

XX. INFRASTRUCTURE & FACILITIES

Infrastructure & Facilities Goal: Ensure adequate infrastructure and facilities (i.e. water supply, wastewater treatment, stormwater treatment, broadband coverage and solid waste recovery and recycling) to support areas planned for growth while conserving resources.

Key Issues/Trends/Insights

[Data for this section and more information can be found in the: the Ecological Systems section of this Supplement for water quality; [Broadband Action Plan](#); Stormwater websites: rethinkrunoff.org/ and <https://www.ccrpcvt.org/our-work/environment-natural-resources/water-quality/>; and other sources listed below.]

- **Drinking Water.** The majority of the residents in the County get their drinking water from Lake Champlain, via two utilities: the Champlain Water District and the City of Burlington's DPW Water Division. Both Champlain Water District and the City of Burlington's DPW Water Division utilities have received Phase III Director's Awards from the USEPA's Partnership for Safe Water Program; and Champlain Water District was the first in the United States to receive the Phase IV Excellence in Water Treatment Award in 1999 and is one of 11 in the US to presently maintain this award status following required annual reviews. In addition, Richmond, Hinesburg, Huntington, Underhill, and Jericho have smaller public water supply utilities – some of which are working to overcome capacity and water quality challenges (e.g. Hinesburg).
- **Wastewater.** Currently, there are 12 municipal wastewater treatment plants in the County; together they have a treatment capacity of 28.54 million gallons per day (MGD) As of 2022, the average annual flow of wastewater was 11.05 MGD.²⁸ While these figures indicate that there is sufficient sewage treatment capacity to absorb anticipated growth in housing and employment county-wide, this does not account for location specific limitations or limitations based on other environmental reasons (e.g. phosphorus control).
- **Stormwater.** Management of our stormwater is critically important to maintaining and improving water quality throughout the County. Stormwater treatment is challenging in both urban and rural areas of the County for a variety of reasons: existing urban areas need to retrofit old infrastructure, financing new infrastructure in areas planned for growth when development is incremental, and impacts from agriculture and forestry practices that don't follow best management practices. Stormwater is managed at a variety of levels including EPA's National Pollutant Discharge Elimination System (NPDES) permits; VT's discharge permits; and some municipalities have additional stormwater regulations and programs. VT's discharge permits are structured to address site level development for new or redevelopment projects that disturb over with ½ acre; Most municipalities regulate stormwater through local development regulations. In addition, nine municipalities and three public entities are subject to MS4 (Municipal Separate Storm Sewer System) permits issued by Vermont DEC under authority from NPDES in Chittenden County: Burlington, Colchester, Essex, Essex Junction, Milton, Shelburne, South Burlington, Williston, Winooski, Burlington International Airport, UVM and VTrans). A new MS4 permit was issued by the State in July 2018 which included two additional requirements: each permittee/municipality must develop and implement a Flow Restoration Plan (FRP) for the stormwater impaired waters within their jurisdiction (current estimates for restoration of individual impaired streams ranges in the millions); and each municipality must develop and implement a Phosphorus Control Plan for municipally-owned developed land.
- **Broadband and Telecommunications.** Information technology is integral to fulfilling the economic needs of residents and businesses in the region; as well as education and health services during the COVID pandemic. The 2012 ECOS Competitive Assessment Analysis Report identifies quality and costs of telecommunications services as the weakest utility

infrastructure based on the Employer Survey. While improvements have been made since then, there is still a need to upgrade infrastructure in the region. Ideally all homes and businesses would be served by 100 download Mbps/100 upload Mbps fiber service as is the goal of the state. As of December 2021: ~ 1% of all residential and non-residential structures are lacking in at least 4/1 Mbps; 3% of all residential and non-residential structures are served by 4/1 Mbps; 71% of all residential and non-residential structures are served by 25/3 Mbps; and 25% of all residential and non-residential structures are served by 100/100 speeds.²⁹ The current level of service for the majority of structures in the County, 25/3 Mbps, is commonly understood to be inadequate given expected future demands on the system. It is imperative that Chittenden County work to achieve 100/100 Mbps service for all residents and businesses and to not fall behind the rest of the state on this regard. Eight municipalities in Chittenden County created the Chittenden County Communications Union District (CCCUD) in 2022. The CCCUD intends to plan, contract, build, and manage the infrastructure that will provide high speed internet to areas of the County that have not been served because it's expensive and hasn't proven financially feasible to providers. The Vermont Community Broadband Board received \$229 million from the Federal government in June 2023 to fund broadband expansion in state including Chittenden County. The County is generally well-served with telecommunications services including 5G service by some carriers in urban areas. However, there are pockets of little to no cell phone service in rural areas.

- **Solid Waste.** A sustainable society minimizes the amount and toxicity of the waste it generates, reuses materials, recycles, and composts. The Chittenden Solid Waste District (CSWD) is responsible for the management of solid waste in Chittenden County. The system in the County is a combination of public, private, and public/private programs. CSWD has established a range of programs and facilities to manage waste through reduction, diversion, and proper disposal. CSWD also has identified the need for a regional landfill site. The tons of municipal solid waste generated in Chittenden County that are landfilled or incinerated have been decreasing over the last since 2019, while the amount of construction and demolition debris landfilled or incinerated has been increasing since 2015.³⁰ The amount of materials recycled or composted has increased. It is estimated that 23% of the municipal solid waste sent to the landfill is comprised of recyclable materials and 22% is comprised of organic materials that could be composted.³² A State law passed in 2012 (Act 148) bans disposal of certain recyclables (effective July 1, 2015), yard debris and clean wood (effective July 1, 2016), and food scraps (phased in over time and completely in 2020) from disposal. Residents and businesses in CSWD have been required to separate yard debris and recyclables from waste destined for disposal since 1993 and clean wood since 2015. CSWD has also banned non-asbestos asphalt shingles, unpainted/unstained plywood, and unpainted/unstained oriented strand board from disposal (2016). The additional bans on food scraps and construction materials are having a significant impact on waste diversion in Chittenden County; however, continued education and new strategies will be needed to maximize use of diversion programs. In 2022, Chittenden County voters approved a new, \$22 million recycling sorting facility for CSWD to be located in Williston.
- **Municipal Facilities.** As can be seen on the ECOS Map Viewer, there are the following government/administrative facilities in the County: 13 police stations, 21 post offices, 2 courthouses, 18 municipal offices, 29 fire/rescue stations, and 1 state correctional facility. Larger municipalities such as Burlington, Winooski, Colchester, Essex, Essex Junction, Milton, Shelburne, South Burlington and Williston have a variety of government and school facilities and provide a wide range of municipal services such as planning and zoning, recreation, highways, libraries, water, sewer, fire, rescue and police. In contrast, small rural municipalities such as Bolton, Buel's Gore, and St. George support only a few part-time employees such as a municipal clerk and road foreman, and often contract for other services. Municipal government in the remaining communities commonly consists of a few full-time employees such as a

municipal clerk, an administrative aide for the selectboard and a highway foreman and small crew, supplemented by part-time or seasonal employees for activities such as recreation programs or the municipal library.

- **Emergency Services.** Almost every municipality has a locally-based fire department (with the exception of Buel's Gore and St. George), half have police departments, and fewer have their own emergency medical services. Many of the smaller municipalities receive primary police services from the Vermont State Police (VSP) on an "as-needed" basis, but must "rent" traffic enforcement services from the Chittenden County Sheriff's office, the VSP or neighboring communities. Many of the municipalities have reciprocal agreements for assistance in fire and rescue services. Most of these fire and rescue departments rely on volunteers; and recruitment and retention of these volunteers is a challenge. For more information see the Public Safety, Criminal Justice & Hazard Mitigation section in this Supplement, the All Hazard Mitigation Plan and Annexes and the Local Emergency Management Plans for each municipality (particularly Section 5.2 provides the specific services, volunteers and personnel for each operation). Discussions around consolidation of some municipal services, such as dispatch, continue to achieve greater efficiency. Five municipalities have formed a Public Safety Authority and are working together on an emergency communications center that will be responsible for dispatching police, fire and medical resources. It is unclear when regional dispatch center is expected to be operational.
- **Medical Facilities.** Chittenden County's community hospital is the University of Vermont Medical Center, also Vermont's only academic medical center, serving in this role for patients from across the state and the upper northeast corner of New York. The UVM Medical Center provides a full range of tertiary-level inpatient and outpatient services, provides primary care services at 11 Vermont locations, operates the region's only Level I Trauma Center, and is home to the University of Vermont Children's Hospital. As some of the inpatient facilities are 50 to 70 years old, the Medical Center has a Master Facilities Plan to address the long-term health needs of our region, focusing on single rooms for inpatients and more space for providers and the equipment they need to provide high quality health care, while striving for LEED certification for healthy, efficient, and sustainable building design. The UVM Medical Center completed construction on a new 128 bed inpatient building in 2019; the Miller Building.³⁴ Through the Master Planning efforts, UVMMC is looking at all older primary care sites to ensure they are adequately sized and equipped to meet all their patients' needs. Other health care facilities in Chittenden County include 53 primary care sites; the Community Health Centers of Burlington (the local Federally Qualified Health Center, or FQHC); Howard Center (the local designated agency that provides mental health, developmental, and substance abuse services); two home health agencies (Visiting Nurse Association of Chittenden and Grand Isle Counties and Bayada Home Health Care); 6 Nursing Homes; 13 residential care homes; and 4 assisted living facilities.
- The shift in our demographics is important when analyzing what facilities and services are needed. In 2010, 11% of the Chittenden County population was 65 years old and older; and this increased to 15.87% in 2020 (2020 Census). This age cohort is expected to increase. According to the 2020-2024 Vermont Housing Needs Assessment (Vermont Housing Finance Agency) between 2020 and 2025, the number of households between the ages of 65 and 74 will increase the most, adding 2,038 households during this time. Overall, Chittenden County will add a projected 2,174 households age 55 and older between 2020 and 2025. Changes in specific age cohorts is shown here:

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TABLE 33 CHITTENDEN COUNTY POPULATION PROJECTIONS FOR 60 YEARS AND OLDER³⁵

Chittenden County Population Projections for 60 Years and Older							
Age Cohort	2010 Census	2020 Census	2020 % of Total Population	% Change of 2010-2020 Growth	2026 ESRI Estimates	2026 % of Total Population	% Change of 2020-2026 Growth
60-64	8,220	11,152	6.63%	35.67%	11,155	6.40%	0.03%
65-69	5,609	9,087	5.40%	62.01%	10,798	6.20%	18.83%
70-74	3,823	6,954	4.13%	81.90%	8,492	4.90%	22.12%
75-79	3,099	4,672	2.78%	50.76%	6,437	3.70%	37.78%
80-84	2,563	2,878	1.71%	12.29%	3,783	2.20%	31.45%
85+	2,591	3,114	1.85%	20.19%	3,615	2.10%	16.09%
65+	17,685	26,705	15.87%	51.00%	33,125	19.10%	24.04%

- Not only is this a major demographic change, the needs of people within these age cohorts have changed with greater desire on aging in place and emphasis on providing home based care. While the State has had some success in addressing these needs, there is a long way to go and the demand is expected to increase. Expansion of the Vermont Respite House and use of technology in medical services (i.e. the Visiting Nursing Association of Vermont has tele-monitors to conduct daily in-home check-ins with patients remotely) are two examples of how Vermont is responding to these growing and changing needs. Also, the State has shown progress in the Choices for Care program and are currently serving those that qualify in the highest needs category (long-term care program that assists with care and support for older Vermonters and people with physical disabilities whether they are at home, an enhanced residential care setting, or a nursing facility. Participants in Choices for Care must qualify for Level II nursing home placement and meet financial eligibility criteria). However, the Visiting Nurses Association (VNA) has a significant number of clients who are clinically eligible for the highest needs Choices for Care program but don't qualify because their Medicaid eligibility has not yet been established. The VNA considers this delay a major factor in preventing them from serving a vulnerable population. In addition, VNA is currently experiencing a waiting list of over 250 people for the Moderate Needs (homemaking services) and their ability to serve the people on this list is limited by a lack of funding.

Figure X Burlington Aging Council Action Areas

Burlington Aging Council Action Areas				
Mission: To understand the opportunities and challenges facing all older community members, and to recommend policies and programs that respect and empower all older Burlington community members, to ensure and expand their quality of life.				
Financial Security Older Residents should be able to receive an adequate income and maintain assets for a reasonable quality of life as they age. They should be able to seek and maintain employment without fear of discrimination and with any needed accommodations. Mechanisms should be in place to protect from consumer and financial fraud. Older Residents should also be able to retire after a lifetime of work, if they so choose, without fear of poverty and isolation.	Optimal Health and Wellness Older Residents should receive, without discrimination, optimal physical, dental, mental, emotional, and spiritual health through the end of their lives. Holistic options for health, exercise, counseling, and good nutrition should be both affordable and accessible. Access to coordinated, competent, and high-quality care should be provided at all levels and in all settings.	Social Connection and Engagement Older Residents should be free from isolation and loneliness, with affordable and accessible opportunities in their communities for social connectedness, including work, volunteering, lifelong learning, civic engagement, arts, culture, and broadband access and other technologies. Older Residents are critical to our local economies and their contributions should be valued by all.	Housing, Transportation, and Community Design Burlington should be designed, zoned, and built to support the health, safety, and independence of older residents, with affordable, accessible, appropriate, safe, and service-enriched housing, transportation, and community support options that allow them to age in a variety of settings along the continuum of care and that foster engagement in community life.	Family Caregiver Support Family caregivers are fundamental to supporting the health and well-being of older Vermonters, and their hard work and contributions should be respected, valued, and supported. Family caregivers of all ages should have affordable access to education, training, counseling, respite, and support that is both coordinated and efficient.

Key Indicators

- **Current Wastewater Capacity v. Capacity Needed for Growth Projections in Areas Planned for Growth** Source: ANR and CCRPC Municipal Growth Projections. Chittenden County has the capacity to treat an additional 14 million gallons per day of wastewater. In 2035, it is estimated that the anticipated demand will be 7 MGD which is adequate capacity to accommodate 80% of the future development within the various sewer service areas (based on a CCRPC 2002 study). However, capacity varies for each treatment plant and some facilities may have a narrow margin of additional capacity.
- There are 1,465 stormwater permits and 127 pending stormwater permits in Chittenden County. Source: ANR VTDEC stormwater permits & pending permits data, 2022.
- **56% of the impervious area in Chittenden County is covered by the Municipal Separate Storm Sewer System Permit (MS4).** Source: MS4 Boundary, ANR's 2016 Impervious Surface Layer derived from 2016 Vermont Land Cover

Additional indicators can be found on the ECOS Scorecard.

Indicators	Location
Storm Water Management	Scorecard
Drinking Water Capacity And Reserve for Large Water Utilities	
Waste Water Average Annual Flow	Scorecard
Pounds per capita per day for Municipal Solid Waste	Scorecard
Pounds per capita per day for Construction Debris	Scorecard



BUILD THE REGION'S CAPACITY FOR SHARED AND SUSTAINABLE IMPROVEMENTS IN THE ECONOMIC WELLBEING OF THE COMMUNITY THROUGH SUPPORT OF BOTH LOCAL AND GLOBALLY COMPETITIVE INITIATIVES.

X. ECONOMY

Economy Goal: Retain and support existing employers and job growth, grow living wage and high wage employment, and work to attract and sustain a greater diversity of businesses and people in the economy.

Key Issues/Trends/Insights

[Data in this section drawn from **Supplement 4 – CEDS**; and West Central Vermont website]

- Chittenden County contains only 26% of Vermont's population, yet 33% of Vermont's total jobs (covered employment) are located in the County according to the 2020 Census. Per the US Bureau of Labor Statistics, the county accounted for 35% of the state's GDP in 2019.⁵⁰
- Per the VT Department of Taxes in 2020, the County provided the State 35% of total income tax revenues, 24% of rooms/meals tax revenue, and 35% of non-internet sales tax revenue generated in the State. Four of the 5 highest retail sales tax revenue generating municipalities in Vermont are located in Chittenden County (Colchester – #1; South Burlington – #2, Williston – #3; and Burlington – #5); Cabot, VT is the 4th.
- Total covered employment is almost recovered from the COVID-19 pandemic. In 2019, there were 102,705⁵¹ jobs in the County. In 2022, covered employment equaled 101,258 jobs⁵¹. Prior to the pandemic, the County continued to see slow, yet steady job growth each year after the economic recession of 2008-2010.
- As of 2022, Chittenden County's employment base⁵² is concentrated within the Health Care and Education supersector (19% of county jobs – 19,302 total jobs). This is followed by Trade, Transportation and Utilities supersector (18% and 17,762), Federal, State, and Local Government (16% or 16,440), Professional and Business Services (14% and 14,313 and Leisure and Hospitality (10% and 19,678) supersectors.
- The largest employers in Chittenden County are the University of Vermont Medical Center and the University of Vermont. While there has been concern that our large employers are not in the private sector, these institutions are an advantage to Chittenden County and our economy is not overly reliant on them. Both entities are net dollar importers and are highly stable institutions.

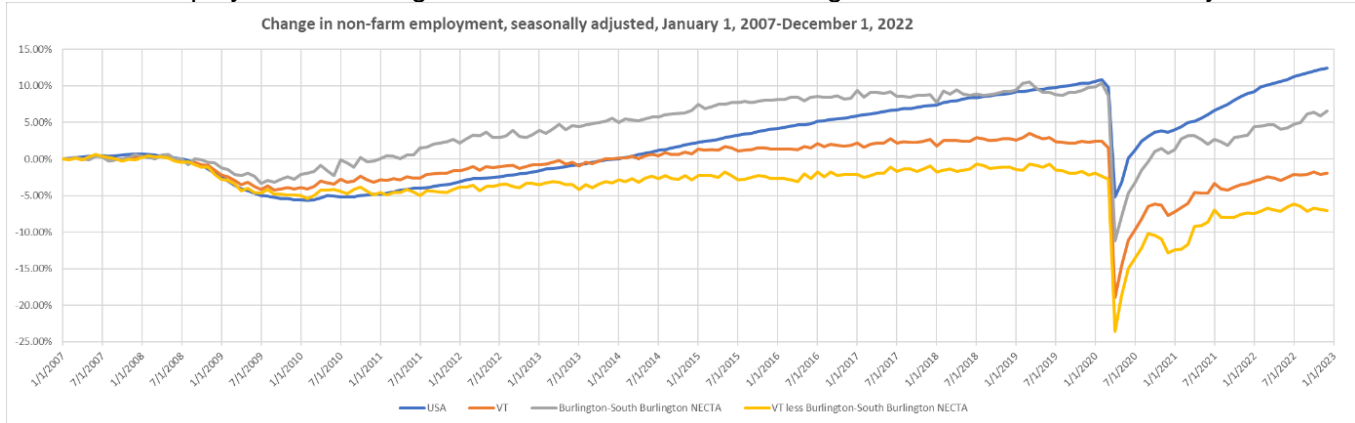
The annual average unemployment rate⁵³ in Chittenden County for the year 2022, is low (2.1% compared to statewide (2.6%) and national rates (3.6%)⁵⁴. However, the labor force participation rate, a measure of how many working-age people are actively employed or seeking employment, has dropped consistently since 1999 (73.4%). The rate in March 2020 (65.6%) declined sharply during the pandemic to a low of 59.7% in February 2021. This rate has since recovered to only 63.7%⁵⁵ as of May 2023. There are multiple reasons for decreased labor participation including the County's aging population and the impacts of the COVID-19 pandemic. Notably, labor force participation was higher among Black (75%) and Hispanic (74.1%) workers than among white workers (65.2%) between July 2019 and June 2020. This

disparity may indicate that a greater number of white workers are financially secure and could choose to not participate in the labor market in the early days of the COVID-19 pandemic.⁵⁶

- As of 2022, the average wage in Chittenden County was \$68,305, which remains significantly higher than the state average wage of \$59,597. Since 2018, the average wage has increased by nearly the same amount (just over 25%) for both Chittenden County (\$54,405) and Vermont (\$47,640). However, average wage varies significantly by industry, and some have seen faster gains than others.⁵⁷
- As of 2023, most permitted industrial parks in Chittenden County are approaching full build out. However, there is still sufficient land available in industrially zoned areas to support additional industrial development in the near term. The ECOS Plan does not recommend expanding the amount of land zoned for industrial uses at this time. CCRPC and Greater Burlington Industrial Corporation (GBIC) will conduct a longevity analysis to determine when new industrially zoned land will be needed. Having adequate industrial space is as much about having a wide variety of spaces as it is vacant square footage. GBIC reports that most industrial operations have very specific requirements for what size and configuration of space they need to begin or expand their business. If the right kind of space is not available in the county, GBIC has found that some companies choose to expand elsewhere rather than reconfigure or build new space in Chittenden County.
- Protection of both the rural and downtown/village character must be reflected in economic development efforts. Downtowns, growth centers, and village centers - dense, livable areas create places where workers can live close to their jobs and where a diversity of businesses can thrive – are significant economic drivers.
- In a 2021 survey of employers in the West Central Vermont region, the lack of affordable housing was identified as one of the many barriers to economic development, and a key piece of infrastructure worthy of future investment to attract and retain additional workers to Chittenden County.
- Organizations such as the Vermont Center for Emerging Technologies and Generator MakerSpace, and HULA (co-working campus, business incubator, and venture capital fund) co-working spaces are key to the region. Encouraging the creation and growth of small, “home-grown” businesses is key to diversifying the economy, increasing resilience to changes in large employers, and investing in future employment as companies grow. The West Central Vermont Comprehensive Economic Development Strategy (CEDS) directly establishes the need to develop these spaces to support the development of local business, in particularly BIPoC and women-owned businesses.
- CCRPC and GBIC have collaborated with RPC and RDC partners in Addison County, Central Vermont, and Rutland County to develop the West Central Vermont CEDS. Upon adoption these groups may seek to create an Economic Development District (EDD). Creating an EDD would open up additional funding from the US Department of Commerce Economic Development Administration (EDA) to support economic development related work within the region.

Key Indicators

Change in non-farm employment 2007-2022 Figure X shows employment recovery from the lows of the pandemic and the recovery towards pre-pandemic levels of employment. The region and the state continue to lag behind the national recovery.



Additional indicators can be found on the ECOS Scorecard and the West Central Vermont [CEDS Dashboard](#).

Indicator	Location
Total (Covered) Employment-Chittenden County	Scorecard
Total Number of Businesses	Scorecard
Unemployment Rate, Chittenden County, VT, Burlington-South Burlington NECTA , US	Scorecard
Average Wages by Industry Sector	Scorecard
Employment by Place of Residence (Total Labor Force) in Chittenden County	Scorecard

X. HOUSEHOLD FINANCIAL SECURITY

Household Financial Security Goal: Improve financial security for all households.

Key Issues/Trends/Insights

[Data in this section drawn from [Vermont Basic Needs Budget](#)]

- Levels of income and wealth are key determinants of individual or family wellbeing. Standard of living involves a complex combination of factors such as mental health, physical health, income, living costs, and household size and composition.
- Low income households, especially those with an income less than a livable wage, are more likely to experience all forms of insecurity (e.g. housing, access to food, health care, education, etc) based on their lack of financial resources. The impacts of financial insecurity on individuals, particularly children, can be life long and directly impact the need for social services (and associated costs) over the long-term⁶¹.
- According to Public Asset's State of Working Vermont 2022 report, median household income in Vermont grew 8.5% - from \$66,766 to \$72,431 - between 2019 and 2021. The jump followed a

decade a decade of slow growth after the Great Recession and was helped by massive federal aid during the pandemic (including supplemental unemployment insurance). Vermont's rate of median household income growth was the fastest in New England. and this was the first time the state's median household income surpassed \$70,000. However, median household income growth in Vermont still lags behind most New England states.⁶²

- In 2021, the median household income for all of Chittenden County households was \$85,213.⁶³ Median household income differs significantly by race in Chittenden County. The median household income for white and Asian households was \$85,793 and \$87,263 respectively.⁶⁶ The Black median household income was significantly lower (\$56,902).⁶⁶ The income inequality in Chittenden County can be attributed to long-standing systemic racism that has existed in the United States for decades.
- Median household income increases have not been distributed evenly between 2011 and 2021 (Figure X). There are significant differences in income growth across municipalities in Chittenden County.⁶⁴

FIGURE X MEDIAN HOUSEHOLD INCOME BY MUNICIPALITY

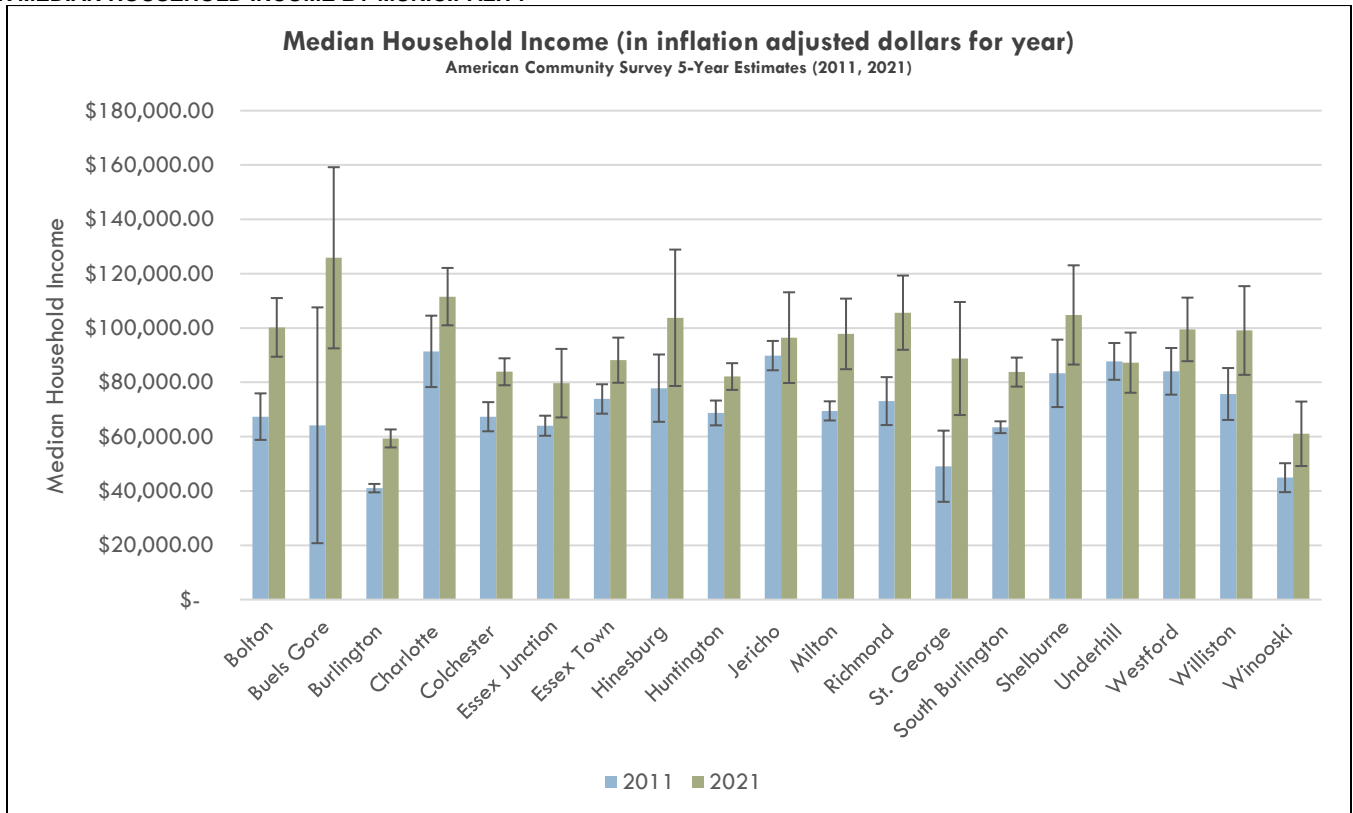
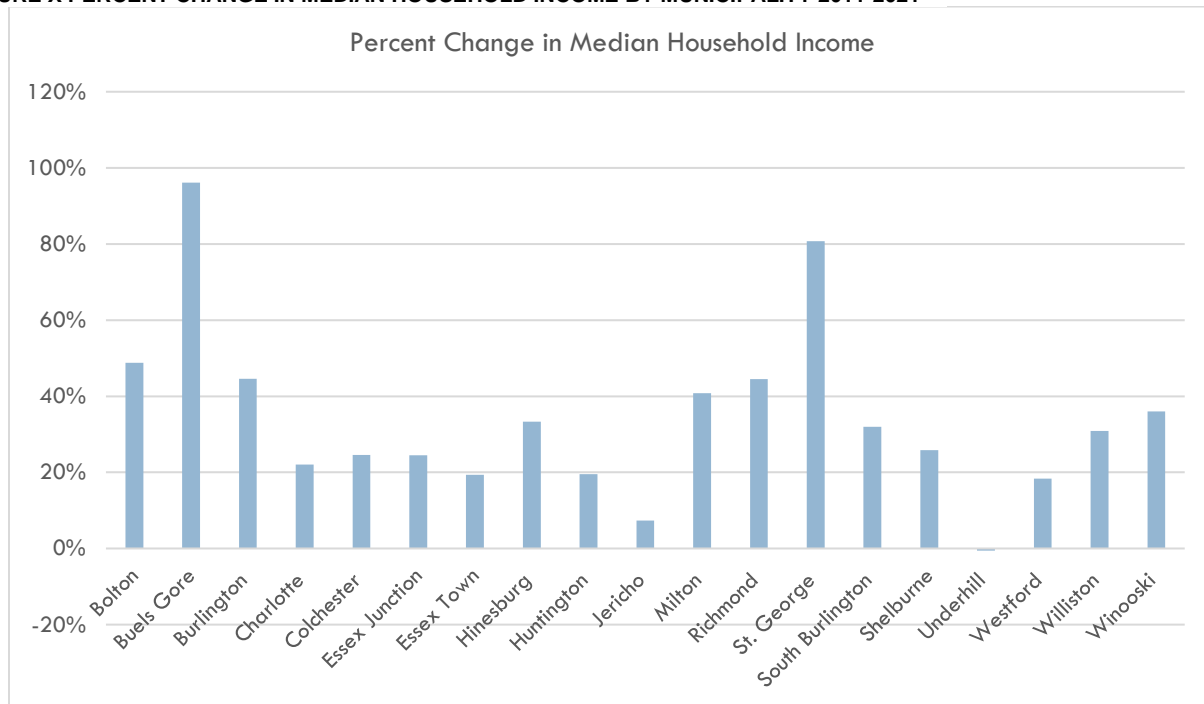


FIGURE X PERCENT CHANGE IN MEDIAN HOUSEHOLD INCOME BY MUNICIPALITY 2011-2021


- Vermont’s Basic Needs Budget determines the hourly rate a worker would need to make to pay for their “basic needs,” ranging from food and housing to childcare and insurance and to provide information on what it costs to live in Vermont. This rate is known as the “livable wage,” and it is calculated differently depending on household size/makeup and rural or urban location. The average 2022 livable wage is \$15.33 per hour. This is higher than the Vermont minimum wage (\$13.18) as of January 1, 2023. Additionally, the 2022 Vermont Livable Wage is 2.3 times the federal poverty level (FPL) for a single person and the federal minimum wage is only 47% of the Vermont Livable wage. See the Vermont Basic needs Budget and Livable Wage report for more information.⁶⁵
- Lack of financial resources causes food insecurity. For the year 2021, Chittenden County’s food insecurity rate was 7.9% (13,290 people).⁶⁷ There are programs that mitigate food insecurity for families and individuals, including 3SquaresVT (SNAP), and school meals. In 2022, 7,618 households, 12,927 recipients, and 4,068 children under 18 in Chittenden County received 3SquaresVT benefits⁶⁸.
- Food insecurity is also linked to obesity, as processed foods are less expensive than nutritious food. According to the Vermont Agency of Education, families with an income at or below 130% of the Federal poverty line have historically been eligible for free school meals. In 2023, the free school meals program in Vermont has been extended to all school children statewide regardless of income through the end of the 2023-2024 school year.

Key Indicators

Additional indicators can be found on the ECOS Scorecard.

Indicators	Location
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Median Household Income, Chittenden County, VT., US	Scorecard
Median Household Income by Race	Scorecard
Percentage of Families whose Income in the Last 12 months is Below Poverty Level, Chittenden County, VT, US	Scorecard
Housing + Transportation Costs for Median Income Family	Scorecard

X. WORKING LANDS & LAND BASED INDUSTRIES

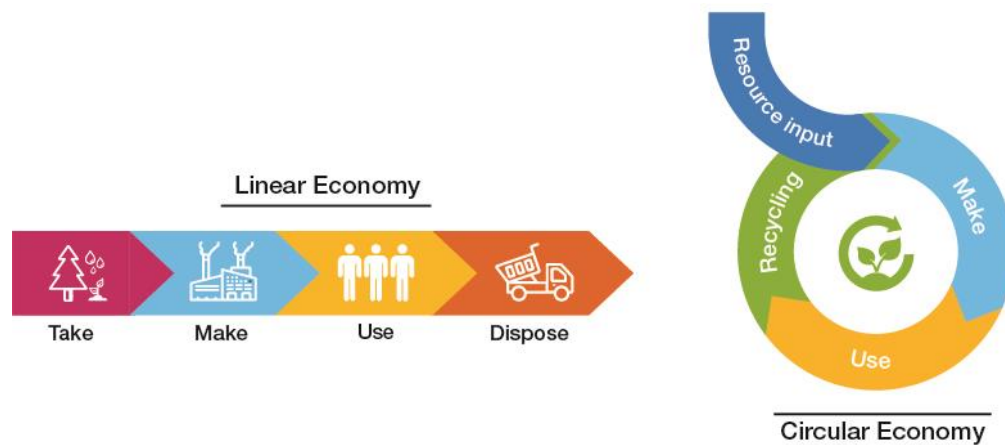
Working Lands Goal: Support the growth and vitality of working farms and managed forests; and minimize and mitigate the environmental impacts of sand and gravel extraction operations.

Key Issues/Trends/Insights

[Data for this section drawn from [Natural Systems Analysis Report](#); [Vermont Agriculture and Food System Strategic Plan 2021 – 2030](#); [The Action Plan of the VT Working Landscape Partnership \(2012\)](#); [Vermont Wood Fuel Supply Study](#) – Biomass Energy Resource Center, 2010; [Informing Land Use Planning and Forestland Conservation Through Subdivision and Parcelization Trend Information](#) – Vermont Natural Resources Council, September 2010]

- **Land Use and Working Lands.** The Future Land Use map of this Plan defines 85% of Chittenden County’s land area as the Rural Planning Area. The intent within the rural planning area is to minimize parcelization and fragmentation to maintain the vitality of these industries and ecological systems. Conversely, 15% of the land area is defined as “areas planned for growth” with the intent of concentrating development in these areas to relieve development pressures on the rural planning area. The intent of this Plan is to minimize degradation of working lands in our rural planning area to prevent far-reaching consequences on Vermont’s local economies (including tourism).
- **Regenerative Economy.** Working lands are critical components of a self-reliant and diverse economy. Historically, our economy has treated working lands through the lens of maximizing resource extraction and production of goods or services without much regard to outcomes for long-term ecological health or economic prosperity. Pursuing a myth of infinite economic growth ultimately will result in degraded landscapes unable to support human society (or life at all) as human consumption exceeds the planet’s carrying capacity. The alternative view of a regenerative or circular economy places human economic needs within the context of ecological cycles, aiming for stable long-term circulation of resources rather than a linear process that results in waste.

FIGURE XX: LINEAR ECONOMY VS. REGENERATIVE OR CIRCULAR ECONOMY.⁷⁰



- Local Economic Impact.** Working lands are a significant contributor to our regional and state economy. The forest and wood products industries economic output is \$2.1 billion annually⁷¹; and the food system economic output is \$11.3 billion annually⁷². These are both statewide figures based on 2017. These figures do not consider the ecological benefits of our forests, and the tourism economy which relies heavily on our forested and agricultural landscapes. Furthermore, local food production makes the region less vulnerable to market disruptions, reduces transportation related expense to import food, and decreases transportation energy use and pollution. Also, markets for forest products are necessary to ensure that landowners can afford to hold and manage their forest land (Vermont Forest Resource Plan, page 57).
- Forests for Biomass.** Meeting our goal of obtaining 90% of total energy from renewable sources by 2050 may require an increase in biomass used for advanced wood heating, district heat and electricity production. However, the 2022 Vermont Comprehensive Energy Plan and the State Climate Action Plan both place significant emphasis on the importance of carbon storage and sequestration. The McNeil Generating Station in Burlington is the region's largest user of biomass for energy generation. Most of the wood fueling the McNeil Station in Burlington comes from within 60 miles of the station and is a byproduct of other forestry operations. At full load, approximately 76 tons of wood chips are consumed per hour (about 30 cords). As Vermont continues to deploy renewable resources, it is vital to ensure that the ecological function of Vermont's natural landscape is maintained and that biomass used for electricity production only be harvested in a manner that is truly sustainable and does not have a negative impact on our forests' ability to act as our single largest source of carbon sequestration and storage⁷³. Managing forests for biomass fuel provides economic value that supports retention of the ecological functions of forests, including carbon storage and sequestration, rather than conversion to non-forest uses.
- Farm to Plate** has been a success story in Vermont since it formed in 2011 with significant growth in farm and food sales, jobs, food businesses, and local food consumption⁷⁴. Vermont intends to build on this success and address structural problems as defined in the [Vermont Agriculture and Food System Strategic Plan 2021 – 2030](#). These structural problems include “development pressure, generational transfer of farm assets, changing consumer preferences and markets, income inequality and food insecurity”.
- Farm Worker Equity.** Since the 1990s Latinx farmworkers have supported Vermont's dairy industry and agricultural economy, but some individuals work under unsafe conditions with low wage, and/or without full payment. Some Latinx farmworkers lack access to basic human needs like safe housing, health care, and culturally relevant foods⁷⁵. For more information see the [Farm to Plate issue brief: racial equity in the Vermont Food System](#).

- **The Changing Face of Farms.** Since 1987, the number of farms has increased while the acreage of farmland has decreased. This trend is continuing as seen in the change in total acres of land in farms between 2012 and 2017. Land in farms decreased from 73,583 acres to 64,226 acres or by 12.7% between 2012 and 2017. The average size of a farm also decreased from 125 acres to 110 acres (-12%) between 2012 and 2017⁷⁶. This trend is largely due to increased small-scale, diversified agriculture and declines in land-intensive dairy farming. American Indian (1%) and Black or African American (.5%) people constitute only a very small percentage of farm owners/producers in Vermont.⁷⁷
- **Bedrock Geology.** Chittenden County contains two major zones of bedrock geology: Sedimentary Zone –formed by the deposit of sediment, located predominantly in the lowlands between Lake Champlain and the uplands on the eastern side of the County; and Metamorphosed Zone – formed by metamorphic processes located predominantly in the uplands on the eastern side of the County. No major geologic threats (e.g. major active fault lines, areas prone to sinkholes or subsidence) or opportunities (e.g. deposits of valuable minerals) exist in the County.
- **Mining.** The extraction of sand, stone and gravel are commercially viable in the County. These resources play an important role in construction and land development practices. Extraction operations can have environmental impacts, particularly related to water quality and wildlife habitat, and are regulated by State and local governments in order minimize these impacts. Sand, stone and gravel are finite resources. Alternatives to these resources for use in construction have not been identified, but efforts are underway to minimize the demand for these resources by recycling those already extracted; for example, Glavel is an Essex-based business that converts post-consumer glass bottles into road and building foundation aggregates. Chittenden County contains 3 sites that primarily produce construction sand and gravel areas. The County has a total of 10 producing mines.⁷⁸

Key Indicators

FIGURE 28 - NUMBER OF FARMS OF DIFFERENT SIZES IN CHITTENDEN COUNTY, 1987 - 2017

Farm Size							
						1987 to 2017 Change	
(Acres)	1987	1997	2007	2012	2017	Number	Percent
1,000 or more	7	10	11	11	6	-1	-14%
500 to 999	44	23	25	12	17	-27	-61%
180 to 499	140	123	203	88	75	65	-46%
50 to 179	134	137	178	180	169	-35	26%
10 to 49	99	123	143	223	224	-125	126%
Under 10	28	40	81	73	94	-66	236%
Total	452	456	641	587	585	-133	29%

Source: U.S. Agriculture Census

- The average **property taxes per acre** for farms in Chittenden County increased 23% percent from 2012 to 2017, from \$39.22 to \$48.29. Dollar figures are expressed in current dollars and have not been adjusted for inflation or deflation. (Source: U.S. Census of Agriculture, Table 3. Farm Production Expenses)

- As of 2017, the average net cash income in Chittenden County was \$18,721 per farm. This is a 37% increase from 2012. In comparison, Vermont's average net cash income was \$26,215 per farm. (Source: Census of Agriculture 2017 County and State Profiles)
- The market value of agricultural products sold varies based on crop type and livestock type. In 2017, Chittenden County ranked number 1 compared to other VT counties for sales in two categories of crop types: Sales of nursery, greenhouse, floriculture and sod products amounted to a market value of \$7,370,000; and sales of vegetables, melons, potatoes amounted to \$5,041,000 (Source: Census of Agriculture 2017 County Profile⁷⁹)
- Between 2011 and 2019, 1.27 acres of agricultural and natural resource land was lost annually to development per new Resident (Source: MRLC NLCD EVA Tool, U.S. Census Population 2011-2019)

Additional indicators can be found on the ECOS Scorecard.

Indicators	Location
Total Number of Farms	Scorecard
Number of Forested Acres Enrolled in the Current Use Program	Scorecard
Number of Agricultural Acres enrolled in the Current Use Program	Scorecard
Acres Devoted to Crops	Scorecard

X. SCENIC, RECREATIONAL, AND HISTORIC RESOURCES

Scenic, Recreational and Historic Resources Goal: Conserve and protect valued scenic, recreational, and historic areas and resources.

Key Issues/Trends/Insights

[Data for this section drawn from [Natural Systems Analysis Report](#)]

- Chittenden County's scenic, recreational, and historic resources not only provide residents a place to relax, play, gather, and learn about nature, conservation, and history, they also provide important ecological functions including wildlife habitat, carbon sequestration, and water and air quality protection. Lake Champlain, shared-use paths, on-road bike lanes, and off-road trails physically connect the County's recreational facilities and areas, but also connect residents with each other and the outdoors. It is important that we protect these resources and increase access to recreation for those that know have limited or no access (data can be found under the Natural Systems section of the online map located here: <http://maps.ccrpcvt.org/ChittendenCountyVT/>).
- Municipalities are planning for new facilities and improvements to existing facilities to expand access and opportunities for recreation. Bicycle and pedestrian infrastructure has modestly but steadily increased each year (60.8 miles were added between 2011 and 2022).
- Scenic resources represent an important element of the region's landscape and contribute directly to sense of place, quality of life and economic vitality through tourism and by attracting new residents and businesses.
- Historic resources include buildings, structures, landscapes, and archeological sites, both on land and under water. There are over 4,400 designated historic sites in Chittenden County and over 80

designated historic districts (this data can be found under the Natural Systems section of the online map located here: <http://map.ccrpcvt.org/ChittendenCountyVT/>).

- The recreational value of our water bodies (swimming, fishing, boating, etc.) is critically dependent on water quality. E-coli and algal blooms, due primarily to phosphorus pollution from stormwater runoff from non-point sources, like agriculture and developed lands, lead to beach closures. Invasive species also threaten our native fish populations. These conditions are exacerbated by warming water conditions due to the effects of climate change.
- As we work toward encouraging future development in areas planned for growth to maintain VT's historic settlement pattern of villages and urban centers, surrounded by rural countryside, **access** to valued scenic, recreation and historic resources should also be maintained and improved for all residents and visitors. In addition, accessible design standards should be incorporated into recreation facility projects.
- Eight of the County's municipalities (Milton, Colchester, Essex Junction, Winooski, Burlington, South Burlington, Shelburne and Charlotte) are member communities of the Lake Champlain Byway, a State-designated Scenic Byway that extends from Alburg in the Champlain Islands through Chittenden County on U.S. 7 and south into several towns in Addison County. Since 2002 these communities have secured competitive grants from the National Scenic Byway Program to improve the visitor experience by implementing projects such as wayfinding signage, interpretive panels, brochures, kiosks, and other amenities. In particular, the Byway focuses on improving interpretation and information about municipal and non-profit intrinsic resource sites such as parks, town forests, natural areas, trails and smaller museums.
- CCRPC strongly encourages municipalities to be clear in their municipal plans and their development regulations about what specific natural and scenic resources they want to protect from the impacts of development. At present, there is low compatibility between municipal plan recommendations for natural and scenic resources and the implementation of those recommendations through development regulations. Further, there are often contradictory goals within municipal plans regarding natural and scenic preservation and the need for new infrastructure for energy generation and transmission.

Key Indicators

- **57,436 acres or 17% of Chittenden County's land area is available for recreation in the form of town & state parks, athletic fields, and publicly accessible natural areas.** Note: 24% of the County is conserved (which includes private land as well). (Source: Protected Lands, VCGI (2019); Parks and Municipal Conserved Areas for select towns, CCRPC).
- 81% of the Chittenden County population resides within 1/2 mile of parks or publicly accessible natural areas in urban areas in areas planned for growth and 1 mile in the rural planning area. (Source: Park, CCPRC; VCGI Protected Lands 2019; U.S. Census (2020))

Additional Indicators can be found on the ECOS Scorecard.

Indicator	Location
Conserved Land, 2010,2015	Scorecard

X. ARTS AND CULTURE

Arts and Culture Goal: Increase and support access and participation in arts and cultural opportunities.

Key Issues/Trends/Insights

[Data in this section drawn from the [Vermont Arts Council](#)]

- Use of arts in education is a critical pedagogical tool for developing critical thinking, math, and science skills, insights on cultural diversity and the human experience, and building self-esteem through self-expression. There is a diminishing amount of time in school dedicated to arts and recreation; while offered in after school programs these programs are not accessible to all children due to issues related to transportation, parent's work schedule, or program fees.
- Programs and events should attract and engage residents from diverse backgrounds, ages and income levels. To increase participation in arts and cultural activities by underserved populations, organizations need to remove barriers to participation (including transportation, costs, and cultural differences).
- Arts and culture are a major contributor to the quality of life of residents and visitors. They are a key factor in attracting businesses who see arts and cultural opportunities as key elements to attracting and retaining a talented workforce. Participation in arts and cultural activities also contributes to a strong sense of shared community.
- The CreateVT Action Plan is focused on implementing projects to increase access, infrastructure, education, and engagement in the creative sector of the local economy.
- The Vermont Arts Council's CreateVT Action Plan includes the following key findings⁸⁰:
 - 7% of jobs in Vermont are in the creative sector. This is higher than the nationwide percentage (5.1%). This includes 9,793 jobs in Chittenden County.
 - Almost 50% of the workers in the creative sector in VT are self-employed or freelance.
 - Employment in "creative industries" in VT grew 8% from 2010 to 2018. This lags behind the U.S growth (14%).

Key Indicators

- Number of jobs in Chittenden County in the creative sector. (Source: Create VT Action Plan)

X. EDUCATION, KNOWLEDGE AND SKILLS

Education, Knowledge, and Skills Goal: All Chittenden County children and adults have the education, skills and opportunities necessary to meet their full economic and social potential and well-being.

Key Issues/Trends/Insights

[Data for this section drawn from references as incorporated below.]

- Chittenden County requires a well-educated workforce to attract good employers and livable wage jobs. Our region's economic and cultural well-being depends on educational attainment through ensuring that there is a continuum of accessible and affordable educational opportunities from the early years through adulthood.
- The first five years of life are critical to a child's lifelong development. Research shows that children who are not performing proficiently in reading by the end of third grade are at very high

risk for poor long-term outcomes, such as dropping out of school, teen pregnancy and juvenile crime. Children from low-income families currently have more limited access to high-quality early education and are “more likely to start school behind their peers in the set of skills that correlate with future school success” and thus are at higher risk of negative long-term outcomes.⁸¹ Narrowing the gap in access to early childhood education is essential to providing greater access to long-term success.

- Standardized test scores in K-12 education show that “historically marginalized students,” such as BIPOC students, students with disabilities, English language learners and students in poverty in Vermont are not attaining language arts, math, and science proficiency at the same level as non-marginalized students⁸². Decreasing poverty rates may increase academic performance.
- Childcare costs and availability remain significant issues in Chittenden County. Availability of childcare for infants is lacking. Though improved since 2018, approximately 43% of infants in Chittenden County do not have access to childcare services according to Let’s Grow Kids’ 2022 Report.⁶ Access to care for toddlers and pre-school age children has improved since 2020. Childcare availability is especially lacking for parents that work the third shift or non-traditional hours. While the U.S. Agency of Health and Human Services’ Department for Children and Families recommends childcare costs be no more than 7% of annual income⁸³; 20% of median household income⁸⁴ is spent on childcare in Chittenden County with average market rate full time licensed childcare costs of \$15,000/year⁸⁵. Also, the Let’s Grow Kids’ 2022 Report describes that early childhood educators are expected to be educated, trained and licensed; yet the average annual salary for an early childhood teacher is \$38,870 compared to \$55,580 for a kindergarten teacher. This low salary can keep these educators out of early childhood education. The VT Department of Health and Human Services continues to study how to finance high quality childcare that remains affordable to working families.
- In 2023, the Vermont legislature passed the [Child Care Bill](#). This bill will implement a series of programs that will invest in recruitment and retention of child care workers, expand of child care program capacity, and create the Child Care Financial Assistance Program for families earning up to 575% of federal poverty level. Programs related to the bill will begin to be implemented in January 2024.
- Library facilities are well distributed across the region and residents benefit from reciprocal agreements among all of the libraries in the County with the exception of Burlington (an additional fee is charged for non-Burlington residents). Only three municipalities in the region do not have a library: Bolton, Buel’s Gore and St. George. These communities do not have any current plans to build a library and the residents use the libraries in surrounding communities. All libraries in the region offer high speed internet access.
- There are currently 8 supervisory unions or school districts in Chittenden County. The County has 52 public schools, 23 independent schools (6 of which are special education schools) and 6 colleges/universities in the County (see the ECOS Map Viewer for locations).

FIGURE 17 – NUMBER OF SCHOOL DISTRICTS OR UNIONS

SCHOOL DISTRICTS OR UNIONS	# OF SCHOOLS	TOWNS SERVED
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BURLINGTON SCHOOL DISTRICT	11 SCHOOLS	BURLINGTON
ESSEX-WESTFORD SUPERVISORY UNION	11 SCHOOLS	ESSEX, WESTFORD, ESSEX JUNCTION
MOUNT MANSFIELD UNIFIED UNION SCHOOL DISTRICT	9 SCHOOLS	BOLTON, BUEL'S GORE, HUNTINGTON, JERICO, RICHMOND, UNDERHILL
CHAMPLAIN VALLEY SUPERVISORY DISTRICT	5 SCHOOLS	CHARLOTTE, HINESBURG, SHELburne, ST GEORGE, WILLISTON
COLCHESTER SCHOOL DISTRICT	5 SCHOOLS	COLCHESTER
MILTON SCHOOL DISTRICT	3 SCHOOLS	MILTON
SOUTH BURLINGTON SCHOOL DISTRICT	5 SCHOOLS	SOUTH BURLINGTON
WINOOSKI SCHOOL DISTRICT	3 SCHOOLS	WINOOSKI

- Between 2018 and 2022, K-12 school enrollment in Chittenden County declined by 8% despite the fact that the number of people aged 18 and under increased by approximately 300 (from 29,165 to 29,478).⁸⁶ For the 2022 school year, total county wide enrollment was 21,752⁸⁷ students compared to 23,639⁸⁷ students in the 2018 school year.
- Vermont boasts a solid K-12 system which benefits from strong community support, small class sizes, yet high school graduation rates are now below the national average. Only 83% of VT high school students graduated on time in 2019-2020 according to the National Center for Education Statistics (National average – 87%). The graduation rate is dramatically lower for Black high school students (70%)⁸⁸ and 82% and Hispanic students.⁸⁸
- The [Vermont Annual Snapshot of Education](#) shows clear performance gaps for low-income and students of color for every school district in the region. In addition, there are geographic disparities for academic proficiency between school districts which have more students from historically marginalized groups compared to those who do not. All our youth need the skills and education to participate in the local economy and to ensure their own well-being and financial security. By ensuring equity in education we can provide opportunity for all members of our community to reach their fullest potential and ensure a more inclusive, prosperous, and sustainable region.
- The impact of the COVID-19 pandemic on the teaching profession is still being studied, but recent national polls suggest higher levels of stress and burnout in teaching than in other professions.⁸⁹ This, combined with relatively low starting wages, risks making the teaching profession unable to attract qualified workers. In 2022, several Vermont school districts, including some in Chittenden County, began to have challenges filling necessary school staff positions.⁹⁰ This situation puts the quality of local K-12 education at risk.
- Vermont ranked 43th in the country in college-going rate in 2018 (55%)⁹¹. Rates in some Chittenden County High Schools have historically have exceeded 70% according to the VT Department of Education. However, rates lag below the state average in Winooski and Burlington school districts.⁹² College-going rate should be combined with data about the number of students enrolled in high school technical programs that are entering the workforce to gain a better understanding of the number of students that are entering the workforce without technical skills or a college education. Better data from the VT Department of Education about technical education enrollment and job placement is needed in order to this analysis.

- Chittenden County has a higher percentage of high school graduates (95%) and college graduates (54.1%) than any other county in Vermont per 2021 5-year ACS estimates. The college graduate rate is 10% higher than the next county (Washington County – 44%).
- Out of Vermont's 25 fastest-growing occupations as of 2018, 15 occupations require an advance degree or post-secondary education certifications⁹³.

Key Indicators

- Cohort Drop Out Rates - % of students who do not complete high school

Figure X - 2021 Cohort Drop Out Rates

School	Four-year Drop Out Rate	Six-year Drop Out Rate
Burlington Senior High School	27%	20%
Champlain Valley UHS #15	6%	4%
Colchester High School	13%	11%
Essex High School	14%	5%
Milton High School	11%	8%
Mt. Mansfield US #17	9%	7%
South Burlington High School	13%	8%
Winooski High School	42%	46%

Note: Students are considered dropouts if they left high school permanently at any time during the four-year, or six-year period prior to receiving a regular diploma, GED or other completion certificate. Source: VT Dept. of Education⁹⁴

Additional indicators can be found on the ECOS Scorecard.

Indicator	Location
Percent of Kindergartners Ready on the Ready for Kindergarten! Survey (R4KIS), Chittenden County, 20016-2017	Scorecard
	Scorecard
	Scorecard
Percent of All Chittenden County Students in Grade 3 considered proficient or above in Reading on the Smarter Balanced Assessment, 20015-2017, All Students, Free and Reduced Lunch, and Non-Free and Reduced Lunch	Scorecard
	Scorecard
	Scorecard
6-Year Cohort Drop-Out Rate for All Chittenden County High Schools, 2010-2015	Scorecard
Percent of Adults (25+) with High School Degree or Higher in Chittenden County	Scorecard
Percent of Adults (25+) with Bachelor's Degree or Higher in Chittenden County	Scorecard
	Scorecard
Number of regulated care and education programs (registered and licensed) in Chittenden County	Scorecard

Percent of regulated care and education programs (registered and licensed) of high quality (4 & 5 Stars level) in Chittenden County	Scorecard
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STRATEGIES & ACTIONS

1. ECONOMIC INFRASTRUCTURE: IMPROVE AND STRENGTHEN THE ECONOMIC SYSTEMS OF OUR REGION TO INCREASE OPPORTUNITIES FOR VERMONT EMPLOYERS AND EMPLOYEES.

Economic development is about building a community's capacity for shared and sustainable improvements in the economic well-being of residents. Providing access to good jobs that can support an adequate standard of living for all residents of a region or community; continuous and sustainable improvements in the internal functioning of the economy, where its structural underpinnings are made stronger without sacrificing long-term quality of life; and providing the means and the continuous processes to strengthen the foundation of our communities.

The actions in this strategy are closely aligned with the West Central Vermont (WCV) Comprehensive Economic Development Strategy (CEDS), which was adopted in Spring 2023 by four Regional Planning Commissions (RPCs) and four Regional Development Corporations (RDCs) for Addison County, Chittenden County, Rutland County, and Central Vermont (Washington and Orange Counties) working together in partnership. The WCV CEDS is a strategy-driven plan for regional economic development whose purpose is to build capacity and guide the economic prosperity, resilience, and well-being of all the region's residents. CCRPC intends to implement these actions in close partnership with the other WCV RDCs and RPCs.

Actions

1. **Attract New Workers and Expand Labor Force** - Attract new workers of all skills sets, training, and expertise to the region, and remove existing barriers to workforce participation for existing residents, to combat the state-wide labor shortage due to the impacts of COVID-19, an aging population, and other structural barriers to labor participation. This includes improving the availability of housing as addressed in Strategy 3.
 - a. **Child Care.** Support working families by ensuring that their children (ages 0-5) have adequate access to high quality and affordable early learning and education programs. Work with stakeholders in the child care field (e.g. Building Bright Futures, existing childcare providers, school districts) and potential funders (e.g. VCDP, NBRC, EDA) to identify existing sites that could support child care facilities (particularly for infant care) and assist with accessing grant/loan funds for costs associated with business start-up, associated workforce development, and construction. Improve access and funding for pre-kindergarten programs so that children are ready to learn by the time they begin kindergarten and support the ability of early care and education providers to develop the skills and knowledge needed to care for and educate children. Support increased public investment in child care and programs designed to provide childcare for students enrolled in post-secondary education (e.g. Child Care Access Means Parents in School Program).
 - b. **Marketing and Support.** Seek grant funding to support on-going marketing efforts by project partners and local employers to attract new workers to Chittenden County. Work collaboratively with the Stay to Stay network and other partners to better understand how to specifically market to BIPOC workers.
 - c. **New American / Refugee Programs.** Aid municipalities, and associated non-profits, seeking to establish designated refugee resettlement community programs within the Region. These programs provide refugees with direct assistance with securing housing,

employment, education/training, and other essential support, like translation, to overcome social, cultural, and economic barriers.

- d. **Returnship Programs.** Work with the Vermont Returnship Program to strengthen and expand programs that help experienced workers transition to new careers that maximize their existing knowledge, transferable skills, and job goals.

2. Equity - Facilitate equitable economic development planning and the delivery of services and programs to further advance opportunities and education for traditionally underrepresented populations in the regional economy.

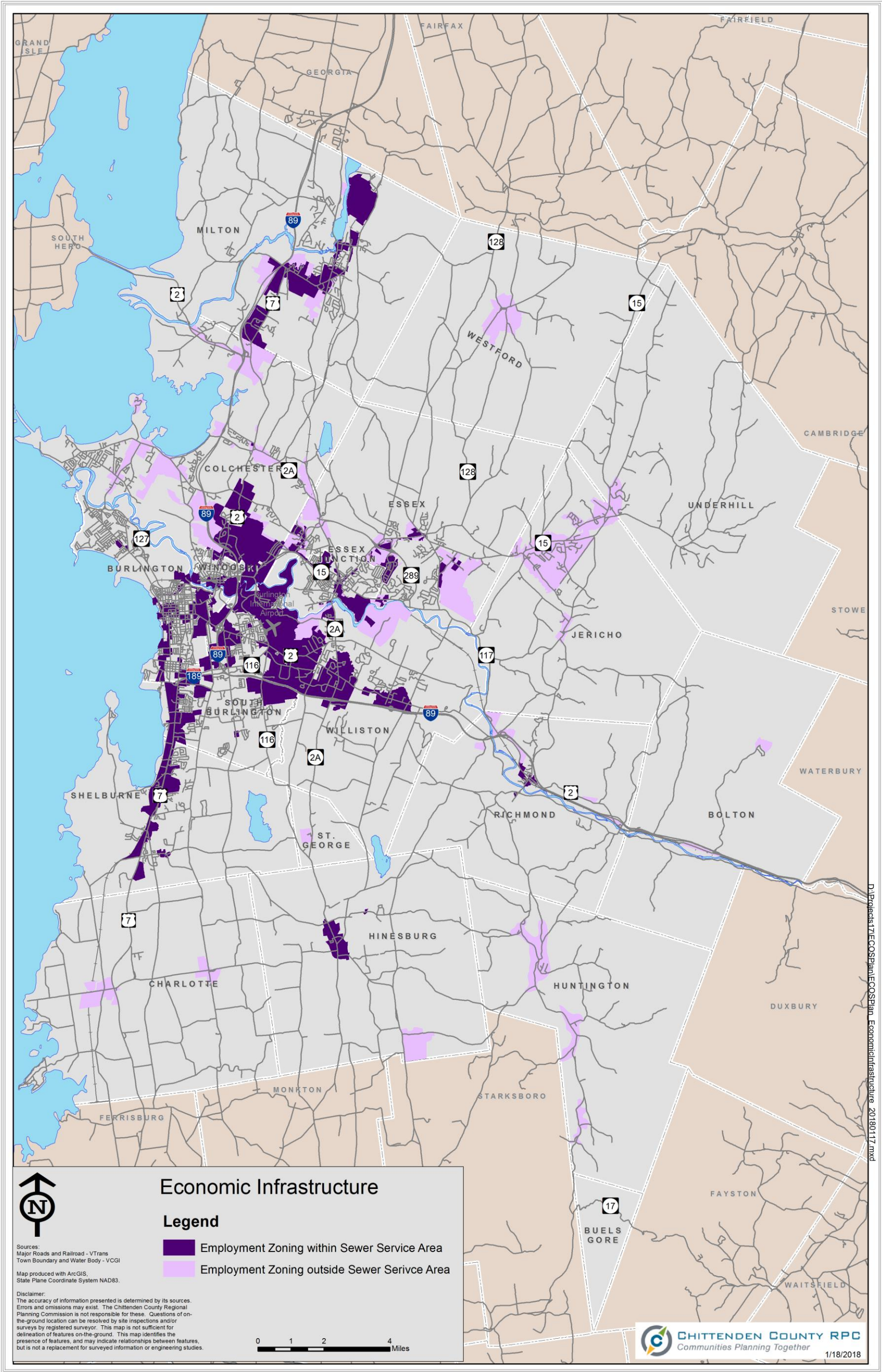
- a. **Rules and Practices Restricting Access to Capital.** CCRPC will advocate on behalf of underserved populations with Federal and State funders to provide flexibility when financing and making grants to underserved business and individuals in our community based on insight gained as a part of the Community Navigator Pilot Program (CNPP). Similarly, CCRPC will advocate for change among financial institutions and equity investor lending and investment to better serve socially and economically disadvantaged individuals (SEDI) and businesses.
- b. **BIPoC Business Basics and Support.** Work with CEDS partners to develop a “business basics” course specifically for BIPoC small business owners in the “start-up” or early stages of developing their business. Work with CEDS and State partners to develop a step-by step guide and a directory of programs, services, and technical assistance and make it available to everyone.
- c. **Hiring, Workforce Development and Retention.** Work with partners to create and/or support trainings to help employers better understand the needs of immigrant and refugee communities and BIPoC workers. Build relationships with employees from underrepresented communities to better understand how to develop ways to meet workforce development needs and retention strategies. Determine ways to remove language barriers to workforce entry.
- d. **Women-Owned Business.** Collaborate with the Vermont Women’s Fund and other partners to implement projects that address the specific needs of women-owned businesses as identified in the This Way Up! campaign.
- e. **Just Transitions.** Work with the Vermont Climate Council to develop public policy and business actions that will ensure that the impacts of Vermont's transition into a low or zero greenhouse gas emitting economy will benefit and support all residents of the State of Vermont fairly and equitably.
- f. **Data.** Ensure that all data collection conducted by a future WCVT EDD and CCRPC includes information about race and gender to more accurately understand and report on economic development efforts and populations served/impacted. Seek funding to assist with partners efforts to track identified CEDS indicators. Advocate for all State and Federal economic data to include information about race.
- g. **Funding.** Prioritize seeking economic development-related grant funding and technical assistance to support the needs of BIPOC and women-owned businesses.

3. Job Creation and Business Development – Support job retention and growth at existing high wage employers, expand economic diversification, and create a supportive ecosystem for entrepreneurs to create and grow their business within the region.

- a. **High wage employers** – dd high wage employment, attract businesses, and encourage the growth of those already here, including businesses in the following fields: Information Technology, Communications and Media (including Information Technology, E-Commerce, and Digital Media); Advanced Manufacturing; Higher Education; Clean Tech/Green Tech; and Health Care and Wellness.
 - b. **Economic Gardening.** Practice economic gardening (growing the local economy from within rather than attracting employers from outside the aera) as the primary method of economic development. Create jobs by supporting local entrepreneurs and existing companies, especially those with local ownership, including employee ownership, and other connections to the community.
 - c. **Access to Capital.** Work with partners to develop and administer programs that provide low-barrier access to capital for start-up small businesses, particularly BIPOC and women-owned small businesses. This may include grants with low match, or no match, requirements. This may also include exploration of a shared-equity program for commercial properties similar to existing residential shared-equity programs in the region.
 - d. **Innovation and Entrepreneurial Development** – Work with GBIC to promote and expand support systems for entrepreneurs from every sector, including the creation of a system of resources that is easily navigable at all stages of the innovation and entrepreneurial continuum.
4. **Workforce Development and Employee Retention** - Assist partner organizations (Regional Development Corporations, educational institutions, and nonprofits) implement goals of the CEDS related to employee recruitment & retention, workforce training and professional development opportunities for career advancement.
5. **Infrastructure and Resilience** - Actively participate in the planning, funding, and construction of infrastructure projects needed to strengthen the regional economy and that support equity, smart growth principals, and economic resilience in response to climate change and other disasters.
- a. **Regional Development Corporation (RDC) Priority Project List.** Annually update Regional Priority Project Lists and seek funding to plan and implement projects.
 - b. **Tax-Increment Financing.** Support the creation of Tax Increment Financing (TIF) Districts within the region and legislation that would enable the development of project-specific TIFs.
 - c. **Infrastructure Planning and Construction.** Implement infrastructure projects that support economic development and housing in areas planned for growth outlined in Goal 5 of the WCV CEDS, including the following:
 - i. Municipal Water and Wastewater (see ECOS Strategy 2, Action 1-a and Strategy 3, Action 1-d)
 - ii. Broadband (see ECOS Strategy 2, Action 3)
 - iii. Transportation –(see ECOS Strategy 5, the Metropolitan Transportation Plan)
 - iv. Electric Vehicle Charging (also see ECOS Strategy 4, Action a-v and the Metropolitan Transportation Plan)
 - v. Electric Transmission and Distribution (also see ECOS Strategy 4, Action a-xii)

- d. **Brownfields.** Seek funding from the EPA to continue funding assessment and site planning, and to establish a Brownfields Revolving Loan Fund (RLF) to specifically fund brownfield cleanup in Chittenden County and/or the West Central Vermont region.
 - e. **Underutilized Sites.** Support partner efforts to develop master redevelopment plans for currently underutilized sites within the region, particularly closed college campuses and public schools, that could be used to support housing, commercial development, municipal uses, or community uses.
- 6. **Tourism** – Cooperate with partners, including the Vermont Convention Bureau, local Chambers of Commerce and Downtown Organizations, the Vermont Outdoor Recreation Economic Collaborative and Lake Champlain Byway to support growth of the tourism industry.
- 7. **Creative Economy and the Arts** –Support creative economy by helping implement projects identified in the 2021 CreateVT – Action Plan for Vermont’s Creative Sector.
- 8. **Economic Development Coordination** – Work with the State of Vermont to implement the 2020 Vermont Comprehensive Economic Development Strategy. Coordinate with West Central Vermont CEDS partner organizations and pursue creation of an Economic Development District (EDD). Cooperate with Northwest Regional Planning Commission on their economic development efforts due to the proximity and economic ties between regions. Support municipalities in local economic development efforts.
- 9. **Industrial Site Locations** – There is a limited supply of existing buildings or permitted sites left for high wage industrial or manufacturing businesses in the region. Additional sites need to be identified and carefully planned to meet employers’ needs for expansion or relocation in Chittenden County. The best opportunities for these sites are on vacant portions of land owned by current major employers, within close proximity to - or already connected to - existing infrastructure services for long term efficiency.
 - a. CCRPC and GBIC will work with ACCD to have business/industrial parks recognized as benefit locations in state designation programs.
 - b. Industrial development should be prioritized on land that is already zoned for industrial uses or that has been used for industrial processes in the past. This will ensure that industrial development is concentrated in areas planned for growth. To advance this, CCRPC will continue the strategies discussed in Strategy 2 of this plan.
 - c. Prepare a “longevity analysis” to project when additional fully-serviced and permitted land should be added to the regional inventory.

MAP 1 – ECONOMIC INFRASTRUCTURE



7 WORKING LANDS: INCREASE INVESTMENT IN AND DECREASE SUBDIVISION OF WORKING LANDS AND SIGNIFICANT HABITATS, AND SUPPORT LOCAL FOOD SYSTEMS.

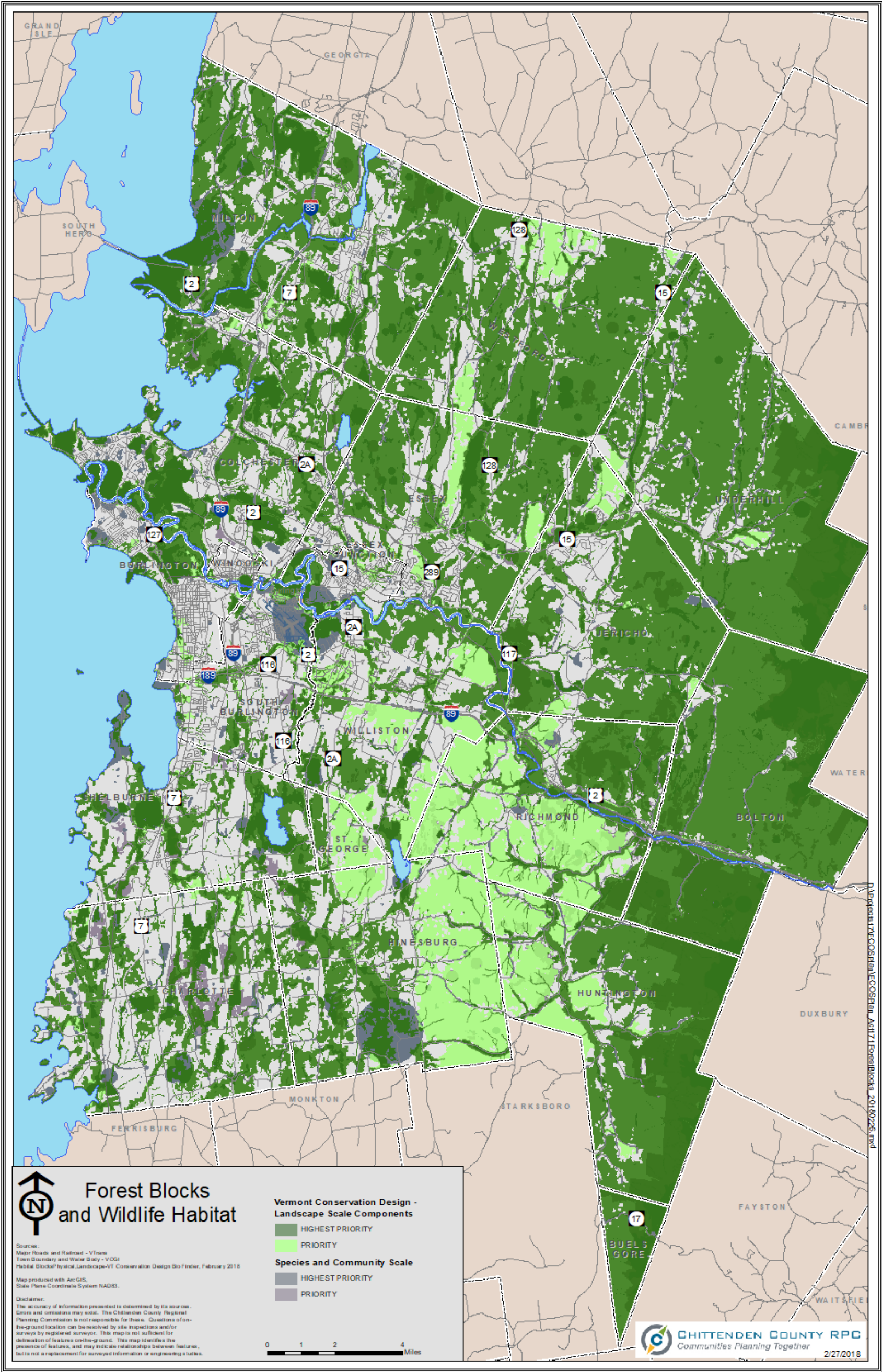
1. **Habitat Preservation** - Protect forest blocks, wildlife connectivity resources and crossings, surface waters, riparian areas and other significant habitats (e.g. wetlands) from development and fragmentation; and promote vegetative landscaping in urban areas to maintain natural habitats, natural storm water management, water quality, air quality, carbon sequestration and cultural heritage. This work should focus on the broader concept of the pattern of forest cover versus focusing on core forest areas because forest blocks in Chittenden County are getting smaller and more isolated from other forest blocks, surface waters and riparian areas. Leaving isolated forest blocks contributes to losses in biodiversity.
 - a. Inventory – Map 10 provides a starting point for regionally important forest blocks and wildlife habitat and is the basis for this Plan’s compliance with Act 171 of 2016 (Forest Integrity). The map includes [Vermont Conservation Design’s](#) highest priority and priority resources defined as two scales: Landscape Scale (e.g. forest blocks and connectivity resources) and Species and Community Scale (e.g. rare, threatened and endangered species and other specific habitat sites). This data and the component layers are located on the [State’s BioFinder website](#). Over the coming years CCRPC will work with municipalities to be compliant with this new statutory requirement, by:
 - i. Assisting with on the ground surveys and inventories of forest blocks, wildlife crossings, natural communities (i.e. special features within the forest blocks and surface water and riparian areas), and other significant habitats (e.g. wetlands), scenic resources and locations of invasive species and map this information.
 - ii. Incorporating this data into municipal and regional plan text and maps and by establishing specific policies that address and protect these resources.
 - iii. Aggregate locally important forest blocks, wildlife habitat and associated resources into a regionally significant map so that we can see these resources across municipal boundaries and work with local, State, and Federal partners to protect them.
 - b. Resource Protection Audit – Identify what resources are being protected and to what standard. Map this information based on tiers of resources based on scale (i.e. small scale rare species locations and wetlands versus landscape scale forest blocks) and protection standards. Small scale resources may require higher standards, where landscape scale resources may accommodate some development and require less protective standards to maintain functions and values.
 - c. Municipal Development Review Regulations - Develop clear definitions of the resources to be protected and establish standards to describe how to protect these resources within zoning and subdivision regulations.
 - d. Education - Educate engineers, developers, real estate professionals, planners and the public regarding resources and methods for restoration and protection.

- e. Non-regulatory Protection - Support non-regulatory conservation and/or preservation efforts conducted through public and land trust investments. Establish invasive plant removal management plans, implement the plans and include long-term monitoring.
- f. To protect significant habitats, development should be located to avoid state and local known constraints that have been field verified, and to minimize impacts to state and local possible constraints that have been field verified.
 - State and Local Known Constraints, as protected by municipalities and State agencies, are shown on Map 9 and include the following: State - significant natural communities and rare threatened and endangered species, vernal pools (unconfirmed and confirmed), and Class 1 and Class 2 Wetlands, Local Known Constraints: see constraint tables under the description of Map 9 in Supplement 3.
 - Possible State and Local Constraints, as protected by municipalities and State agencies, are shown on Map 9 and include the following: Protected Lands (state lands in fee simple ownership and privately conserved land), deer wintering areas, the Agency of Natural Resources Vermont Conservation Design Highest Priority Forest Blocks, Local Possible Constraints: see constraint tables under the description of Map 9 in Supplement 3.

2. **Working Lands Implementation** – To preserve the soul of Vermont, as well as move forward into the future with resiliency, Vermont needs to protect the farmland and forestland we have and support existing and new operations.
 - a. **Farm to Plate.** Cooperate with stakeholders to implement projects identified in the 2021-2030 Vermont Agricultural and Food Systems Strategic Plan (Vermont Farm to Plate) that will support continued growth of the local farm, food, and forestry economy within the region.
 - b. **Outdoor Recreation.** Collaborate with the Vermont Outdoor Recreation Economic Collaborative, Vermont Trails and Greenways Council, and regional recreation collaboratives led by the regional planning commissions to further the economic interests of the outdoor recreation economy.
 - c. **Forest Economy.** Cooperate with stakeholders to implement projects and actions intended to strengthen the forest economy as identified in the 2017 Vermont Forest Action Plan and the Vermont Forest Sector Systems Analysis.
 - d. **Municipal Development Review Regulations.** Help municipalities develop clear definitions of working lands to be protected and establish zoning and subdivision standards to describe how to protect these areas from development so that they may be retained and accessible as “working” lands. Maintain access and scale of working lands to ensure viability after subdivision in the rural landscape (including but not limited to protection of log landings of previously logged forested parcels, zoning techniques such as fixed area ratio zoning to separate lot size from density, conservation zoning and homeowners association bylaws that allow for farming on the open space lots, etc.); while promoting urban agriculture in areas planned for growth.

- e. **Biomass Energy Potential** – Support the continued sustainable harvesting of biomass in Chittenden County for uses including wood heating and electricity production, which will support the viability of the forestry industry and move the region towards the energy goals discussed in Strategy 4.
 - f. To preserve working lands, development should be located to avoid state and local known constraints that have been field-verified, and to minimize impacts to state and local possible constraints that have been field-verified.
 - i. Possible State or Local Constraints, as protected by municipalities and State agencies, are shown on Map 9 and include the following: Agricultural soils and Act 250 agricultural soil mitigation areas, and local constraints listed in the constraint tables under the description of Map 9 in **Supplement 4**.
- 3. Earth Resources Extraction** - Mineral extraction and processing facilities, including smaller private extraction operations existing to support agricultural operations, should be planned, constructed, and managed, in accordance with State and local regulations, to:
- a. Not place an excessive or uneconomic burden on local and state highways and bridges – including but not limited to a burden to the function and safety of existing roads and bridges serving the project site, strain from heavy loads on roadbeds and bridges, conflicts with pedestrians or bicyclists and increased heavy traffic in dense residential areas; and
 - b. Minimize adverse effects on water quality, fish and wildlife habitats, and adjacent land uses; and
 - c. Plan for their eventual rehabilitation so that slopes are stable, and the surface is revegetated with a variety of native species to support a wide range of biodiversity. Topsoil should not be removed from sites and excavations should stop early enough so that stable slopes can be established on the property; and
 - d. Extraction sites should be screened to the extent practical if topography and vegetation allow.

MAP 9 – NATURAL SYSTEMS/DEVELOPMENT CONSTRAINTS
MAP 10 – FOREST INTEGRITY



that everyone, regardless of location or social/economic status, can experience the benefits of cultural events and participate in civic engagement.

8. **Assure that all municipalities and social service organizations have well-developed emergency preparedness plans-** Encourage collaboration and coordination between local, regional, and statewide organizations in preparedness and response. Promote health equity by identifying the most vulnerable communities, assessing their needs, and incorporating them into emergency plans. Take an all-hazards approach that can be used in weather, biological, chemical, radiological, and terrorist emergencies. In addition, municipalities and organizations should develop systems that monitor for impacts of climate-change that affect human health or safety and build climate resiliency into all systems.

9 GOVERNANCE: DEVELOP FINANCING AND GOVERNANCE SYSTEMS TO MAKE THE MOST EFFICIENT USE OF TAXPAYER DOLLARS AND REDUCE COSTS.

Considering development and growth comes with both costs and benefits, this Plan attempts to reach a balance by directing growth in such a way that new infrastructure and long-term maintenance costs are minimized. For example: Promotion of and incentives for compact development in areas planned for growth will help keep rural areas open; this can also minimize stormwater problems and prevent new watersheds from becoming impaired. Incentives and promotion for public transit can reduce the need for parking lots which will reduce stormwater impacts and costs. Compact development will make public transit more cost effective.

1. **Community Development Finance Tools** – Expand and improve implementation of financing tools available to municipalities with particular emphasis on options that level the playing field between greenfield development and infill development and to help direct new investment dollars to strengthen existing neighborhoods. This would include tax increment financing (TIF), Local Option Sales Taxes, Impact Fees, Special Assessment Districts, capital planning and budgeting and [Fiscal Impact Analysis](#). Also support downtown tax credits, and additional incentives as part of State Designated Growth Centers, Downtowns, Villages, New Town Centers, and Neighborhoods. Keep the Vermont Municipal Bond Bank highly functional, accessible and AAA rated as it is key to the financial health of this region. Explore and develop other financing mechanisms for maintaining and improving infrastructure. Develop revolving loan funds for business to improve access to capital. Monitor the State of Maryland's health enterprise zone program to determine if it is successful and if a similar program would be appropriate for VT.
2. **Transportation Financing** - Encourage municipalities to implement local transportation funding programs such as TIF, Local Option Sales Taxes, Impact Fees, or Special Assessment Districts as appropriate. Monitor and participate in state and federal transportation financing reform efforts such as the 2012 Vermont Legislature's Act 153, Section 40 Transportation Funding study and the Natural Resources Board/VTrans Fair Share Cost Study to help address declining revenue from the gas tax.
3. **Clean Water Financing** – Monitor and participate in state financing reform which the Agency of Natural Resources is leading to make recommendations on how to implement and fund the remediation or improvement of water quality. Ensure that stormwater regulation and requirements do not financially burden or penalize dense and compact development in the areas planned for growth.

4. **Monitor State and municipal tax burdens** (education, utilities, municipal services and state) - Examine the structure of government to identify opportunities for restructuring, streamlining or eliminating programs to increase efficiency, reduce costs and enhance accountability. Substantive changes to our tax policy should not be made until we have a comprehensive picture of Vermont's tax structure, including the property tax and health care financing.
5. **County coordination and alignment** – Coordinate and align investments and actions to advance the ECOS Plan. Monitor and report accomplishments.
6. **Multi-jurisdictional services** – There are a number of services that are provided on a regional or sub-regional basis. These include: Supervisory Unions, Chittenden Solid Waste District, Champlain Water District, Winooski Park District, Chittenden County Regional Planning Commission, Chittenden County Transportation Authority, Chittenden County Sheriff, Chittenden Unit for Special Investigations, and 911 dispatch. Examine and advance appropriate, efficient and effective governance structures to deliver improved services (i.e. Regional Walk/Bike/Park-n-Ride)

10. EQUITY: ENSURE THAT THE PROJECTS AND ACTIONS IN ALL ECOS STRATEGIES ASSESS EQUITY IMPACTS, AND THAT THE DESIGN AND DEVELOPMENT OF PROGRAMS ARE INCLUSIVE OF ALL AND ENGAGE UNDERREPRESENTED POPULATIONS.

Equity, by definition, means fair and just inclusion. The theory underlying the Sustainable Communities Initiative is that economic competitiveness, social equity, and environmental and public health are interconnected and that all of these outcomes can be improved if regions better coordinate their public investments, including transportation systems, toward the goal of sustainability. Past development patterns have prevented regions from maximizing their potential.

Low-income communities and communities of color are often isolated from economic opportunities because the only homes affordable to their members are in neighborhoods far from growing job centers, good public schools, and basic amenities like grocery stores and banks. Meanwhile, transportation and other infrastructure—critical to attracting and keeping jobs—is crumbling and the risk of climate change is growing. (*America's Tomorrow: Equity is the Superior Growth Model*, PolicyLink, 2011.)

Ensuring equity so that all residents can access and take advantage of the region's economic, social, and environmental assets requires new networks of relationships, new problem-solving methods, and new, inclusive decision-making tables. Substantial efforts are already underway in other communities tackling inequities such as health disparities, transportation and environmental justice, educational equity, and income inequality that can be examined for best practices. New tools need to be created by a diverse group of equity stakeholders in order to ensure for meaningful community engagement, identification and tracking of disparities, and decision-making that weighs the burden placed on different groups. By bringing together diverse and disparate interests while developing new leaders, ECOS projects can be the seeds for an equitable, prosperous and healthy future for Chittenden County.

1. **Track and analyze inequities in all sectors.**
2. **Target and prioritize positive programs** and investments to low opportunity places (see Opportunity Map).
3. **Civic Engagement** - Increase opportunities and remove barriers for civic engagement for all, including underrepresented populations.