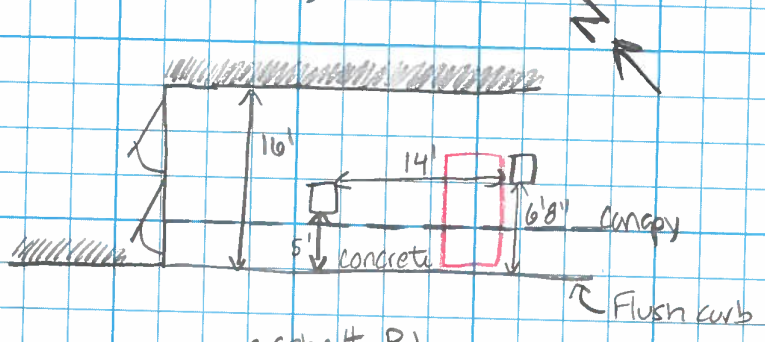
Valley River Hospital
(Visitor + Staff entrance)





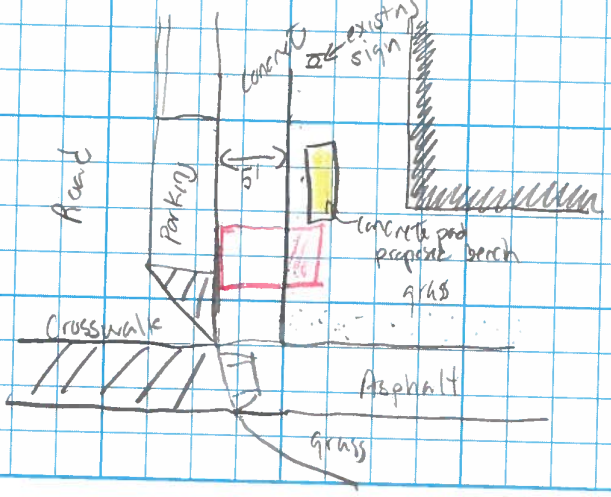
ADA Pad
40 s.f. concrete

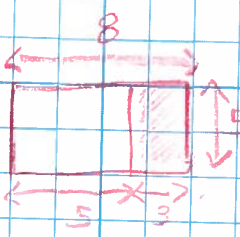
Hanna Fords
(East entrance)



ADA Pad
40 s.f. concrete

Charlestown





ADA Pad
15 s.f.
Concrete

4x4 = 1 in

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JOB TITLE _____

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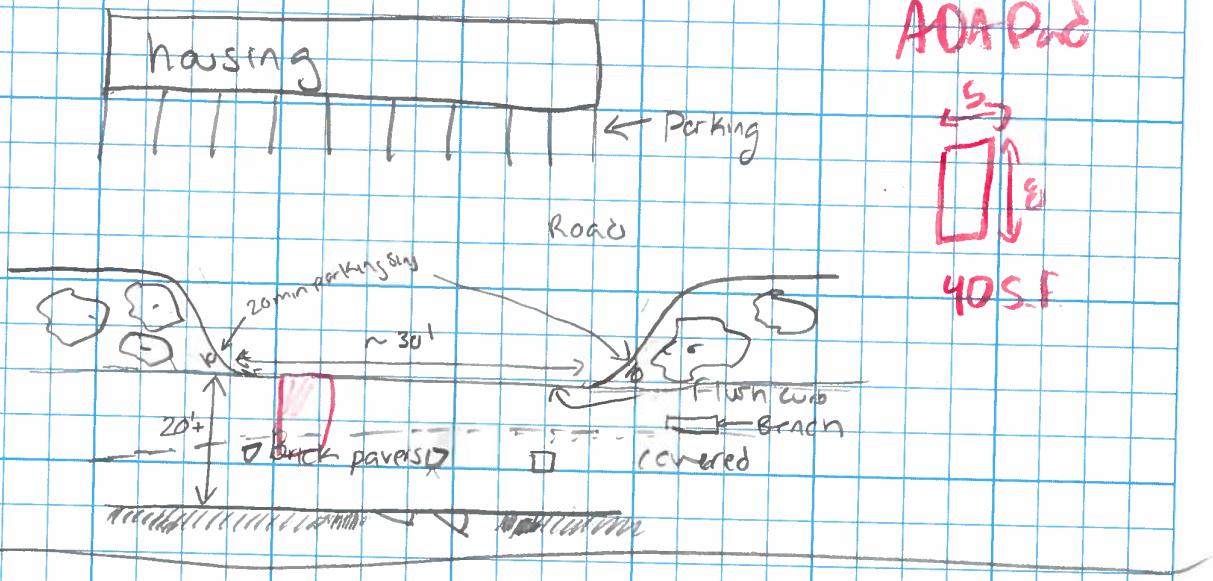
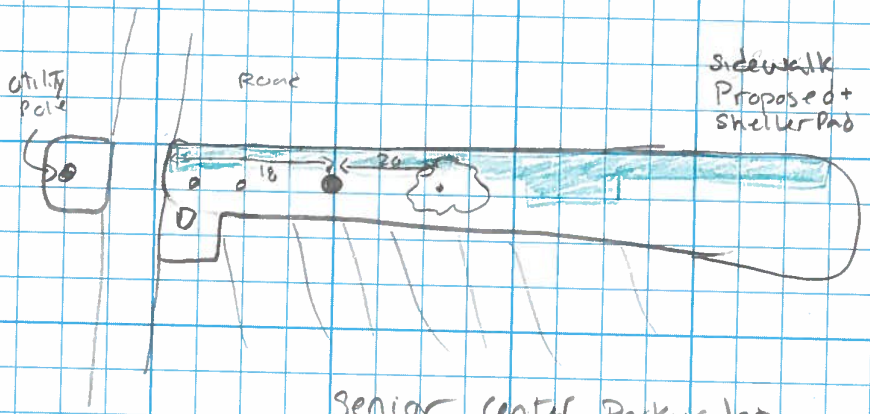
Sugar River mills



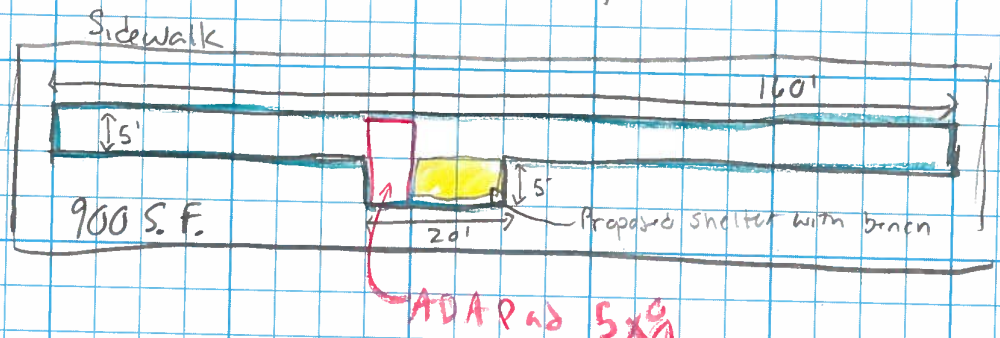
ADA Pad

40 S.F

NewPort Senior Center



Senior Center Parking lot



4x4 = 1 in

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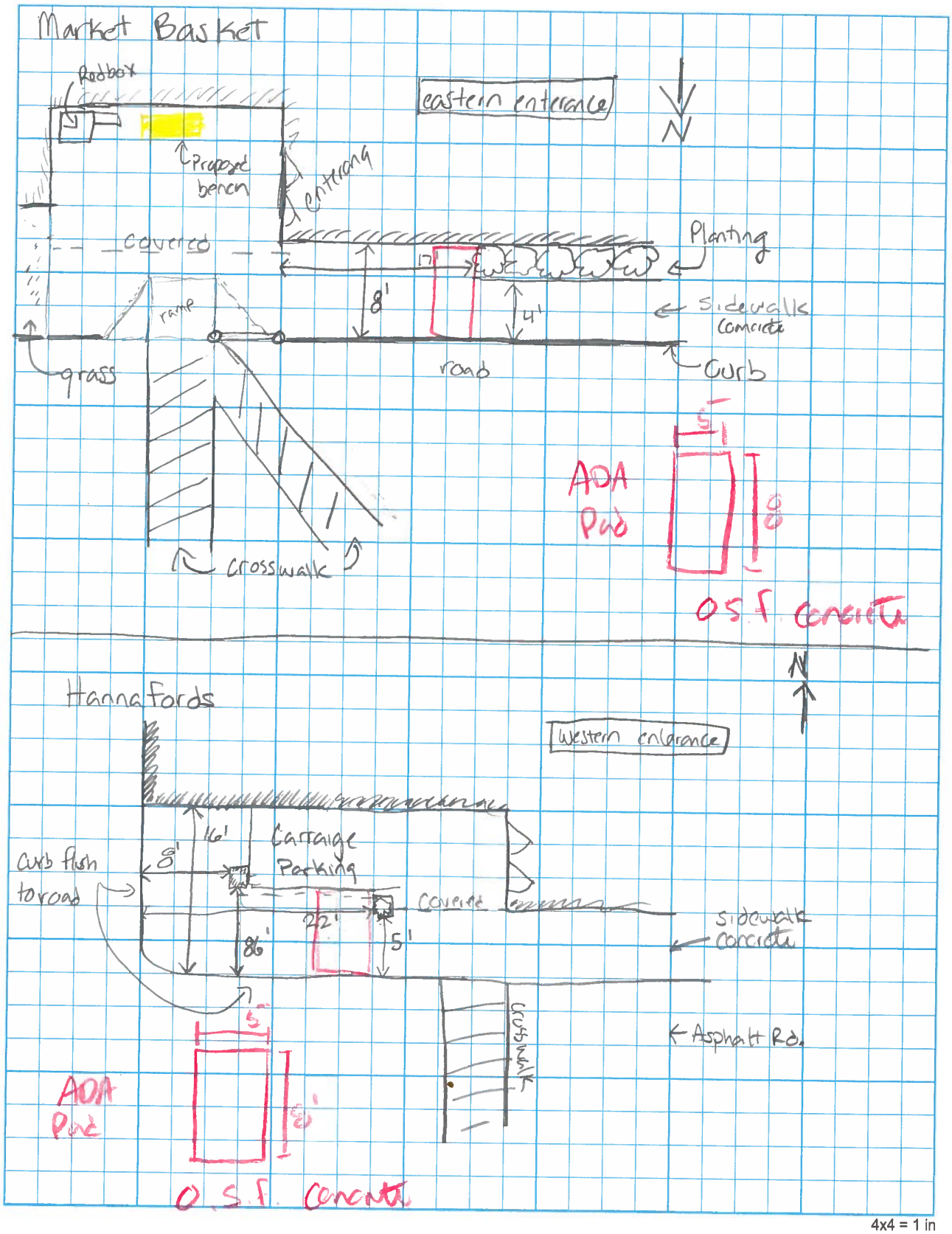
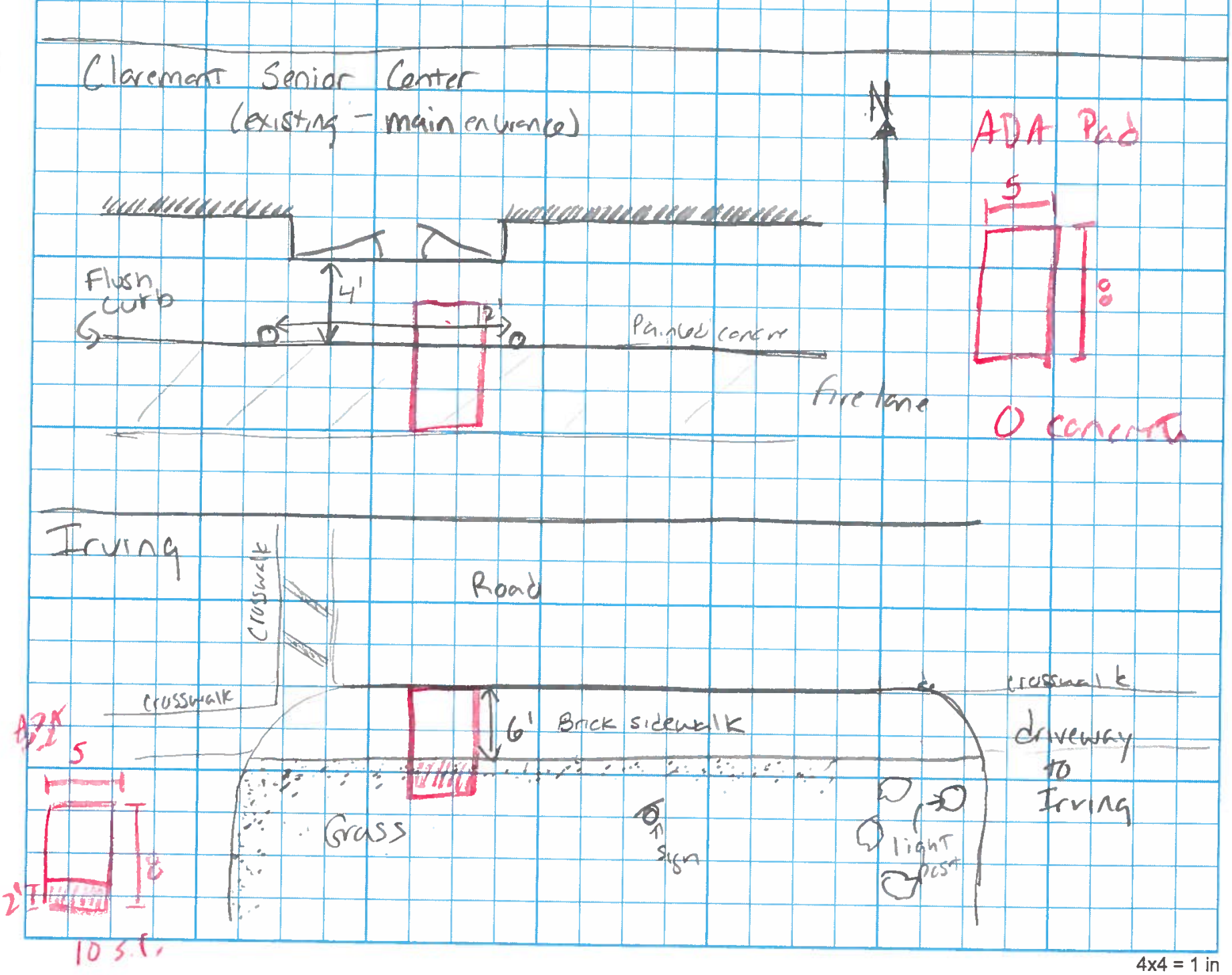


4x4 = 1 in


Claremont Senior Center
(existing - main entrance)
N
ADA Pad
5
8
Flush curb
4'
5
Painted concrete
fire lane
O concrete
Irving
Road
crosswalk
crosswalk
6' Brick sidewalk
crosswalk
driveway to Irving
Grass
sign
light post
ADA
5
8
2'
10 s.f.

4x4 = 1 in

AECOM Imagine it. Delivered.

JOB TITLE _____ CALCULATION NO. _____

PROJECT/JOB NO. _____ DATE _____

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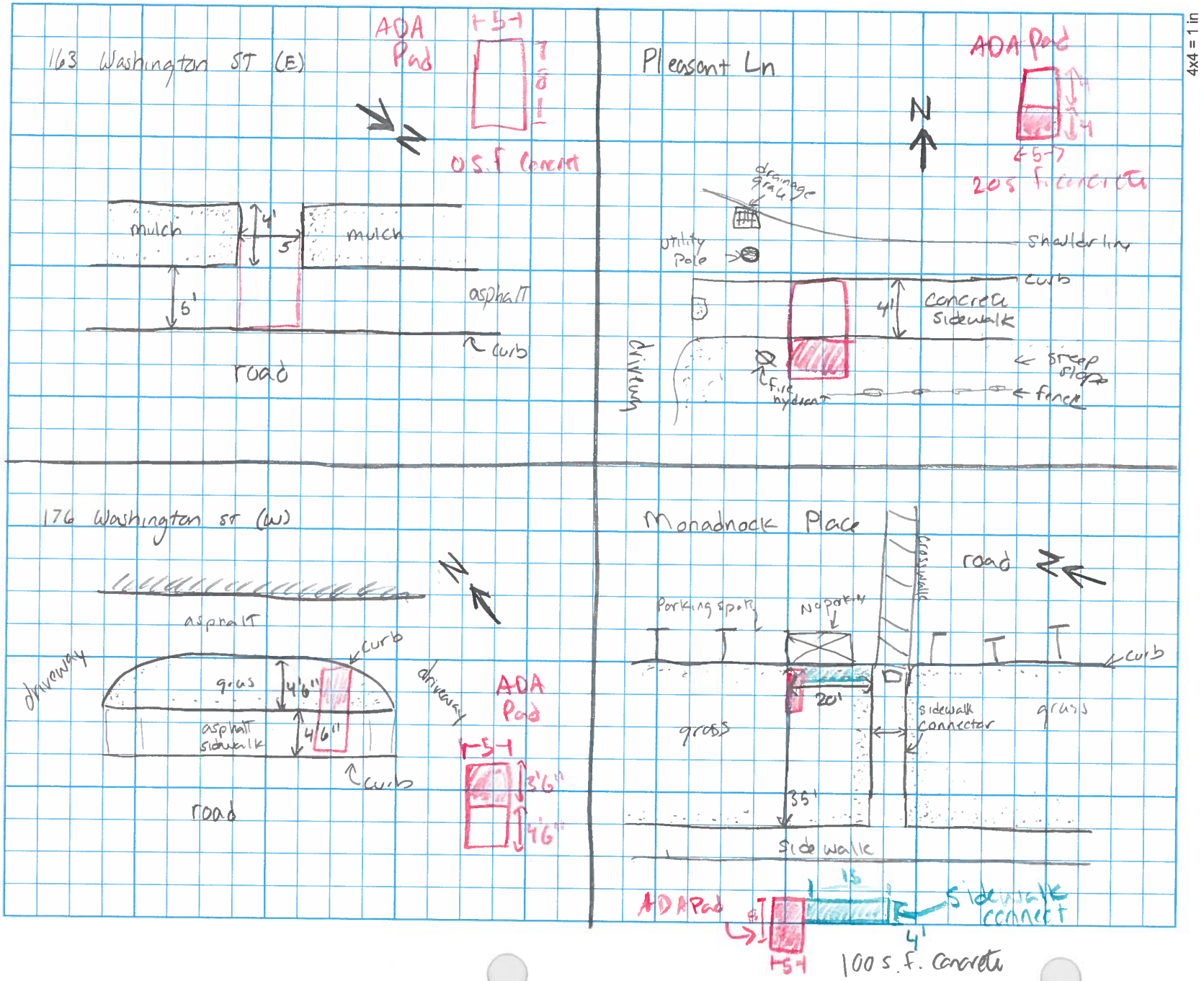
SCALE _____

4x4 = 1 in



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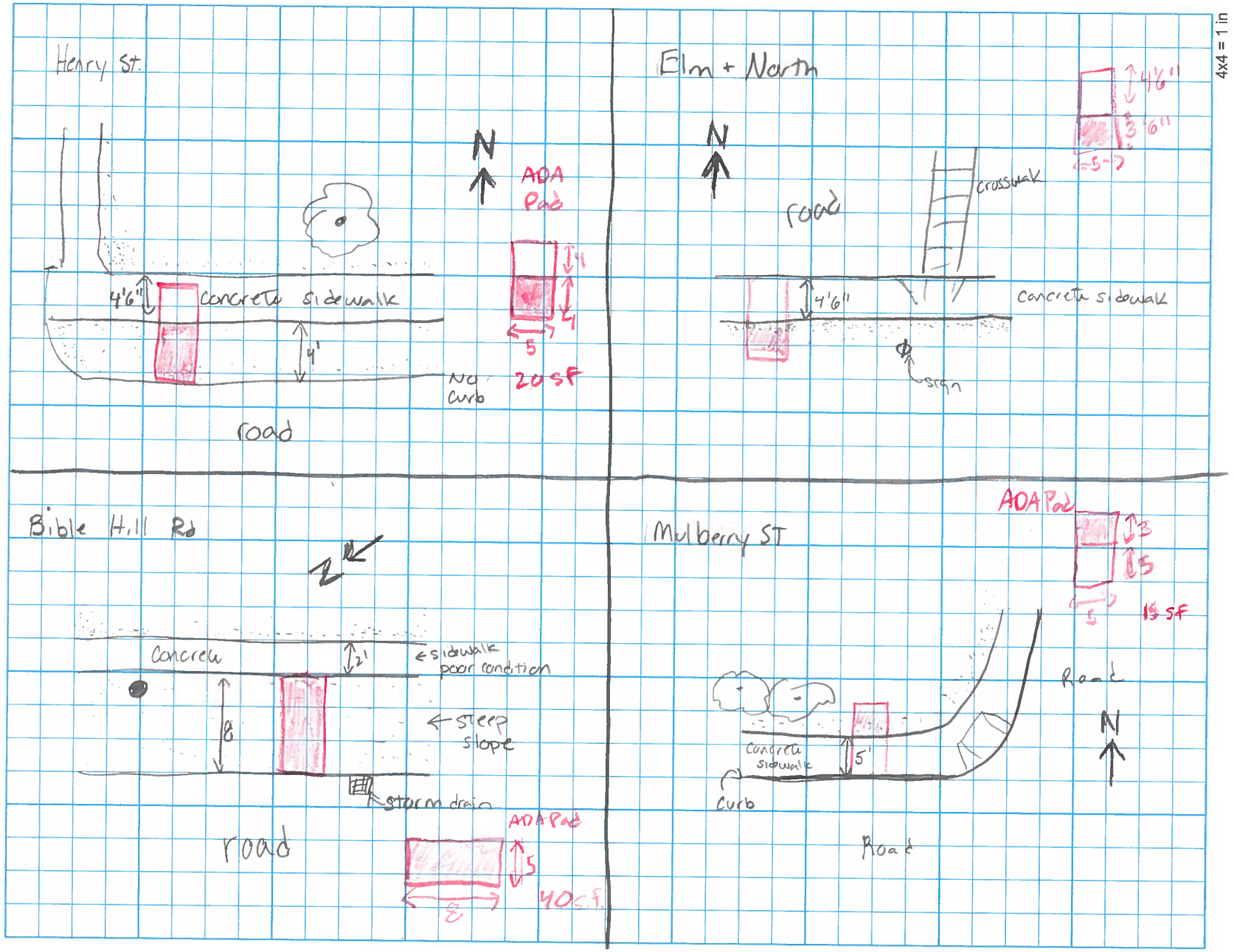
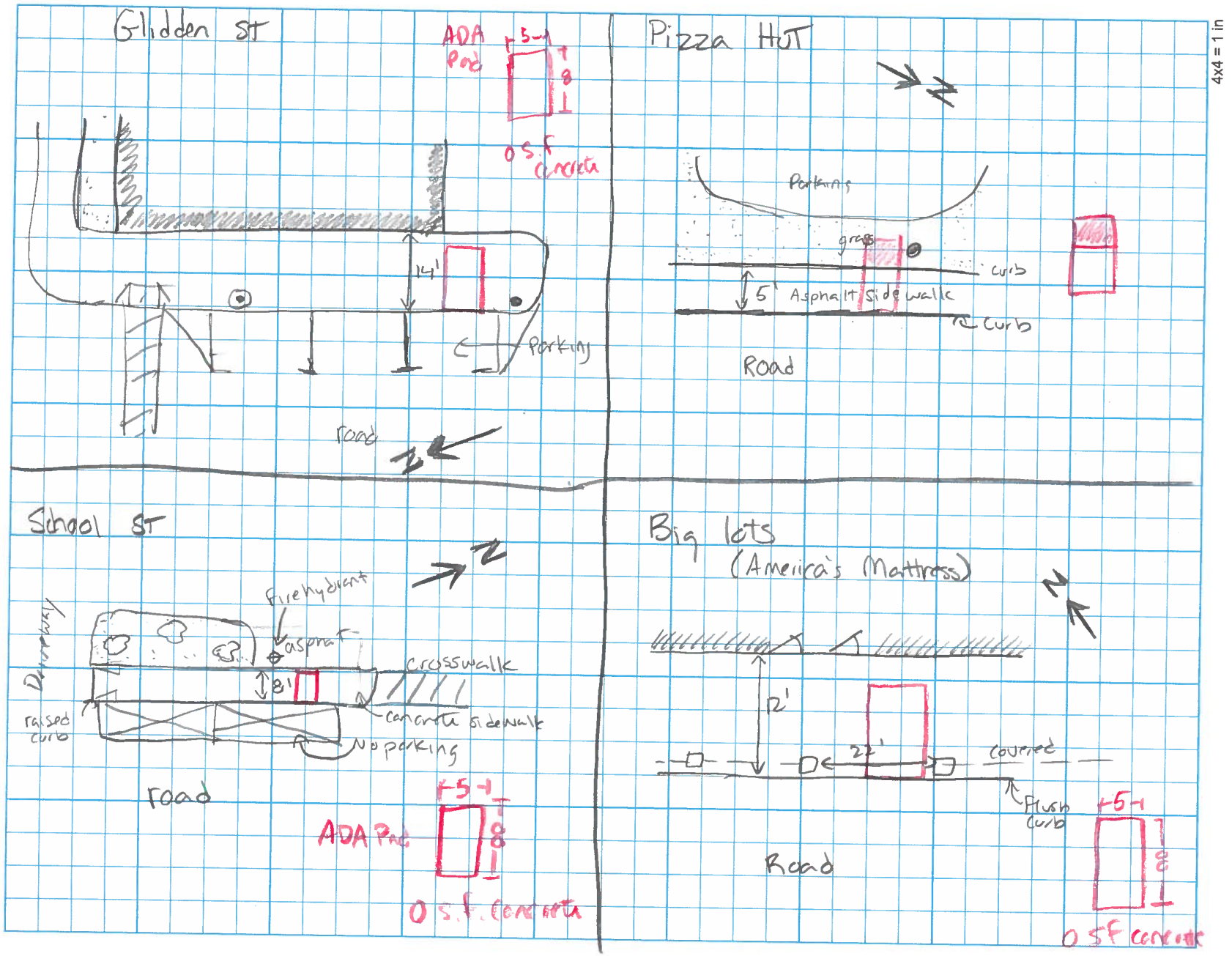
4x4 = 1 in




Glidden ST
ADA Pad
5-1
8
0 S.F Concrete
14'
Parking
road
Pizza HUT
Parking
grass
curb
5'
Asphalt Sidewalk
curb
Road
School ST
Fire hydrant
asphalt
crosswalk
Driveway
8'
raised curb
concrete sidewalk
No parking
road
5-1
ADA Pad
8
0 S.F. Concrete
Big lots
(America's Mattress)
12'
22'
curved
Flush curb
5-1
8
0 SF Concrete
JOB TITLE
PROJECT/JOB NO.
CALCULATION NO.
COMPUTED BY
DATE
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DATE
SCALE
SHEET NO.
OF
AECOM
Imagine it.
Delivered.
4x4 = 1 in

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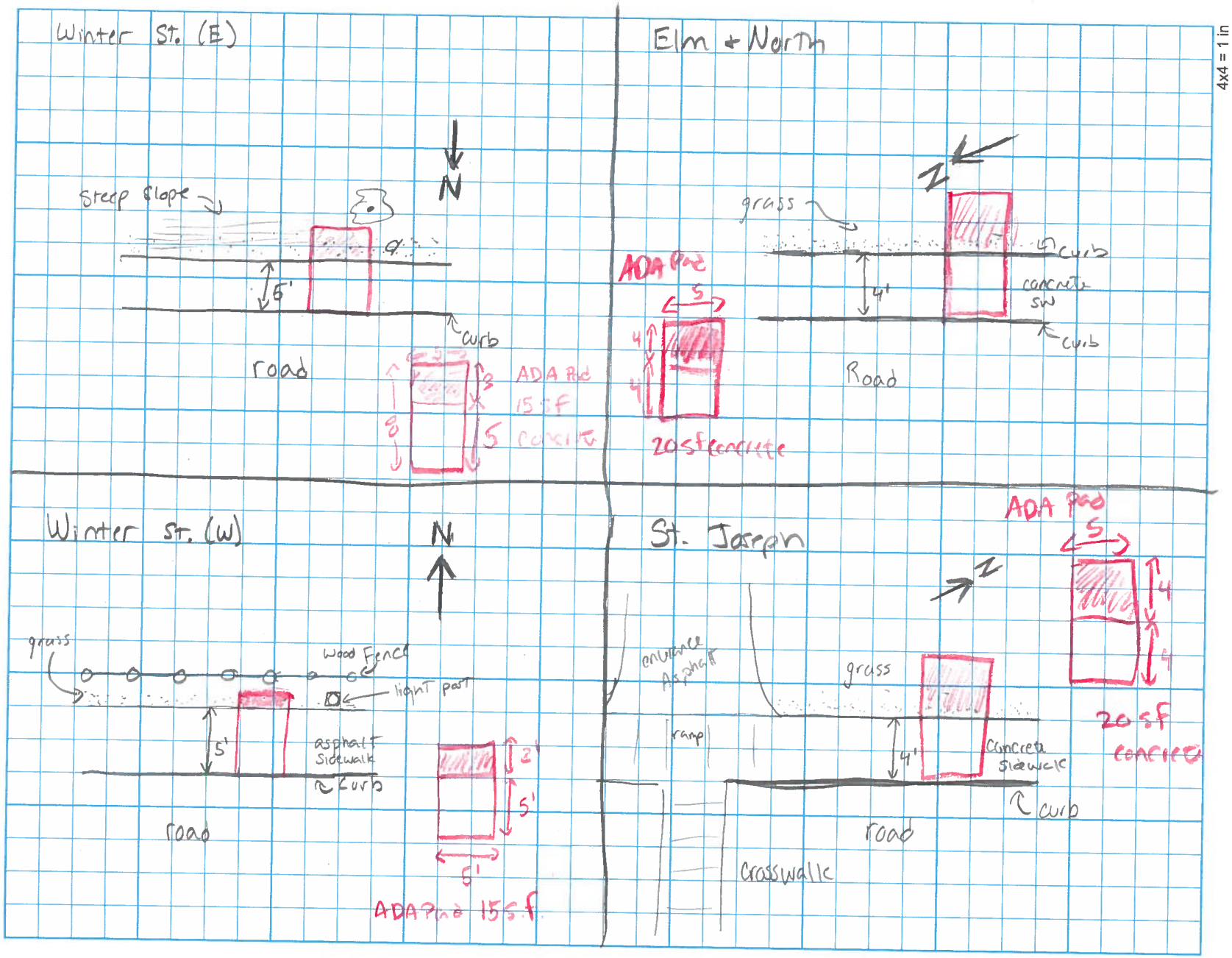

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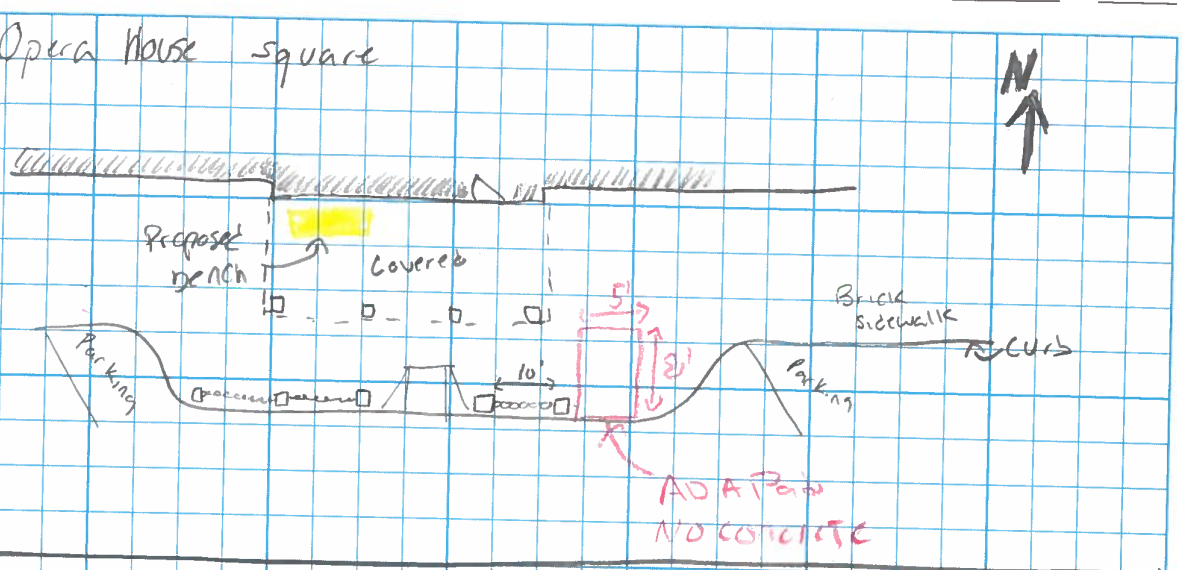
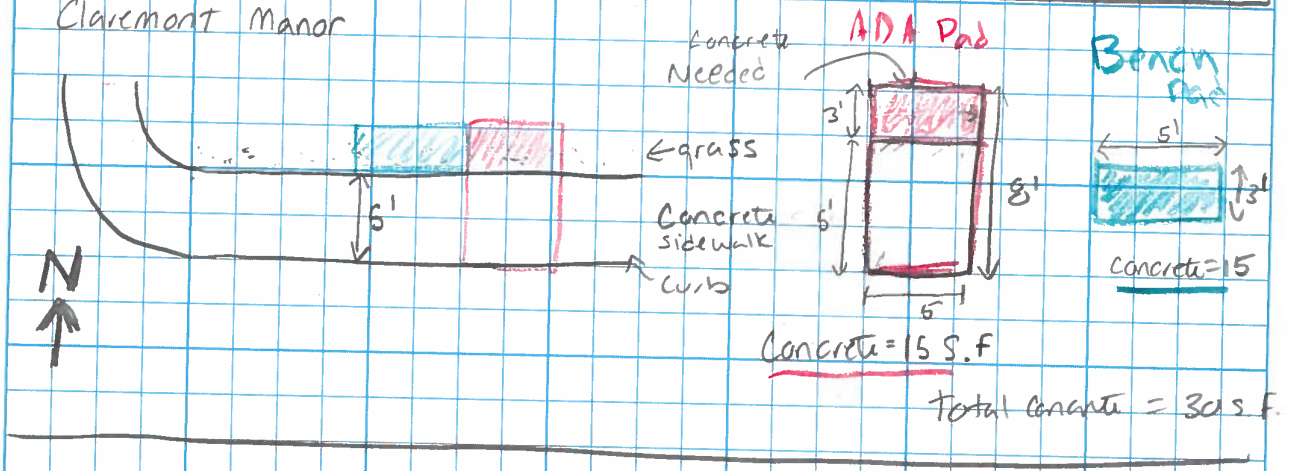
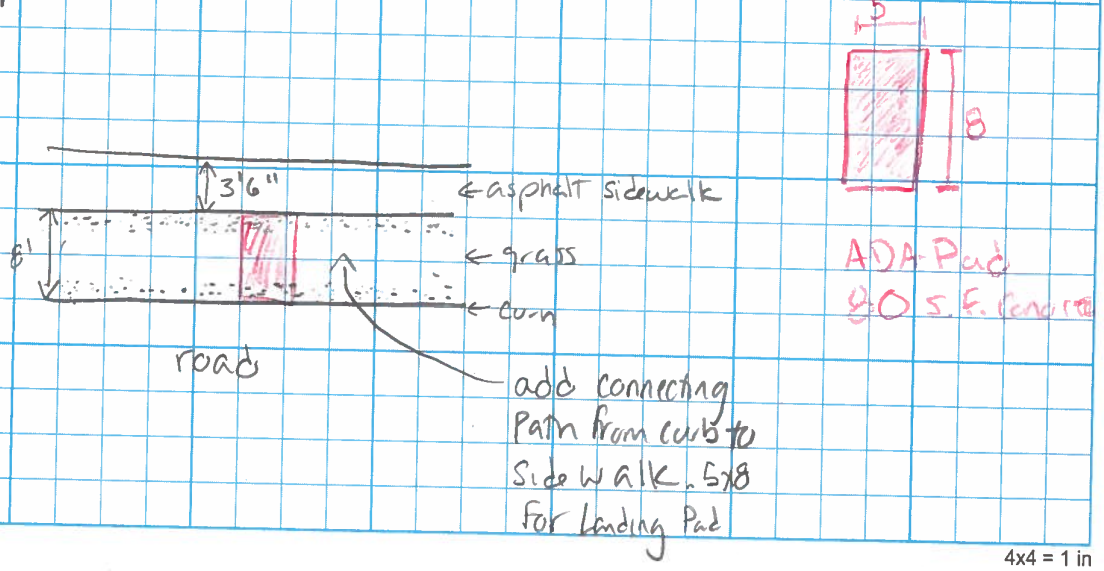
Opera House Square



Claremont Manor



Maple ST



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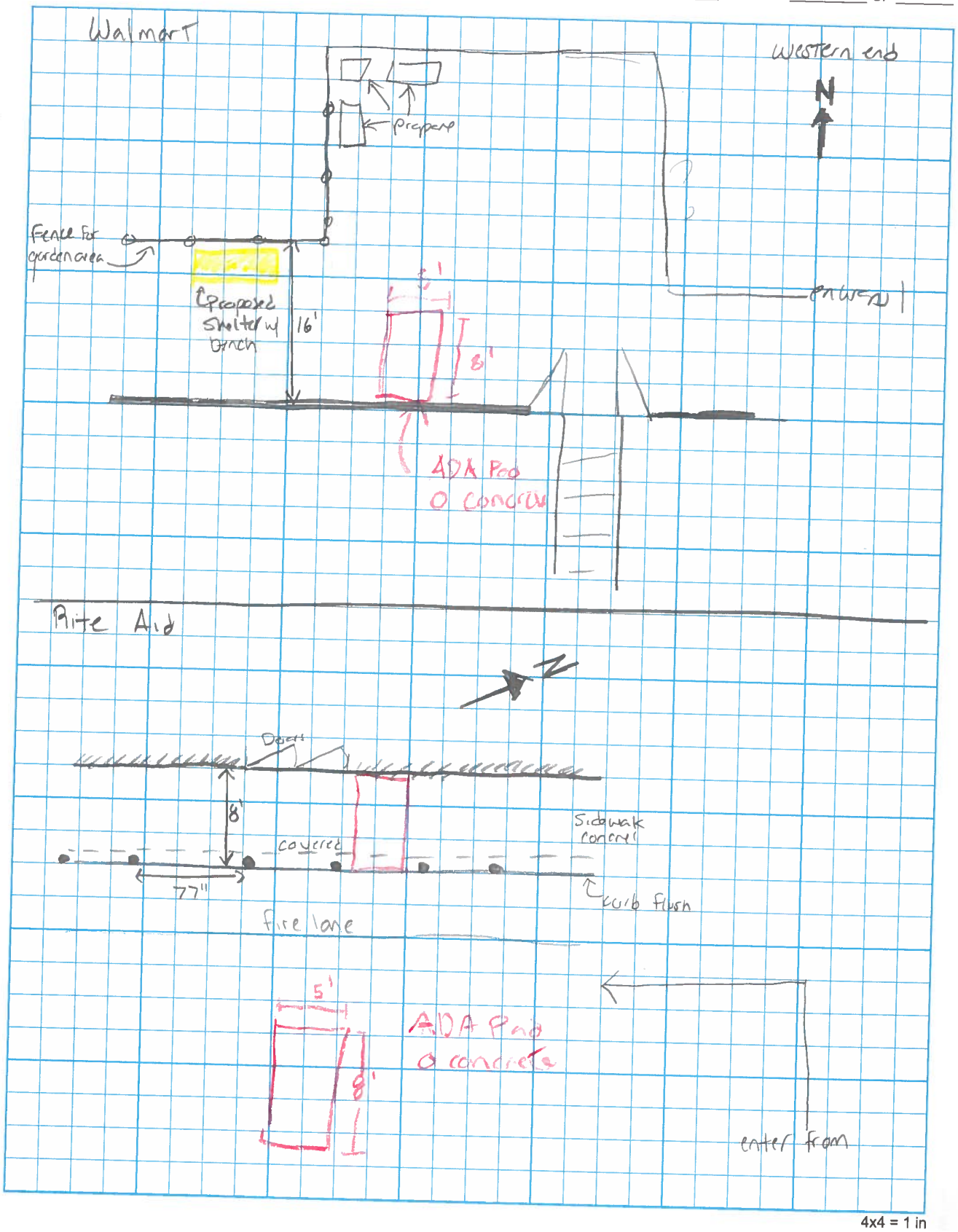

4x4 = 1 in

AECOM Imagine it. Delivered.

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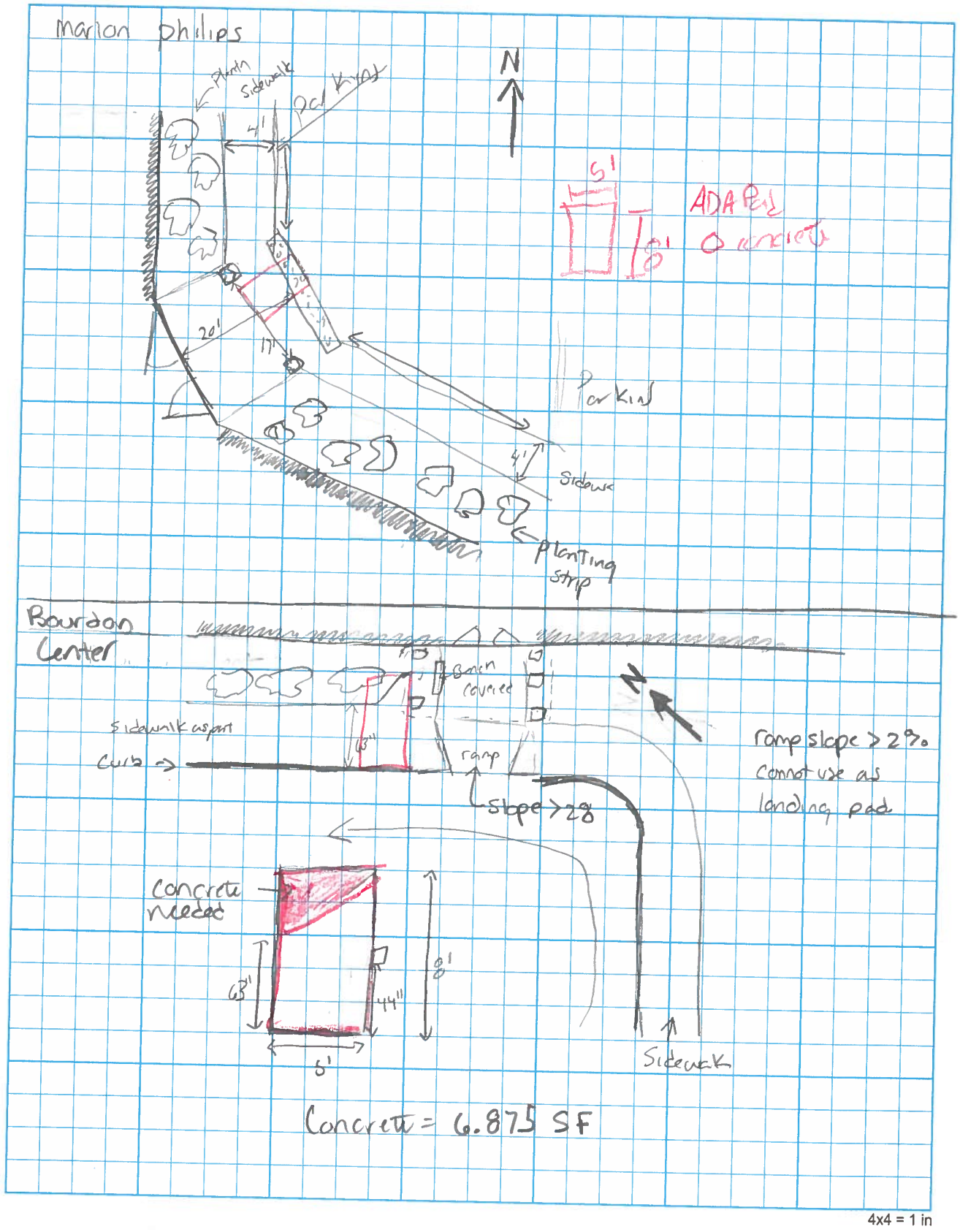


4x4 = 1 in

Appendix I - Bus Stop Photos

Opera House Square

Rite Aid


ness
TE AID
Get a
Flu Shot
From Your
Pharmacist
Together
We Can
Beat
the Flu
ATM
Inside
Milk Eggs
NO PARKING
FIRE LANE

Bourdon Center

Claremont Manor

Claremont Senior Center

Marion Philips

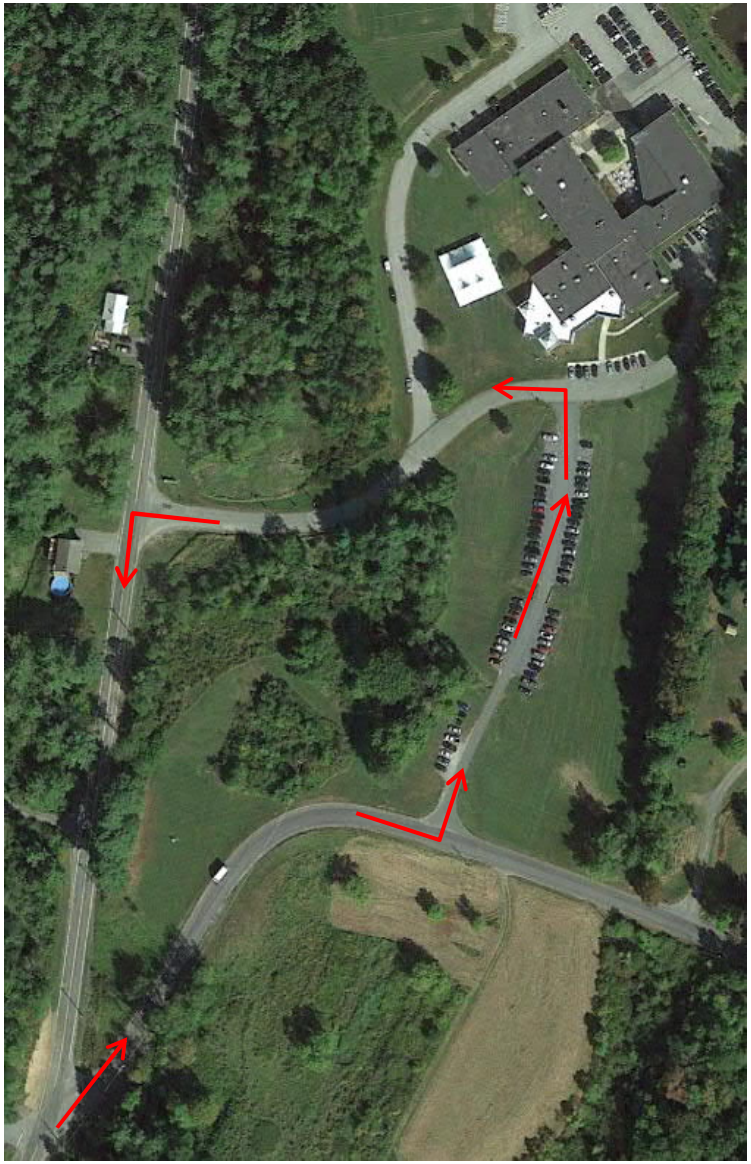
Lovers Lane

- Convert to On-Demand only, no safe place to pick up and drop off that meets ADA requirements

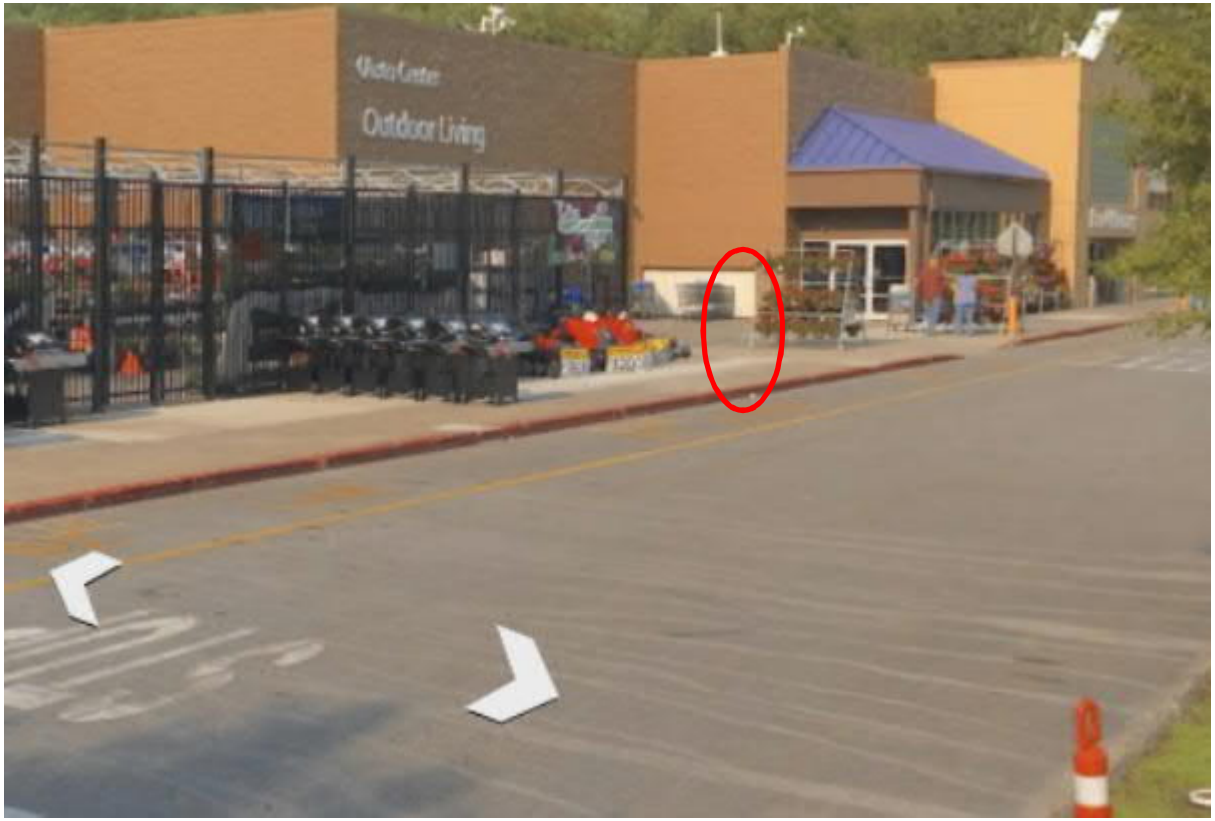
Sugar River Mills

Hospital

RVCC



Walmart



Market Basket

Hannaford’s

Charlestown

Ocean State Job Lot

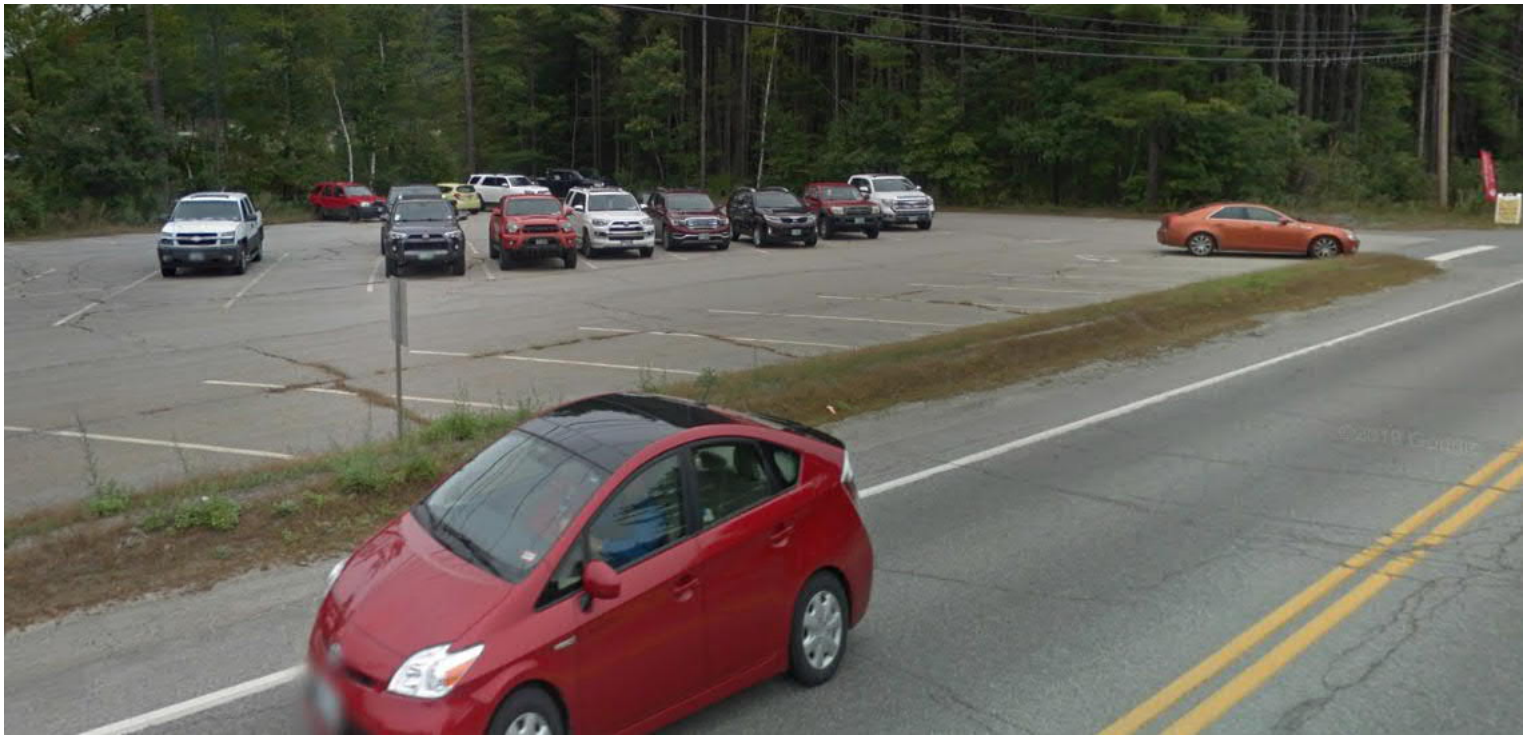
Newport Health Center

Newport Senior Center

Maple Manor

DMV

Ruger



Irving

Glidden Street

School Street

Main & Mechanic

Pizza Hut

Winter St (E)

Winter St. (W)

Elm & North

St. Joseph

163 Washington St

176 Washington St

Big Lots

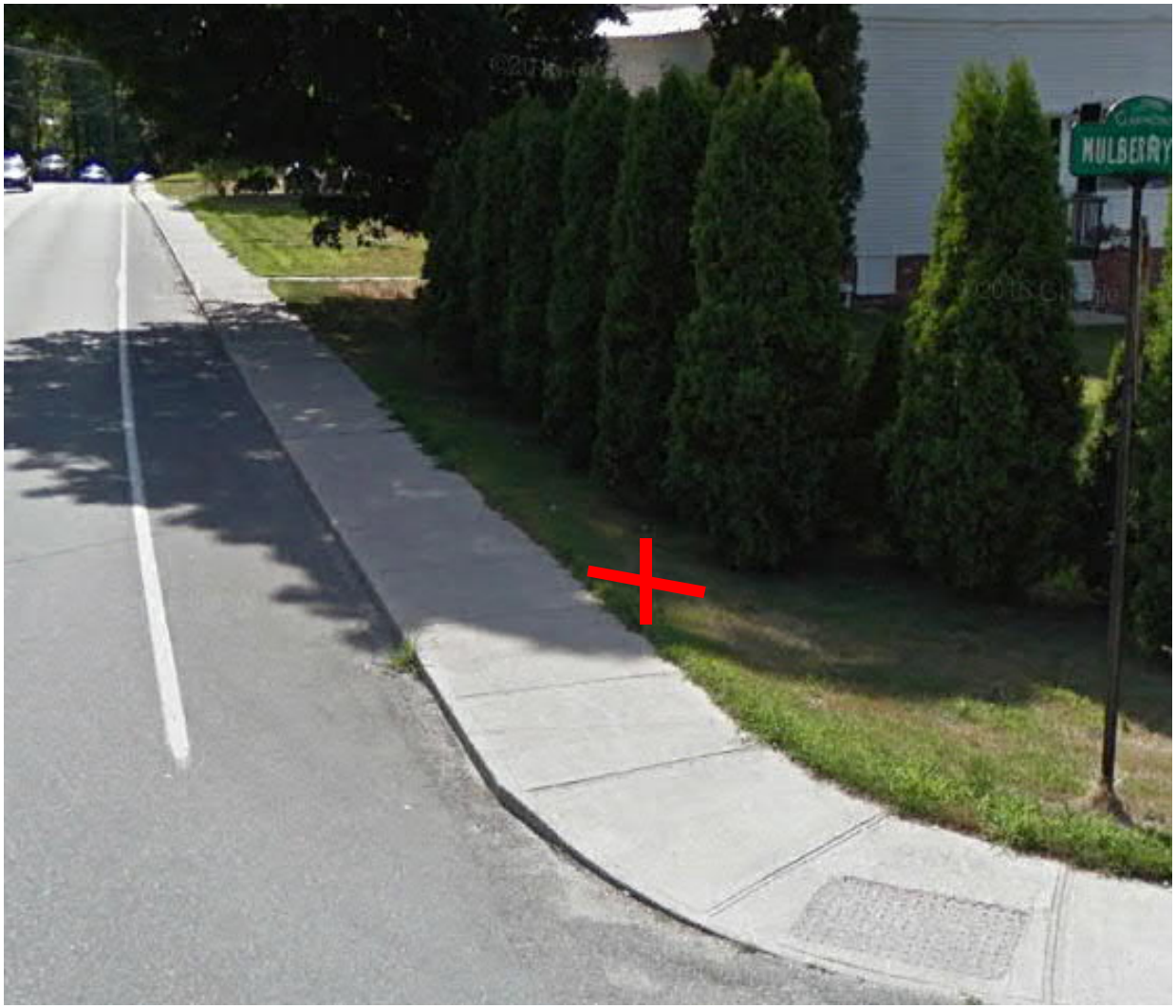

America's Mattress
BIG LOTS!
FURNITURE PICKUP
OPEN
OPEN
20% OFF

Monadnock Place

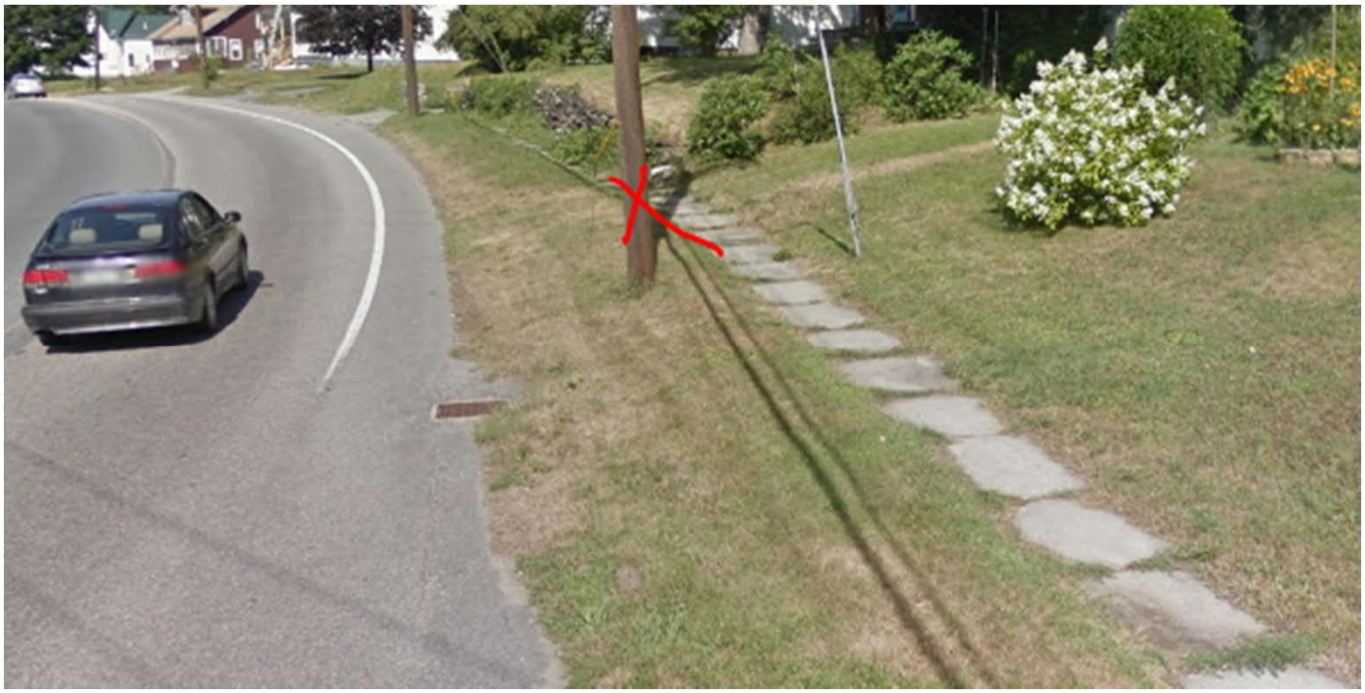
Pleasant Lane

Henry St

Mulberry St



Bible Hill Rd



Elm & North

Appendix J - Bus Stop Guidelines

1 Introduction

This document provides guidance in installing bus stops and amenities from selecting a location through installation and maintenance. Figure 1-1 provides a flow diagram for installing a bus stop, and Figure 1-2, to install amenities/structures such as a shelter or bench at an established stop. There are four basic steps to installing either a stop or structure at a stop; 1) Determining ADA compliance, 2) obtaining permits and permissions, 3) installation, 4) Maintenance. The subsequent sections provide further information on each of the steps.

Figure 1-1. Steps to Installing a Bus Stop Sign

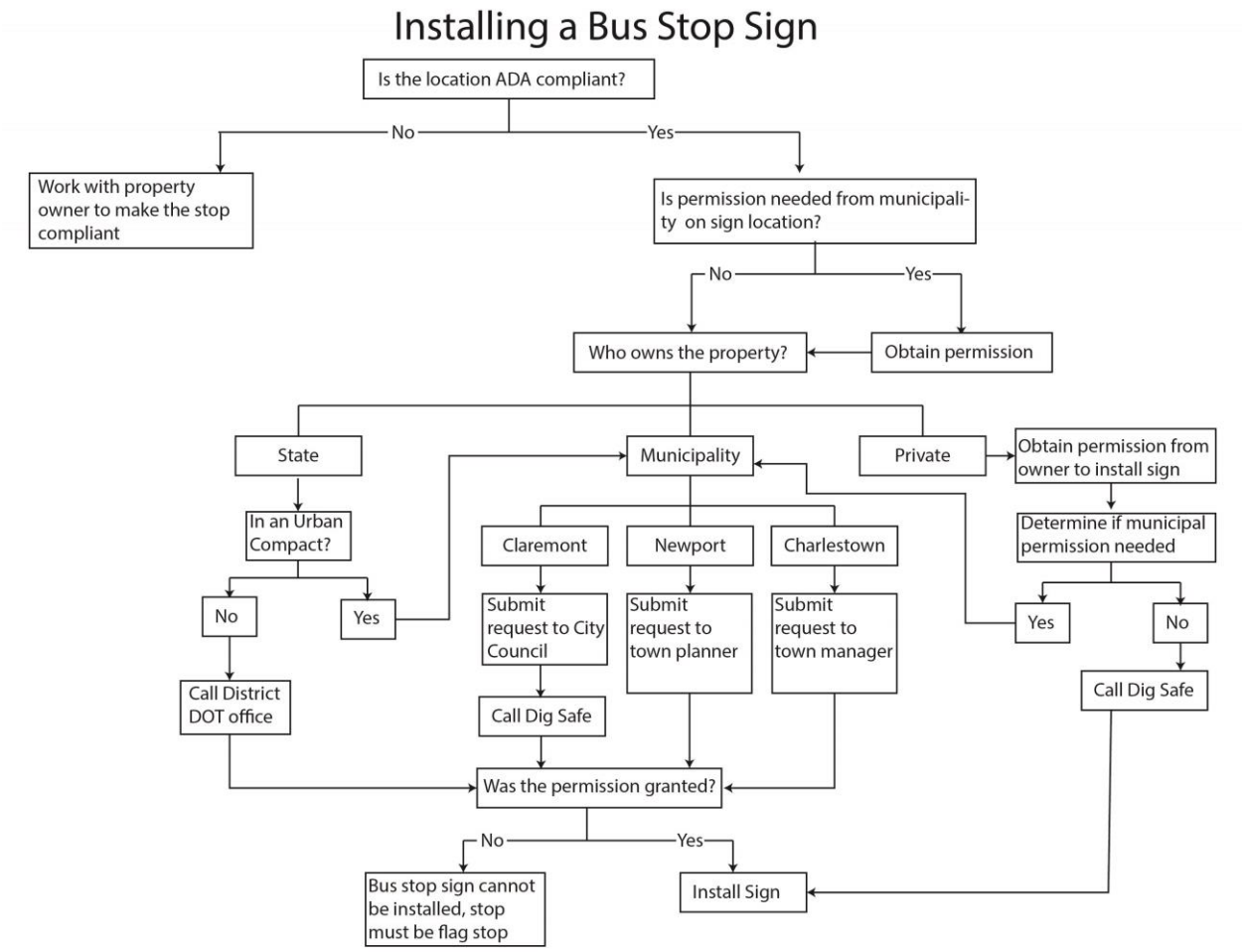
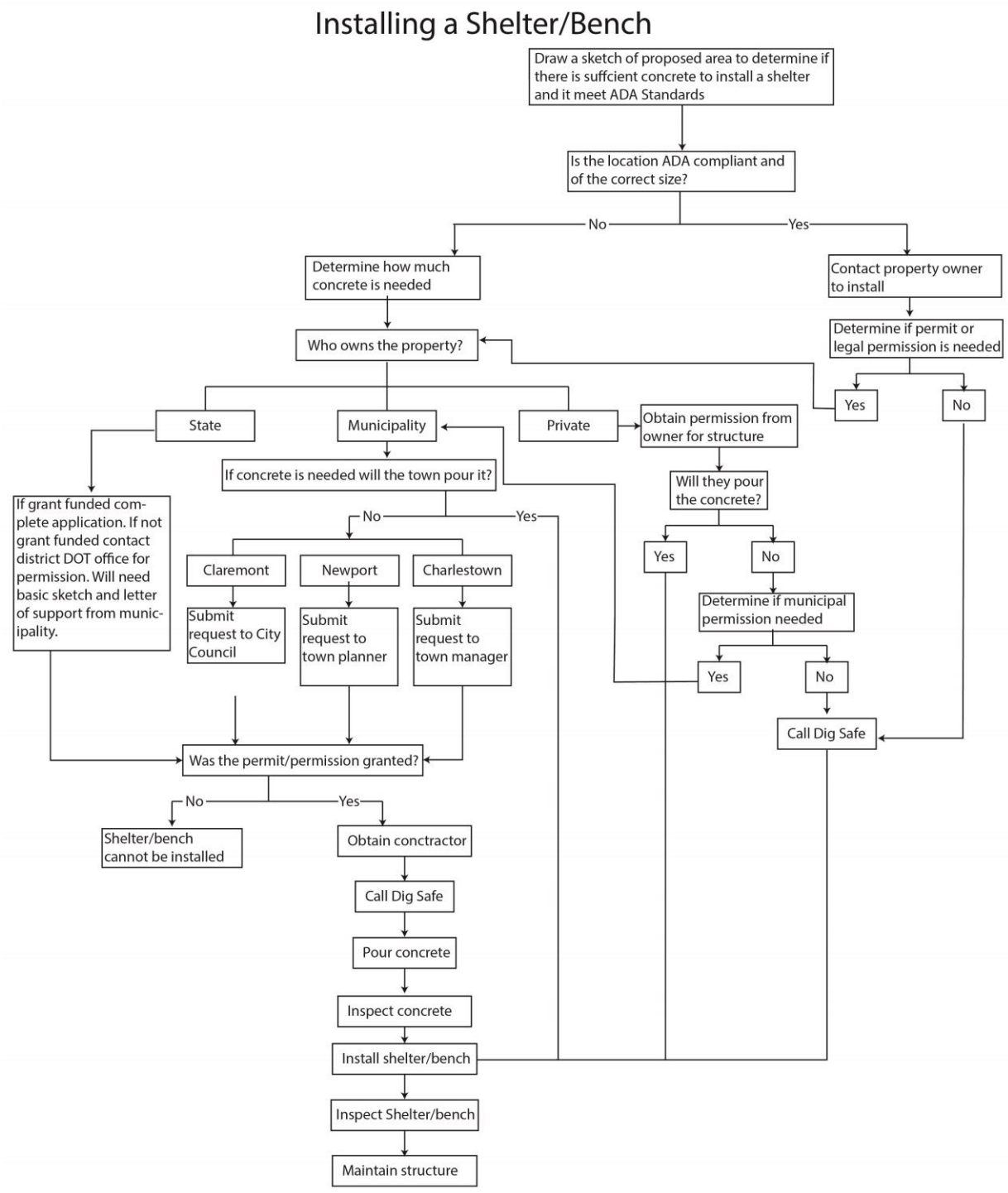


Figure 1-2. Steps to Installing a Shelter or Bench



1.1 Americans with Disabilities Act (ADA) Compliance

This section outlines the minimum ADA requirements, herein referred to as ADA Standards, for the placement of bus stops and amenities. These standards are based on the Americans

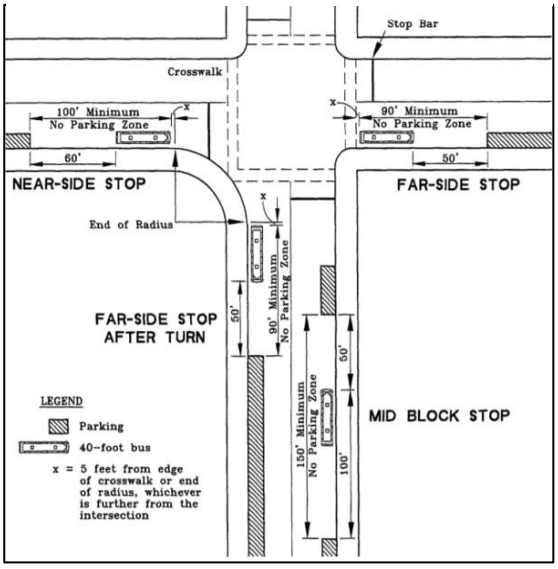
with Disabilities Act of 1990 and the subsequent ADA Accessibility Guidelines for Buildings and Facilities (ADAAG). These minimums will help determine if a stop can be placed or what modifications must be made to the proposed location to meet the minimum guidelines. The ADA Standards presented are the minimum requirements to comply with the law and are not necessarily best practices for universal design. Universal design goes beyond the minimum requirements to create environments usable by all individuals, including those with disabilities, which provide a higher level of access. For each section below, the best practices for universal design are presented in addition to the ADA Standards.

1.2 Bus Stop Area

A bus stop area is a designated location where the bus will stop to let on and off passengers. It is indicated by a bus stop sign. Flag stop areas/zones are not considered a designated area and thus not subject to the requirements outlined. Stops along roadways are typically near-side, far-side or mid-block. Figure 1-3 depicts each and the minimum distances needed.

Figure 1-3. Typical Dimensions for On-Street Bus Stops

Source: TCRP Report 19 Guidelines for the Location and Design of Bus Stops



Far-Side Bus Stop – bus stops immediately after passing through an intersection

Near-Side Bus Stop – bus stops immediately prior to an intersection

Mid-Block Bus Stop – bus stops within the block

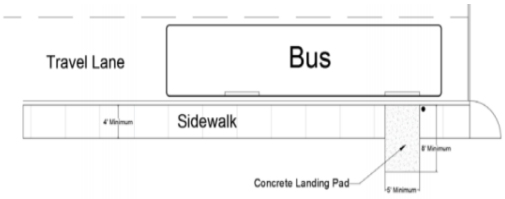
Which type of bus stop stop to use varies based on adjacent land use, the intersection geometry, parking, pedestrian access, presence of trees, poles, driveays and other roadside constraints, traffic control signal timing, and the bus route path. The advantages and disadvantages of each are listed in Table 1-1.

Table 1-1. Comparison of Bus Stop Locations

Location	Advantages	Disadvantages	When it's recommended
Far-Side	• Minimizes conflicts between right turning vehicles and bus. • Provides additional right turn capacity. • Minimizes sight distance issues on approach to intersection • Shorter deceleration distance needed since the bus can use the intersection to decelerate. • Encourages pedestrians to cross the street behind the bus. • Driver can take advantage in gaps in traffic created at signalized intersections to reenter traffic.	• If multiple buses are stopped at one time and there is only adequate room for one bus, the cross street may be blocked. • If the bus stops in the travel lane, it may result in queued traffic behind it blocking the intersection. • Could increase the number of rear-end accidents; drivers don't expect the bus to stop again after a red light. • Can obscure sight distance for crossing vehicles. • Can increase sight distance problems for crossing pedestrians.	• Whenever possible as long as it is safe, there is room to put a stop, and the only crosswalk is not on the near-side.
Near-Side	• The bus boarding door is closer to the crosswalk. • Bus has the intersection to merge into traffic. • Bus driver can see oncoming traffic. • Eliminates double stopping potential associated with a red light. • Allows passengers to board and alight while the bus is stopped at a signal. • Minimizes interference when traffic is heavy on the far-side of the intersection.	• Increases conflicts with right turning traffic due to cars cutting in front of the bus. • Could be difficult for bus to reenter traffic. • Can block sight distance for crossing vehicles stopped to the right of the bus. • The stopped bus may block visibility of the stop signs or traffic signals. • Visibility conflicts with pedestrians having to cross in front of a bus.	• It's unsafe to place stop on the far-side. • There is inadequate room for a stop. • A major trip generator is located on the near-side of the intersection, which would result in all passengers crossing the intersection.
Mid-Block	• The stopped bus does not obstruct sight distances at an intersection for other vehicles or pedestrians. • May be closer to major activity centers than the nearest intersection.	• Requires most curb clearance of the three options. • Sometimes results in mid-block jaywalking if there is no crosswalk midblock. • Increases walking distances for passengers crossing the street. • Can be difficult for bus to reenter traffic if the stop is not in the travel lane.	• The major trip generator is located in the middle of a long block. • There are no intersecting roads.

Minimum ADA Guidelines

Figure 1-4. ADA Landing Pad
Source: GO GoldCoast Transit Bus Stop Guidelines 2015



1. A firm stable surface including concrete, asphalt, brick, stone, tile and wood. Loose material such as gravel or stone dust do not meet the requirements unless properly treated with binders, consolidants, compaction or grid forms. Grass is not considered a firm stable surface.
2. ADA landing pad – an area that is clear of obstructions and measures eight feet (perpendicular to the curb) by five feet (parallel to the curb, connected to a pedestrian path or accessible walkway, and a firm stable surface). The landing pad can include part of the sidewalk.
3. A cross slope no greater than 2% (1/50).
4. Accessible connections to a street, sidewalk, path etc. Must be at least 3' wide.

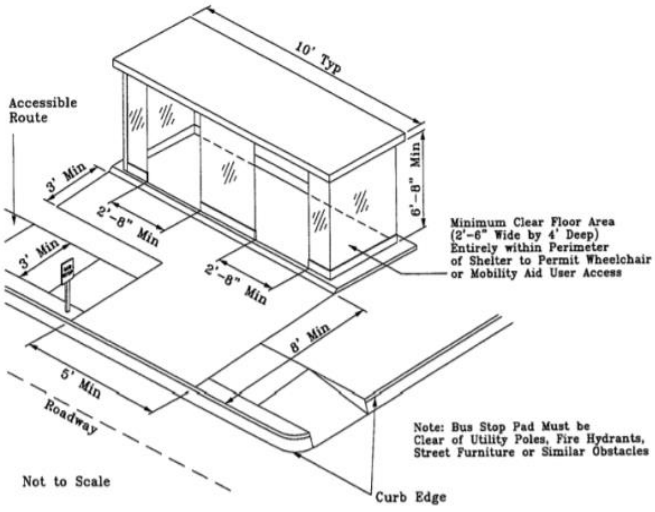
Universal Design Best Practices

1. Clear the bus stop area of all obstacles such as trees, newspaper boxes, trash receptacles, planters, and utility poles.
2. Sidewalk is of sufficient width for two wheelchair passengers to pass each other.
3. The front and rear door areas of the stop are free of obstructions.
4. Tactile surface treatments to help visually impaired riders.
5. Accessible connections to a street, sidewalk, path etc. that is four feet wide or greater.
6. ADA landing pad is elevated above street level.

1.3 Shelters

Shelters provide protection from the elements while waiting for the bus and the decision to install a shelter is typically based upon passenger volumes. The *TRCP Report 19: Guidelines for the Location and Design of Bus Stops* recommends for rural areas that a shelter be placed in locations where there are 10 or more boardings per day. Other criteria used to evaluate the potential for a shelter include the number of routes that serve the stop, high percentage of elderly or disabled individuals in the area, proximity to major

Figure 1-5. Shelter Design Example to Meet ADA Standards
Source: TRCP Report 19: Guidelines for the location and design of bus stops



activity centers and the availability of space to install a shelter.

Minimum ADA Guidelines

1. Clear path of 3′ minimum in front or behind shelter for sidewalk.
2. Entrance must be 2′8″ wide at minimum.
3. Minimum clear floor area of 30 inches wide by four feet deep.
4. Not placed on the ADA landing pad.
5. Minimum height of 6′8″.
6. If it abuts a building, there must be 12″ between the shelter and building at minimum.
7. Connected to route to the landing pad.
8. Accessible connections to a street, sidewalk, path etc.

Universal Design Best Practices

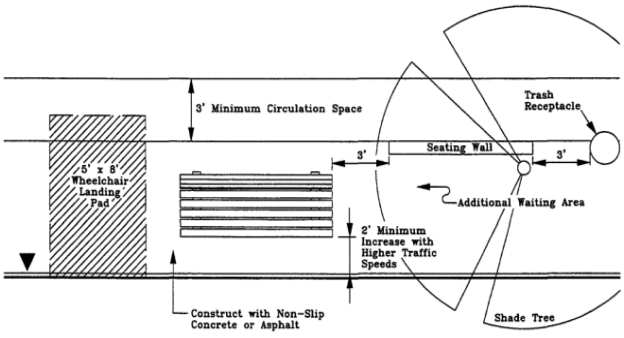
1. Locate at the far end of the bus stop to improve visibility and improve walking distance from the shelter to the bus.
2. Minimum distance of two feet between the back face of the curb and the roof or panels of a shelter.
3. Minimum of 10 feet in length.
4. Transparent sides for visibility and security.
5. Constructed of materials that are resistant to weather; from which graffiti is easily removed.
6. Waterproof with drainage away from the bus stop.
7. Vertical clearance of six inches off the sidewalk to prevent trash and debris from collecting and standing water.
8. Avoid locating a shelter in front of a store window.
9. Orient shelter to minimize exposure to weather elements.
10. Non-flat roof.

1.4 Benches

Minimum ADA Guidelines

1. Seat dimensions: 20 inches minimum to 24 inches maximum in depth and 42 inches (1,065 millimeters) minimum in length.
2. Seat height: 17 inches minimum to 19 inches maximum above the floor or ground.
3. Back support: 42 inches minimum in length and that extends from a

Figure 1-6. Conceptual Bench and Waiting Pad Design
Source: TRCP Report 19: Guidelines for the location and design of bus stops



point 2 inches maximum above the seat to a point 18 inches minimum above the seat.

4. Structure supporting vertical or horizontal forces of 250 pounds applied at any point on the seat, fastener, mounting device, or supporting structure.
5. Exposed benches: slip resistant and designed to shed water.
6. If installed inside the shelter it must be installed in such as manner to allow a wheelchair passenger to still use the shelter (30").
7. Do not install bench on ADA landing pad.
8. Minimum of 2' between the bench and back face of curb.
9. Minimum of 3' circulation space on either side of the bench for access.

Universal Design Best Practices

1. Install bench where there is shade and lighting or inside the shelter.
2. Avoid locating benches on undeveloped right-of-ways and anchor to prevent unauthorized movement of the bench.
3. Place benches to the back of a sidewalk, to allow for pedestrian circulation.
4. Construct using materials that are resistant to weather; from which graffiti is easily removed.
5. Locate benches away from driveways.
6. Maintain a separation of 4' between the bench and the back face of the curb.

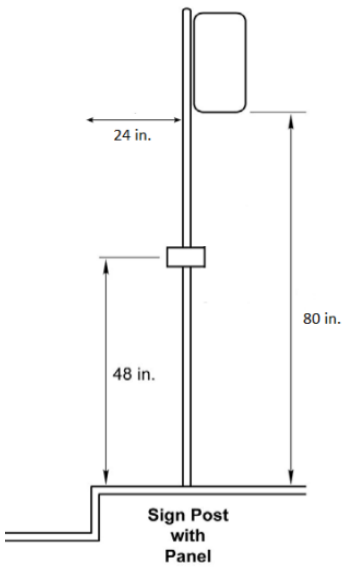
1.5 Signage

Bus stops marked with signs indicate to passengers where the bus will stop and publicize the availability of transit service to the general public.

Minimum ADA Guidelines

1. Letters and numbers to be a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10.
2. Characters and numbers should be sized according to the viewing distance from which they are to be read. The minimum height is measured using an upper case X.
3. Accompany pictograms with the equivalent verbal description placed directly below, with a border dimension of 6 inches (152 millimeters) minimum in height.
4. Characters and background of signs in a non-glare finish, with characters and symbols contrasting from their background.
5. If it is mounted on a wall or telephone pole and between 27" and 80" off the ground, it

Figure 1-7. Sign and Post Dimensions



cannot protrude into the pathway by more than 4". Below 27" can protrude any amount.

6. If it is mounted on its own pole between 27'' and 80'' from the ground, it can overhang by up to 12".
7. If the bottom of the sign is mounted less than 80" from the ground, a barrier must be provided to warn the visually impaired.

Universal Design Best Practices

1. Bottom of the sign should be placed at least 84" (7') above the ground.
2. Sign should be located nearest to the location of the buses' front doors when stopped.
3. Sign edge should be at least two feet from the curb edge to prevent it from being hit by mirrors.
4. Signs should be Manual on Uniform Traffic Control Devices (MUTCD) compliant[1] and meet New Hampshire Department of Transportation Standard Specifications[2].
5. Include no parking verbiage or symbol on sign.
6. Include route numbers that serve that stop on the sign. Route numbers should be text at least 3" high, with 1" gap between lines. If multiple routes serve the stop, list them consecutively.
7. Include tactile route plaque and/or information holder.
8. Double sided sign for visibility from both directions.

1.6 Other Amenities

Amenities listed in this section are not required under the ADA Standards but provide an enhanced experience to passengers

1.6.1 Lighting

Lighting enhances a passenger's sense of safety and security at a bus stop and allows the bus operator to see waiting individuals. Lighting should illuminate the bus stop waiting area and eliminate shadow areas.

Universal Design Best Practices

1. Explore solar powered lighting if hardwiring is unavailable.
2. Install lighting that provides between two and five foot-candles.

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[1] US Department of Transportation Federal Highway Administration. *Manual on Uniform Traffic Control Devices for Streets and Highways*. https://mutcd.fhwa.dot.gov/

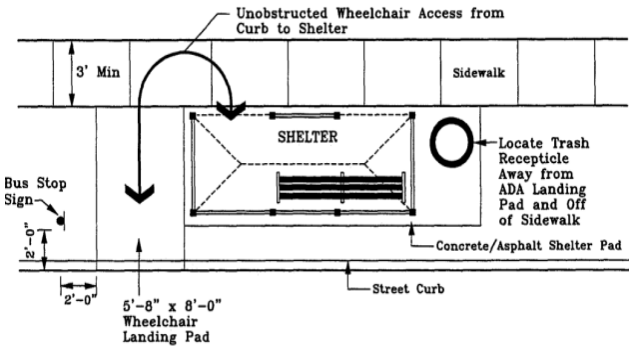
[2] New Hampshire Department of Transportation. *Standard Specifications for Road and Bridge Construction*. https://www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/documents/2016NHDOTSpecBookWeb.pdf

3. Fixtures should be vandal-proof but easily maintainable.
4. Locate stops near existing street lights.

1.6.2 Trash Bins

Trash bins can improve the appearance of a bus stop and prevent littering, especially in locations close to convenience stores and fast food restaurants.

Figure 1-8. Trash Bin Placement
Source: TRCP Report 19: Guidelines for the location and design of bus stops



Universal Design Best Practices

1. Constructed of materials that are resistant to weather; from which graffiti is easy removed.
2. Anchor bin to prevent unauthorized movement.
3. Locate away from the ADA landing pad.
4. Provide at least three feet of separation from other street furniture to allow pedestrian movement.
5. Minimum capacity of 30 gallons.
6. When adjacent to a roadway, make sure it does not visually obstruct driveways.
7. Create a maintenance plan to ensure trash is being emptied.
8. Do not locate the bin in direct sunlight.

1.6.3 Security

Bus stops at which passengers feel secure are likely to be used more often and improve the perception of the service. Items like landscaping, walls, and other solid structures can restrict sight lines and decrease the perceived security.

Universal Design Best Practices

1. Construct shelters of clear material.
2. Locate stops at highly visible sites.
3. Avoid planting evergreens; they act as a barrier. Instead use low-growing shrubs, ground cover and deciduous shade trees for landscaping.
4. Ensure there is adequate lighting.
5. Site next to businesses and stores when possible to increase surveillance of the site.
6. Maintain the cleanliness of bus stops.

Figure 1-9. One Rack Bicycle Rack Examples
Source: RPTA/Valley Metro: Bus Stop Program and Standards

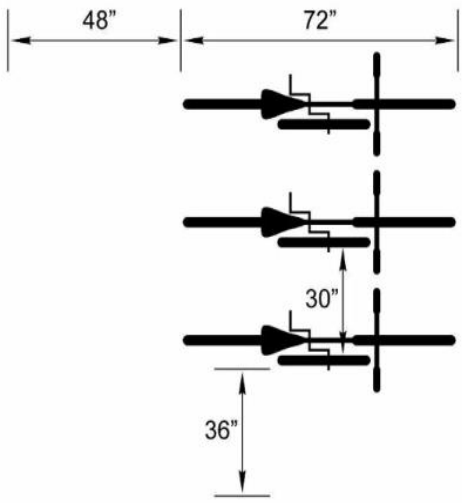
1.6.4 Bicycle Racks

Bicycle racks give passengers the option to park their bike if the bus bike rack is full or if they do not want to take it with them on the bus. They also discourage individuals from locking the bikes to sign poles and other structures.

Universal Design Best Practices

1. Provide paved access from the bike racks to the bus stop.
2. Coordinate location with existing lighting.
3. Ensure parked bikes are visible at all times and not restricted by landscaping, walls, or shelters.
4. Provide at least 30" spacing between bicycle racks, 72" perpendicular to the rack, and at least 48" around the bike rack for access and circulation.

Figure 1-10. Bike Rack Clearances
Source: RPTA/Valley Metro: Bus Stop Program and Standards



1.6.5 Passenger Information Panels

There are several ways to display route and passenger information such as schedule holders and display panels. Schedule holders are mounted to the sign post following ADA guidelines for heights. Display panels on the interior of shelters can hold larger amounts of information such as a system map or schedules for multiple routes.

Universal Design Best Practices

1. Provide updated information when changes are made to the route or schedules.
2. Make the information display permanent; do not just tape it up.
3. Make sure the information is secure (in a case) and can withstand weather elements.
4. Avoid using side panels to display information that might obstruct a driver's view of waiting passengers.
5. Panels mounted directly on the bus stop pole should face the same direction as the bus stop sign.
6. The top of a panel on a pole should be no more than 60 inches from the ground.

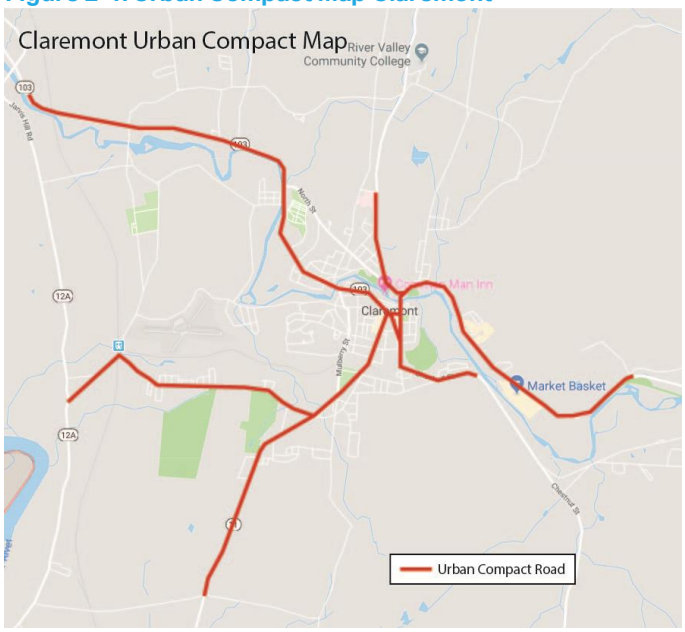
2 Permits and Permissions

The need for a permit and permission to install a stop depends on the location of the stop, who owns the right-of-way it is to be installed on municipal processes.

2.1 State Owned

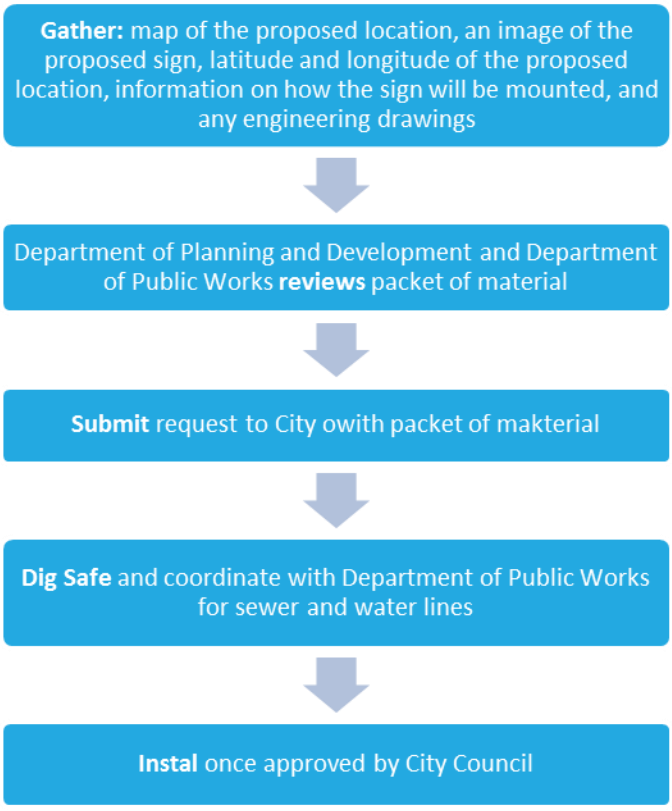
The New Hampshire Department of Transportation does not have a centralized permit for installing signs on state roads. If the sign is being installed on a state roadway in an urban compact then the municipality has jurisdiction over it and their processes and procedures are followed. If the sign is being installed on a state roadway in a rural area then a call to the NHDOT district office is needed to obtain permission and Dig Safe must be called. Urban compacts are set by New Hampshire RSA Section 229:5 and in Sullivan County, an urban compact may only be established in Claremont, Figure 2-1 shows a map of state roads which are within the urban Claremont compact.

Figure 2-1. Urban Compact Map Claremont



Installing concrete or any construction processes and procedures depends on the funding program used. Grant applications vary but typically require engineering drawings. If work is to be done with non-grant application funding then a basic sketch and any specs given to the contractor is needed to show what is being done. A letter of support is also needed from the town (engineer, planner, department of public works, or town manager etc) for the project. There is no formal permit that must be filled out, but permission must be obtained from the NHDOT district office.

Figure 2-2. Claremont Bus Stop Process



2.2 Municipal

Establishing Bus Stops along municipal right-of-way requires coordination and permission with the municipality. Appendix A Provides maps and lists of proposed stops within each Municipality

2.2.1 Claremont

The City of Claremont does not have a permit for installing signs or performing concrete work on municipal roads. All proposed bus stop locations on municipal or urban compact state right-of-way must be approved by city council. When submitting a request to install a bus stop it must include a map of the proposed location, an image of the proposed sign, latitude and longitude of the proposed location, information on how the sign will be mounted, and any engineering drawings if concrete work is to be done. This information should be submitted to the Department of Planning and Development and Department of Public Works (DPW) for review prior to submitting it to City Council. The DPW will be able to identify any water and sewer lines in the proposed area, as they are not part of Dig Safe. Dig Safe should be called once the request has been submitted to City Council but before it is approved. City Council meets the second Wednesday of each month and all material for the meeting must be submitted at least one-week prior to the meeting. The Council may require a license stating that the city is not responsible for the stops or liable. Once the stop is approved by City Council it will be written into the town ordinance and relocating the stop would require City Council Approval. Any improvements to the stop such as installing a shelter or bench would require council approval. Any engineering drawings needed should follow NHDOT specifications.

2.2.2 Charlestown

Charlestown does not have a permit for installing signs or performing concrete work on municipal roads. All requests should be submitted to the town manager.

2.2.3 Newport

Newport does not have a permit for installing signs or performing concrete work on municipal roads. All requests should be submitted to the town planner.

2.3 Private

Stops on private property need the permission of the property owner to install the sign and any structure. Appendix B contains a list of all stops on private land. A written agreement should be signed by both parties identifying the location of the stop, responsibilities, and any amenities. The property owner has the right to request to relocate the bus stop or eliminate it from the property. In the event that this occurs SCS could still service the location through deviations. A study by the Center for Urban Transportation Research on public transit access

on private property[3] found that in some instances that after a stop was removed, public pressure resulted in it being reinstated. While it is important to respect the property owners rights it is equally important to identify the issue that is causing the removal request and try to negotiate a solution. One approach which can be used for new developments are the adoption of land development regulations by municipalities which require coordination with the transit agency.

2.4 Engineer Drawings and Specs

Engineering drawings and specs are needed for concrete work but the extent and detail required will vary based on the project, funding source and municipality. A simple drawing such as that seen in Figure 2-3 may be all that is needed or it could require a more comprehensive engineering drawing as seen in Figure 2-4. In general the larger the project (or more costly), the greater amount of detail in a drawing you will need. The 2016 NHDOT Standard Specifications for Road and Bridge Construction should be followed for specifications and the 2010 NHDOT Standard Plans for Road Construction4 and detail sheets5 for drawings. All signs installed on posts should be installed on their own post, and the post must be a break-away post. Signs are not to be installed on utility poles and should only be installed on buildings once permission is granted.

[3] https://www.nctr.usf.edu/pdf/PublicTransitAccess_PrivateProperty.pdf
[4] https://www.nh.gov/dot/org/projectdevelopment/highwaydesign/standardplans/
[5] https://www.nh.gov/dot/org/projectdevelopment/highwaydesign/detailsheets/index.htm

Figure 2-3. Example of Simple Shelter/Concrete Drawing

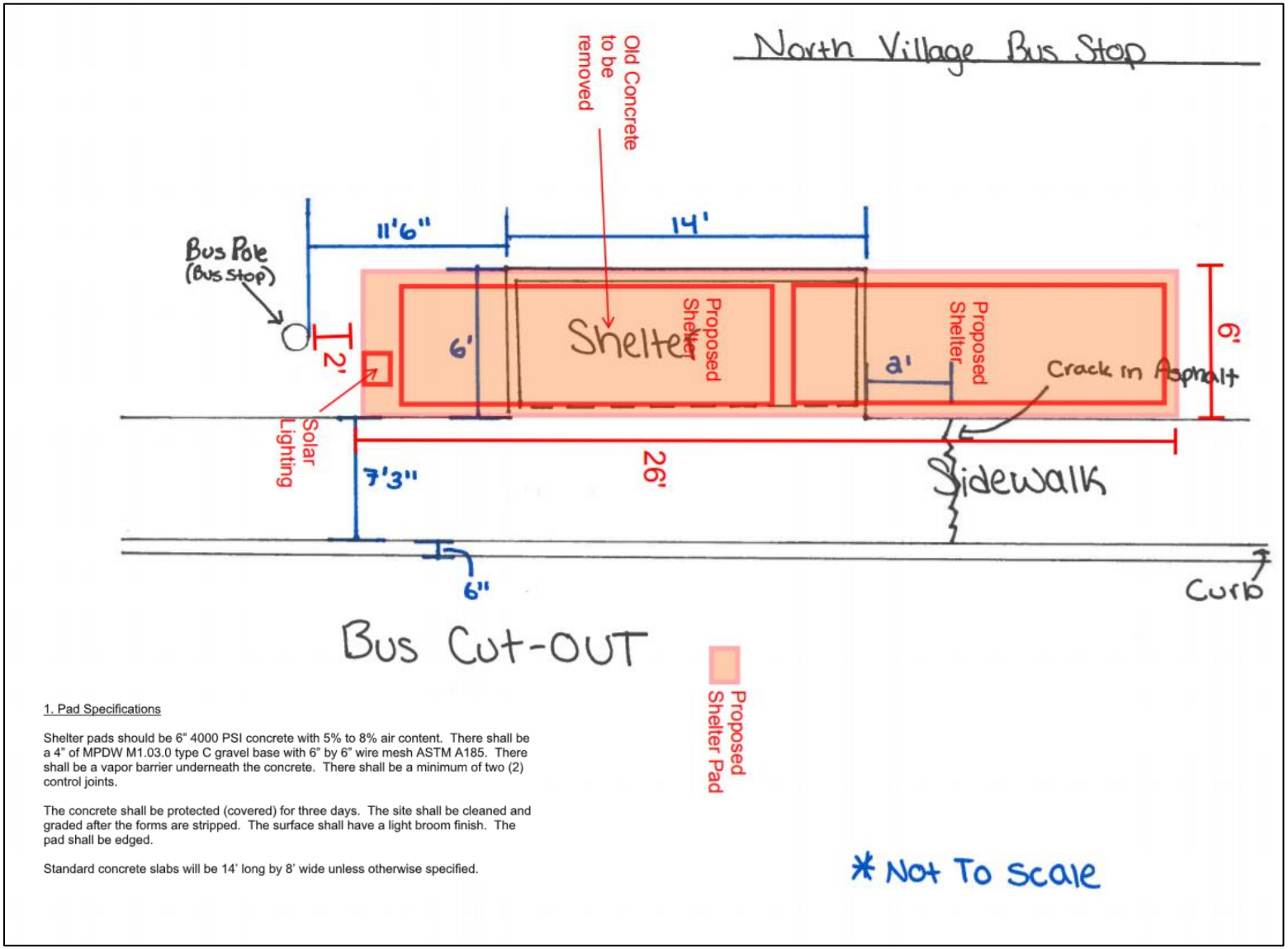
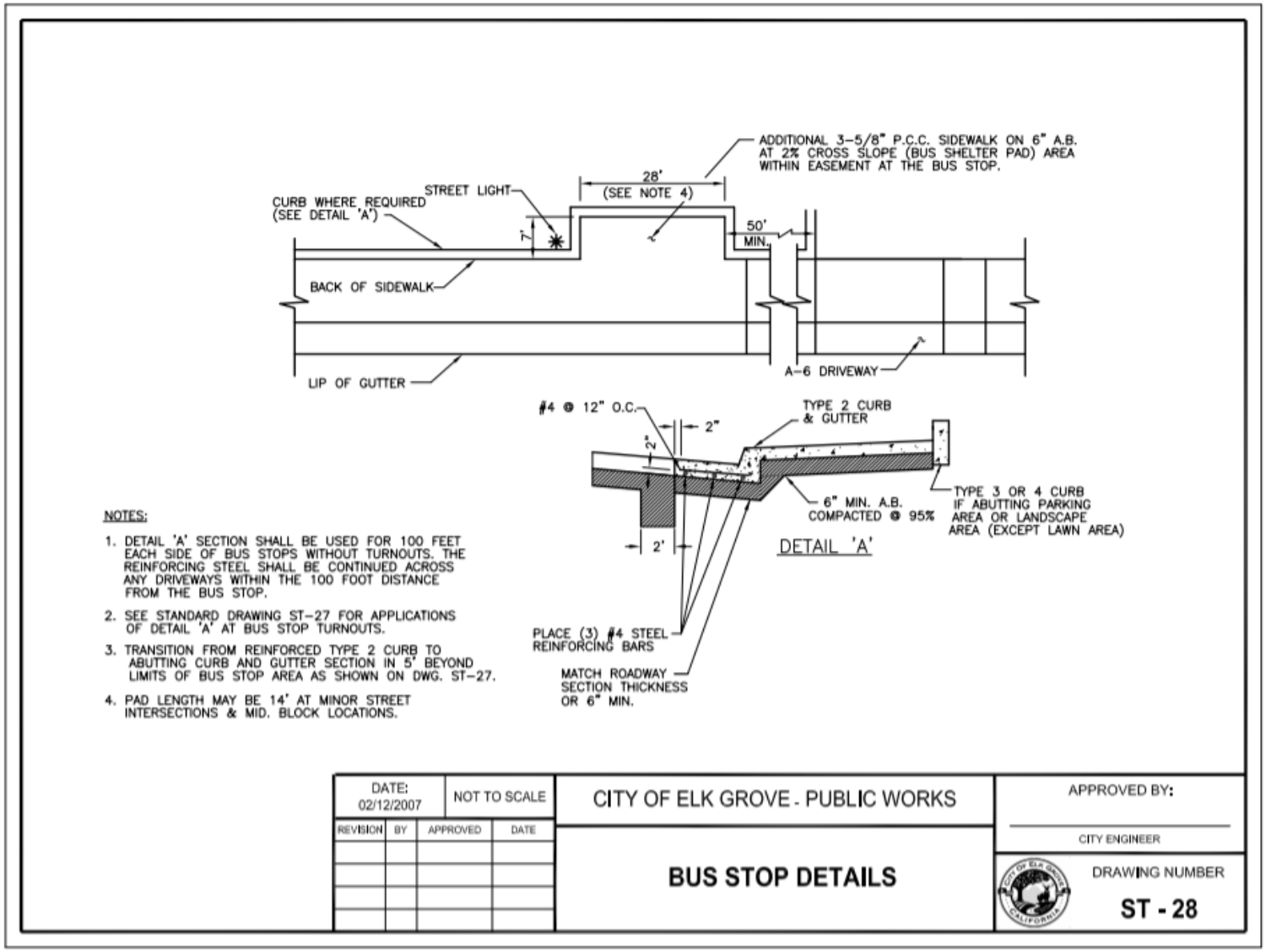


Figure 2-4. Example of Engineering Drawing



Source: City of Elk Grove – Public Works Bus Stop Detail https://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/st28-bus-stop.pdf.

3 Installation

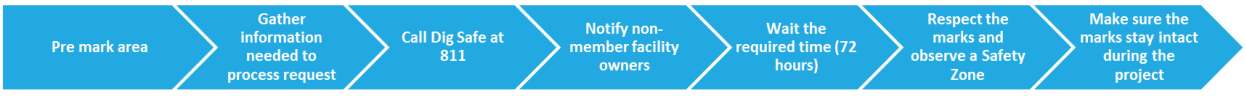
There are four steps to follow to installing a bus stop or doing concrete work that requires any digging once any permits or permissions have been granted in writing. Sign installation on existing structures or poles can be done by SCT. Installing benches in already poured concrete can be done by the SCS maintenance Crew. Shelter installation follows the four steps but does not require Dig Safe.

Figure 3-1. Steps to Installing or Improving a Bus Stop

The first step is to obtain a contractor, this should be done through a competitive process. It is recommended that SCT obtain an on call contractor which can perform bot the concrete work and install. Obtaining an on-call contractor with renewal options in the contract would allow flexibility in performing the work. In the contract it should specify that the contractor have liability insurance, payments in full won't be made until work is inspected and for any concrete work it will be re-inspected again after one winter season to ensure that it withstands the elements.

The name of the contractor is needed to request Dig Safe. Dig Safe is required by state law when any earth/rock or ground material is moved. It is a clearinghouse that notifies participating utility companies about planned digs and by filling out a free application utility companies will mark out the location of their underground utilities in the vicinity of the planned dig. Locations must be pre marked and Dig Safe must be notified at least 72 hours in advance of any work. To request Dig Safe call 811 and have the following information available: your contact information, location of the proposed dig (address and Latitude and Longitude), nearest cross street, type of work being done, the anticipated start day of the work, and name of contractor doing the work.

Figure 3-2. Dig Safe Steps



Once the work has been formed SCT should inspect it to make sure that it was done to spec. Payment in full should not be granted until the work has been inspected, it is recommended that SCT withhold 10% of the payments until the work is inspected and deemed up to spec. Measurements should be taken to ensure all dimensions and slopes are correct. A photo log should be done for SCT's record of the work. Once the inspection is complete, the final

payment should be processed. Concrete work should be inspected again once it has endured a winter season to ensure that there is no cracking or crumbling of it.

4 Maintenance

Well maintained bus stops are crucial to the image and attractiveness of a transit system. Damaged signs, shelters, benches and structures, graffiti, and trash build-up should be addressed in a timely manner to create a positive image of the system and eliminate unsafe conditions. Bus operators and passengers are often the first to report issues and a clear process for such should be developed. A maintenance plan should be created that addresses the responsibility and frequency of the items listed in Figure 4-1. To ensure routine maintenance, a database can be created to track the amenities, their condition and maintenance schedule of each stop. The maintenance of bus stops can be costly and time-consuming, establishing an Adopt-a-stop program can assist with this.

Figure 4-1. Elements of Maintenance Plans

MAINTENANCE PLAN ELEMENTS

1. **Washing of shelter and accessories**
2. **Removal of graffiti**
3. **Trash removal**
4. **Litter pick up around the stop**
5. **Removal of weeds**
6. **Pruning of obstructing foliage**
7. **Touch up of shipped paint**
8. **Repairing safety concerns**
9. **Replacing light bulbs**

1. Washing of shelter and amenities

This should be done twice a year by STC or their contractor.

2. Removal of graffiti

Graffiti includes any markings, unauthorized posted materials and stickers. Markings made with pens, paint, markers, etc. often require chemicals to remove and should be done by STC or their contractor. It should be removed immediately after it is reported. Adopt-a-stop individuals can assist in reporting and graffiti and removing unauthorized postings.

3. **Trash removal**

   Trash bags should be replaced at least once a week, and more often if trash accumulates. Monitoring of trash levels and replacing bags can be done by SCT, the property owner or an adopt-a-stop individual. The plan should outline who is responsible for each stop.

4. **Litter pick up around the stop**

   Litter should be removed immediately and can be done by SCT, the property owner or an adopt-a-stop individual. The plan should outline who is responsible for each stop.

5. **Removal of weeds**

   Weed removal should be done as needed using either chemicals or manual means. This should be done by STC or their contractor.

6. **Pruning of obstructing foliage**

   Foliage which obstructs the view of the bus stop and waiting passengers or hangs low enough to come into contact with the bus should be pruned. Initial pruning should be done in the spring and then as needed. This should be done by STC or their contractor.

7. **Touch up of chipped paint**

   Touching up of paint should be done once a year by STC or their contractor.

8. **Repairing safety concerns**

   Safety concerns should be repaired immediately by STC or their contractor. Annually each structure and sign post should be inspected and tested by SCT staff to ensure all items are secure and to note condition and potential issues to monitor such as rust forming.

9. **Replacing light bulbs**

   Dim or out light bulbs can be part of the adopt-a-stop individual check list. The maintenance plan should outline ownership and maintenance responsibility for each lighting fixture. The adopt-a-stop individual should report the issue to SCT to coordinate the responsible party (SCT, municipal, private) for fixing it.

10. **Snow removal**

    The majority of snow removal in Claremont is done by the City. STC should coordinate with the city to have snow removed from shelters and ADA landing pads. In locations where the City does not perform snow removal SCT can work with the High School to obtain students who would remove snow from locations as part of their required volunteer work.

4.1 Adopt-a-stop

Adopt-a-stop is a program where individuals or organizations "adopt" the stop and are responsible for cleaning and monitoring it, similar to how highways are adopted. This can be done for stops with or without shelters. Participants can be given incentives, such as bus passes or tickets, to increase participation. Adopt a stop individuals can assist with:

- Removing litter
- Replacing full trash bags
- Identifying issues such as out light bulbs, weeds growing, graffiti, damage and safety concerns
- Removing unauthorized postings in shelters
- Snow removal

Appendix K - National Review of Innovative Funding Strategies

Innovative funding options used across the country are described in this section, divided into the following categories: fees, taxes, partnerships and special districts.

1.1 Fees

Fees can be used to support transit services in a similar fashion to taxes. The authority to impose fees is also given at the discretion of the state. Fees used to support transit service include: vehicle fees (title, registration, tags, and inspection), corporate franchise fee, parking fee, mortgage recording fee, tolls, motor carrier/limo fee, and underground tank storage fees.

1.1.1 Mortgage Recording Fee

A mortgage recording fee is similar to a realty transfer tax in that a fee is assessed when a new mortgage (due to the purchase of a property) is recorded. In western New York, for example, a mortgage recording fee is assessed at the county level for each county within a transportation authority that receives public transportation services. The county provides the revenue from the mortgage recording fee to the transportation authority to support transit service provision within that county and throughout the authority service area. In New Hampshire the the county sets the mortgage recording fees and collects them. The current fee in Sullivan County is $10.00 for the first page plus a $4.00 for each page thereafter with a $2 surchage fee per document.

1.1.2 Development Impact Fees

Development impact fees are one-time charges on new developments to help fund infrastructure costs off-site but that are impacted by the new development[1]. They are typically used to fund roadway improvements but can be used for public transit infrastructure investments and operations; however it is not yet widespread. The fees can be assessed locally or on a statewide basis and are most effective in rapidly growing areas with strong markets. San Francisco enacted a transit impact development fee in 1981 and it generates an average of $10 million per year. The fee has a maximum of $5 per square foot and is only applied to new office building development. The revenue is used to help fund Muni's operating cost. Currently 26 states have passed legislation allowing for the assessment of impact fees on new development; New Hampshire is one of these states. New Hampshire municipalities can adopt impact fee through their zoning ordinance but its uses are limited and transit is not one of them. To use development impact fees for transit would require a redefinition of uses under N.H. RSA 674:21, V. and the adoption of set legislation in their zoning.

1.1.3 Vehicle Fees

1.1.3.1 Registration, Title and License Fees

Vehicle-based fees provide revenue to support transit service and discourage individual vehicle usage while encouraging transit usage and other alternate modes of travel. Different types of fees include inspection, heavy vehicle registration, truck gross weight registration, license, and vanity plates. Vehicle fees can be dynamic and charged based on vehicle value, weight and/or age or flat rate. The fees can be charged via several options based on the issuance of titles, licenses, registration or inspection. The authority to impose and collect vehicle fees is sometimes provided to local governments as a 'local option.' The revenue from these types of options are usually used for the administration/collection of fees, enforcement, or put into the general fund. Only a portion is generally used to fund public

[1] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

transportation. Across the United States, local governments in 34 states have the ability to assess vehicle fees and 20 have state level versions[2]. In Vermont the state assesses vehicle inspection fees based on class of vehicle and a separate fee for vanity plates that goes into the state transportation fund, part of which funds transit. In Florida, 12.9 percent of vehicle registration fees statewide go to fund transit.

New Hampshire allows municipalities to assess up to a $5 vehicle registration fee to create a local transportation fund that can be used for the operating and capital cost of public transportation amongst many other things. To assess the fee the legislative body of the municipality must vote and approve it. Fifteen communities currently collect this fee, including Claremont. Claremont collects $28,500 and uses it for road, bridges and winter maintenance. **If Charlestown and Newport were to assess the $5 fee, they could raise $11,000 and $14,000, respectively.** In 2015 there was a bill filed by Representative Higgins to raise the $5 cap to $10, but it was defeated. If it had passed, an additional $28,500 could have been collected by Claremont and if Charlestown and Newport assessed the $10 fee, $50,000 could be raised

Table 1. Potential Revenue from Local Vehicle Registration Fee

City/Town	Current Fee Collected	Potential Fee Current Legislation	Potential Fee Proposed Legislation	Additional Revenue Potential
Claremont	$28,500	$28,500	$57,000	$28,000
Charlestown	--	$11,000	$22,000	$11,000-$22,000
Newport	--	$14,000	$28,000	$14,000-$28,000
TOTAL	$28,500	$53,500	$107,000	$25,000-$107,000

1.1.3.2 Motor Carrier/Limo Fees

Motor carrier/Limo fees are similar to vehicle registration fees but are collected only for limousine and commercial buses. This fee is typically administered and collected by the state and deposited into a general transportation fund. In Michigan the state passed legislation in 1982 and 1990 that requires motor buses and limousines to pay annual fees in order to operate service the state has created a Comprehensive Transportation Fund (CTF) that is reserved for public transit uses. The CTF receives 10 percent of the Michigan Transportation Fund; its revenue sources include fuel taxes, vehicle registration fees, and motor carrier/limo fees amongst others. CTF funding can be used for capital and operating costs. The motor carrier/Limo fees collected, which go towards transit, annually are $600,000. The registration fee for each bus is $25 and limo is $50 but effective March 21, 2017 the limo fee was abolished and the bus fee increased to $100 per bus annually[3,4]. **If New Hampshire were to**

New Hampshire has 566 registered private and commercial buses

[2] Arizona PIR Education Fund. *Why and How to Fund Public Transportation.* http://www.uspirg.org/sites/pirg/files/reports/Why-and-How-to-Fund-Public-Transportation.pdf. 2009

[3] Michigan State Act 271 http://www.legislature.mi.gov/documents/mcl/pdf/mcl-Act-271-of-1990.pdf?20140806142541 2017

[4] Michigan State Act 432 http://www.legislature.mi.gov/documents/mcl/pdf/mcl-act-432-of-1982.pdf?20140806142541 2017

implement a $100 annual fee for all private and commercially owned buses, the state could generate $56,600 in revenue.

1.1.3.3 Vehicle Lease Fee

When a consumer leases a vehicle, fees are included in every lease payment. Lease taxes or lease fees are basically like a sales tax applied to the amount of each monthly lease payment. The fees could be assessed to generate transportation revenue. In Pennsylvania there is a 3 percent motor vehicle lease fee that goes into the Public Transportation Assistance Fund[5]. According to the 2017 Edmunds Lease Market Report, approximately 31 percent of new vehicles are leased. While New Hampshire does not assess a specific fee on leased vehicles for transit, if a monthly fee of 50¢ was assessed, this could generate $331,000 or an annual fee of $1 could generate $55,000. **If the Pennsylvania model was applied, assuming the average lease payment is $250 a month, this could generate $414,000 annually in New Hampshire.**

1.1.3.4 New Tire Fee

Several states assess a fee to the purchase of every new tire. Therefore the fee is based on usage; those who drive more will need to purchase more tires. Most states that impose the fee do so to offset the cost of disposing of the tires. Pennsylvania is the only known state that dedicates the entire assessed fee to funding public transit. Pennsylvania assesses a $1 fee on all new tires; all collected fees go into the Public Transportation Assistance Fund[6]. New Hampshire does not collect a fee on new tires but does allow municipalities to assess a fee when vehicles are registered, the revenue must be used for off-site scrap tire management. If New Hampshire wanted to allow a new tire fee to fund transit, collected at the municipal level, then a change in the legislation would be required**. A 50¢ charge per new tire fee collected at the local level dedicated to funding transit could generate $34,300 in the three service area municipalities.** Table 2 shows the potential revenue which could be generated locally for a 50¢, 75¢ and $1 fee per tire during registration.

Table 2. Potential New Tire Fee Revenue

City/Town	50¢/tire	75¢/tire	$1/tire
Claremont	$18,300	$27,400	$36,600
Charlestown	$7,000	$10,500	$14,100
Newport	$9,000	$13,400	$17,900
TOTAL	$43,300	$51,300	$68,600

1.1.4 Parking Revenue/Fees

Parking fees can accomplish multiple goals including generating revenue, shifting mode choice, and reducing congestion. Paid parking is almost always a locally managed funding option for transportation. In Hanover, New Hampshire the city uses revenue from the parking fund to support Advance Transit. The fund is derived from permit parking, meter fees, leased parking, fines and the Tax Increment Financing District Levy. The fund collects $1.8 million annually of which approximately 13 percent is

[5] Pennsylvania Department of Revenue. Public Transportation Assistance Fund Taxes and Fees https://revenue-pa.custhelp.com/app/answers/detail/a_id/661/~/public-transportation-assistance-fund-(pta-)-taxes-and-fees 2017

[6] Pennsylvania Department of Revenue. Public Transportation Assistance Fund Taxes and Fees https://revenue-pa.custhelp.com/app/answers/detail/a_id/661/~/public-transportation-assistance-fund-(pta-)-taxes-and-fees 2017

spent on transit. Claremont, Charlestown and Newport do not have paid parking; implementing paid parking would require capital investments in infrastructure and enforcement.

1.1.5 Tolls

Tolling provides a source of revenue for transportation investments and congestion relief and is administered at the state level. Users pay a fee for access to a road, bridge or tunnel and the revenue general goes into improving and paying for that system. Tolls are seen as reliable and through the advent of new technology have reduced constraints associated with collecting tolls. While traditionally the revenue is restricted to use on the corridor collected, in San Francisco bridge tolls were raised in 2004 to fund a new ferry, transit infrastructure, express bus, operating costs for regional transit, and improved connections[7]. In New Hampshire, toll credits are used to match federal highway funds for roadway and "projects concerning the travel of motor vehicles on such highways and roads" without approval of the joint legislative capital budget overview committee. Toll credits were used for the local match to fund the MTA Concord Express demonstration project for the first two years. Tolls collected are used exclusively for the turnpike system expenses including operating, construction, reconstruction and maintenance; therefore, the funds could not be used to support SCT due to the lack of toll roads in the region.

1.1.6 Underground Storage Tank Fee

Underground tank storage fees are assessed to the owners of underground motor fuel tanks based on the capacity of the tank. The fees are set and collected at the state level. Typically they are used for environmental protection and clean-up, but in certain states amounts have been allocated to the transportation or general funds. In Rhode Island 50 percent of the 1.0¢ underground storage tank recovery fee, which is assessed per gallon, is allocated to Rhode Island Public Transit Authority operations[8]. New Hampshire does have an underground storage tank program but does not collect a fee; there are almost 2,700 registered tanks in the state. **Implementing a fee 1.0¢/gallon fee and allocating a percentage to fund transit would require state legislation but could collect up to $30,000. If New Hampshire followed the Rhode Island model, it could allocate $15,000 (50 percent) of the revenue to funding transportation and transit programs.**

1.2 Taxes

Taxes generated specifically for transit service can come from a variety of sources: sales tax, property tax, income tax, employer/payroll taxes, vehicle excise tax, realty transfer tax, hospitality tax, utility (including gas) tax, etc. Equally variable is the authority by which the taxes are assessed. The ability of individual jurisdictions to collect income varies widely. In New Hampshire the authority to set taxes is at the state level currently but with legislative action, the authority could be given to counties/municipalities to apply local option taxes under home rule to raise revenue for transportation-related purposes.

1.2.1 Employer Passenger Tax Break

Under Section 132 (f) of the Internal Revenue Code commuter tax benefits area allowed. Under the law employers can give their employees up to $255 a month in transit vouchers/passes or employees can

[7] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

[8] Survey of State Funding – Public Transportation American Association of State Highway and Transportation officials http://scopt.transportation.org/Documents/SSFP-10-UL.pdf 2016

use up to $255 per month in pre-tax income to pay for transit. If the employer pays for the transit passes, the subsidy does not show up in the employees W-2 form as income. If the employee elects to pay the commuter benefit they can do so with their pre-tax income, thus receiving more after-tax spendable income[9].

1.2.2 General Revenue and Taxes

1.2.2.1 Property Tax

Property taxes are the primary source of local tax collection used to operate local government. Fifty-percent of states have municipalities that impose property taxes and dedicate a proportion to funding transit. Property taxes are a source of local revenue for 69 transit providers according to the Federal Transit Administration's National Transit Database (NTD). The use of property tax revenue is generally left to the discretion of the municipality, so using this source of revenue to support transit service does not always require special authority. The town can use a portion of existing property tax revenue to support transit service.

New Hampshire assesses four types of property taxes: town tax, local education tax, state education tax, and a county tax. A special assessment or local mill levy for transit would require legislation action in New Hampshire. State property taxes in New Hampshire generated $409,085,000 in FY2018[10]. A special assessment or local mill levy for transit would require legislation action in New Hampshire. **Assessed property value in 2018 for Claremont, Charlestown, and Newport was $1.36 billion; applying a tax rate increase of 0.1 mills would generate $136,000 in the three communities.**

1.2.2.2 Sales Tax

Nationally, sales tax is the most commonly used tax to support transit services for capital spending and operating expenses. Sales taxes are typically set at the state level but 38 states do allow for municipalities to set local tax rates[11]. New Hampshire does not have a state sales tax nor do they authorize municipalities to set local tax rates. According to the NTD, after federal funds, sales taxes comprised the largest source of revenues for capital spending (38 percent) and the second largest source of operating expenses (27 percent) after fares (32 percent). Nineteen states use the state sales tax to fund 99 transit systems. Massachusetts is the only New England state to dedicate state sales taxes to transit. At the local and regional level, sales taxes can be enacted for transit (if the authority is given). Nationally, the additional local/regional sales tax assessed for transit ranges from 0.25 - 1 percent[12]. Local sales taxes are dedicated transit sources in 19 states to fund 101 transit systems. There are no states in New England that have local sales taxes as dedicated sources of transit funding.

Nationwide, sales tax is a common source of dedicated transit funding

[9] National Center for Transit Research – Commuter Tax Benefits https://www.nctr.usf.edu/programs/clearinghouse/commutebenefits/ 2017

[10] NH Department of Revenue Administration – Completed Public Tax Rates 2018 https://www.revenue.nh.gov/mun-prop/municipal/documents/18-tax-rates.pdf

[11] Pinho, R. (2013). Local Option Taxes. OLR Research Report https://www.cga.ct.gov/2013/rpt/2013-R-0345.htm

[12] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

In the last quarter-century there have been several local-option sales tax referenda to dedicate funding to transit. In 2015 voters in Phoenix approved a city sales tax increase to fund new light rail and BRT corridors. In Northern Virginia there is a legislatively mandated regional sales tax, and a tax imposed in 2013 in the Northern Virginian Transportation Authority district generated $250 million annually for transportation.

'Use' taxes and 'excise' taxes are also types of sales taxes. 'Use' taxes are either applied to transactions not subject to sales tax or in combination with sales tax. Examples are lease or rental transactions and can be structured in a way to tax services used by higher-income consumers to reduce the burden on lower-income consumers[13]. 'Excise' taxes are paid with the purchase of specific goods, such as a vehicle. Vehicle-based taxes make particularly good sense to fund transportation for two reasons:

1. They can be used to fund transit
2. They discourage individual auto usage and encourage transit usage

In Texas, eleven urban areas have approved local sales taxes dedicated to a transit system[14]. Michigan designates ¼ of the 4 percent sales tax on automotive related items to transit. New Hampshire does not collect sales taxes at the state level nor do they allow local municipalities to collect one. Utilizing sales taxes to fund transit in New Hampshire would require state legislation. **Using Vermont as a model of potential revenue from sales taxes, every 1 percent increase in sales tax could generate $38 million annually. Implementing a 1 percent sales tax on just automotive-related items could generate $808,000 in New Hampshire.**

1.2.2.3 Income Tax

State income taxes are a major source of revenue, while local income taxes are far less common. Very few states dedicate a proportion of the income tax revenue to fund transit. State income tax revenue in just three states (New Mexico, New York, Oregon) is a dedicated source of funding for transit[15]. Cities in Indiana, New Mexico, New York and Ohio have used income taxes as a dedicated source of funding for transit. In 2016, Indianapolis Region voters approved a referendum that authorizes the city to impose an income tax of up to 0.25 percent—25 cents per $100 of income—to help fund the Marion County Transit Plan. New Hampshire does not tax an individual's earned income.

[13] Arizona PIR Education Fund. *Why and How to Fund Public Transportation.* http://www.uspirg.org/sites/pirg/files/reports/Why-and-How-to-Fund-Public-Transportation.pdf. 2009

[14] Texas Department of Transportation. *A study of sources used for local revenue for transit* https://ftp.dot.state.tx.us/pub/txdot-info/ptn/matching-funds-resource-guide.pdf 2013

[15] National Transit Database Tables 28 and 29. 2014

1.2.2.4 Real-Estate Transfer Taxes

Real estate transfer taxes are taxes levied onto property sales transactions; they are also called a documentary stamp tax in certain locations. They can be levied on residential, commercial, industrial or a combination of classes of property depending on state legislation. Depending on state legislation, sometimes it is the seller's responsibility to pay the transfer tax and sometimes it is the buyer's responsibility to pay the transfer tax. Nationally, rates are highly variable and range from 0.01 percent to 2.2 percent[16]. In New Hampshire the state assesses a real estate transfer tax (RETT) of $0.75 per $100 of the sale, granting and transfer of property. The RETT is split by both the buyer and the seller.

A 1% tax increase on the sale of real estate over $1M could generate $982,000 in revenue

Illinois imposes an additional one percent real-estate tax to their 0.10 percent tax on the sale and transfer of any personal residence valued at more than one million dollars to help fund transit. Based on Census data, in New Hampshire 4,462 homes are worth more than $1 million. Assuming that each year 2 percent of homes are sold; that the average value of a home over $1 million is $1.1 million; and an additional real-estate transfer tax of 1 percent was added to the sale of these homes; a real estate transfer tax could **generate $982,000 in revenue each year in New Hampshire**.

1.2.3 Vehicle Related Taxes

22 states dedicate a portion of their gas tax to funding transit

1.2.3.1 Gas Tax

Gas/fuel taxes not only generate revenue but reduce single occupancy vehicle travel and increase transit and other alternate mode usage[17]. The tax is typically assessed by the state and less commonly through local governments. State fuel/gas taxes are dedicated sources to fund 92 transit services in 22 states. Local gas taxes are used in seven states to fund 19 transit systems and are primarily located in the Midwest, west, and south US. Typically the taxes raised through the gas tax are dedicated to a transportation fund, in some instances a proportion is dedicated to transit. For example, in Florida 2.86¢ of the federal gas tax goes to funding transit. Additionally 15 percent of the 13.3¢ state fuel tax, 31.7¢ fuel use tax, 6.1¢ of the state comprehensive transportation system tax, and 6.9¢ aviation fuels tax goes to fund alternative (air, bus, rail, water) transportation. Locally counties can impose up to an additional 11¢ local option fuel tax; all 67 counties have imposed the tax and 26 have imposed the maximum tax.

In New Hampshire the gas tax was raised 4.1¢ to 23.83 ¢/gallon in 2014 to fund the widening of I-93, local bridge and road repairs and state road improvements. New Hampshire ranks 35th out of 51 states (including the District of Columbia) for the highest gas tax and. Gas taxes can be a substantial source of funding. In FY 2017 New Hampshire generated $124,477,000 in gas tax revenue[18], **raising the gas tax**

[16] Illinois PIRG. *Finding Solutions to Fund Transit*. http://financecommission.dot.gov/Documents/IL_transit_report_June%202007.pdf. 2007

[17] Victoria Transport Policy Institute. Local Funding Options for Public Transportation. http://www.vtpi.org/tranfund.pdf. 2016

[18] Toll Revenue, Gas Taxes, and Gas Prices in Selected States https://www.cga.ct.gov/2018/rpt/pdf/2018-R-0048.pdf

by just half a cent and dedicating it to funding transit could generate $2.6 million in New Hampshire.

Table 3. Potential Revenue for Gas Tax Increase

Gas Tax increase	Potential Revenue
½ a cent	$2.6 Million
1 Cent	$5.2 Million
2 Cents	$10.4 Million
4 Cents	$20.9 Million

1.2.3.2 Vehicle Rental Tax/Fee

Rental car fees are paid by the consumer on the rental of a passenger car, and are typically limited to 30 days. These types of fees are generally remitted to the state with the other taxes and fees collected (including sales or use taxes) and then distributed to the transit agencies. Thirty-eight states tax the rental of motor vehicles, the rate of the fees is generally in the range of 1-2 percent of rental base fee[19,20]. Pennsylvania, for example, established a 'Public Transportation Assistance' (PTA) Fund in 1991 that is partially funded by a fee imposed on rental cars. The PTA Fund revenue is dedicated to funding for mass transportation. The rental car fee is $2 per day[21]. Arkansas dedicates $1.5 million for rural transit systems annually; 90 percent of this comes from the car rental tax. Indiana, Kentucky, North Carolina and Wisconsin all permit municipalities to impose local rental car taxes to support transit[22].

New Hampshire taxes rental cars under the Meals and Rooms (Rentals) Tax and the revenue goes to the general fund and education fund. In FY2018 New Hampshire collected $8.7 million in taxes from rental cars. **If the state were to increase the tax by half a percent and dedicate the revenue to transit, $483,000 could be generated.**

1.2.3.3 Parking Taxes

Parking taxes are special taxes on commercial parking transactions and are similar to parking fees where motorists pay directly for parking. They are administered at the local level and found in large urban areas. In nonurban areas it has been found that implementing such a tax just encourages private businesses to supply their own parking free of charge.

The City of Pittsburgh imposes a tax of 37.5 percent for each parking transaction in a non-residential parking place[23]. To assess such a tax, New Hampshire would have to pass local tax enabling legislation. Due to the low population densities found in most of the municipalities, it is unlikely that this tax could be successfully implemented.

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[19] Illinois PIRG. *Finding Solutions to Fund Transit*. http://financecommission.dot.gov/Documents/IL_transit_report_June%202007.pdf. 2007

[20] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

[21] Pennsylvania Department of Revenue. Public Transportation Assistance Fund Taxes and Fees. https://revenue-pa.custhelp.com/app/answers/detail/a_id/661/~/public-transportation-assistance-fund-(pta-)-taxes-and-fees. 2003.

[22] Survey of State Funding – Public Transportation American Association of State Highway and Transportation officials http://scopt.transportation.org/Documents/SSFP-10-UL.pdf 2016

[23] Parking Tax form PT 2016, City of Pittsburgh. http://apps.pittsburghpa.gov/finance/2016_PT.pdf. 2017

1.2.4 Use Taxes

1.2.4.1 Utility Tax/Fees

Utility taxes are applied locally to properties and a transportation utility rate can be set. Setting a utility tax dedicated to funding transit typically requires a special levy. The state of Washington asses a utility tax that goes into the state general fund and locally, Pullman Washington assesses a fee. Rates vary from 0.10 percent to 5 percent based on the utility. The fee is found to be useful in areas where the scale of the economy or lack of sales tax do not provide a large tax base to support transit[24]. The levy is typically $10-40 per meter which equates to $5-$20 per capita[25]. **If the three service area communities were to assess a utility tax/fee, it could generate between $122,000 and $488,000.** This would require state legislative action and a special levy adopted by municipalities to impose the tax/fee.

Table 4. Potential Revenue from Utility Tax/Fee Assessment

City/Town	Low Fee $5	High Fee $20
Claremont	$65,140	$260,560
Charlestown	$25,040	$100,160
Newport	$31,925	$127,700
TOTAL	**$122,105**	**$488,420**

1.2.4.2 Hospitality Tax/Fee

Room or occupancy taxes can be applied to lodging at hotels, motels, campgrounds, rooming houses, RV parks, etc. to support transit services. Room or occupancy taxes can be collected at the state level and reallocated to municipalities or collected and retained by local municipalities where state authority is provided. The consumer pays a nominal transit/transportation fee with all of the other fees paid when staying in a hotel room. These fees are generally time-based so that, for example, short-term visitors are assessed the fees while seasonal residents are not.

In Arlington, Texas a special district (the Arlington Entertainment Area Management District) was created to fund a trolley service for guests staying in member hotels to visit recreation and tourist destinations within the district. It was created in 1995 as a municipal management district and is a political subdivision of the state. Hotel properties within the district are assessed a fee of $1.90 per occupied room per night (excluding long stays – those of 30 days or longer) to support the transit service. The hotels pass along the fee to guests as an additional entertainment district fee.

New Hampshire currently has a tax on meals and rooms at a rate of nine percent, which increased from eight percent in FY2010. The revenue generated goes into the state general fund and the education trust fund. In FY2018 this generated $49.8 million in revenue[26]. **If New Hampshire imposed a statewide hospitality tax or fee of 1$ per occupied room per night, the state could generate up to $2,000,000** in revenue based on the data provided by the New Hampshire Department of Revenue Administration annual report and the average cost of a hotel room in the US of $137 per the Hotel Price Index™.

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[24] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

[25] Victoria Transport Policy Institute. Local Funding Options for Public Transportation. http://www.vtpi.org/tranfund.pdf. 2016

[26] 2018 Annual Report of the Department of Revenue https://www.revenue.nh.gov/publications/reports/documents/ar-2018.pdf

1.2.5 Business Activity

1.2.5.1 Payroll Tax

Payroll taxes are usually imposed directly on employers within the transit service area for the amount of gross payroll paid to employees. Typically employer taxes are administered by the state revenue agency on behalf of the transit agency or municipality authorized to assess the tax. Authorizing legislation is generally accompanied with regulations and guidelines for which types of wages and payments are subject to the payroll tax. Payroll taxes are currently used by the state of Oregon to fund the mass transit districts. The program is managed through the Department of Revenue. In New York the Metropolitan Commuter Transportation Mobility Tax (MCTMT) is a tax imposed on those doing business within the metropolitan commuter transportation district who administers the tax for the Metropolitan Transportation Authority. The Columbia Area Transit in Oregon operates in a rural area and part of the local and regional funding sources for public transportation come from a payroll tax. **New Hampshire does not have a payroll tax and legislation would be required to levy such a tax.**

1.2.5.2 Occupational Tax/Fee

Occupational taxes assess taxes on all income resulting from transacting business within an area. It is imposed upon the privilege of engaging in a business, profession, occupation, or trade within an area regardless of the legal residence of the person so engaged. Louisville Metro in Kentucky levies an occupational tax in Jefferson County. Employees who live outside the Louisville Metro but work inside it have a tax rate of 1.45 percent; those who both live and work in the metro have a rate of 2.2 percent and those who live in the metro but work outside it are not subject to the tax[27]. **New Hampshire does not allow municipalities or counties to impose such a tax; doing so would require legislative action.**

1.2.5.3 Corporate Income Tax

The corporate income tax is a gross receipts tax assessed on gross proceeds of sale, value of products, or gross income of a business. In Maryland three percent ($23,020,158) of the state funding for transit comes from the Corporate Income Tax. The tax rate is 8.25 percent and applies to every Maryland corporation, even it if does not have taxable income or is inactive.

New Hampshire has a Business Profits Tax which was reduced from 8.2 percent to 7.9 percent on January 1, 2019. It is the largest sources of revenue for the General and Education Trust Funds, contributing 18.7 percent. In FY2018 it generated $482 million an increase of 12.9 percent from FY2016.

Table 5 shows the potential increase in revenue from raising the tax rate, which, if dedicated to transit, could provide substantial funding.

Table 5. Potential Increase in Revenue from Increased Corporate Income Tax

Percent Increase	Additional Revenue Potential
0.10 %	$5,900,000
0.25 %	$14,700,000
0.50 %	$29,400,000
1.00 %	$58,800,000

[27] Louisville Metro Revenue Commission, Frequently Asked Question https://louisvilleky.gov/government/revenue-commission/frequently-asked-questions-faqs. 2017

1.2.5.4 Corporate Franchise Tax

A corporate franchise tax is levied on the profit and taxable assets of a business. It is a tax that corporations pay in advance for doing business in a state. The tax can be targeted to certain industries and activities. For example, in the New York metropolitan region, a corporate franchise fee is imposed on transportation and transmissions companies and the revenue is used to support transit[28]. In Arkansas any franchise conducting business in the state is required to pay a franchise tax; the rate varies based on the size of the entity. According to a survey done by the American Association of State Highway and Transportation Officials (AASHTO) on state funding for public transportation, Arkansas receives $350,000 from the corporate franchise Fee to fund public transit[29]. New Hapshire does not have a Corporate Franchise Tax. Such a tax would require legislative action.

1.2.6 "Sin" Taxes

1.2.6.1 Gambling/Lottery Revenue

Forty-two states have established lotteries and 22 allow commercial Casinos. Typically states use the revenues to support education systems and the general fund; a few states use it to directly support public transit. Pennsylvania dedicated $80 million from lottery revenues to provide free transit trips to seniors. In New Jersey 8.5 percent of the 8 percent Casino Revenue Tax funds the Senior Citizen & Disabled Resident Transportation Assistance Program (SCDRTAP). SCDRTAP received $20 million in funding from the Casino Revenue Tax Fund[30] in 2013.

New Hampshire is one of the states with an established lottery and casino. In 2009 the state enacted a 10 percent tax on gambling winnings in order to generate revenue due to the lack of sales and income taxes in New Hampshire. It was eliminated in 2011 when the state saw a drop in lottery ticket sales and reduction in betting at the racetrack while neighboring states saw an increase. The enactment of the tax discouraged residents of neighboring states to gamble in New Hampshire. The 2010 Department of Revenue Annual Report for New Hampshire (the last year this tax was collected) reported that the Gambling Winnings Tax generated $821,049 which equates to $82,000 per one-percent of tax. It is unlikely that a tax on gambling and lottery winnings will be put forth in New Hampshire in the near future.

1.2.6.2 Alcohol Tax

Alcohol taxes are imposed at the state level nationwide, and are less commonly found as local taxes. Allegheny County in Pennsylvania is the only known alcohol tax that is dedicated to transit. There is a 10-percent tax on poured alcoholic drinks that supports Port Authority Transit. New Hampshire is one of two states that does not tax liquor or wine; there is a 30 cent/gallon excise tax on beer which generated $12.8 Million in 2018. **Raising the tax by 3¢/gallon and dedicating it to transit could generate over $1.2 million in revenue.**

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[28] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

[29] Survey of State Funding – Public Transportation American Association of State Highway and Transportation officials http://scopt.transportation.org/Documents/SSFP-10-UL.pdf 2016

[30] NJ Transit. Senior Citizen & Disabled Resident Transportation Assistance Program Annual Report and Public Hearing http://www.njtransit.com/pdf/SDAnnual2014.pdf. 2013

1.2.6.3 Cigarette Tax

All 50 states levy excise taxes on cigarettes. The tax nationwide ranges from 17¢ to $4.35 and averages $1.60. In many states the cigarette tax revenues go to the general fund. In addition to state taxes, 460 local jurisdictions (municipality or county) nationwide assess an additional tax on cigarettes[31]. Oregon and Puerto Rico dedicate a portion of the cigarette tax to funding transit. In Massachusetts part of the cigarette tax goes into the Commonwealth Transportation Fund via an offset transfer from the general fund.

The Tobacco Tax in New Hampshire Ranges from $1.78 to $2.23 per pack depending on its size and was last raised in FY2014. In FY2018, the Tobacco Tax raised $216.2 million in revenue[32]. **If New Hampshire were to raise the tax by 1¢ and dedicate the revenue to funding transit, $1,078,000 could be raised.**

1.3 Partnerships

1.3.1 Colleges and Universities

Colleges and universities nationwide partner with transit systems to help subsidize the cost of transit services. Schools either provide direct funding to the system or purchase bulk passes and distribute them to students for free or at a reduced price. Direct funding, in the form of U-Passes, allows students, faculty and/or staff to ride for free or a reduced price and the university covers their cost. Twenty percent of colleges and universities pass the cost along to students through fees[33].

1.3.2 Businesses

Businesses, frequently major employers, partner with transit systems to help subsidize the cost of transit services for their employees, students, patients, clients, etc. Some businesses provide funding for the general operation of transit services or for specific routes and others subsidize fares only for their employees, students, patients, clients, etc.

1.4 Special Districts

1.4.1 Special Assessment District

A special assessment district is another form of property tax. It is used to add an additional tax onto the property tax to support a specific benefit or local public improvement, such as the expansion of transit service. The properties located within a defined zone around the transportation project are assessed with a higher tax rate or a flat fee expressly to fund amenities that benefit those properties. A special assessment district may levy the additional taxes or fees based on distance from the project, type of land use, total acreage, or frontage along the transit line. Special assessments are typically structured to generate either a specified level of revenue or to last a set number of years. In Iowa, municipal transit systems are allowed to enact 95¢ per $1,000 valuation of property for transit through a vote of city

[31] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

[32] 2018 Annual Report of the Department of Revenue
https://www.revenue.nh.gov/publications/reports/documents/ar-2018.pdf

[33] TCRP Synthesis 78. Transit Systems in College and University Communities. A synthesis of best practice, 2008

council. Twenty municipalities have utilized this tax but at lower levels[34]. In New Hampshire towns and cities can establish special assessment districts under RSA 52-A.

1.4.2 Tax Increment Financing

Tax increment financing (TIF) districts are special tax districts within a community where any increase in tax revenue resulting from increased property value is used to pay for public improvements in that district. They have the same purpose as special assessment districts and capture the additional property tax revenue generated by the surrounding land after a project is completed. The rise in property values results in an increase in tax revenue; it does not involve a tax rate increase. Typically bonds are issued to finance the project and are repaid from the increment in property taxes from the improvement. TIF's are typically used to fund large capital infrastructure projects and could include such things as a new transportation center. In New Hampshire TIFs are allowed under stature RSA 162-K. To establish a TIF a municipality must adopt the provisions in RSA 162-K and establish a Development Program for each TIF, and create an advisory board. Municipalities can establish more than one TIF and money raised in the district must be spent within that district. In Hanover, NH the TIF district generates $85,000 annually, which goes into the parking fund used to pay their local share for transit. Claremont has a TIF in the Mill District of downtown that covers 37.31 acres. The revenue generated from the TIF has been used to construct a parking garage, reconstruct public utilities and pedestrian facilities. Newport established a TIF in the Guild area to help offset the cost of infrastructure improvements associated with new commercial developments. Charlestown does not have a TIF.

1.5 Funding Strategy Summary

Several funding alternatives and examples have been presented in the above sections that could potentially be available to support SCT. Table 6 is a summary of potential state and local funding sources, potential revenue, and the requirements in order to implement the measure and generate the revenue. Many of the state and local funding sources would require state and/or local legislation to enact.

[34] Transit Cooperative Research Program (TCRP*). TCRP Report 129 – Local and Regional Funding Mechanisms for Public Transportation*. http://www.trb.org/Publications/Blurbs/160356.aspx. 2009.

Table 6. State and Local Funding Sources

Source	Description	Example	Revenue Potential	Requirements
Mortgage Recording Fee	Assessed when a new mortgage is recorded	In **western New York**, a mortgage recording fee is assessed at the county level for each county within a transportation authority that receives public transportation services. It is used to support transit in those counties	Unknown	Increase mortgage recording fee surcharge by $1 and dedicate to transit
Development Impact Fees	One-time charges on new developments to help fund infrastructure costs off site but which are impacted by the new development.	**San Francisco** enacted a transit impact development fee in 1981. The revenue is used to and help fund Muni's operating cost	Unknown	A redefinition of authorized use under RSA 674:21, V. and the adoption of set legislation in municipality zoning
Paid Parking	Paid parking is almost always a locally managed funding option for transportation.	**Hanover, NH** uses revenue from paid parking to help fund transit	Unknown	Implement parking fees
Under-ground Storage Fee	Underground tank storage fees are assessed to the owners of underground motor fuel tanks based on the capacity of the tank. The fees are set and collected at the state level.	In **Rhode Island** 50 percent of the 1.0¢ underground storage tank recovery fee, which is assessed per gallon, is allocated to Rhode Island Public Transit Authority operations	$15,000	Assessing a 1.0¢ fee per gallon to all tanks and dedicating percent50 to transit
Tolls	Tolling provides a source of revenue for transportation investments and congestion relief and is administered at the state level.	In **Maine** the ShuttleBus Zoom service is partially funded by the Maine Turnpike Authority	Unknown	Allow toll revenue to be used on non-tolled roads,

Source	Description	Example	Revenue Potential	Requirements
Vehicle Fees				
Vehicle Registration, Title and License Fees	Different types of fees include inspection, heavy vehicle registration, truck gross weight registration, license, and vanity plates. They can be local or state wide.	In **Florida** 12.9 percent of vehicle registration fees statewide goes to fund transit. **Lebanon, NH** assess a $5 local vehicle registration fee to fund their share for the transit system	$25,000-$78,500	Assessment of Fee by communities, increase in maximum fee from $5 to $10
Motor Carrier/Limo Fee	Motor carrier/Limo fees are similar to vehicle registration fees but are collected only for limousine and buses.	In **Michigan** a fee is assessed to all motor carrier/limo registrations. 10 percent goes to funding transit	$56,000	Assessment of $100 annual fee on motor carriers
New Tire Fee	Fee on the purchase of new tires	**Pennsylvania** assess a $1 fee on all new tires, all collected fees go into the Public Transportation Assistance Fund	$43,300; $51,300; $68,600	Allow county or local fee assessment on new tires. Asses fee of 50¢; 75¢; $1
Vehicle Lease Fee	When a consumer leases a vehicle, fees are included in every lease payment. Lease taxes or lease fees are basically like a sales tax applied to the amount of each monthly lease payment.	In **Pennsylvania** there is a 3 percent motor vehicle lease fee which goes into the Public Transportation Assistance Fund	$331,000; $55,000; $414,000	Assessment of 50¢ monthly fee to all leased vehicles; $1 annual; 3 percent
General Revenue Taxes				
Real-estate Transfer Tax	Real estate transfer taxes are taxes levied onto property sales transactions; they are also called a documentary stamp tax in certain locations.	**Illinois** imposes an additional one percent real-estate tax to their 0.10 percent tax on the sale and transfer of any personal residence valued at more than one million dollars to help fund transit.	$982,000	A 1 percent increase in real estate transfer taxes to homes worth more than $1 million

Source	Description	Example	Revenue Potential	Requirements
Income Tax	State income taxes are a major source of revenue, while local income taxes are far less common. Very few states dedicate a proportion of the income tax revenue to fund transit.	**Indianapolis** voters approved a referendum that authorizes the city to impose an income tax of up to 0.25 percent—25 cents per $100 of income—to help fund the Marion County Transit Plan	Unknown	Imposing a tax on income in NH
Property Taxes	Fifty-percent of states have municipalities which impose property taxes and dedicate a proportion to funding transit	In **Massachusetts** the regional transit authorities assess local communities for transit. Many communities pay the assessment via property taxes.	$136,000	Special assessment or local mill levy for transit. Increase tax rate by 0.1 mills in Claremont, Charlestown, and Newport
Sales Tax	Nationally sales tax is the most commonly used tax to support transit services for capital spending and operating expenses, particularly at the state level. In some states just the tax on specific goods are dedicated to transit.	In **Texas** eleven urban areas have approved local sales taxes dedicated to a transit system. **Michigan** designates ¼ of the 4 percent sales tax on automotive related item to transit.	$808,000	Change in state legislation to implement a sales tax and dedicate automotive related items to transit
Vehicle Related Taxes				
Gas Tax	The tax is typically assessed by the state and less commonly through local governments. State fuel/gas taxes are dedicated sources to fund 92 transit services in 22 states.	In **Florida** 2.86¢ of the federal gas tax goes to funding transit.	$2.6 million	Raise gas tax by 0.5¢ and dedicate to transit

Source	Description	Example	Revenue Potential	Requirements
Car Rental Tax	Rental car fees are paid by the consumer on the rental of a passenger car, and typically limited to 30 days. These types of fees are generally remitted to the state with the other taxes and fees collected (including sales or use taxes) and then distributed to the transit agencies.	**Maine** has a 5 percent tax on the rental of vehicles, 100 percent of tax revenue from truck and van rentals, and all tax revenue from rental cars during the last six month of the prior fiscal year partially fund the Multimodal Transportation Fund (MTF).	$483,000	Increase the Meal and Rooms tax by ½ a percent
Parking Taxes	Parking taxes are special taxes on commercial parking transactions and are similar to parking fees where motorists pay directly for parking.	A source of revenue for transit in **Vancouver** is a parking tax	Unknown	Local ability to implement tax
Use Taxes				
Utility Tax	Utility taxes are applied locally to properties and a transportation utility rate can be set.	The state of **Washington** asses a utility tax which helps fund transit.	$122,000-$488,000	Legislative action and levy adopted by counties
Hospitality Tax	Room or occupancy taxes can be applied to lodging at hotels, motels, campgrounds, rooming houses, RV parks, etc. to support transit services.	**Arlington, Texas** a special district (the Arlington Entertainment Area Management District) was created to fund a trolley service for guests staying in member hotels to visit recreation and tourist destinations within the district.	$2 million	$1 per occupied room per night

Source	Description	Example	Revenue Potential	Requirements
Business Activity Taxes				
Corporate Franchise Tax	A corporate franchise tax is levied on the profit and taxable assets of a business. It is a tax that corporations pay in advance for doing business in a state. The tax can be targeted to certain industries and activities.	**New York** metropolitan region, a corporate franchise fee is imposed on transportation and transmissions companies and the revenue is used to support transit	Unknown	Legislative action
Payroll Tax	Payroll taxes are usually imposed directly on employers with the transit service area for the amount of gross payroll paid to employees.	Payroll taxes are currently used by the state of **Oregon** to fund the mass transit districts.	Unknown	Legislation enabling a payroll tax
Corporate Income Tax	The corporate income tax is a gross receipts tax assessed on gross proceeds of sale, value of products, or gross income of a business.	In **Maryland** three percent ($23,020,158) of the state funding for transit comes from the Corporate Income Tax.	$5.9 - $58.8 Million	Increase tax by 0.10 percent-1 percent
Occupa-tional Tax	Occupational taxes assess taxes on all income resulting from transacting business within an area. It is imposed upon the privilege of engaging in a business, profession, occupation, or trade within an area regardless of the legal residence of the person so engaged.	**Louisville Metro in Kentucky** levy's an occupational tax in Jefferson County that helps fund transit. Employees who live outside the Louisville Metro but work inside it have a tax rate of 1.45 percent, those who both live and work in the metro have a rate of 2.2 percent and those who live in the metro but work outside it are not subject to the tax	Unknown	Legislative action

"Sin" Taxes				
Gambling/ Lottery Tax	Typically states use the revenues to support education systems and the general fund, a few states use it to directly support public transit.	In **New Jersey** 8.5 percent of the 8 percent Casino Revenue Tax funds the Senior Citizen & Disabled Resident Transportation Assistance Program	Unknown	Legislative action
Alcohol Tax	Alcohol taxes are imposed at the state level nationwide, and are less commonly found as local taxes.	**Allegheny County in Pennsylvania** is the only known alcohol tax which is dedicated to transit. There is a 10-percent tax on poured alcoholic drinks which supports Port Authority Transit.	$1.2 million	Increase the tax by 3¢ per gallon on beer
Cigarette Tax	All 50 states levy excise taxes on cigarettes. The tax ranges from 17¢ to $2.59 and averages $1.11 but in many states the cigarette tax revenues go to the general fund.	In **Massachusetts** part of the cigarette tax goes into the Commonwealth Transportation Fund via an offset transfer from the general fund.	$1,078,000	Raise the rate by 1¢ and dedicate to transit
Partnerships				
Busin-esses	Businesses subsidize transit cost for employees either partially or fully	**DHMC in New Hampshire** subsidizes the cost of commuter bus service provided by Stagecoach Transportation Services. Employees only pay $1 of the $3.50 fare.	Unknown	Coordination with local businesses

Colleges and Univer-sities	Schools either provide direct funding to the system or purchase bulk passes and distribute them to students for free or at a reduced price. Direct funding, in the form of U-Passes, allows students, faculty and/or staff to ride for free or a reduced price and the university covers their cost. The cost is usually passed on to the student in semester fees.	**Southern Maine Community College** pays for students ride SPBS, Brunswick Explorer and METRO for free.	Unknown	Coordination with local colleges
Special Districts				
Special Assess-ment District	A special assessment district may levy the additional taxes or fees based on distance from the project, type of land use, total acreage, or frontage along the transit line.	In **Iowa** municipal transit systems are allowed to enact 95¢ per $1,000 valuation of property for transit through a vote of city council.	Unknown	Municipalities to create Downtown Development Districts, Maine law to allow for revenue from set district for transit
Tax Increment Financing	Tax increment financing (TIF) districts are special tax districts within a community where any increase in tax revenue resulting from increased property value is used to pay for public improvements in that district.	**Hanover, NH** uses part of the revenue from their Tax Increment Financing District to fund transit.	Unknown	Creation of TIF district by municipalities