

ecos

A SUSTAINABLE FUTURE
FOR CHITTENDEN COUNTY

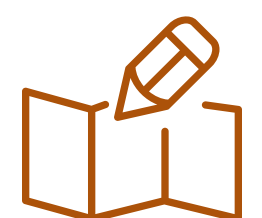
2018 Regional Plan

The Chittenden County Regional Planning Commission (CCRPC) developed and adopted the **2018 ECOS Plan** on June 20, 2018, an update to the **2013 ECOS Plan**. The 2018 ECOS Plan primarily incorporates updates to the Metropolitan Transportation Plan (MTP) and Comprehensive Economic Development Strategy (CEDS), and will serve as the Regional Enhanced Energy Plan. This summary document provides an overview of the ECOS Plan, as well as the three main sections updated in 2018: energy, economy, and transportation. Please note that this overview does not reflect the overall content within the Plan, but seeks to summarize some of the main components and updates. The complete 2018 ECOS Plan and all supplements can be viewed at: <http://www.ecosproject.com/2018-ecos-plan>.

What is the ECOS Plan?



Since 1976, the CCRPC has been producing a Regional Plan to protect Chittenden County's resources and guide its development. The ECOS Plan (Environment; Community; Opportunity; Sustainability) is the regional plan for Chittenden County and combines three plans into one: the Regional Plan, the Metropolitan Transportation Plan and the Comprehensive Economic Development Strategy. The ECOS Plan:



Provides guidelines for managing sustainable growth in Chittenden County.



Incorporates the visions and goals of municipalities, organizations, businesses and residents to preserve our quality of life.



Is collective in that no one piece will bring success without the others -- a concept visually described in the **Circle of Prosperity** below.

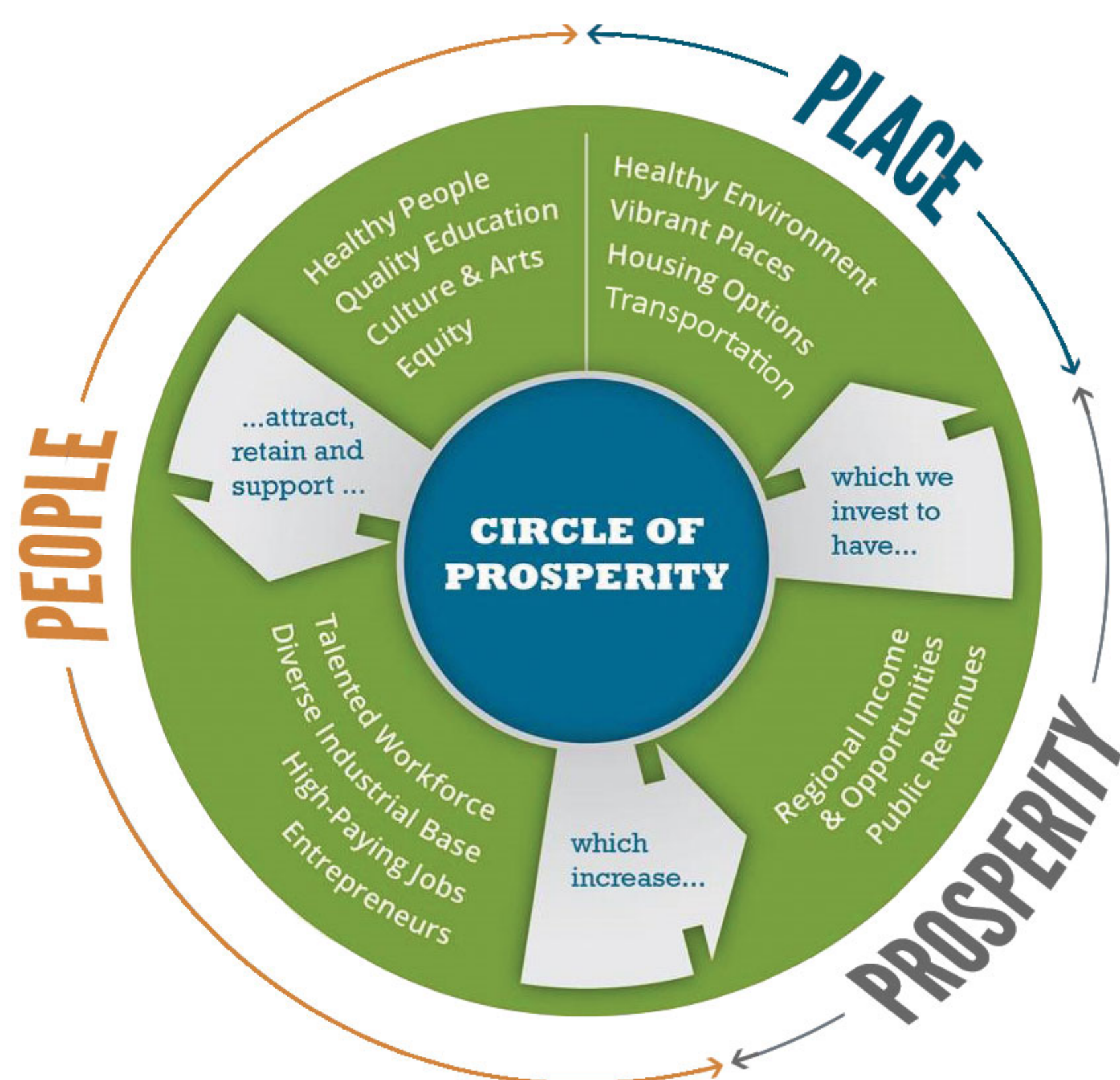


Is separated into **four broad categories**:



**ECOS
Vision Statement**

Our vision is that Chittenden County be a healthy, inclusive and prosperous community.



The following organizations make up the **ECOS Partnership**, a group that integrates ECOS goals and strategies into their work and reviews progress annually.



ecos

A SUSTAINABLE FUTURE
FOR CHITTENDEN COUNTY

2018 Regional Plan

The 2018 ECOS Plan is centered around:

8 STRATEGIES



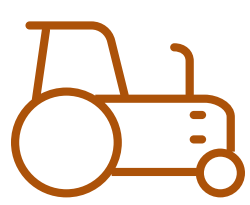
Improve and strengthen the economic systems of our region to increase opportunities for Vermont employers and employees.



Strive for 80% of new development in areas planned for growth, which amounts to 15% of our land area.



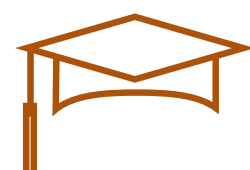
Improve the safety, water quality, and habitat of our rivers, streams, wetlands and lakes in each watershed.



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



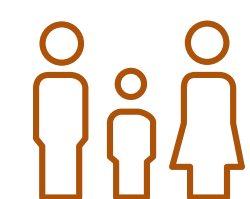
Increase opportunity for every person in our community to achieve optimal health and personal safety.



Equip our residents with the education and skills they need to thrive.



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



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.

More detailed actions are included under each strategy.

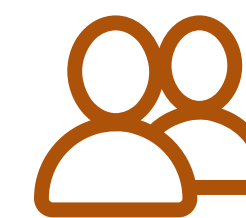
17 GOALS [within the 4 broad categories above]

NATURAL SYSTEMS



1. ECOLOGICAL SYSTEMS
2. SCENIC, RECREATIONAL & HISTORIC RESOURCES
3. CLIMATE CHANGE

SOCIAL COMMUNITY



4. EDUCATION, KNOWLEDGE & SKILLS
5. HEALTH
6. PUBLIC HEALTH, CRIMINAL JUSTICE & HAZARD MITIGATION
7. SOCIAL CONNECTEDNESS
8. ARTS, CULTURE & RECREATION
9. CIVIC ENGAGEMENT

ECONOMIC INFRASTRUCTURE



10. ECONOMY
11. HOUSEHOLD FINANCIAL SECURITY
12. WORKING LANDS AND LAND-BASED INDUSTRIES

BUILT ENVIRONMENT



13. LAND USE
14. HOUSING
15. TRANSPORTATION
16. INFRASTRUCTURE & FACILITIES
17. ENERGY

Progress toward the ECOS Plan goals is tracked annually.

In an effort to monitor and build on successes, bring new information to the legislature and community leaders, and continue to work on areas that need improvement, the ECOS Partnership prepares an Annual Report and an online data Scorecard each year. These data-driven resources provide insight into current and future needs in Chittenden County, and allow us to focus on long-term solutions rather than just treating short-term symptoms.



ECOS DATA SCORECARD

Visit the ECOS Scorecard to view all the indicators measuring progress toward the ECOS Plan goals.



ECOS ANNUAL REPORTS

View the ECOS Annual Reports, summaries that visually highlight a number of regional trends and accomplishments.

Both can be accessed at: ecosproject.com/annual-report

To learn more about the 2018 ECOS Plan, visit ecosproject.com/2018-ECOS-Plan.



**A SUSTAINABLE FUTURE
FOR CHITTENDEN COUNTY**

2018 Regional Plan

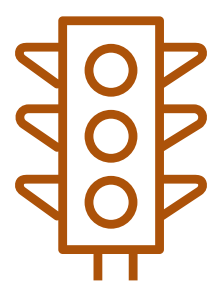
The CCRPC has 10 top actions for the next five years.

While the Strategies, full list of Actions, and the Project Lists make up the full implementation program, CCRPC has highlighted a number of actions to focus on over the next five years. These actions will help inform the development of CCRPC's annual Unified Planning Work Program: <https://www.ccrpcvt.org/about-us/commission/annual-work-plan-budget-finances/>

TOP 10 ACTIONS



Support and inform municipalities on setting the stage for smart, multi-modal development in our areas planned for growth, and protection of our rural planning area, through plan and bylaw assistance, participation in the Act 250 Next 50 Years Committee, brownfields assessments, etc.



Invest in our transportation system by maintaining our existing transportation system, addressing safety and localized congestion issues on our roadways and investing in Intelligent Transportation Systems to facilitate traffic flows on our arterials and minimize the need for major roadway expansion projects; and supporting our areas planned for growth by expanding bike and pedestrian infrastructure, improving transit services, investing in and supporting Transportation Demand Management partners and programs such as Green Mountain Transit, Chittenden Area Transportation Management Association, CarShare, Local Motion and NeighborRides.



Assist and inform municipalities with research and technical assistance to support housing development in our areas planned for growth, and continue participation in the Building Homes Together campaign.



Assist and inform municipalities on enhanced energy planning for the heating, electricity and transportation sectors including a shift away from gas/diesel vehicles to electric or other nonfossil fuel transportation options.



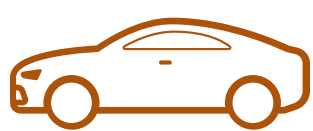
Assist the State and municipalities in implementation of the Lake Champlain Total Maximum Daily Load and other water quality improvement efforts through participation in the Tactical Basin Plans, Municipal Road General Permit assistance, Regional Stormwater Education Partnership/Rethink Runoff, etc.



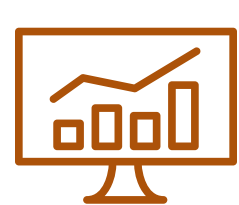
Assist municipalities and the state in emergency management planning through implementation of the All Hazards Mitigation Plan, Local Emergency Planning Committee coordination, Local Emergency Operation Plan assistance, regional dispatch support, etc.



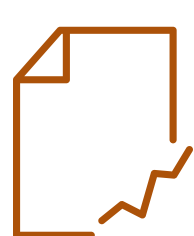
Support municipal efforts to support population health by continuing coordination with the University of Vermont Medical Center, United Way of Northwest Vermont, Chittenden Prevention Network, and the Vermont Department of Health.



Monitor the advancement of autonomous vehicles and work with the state, municipalities, and other partners on preparations for this technology



Continue annual coordination with our municipalities and partners to monitor and report on progress toward our shared goals through the ECOS Annual Report, ECOS Scorecard and annual performance reports to our municipalities and state funding agencies.



Monitor our shifting demographics and support workforce development by focusing on these top actions and continuing coordination with GBIC.

To learn more about the 2018 ECOS Plan, visit ecosproject.com/2018-ECOS-Plan.

ecos

A SUSTAINABLE FUTURE FOR CHITTENDEN COUNTY

2018 Regional Plan

Part 1 of 3: ENERGY

The energy section identifies actions for reducing energy consumption and reliance on fossil fuels for all sectors of energy (heating, electricity, and transportation). Doing enhanced energy planning for the region will align us with the [State's energy goals](#) and means the ECOS Plan will have a larger role in the permitting of renewable energy projects at the State level. Following updates to this section, the CCRPC is now able to review town plans for a determination of energy certification which, if granted, will allow municipalities more influence in the siting of renewable energy projects. Below are a number of energy-related strategies that enhance the 2018 ECOS Plan.

What is the ECOS Plan?

Since 1976, the Chittenden County Regional Planning Commission has been producing a Regional Plan to protect the County's resources and guide its development. The ECOS Plan is the 2013 regional plan for Chittenden County and includes the Metropolitan Transportation Plan and the Comprehensive Economic Development Strategy. Learn more at ecosproject.com.

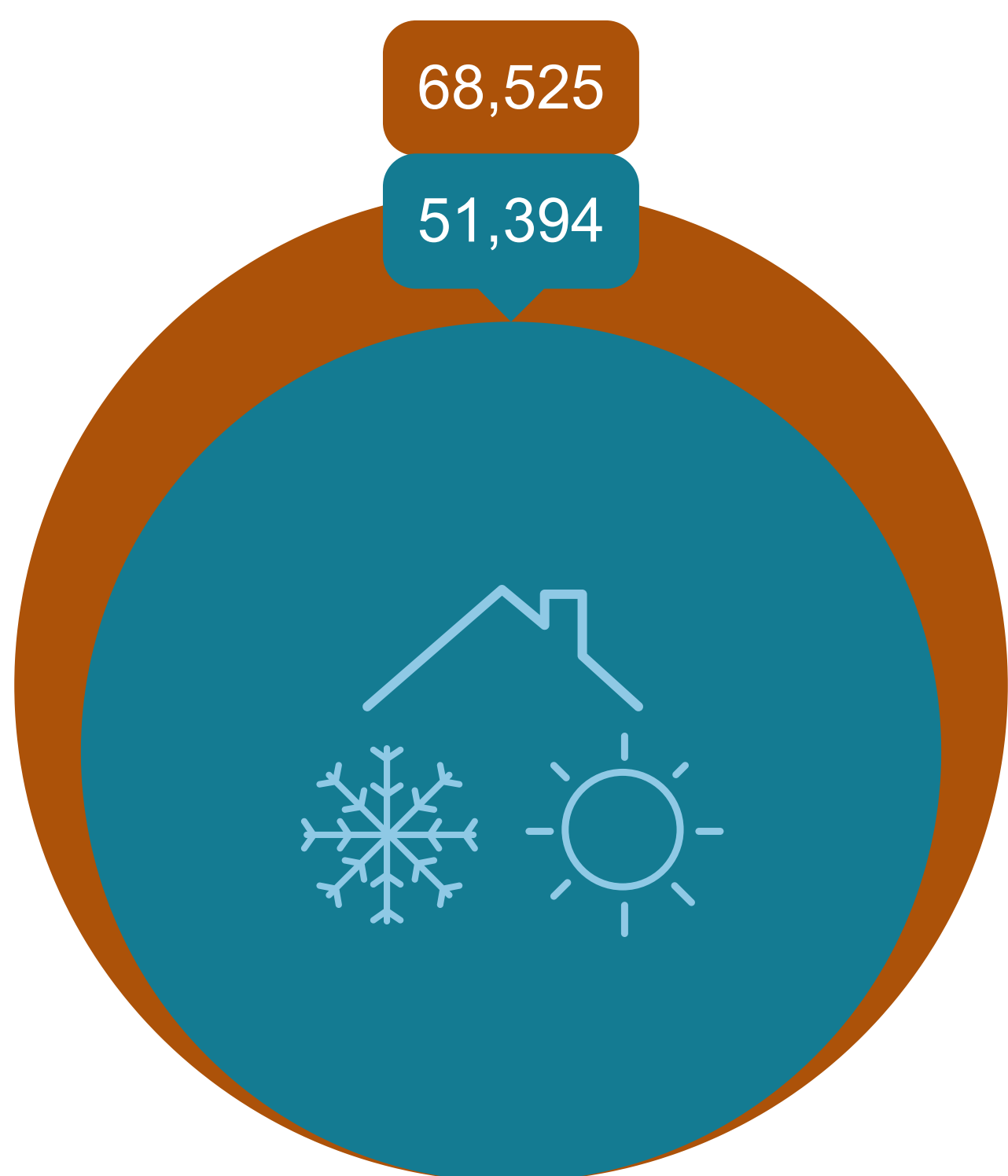
USE 1/3 LESS ENERGY FOR HEATING, TRAVEL & APPLIANCES

Collaborate with utilities to reduce energy use through weatherization of homes and businesses, and the installation of more efficient appliances.

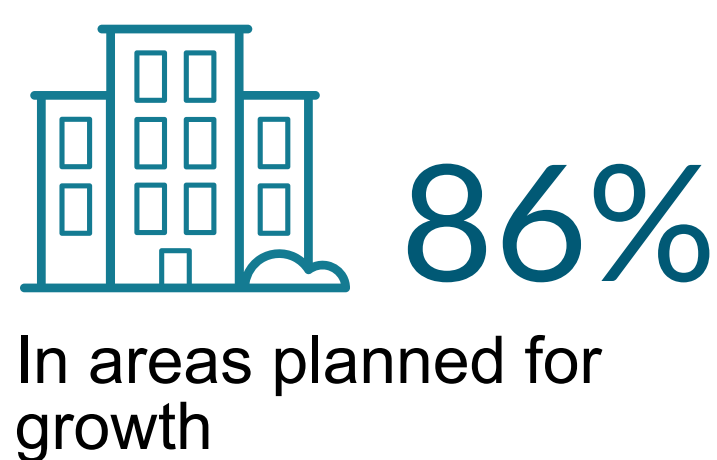
Plan for a majority of new growth to take place in compact areas to reduce travel distances, provide for more energy efficient buildings, and encourage walking, biking, and transit use.

75% of Chittenden County homes need to be weatherized by 2050.


On average, 86% of homes built in Chittenden County since 2012 are in areas planned for growth, exceeding the 80% goal outlined in the ECOS Plan.



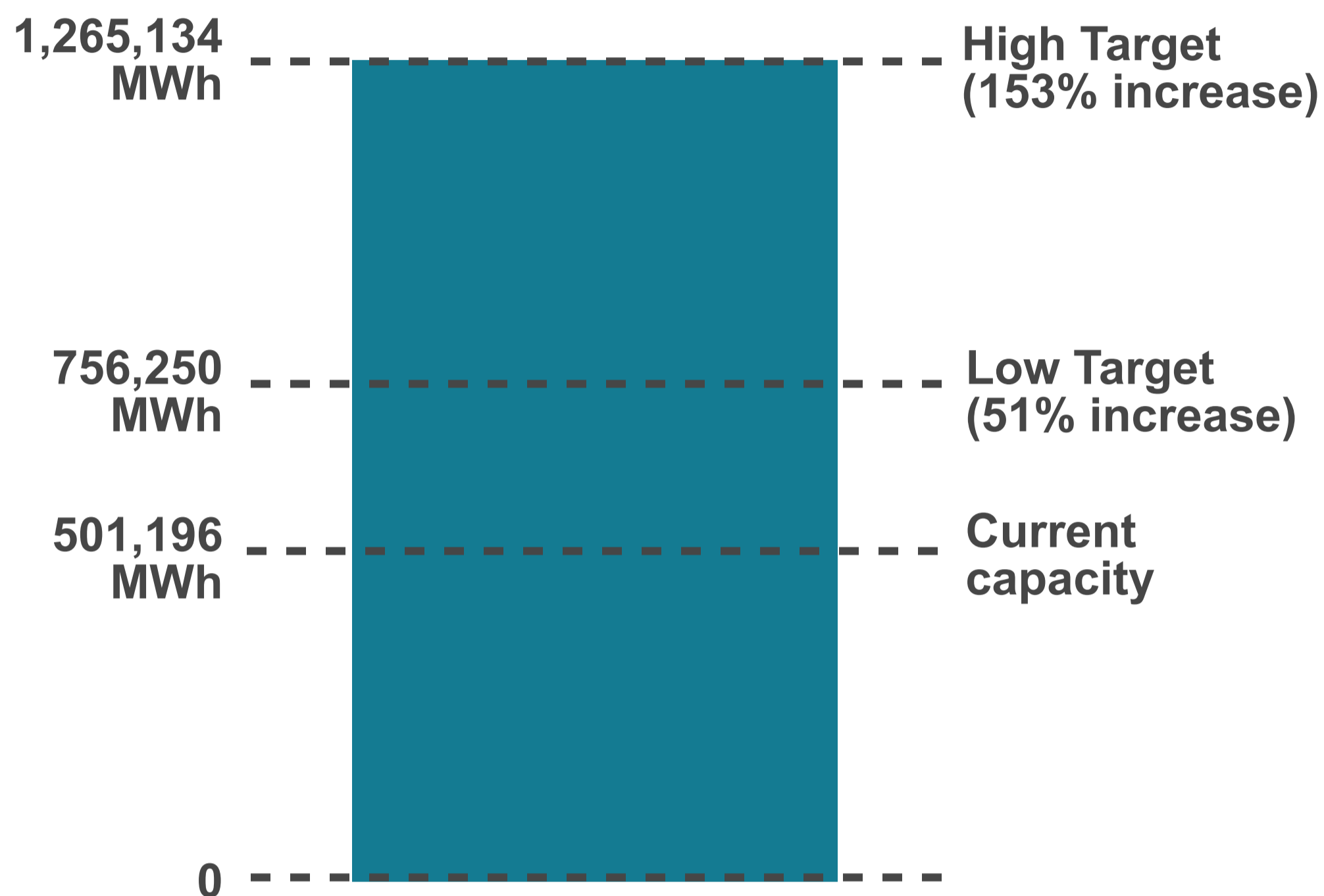
■ Total Homes ■ Homes Needing Weatherization




90% OF ENERGY NEEDS TO BE FROM RENEWABLE SOURCES BY 2050

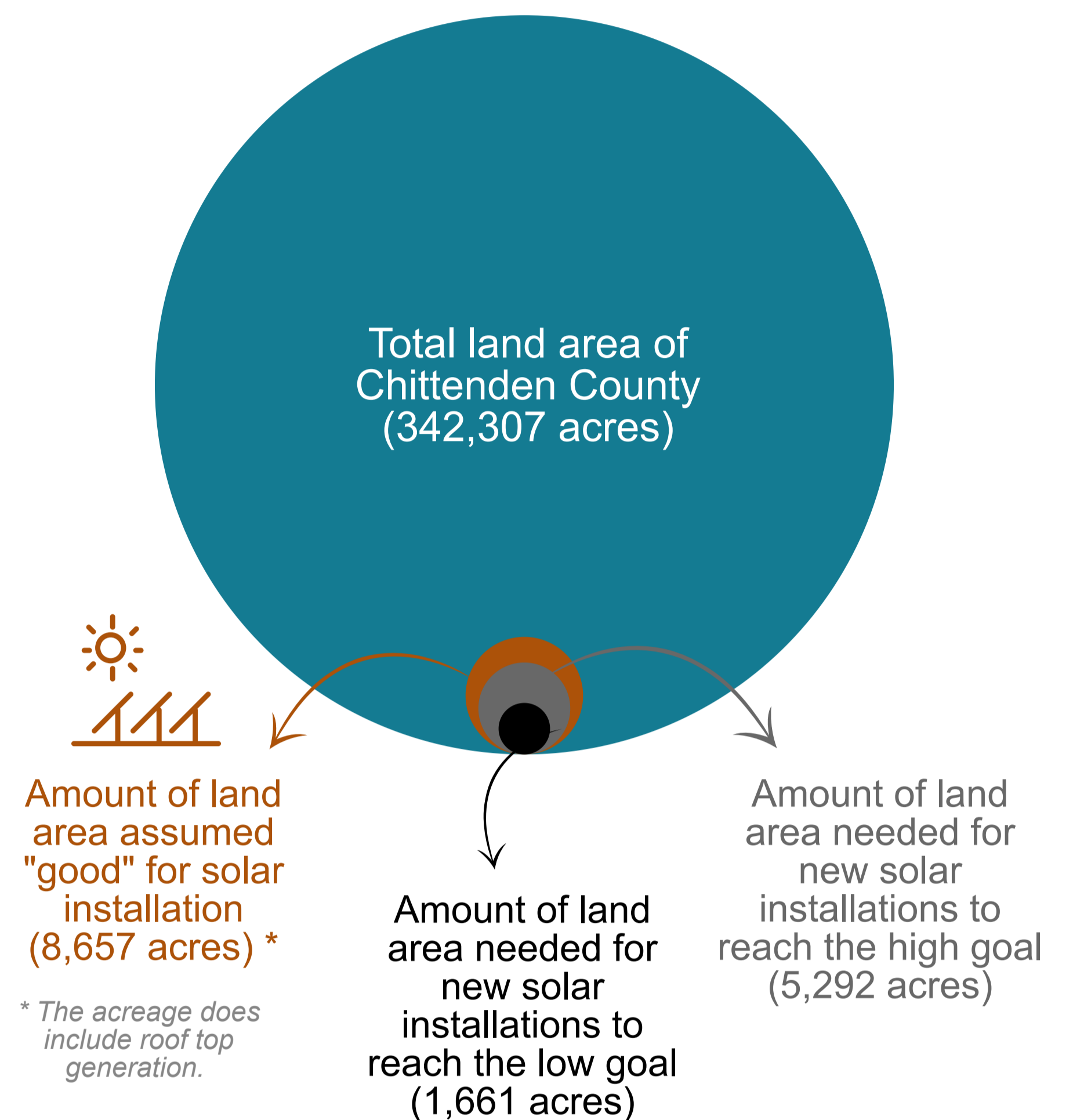
 We've estimated how much additional renewable energy (wind, solar, biomass, and hydro) the region needs to generate.


Chittenden County needs to generate 756,250 MWh (Megawatt hours) of energy to meet the low target, or a 51% increase -- and 1,265,134 MWh to meet the high target, or a 153% increase. The low and high ranges represent two different methodologies toward meeting the State's 90% renewable goal.



 We've estimated how much land area is needed to meet the renewable energy generation target if solar is the only type of technology deployed.


At 100% solar the county has approximately 2x to 5x the amount of land area assumed to be "good" for achieving the high and low-range targets respectively. Other generation types (i.e. wind, hydro, and biomass) are options for meeting the targets. CCRPC is only showing 100% solar as an example to demonstrate a pathway for moving to 90% renewable.



 We've identified land areas with environmental constraints, which may not be appropriate locations for renewable energy generation facilities (solar, wind, biodigesters, etc.).


View a detailed map on the next page. White areas (8,657 acres and described as "good" above) and possible constraint areas (67,371 acres) are potentially appropriate areas for these facilities, while known constraints are not.


TRANSFORM THE TRANSPORTATION & HEATING SECTORS TO ELECTRICITY POWERED BY RENEWABLE SOURCES

 Because the transportation sector accounts for 38% of the county's energy use, it's important that we transform it through the promotion of electric vehicles and installation of electric vehicle charging stations.

Target: 89% of passenger cars should be electric.

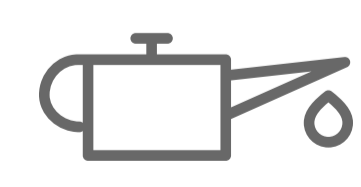
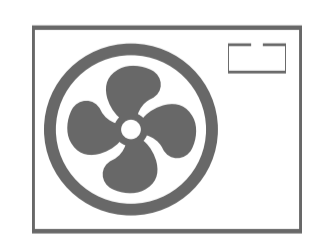
Currently, there are  **106,936** total passenger cars in Chittenden County

 **601** are electric/plug-in hybrid (less than 1%)

 Because the heating sector accounts for 44% of the county's energy use, it's important that we collaborate with partners to reduce fossil fuel use in the heating sector through installation of heat pumps.

Cold climate heat pumps are more efficient than oil heating systems. While the cost of natural gas is lower, at \$14.88/MMBTU, transforming the heating sector to electricity reduces fossil fuel use and greenhouse gas emissions and keeps energy dollars in the State.

Source: Vermont Fuel Price Report, November 2016

\$20.14 /MMBTU  Oil heating system **VS.**  **\$18.32 /MMBTU** Cold climate heat pump

To learn more about the 2018 ECOS Plan, visit ecosproject.com/2018-ECOS-Plan.

ecos

A SUSTAINABLE FUTURE FOR CHITTENDEN COUNTY

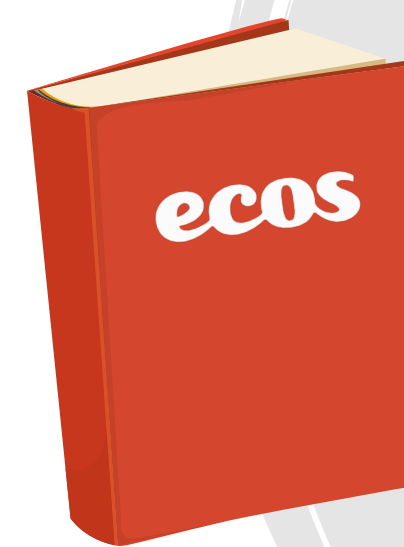
2018 Regional Plan

Part 2 of 3: ECONOMY

The 2018 update to the Comprehensive Economic Development Strategy (CEDS) was completed in collaboration with the Greater Burlington Industrial Corporation and our 19 member municipalities. Chittenden County's economy is strong relative to the rest of the state, but there are still challenges that need to be addressed.



What is the ECOS Plan?



Since 1976, the Chittenden County Regional Planning Commission has been producing a Regional Plan to protect the County's resources and guide its development. The ECOS Plan is the 2013 regional plan for Chittenden County and includes the Metropolitan Transportation Plan and the Comprehensive Economic Development Strategy. Learn more at ecosproject.com.

STRENGTHS OF OUR LOCAL ECONOMY



Chittenden County is the economic engine of Vermont.

It makes up over 1/4 of Vermont's population, gross domestic product (GDP), tax revenue, and private businesses.



Many parts of the Chittenden County economy have recovered strongly since the 2009 recession.

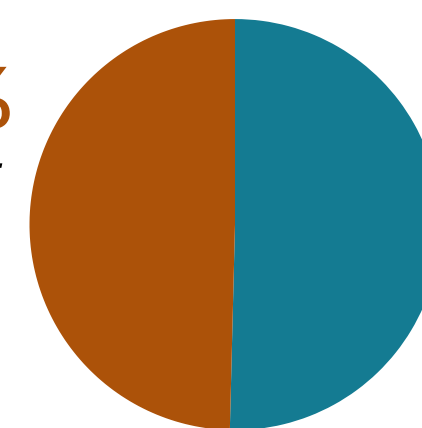
The unemployment rate has dropped, median household income has risen, and 9,547 new jobs have been created.



Chittenden County has higher rates of adults with bachelor's degrees than the rest of Vermont.

The county is well served by higher education institutions, including the University of Vermont, Champlain College, St. Michael's College and the Community College of Vermont.

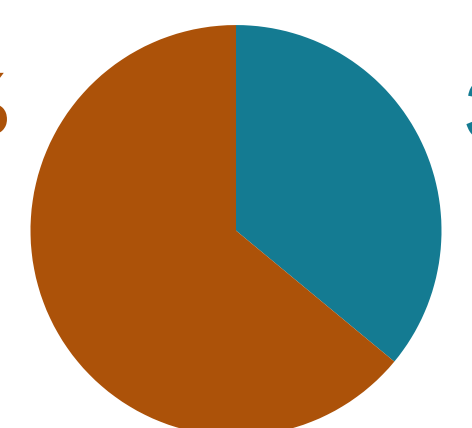
49.6% without



50.4% with

Bachelor's Degrees in Chittenden County

64% without



36% with

Bachelor's Degrees in Vermont



Residents of Chittenden County have jobs in STEM and STEM-related fields at a higher rate than the rest of the country.

These jobs pay well.



\$72,504.10

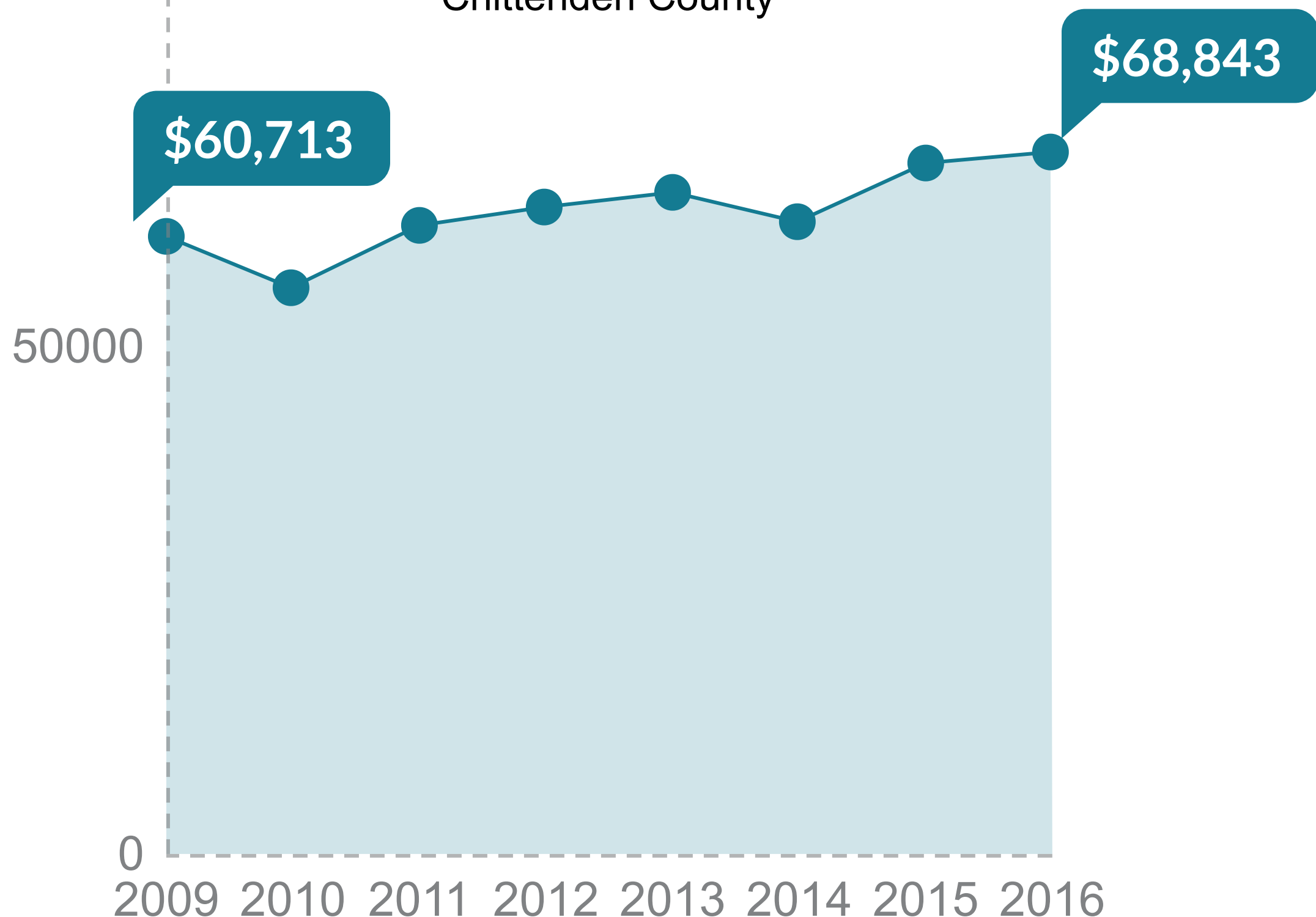
average annual income for STEM and STEM-related



\$49,695.95

average annual income for non-STEM

Median Household Income in Chittenden County



OPPORTUNITIES FOR IMPROVEMENT

Although the unemployment rate is low in Chittenden County and Vermont, there are important caveats to this:

13%

of Vermonters aged 20-24 are unemployed and looking for work, compared to 3.3% for the general population. A lack of job experience for young Vermonters undermines the future workforce and leaves them without a strong basis for future work.

7%

of Vermonters are under-employed, meaning they have become discouraged and stopped looking for work, or they work part-time but would prefer to work full-time.

40%

of graduating high school seniors in Vermont do not go on to any further education or training after leaving school.

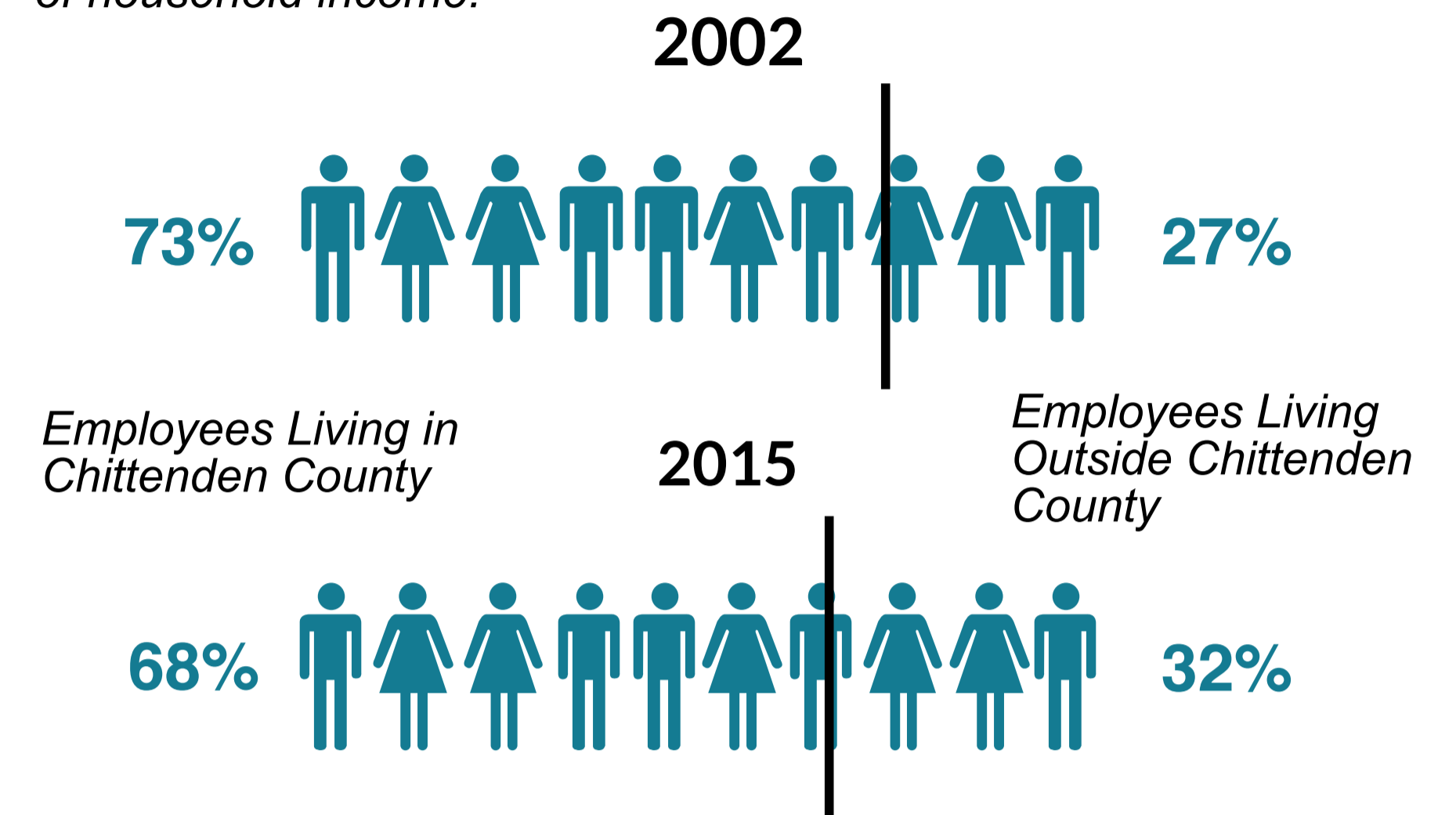
59%

of Chittenden County residents are participating in the labor force in 2016, down slightly from 60% in 2010.



Employers cite housing costs as one of the biggest challenges for employee recruitment and retention, especially for young professionals.

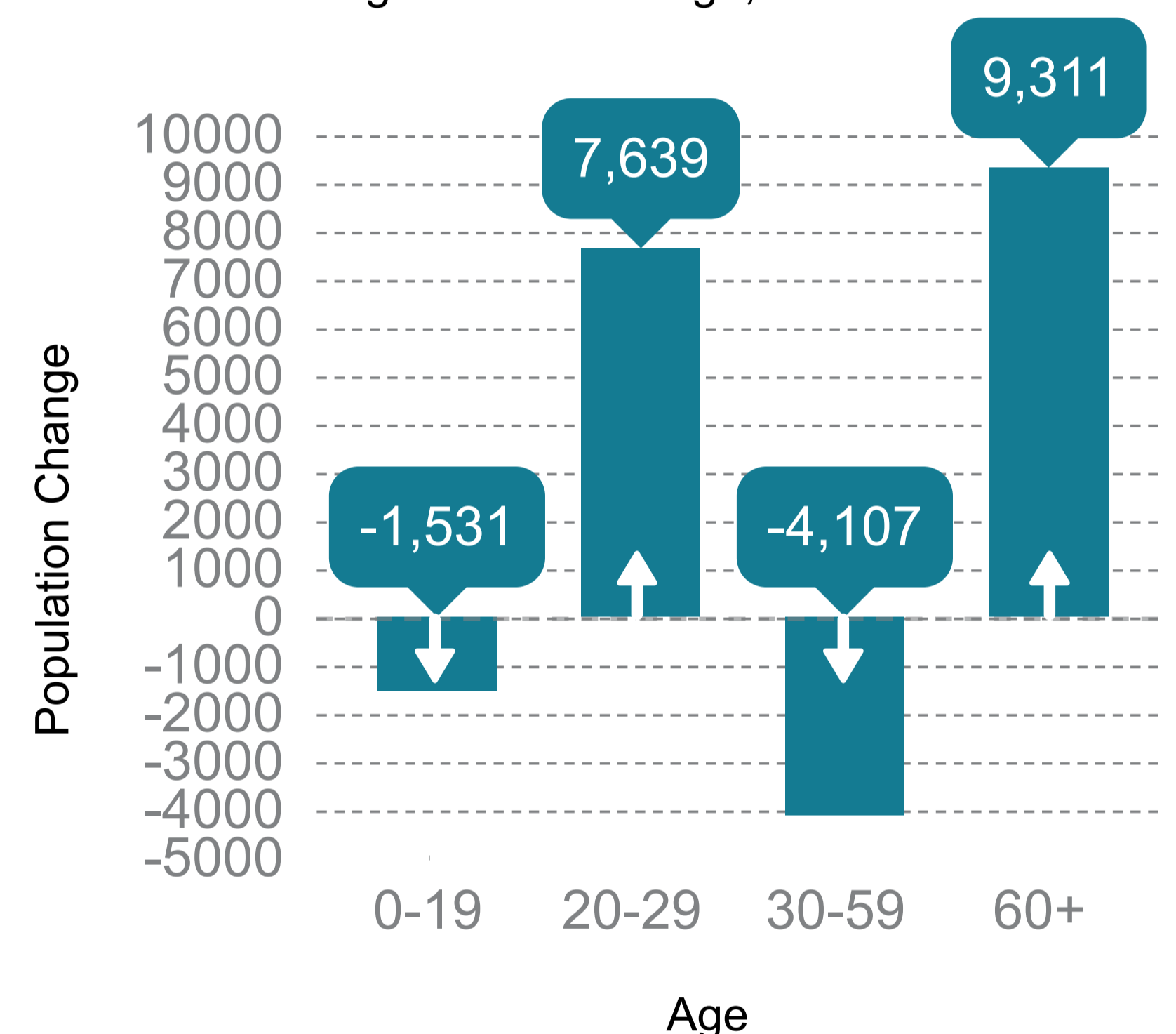
Housing is not affordable in Chittenden County and increasing numbers of workers are commuting from outside the county. Housing costs are considered affordable when they are 30% or less of household income.



Chittenden County is experiencing a decline in the workforce population due to demographic shifts.

Based on work from the Vermont Futures Project, we estimate a workforce gap of around 3,500+/year. It's important to note that New Americans are a growing sector of our population and are helping to meet some of our workforce needs.

Age Cohort Change, 2006-2016



ACTION ITEMS



Retain existing high wage employers and encourage more high wage jobs.



Equip our residents with the education and skills they need to thrive, and support workforce development by creating stronger links between education and career skills.



Support a campaign to build 3,500 new homes in Chittenden County by 2021 for people of all income, including 700 affordable homes, and strive for 75% of the Chittenden County workforce to live in the county.



Attract and retain workforce members through sustained efforts to address housing affordability, childcare affordability, new job development, social connectivity and quality of life amenities, with a focus on recent in- and out-of-state college graduates.



Support Smart Growth development to create and maintain livable communities that are appealing to businesses and residents.

A detailed project list can be accessed on Page 27 of the CEDS, located at: ecosproject.com/2018-ECOS-Plan

To learn more about the 2018 ECOS Plan, visit ecosproject.com/2018-ECOS-Plan.

ecos

A SUSTAINABLE FUTURE FOR CHITTENDEN COUNTY

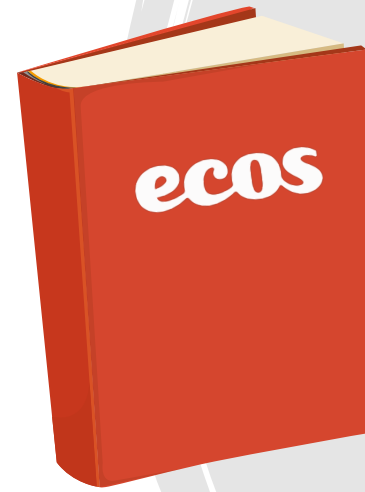
2018 Regional Plan

Part 3 of 3: TRANSPORTATION





The MTP is a document that identifies **strategies,** actions and projects that will lead to an integrated multimodal transportation system to facilitate the safe, efficient and clean (reduce dependence on fossil fuels) movement of people and goods. Funding allocations total \$1.8 billion through 2050. This is a surface transportation plan and does not address aviation or maritime issues.

What is the ECOS Plan?





Since 1976, the Chittenden County Regional Planning Commission has been producing a Regional Plan to protect the County's resources and guide its development. The ECOS Plan is the 2013 regional plan for Chittenden County and includes the Metropolitan Transportation Plan and the Comprehensive Economic Development Strategy. Learn more at ecosproject.com.



THE METROPOLITAN TRANSPORTATION PLAN:

-  Presents short, medium and long-term (2050) transportation strategies and investments for the region
-  Includes a financial plan identifying how it will be paid for
-  Measures transportation performance by establishing baseline data and comparing it to set targets
-  Discusses environmental mitigation due to transportation project impacts

The strategies strike a balance between:

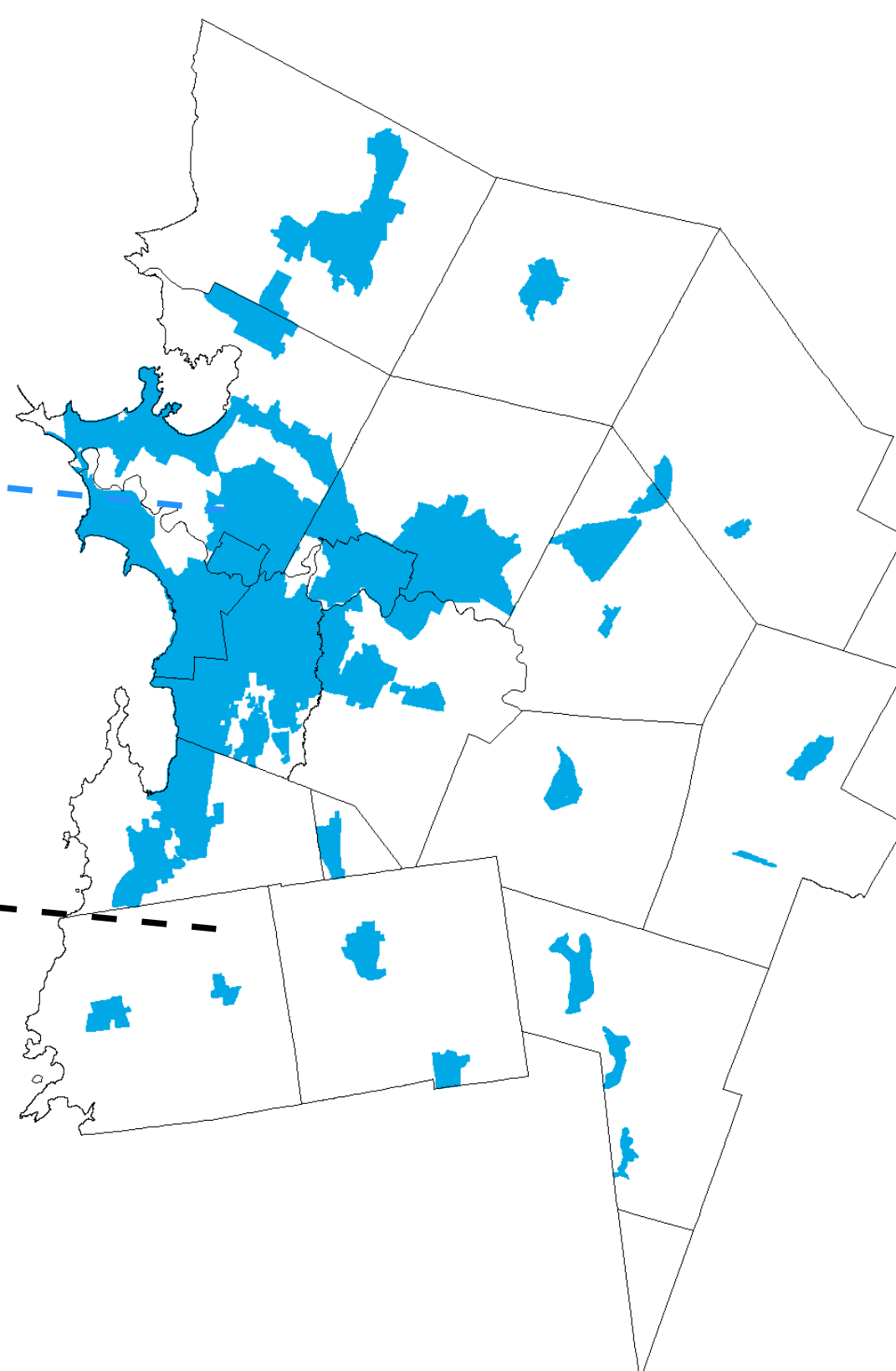
-  Reducing congestion
-  Improving safety: Fixing high crash locations
-  Enhancing walking, biking & transit
-  Increasing livability by investing in areas planned for growth

90%

of new construction to take place in areas planned for growth *

10%

in other areas



* Please note: The 2050 MTP model scenario includes 90% of future growth in the areas planned for growth due to the congestion and multi-modal benefits that result from this smart growth development pattern. This exceeds the ECOS Plan's growth strategy of 80% of growth in areas planned for growth. However, we have in recent years averaged 86% of growth in these areas.

MTP RECOMMENDATION HIGHLIGHTS



MAINTENANCE FIRST >> Keep what exists functioning adequately



TRANSIT ENHANCEMENTS >> More GMT buses running more often, and improved intercity passenger rail service



INTELLIGENT TRANSPORTATION SYSTEM INVESTMENTS >> Using technology to move traffic more efficiently



ACTIVE TRANSPORTATION NETWORK EXPANSION >> More and safer walking and cycling facilities



INTERSTATE IMPROVEMENTS >> 3 lanes in each direction on I-89 between Exits 14 & 15 (Burlington to Winooski)



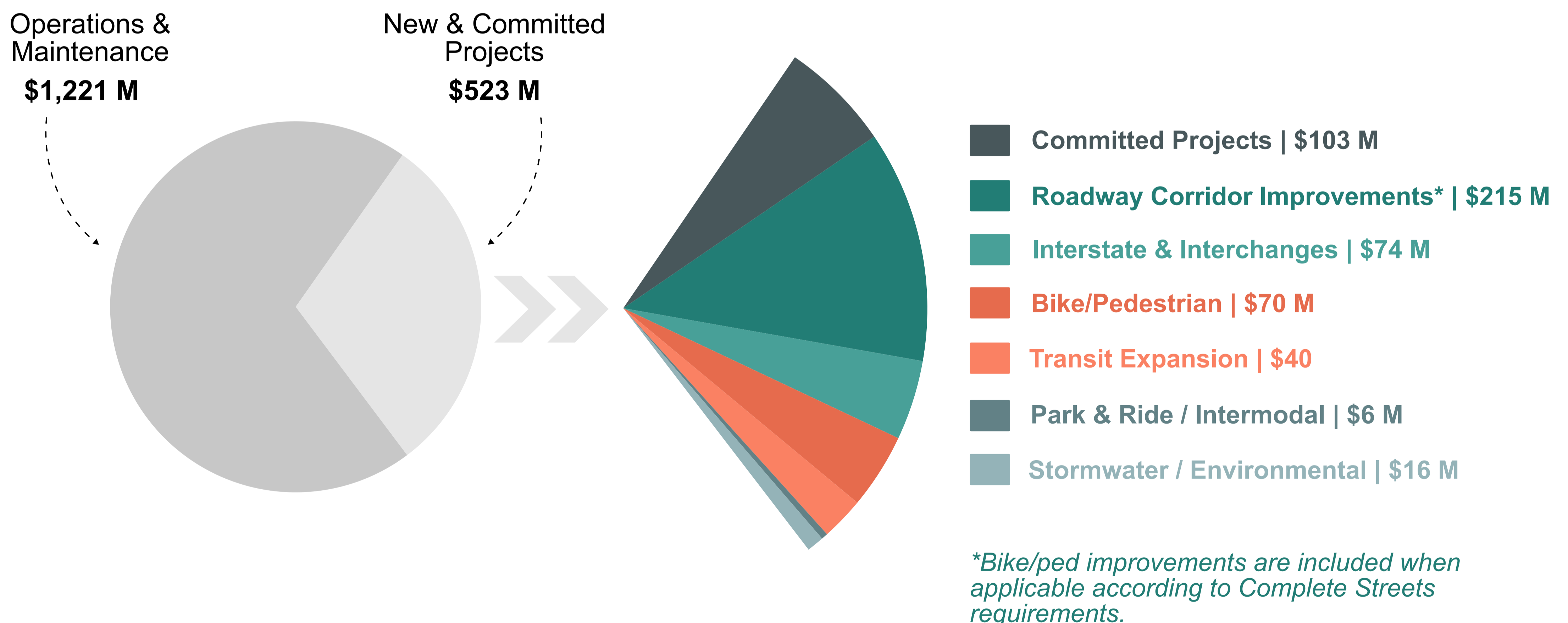
SELECT ROADWAY IMPROVEMENTS >> Addressing localized congestion and safety issues



CONCENTRATING LAND USE DEVELOPMENT >> In areas designated for higher densities

A detailed project list can be accessed on Page 80 of the MTP, located at: ecosproject.com/2018-ECOS-Plan

FUNDING BREAKDOWN



A NOTE ON AUTONOMOUS VEHICLES

The CCRPC uses a robust computer travel demand model to test a variety of future transportation and land use scenarios and compares the performance results among them. Nine different scenarios were modeled. Two such scenarios considered a car fleet switch over to fully autonomous vehicles, or AVs. At this point, it's too early to estimate the impacts of this technology. In the next few years we will monitor the advancements in this technology and more fully address it in our next MTP in 2023.

To learn more about the 2018 ECOS Plan, visit ecosproject.com/2018-ECOS-Plan.