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TRANSIT SERVICE GAPS AND NEEDS

Transit service gaps and needs and estimates of the resources needed to improve transit services in the region of the Chittenden County Regional Planning Commission (CCRPC), which includes 19 cities, towns, villages, and unincorporated areas in Chittenden County, are discussed below.

Overview of Existing Services

Fixed Route Services

Green Mountain Transit (GMT), formed in 2011 through the merger of Chittenden County Transportation Authority (CCTA) and Green Mountain Transit Agency (GMTA) and renamed GMT in 2016, is the primary provider of transit services in Chittenden County. GMT also operates service in Washington, Lamoille, and Franklin/Grand Isle counties.

As shown in Figure 1, GMT operates several different types of bus service in Chittenden County: 1

- ▶ Local routes focused on the core Chittenden County communities of Burlington, South Burlington, Winooski, Essex, Williston and Shelburne
- ▶ Regional commuter routes connecting the outlying Chittenden County towns of Milton and Hinesburg, and Cambridge in Lamoille County, with the core
- ▶ LINK Express routes between downtown Burlington and Montpelier, St. Albans, Middlebury, and Barre
- ▶ Shopping shuttles offer service between senior housing complexes and select grocery stores in Burlington

Two of the seven local bus routes offer a high level of service, with buses running every 20 minutes through most of the day and every 30 minutes on Saturdays. These routes run for 18 hours on weekdays and Saturdays (6:00 AM to midnight) and every 45 minutes on Sundays from roughly 8:00 AM to 9:00 PM. Three other local routes run every 30 minutes through most of the day; two of these run for 18 hours and the other for 12 hours. These routes run on Sunday as well, with service every 45 minutes or every hour. Two routes operating in the Essex area offer a lower level of service.

The three regional commuter routes offer two trips during morning peak hours and two trips during afternoon peak hours, with the Milton Commuter also operating a midday trip.

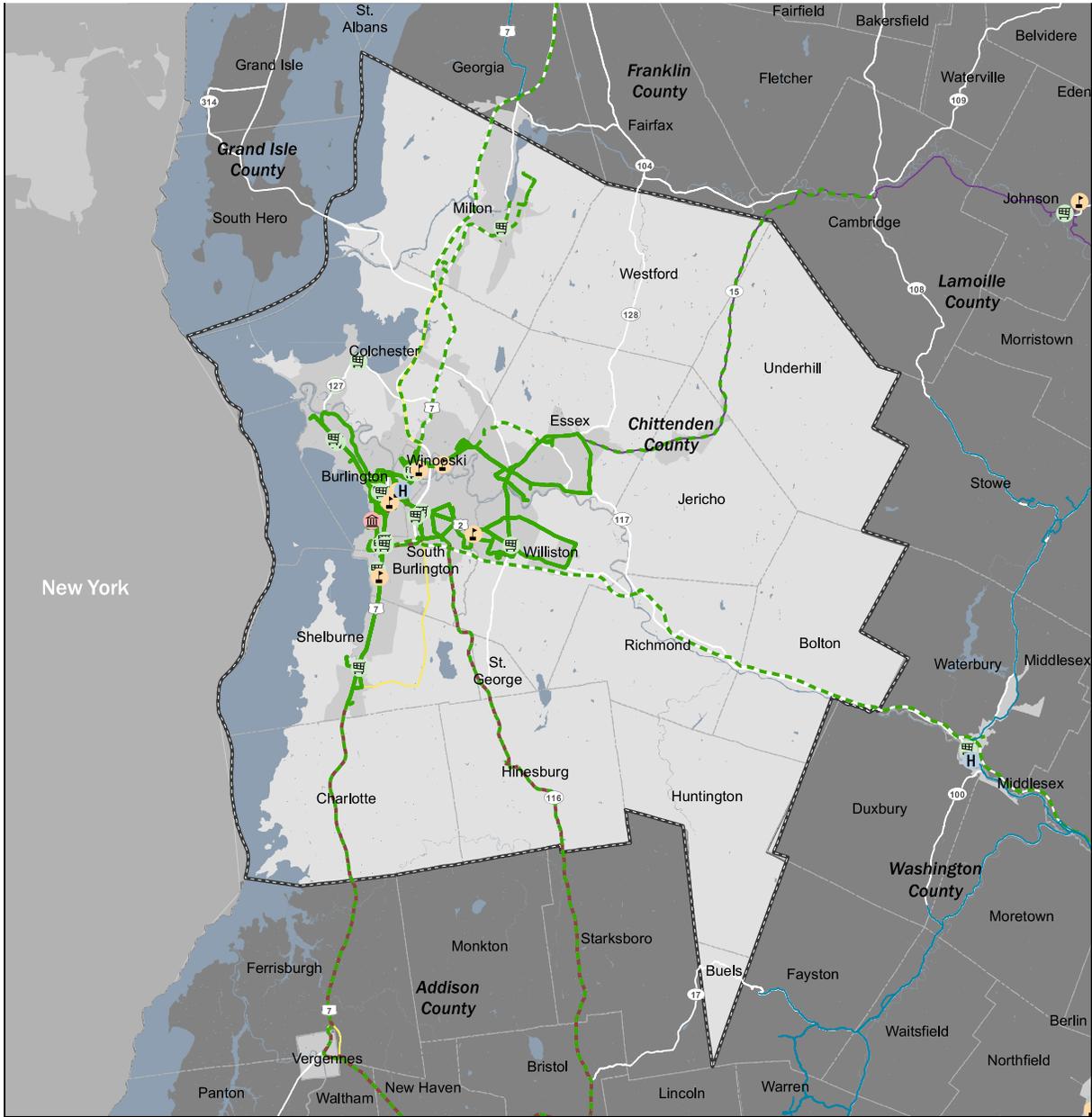
Shopping Special shuttles serve South Burlington residents on Tuesdays, Winooski residents on Wednesdays, and Burlington residents on Thursdays, picking up at each housing complex at a designated time for a scheduled drop-off, and later pick-up at the designated store.

Addison County Transit Resources (ACTR) also provides service in Chittenden County in conjunction with GMT. ACTR operates the Saturday services on the Middlebury LINK Express and shares responsibility for operating the 116 Commuter route.

Intercity bus service to Albany is provided by Vermont Translines, along US 7. Megabus and Greyhound both provide service to Boston, along I-89; Greyhound also offers service to Montreal. Amtrak's Vermonter provides service by train to New York City and Washington, DC.



Figure 1: Transit Services in Chittenden County



- GMT Chittenden - Commuter
- GMT / ACTR - Commuter
- GMT - Rural
- Rural Comm. Transp.
- Vermont Translines



Dial-A-Ride and Other Services

Demand response services in Chittenden County are operated by Special Services Transportation Agency (SSTA), a non-profit transportation provider under contract to GMT. SSTA uses agency operated vans and sedans and volunteer drivers using their own cars to provide services such as:

- ▶ ADA complementary paratransit service for individuals with disabilities who are unable to use the fixed route system
- ▶ Coordinated service for individuals participating in programs and services offered by organizations that partner with GMT in the Elders and Persons with Disabilities (E&D) transportation program, including cities and towns and human service agencies such as Age Well, Champlain Valley Senior Center, Visiting Nurse Association's Adult Day Programs, and Cathedral Square
- ▶ Non-emergency medical transportation for Medicaid recipients
- ▶ The Tilley Drive Shuttle, which provides free service between GMT bus stops at University Mall in South Burlington and the offices at Tilley Drive off Hinesburg Road

Days and hours of service for these demand response services vary. ADA paratransit service days/hours mirror those of GMT's local fixed bus routes. Days and hours of service for E&D clients are established by GMT and its partner agencies. Medicaid transportation may be provided at any time of day or week.

In addition to SSTA's services, two municipalities offer transportation services. The Town of Essex Senior Bus provides service within Essex for individuals 60 years of age and older on weekdays and Sunday mornings; 24-hour advance notice is required to reserve a trip. The Town of Hinesburg's Community Resource Center administers Hinesburg Rides, a program that publicizes and encourages use of GMT bus service, ridesharing matching through Go! Vermont, the transportation-related support provided to employers by the Campus Area Transportation Management Administration (CATMA), and SSTA's volunteer driver program in Hinesburg. In addition, "Affordable Transportation" is operating as a pilot program to offer service within Hinesburg for older adults and people with disabilities on Tuesday morning for a suggested donation.

Numerous taxi companies also operate in Chittenden County.

Key Destinations

Retail areas (including supermarkets), health care facilities, colleges and universities, and human service agency offices are primarily located in the following areas:

Retail Areas

- ▶ Downtown Burlington
- ▶ North Avenue
- ▶ US 7, Dorset Street, and US 2 in South Burlington
- ▶ Taft Corners in Williston
- ▶ Winooski and Colchester

Educational Institutions

- ▶ Burlington—University of Vermont, Champlain College
- ▶ Colchester—Saint Michael's College



- ▶ Winooski—CCV

Medical Facilities

- ▶ UVM Medical Center
- ▶ Tilley Drive, Timberlane
- ▶ Vermont Medical Center, Fanny Allen Urgent Care in Colchester
- ▶ Health centers in Burlington, Williston

Human Service Agencies

- ▶ All core communities and Milton

Some of those key destinations are shown in Figure 1 (more detail can be found on the route maps posted on the GMT website, <http://ridegmt.com/gmt-schedules/>). GMT bus routes serve many local and regional destinations.

Employment and Commuting Patterns

Employers

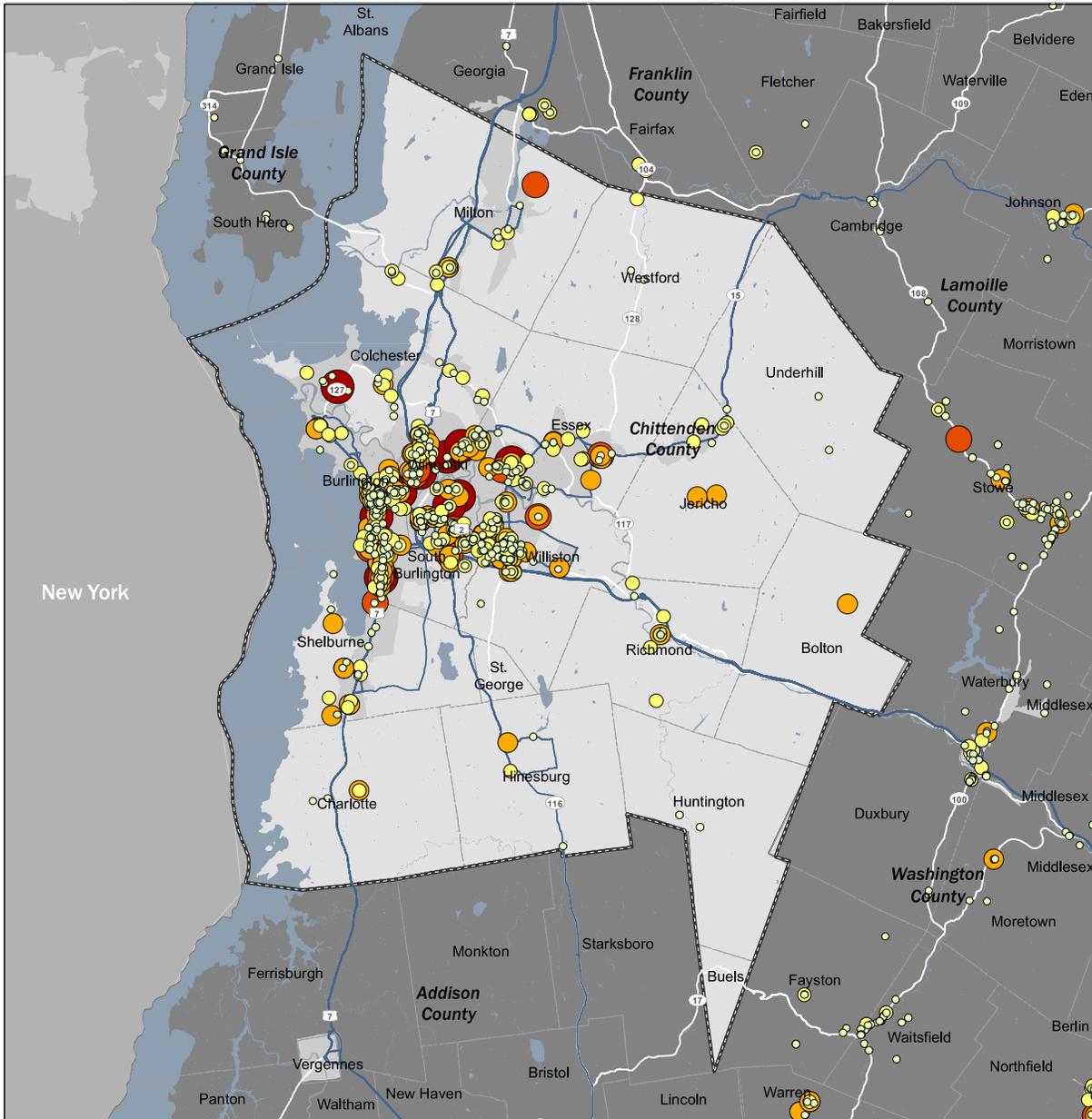
Figure 2 shows the location of employers of various sizes in the Chittenden County region. The greatest concentration of employers is in the core area, but moderate to large employers—those with as few as 50 employees up to those with 500—are also located in many of the county’s outlying towns.

Figure 3 shows the location of employers of various sizes in the core communities of Burlington, South Burlington, Winooski, Essex, Colchester, Williston, and Shelburne. There is a very dense cluster of large employers (100 employees or more) in downtown Burlington, but many large employers are located in all of the core communities. US 7, US 2, and VT 15 frame the most important employment corridors in the core area.

Most employers are served by GMT bus routes or those operated by neighboring transit systems. Communities in which moderately sized or large employers appear to be located away from bus routes include Bolton, Colchester, Essex, and Jericho.



Figure 2: Employers in Chittenden County



Number of Employees

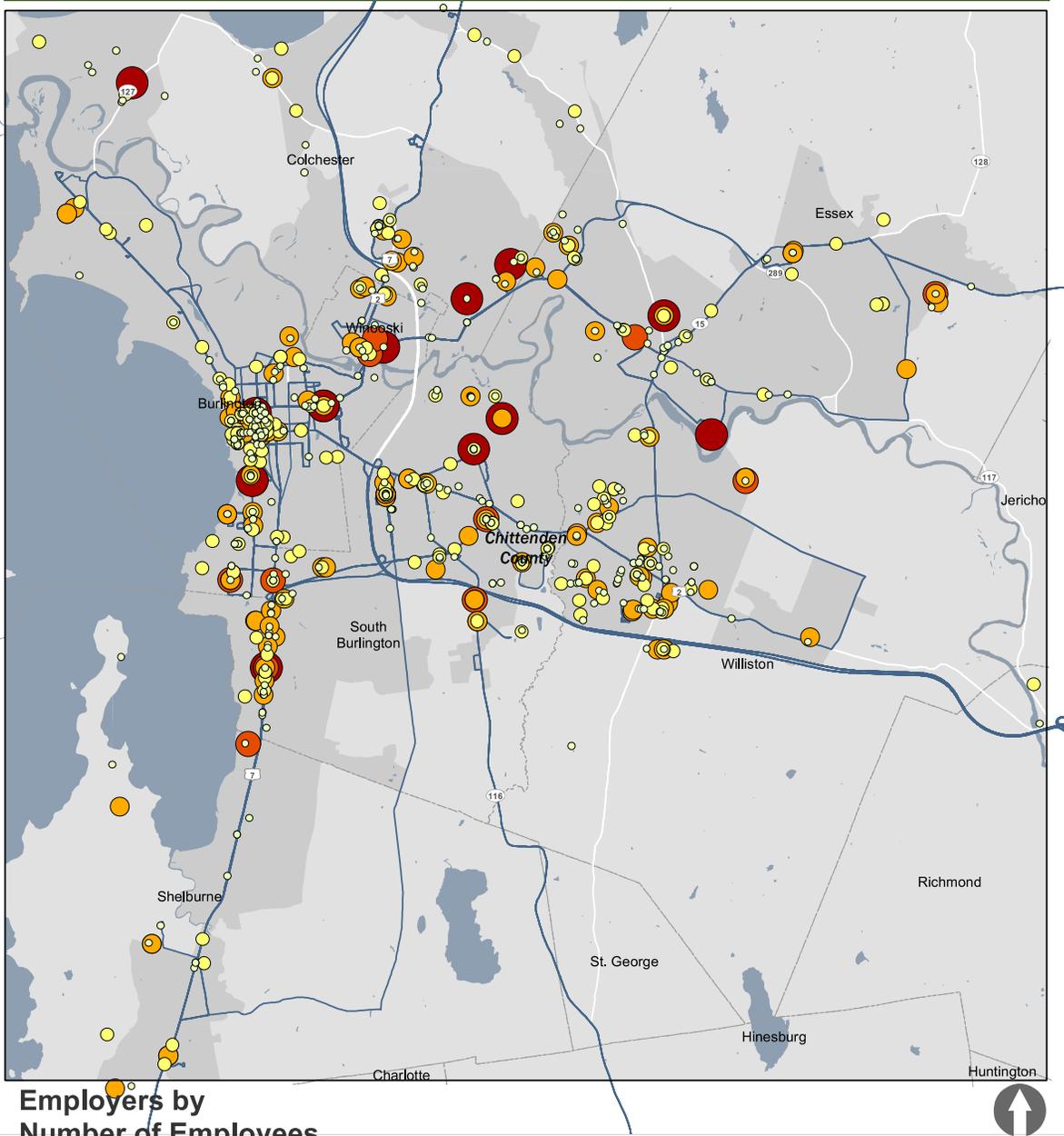
- 25 - 49
- 50 - 99
- 100 - 299
- 300 - 499
- 500 +

Source: Dun & Bradstreet, 2016



Figure 3: Employers in Chittenden County Core Communities

Chittenden County Core



Employers by Number of Employees

- 25 - 49
- 50 - 99
- 100 - 299
- 300 - 499
- 500 +

Source: Dun & Bradstreet, 2016

- Regional Planning Commission Boundary
- Township Boundary
- Urban Areas
- Transit Routes



Commuting Patterns

Table 1 presents an overview of where Chittenden County residents work and where individuals who are employed in Chittenden County live.

In 2015, 102,243 individuals were employed in Chittenden County. Of those, 68% were county residents. Over a third of Chittenden county workers resided in other areas—27% in other Vermont counties including Franklin, Washington, Addison, Lamoille, Rutland, and Grand Isle counties, and 5% in other states, such as New York, New Hampshire, Massachusetts, and Connecticut.

Over 80% of the 85,508 Chittenden County residents who were employed in 2015 worked in the county. Of those who worked elsewhere, 15% worked in other Vermont counties, primarily Washington, Franklin, Windsor, Addison, and Lamoille counties. Another 3% of employed county residents worked in other states, including New York, Massachusetts, New Hampshire, Connecticut, Maine, and others.

Table 1: Employment in the Chittenden County Region, 2015

Employment	Number	Percent of Total Chittenden County Employment	Percent of Total Employed Chittenden County Residents
Workers in Chittenden County			
Total Employees in Chittenden County	102,243	100%	
Chittenden County Residents Employed in Chittenden County	69,950	68%	
Residents of Other Areas Working in Chittenden County	32,293	32%	
Residents of Other Vermont Counties	27,385	27%	
Residents of Other States	4,908	5%	
Residents of Chittenden County			
Total Employed Chittenden County Residents	85,508		100%
Chittenden County Residents Employed in Chittenden County	69,950		82%
Chittenden County Residents Employed in Other Areas	15,558		18%
Working in Other Vermont Counties	12,859		15%
Working in Other States	2,699		3%

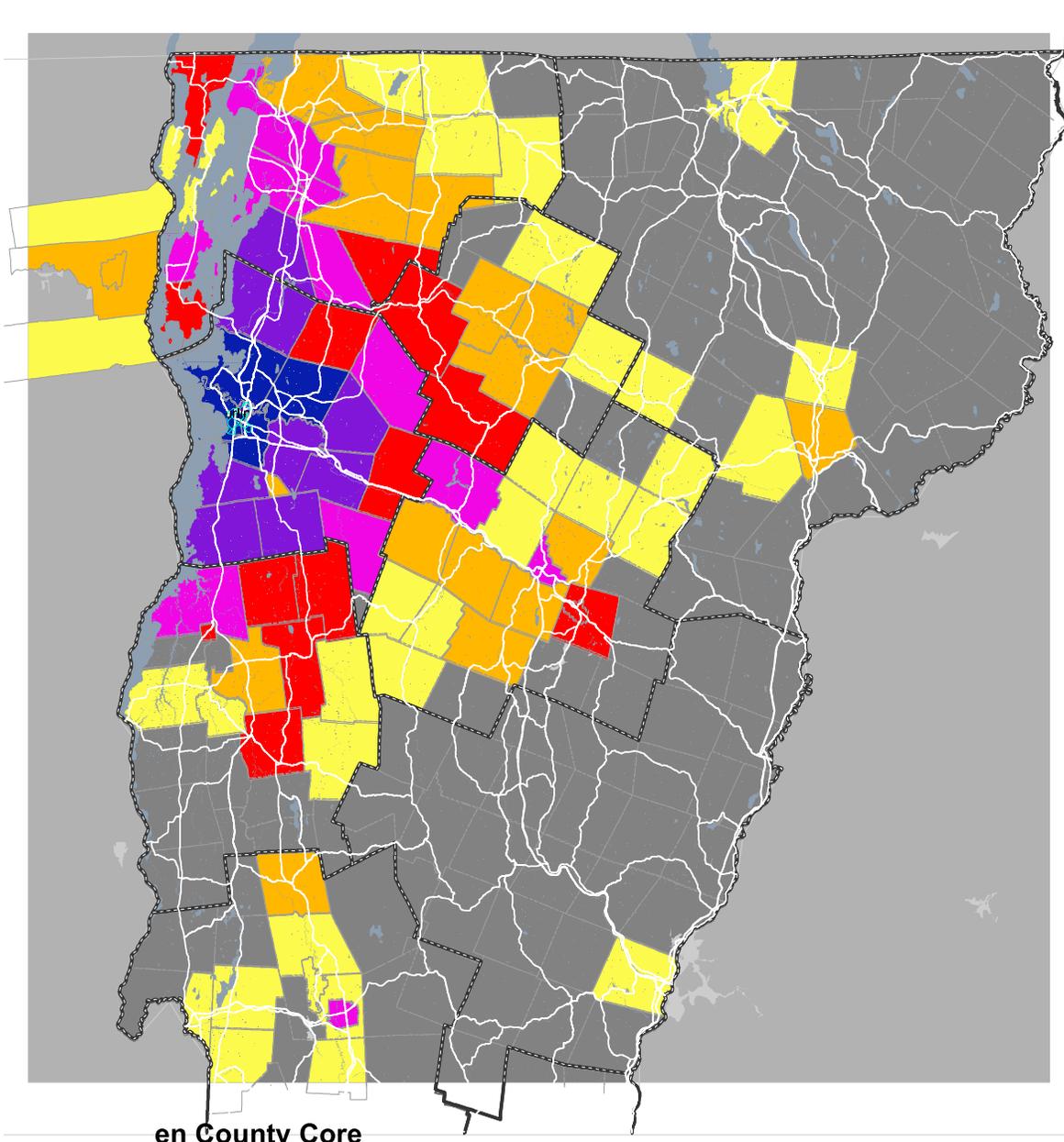
Source: U.S. Census, Longitudinal Employer-Household Dynamics, 2015

Figure 4 illustrates the daily commuting travel flows into the core of the Chittenden County region at the city/town level. The core includes the highest employment density portions of Burlington, South Burlington and Winooski.

As shown in Figure 4, Chittenden County core communities, which contain nearly 40,000 jobs, generate the highest daily commuting trips in the region. The highest daily flows—500 trips or more--originate within the core communities. Adjacent communities surrounding the core each generate 100-500 daily commuting trips into the core. Communities located further away that generate 100 or more daily commuting trips to core communities include Montpelier, Rutland, Barre, Barre Town, Alburgh, and St. Johnsbury.



Figure 4: Daily Commuters to the Core of the Chittenden County Region



Demographic Overview

This section presents an overview of the demographic characteristics of Chittenden County and summarizes the location and density of the general population of the county and specific market segments that are likely to need transit service because they cannot or choose not to drive.

Table 2 provides summary demographic characteristics for Chittenden County as of 2016, as compared to Vermont as a whole.

Table 2: Demographic Characteristics of Chittenden County, 2012-2016

	Chittenden County	Vermont
Total population	160,510	626,249
Population density	299 persons per square mile	68 persons per square mile
Population age 60 and over	19%	24%
Population age 80 and over	3.6%	4.3%
Residents living below poverty line	11.5%	11.6%

Source: American Community Survey 5-year Average 2012-2016

Chittenden County is home to 26% of the state's population. At 299 people per square mile, the county's population density is much higher than the density of the state as a whole and of other planning regions. In terms of key public transportation target groups, the percentage of county residents who are living in poverty are roughly the same as the state average. The percentages of the county's population age 80 and over or age 60 and over are somewhat lower than the state as a whole, reflecting the large student population and preponderance of working-age adults in the largest employment center in Vermont.

Population Density

Figure 5 shows the concentration of the population in Chittenden County. Density is a helpful characteristic to consider in the context of public transportation services because it is one measure of where service, particularly fixed route service, is likely to be needed and cost-effective.

The highest numbers of residents per square mile—between 1,000 and 5,000 or more—are found in the core communities. Jericho, Hinesburg, Milton, and St. George show moderate levels of density, between 500 and 1,000 residents per square mile. Most outer ring communities have population densities that can be considered rural.

Figure 6 enlarges the map of population density in the core communities. A true urban level of density—5,000 or more residents per square mile—is found in Burlington and Winooski. Moderate to high population density (500-4,999 persons per square mile) is found in Burlington's New North End, most of South Burlington, Essex Junction, and parts of Essex and Colchester.



Figure 5: Population Density in Chittenden County, 2017

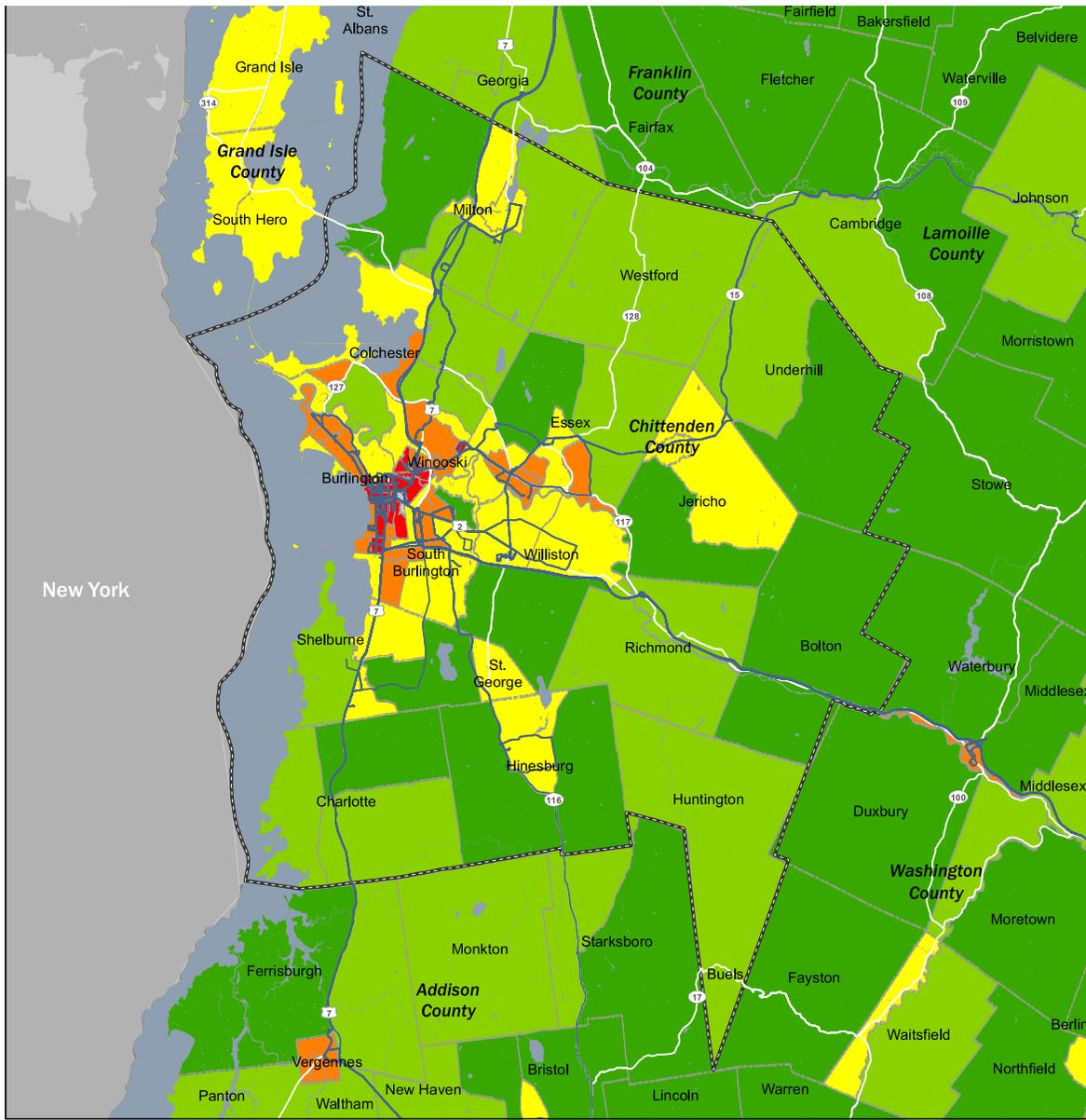
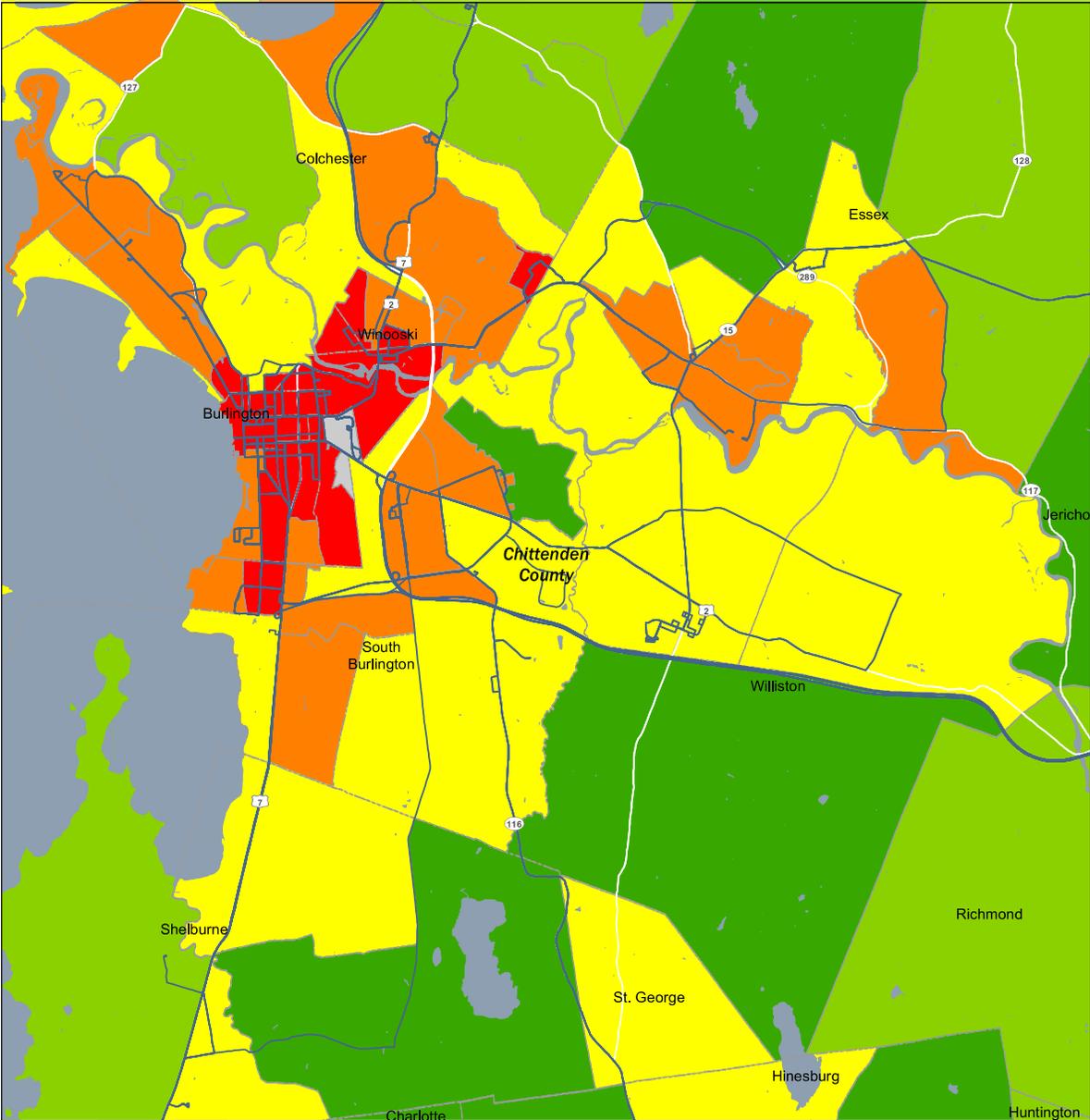


Figure 6: Population Density in Chittenden County Core Communities, 2017



999
 5,000 +

-  Regional Planning Commission Boundary
-  Block Group
-  Transit Routes



Market Segments and Transit Propensity

Groups that are likely to need transit services include older adults, people with disabilities, individuals with limited or no access to a car, and younger adults. Some of these groups do not drive because they are not able to, but others choose to live without a car. Figure 7 through Figure 9 show the number and percentage (as compared to the state average) of individuals in the first three groups at the town level in Chittenden County. All data was obtained from the American Community Survey (ACS) 2012-2016 Five-year Estimates.

Older Adults

Figure 7 shows the number and percentage of adults age 80 and over in 2012-2016, as compared to the statewide average, in the Chittenden County region. The focus in Figure 7 is on this older age group because younger seniors typically continue to drive and because a significant rise in this population is expected in Vermont (and nationwide) in the next 10-20 years.

The highest numbers of older adults in the county—over 750 per community—live in Burlington and South Burlington. While the number of adults over 80 in Burlington is relatively high, older adults as a percentage of the city's population is below the state average. The same is true for communities with fewer older seniors, including Colchester, Winooski, Essex, and most of the outlying towns. In South Burlington, Williston, and Shelburne, the percentage of adults over 80 is 1 to 2 times the state average.

People with Disabilities

Figure 8 shows the number and percentage of people with disabilities, as compared to the statewide average, in Chittenden County communities. Four types of disabilities are included: those associated with hearing, vision, cognition, and working.

Burlington has the highest number of people with disabilities of any other community—about 3,000 individuals. The percentage of the city's population made up by people with disabilities is lower than the state average, however, as it is in every Chittenden County city or town except Winooski, where that population is between one and two times the state average.

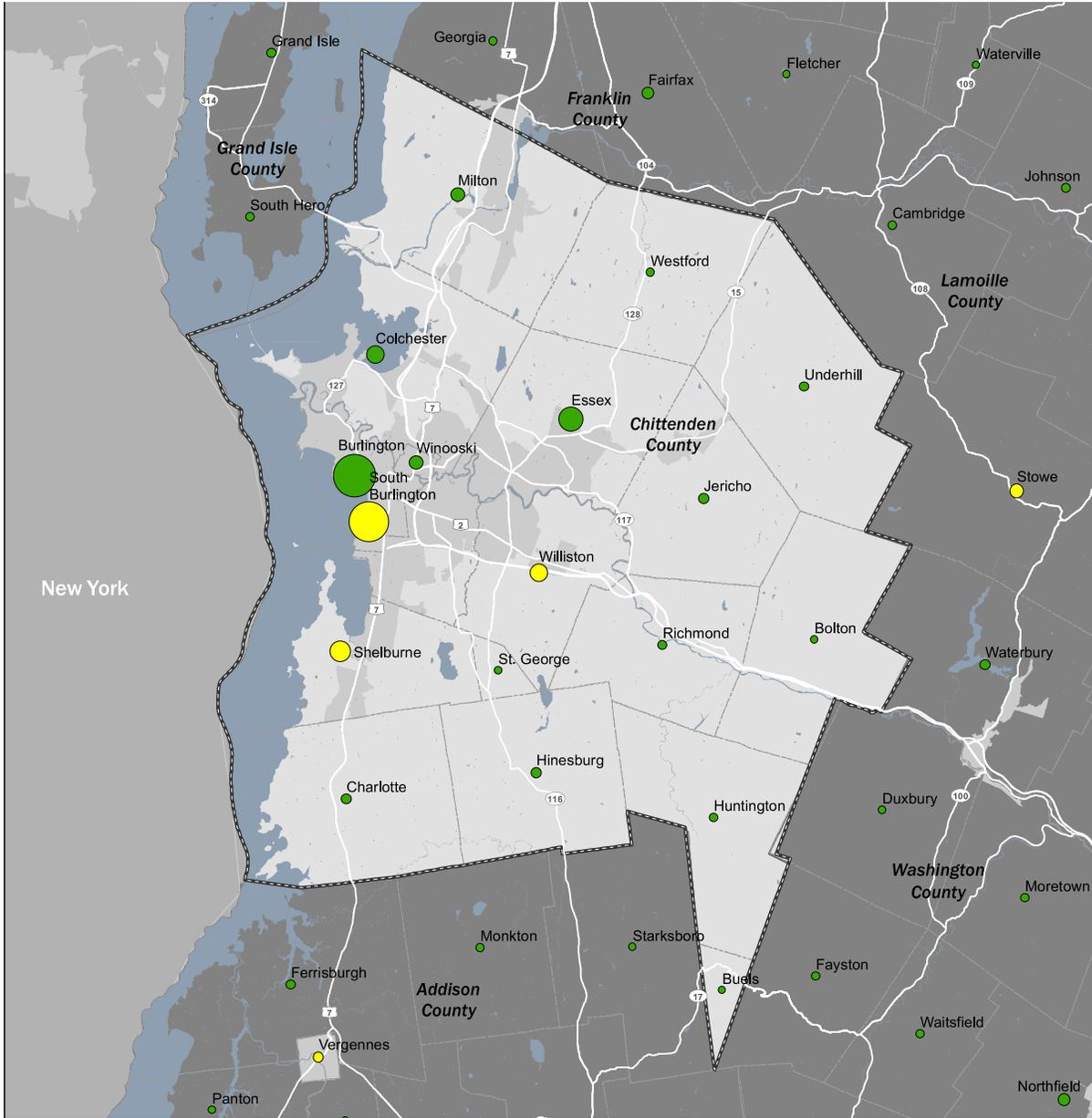
Auto Ownership

The number and percentage of households in Chittenden County towns with limited access to an auto in 2012-2016 are shown in Figure 9. Households with one resident and no vehicle and those with two or more members but only one vehicle or no vehicle are included.

Burlington by far contains the highest number of households with limited access to an auto, reflecting the availability of transit service in the city and its walkability. The percentage of such households in Burlington, South Burlington, and Winooski are each 1-2 times the state average. Other communities fall below the state average in terms of households with limited auto access; only South Burlington and Winooski contain percentages that are over the state average.



Figure 7: Number and Percentage of Adults Age 80 and Over in Chittenden County Communities, 2012-2016



● 1x - 2x Average

250

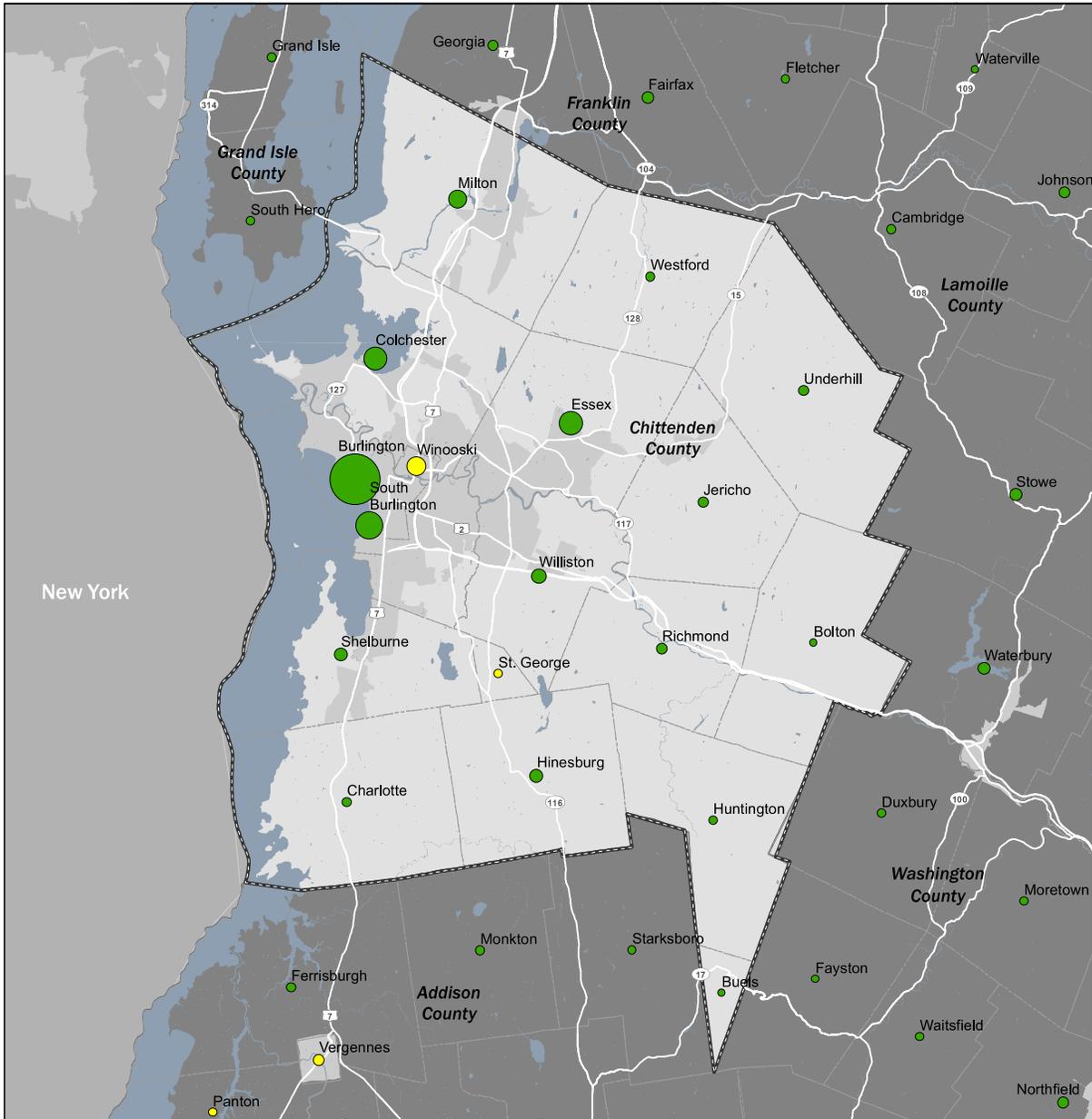
● > 2x Average

750

VT Average = 4.3%



Figure 8: Number and Percentage of People with Disabilities in Chittenden County Communities, 2012-2016

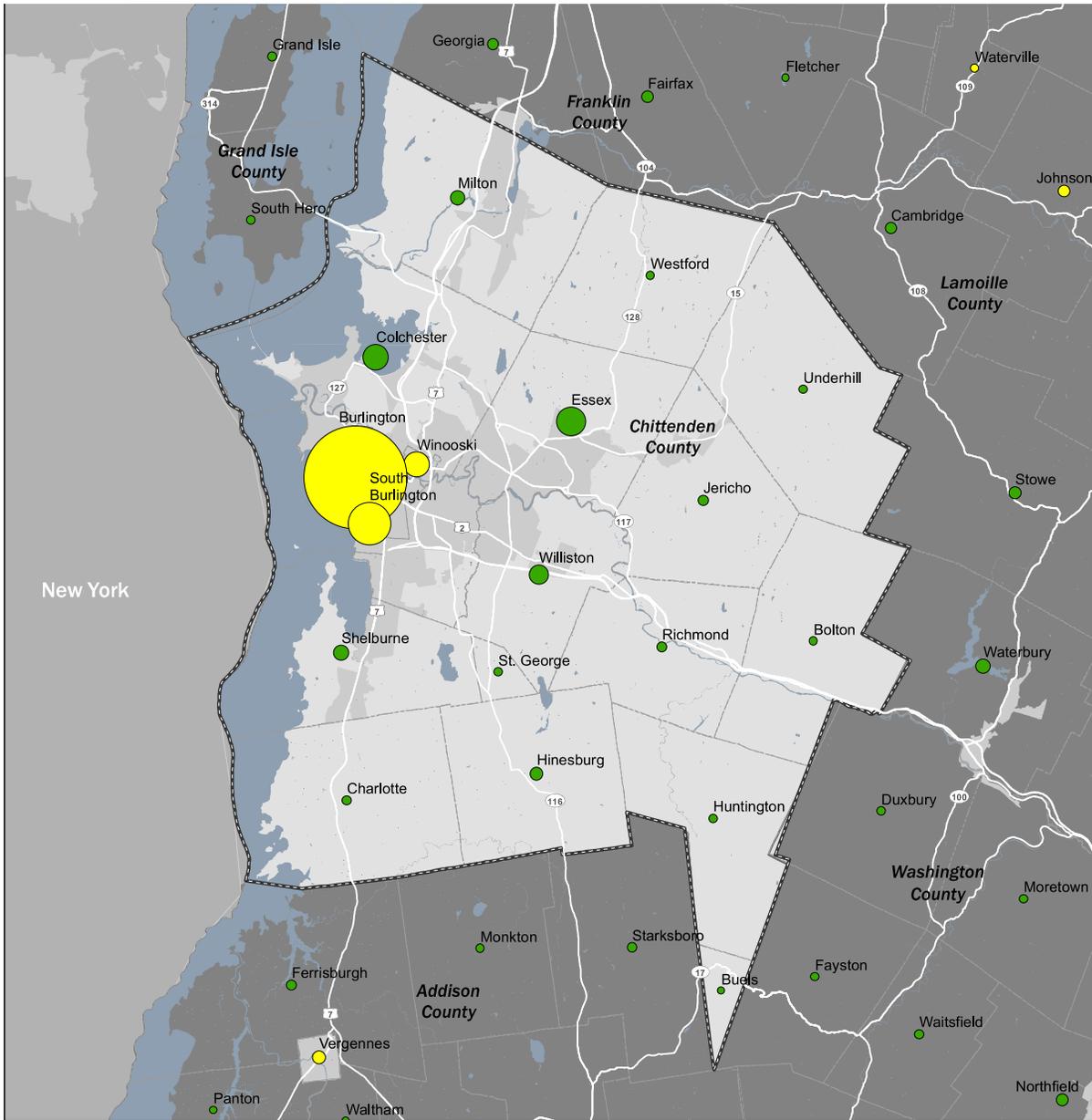


- Below Average
 - 1x - 2x Average
 - 2x - 3x Average
- VT Average = 14.0%**

- ability**
- 1
 - 750
 - 1,500
 - 2,250
 - 3,000



Figure 9: Number and Percentage of Households with Limited Auto Ownership in Chittenden County Communities, 2012-2016



rs



Transit Propensity

As noted above, older adults, people with disabilities, individuals with lower incomes, and younger adults are likely to need transit services because they cannot or do not drive. The transit propensity index mapped in Figure 10 combines information about the location and weighted size of the county's total population and of various populations that are typically dependent on transit services—youth, older adults, people with disabilities, people living in poverty, and households with one car or less.

As shown in Figure 10, the highest transit propensity—in the High and Moderate-High ranges—is found in parts of Burlington and Winooski. Much of the rest of the core area communities show transit propensity at the Moderate level. Outside of the core area, transit propensity is Low or in the Low-Moderate range.

Regional Forum Comments

Stakeholders and members of the public who participated in the regional forum held in Winooski at the offices of the Chittenden County Regional Planning Commission on November 28, 2018 made comments regarding service gaps, travel challenges, unmet transportation needs, and potential solutions, as summarized below.

Service Gaps and Challenges

Geographic Gaps and Challenges

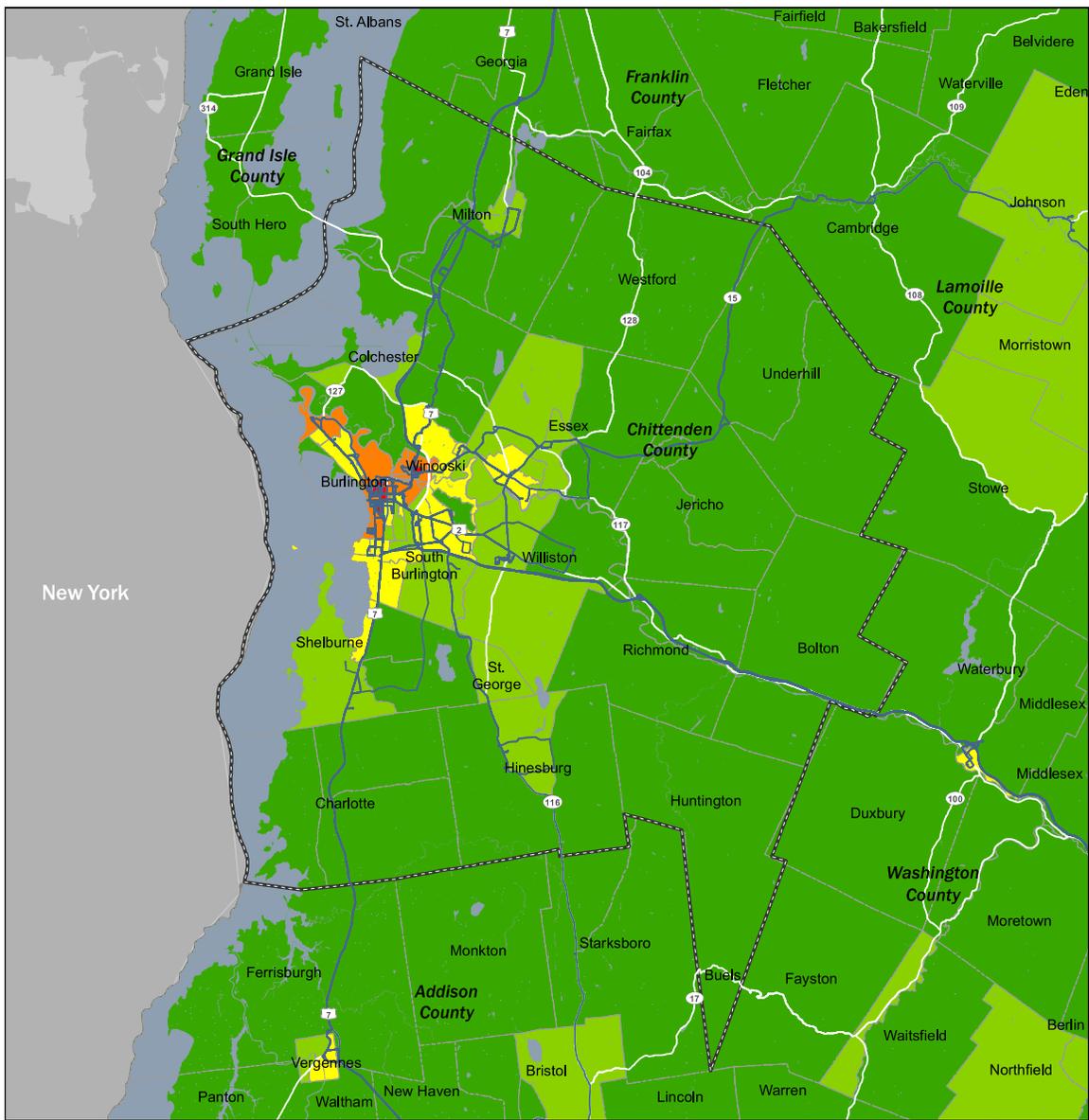
- ▶ There are no options for seniors to get from Jericho to the county core
- ▶ Colchester
- ▶ Hinesburg
- ▶ Employment with three shifts poses a challenge:
 - People traveling from Milton to jobs with shift work schedules
 - Commuters from Franklin
 - Essex Center
- ▶ Indirect connections between towns
- ▶ Grand Isle commuters and ferry users
- ▶ First/last mile in Tri-Town area (Cambridge, Underhill, Jericho)
 - Midday for other non-employment needs
 - Seniors
- ▶ Williston by interstate is unsafe
- ▶ Exit 16 P&R
- ▶ Shelburne Farm to Route 7

Temporal Gaps

- ▶ Seniors not comfortable driving after dark, resulting in social isolation
- ▶ Lack of Sunday service is an employment issue
- ▶ Midday service for longer trips (timewise)
- ▶ CIDER (Champlian Islands) is great but it requires advance notice
- ▶ Access to ski resorts for recreation



Figure 10: Transit Propensity Index, Chittenden County



gh
 High

- Regional Planning Commission Boundary
- Block Group
- Transit Routes



Trip Type Gaps and Challenges

- ▶ Coordinating medical appointments with transportation schedules is a challenge
- ▶ Need to consider individualized solutions when there are no other options (e.g. subsidize taxi trips)
- ▶ Education trips to colleges are challenging particularly for
 - After hours
 - Employment programs

Accessibility Needs

- ▶ Sidewalks /ADA
- ▶ Safety for youth
- ▶ Accessible information for seniors
- ▶ Bike access and safety and better coordination

Technology Challenges

- ▶ Fewer TNC drivers are available during inclement weather

Affordability Gaps

- ▶ Not identified as an issue in the region

Information Gaps

Forum attendees had the following recommendations related to increasing awareness of transportation options:

- ▶ Use the buses as ad platforms
- ▶ Reach people in community centers and senior centers
 - Educating users about other providers
- ▶ Peer to peer traveling training
- ▶ Google Transit + Go! Vermont

Other Gaps

- ▶ Better communication among providers
 - Improve logistical coordination
- ▶ Home to job challenges:
 - Local services includes paratransit, not just commuter service
 - Rural vs. urban divide, different needs

Other Comments

- ▶ Many younger seniors don't drive, or don't drive during inclement weather or after dark, not just those over 80
- ▶ Access to drivers is an issue (locally and nationally)
 - This needs to be addressed at a larger scale, including the use of volunteer drivers
- ▶ We need additional methods to make it easier for people to find carpool options.



- ▶ Increased transit in rural areas must include many options, and technology will play a role in this.
- ▶ An attendee mentioned the need for safety, particularly for youth.
- ▶ The importance of filling seats on existing transit was noted as a need.

Potential Solutions

When asked to rank potential service improvements, forum participants most often chose the options listed below.

Information

- ▶ Centralized transportation service directory – Go! Vermont
- ▶ One-Call/One-Click system including some or all of the above (tied for 1st)
- ▶ Trip planning assistance

Service Enhancements

- ▶ Expanded service areas
- ▶ Extended service hours
- ▶ Volunteer driver program enhancements
- ▶ Use of available demand-response vehicle seats

Accessibility Improvements

- ▶ Sidewalks or curb cuts
- ▶ Bus shelters

Technology

- ▶ Mobile information, reservations, real-time vehicle location (apps)
- ▶ Automatic Vehicle Location (AVL) systems

When asked to indicate their interest in the options noted above by “voting” with sticky dots, forum participants ranked potential improvements as follows:

Recommendation	Votes
Mobile information	18
Expanded service areas	14
Enhanced volunteer driver programs	14
Extended service hours	12
Sidewalks/curb cuts	11
Use available DR seats	10
AVL systems	10
Go! Vermont	9
Bus shelters	5
One-call/one-click system	3



Comments from Chittenden E&D Committee

Development of the PTPP included discussions with the stakeholder committees that provide oversight for administration of the Vermont Elders and Persons with Disabilities (E&D) Transportation Program in each of nine regions, including Chittenden County. Members of the E&D advisory committees typically include the local public transportation provider; partner organizations—municipalities, human service agencies, and other organizations—that receive services for their clients from the provider, and sometimes also operate services for those clients directly; and the regional planning agency that serves the area.

The discussions with those committees yielded additional comments about transportation needs and potential solutions in those regions.

Services in Chittenden County that are supported with E&D program funds are provided by GMT and SSTA; the Town of Essex also operates a Senior Bus for its residents. Services include demand response services and rides provided by volunteer drivers for older adults, people with disabilities, and individuals participating in programs and services offered by the partners. Age Well, Champlain Valley Senior Center, Visiting Nurse Association's Adult Day Programs, and Cathedral Square, as well as the cities of Burlington, South Burlington and Winooski and the towns of Milton, Richmond, Williston, Colchester, and Hinesburg are among the Chittenden County E&D partner organizations.

The biggest and most recent issues related to transportation needs and service gaps for older adults and people with disabilities in Chittenden County are the following:

- ▶ Lack of ability to travel across county lines
- ▶ Lack of sufficient resources to provide social/wellness trips

The United Way of Northwest Vermont, working with the Chittenden County Regional Planning Commission (CCRPC) and SSTA, conducted a survey of SSTA riders in 2018 to determine strengths and areas for improvement for the services provided on behalf of E&D partner organizations. Overall, 89% of respondents reported that the service was meeting their needs, citing scope of service, schedule reliability, and positive interactions with drivers as strengths of the services. Areas for improvement included:

- ▶ Expansion of service
- ▶ Accuracy of schedules
- ▶ Better information about the service
- ▶ Comfort of vehicles

MetroQuest Responses

Respondents to the online MetroQuest survey conducted in September through December 2018 had the opportunity to identify a trip they would like to make using transit service but cannot due to lack of service or infrequent/inconvenient schedules. Respondents were also able to provide comments about the origin and/or destination of the trip they would like to make.

A summary of desired trip origin/destination pairs is provided elsewhere in the PTPP. Over **500** residents of the Chittenden County region commented on their desired trips. Most respondents live in Burlington, South Burlington, and Winooski.

Burlington residents most frequently identified locations in Burlington to which they would like transit access (113 comments). Other communities to which respondents desire transit connections include Barre,



Bennington, Colchester, Essex, Montpelier, Randolph, Richmond, Rutland, Shelburne, Stowe, Waterbury, Williston, Winooski, Woodstock, and Vergennes.

Similarly, South Burlington and Winooski residents most often identified locations in their home community for desired transit connections. South Burlington residents also mentioned Burlington, Middlebury, Montpelier, and St. Albans. Winooski residents also mentioned Burlington, South Burlington, and Montpelier.

Transit service to the airport and Amtrak stations was mentioned by respondents from each community, as was service to out of state destinations such as Boston, New York City, Montreal, and other locations in Canada.

Survey respondents were also asked to choose up to three transit improvements that would make them or people they know more willing to use public transportation. Choices were:

- More service near my home
- Service to my desired destinations
- More frequent service
- Service that runs evenings and/or weekends
- Faster service
- More reliable
- Cheaper
- If I felt safer riding on it
- If I understood how it works
- Nothing, I prefer driving

Of the 1,393 responses to this question from residents of Chittenden County, 76% were in the top four categories: more frequent service (24%), service in the evenings and/or weekends (18%), more service to my destinations (18%), and more service near my home (17%).

Summary of Transit Service Gaps and Needs

The information presented above about Chittenden County's demographic characteristics, location of employers and key destinations, existing transit services, and comments from residents and stakeholders point to the following transit service gaps and needs for the Chittenden County region.

Geographic Service Gaps

Residents of Chittenden County communities who live beyond the reach of fixed route services and residents of the other towns in the county have limited public transit service options, if any, available to them. Public forum participants noted that the transportation needs of residents in the rural communities in the county are different from those of people who live in Burlington or the surrounding cities/towns.

The need for options for first/last mile travel to make use of existing bus routes was noted in public forum comments.

Moderate to large employers that do not appear to be served by existing bus routes are located in Bolton, Colchester, Essex, and Jericho.



Temporal Gaps

GMT offers a high level of service in terms of span, or days and hours during which service is available. The seven local routes generally operate for 12-18 hours of service on weekdays and Saturdays. Sunday service is provided for roughly 11 hours on three of those routes. Frequency of service ranges from every 20 minutes to one hour.

Commuter and LINK Express routes serve important employment destinations, but limit service to 2-3 trips during morning peak hours and 2-3 trips during afternoon peak hours on weekdays (other than the Montpelier LINK Express, which has more than a dozen trips per weekday). Such schedules are not useful for those who commute to jobs that have non-traditional hours. Specific origins for individuals commuting for shift work schedules that are not served by transit, mentioned by regional forum participants, include Milton, Franklin, and Essex Center. Regional forum participants also noted that lack of Sunday service on some routes limits employment opportunities.

Some communities are served only by commuter routes, which limits the ability of residents to make midday trips to Burlington. Seniors living in Jericho who participated in the Chittenden County regional forum noted this gap.

Gaps for Specific Rider Groups/Trip Types

To manage limited funding, partner organizations limit the types and/or number of trips that can be made by an individual. Eligible trip types generally include critical care medical appointments, non-Medicaid medical appointments, grocery shopping, congregate meal sites, and specific types of social/personal trips as determined by the partner organization, although not all partners allow all those types of trips. Partners report that funding constraints may limit their ability to provide social/personal trips. Most partners also limit the number of trips per month or per week that an individual may make.

Trip type gaps mentioned by regional forum participants included after hours and work trips for college students.

Other Gaps

Information Gaps

Regional forum participants suggested that more accessible information about transportation options be made available for seniors.

Transit Market Segments

Size of Market Segments

For the purposes of developing public transit policies that focus transit investments on the markets that will most benefit from those policies, the number of individuals in Chittenden County in each of seven sub-markets has been estimated. Market segments are mainly related to age but are also subdivided by income. Automobile availability is treated as a secondary characteristic, related to the age and income of each particular group. The results are shown in Table 3.

Youth and young adults, adults living in poverty, people with disabilities, and older seniors—those age 80 and older—are likely to have less access to a car for personal travel than adults with higher incomes and “newer” seniors, who typically continue to drive. Young adults, for reasons having to do with a number of generational trends, may prefer not to drive or own a car. For members of the other market segments, however, lack of access to a car is likely due more to an inability to drive or afford a car than to a choice. In



Chittenden County, market segments that are likely to have limited or no access to a car make up 49% of the population.

Table 3: Estimated Transit Market Segments, Chittenden County Region, 2017

Market Segment	Likely Low-Auto Access	Estimated Number in Region, 2017
Youth (under 18)	X	27,814
Young adult (18-24), employed/student	X (by choice)	25,068
Adult (25-64)		70,456
Adult (25-64), below poverty line	X	4,007
People with disabilities (under age 80)	X	15,341
Younger seniors (65-79)		12,364
Older seniors (80+)	X	6,047
Total		161,177

Source: U.S. Census, American Community Survey (ACS) 5-Year Estimates

Impacts of Service Gaps on Market Segments

Table 4 summarizes the effect of the service gaps identified for Chittenden County on the various transit sub-markets in the region.

Several gaps are broad enough to affect all market segments. These include:

- ▶ **Geographic Coverage:** Rural communities lack transit options, making transportation an issue for all types of trips for those without access to a car or other means of a ride. Residents of Chittenden County who live beyond the reach of fixed route services also lack transit options.
- ▶ **Accessibility:** Sidewalks and paths to bus stops may not be safely accessible, especially during winter months.
- ▶ **Information:** Individuals and agency staff members may not be aware of the service options available. Service gaps and needs may be perceived rather than actual.

Other gaps are specific to certain market segments. For example:

- ▶ **All adult market segments**, who may need to travel to work or school, are affected by the limited schedules on which commuter routes operate. Available services do not match non-traditional work or school hours. The regional destinations served by commuter routes are not accessible by transit outside of morning and afternoon peak hours.
- ▶ **People with disabilities** are affected by limitations in E&D program funding. Options for shopping, social/personal, and wellness trips may not be available.
- ▶ **Older adults, especially those over age 80**, are also affected by limits on trips provided with E&D program funding and may be unable to make all but the most critical medical or adult day service trips.
- ▶ **Individuals living in poverty** may have Medicaid transportation to eligible medical appointments but may have no other options for other types of trips.



Table 4: Gap Analysis by Market Segment

Market Segment	Youth (under 18)	Young Adult (18-24), Employed or Student	Adult (25-64)	Adult (25-64), Below Poverty Line	People with Disabilities	Younger Seniors (65-79)	Older Seniors (80+)
Likely Low Auto Access	X	X (by choice)		X	X		X
Geographic Gaps							
Need for first/last mile options limits fixed route use	X	X	X	X	X	X	X
Residents beyond the fixed route service area and in towns without fixed route bus service have limited options	X	X	X	X	X	X	X
Moderate to large employers are not served by bus routes in Bolton, Colchester, Essex, and Jericho		X	X	X	X		
Temporal Gaps							
Peak-only schedules of commuter routes do not help those with non-traditional work hours		X	X	X	X	X	
Trip Type Gaps							
Social/recreational/wellness trips are at lower end of E&D eligible trip priorities					X	X	X
E&D funding constraints limit trips for older adults and people with disabilities					X	X	X
Accessibility Needs							
More bus shelters and sidewalks/curb cuts would encourage fixed route use	X	X	X	X	X	X	X
Technology Challenges							
Mobile apps for reservations and real-time vehicle location are desirable	X	X	X	X	X	X	X
Information Gaps							
Forum comments and survey responses indicate some lack of knowledge of available transportation options	X	X	X	X	X	X	X
Affordability Issues							
Not an issue for riders							

Note: X indicates that a service gap is relevant to that demographic market segment

