



2018 Chittenden County ECOS Plan

Supplement 4 – Comprehensive
Economic Development Strategy
Adopted 6/20/2018

For a healthy,
inclusive, and
prosperous
community



**This plan is the Regional
Plan, Metropolitan
Transportation Plan, and
Comprehensive Economic
Development Strategy in
one.**



**This plan can be found
online at:
www.ecosproject.com/plan**

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2018 Chittenden County ECOS Plan

SUPPLEMENT 4: COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)

INTRODUCTION

The Comprehensive Economic Development Strategy (CEDS) is a document that describes the state of Chittenden County's economy and sets goals for future economic growth. A CEDS that has been adopted by the Chittenden County Regional Planning Commission and the Greater Burlington Industrial Corporation will allow projects in the region to compete for Economic Development Administration grants and loans. **This Supplement includes detailed data and specific strategies related to economic development, but the ECOS Plan in its entirety serves as the region's CEDS.**

The ECOS Plan was written to break down barriers between traditional planning "silos," including the perceived separation between economic development and planning. Each ECOS goal, strategy, or action focuses on advancing the Plan's vision: that Chittenden County be a healthy, inclusive and prosperous community. This supplement largely focuses on "traditional" economic development, but other pieces of the ECOS Plan discuss issues that are just as vital to the region's economy. ECOS goals, strategies and actions are referenced throughout this supplement to make the reader aware of where to find related information. In addition, the implementation section of this supplement includes a list of all eight ECOS Strategies and Plan actions particularly relevant to economic development.

This Supplement contains the following required elements of the CEDS:

- SWOT analysis: identifies the economy's Strengths, Weaknesses, Opportunities, and Threats
- Economic Base Analysis: describes what factors influence Chittenden County's current economic conditions.
- Competitive Assessment: describes the features that make Chittenden County competitive when it comes to attracting and retaining employers and employees
- Strategic Industry Sector Analysis: identifies the sectors that the county should focus on attracting and retaining for the greatest economic benefit
- Economic Resilience: analyzes whether Chittenden County is doing enough to prepare for economic shocks
- Implementation: identifies projects that advance the goals and strategies of the CEDS
- Evaluation Framework: referencing which of the indicators on the ECOS Scorecard measure the success of CEDS implementation.

WHY ECONOMIC DEVELOPMENT?

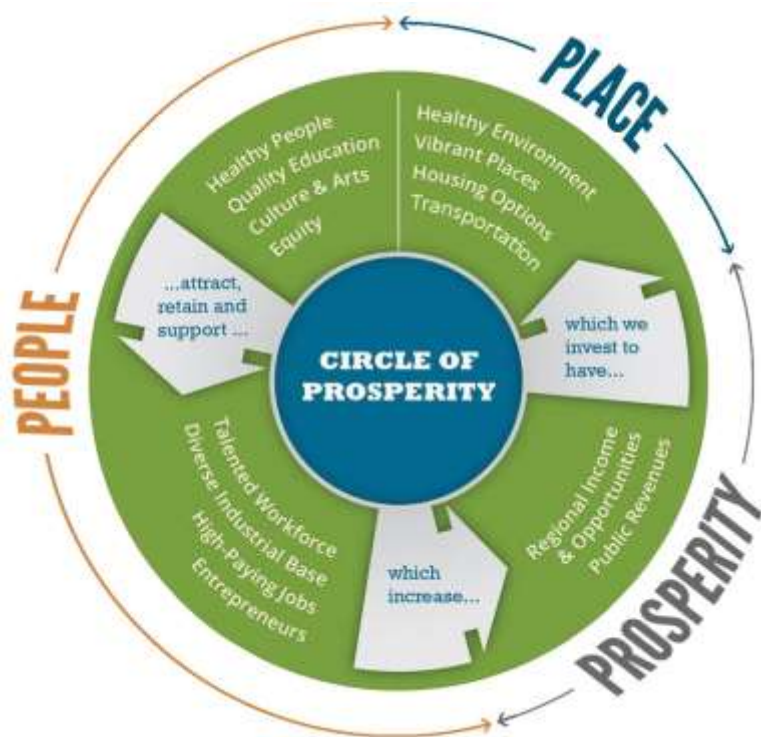
Understanding Economic Development

- Economic development is about building a community’s capacity for shared and sustainable improvements in the economic well-being of residents.
- Economic development is about access to good jobs that can support an adequate standard of living for all residents of a region or community.
- Economic development is also about 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.
- Economic development provides the means and the continuous process to strengthen the foundation of our communities, and to make them more resilient and able to withstand shocks.
- We need economic development to constantly renew and strengthen the “living economy,” to address on-going infrastructure needs of key dollar-importing regional businesses, and to supply the financial resources needed to create and sustain healthy communities.

The Circle of Prosperity

When a state has and maintains a talented workforce, it attracts a diverse industrial base of dollar importing businesses that create high wage jobs. From the economic drivers, dollars flow into the private sector to provide taxes, public revenues, capital, resources, and employment opportunities. These private sector actions fund the public sector’s operations through taxes and governmental fees, which both the public and private sectors invest in creating and maintaining a clean environment, good schools, access to higher education and housing, and enhancing the

state’s quality of life, thereby creating healthy communities. The “Circle of Prosperity” illustrates this interrelationship. First articulated in Vermont in 1997 by the Vermont Business Roundtable, the “Circle of Prosperity” emphasizes the fact that economic development is the result of the collective and sometimes coordinated actions of individuals, businesses, institutions and the government to strengthen the economy, the community and the environment.¹



SWOT ANALYSIS

This section analyzes the Region's strengths, weaknesses, opportunities and threats (SWOT). The issues below were identified by regional work between 2012 and 2018, including initiatives like the Building Homes Together campaign, work on the Vermont Clean Water Act, research for other plans and the analysis reports completed for the 2013 CEDS. Findings from these background documents were updated with the most recent data and findings. Supporting data on each issue and related actions are included elsewhere in this supplement. It should be noted that one issue can have both positive and negative implications for the region, and therefore may be listed multiple times in the SWOT analysis. For example, Vermont's Clean Water Act creates new regulations that will increase costs for municipalities and developers, but the increased funding dedicated to these issues will also create jobs and clean up Lake Champlain – an invaluable economic resource.

Strengths

- High concentration of a young and educated population
- Diversified base economic sectors in comparison to the rest of Vermont
- High labor quality
- High concentration of well-regarded institutions such as Champlain College, Community College of Vermont, St. Michael's College, the University of Vermont and Vermont Technical College.
- More diverse population than the rest of Vermont
- High quality airport
- University of Vermont Medical Center
- High quality of public K-12 education
- Vermont brand, and increasing recognition of local brands and accomplishments
- Thriving locally-owned businesses
- Strong creative economy
- Access to high quality infrastructure - natural gas (though non-renewable), interstate, high speed broadband
- Access to important natural resources such as readily available clean drinking water
- Concentration of high net worth individuals
- Access to recreational, entertainment, and cultural opportunities, leading to a strong tourism economy
- Highly networked non-profit and service provider sector
- Strong local food economy, including value-added food production

Weaknesses

- Rising income inequality
- Labor constraints and skill shortages
- Uneven quality of public K-12 schools throughout the county
- Lack of connection between educational outcomes and employer needs
- Lack of career fairs and career planning
- Lack of child care options for working families, especially affordable child care
- Housing affordability
- Limited developable site inventory

- Lack of racial and ethnic diversity compared to the rest of the US
- Land transportation and commuter mass transit infrastructure
- Wages not keeping pace with high cost of living
- Slow population growth

Opportunities

- Increasing involvement of University of Vermont, Champlain College, and St. Michaels in economic development
- Nurturing entrepreneurial environment and support systems
- Improving structured employer engagement in K-16 education curricula and State training programs
- Promoting vocational and technical education programs as essential programs for workforce and career development
- Continuing to concentrate investment in our downtowns and village centers
- Strengthening and aligning workforce training programs in Vermont
- Coordinating and increasing efficacy and efficiency of state and local permitting processes
- Creating more dynamic economic development programs and services
- Increasing policy focus and investment in renewable energy and clean water
- Improving parking management in downtown Burlington
- Expanding coverage of and increasing access to high-speed broadband internet service to narrow the “Digital Divide” and increase economic opportunity
- Promoting telecommuting and remote workforce based upon our regional assets
- Increasing utilization of the region’s rail network to transport freight
- Expanding access to career, vocational and technical education in K-12 and to adult Vermonters
- Engaging a highly skilled and trainable retirement age population
- Engaging and supporting a growing New American population
- Engaging and supporting recent graduates and young professionals
- Champlain Valley Technology and Innovation Park (Global Foundries campus), especially features like its waste treatment plant, which is specialized for industrial processes
- Increasing regionalization of services, such as regional dispatch
- Increasing regionalization of the economy

Threats

- Permitting costs, redundancies, delays, and appeals in the construction process
- High levels of pollution in surface waters, especially phosphorous in Lake Champlain
- Declining workforce participation
- Increasing rate of population aging and increase in needed services
- Declining K-12 population
- Labor/skills needs negatively impacting employers’ growth, investment, and location decisions
- Aging transportation, water, and wastewater infrastructure, and limited maintenance funds
- Rising rates of chronic disease and dangerous behaviors, such as mental health disorders, obesity, addiction and substance abuse
- Increasing population of economically disconnected young adults in Vermont who do not seek job training and/or post-secondary education and therefore have limited opportunities
- Lack of rental and owner-occupied housing that is affordable

ECONOMIC BASE ANALYSIS

This section provides an analysis of the current economic base of Chittenden County and the trends that have been shaping the County's economy up to this point in time.

Chittenden County maintains strong economic advantages, and remains the largest player in Vermont's economy. Over the past several decades, the County's share of population, GDP, jobs and income, among other factors, has increased. The county includes the largest urban area in the state and the largest for-profit employer in the state, but also significant agricultural, recreational and open space areas. This mix of uses results in a character cherished by its residents and appealing to prospective residents.

However, some disquieting trends need to be acknowledged in Chittenden County. Goods-producing sectors are dropping in economic output and employment. Though unemployment is currently very low, workforce participation is also decreasing. The population continues to age, and the workforce will shrink because of that. In addition, the overall rate of population growth has declined and is expected to continue to decline. This may mean that businesses will struggle to grow due to a lack of skilled workers. These and other problems are exceedingly difficult to address on a local level, but local efforts, coupled with action by state and federal elected and appointed officials, can mitigate some of these disadvantages.

The data below illustrate recent conditions and trends in Chittenden County.

Chittenden County's Place in the Vermont Economy

Chittenden County is the most populous county in Vermont, and makes up a significant portion of the state's economy. Residents in Chittenden County tend to be more prosperous than the rest of the state's residents.

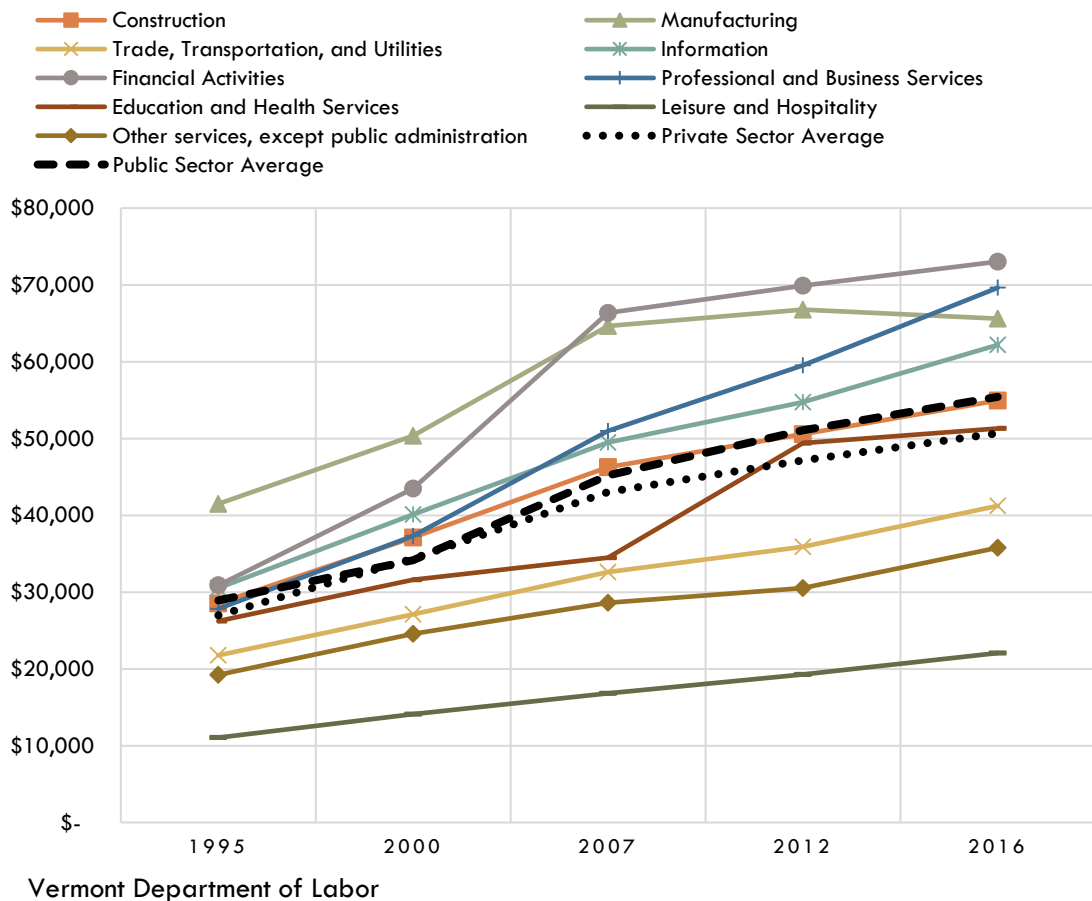
- Chittenden County contains 26% of the State's population²
- Between 2010 and 2015, the State's population grew .01%, while Chittenden County's population grew 3%.³
- Though the region has a population growth advantage compared to the state, it does not when compared to the rest of the country. The annual rate of population growth in both Chittenden County as well as the State has slowed over the past several years. While regional population growth (3% increase from 2010-2015) is still stronger than statewide growth (.01% increase from 2010-2015), it is lower than the national growth rate (4%).⁴
- Chittenden County has the highest percentage of New Americans in the state, and that percentage is growing—1/3 of all new county residents between 2006-2016 were born outside of the US. This group makes up 6.1% of the county's spending power and is strongly represented in key sectors like manufacturing and health care.⁵
- Chittenden County is home to 27% of the State's private businesses. Between 2010-2016, the number of private businesses increased by 4.6% in Vermont, and by 14.5% in Chittenden County.⁶
- In 2012, the last year with available data, 30% of the State's retail sales occurred in the County⁷ and in 2016, the Department of Taxes reported that five of the six highest retail sales tax collections occurred in Chittenden County (Williston – #1; Colchester – #2, South Burlington – #3; Burlington– #4; and Essex - #6).⁸

- As of 2015, Essex Junction accounted for the most industrial workers in Vermont (5,942 workers), Burlington ranked second (3,441 workers), and Williston ranked fifth in the state (1,593 jobs).⁹
- Chittenden County accounted for 36% of total Vermont manufacturers' shipments in 2012, down from 45% in 2007.¹⁰
- Chittenden County provided 24.9 % of sales tax revenue in Vermont in 2016 (a drop from 32% in 2012).¹¹
- Chittenden County provided 36% of state income tax revenues in 2015 (an increase from 35% in 2012).¹²
- Wages and incomes tend to be higher in Chittenden County than the rest of the state. Median household income was \$67,997 in 2016 versus \$56,990 for the State¹³

Employment, Wages and Key Sectors

- Growth in total nominal wages has risen off its sharp decline in 2009, and average wages were 11.4% higher in 2016 than they were in 2010. However, manufacturing, one of the sectors with the highest average wages in Chittenden County, has seen wages decrease by 2% since 2009¹⁴ (See Figure 1 below). However, it should be noted that average wages may be deceptive—even within highly-paid sectors of the economy, there may be significant disparities in pay.

Figure 1: Wages By Sector Over Time



- The number of Chittenden County jobs in high-wage industries has declined by more than 5,000 since the year 2000; much of this has been from cutbacks at Global Foundries (formerly IBM). Employment in mid-wage and low-wage industries has increased slightly. The loss of jobs in high wage industries is not unique to this region—it is part of a larger trend that has been seen nationwide.^{15 16}
- After declining from 2000-2010, employment in the private sector increased by 9.5% between 2010 and 2016. Public sector employment grew by 6.2% during the same time period.¹⁷
- After decreasing from 2008-2010, the number of private businesses in Chittenden increased by 820 establishments from 2010-2016.¹⁸
- 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 the economy is not overly reliant on them. Both are net dollar importers and are highly stable.¹⁹
- Services-providing industries have become a larger portion of the economy since 2010. In 2010, private goods-producing industries were 19.7% of the economy, and private services-providing industries were 65.9% of the economy. In 2015, the industries made up 15.2% and 69.3% of the economy respectively.²⁰ Although several of this plan's target sectors are in goods-producing industries, there is significant diversity among service-providing industries, and they include target sectors like higher education and health care and wellness.
- Employment in technology and technology-related fields is growing and becoming a key part of Vermont's economy. Twenty-five percent of Vermont's jobs are either in tech industries, or are tech jobs in other industries. These jobs pay 63% more than the average wage in Vermont, and each tech job creates two additional jobs.²¹
- The construction industry has recovered since the 2008 recession, and the numbers of newly permitted projects, both housing and commercial/industrial, have reached pre-recession levels.²²
- Global Foundries (formerly IBM) remains a strong part of the economy. The information technology and analytical instruments cluster remains the most important element of traded sector employment (those industries that sell their products and services outside the region and bring new money back in, thus supporting the local, or non-traded, industries). Durable goods manufacturing, which includes electronics manufacturing, remains 7% of the region's GDP.²³ However, following the loss of more than 4,000 jobs at Global Foundries (formerly IBM) since 2001, the long-term security of these jobs may be in question.
- Resource extraction, working lands and value-added food production industries are critical components of a self-reliant and diverse economy, making a region less vulnerable to market crises. The protection of the rural landscape for working lands is a significant contributor to our economy. The harvest and manufacturing of forest products is a \$1.4 billion annual industry in the state²⁴. Farms and food production are an important economic sector as well. Across Vermont, employment in food and beverage manufacturing increased 47% from 2009-2014, and revenue is up 58%.²⁵ For more information on working lands in Chittenden County, see Strategy 4 and the Working Lands section in Supplement 2 – Regional Analysis.

- Renewable energy generation, especially solar panels and biodigesters, provide opportunities for farmers to bring in extra income by producing electricity. Both net metering (using the energy produced on-site) and leasing the land to a developer may be valuable economic opportunities. For more information on CCRPC's goals for renewable energy generation and facility siting policies, see Strategy 2, Action 4.

Gross Domestic Product (GDP)

- The GDP per capita in 2015 was \$53,759 in the Burlington-South Burlington Metropolitan Statistical Area, compared to \$43,495 for the State.²⁶
- In 2015, the Burlington-South Burlington Metropolitan Statistical Area's GDP made up 38% of the state's total GDP.²⁷
- The growth in the Metropolitan Statistical Area (MSA)'s gross domestic product from 2010 to 2015 has come entirely from the services sectors. Over that time period, the MSA's GDP increased 5.4%, the GDP of private goods producing industries dropped 18.6%, and the GDP of private services-providing industries increased by 10.9%.²⁸ For example, GDP per capita in the retail sector increased 3.8% between 2010 and 2016.²⁹

Household Financial Security

Although this plan celebrates Chittenden County's high income and education levels, not all households are financially secure.

- Income inequality is increasing in Vermont. Between 1979 and 2007, average income in Vermont grew by 42.4%. However, the top 1% of income earners saw an increase of 217%, while the bottom 99% saw an increase of 27.8%. This follows a national trend dating from the 1980's. As of 2013, the top 1% of income earners in Vermont earn 16.1x the income of the bottom 99%. In the Burlington-South Burlington Vermont MSA, the ratio was 17.1x. While these are lower levels of income inequality than the rest of the country—the average ratio for the United States is 20.1x—this trend is still concerning.³⁰
- Vermont's Basic Needs Budget determines the hourly rate a worker would need to make to pay for their "basic needs," including expenses like food, housing, childcare and insurance. This rate is known as the "livable wage," and it is calculated differently depending on household size/makeup and rural or urban location. For full time workers, the Vermont minimum wage is only 74% of the average "livable" wage. However, this varies significantly by household composition and location. For example, the Vermont minimum wage is only 43% of the "livable" wage for two working parents with two children in an urban area, and only 25% of the "livable" wage for a single parent with two children in an urban area.³¹

Health and Wellbeing Issues

- In 2016, lower income Vermonters reported higher rates of depressive disorders, poor mental health and chronic conditions, such as obesity, asthma, heart disease, stroke and diabetes. While data on addiction were not available broken down by income, some substance uses, such as using marijuana or tobacco, were higher among adults with lower incomes.³² Data from 2013 showed similar trends in Chittenden County.³³
- Lack of financial resources can also cause food insecurity. For example, in Chittenden County, 29% of students are eligible for free or reduced priced school

meals. Food insecurity is also linked to obesity, as “unhealthy,” high calorie foods tend to be cheaper in terms of “calories per dollar” compared to “healthy” food like fresh produce.³⁴

- Lower income households are more likely to experience housing insecurity. For a more detailed discussion of housing costs in Chittenden County, please see the Housing section in Supplement 2 – Regional Analysis.

COMPETITIVE ASSESSMENT

This section assesses whether Chittenden County, Vermont is competitive as an economic development product. In the economic development marketplace, the product being sold is usually a place, and the characteristics of that place determine its competitiveness. In this instance, the place being assessed is Chittenden County, Vermont and its constituent communities, in particular, the central City of Burlington. Chittenden County is comprised of many communities that have varying degrees of interest in differing forms of economic development. Taken as a whole, this provides the basis for a diverse and sustainable economy and quality place in the future.

Over the past several decades, Chittenden County has enjoyed a competitive advantage relative to the balance of the state. The County represents 26% of the state's population, and is relatively young, with household incomes and educational attainment exceeding state and national norms. The County's share of population, Gross Domestic Product, jobs and income, among other economic indicators, has increased since 2010. Data points in this CEDS, drawn from the Vermont Department of Labor, the US Census, the Vermont Department of Health and other sources, are used to update the findings of the 2012 Economic Base and Competitive Assessment reports.

Despite the advantages the region has enjoyed in many areas, there are some trends that are less positive. Although job growth has largely recovered from the 2008 recession, recent trends show a continuation of higher job growth in lower-wage industries and limited job growth in higher-wage industries, as well as a mismatch between workers and the skills needed for jobs. While the Chittenden County region has a highly desirable quality of life by many measures, housing affordability and availability remains a problem, and our population is projected to grow only 0.4% per year. Our challenge remains promoting, managing and shaping growth to improve our job opportunities and incomes while also improving our quality of life.

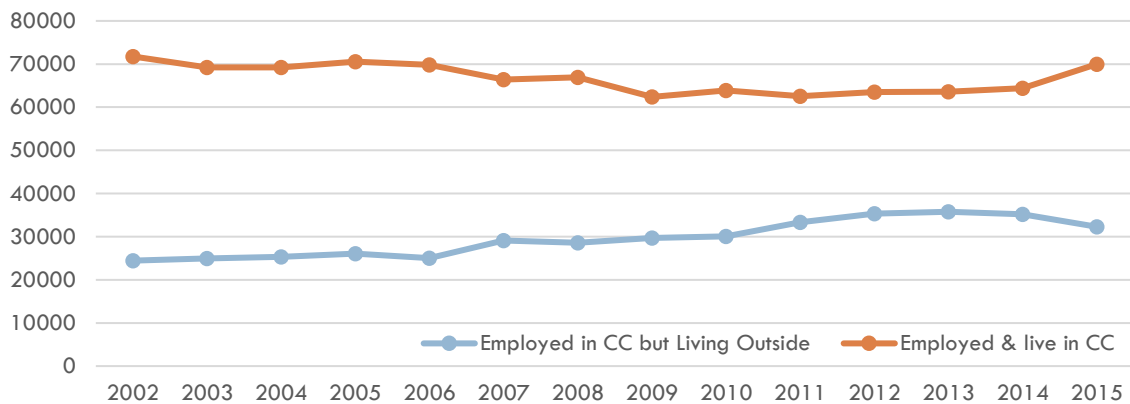
Statistics and conclusions are from the Competitive Assessment report³⁵ unless otherwise noted.

Quality of Life

- Chittenden County is a mix of urban, suburban and rural areas, with an essential rural character that polling has consistently shown is important to many residents. Protection of both the rural and downtown/village character must be reflected in economic development efforts. Downtowns and village centers - dense, livable areas where workers can live close to their jobs and where a diversity of businesses can thrive—create significant economic impact. This creates a sense of community and a sense of place that is valuable for the county's quality of life. In addition, dense development limits the excessive operation and maintenance costs of expanding infrastructure beyond these areas.
- Based upon the results of the Employers Survey, recreational opportunities, safety from crime, and cultural opportunities all scored Very Good or higher, while the quality of the K – 12 educational system scored just below Very Good.³⁶

- The County has a high quality of life, making it attractive to businesses and workers. The notable exception is the affordability of housing, which was rated the lowest among quality of life factors included in the 2012 Employers Survey. Recent employer focus groups conducted during the Building Homes Together Campaign show that this issue persists as the most commonly observed weakness of the area. This challenge is exemplified by the fact that the number of Chittenden County workers who live in Chittenden County dropped from 74.6% in 2002 to 68.4% in 2015³⁷ (See Figure 2 below). If current conditions continue, the forecasts completed for the ECOS plan show that the rate of in-commuting will continue to increase.³⁸ While there are many reasons an employee in Chittenden County may choose to live outside the region, it is important to increase quality housing stock available to all income levels, to increase quality of life for current residents and to attract those who wish to live near their jobs.

Figure 2: County Of Residence for Chittenden County Employees



US Census Longitudinal Household-Employer Dynamics

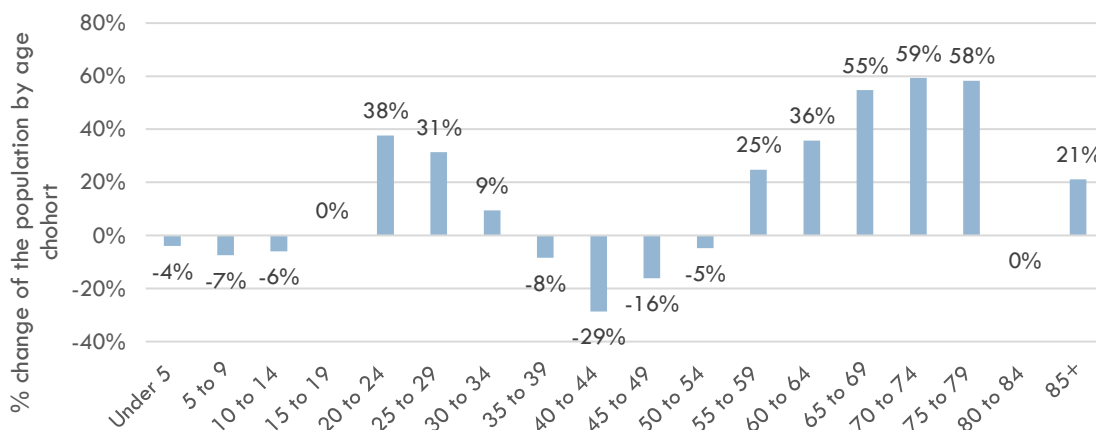
Workforce and Recruiting

- Educational levels among county residents exceed state and national averages. In 2015, 50% of Chittenden County adults 25 years or older had a bachelor’s degree, compared to 30.6% of adults in the United States and 37% in Vermont.³⁹ However, 30% of employers report that they have training needs that are not met by local resources. Additionally, significant racial and income-based achievement gaps remain (See the Education section in Supplement 2 – Regional Analysis for more detail).⁴⁰
- Vermont Agency of Education data show that roughly 40% of graduating high school seniors do not go on to further education (industry recognized credentials, certificates, or two and four-year degrees) once they leave school.⁴¹ This often means they have limited ability to engage in the workforce, and disproportionately suffer from negative social, economic, and health outcomes. GBIC has estimated that in 2017 there were 12,000 Vermonters between the ages of 19 and 25 years old who have fallen out of the employment and unemployment system. Many of these individuals have become afflicted by the opiate epidemic, or are in the corrections system; they only surface in criminal, opiate addiction or Medicaid statistics.⁴² Unemployment in Chittenden County is

low. In August 2017, unemployment in Chittenden County was 2.5%, compared to the Vermont rate of 3.0%⁴³ and US rate of 4.5%.⁴⁴ However, Vermont’s percentage of “underutilized” workers is 6.3%, much higher than the unemployment rate. Workers who are unemployed, involuntarily part time, or marginally attached fall into this category. Although Vermont’s rate of underutilized workers is lower than the national average (8.9%), many Vermonters are still searching for a job that fits their skills and economic needs.⁴⁵

- The best recruiting experiences reported by county employers are typically from workers in the Northeast, the upper Midwest and areas with similar climate and outdoor recreational opportunities, such as the Northwest and Colorado. Recruiting people from large technology centers such as Boston, Austin and California is difficult.⁴⁶
- Employers report very good to excellent workforce quality, with good work ethic and productivity, and low turnover and absenteeism.⁴⁷
- The County’s higher education infrastructure is excellent, although almost 30% of employers participating in the Employer Survey indicated that they have training needs that are not being met by local resources. While some of these needs are for skills that are unique to specific companies, several employers surveyed for this assessment reported similar training needs for skilled manufacturing occupations particularly in the machine trades. Interviewed manufacturers emphasized the strong need for local training programs in machining and other skilled occupations to support their growth and sustainability.⁴⁸ New initiatives like Vermont Technical College’s Manufacturing Lab in Williston may help meet these needs. Ensuring that workforce training programs are providing an adequate number of skilled manufacturing workers is also a key component of the State Workforce Development System Report of Findings and Recommendations.
- The County’s ability to grow its economy in the future will be closely tied to its ability to provide available skilled labor, particularly given the aging nature of the population and the decline in workforce-age residents⁴⁹ (See Figure 2, below). A broad-based strategy of skills upgrading, training, new methods of recruiting and alternative working arrangements will be necessary. An integrated workforce delivery system plan for training, recruitment and retention will need to be considered and implemented.⁵⁰

Figure 3: Change in Age Cohorts, 2006-2016



American Community Survey 1-Year Estimates

- In the decade between 2012-2022, solid growth is predicted in jobs for Vermont. Over the ten-year period it is predicted that there will be 115,306 new job openings, with 29%

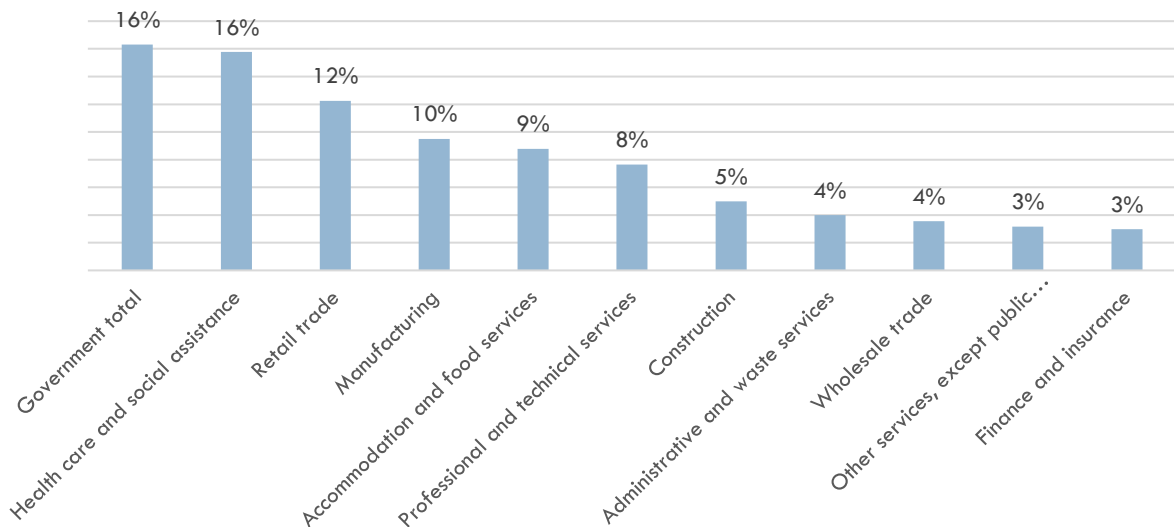
being due to growth in employment, and 71% openings being due to having to replace retired workers. In broad terms, Vermonters are leaving the workforce because of retirement, personal choice related to economic conditions, or are experiencing barriers to employment.⁵¹

- Three of the County's public high schools have low performance indicators, and employer interviews indicate that the limited proficiency of students remains a concern as they move into the workforce.⁵² Equal education that meets or exceeds state standards, especially for disadvantaged students and those for whom English is not their primary language, is key to the economy. Quality education is especially important as the number of children who face disadvantages increases. For example, the rate of children under age 9 in Department for Children and Families custody has recently increased in Chittenden County, rising from four children per 1,000 in 2012 to six per 1,000 in 2015.⁵³

Key Employment Sectors

- Between 2012 and 2016, Chittenden County's employment base has remained concentrated within government employment and five private industry sectors: healthcare and social assistance; retail trade; manufacturing; accommodation and food service; and professional, scientific and technical services. The proportion of jobs in the five private sectors has dropped from 71% of total employment in the County in 2012 to 54% in 2016. The proportion of the workforce working for a governmental agency remained at 16% between 2012 and 2016⁵⁴ (See Figure 4 below).
- The number of subsectors with high location quotients (goods production, construction, manufacturing, education and health services and other services) shows a diversified employment base that offers opportunities for continued economic diversification and growth.⁵⁵

Figure 4: Largest Employment Sectors, 2016



Vermont Department of Labor Exhibit A-3: Employment by Major Industry Sector

Infrastructure and Regulation

- The County's perceived regulatory environment rates as less than Good (where Good = 3 on the five point scale used in the Employer Survey conducted as part of the competitive assessment), with local property taxes and the local construction permitting process (regulations and procedures) both topics of complaint.⁵⁶
- As of 2017, most permitted industrial parks are approaching full build out.⁵⁷ However, there is still land available in industrially zoned areas (See Map 1: Economic Infrastructure in the main section of the plan). Having adequate industrial space is as much about having a wide variety of existing 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. The December 2017 Allen, Brooks and Minor Report states that the county's stock of vacant industrial space has remained below historical averages since 2012, leading to an undersupplied market.⁵⁸ (However, it is important to note that this is an analysis of vacant built space, not vacant land zoned for industrial use.) If the right kind of built space is not already available in the county, GBIC has found that some companies choose to expand elsewhere rather than reconfigure or build new space in Chittenden County. However, because there is still land available in industrially zoned areas, and the ECOS Plan calls for reuse of previously developed land and development of land that is already served by existing infrastructure, this plan does not recommend expanding the amount of land zoned for industrial space. GBIC plans to conduct a longevity analysis (Action 2C) to determine when new industrial space is needed. If a need becomes clear in the future, this issue will be revisited in the next CEDS.
- As of 2016, commercial land sales have increased since the 2008 recession and high sales activity is projected to continue. However, the market for office space is currently somewhat oversupplied, and construction will likely slow.⁵⁹
- Chittenden County features a well-developed transportation network that facilitates multi-modal travel. While the physical infrastructure is adequate for future demand, strategic investments will be needed in: 1) technology, such as coordinated signals, to improve the function of existing infrastructure, and 2) Single Occupant Vehicle (SOV) alternatives such as walking, biking and transit. Over the next 35 years, the majority of transportation spending will be on maintaining the system we have invested in over the past several decades. See the ECOS Supplement 5 – Metropolitan Transportation Plan for more details on the Region's transportation infrastructure.
- Rail freight transportation plays an important role in the economic health of Chittenden County communities. In 2010, Vermont's New England Central Railroad (NECR) lines received significant upgrades, bringing the entire line up to the national standard for rail car weight capacity. However, these improvements do not apply to the NECR spur from Essex Junction to Burlington, where track and bridge repairs are still needed. For more information on freight transportation by rail and truck, see the ECOS Supplement 5 – Metropolitan Transportation Plan.
- The County is generally well-served with utilities and telecommunications services necessary to support economic development. The weakest part of the County's utilities and telecommunications system is the quality and costs of telecommunications, in particular cell phone service in our rural areas.⁶⁰ Though almost all Chittenden County households are served by some kind of internet,⁶¹ faster internet is an important utility for many of the region's key sectors, and for employees who work at home (5.6% of the county's workforce in 2016).⁶² Increased access to broadband internet also helps to

minimize the “Digital Divide,” increasing employment and social opportunities for older residents, New Americans and others without high rates of internet access.

- Continued and increased attention must be paid to providing services to existing businesses and entrepreneurs in Chittenden County. Organizations such as the Vermont Center for Emerging Technologies, Exelerate Essex and the HinesburgHUB co-working space 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.⁶³
- Funding the water quality projects to address high phosphorous levels and other pollutants in surface waters, including Lake Champlain, will present financial challenges for municipalities (See the Lake Champlain TMDL for more information).⁶⁴

STRATEGIC INDUSTRY SECTOR ANALYSIS

This section provides a summary of the identification of target clusters and industry sectors that will likely be significant economic drivers for Chittenden County. The full Strategic Industry Sector Analysis report can be found [here](#). Based on the Economic Base Analysis and Competitive Assessment, the following 14 initial target clusters and industries for attraction and development efforts were identified and submitted to GBIC for consideration:

- Information Technology
- Value Added/Sustainable Agriculture
- Digital Media
- E-Commerce
- Clean Tech/Green Technology
- Tourism
- Retail
- Non-profit Organizations
- Health Care
- Business and Administrative Services
- Value-Added Manufacturing
- Higher Education
- Outdoor Recreation
- Food systems

From this initial selection, five primary targets, one of which is a combination of three of the initial recommendations, were selected as value-adding industries with high location quotients and are profiled in the Strategic Industry Sector Analysis report referenced above:

1. Information Technology, Communications, and Media
 - Information Technology
 - E-Commerce
 - Digital Media
2. High Value-Added Manufacturing
3. Higher Education
4. Clean Tech/Green Tech
5. Health Care and Wellness

ECONOMIC RESILIENCE

Economic resilience is an area's ability to withstand, prevent, or quickly recover from major disruptions (i.e., 'shocks') to its underlying economic base, identify vulnerabilities and withstand or recover from disruptions. Depending on the character of the hazard, employees in certain industries, residents of certain areas or people with lower incomes or a more limited social safety net will be impacted more than others. Increasing economic resilience means that all Chittenden County residents, institutions and businesses will be better equipped to handle economic shocks.

As identified in the Weaknesses and Threats sections of the SWOT analysis, Chittenden County faces a number of economic challenges. In addition, the Chittenden County Multi-Jurisdictional All Hazards Mitigation Plan⁶⁵ identifies two hazards facing the county's economy:

1. Economic Recession: While employment and property values have recovered strongly since the 2008 recession, Chittenden County could be affected by another national recession.
2. Major Employer Loss: The loss of a major employer, either through severe job cutbacks or outright closure, has the potential to dramatically increase unemployment and reduce property values due to out-migration of terminated employees or facilities closure

Resilience and preparedness for the above hazards require more than traditional economic development. This CEDS is part of the ECOS Plan, and the full document outlines a number of steps to improve economic resilience. The State of Vermont CEDS states that any economic development activity that meets one or more of the following criteria increases economic resilience:⁶⁶

1. Embraces complexity
2. Plans for change
3. Expands opportunities
4. Develops diverse relationships
5. Designs for learning
6. Builds local and regional self-reliance

The table below, organized by the above criteria, shows the different strategies and actions throughout the ECOS Plan that increase the region's economic resilience. Continued implementation of these strategies and actions will help the County be resilient to the hazards identified above.

A RESILIENT ECONOMY:	THE ECOS PLAN'S STRATEGIES INCLUDE:	ECOS PLAN ACTIONS TO IMPLEMENT THESE STRATEGIES INCLUDE:
<p>Embraces complexity (Does it encourage flexibility, economic diversity, and awareness of uncertainty?)</p>	<p>Strategy 1: Improving and strengthening the economic systems of our region to increase opportunities for Vermont employers and employees</p>	<p>Identify and plan for new industrial site locations (Strategy 1, Action 2)</p> <p>Support creative economy efforts (Strategy 1, Action 5)</p> <p>Economic Development Coordination - Work with the State of Vermont to implement the State CEDS (Strategy 1, Action 8)</p>
<p>Plans for change (Does it reflect systems thinking and foresight? Does it consider multiple scales? Does it build adaptive capacities?)</p>	<p>Directing growth in a way that benefits all sectors of the economy and enables economic diversity—trying to make development for homes, retail and industrial uses easier in the areas planned for their growth, and simultaneously decreasing the destruction of working lands (Strategies 2, 3 and 4)</p>	<p>Innovation and Entrepreneurial Development - Create an economic system of resources that is easily navigable at all stages of the innovation and entrepreneurial continuum (Strategy 1, Action 4)</p>
<p>Expands opportunities (Does it enrich human, social, cultural, economic, and ecological wellbeing? Does it build diverse and accessible forms of livelihood and local wealth?)</p>	<p>Implementing strategies about education and equity, and seeking to improve the water quality of the region's lakes, rivers and streams, and to increase investment in and reduce fragmentation of the working landscaping (Strategies 3 and 4)</p>	<p>Workforce education and skills development - connect educational programs with the needs of the Vermont workforce (Strategy 1, Action 3)</p> <p>Protect farmland and forestland and support existing and new operations (Strategy 4, Action 2)</p>

A RESILIENT ECONOMY:	THE ECOS PLAN'S STRATEGIES INCLUDE:	ECOS PLAN ACTIONS TO IMPLEMENT THESE STRATEGIES INCLUDE:
Develops diverse relationships (Does it forge trusted partnerships and rich feedback loops amongst a flexible network of people and resources?)	Partnering with health and social welfare groups to increase the health and safety of every community member (Strategy 5)	<p>Basic Needs - Provide the basic needs of all people (Strategy 5, Action 1)</p> <p>Social Connectedness - Increase opportunities for residents to come together, interact and network (Strategy 5, Action 7)</p>
Designs for learning (Does it facilitate continuous learning, adaptation, knowledge sharing, and innovation?)	Supporting educational efforts for all ages to ensure that children have equal opportunity for good educations, that teenagers are prepared for future careers, and that adults have the skills they need to thrive at work (Strategy 6)	<p>Elementary Readiness and Comprehensive Student Needs (Strategy 6, Action 2)</p> <p>Student-centered, proficiency based, flexible pathways to graduate (Strategy 6, Action 3)</p> <p>Career Awareness and Skill Alignment (Strategy 6, Action 5)</p> <p>Childcare incorporated into planning (Strategy 6, Action 8)</p>
Builds local and regional self-reliance (Does it empower communities?)	Making equity a focus of planning through government partnerships data analysis, project prioritization and public participation (Strategies 7 and 8)	<p>Community Development Finance Tools - Expand and improve implementation of financial tools available to municipalities (Strategy 7, Action 1)</p> <p>County coordination and alignment (Strategy 7, Action 7)</p> <p>Multi-jurisdictional services (Strategy 7, Action 8)</p> <p>Increase opportunities and remove barriers for civic engagement for all, including underrepresented populations (Strategy 8, Action 3)</p>

CEDS IMPLEMENTATION

This Comprehensive Economic Development Strategy (CEDS) should be read and understood in the context of the full ECOS Regional Plan, of which it is a part. The CEDS largely focuses on “traditional” economic development issues, but other parts of the ECOS Plan include information on issues like land use and education that are just as vital to the region’s economy.

Goals

There are four broad goals, and 17 topic goals that define what the ECOS Plan hopes to achieve. The following goals from the ECOS Plan are particularly relevant to economic development and are therefore highlighted here. All ECOS Plan Goals can be found in Supplement 2 – Regional Analysis.

Economic Infrastructure Goal: 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.

Economy Goal: Retain and support existing employers and job growth, grow target sector employers and entrepreneurs, and work to attract a greater diversity of employers and employees.

Household Financial Security Goal: Improve the financial security of households.

Working Lands Goal: Support the growth and vitality of working farms and managed forests; and sustainably manage sand and gravel extraction operations.

Strategies and Actions

There are eight ECOS Strategies with associated Actions to implement the Goals of the ECOS Plan. ECOS Strategy 1 is particularly relevant to economic development and is listed here in its entirety with all of its associated actions. The rest of the strategies are included summarized here and can be found in the main document of the ECOS Plan.

ECOS Strategy 1: 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 supports an adequate standard of living for all residents of a region or community. Continuous and sustainable improvements in the internal functioning of the economy strengthens its structural underpinnings and provides the means and the continuous processes to strengthen our communities and maintain our quality of life over the long term.

Actions

- 1. High wage employers** – The primary goal of any economic development strategy is retaining and growing the already existing high wage jobs within the economy. The region should maintain economic diversity by deepening existing sectors and increase diversity by identifying and supporting businesses in sectors with high location quotients (a higher concentration in the region compared to the country as a whole). Providing support and connecting available resources is critical to ensuring that this economic base remains vital and is able to grow. The high wage sectors in which Chittenden County expects to drive our economy are: Information Technology, Communications, and Media (including Information Technology, E-Commerce, and Digital Media); High

Value-Added Manufacturing; Higher Education; Clean Tech/Green Tech; and, Health Care and Wellness (see the [Target Sector Analysis Report](#)).

- a. Build relationships with these employers. For example, the Region’s Tech Jam highlights some of the region’s many successful tech companies. Success will require developing and attracting a technologically skilled workforce, improving and increasing access to financing, incubator spaces, networking opportunities and infrastructure such as broadband access, and marketing Vermont and the region as a home for tech jobs and tech companies.
 - b. Facilitate access to Vermont’s employment and infrastructure development resources. Currently these include programs such as the Vermont Employment Growth Incentive, the Vermont Training Program and the Vermont Tax Increment Financing (TIF) District Program.
 - c. Market the quality of life, the Vermont brand and the growing brand recognition of local municipalities, which make the county an appealing place to start or expand a company, especially in target sectors such as tech. Accolades won by Chittenden County’s municipalities should be promoted and celebrated.
- 2. Industrial Site Locations** – With only a few years supply of existing buildings or sites within permitted industrial parks left in the region, additional sites need to be identified and carefully planned to ensure a smooth permitting process. This will ensure that Chittenden County is ready to meet employers’ needs for expansion or relocation in Chittenden County. The most likely employment sectors with this need are technology-based or other types of manufacturing, which tend to be high wage jobs. The best opportunities for these sites are on vacant portions of land that can easily be served by existing infrastructure. Land already owned by manufacturing companies, already being used for industrial purposes or already zoned for industrial uses are ideal.
- a. CCRPC and GBIC will work with ACCD to have business/industrial parks recognized as benefit locations in state designation programs. (Funded by GBIC and CCRPC. No direct additional employment is expected, but this would help to create future opportunities.)
 - b. Rather than re-zoning land for industrial development, 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 actions discussed in Strategy 2 of this plan.
 - c. GBIC will prepare a “longevity analysis” to project when additional fully-serviced and permitted land should be added to the regional inventory.
- 3. Workforce Education and Skills Development** – Promote public/private partnerships for education that connect the skills development infrastructure of our institutions of higher education, vocational programs, and technical schools with the direct needs of the Vermont workforce. Data from the Vermont Department of Education show that roughly 40% of high school seniors do not go on to further education and/or career training after graduating. After graduation is too late to start career-focused skill education—education needs to be coordinated with our economic needs and teach students skills throughout the K-16 system and beyond.

- a. Maintain, improve and market the assets that attract and retain young professionals, such as the Vermont brand and local brands, social and professional opportunities, and affordable and attractive housing.
 - b. GBIC will work to advance the recommendations of the S.135 Working Group's State Workforce Development System Report of Findings and Recommendations. CCRPC will assist with this work where appropriate.
 - c. See Strategy 6 for more actions related to education.
- 4. Innovation and Entrepreneurial Development** – Promote and expand the support ecosystem for entrepreneurs: providers, programs, and services available in the State to create an economic system of resources that is easily navigable at all stages of the innovation and entrepreneurial continuum. This support ecosystem must aggregate and address services such as finding capital, mentorship, prototyping, commercialization, etc.
- a. Encourage home-based small businesses throughout the Region as allowed by municipal zoning.
 - b. Ensure that sufficient telecommunications infrastructure, especially high-speed internet, is available to make these businesses possible. Support the State of Vermont's Broadband Action Plan goals of ensuring universal availability of internet speeds of 10/1 megabits per second by 2020, and 100/100 megabits per second by 2024.
 - c. Encourage co-working spaces, generator spaces and business incubators to provide low-cost space for new business + innovation.
 - d. Research successful efforts to capitalize on the entrepreneurial spirit of recent immigrants and ensure that they are a cornerstone of economic development policy and actions, and incorporate strategies as appropriate.
- 5. Creative Economy and the Arts** – Arts and the creative economy are what drives a large and diverse amount of economic activity in our region (e.g. local foods, design, technology, media, craftsmanship/fabrication, arts, emergent media, music, dance, festivals, education, and recreation). This portion of the economy is fundamentally unique in that it is a significant contributor to the culture in our region.
- a. Support creative economy and arts programs and efforts.
 - b. Create collaborations between arts, culture and recreation groups and the Chamber of Commerce and local businesses to promote the use of local artists in regular business needs (i.e. advertising, branding, communications, etc.) and to share vacant or underutilized commercial spaces with artists for gallery and/or studio space.
- 6. Working Lands** - Support value-added foods, farms and forest products through the work of Vermont Sustainable Jobs Fund and Working Lands Enterprise Board on Farm to Plate. See Strategy 4 for more details.
- 7. Tourism** – Continue good efforts in tourism including VT Convention Bureau, Lake Champlain Regional Chamber of Commerce, and Lake Champlain Byway.
- a. Ensure that tourism materials are available in languages besides English, especially French.

- b. Support the work of the Vermont Outdoor Recreation Economic Collaborative, a task force created by Governor Phil Scott in 2017, to strengthen and expand Vermont’s outdoor recreation economy.

- 8. Economic Development Coordination** –Work with the State of Vermont to implement the 2014 Vermont Comprehensive Economic Development Strategy (Vermont 2020). Coordinate with Northwest Regional Planning Commission on their economic development efforts. Support municipalities in local economic development, including the development of local “brands” intended to attract and retain new residents and employers.

- 9. Public Infrastructure and Project Lists** – Adequate funding for public infrastructure is necessary to maintain and expand our economy. See the Metropolitan Transportation Plan and the ECOS/CEDS Project List for more details on critical projects. These lists include some of the projects necessary to support the region’s economic development: The Metropolitan Transportation Plan Project List includes transportation infrastructure projects and the CEDS Project List includes other infrastructure and utility projects.

- 10. Project Support** – the ECOS/CEDS and Metropolitan Transportation Project Lists should not be taken to mean that this plan only supports funding applications for infrastructure and utility projects. Rather, we will support the funding applications of any project that supports the strategies of this plan, such projects aimed at housing construction or business recruitment, retention and growth, and projects supporting our five target industries (Information Technology, Communications, and Media; High Value-Added Manufacturing; Higher Education; Clean Tech/Green Tech and Health Care and Wellness).

- 11. Housing Affordability** – Rental and owner-occupied housing that is affordable is a key component of economic development. The proportion of Chittenden County employees who live outside the county has increased since 2002, and this is projected to continue if housing trends continue as they have been. Reversing this trend will require two things: enough housing to accommodate all Chittenden County workers, and housing stock that is affordable and accessible to a wide variety of residents.
 - a. Strive for 75% of Chittenden County workers to live in the region.
 - b. See Strategy 2, Action 3 for detailed actions related to housing.

- 12. State/Local Permitting Coordination & Improvement (Included in Main Document as ECOS Plan Strategy 2, Action 5)**
 - a. Support changes to the local and state permitting process to make the two more coordinated and effective. Participate in the Commission on Act 250 to improve the State’s development review process, particularly to encourage development in appropriately planned places and discourage development outside of those areas. This could include expedited permitting processes for projects in areas that are: a) designated for growth; and b) where a community has a robust plan, regulations and staff capacity. In conjunction with a reduction of permit review redundancies in areas planned for growth it may be appropriate to develop more stringent standards and thresholds for development review in rural areas.

- b. Collaborate with stakeholders to ensure local and state regulations, bylaws and plans encourage transparency, predictability and timely review of sustainable and environmentally sound development applications. Support the establishment of an ambassador position to help those wishing to start businesses in Vermont understand and navigate the state permitting process.
- c. Develop a transportation assessment process that supports existing and planned land use densities and patterns in Center, Metro, Suburban, Village, and Enterprise Planning Areas to allow for more congestion and greater mode choice than allowed by current standards. The CCRPC will collaborate with the Vermont Agency of Transportation (VTTrans), the Natural Resources Board, and other state and local stakeholders to develop a process that evaluates the transportation impact from a multi-modal perspective rather than just a traffic flow standpoint.
- d. Policies and planning studies that are adopted as part of this ECOS Plan and subsequent amendments will guide CCRPC's position in permit proceedings

ECOS Strategy 2: Strive for 80% of growth in areas planned for growth, which amounts to 20% of our land area.

Promotes investment in downtowns and village centers, maintaining and improving the vitality of these areas for workers and employers; provides strategies for improving housing affordability.

ECOS Strategy 3: Improve the safety, water quality, and habitat of our rivers, streams, wetlands and lakes in each watershed; and

ECOS Strategy 4: Increase investment in and decrease subdivision of working lands and significant habitats, and support local food systems.

Ensures that economic growth does not lead to sprawl, and that traditional economic activities like farming and forestry are able to thrive.

ECOS Strategy 6: Equip our residents with the education and skills that they need to thrive.

Discusses educational and child care opportunities throughout the county, and identifies changes that are needed for workforce development.

ECOS Strategy 7: Develop financing and governance systems to make the most efficient use of taxpayer dollars and reduce costs.

Includes actions related to permit reform and reducing barriers to the creation of new businesses.

ECOS Strategy 8: 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.

PROJECT LIST

The CEDS Project List (below) includes specific projects that municipalities, utilities and institutions intend to complete. The list is limited to those projects that will increase capacity or expand service, and does not include maintenance projects. In addition to the projects listed here, the projects listed in the Metropolitan Transportation Plan and the State of Vermont Watershed Projects Database are also important for implementing the CEDS.

Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Bolton	Town Garage	Based on the results of a building assessment, renovate and/or relocate the Bolton Town Garage, to elevate it above base flood elevation and fix outstanding issues, including a deteriorating floor.	\$1,200,000	2018-2022
Bolton	Water	Complete feasibility study for community or municipal water system along US 2, based on results of 2018 groundwater mapping.	TBD	TBD
Burlington	Brownfield	Redevelopment of 453 Pine (CEDO) - Redevelop Brownfield at 453 Pine St to allow growth in the South End. Possible inclusion of solar array.	\$25,000,000	2019-2022
Burlington	Ferry - Waterfront	Redevelopment of King Street Dock Site / Ferry Yard Relocation (CEDO) - Relocation of maintenance yard, and redevelopment of King Street dock site and ferry terminal - mixed use development.	\$60-65,000,000	2020-2025
Burlington	Emergency Services	Fire station consolidation (CEDO) - This is an ongoing conversation related to Gateway Block Redevelopment. Potential to consolidate station 1 and 5 on Pine St.	\$5,000,000	2021
Burlington	Energy Efficiency	The Burlington 2030 District is a private/public partnership working to reduce building energy consumption, water use and transportation emissions 50% by 2030 through weatherization, equipment efficiency upgrades and district heat (see below).	TBD	2030
Burlington	Heating	District Heating Plan (CEDO) - Plan to recapture "waste heat" from the McNeil power plant and distribute it to the Old North End of Burlington, a densely populated area within the City.	\$21,000,000	TBD
Burlington	Parks	Waterfront Electrical Distribution Design (Parks) - Improvements needed to better support waterfront events.	\$40,000	2018
Burlington	Parks - Waterfront	Marina Expansion and Long-term Improvements (Parks) - In conjunction with Plan BTV, the Parks Master Plan, and an assessment of the existing Boathouse, opportunities to improve/renovate/replace the Boathouse, increase transient boater slips, and improve land side amenities should be considered.	\$2-3,000,000	2021
Burlington	Parks - Waterfront	Continue reconstruction of and enhancement of 7.5-mile bike path. South end remains for design and reconstruction, North Beach Overpass, and Rock Point Bridge. Relocate section of path between King Street and College Street (Amtrak).	\$9,000,000	2018-2022
Burlington	Redevelopment	Town Center Mall redevelopment - associated public infrastructure and parking	\$200,000,000	2017-2021

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Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Burlington	Redevelopment	Gateway Block Redevelopment (CEDO) - Redevelopment of the Gateway Block at Main and North Winooski. Properties include Memorial Auditorium, Municipal surface lot, motel and firehouse.	\$20,000,000	2020
Burlington	Redevelopment	Moran Plant/Waterfront Redevelopment (CEDO) - To redevelop one of the last parcels/vacant buildings on the shores of Lake Champlain in downtown Burlington. The Moran plant has been vacant for decades and the city is now working to develop a concept for the site.	\$10,000,000	2019
Burlington	Redevelopment	Enterprise District Redevelopment.	\$10,000,000	2022
Burlington	Road	North Beach Emergency Access and Road Improvement (Parks) - Renovation of roadway to better accommodate emergency vehicle access and vehicle entrance/exit to North Beach Campground.	\$400,000	2019-2021
Burlington	Wastewater	Burlington North Wastewater Treatment Plant - increased capacity needed to meet TMDL phosphorous reduction requirements (currently at 59% of the proposed TMDL phosphorous load). North Plant began optimizing in August 2015, thus 2015 load for those plants is reduced from previous years.	\$4,300,000	2021
Burlington	Wastewater	Burlington Riverside Wastewater Treatment Plant - increased capacity needed to meet TMDL phosphorous reduction requirements (currently at 90% of the proposed TMDL phosphorous load).	\$4,300,000	2021
Burlington	Wastewater	Burlington Main Wastewater Treatment Plant - increased capacity needed to meet TMDL phosphorous reduction requirements (currently at 110% of proposed TMDL phosphorous load). Main Plant began implementing additional chemically based phosphorus removal in June 2015.	\$29,400,000	2021
Burlington	Waterfront	Community Sailing Center redevelopment. Most work complete. Docks pending.	\$5,000,000	2018
Burlington	Parks	Oakledge Park Universal Playground	\$800,000	2020
Burlington	Parks	North Beach Campground improvements	\$4,500,000	2018-2022
Burlington	Parks	Expand maintenance facility at Leddy	\$750,000	2019
Burlington	Parks	Mountain biking trails	\$500,000	2018-2024
Burlington	Wastewater	Integrated Permit: Complete integrated planning process and work with State to develop an integrated wastewater / stormwater permit.	TBD	2018-2023
Burlington	Wastewater	Main Wastewater Treatment Plant		
Burlington	Water	Reline, replace and upsize over 10 miles of the City's water distribution system. Voter approved bond.	\$8,340,000	2017-2022
Burlington	Wastewater/ Stormwater	Integrated State Permits - between stormwater and wastewater so that phosphorus reduction can be done in the most efficient way to reduce phosphorus. One-year DEC extension for the Main Plant to allow the City to work this out. Organize other projects under this.	TBD	2018-2023
Burlington	Water Main	Water main replacements.	\$8,000,000	Ongoing
Burlington	Parking	Downtown parking garage on the campus of Edmunds School for the use of School, Champlain College and the community (BSD). Underground facility with turf surface above to extend green area for School. Consider parking revenue as one source of funding.	\$5-10,000,000	2025

Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Burlington	Parks	City Hall Park (BCA/Parks) - City Hall Park major reconstruction, to stimulate downtown business growth.	\$4,500,000	2018-2020
Burlington	Waterfront	Breakwater planning and construction - Breakwater to protect harbor from north and south winds. Add attenuator, extend breakwater, and improve facilities for marina and adjacent park.	\$7,300,000	2020-2025
Burlington, South Burlington	Airport	Non-acquisition noise mitigation	\$40,000,000	TBD
Burlington, South Burlington	Airport	Construct Taxiway B Extension	\$4,702,000	2023
Burlington, South Burlington	Airport	Rehabilitate Terminal Apron and Rehabilitate Cargo Apron	\$3,889,000	2022
Burlington, South Burlington	Airport	North End Drainage Upgrades and Rehabilitate Terminal Apron	\$3,889,000	2021
Burlington, South Burlington	Airport	Runway Rehabilitation	\$3,750,000	2020
Burlington, South Burlington	Airport	Move/Construct Taxiway G	\$11,500,000	2019
Burlington, South Burlington	Airport	Rehabilitate Terminal Apron	\$2,824,000	2018
Burlington, South Burlington	Airport	Move/Construct Taxiway G and Replace Airport Beacon	\$13,549,000	2017 - 2018
Champlain Water District	Water	Close-in Transmission Main Cross-tie	\$700,000	2018-2019
Champlain Water District	Water	Exit 16 Double Diamond Waterline Realignment as required for transportation improvements	\$525,000	2019-2020
Champlain Water District	Water	Essex West PS and Transmission Main - New pump station and transmission main at Essex West tank for interconnection with the Town of Essex	\$1,750,000	2020-2021
Charlotte	Water and Wastewater - New	The town is investigating sites for potential community sewage disposal and drinking water supply in the Village and Commercial districts.	TBD	long-term
Chittenden County	Emergency Services	New regional dispatch facility and technology capital costs.	\$1,140,000	2018
Colchester	Library	Burnham Memorial Library Expansion - The current public community library has outgrown its space and is limited to what it can and should potentially offer to the public. Serving 60,000+ patrons.	\$5,000,000	2022+
Colchester	Recreation	Multi-Generational Community Recreation Center - Land secured; funding needed to build.	\$500,000	2022+

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Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Colchester	Wastewater	Recent studies concluded that Goodsell Point and East Lakeshore Drive, realistically, could only be served by a centralized sewer system. With the most logical treatment option now being the Airport Parkway Treatment Facility in the city of south Burlington, the sewer line would extend from Goodsell Point, East Lakeshore Drive, West Lakeshore Drive, and extend eastward to US Rt. 7 to connect with the Town's existing system. This project was listed on the 2017 Pollution Control Priority and Planning List distributed by the Clean Water State Revolving Fund and is eligible for a 35% Pollution Abatement Grant and \$500,000 in Loan Subsidy.	\$20,000,000	2019
Colchester	Wastewater	Sewer infrastructure may be needed around Exit 17. The project would utilize the Milton Wastewater Treatment Plant. This project may be affected by any work needed to meet TMDL for the Milton Wastewater Treatment Plant.	\$10,000,000	long-term
Colchester	Water	Colchester Fire District #3 also requires a water line extension from Exit 16 to the Severance Corners Growth Center to allow further development.	\$1,200,000	2018
CSWD	Waste Disposal	Design & Construction for HHW Facility Upgrades	\$185,000	2019
CSWD	Waste Disposal	Design, Permitting & Construction of Regional Landfill - New Regional Landfill in Williston, design presently on hold indefinitely.	\$50,400,000	On hold
CSWD	Waste Disposal	Retrofit material recovery facility to special waste facility	\$750,000	2022
CSWD	Waste Disposal	Design, Permit & Construct new Material Recovery Facility, location TBD	\$15,000,000	2020-2022
CSWD, Burlington, Hinesburg	Waste Disposal	Relocate Burlington and Hinesburg Drop-Off Centers - Build New Drop-Off Centers.	\$500,000	Ongoing
CSWD, Burlington, Hinesburg	Waste Disposal	Construct new relocated Burlington and Hinesburg Drop-Off Centers - Construct new Drop-Off Centers.	\$1,000,000	2018-2020
Essex	Highway Garage	Highway Garage planning, design and construction - New space to accommodate all vehicles and repair activities for the Town & Village. Will start to look at space study/sizing issue in FY19 CIP. Also have Fire Department and Parks Dept program space needs as well, so will look at all three.	\$4,000,000	2025
Essex	Historic	Historic Structure repairs, construction - Fort Ethan Allen Water Tower requires funds for preservation of structure.	\$300,000	TBD
Essex	Wastewater	Construction of new municipal sewers is needed on Pinecrest Drive, Blair and portions of Pioneer and Ira Allen. Essex may be affected by any work needed to meet TMDL for the Essex Junction Wastewater Treatment Plant. Financing is challenging but needs to be done soon.	\$1,000,000	TBD
Essex	Water	Additional water system capacity is needed. New waterlines with increased pipe sizes have been studied for Susie Wilson Road to provide adequate fire flows and pressures. 12" waterline in the Fort and down Rte. 15 to connect to Susie Wilson Road.	\$750,000	2019
Essex	Water	Sandhill Road Waterline Improvements planning, design and construction. Increase waterline with 8 inch pipe to replace section of 3 inch piping and add pressure reducing valves.	\$700,000	2021

Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Essex	Water	Town Center - Old Stage Road, Route 15 has marginal water pressures, so can't currently handle an increase in building heights. Need another pump station in the Village and pump up from there, along one of 3 to 4 options. Much of cost might get picked up by CWD.	\$1,200,000	2018-2021
Essex	Wastewater	Pump station upgrades (about 15 of them) over the next five years.	\$600,000	2017-2022
Essex & Essex Junction	Wastewater	Additional capacity needed over the long term to meet TMDL phosphorous reduction requirements. Essex Junction Wastewater Treatment Plant is currently at 25% of its phosphorous load after a \$15 million refurbishment. Over the long term, \$1,200,000 may need to be invested to maintain the TMDL.	\$1,200,000	TBD
Essex Town	Stormwater	Stormwater projects – planning, design and construction to meet MS4 permit and Flow Restoration Plans.	\$50,000,000	Ongoing
Hinesburg	Electric	Extension of 3-phase power - to South Hinesburg along VT116 by Green Mountain Power. Job creation possibly substantial, service extension to existing industrial district with ample build out potential.	\$194,000	TBD
Hinesburg	Wastewater	The Hinesburg Wastewater Treatment Plant is currently at 71% of its phosphorous load, but future upgrades will be needed. This project was listed on the 2017 Pollution Control Priority and Planning List distributed by the Clean Water State Revolving Fund.	\$10,000,000	2022
Hinesburg	Water	New well and water capacity upgrade to address insufficient municipal water supply for future village area development.	TBD	2020
Hinesburg	Fire	Fire station expansion or relocation.	TBD	2018
Huntington	Wastewater - New	Stone Environmental completed a village wastewater system feasibility study in 2012. There are no current plans to implement this plan.	\$10,461,000	long-term
Huntington	Water - New	Publicly regulated water systems serve Huntington Woods/Roberts Park and the BPMS elementary school. Additional capacity may be needed.	\$8,164,000	long-term
Jericho-Underhill Water District	Water	The system needs a new Maple Ridge pump station and distribution system, as well as other minor improvements, beginning in 2018. This project was determined to be Non Fundable on the 2015 Drinking Water State Revolving Fund Capitalization Grant Revised Comprehensive Project Priority List.	\$250,000	2018
Milton	Streetscape	Milton 4D Streetscape Improvements: Defining Downtown from the Diner to the Dam - this project invests in lighting, street trees, sidewalk improvements, and wayfinding/placemaking signage along US Route 7 in the Town Core.	\$2,300,000	2019 - 2020
Milton	Water	Lake Road water pressure fix	\$1,500,000	TBD
Milton	Water	Waterline repair Railroad St. to Barnum	\$1,800,000	TBD
Milton	Wastewater	Centrifuge upgrade/replacement	\$500,000	TBD
Milton	Public Works	New public works garage	\$1,500,000	2020-2022

2018 Chittenden County ECOS Plan

Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Milton	Stormwater	Stormwater projects – planning, design and construction to meet MS4 permit.	TBD	Ongoing
Region	Transportation	All projects identified in the Metropolitan Transportation Plan are incorporated by reference	See MTP Project List	
Region	Stormwater	All projects identified in the State of Vermont Watershed Project Database are incorporated by reference	See database	
Richmond	Water and Wastewater	System improvement needed. Water and sewer lines on Bridge Street need to be improved. Timeline is pending based on ballot results.	TBD	TBD
Richmond	Water and Wastewater	Scoping study completed in 2015 re: extending water and sewer into the West Main Street area	\$2,500,000	2018
Richmond	Redevelopment	Creamery Site	TBD	TBD
Richmond	Wastewater	Possible upgrades may be needed to meet the TMDL in the long term	\$1,620,150	long-term
Shelburne	Water	Need a 20-year capital waterline maintenance and improvement plan, required by state as a condition of permit. Currently have ductile iron pipe.	TBD	TBD
Shelburne	Wastewater	Sewer line replacement in multiple areas - deemed high priority.	\$3,000,000	2018
Shelburne	Library	New library building attached to the old Town Hall and a replacement.	\$6,500,000	2018
Shelburne	Wastewater	Additional capacity needed in the future to meet the new 2016 TMDL phosphorous reduction goals. Shelburne Wastewater Treatment Plant #1 is currently at 60% of its phosphorous load and Shelburne #2 is at 50%. Improving these plants was listed on the 2017 Pollution Control Priority and Planning List distributed by the Clean Water State Revolving Fund.	TBD	TBD
South Burlington	City Hall & Library	New City Hall & Library - Expanded facility to meet community needs for municipal services and municipal meeting space; and Library and recreation facility. The plan is to combine these.	\$30,000,000	2020
South Burlington	Urban Park	New urban park in City Center.	\$4,300,000	2021
South Burlington	Parking	City Center Parking Decks - Construct 450 spaces to provide necessary infrastructure to facilitate business and residential development.	\$12,000,000	2021
South Burlington	Stormwater Improvements	Continue to comply with State Standards, including MS-4 and the Flow Restoration Plan.	\$40,000,000	TBD
South Burlington	Wastewater	Additional wastewater treatment capacity needed in the future to meet the TMDL phosphorous reduction. The Bartlett Bay Wastewater Treatment Plant upgrade is currently at 80% of its phosphorous load.	\$18,000,000	2023
St. George	Heating	Vermont Gas service to enable concentrated growth center.	TBD	TBD
St. George	Wastewater - New	The town completed a feasibility study on expanding the town center's community septic system, but have no immediate plans to implement it. A developer is currently working with the DRB to complete a development in the town center, which will be served by the community septic system. All costs for septic hookup will be borne by the developer. In 2015, funding for a treatment building and pumping facility improvements was bypassed by the Drinking Water State Revolving Fund Capitalization Grant.	TBD	long-term

Municipality	Infrastructure Type	Project Summary	Estimated Cost	Timeframe
Underhill	Sidewalk/Path	Investigate a shared use path along River Road and Pleasant Valley Road to Irish Settlement Road, connecting the two Village Centers.	TBD	TBD
Underhill	Water - New	Investigate the feasibility of expanding the water supply north of the Village Center along Route 15 and Poker Hill Road.	TBD	TBD
Westford	Sidewalk/Path	Create a path from the common to the school along the Browns River.	\$10,000	In Process
Westford	Sidewalks	Pedestrian infrastructure - construct sidewalks connecting public facilities (common, library, town office, post office, school, meeting house, etc.)	\$250,000	2017
Westford	Wastewater - New	The town is currently investigating a large-scale community wastewater system. Study and planning are funded by a Municipal Planning Grant. Cost includes engineering and construction. Land acquisition is expected in 2017. This project was listed on the 2017 Pollution Control Priority and Planning List distributed by the Clean Water State Revolving Fund.	\$2,090,000	2019
Williston	Wastewater - New	Upgrade force main on Industrial Avenue.	\$450,000	2027
Winooski	Wastewater	Additional capacity may be needed in the future to meet phosphorous reduction requirements, depending on the results of new optimization studies based on the new TMDL. The Winooski Wastewater Treatment Plant is currently at 33% of its phosphorous load.	\$4,000,000 - \$7,000,000	2021
Winooski	Wastewater	Winooski WWTF headworks and phosphorus removal was listed on the 2017 Pollution Control Priority and Planning List distributed by the Clean Water State Revolving Fund.	\$1,000,000	2018
Winooski	Parks	City Pool replacement. Engineering for \$90,000 in FY18.	\$4,400,000	TBD
Winooski	City Hall	O'Brien Community Center - City Hall campus	\$10,200,000	TBD
Winooski	Stormwater	Projects associated with Morehouse Brook Flow Restoration Plan.	\$140,000	TBD
Winooski	Parks	Cassavant Park - improve access and facilities	TBD	TBD

EVALUATION FRAMEWORK

The Key Indicators below are reported on the ECOS Scorecard:

<https://app.resultsscorecard.com/Scorecard/Embed/8502>

Economic Infrastructure

- Total (Covered) Employment – Chittenden County
- Employment by Place of Residence (Total Labor Force) in Chittenden County
- Number of Businesses
- Unemployment Rate, Chittenden County
- Average Wages for All Businesses (in thousands)

Household Financial Security

- Median Household Income, Chittenden County
- Median Household Income by Race, (Black/African American Householder)
- Percentage of families whose income in the last 12 months is below poverty level, Chittenden County
- Housing + Transportation Costs for Median Income Family

Working Lands

- Total Number of Farms by size
- Acres Devoted to Crops and Forests
- Number of Forested Acres enrolled in the Current Use Program
- Number of Agricultural Acres enrolled in the Current Use Program

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