



*Huntington House Inn, Rochester* | © John Knox

## A. State of the Economy in the TRO Region

The TRO Region is largely rural and sparsely populated, as is typical of most of Vermont. Its landscape and scenery provide numerous recreational and professional opportunities, and the Region's economy is a reflection of historical patterns of development and recent economic trends, both local and statewide. Regional occupations are diversified, capturing the professional, technical, service, manufacturing, and agricultural sectors. With this variety, the Region's economy is not dominated by a single business type. The Region's diverse business mix currently affords a reasonably good match between jobs and population.

Job growth in the Upper Valley Region has been modest, and unemployment in the Region has been relatively low. While low unemployment rates have their positive attributes, there are negative ones as well. Low unemployment can be regarded as a barrier for businesses looking to

expand or relocate to the Region because there may be concern that not enough skilled and available workers exist in the area.

Portions of the regional economy face favorable work conditions and offer attractive opportunities, while in others, low wage rates and weak income growth exists. This appears to push people into lower-level employment or into the job market when they may not otherwise choose it. Wage rates have been growing but still lag slightly behind the State as a whole. The economic challenge for the Region is to increase new and better wage jobs. It is in the Region's long-term economic interest to foster a business climate that will encourage the growth of businesses that are appropriately scaled to communities and provide high-paying, high satisfaction jobs.

The Region's land reflects many changes. The number of farms has increased marginally; however, the amount of farmland and the number of people employed in agriculture, silviculture,



*Randolph* | © First Light Studios

and other natural resource-dependent occupations has declined in recent generations. Today's land uses show more of a trend toward subdivision of agricultural and forest land, resulting in single or multiple home development geared toward middle- and upper-income buyers.

### How Towns View Themselves Economically

The towns in the TRO Region have developed in different ways economically. Their Town Plans reflect towns' similarities, differences, and interdependence. Some towns regard themselves as economic centers, while others celebrate their remoteness.

Several towns such as Barnard, Bridgewater, Granville, and Tunbridge have a low level of larger commercial development. There are many more small commercial operations in these towns

in the form of home-based businesses that are generally recognized in municipal plans. These towns' municipal plans state that they would like to see increased commercial activity so long as it does not adversely affect their rural character, natural resources, or local services. But for the most part, they do not propose specific policies that would help guide growth or protect special attributes. Town Plans that take a targeted approach to providing identified locations for traffic-generating businesses give potential business owners direction as to where they might fit within a community.

Some towns have remained rural because they are remote. These are the towns that are most distant from existing centers of development. It is possible that outward growth pressures from economic centers could reach more remote areas in the future, but it is unlikely to be substantial in any way without increased access to technology. In the meantime, home-based and small-scale businesses that process local products in towns that have access to transportation and/or high-speed Internet will be most likely to succeed in smaller towns.

Woodstock and Bradford define themselves as economic hubs and are seeking suitable locations for growth by encouraging diversification. Others such as Randolph and Hartford want to accommodate growth and increase their roles as regional employment, shopping, and service centers through improving infrastructure and services.

A number of towns are "bedroom communities" (such as Sharon, Royalton, Pomfret, Strafford, and Bethel) that provide housing opportunities for regional growth centers' workforces, such as the greater Hartford area and the Lebanon/Hanover area in New Hampshire. The general proximity to major highways I-89 and I-91 make them prime locations for workforce housing for employees of businesses in areas that have higher concentrations of available jobs.

## Existing Economic Conditions: The 2011 Comprehensive Economic Development Strategy and East Central Vermont Economic Development District Designation

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Our Comprehensive Economic Development Strategy (CEDS) is an economic roadmap plan designed to diversify and strengthen regional economies by helping to guide growth throughout the 40-town East Central Vermont Economic Development District that covers towns in both the TRO Region and the Southern Windsor County Regional Planning Commission Region. A CEDS is required by the U.S. Department of Commerce's Economic Development Administration (EDA) for districts to be eligible for planning and construction funds. TRORC has used this funding to help support work around the creative economy as well as health and wellness planning throughout the TRO Region. The dynamic process of developing a CEDS is heavily dependent on the coordinated efforts of regional planning and economic development organizations, town governments, interest groups, and private industries that are concerned about the economic development of a Region. In 2009, the ECV CEDS Steering Committee applied to the EDA for a designation as an economic development district (EDD), which was officially granted in December 2013. TRORC and the EDD partners updated the CEDS in 2011 and again in 2016. The current CEDS will need to be updated again in 2021.

The 2016 CEDS contains an increased focus on resilience to both economic shocks as well as climate related disasters. In addition, the CEDS also contains workforce development strategies through education, housing infrastructure, and quality of life improvements.

## B. Regional Challenges and Opportunity Areas for Economic Development

- Telecommunications
  - The TRO Region still lacks and needs access to fast, affordable, and efficient Internet, data, and cellular technologies to promote business growth and attract prospective employees. According to a Vermont Public Service Department January 2018 report,<sup>1</sup> nearly 9,000 buildings in Orange and Windsor Counties are underserved even for basic Internet speeds.
- Housing
  - Providing ample workforce housing, in both rental and home buyer markets, is key to meeting the needs of the TRO Region's workers.
- Sewer and water supply
  - While some areas in the Region have ample infrastructural capacity to handle any anticipated growth, only 9 of the Region's 30 towns currently have both municipal water and sewer services for residents. Expansion and updates to existing services and the creation of such systems in other village and town centers will aid in economic growth and in attracting new businesses.
- Retention and expansion of existing businesses
  - Numerous employers have closed their businesses in the Region, particularly in the wake of the 2008 recession and Tropical Storm Irene. Increased efficiency, knowledge about the market, financing opportunities, and better business and entrepreneurial practices will improve business vitality.
- Workforce development
  - Local businesses often report that they struggle to find applicants for their jobs, which may be due to lack of nearby housing opportunities and services and the low

wages that they are able to offer, as well as a lack of qualified workers.

- Identification of needed businesses
  - It is unclear in many instances what market gaps there are for new businesses. These need to be identified to boost local economies.
- Existing buildings and brownfields
  - A better understanding of sites that may be suitable for reuse or redevelopment as new business headquarters or for the expansion of existing businesses is needed in core town and village locations. Utilizing appropriate grant funding such as EPA brownfields funding toward the revitalization process can help communities and business owners defray costs. A thorough inventory of vacant lots and underutilized parcels and reclamation of old properties where possible are both needed to promote infill development in downtowns.
- Plans and permitting
  - Lack of clarity or ambiguity in municipal plans makes it difficult for town officials, residents, and developers alike to properly discern which locations are most desirable for new business growth as well as what type of growth is preferred. Further, inconsistencies between some municipal plans and their corresponding implementation bylaws also confuse those making investment decisions.
- Transit and transportation
  - There is a distinct lack of public transit between many of the Region's towns and the regional growth centers, which makes commuting difficult. High transportation costs (i.e., owning and maintaining a vehicle and paying for gasoline) are prohibitive for many and may compound poverty.
- Tourism
  - The tourism industry needs to continue efforts that promote attraction

diversification, showcasing the myriad spring and summer recreational, scenic, and artistic tourist opportunities that our Region has to offer in addition to the more ubiquitous autumn "leaf peeping" and winter sport seasons that many tourists commonly associate with Vermont.

- Creative Economy
  - The full scope of the creative economy is defined as the sum of these two measures: (1) people employed in creative industries and (2) those employed in creative occupations that are not in creative industries. The creative industries as identified in the Region's creative economy report were broken into seven segments: visual arts and crafts, media and digital arts, design and fashion, performance arts, literary arts, museums and cultural heritage, and artisanal foods. Employment in the creative industries is about 8.9 percent of the Region's total employment. Employment in the Region's creative industries grew 10.2 percent from 2010 to 2015, versus 8.2 percent for the U.S. and 7.6 percent for Vermont as a whole. The Vermont Arts Council has set up the Vermont Creative Network, which has divided the State into six different regional zones. The Cornerstone Creative Community of Vermont (3CVT) is the regional network that serves Orange and Windsor Counties.
- Value-added agriculture and forest products
  - While opportunities exist in the Region for food production, raw wood products, lumber, and craft furniture production, these businesses could experience a renaissance, particularly with the aid of enhanced coordination amongst business owners. Gaps in the market should be targeted more effectively to drive growth in areas that are underserved. Refer to the Working Landscape chapter for more detail.

- Local Economy
  - The TRO Region has strong social capital that is supported through its many development organizations such as chambers of commerce, Green Mountain Economic Development Corporation, and local nonprofits such as BALE (Building a Local Economy). BALE is a community resource center for local economy initiatives in the White River Valley. Through their programming, BALE focuses on advancing cooperative models, strong local food systems, localized energy initiatives, and creating local investment and exchange models to increase regional resilience over time.

## C. Workforce Composition

A workforce is defined as all adults aged sixteen years and over who are currently employed, are actively pursuing employment, are not held in an institution (for incarceration, mental health, or other health-related reasons), or are not enlisted in military service. The workforce does not typically include those who are full-time students unless they happen to work while in school. It also does not necessarily take into account those who may consider themselves outside of the labor force after losing a job or being unemployed for a prolonged period. Additionally, people who work on a cash-in-hand basis, such as many child-care workers, are not included.

### Size of the Workforce

According to the Vermont Department of Labor, the Region's workforce increased at an approximate rate of 0.9 percent between 1990 and 2000. This growth rate is close to that seen at the state level over the same period (0.8%). Unlike the State, however, the TRO Region averaged 1.0 percent growth in workforce numbers between 2000 and 2010, even with the impacts of a severe

economic downturn, while the entire State of Vermont only managed 0.7 percent growth over the same period. In real terms, this amounts to 2,520 workers added to the state workforce per year during the 2000s. During this time, 380 workers entered the TRO Region, which constitutes 15 percent of all added workers in Vermont.

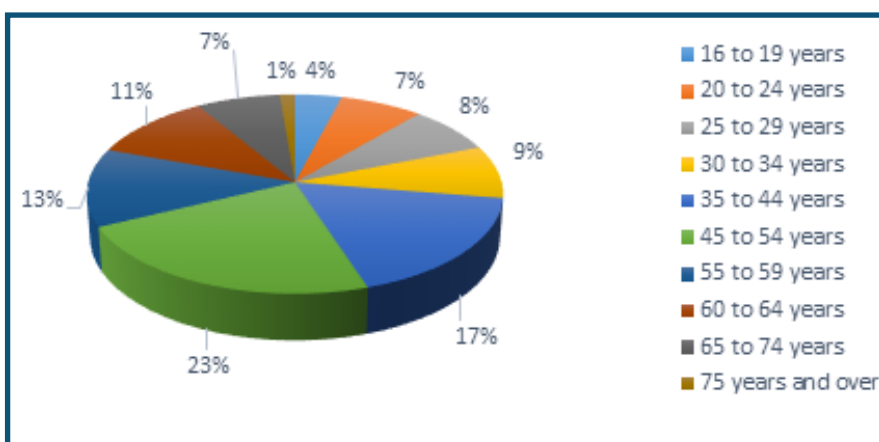
According to data for the two decades from 1990 to 2010, over half of the individual towns in the Region experienced less pronounced workforce growth than the Region as a whole. The spread of towns impacted by these lower growth numbers runs the gamut of towns with access to major highways (I-89 and I-91), towns that are not in close proximity to such roadways, and towns that have municipal infrastructure such as sewer or water and access to broadband Internet.

### Age of the Workforce

The TRO Region saw significant shifts in certain workforce age groups between 2010 and 2012, according to census and American Community Survey (ACS) figures. The Orange and Windsor County area saw a decline of about 1,700 people in the workforce between 2010 and 2016.

Unfortunately for the Region, the age group between 16 and 44 lost almost 2,000 people with a gain of 300 people in the 44+ age group. A steadily aging workforce is already upon the State, as the Baby Boomer generation enters

**Figure 12-1: Orange and Windsor County Workforce Participation**



Source: 2011-2016 American Community Survey 5-Year Estimates

retirement. Having a young workforce capable of replacing the established workforce will ensure economic vitality for the Region in the long term.

At present, the majority of workers in the Region are in the 45 to 54 year age bracket. More than half of the current workforce is age 45 or older. Trends suggest that a substantial share of these people will no longer be in the workforce in the 2020s. How the Region will fill vacant positions while simultaneously driving additional job growth is a concern, since the Region currently lacks thousands of younger replacement workers.

### Educational Attainment and Workforce Training

A well-educated workforce bodes well for having a skilled workforce capable of attracting higher-paying, specialized jobs to our 30 towns. As of 2013, the majority of residents over the age of 18 had completed, were pursuing, or had pursued higher education qualifications beyond a high school diploma (nearly 61 percent). Of those 25 and over, 44.5 percent have completed an associate's, bachelor's, graduate, or other professional degree. This is an increase of 7 percent in the twelve years between 2000 and 2013 alone. The State, in contrast, has a slightly higher percentage of individuals who have earned these qualifications but has witnessed a decline in higher education attainment in recent years. The Region's level of educational attainment is much higher than the rest of the country. Only 33.6 percent of the nation's populace have attained these qualification levels.

As previously mentioned, many industries, most notably the manufacturing sector, routinely struggle to find qualified workers. This problem is multifaceted in that it reflects a small qualified workforce, an inability to retain and train from within local communities to fill positions, and the struggle employers face to recruit from outside the Region. According to findings presented in the 2014 Upper Valley Workforce Needs Assessment, developed by the Green Mountain Economic Development Corporation (GMEDC),

### A Snapshot of Workforce Development Opportunities in the TRO Region

- GW Plastics launched its School of Tech in January 2015 in conjunction with the Randolph Union High School. It will provide high school students with a comprehensive, hands-on course to help equip the next generation of workers with the skills needed to pursue a career in manufacturing.
- Vermont Technical College, in collaboration with GMEDC, offers a four-year Advanced Manufacturing Apprenticeship program. This program helps local manufacturers meet growing workforce needs.
- The Vermont Academy of Science and Technology (VAST), taught at VTC, provides local high school students with a chance to partake in an alternative senior year, where students can complete their senior year of high school while earning credits toward their first year of college.
- The Vermont Strong school program, created by the State Legislature in 2014, will allow students in qualifying engineering and IT degree programs to receive loan forgiveness for their final year of degree studies.

*Source: Green Mountain Economic Development Corporation, 2015*

three key industry areas that require skilled workers are the health care and social assistance sector; manufacturing; and professional, scientific, and technical services industries. An assessment of these three sectors revealed a need for employees in the following fields: computer systems analysts, health educators, licensed vocational and practical nurses, pharmacists, physicians, industrial production managers, mechanical engineers, and more generally,

individuals with a background in science, technology, engineering, and mathematics (STEM subjects).<sup>2</sup> There are many workforce development and training programs throughout the State that are run through the Agency of Commerce and Community Development (ACCD), Department of Labor (DOL), and Agency of Human Services through the statewide community action agencies. ACCD provides programs such as Vermont Talent Pipeline Management for employers in health care, construction, and manufacturing to analyze the supply and demand of their desired employees. The Department of Labor has programs that are geared toward the individual job seeker to assist them through process. More information on these and many other programs provided by state and local partners can be found at the following links:

- <https://accd.vermont.gov/economic-development/programs>
- <http://labor.vermont.gov/workforce-development/>
- <http://humanservices.vermont.gov/community-partners/cp-community-action>

Knowing that there is a pronounced need for employees in particular industry sectors satisfies only one piece of the employment puzzle. While the needs have been identified, there still remains an issue of filling vacancies with qualified individuals, both from within and outside of the existing workforce pool. Finding employees from within the Region may prove difficult if recruits lack the professional experience or education necessary to fulfill job duties. Resources such as the Pathways to Promising Careers help individuals identify high-paying, high-growth jobs throughout the State that match their academic experience.<sup>3</sup> With respect to recruitment from outside the Region, though, there are a number of factors contributing to difficulties in finding nonlocal recruits for work, including the cold climate; lack of metropolitan opportunities; difficulty in finding spousal employment; lower pay and higher housing costs (relative to more urban areas); and overall lack of ethnic diversity.<sup>4</sup>

Retaining the Region's existing workforce pool is of the utmost importance, particularly for our younger residents fresh out of high school or college. Further findings from the Upper Valley Workforce Needs Assessment point to the desire to strike out on one's own and explore as being inducement enough to experience life outside of Vermont, even if only temporarily. However, one of the primary reasons for leaving the TRO Region is the allure of better job prospects, often near more metropolitan areas. Many may also feel they generally lack the requisite skills for the work that is believed to exist within the Region. To counter that pull, many businesses have begun to invest more time in on-the-job training to equip less-qualified but local recruits with the hands-on and management skills that are needed within their companies. For most employers, any hire is a risk until new employees have been vetted for an initial period to test professional strengths and weaknesses. Growing a seasoned workforce through on-the-job training aids this process, and some employers have created apprenticeship opportunities as a means of filling regional workforce gaps.

Another way to bolster educational opportunities for the Region's burgeoning and existing workforces is to promote the creation of continuing adult education opportunities throughout the Region. The workforce needs experience with learning day-to-day job skills but also with more general business and personnel management skills. Training in these areas can be in the form of practical on-site job training opportunities or courses and accreditation programs outside of the workplace that supplement existing job skills.

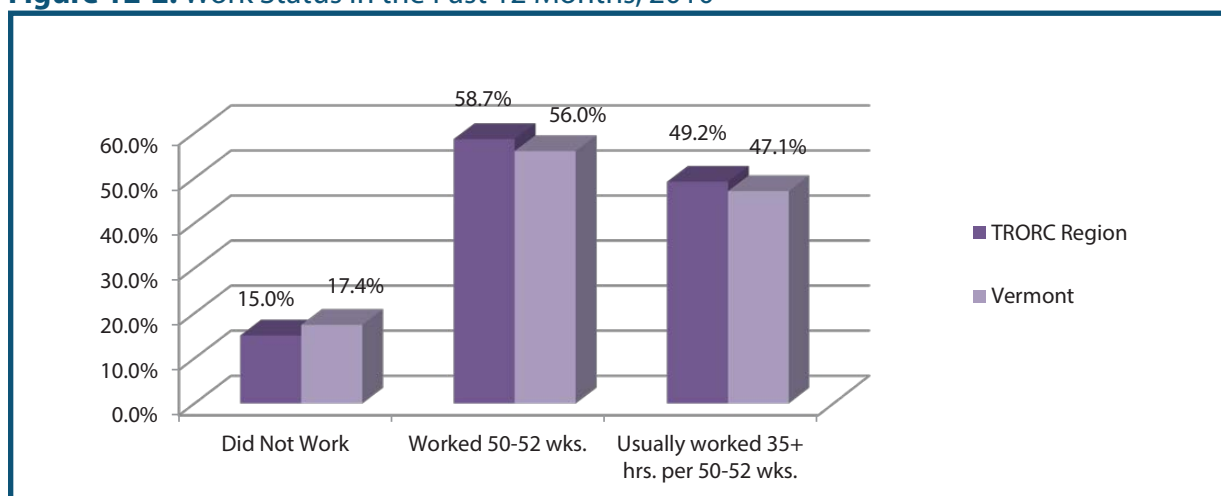
## D. Employment Sector Characteristics

### Employment Rates

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According to U.S. Census Bureau data from 2010, of the population aged 16 to 64, 58.7 percent worked a total of 50 to 52 weeks out of the year,

**Figure 12-2: Work Status in the Past 12 Months, 2010**



Source: U.S. Census Bureau, 2010 American Community Survey

while 15 percent were not participants in the workforce. Of those who were in this workforce age demographic, 49.2 percent worked an amount equal to or in excess of 35 hours per week. Compared with state figures, towns in our Region cumulatively have more workers that are regularly working full time than Vermont does as a whole. Additionally, TRO Region towns have a lower percentage of individuals aged 16 to 64 who are inactive in the workforce.

Unemployment is defined to include individuals 16 years or older who are available and eligible to work and have been job seeking in the four weeks preceding a survey by the Department of Labor. While a number of towns in the Region have seen increased levels of unemployment, most towns saw positive growth in workforce numbers over the past two decades, with Rochester being an exception (partly attributable to population declines and employment losses).

### Income Levels

Per capita income increased for Orange and Windsor Counties in 2016, the most recent year for which data is available. Windsor County has a higher per capita income than the state average and is the third highest out of the 14 counties in Vermont. While income increased in Orange County at a rate higher than the state

or national average as well, it is still one of the lowest in Vermont, ranking tenth. As incomes are increasing in the TRO Region, the number of households on state public assistance programs is continuing to decrease.

**Table 12-1: Per Capita Income**

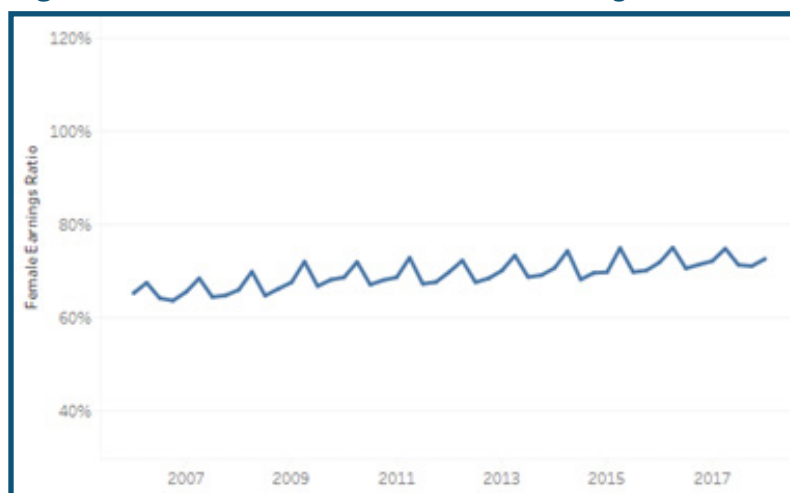
Indicator	2016	Change from 2015	Change from 2010
U.S.	\$49,246	1.6%	22.2%
Vermont	\$49,984	2.2%	22.1%
Orange County	\$43,531	2.0%	18.5%
Windsor County	\$53,186	2.1%	20.9%

Source: Vermont Department of Labor

In January 2018, 4,998 households, representing just above 14 percent of those in Orange and Windsor Counties, were enrolled in Vermont's cash assistance programs, which assist those below recognized income levels. The communities with the highest percentage of households that receive benefits are Bradford and Corinth. Each of those towns has more than 19 percent of their households involved in public assistance programs.

An overview of the U.S. gender wage gap demonstrates a substantially decreased but

**Figure 12-3: Vermont Female-to-Male Earnings Ratio**



Source: Vermont Department of Labor, "Earnings and Jobs by Gender"

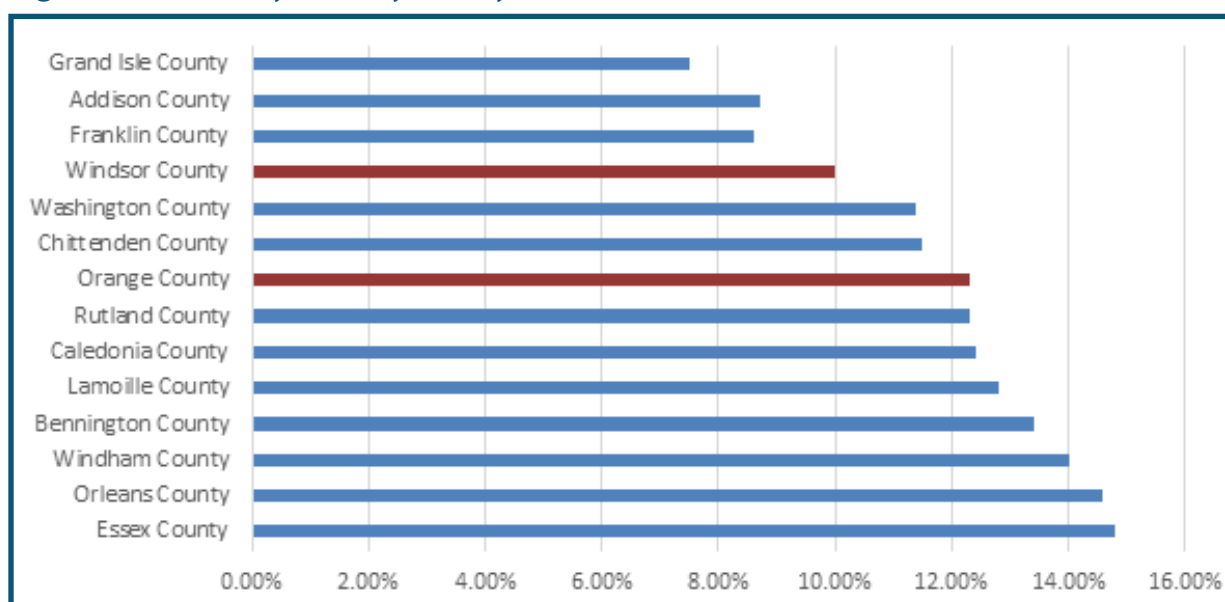
persistent wage gap between women and men. The erosion of the gap is considerable, yet progress has been nonlinear. Advancements in education, workforce participation, and higher-paying occupations, in conjunction with an increasing wage rate among women, have significantly narrowed the gap since the 1970s. Despite these gains, the rate at which the gender wage gap has declined has stalled. Since the early 2000s, the female-to-male earnings ratio has fluctuated between 79 percent and 83 percent.<sup>5</sup> In Vermont, the earnings ratio between 2007 and

2017 has risen from the mid-60s to low and mid-70s. Employers addressing the gender wage gap will help lower the number of women who are experiencing poverty or economic insecurity as well as raise the fixed incomes of elderly people when they reach retirement.

### Poverty

According to 2016 American Community Survey (ACS) data, Vermont has a poverty rate that stands at 11.6 percent. At a local or regional level, it is very difficult to meaningfully determine poverty levels. That said, basing poverty on federal data does not always accurately represent the entire picture of poverty in the Region. The federal poverty line is calculated off of the price of food and does not take into account the proportion of family income spent on housing and transportation, which is particularly high in the TRO Region. Further, it fails to consider certain forms of income such as capital gains or income earned outside of the standard employment sector (i.e., earnings made "under the table").

**Figure 12-4: Poverty Rates by County, 2016**



Source: 2011-2016 American Community Survey 5-Year Estimates

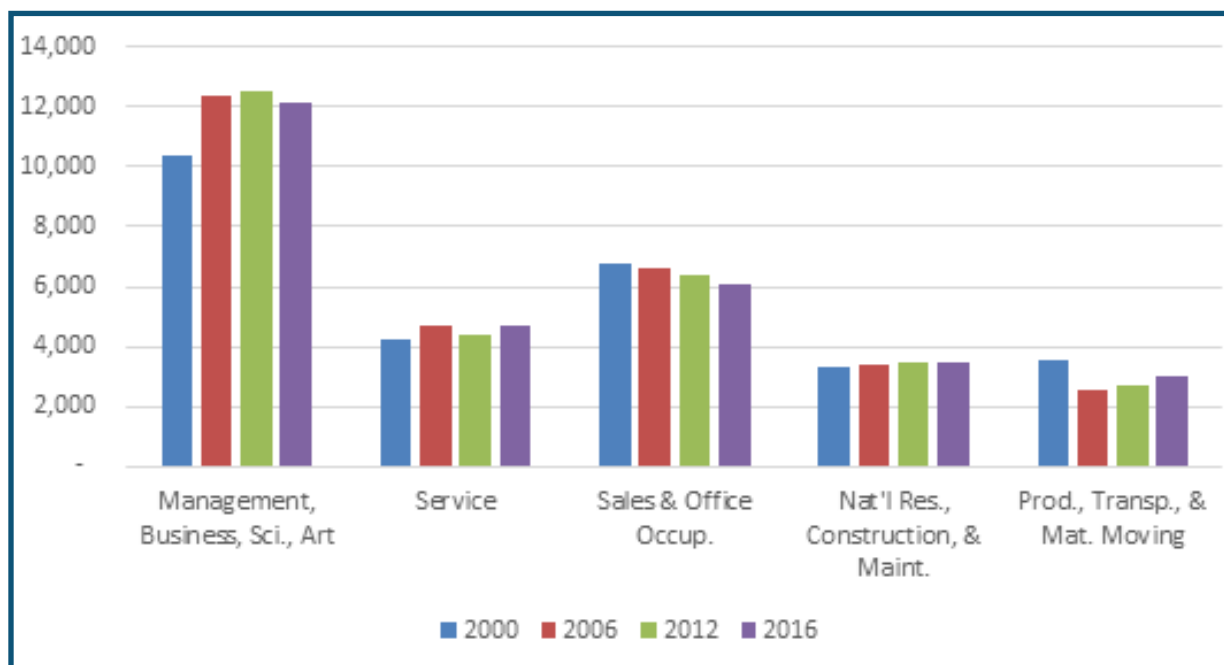
Compared with other counties in the State, the TRO Region is not beset by the highest rates of poverty when considering all age groups (see Figure 12-4). However, that statement is not meant to minimize the level of poverty in our Region, particularly in Orange County, where poverty rates in 2016 stood at 12.3 percent. Additional anecdotal evidence from the Upper Valley Haven, the Region's only homeless shelter, speaks to an increase in the depth of poverty in the Region. The homeless shelter's services have come under increasing demand in recent years, especially from families. This is directly related to the interaction between the Region's increasing housing costs and its stagnant wages, as described by the Vermont Housing Finance Agency in their *Housing and Wages Report*.<sup>6</sup> Without reversing these trends, the Region will continue to see rising numbers of both individuals and families slipping into poverty or increased numbers of residents emigrating to more affordable areas.

## Employment by Occupation and Industrial Sector

Occupational opportunities have changed significantly in recent decades, and common occupations now include a range of administrative, management, and sales opportunities. The 1980s were a period of decline for manufacturing jobs throughout the Region and were simultaneously a time of growth in the areas of construction, financial services, real estate brokerage, and retail trade.

While the Region has historically been known to host largely agrarian jobs or timber and resource extraction work, that trend shifted dramatically over the past century. As can be seen in Figure 12-5, nearly 41.3 percent of the Region's jobs fall within the managerial, business, science, or art occupational sector, whereas jobs in the natural resources, construction, and maintenance occupational sector now account for only 11.7 percent of all jobs in the Region. The managerial, business, science, or art occupation sectors grew by 17 percent between 2000 and 2016, while all other sectors have witnessed significantly lower growth or outright declines. Indeed,

**Figure 12-5: Employment Numbers across Occupational Sectors, 2000-2016**



Sources: Selected Econ. Char., 2000 Census; Selected Econ. Data, 2006-2010, 2008-2012 & 2011-2016 American Community Survey

production, transportation, and materials moving occupational sector jobs declined by 16 percent between 2000 and 2016.

The educational and health services industry sector continues to have a major impact on the growth of the Region's jobs. This is largely attributable to the existence of major regional medical service centers (notably Dartmouth-Hitchcock and Gifford Medical Center) and academic institutions (all of the municipal and private schools, as well as higher education institutions like Dartmouth College, Vermont Law School, and Vermont Technical College).

### Agriculture and Silviculture

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Only 3.5 percent of all the Region's 29,394 jobs in 2012 were in the agricultural, forestry, fishing, or hunting industries. The State, in contrast, has only 2.7 percent of jobs in those industries. From 2000 to 2012, though, there was a 1.7 percent increase in agricultural, forestry, fishing, and hunting jobs within the Region. There are a range of farms in the TRO Region, some strictly agricultural, some raising livestock, and others that are dairy farms, all of which dot the primarily rural landscape of our 30 towns.

The 2012 Census of Agriculture produced by the USDA reported that Orange and Windsor Counties have seen an increase in the number of farms since 2007. Orange County has seen a robust increase of 9.5 percent in the number of farms since 2007, whereas Windsor County has seen much more modest growth, at a rate of 0.13 percent. There is an even greater disparity in the revenue seen in either county, as can be seen in Table 12-2, with Orange County farms earning over double the average earnings of farms in Windsor County.

Dairy remains a multimillion-dollar industry in both Orange and Windsor Counties, accounting for 62.8 percent of farm revenue for Orange County and 40.6 percent for Windsor County. Additionally, the USDA captured how much revenue was derived from organic commodities

for 2012, with 13.6 percent of Orange County's revenue and 6.5 percent of Windsor's. The majority of farms in both counties (90.7% in Orange County and 79.8% in Windsor County) earned an amount in excess of \$50,000 in 2012.

There were 1,589 documented farm workers in 2012, with 791 in Orange County and a further 798 in Windsor County. The majority of farms operated with only one or two workers in each county (62.0% in Orange County and 49.1% in Windsor County). The median farm size for both counties combined is 75 acres, and only 27.5 percent of the farmland in both counties was used for food crop growing. A further 20.3 percent of farmland in both counties is used for growing forage crops for livestock.

With respect to the silviculture industry and value-added wood products, there are many major regional employers that rely on forestland products, such as Copeland Furniture in Bradford and the Pompanoosuc Mills Corporation in Thetford, each with a workforce varying between 100 and 249 people. Numerous smaller operations exist too, such as local sawmills and lumberyards, maple sugaring businesses, Christmas tree farms, and furniture producers. As noted in the TRORC Regional Forest Stewardship Report from 2012 (see Appendix I), there are a number of other smaller forest-related businesses in our Region:

- Britton Lumber (Fairlee)
- Shackleton Thomas (Bridgewater)
- Lumberjack Lumber (White River Junction)
- Redstart Forestry (Corinth)
- Baker Lumber Co. (White River Junction)
- David Hurwitz Originals (Randolph)
- GMC Hardwoods, Inc. (Norwich)

### Tourism

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No exact numbers exist to show how many people in the Region work specifically in jobs catering to tourist needs; however, if we combine the number of individuals working in entertainment, the arts, recreation, and food services with those working in the retail trade, roughly 21 percent of the

**Table 12-2: 2012 Agriculture Data**

<b>Market Value of Agricultural Products Sold (Incl. Direct Sales)</b>		
	Orange Co.	Windsor Co.
Farms, 2012	748	768
Farms, 2007	683	767
Total sales (\$1k), 2012	\$ 53,540	\$ 22,416
Total sales (\$1k), 2007	\$ 43,292	\$ 24,978
Average per farm, dollars, 2012	\$ 71,578	\$ 29,187
Average per farm, dollars, 2007	\$ 63,385	\$ 32,566
Percent farms with sales over \$50k, 2012	90.7%	79.8%
Farms growing crops (incl. nursery and greenhouse crops), 2012	476	472
Farms growing crops (incl. nursery and greenhouse crops), 2007	394	435
Livestock, poultry, and their products	422	379
** Milk from cows, farms, 2012	101	43
** Revenue from dairy farms, 2012 (\$1k)	\$ 33,647	\$ 9,095
Value of products sold directly to individuals for human consumption, 2012 (\$1k)	\$ 2,109	\$ 2,556
Value of products sold directly to individuals for human consumption, 2007 (\$1k)	\$ 1,580	\$ 1,948
<b>County Summary Highlights, 2012</b>		
Land in farms, acres	105,234	101,362
Average size of farm, acres	141	132
Median size of farm, acres	76	74
Total crop land, farms	511	465
Total crop land, acres	33,207	23,585
Percentage of farm acres for crop land	31.6%	23.3%
Forage – land used for all hay and all haylage, grass silage, and greenchop, farms	345	325
Forage – land used for all hay and all haylage, grass silage, and greenchop, acres	24,157	17,797
Percentage of farm acres for forage	23.0%	17.6%
<b>Hired Farm Labor – Workers and Payroll, 2012</b>		
Number of hired farm workers	791	798
Total payroll (\$1k)	\$ 6,785	\$ 6,683
Farms with 1 worker	65	62
Farms with 2 workers	72	52
Percentage of farms with only 1 or 2 workers	62.0%	49.1%
<b>Organic Agriculture, 2012</b>		
USDA National Organic Program certified organic production, farms	52	20
USDA National Organic Program organic production exempt from certification, farms	7	13
Value of sales of certified or exempt organically grown commodities (\$1k)	\$ 7,255	\$ 1,458

Source: USDA Census of Agriculture, 2012

Region's workforce may directly (or tangentially) have a part in the Region's tourism industry. As such, the tourism industry still remains a key component to the Region's financial success. There is not simply one tourist attraction that is the anchor for the entire Region; rather, there are a multitude of year-round opportunities that visitors flock to the Region to explore and partake in.

Whether it is a cavalcade of leaf peepers descending upon our Region in autumn; skiers, snowboarders, and snowshoers traversing the landscape in the winter; or fishermen, hikers, and cyclists in the spring and summer months, the TRO Region has a wide range of recreational opportunities for tourists of all stripes throughout the year. Additionally, the cultural and artistic heritage of the Region cannot be overlooked. The breadth and depth of the history in the Region and the skilled craftsmanship displayed by so many makes the Region a draw for tourists seeking quality fine art, sculpture, pottery, and countless forms of value-added products. The extensive opportunities to sample locally produced food stuffs, including a wide range of artisanal cheeses and beer, is part of a larger niche market that draws on the local craft

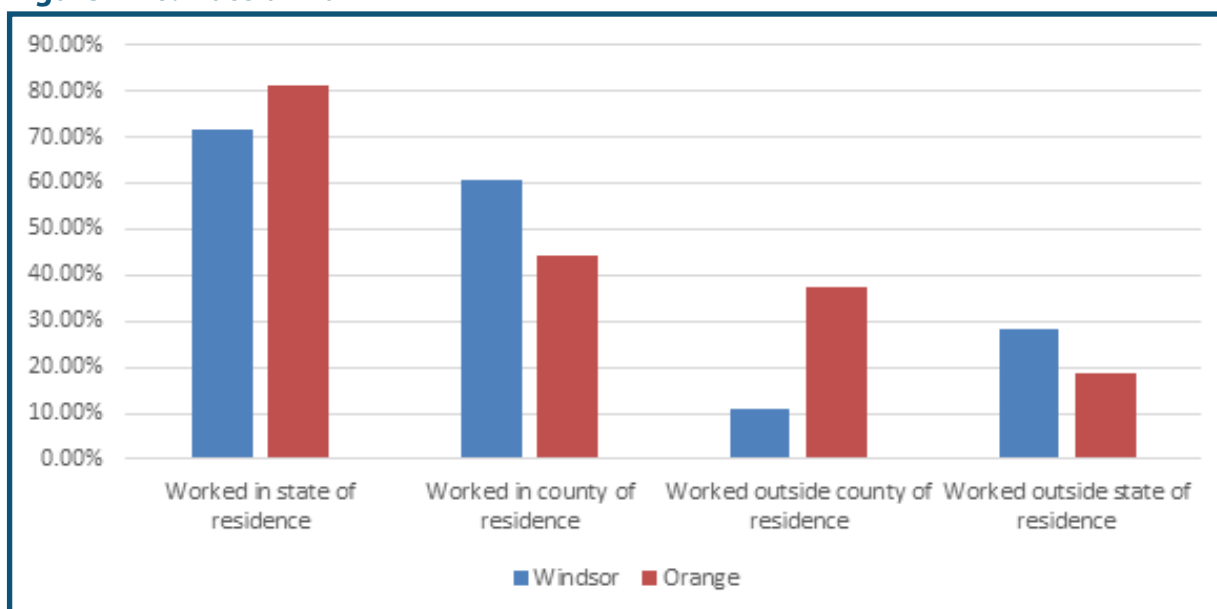
food and drink movement that has become a cornerstone of the Vermont brand.

A key area of concern with the tourism sector is the need to ensure that all areas within the Region are capable of diversifying their economies to attract visitors on a season-to-season basis instead of attracting a niche tourist base at only certain times of the year. Further, ensuring that the tourism industry is equipped to face future impacts from climate change head-on is critical to ensuring business continuity and financial and economic resiliency. This is of particular importance with respect to the winter sport industry, as it is most vulnerable to increasing temperatures and reduced snowpack levels.

### Employment Centers and Commuting

The TRO Region has two major high-opportunity areas that are designated as having the strongest job markets, infrastructure, services, and educational institutions. These areas cross state lines and are key drivers for economic development and growth for the overall Region. The two major areas within and around our Region are the Randolph area and the area encompassing the towns of Hartford and Norwich

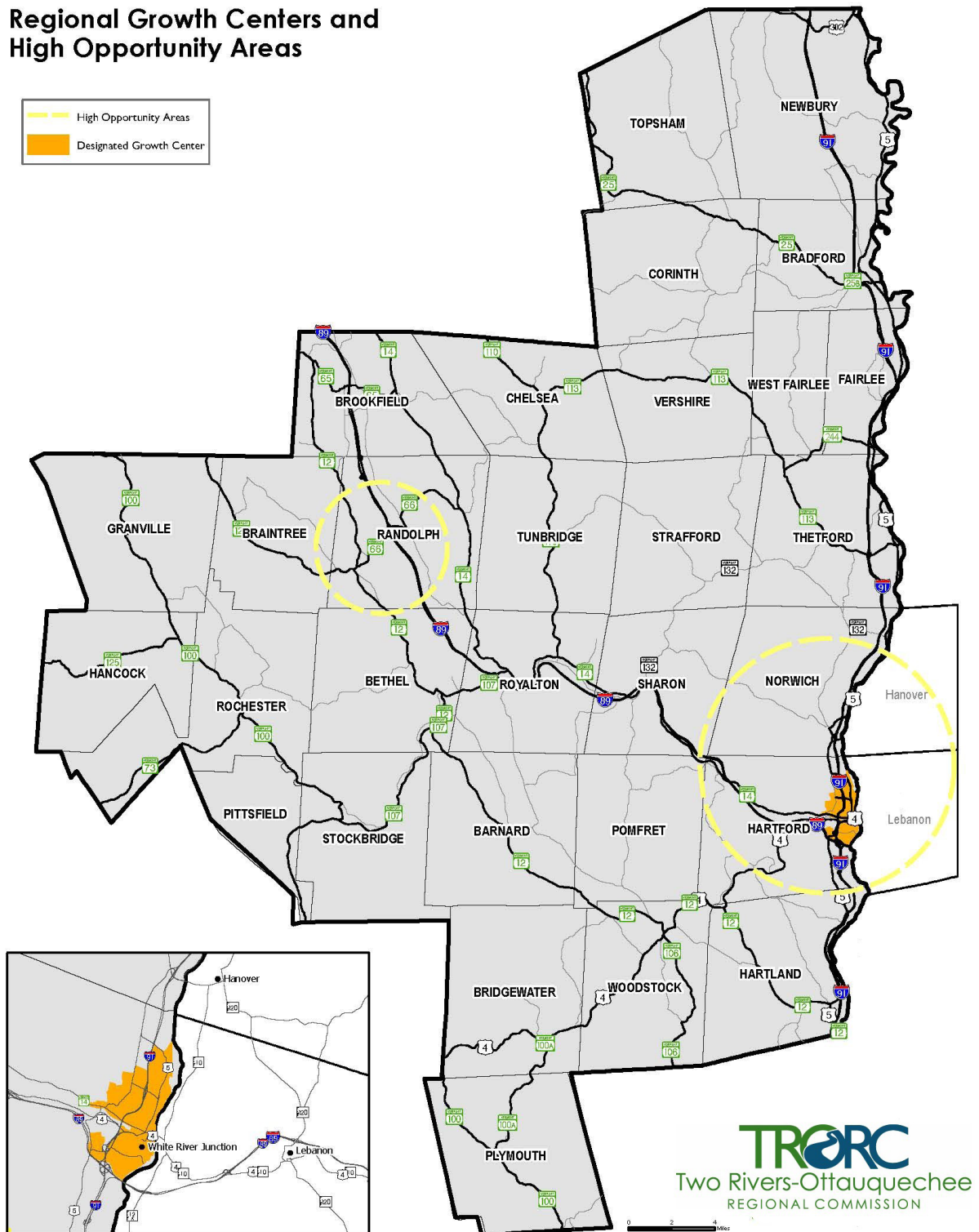
**Figure 12-6: Place of Work**



Source: *Commuting, 2011-2016 American Community Survey*

**Figure 12-7: State Designated Growth Centers and High Opportunity Areas**

### Regional Growth Centers and High Opportunity Areas



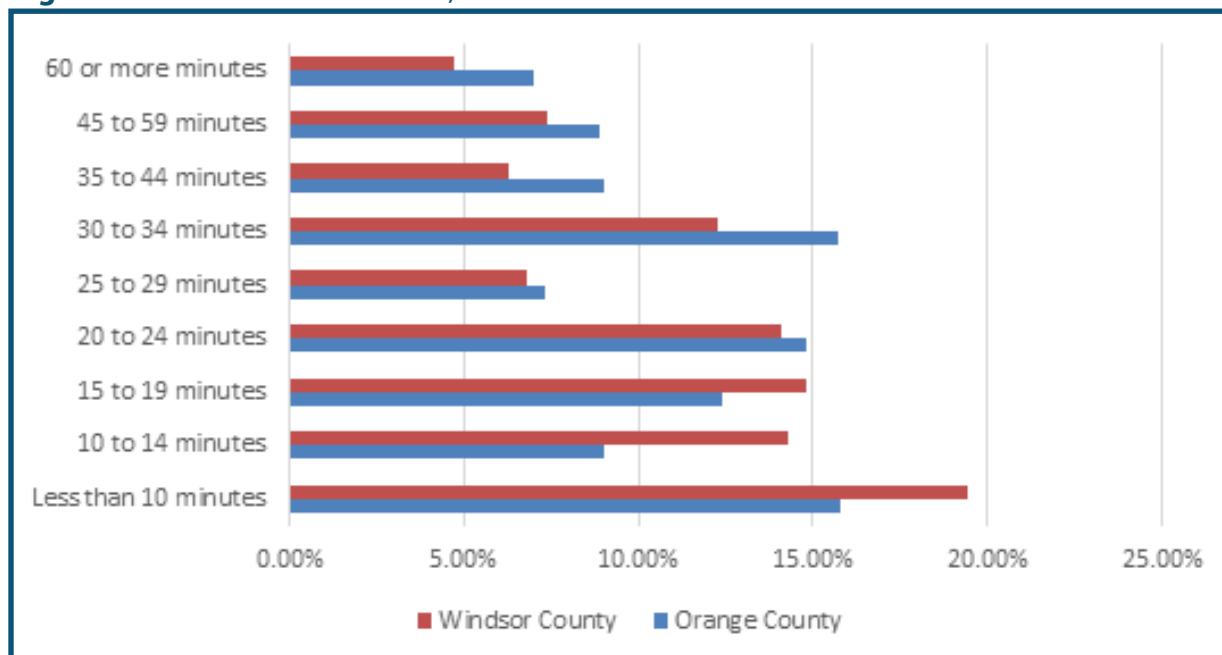
within the TRO Region and the towns of Lebanon and Hanover across the Connecticut River in New Hampshire (see Figure 12-7). As a consequence of the latter grouping of towns in particular, our regional economy is intricately interwoven in the fabric of the greater Upper Valley Region. Indeed, the Region is part of the Lebanon-Claremont (NH) Micropolitan Statistical Area, per the U.S. Census, denoting the cross-border relationship between TRORC's 30 towns and those in the adjacent towns of neighboring New Hampshire.

Many residents in the Region routinely travel outside of their town limits for recreational, shopping, and work opportunities, particularly to the high-opportunity areas that provide a wider array of goods, services, and employers than do many of the small towns and villages in the Region. The high-opportunity areas are where job markets, infrastructure, schools, and services are the most extensive and strongest. Indeed, with respect to jobs, 28.3 percent of workers in Orange County and 10.8 percent of workers in Windsor County are employed outside of their respective county of residence. Due to the nature of the Region being part of the two-state Upper Valley region, 19 percent of Windsor County workers

and 28 percent of Orange County workers are employed outside of Vermont. These rates far exceed those seen at the statewide level, largely due to the ease of access to these outside work markets.

Most towns in the Region are within close distance of major interstate highways that make access to high-opportunity areas much easier, allowing many to live farther afield from work. This has augmented the trend of extending growth and development away from historical settlement areas throughout the Region, placing added strain on the provision of municipal services and the ability of smaller town and village center businesses to remain viable in some instances. This trend also increases commuting times for many of the Region's workers, even with improved accessibility to major roadways. The average amount of time workers in the Region travel to their jobs is between 22 and 26 minutes, which is roughly equivalent to a 15- to 20-mile commute in most areas (see Figure 12-8). This constant travel creates additional strain on built infrastructure (roadways and bridges), adds to traffic congestion in some areas, and increases pollution of the air, soil, and waterways.

**Figure 12-8: Travel Time to Work, 2016**



Source: *Commuting, 2011-2016 American Community Survey*

## Major Regional Employers

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The TRO Region is home to a number of important business sectors and major employers. As has been noted, two of the largest employment sectors in the Region are education and health care. A review of employers that have more than 100 staff members supports this, with academic institutions like Vermont Law School and Vermont Technical College and medical centers like Gifford Medical Center and the VA Medical Center being amongst the largest employers. The hospitals in fact are the largest regional employers, according to Vermont Department of Labor data (see Table 12-3). The list of regional employers employing over 100 individuals also serves to demonstrate that recreation and tourism are key contributors to the regional economy, with Lake Morey Resort, the Woodstock Inn and Resort, and the Quechee Club all being large employers. All told, the educational, medical, and tourism employers in our Region are clear anchor institutions within our local economies with respect to job creation and the trickle-down economic boost they provide to other area businesses as well as municipal and social capital support. For a list of regional employers, go to <https://www.thinkvermont.com/regional-employers/>.

## E. The Future of Economic Development

### A Vision for the Future

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Vermont is often touted as being a great place to both live and work. The TRO Region is certainly no exception to this, and as such is well poised to attract newcomers to the Region who seek fulfilling, rich professional and personal lives.

TRORC recognizes that the Region has a number of unique characteristics that provide the opportunity for a high quality of life. Like other parts of Vermont, it is blessed with a display of mountains, lakes, open fields, and villages. It has a small number of people in rural settings, a clean environment, and access to a variety of natural

resource-based activities. The Region's residents have ready access to the natural environment, yet they also have good access to culture, technology, transportation, and other characteristics typically associated with urban life. Many residents fortunate enough to take advantage of this quality of life are committed to extending the same opportunities to others seeking to live in the Region.

While many have often held to the assumption that enticing new large employers is the preferred means of improving the Region's growth prospects, such an approach does not focus on the best source of jobs: small business growth from existing employers. Enticing large new employers also usually involves public subsidies and creates vulnerability in the event of future closure. Instead, it is preferred that the Region focuses on development based on our local assets and emphasizes the need to help existing small businesses, including cottage industries, grow and flourish. We can also grow local entrepreneurs and attract workers who can telecommute remotely for employers outside of the Region. Given the current shortage of housing, training employees from amongst our current workforce may be easier than attracting outside employees in some cases; however, we also need a concerted effort to attract new working-age adults to augment our aging population.

As noted within the "Major Regional Employers" section of this chapter, higher education and health institutions comprise two of the most significant sectors of our regional economy. Instability of any of these institutions, be it Vermont Technical College, Vermont Law School, Gifford Medical Center, or Dartmouth-Hitchcock Medical Center, would trickle down to communities throughout our Region, prompting job loss and adverse financial impacts to the towns and businesses that depend on their continued existence. It is imperative that we as a Region support and retain these and similar anchor institutions for the sake of our continued economic vitality. Efforts should be

made to engage and assist these institutions with community dialogue and business continuity planning.

The Vermont Department of Labor produces projections on occupations that are anticipated to see job growth across the State. Their findings in 2014 are shown in Table 12-3, listing the employment areas projected to grow the most in Vermont by 2024, many in highly skilled job sectors.

It is worth noting that of the skilled job sectors

set to see the most growth, many are not high-wage jobs. This fact should not be surprising, as most jobs in the economy are not high-wage jobs. Personal care aides and home health aides will be critical to our aging population but may require supplementary income to affordably live in the Region. Further, it is evident that these are the professions that, compared to others in the table, require less in the way of educational qualifications.

While focusing on securing jobs in growing

**Table 12-3: Occupations with the Highest Anticipated Growth**

Occupation Name	Job Openings Base Year: 2014	Job Openings Projection Year: 2024	Annual Growth Rate	Median Wage, 2016 (hourly except as noted)	Typical Education Needed for Entry
<b>Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders</b>	54	76	3.5%	\$21.26	High school diploma or equivalent
<b>Food Batchmakers</b>	217	290	2.9%	\$16.66	High school diploma or equivalent
<b>Taxi Drivers and Chauffeurs</b>	290	374	2.6%	\$10.86	No formal educational credential
<b>Farmworkers and Laborers, Crop, Nursery, and Greenhouse</b>	304	385	2.4%	\$14.11	No formal educational credential
<b>Physical Therapist Assistants</b>	89	112	2.3%	\$26.69	Associate's degree
<b>Software Developers, Applications</b>	156	192	2.1%	\$29.66	Bachelor's degree
<b>Home Health Aides</b>	203	249	2.1%	\$13.46	No formal educational credential
<b>Software Developers, Systems Software</b>	123	150	2.0%	n/a	Bachelor's degree
<b>Market Research Analysts and Marketing Specialists</b>	436	527	1.9%	\$23.72	Bachelor's degree
<b>Clinical, Counseling, and School Psychologists</b>	398	481	1.9%	\$27.05	Doctoral or professional degree

Source: Vermont Department of Labor: 2014–2024 Projection, Southern Balance of the State—does not include all occupations for lack of data or for confidentiality reasons.

employment sectors is important to both retaining residents and to attracting people, we need to ensure that the array of services and housing are securely in place to support our current and anticipated residents. For example, the child care industry contributes to the regional economy as a business and employer in its own right and as a service industry that provides crucial support to employers and employees. Ample supply of child care services and facilities allows parents in the regional economy to work, and their importance to the local economy cannot be overstated if we wish to see an influx of workers to the Region. Further, providing increased housing opportunities is critical, especially near job centers.

A more robust transit system will enable people to access both work and services at much less expense, and increased high-speed Internet and cell phone service will increase the area's viability for prospective residents to the Region. Multimodal and public transit opportunities influence settlement patterns of younger

generations as attitudes toward vehicle ownership shift away from car-reliant lifestyle choices that have dominated our culture since the twentieth century. This shift has occurred for a host of reasons, ranging from financial considerations to environmental ethical stances. Recent studies on the transportation needs and desires of younger generations of Vermonters, including current undergraduate students and young professionals, show that Vermont would be a more attractive place to settle for young adults if there were safe alternative transportation options available, be they well-lit walking and bike paths or more bus and rail services to population and work centers.<sup>7</sup> Additionally, we cannot expect to draw large numbers of younger people if we do not have adequate cellular service. Regional infrastructural improvements will ultimately lead to lower costs of living, increased community vitality, and a wider array of professional opportunities for residents.

## Goals, Policies, and Recommendations: **Economic Development**

### **Goals**

1. Economic development, community development, and land use policies and plans are aligned to improve the Region's unique quality of life.
2. Essential elements for attracting new, younger residents are in place, including housing that is affordable, ubiquitous telecommunications, transit, and a mix of desirable employment, recreation, and cultural opportunities.

### **Policies**

1. Public and private infrastructure shall be planned and funded to support and sustain a viable economy and environment while enhancing quality of life goals and shall not detract from existing core areas most appropriate for economic development.
2. Regional development activities should support the diversity of the Region's economic base by encouraging entrepreneurship, supporting the expansion of local businesses, and attracting new businesses that are consistent with the Regional Plan. The establishment of diversified attractions that expand tourism and recreation opportunities while respecting the Vermont brand is encouraged.
3. New workforce housing development is supported in villages and downtowns.
4. High-speed Internet, with fiber-based systems, is supported throughout the Region.
5. Cellular phone networks are supported in all areas of the TRO Region.

*Goals, policies, and recommendations continued on next page*

## Goals, Policies, and Recommendations: **Economic Development**

### ***Policies (continued)***

6. Transit systems should connect all village and town centers and serve major employment centers and businesses.
7. Child care facilities in our communities or in employment centers are supported by this Plan.
8. Economic development strategies between TRORC, ECVEDD, and other regional economic development consortiums should align to support a more diverse and resilient regional economy.

### ***Recommendations***

1. TRORC will provide grant management, Act 250 support, and local regulatory reform assistance to further the development of job growth and workforce housing in areas close to employment and service opportunities.
2. TRORC will participate in discussions to improve the regulatory system at the state level and improve permitting coordination between local and state levels of government.
3. TRORC will assist towns with village and downtown designation in order to provide incentives in these areas.
4. TRORC will work in concert with towns and development organizations to provide technical support (such as support with permitting, funding, or brownfield assistance) to businesses wishing to stay in or relocate to core areas.
5. TRORC will work with Vermont state agencies, regional and local development groups, trade associations, Chambers of Commerce, planning commissions, and other groups to integrate land use planning with economic planning and development programs based on our Region's assets.
6. TRORC will review and recommend revisions to zoning bylaws and other land use guidelines to ensure they actively support vitality in town centers, including infill, adaptive reuse of structures, increased height limits, and density bonuses.
7. TRORC will offer assistance to towns in asset management, capital budgeting, and shared services/purchasing in order to lower costs and stabilize taxes.
8. TRORC will assist towns to apply for and manage grants and loans for infrastructure repairs and/or upgrades that bolster the livability of core areas.
9. Public agencies, schools, and private businesses must expand workforce training and education that aligns with the strategic needs of our Region's current and future employers and expand linkages that allow the Region's youth to learn about local career opportunities and gain exposure to the workplace.
10. TRORC and child care providers must work with member towns to address identified needs for child care facilities or services, including identifying publicly owned buildings throughout the Region suitable to serve as child care facilities.
11. The State should map existing cellular and broadband services in the Region, identify gaps, and work with cellular companies to provide coverage in those gap areas, ensuring that all areas have good service that supports both current and future businesses and residents.
12. State, regional, and local economic development agencies should develop stronger financing/funding mechanisms for business expansion and entrepreneurship.

*Goals, policies, and recommendations continued on next page*

## Goals, Policies, and Recommendations: **Economic Development**

### **Recommendations (continued)**

13. The Small Business Development Center, Chambers of Commerce, and development corporations should develop a coordinated network of resources for businesses—including business coaching, financing, permitting assistance, and peer-to-peer networking—to equip current and would-be business owners with the skills needed to brand, promote, and effectively operate businesses.
14. TRORC will work with towns and development organizations in the Region to identify and inventory vacant and underutilized sites and buildings most suitable for near-term commercial and residential development in existing downtowns and villages where water, sewer, power, Internet, and roadways have capacity.
15. TRORC will support efforts to recognize businesses for excellence in creating better downtowns and villages.
16. TRORC should support and assist efforts that focus on how best to utilize our rivers as economic drivers while improving water quality and protecting the rivers' natural beauty, native animal and plant species, health, and unique character.
17. TRORC should work with local producers, development corporations, educational programs, the Vermont Agency of Agriculture and other organizations to identify and create needed processing, storage, and distribution capacity for locally made food and forestry products.
18. TRORC should work with land trusts and local conservation commissions to inventory farm and forest lands to understand where parcels are available that could provide opportunities for new farm and forest businesses and to assist towns in crafting regulations to reduce fragmentation and leave land available for farming, forestry, and other land-based businesses.
19. TRORC will work with the Vermont Arts Council to support regional and statewide creative zones.

## Economic Development Endnotes

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1. “Broadband Availability,” Vermont Department of Public Service, <https://publicservice.vermont.gov/content/broadband-availability>.
2. “Upper Valley Workforce Needs Assessment,” Green Mountain Economic Development Corporation, March 2014, <http://www.gmedc.com/gm/wp-content/uploads/2014/03/Upper-Valley-Workforce-Needs-Assessment-Presentation-2014.pdf>.
3. “Pathways to Promising Careers,” The J. Warren and Lois McClure Foundation, 2018, <https://www.vermontcf.org/McClureFoundation/Initiatives/PathwaystoPromisingCareers.aspx>.
4. “Upper Valley Workforce Needs Assessment,” Green Mountain Economic Development Corporation, March 2014, <http://www.gmedc.com/gm/wp-content/uploads/2014/03/Upper-Valley-Workforce-Needs-Assessment-Presentation-2014.pdf>.
5. “Getting Millennials from A to B,” Vermont Transportation Board, 2014, <http://legislature.vermont.gov/assets/Legislative-Reports/2014-Annual-Report.pdf>.
6. “Between a Rock and a Hard Place: Housing and Wages in Vermont,” Vermont Housing Finance Agency, 2011, <https://www.vhfa.org/documents/housing-wages-2011.pdf>.
7. “Getting Millennials from A to B,” Vermont Transportation Board, 2014, <http://legislature.vermont.gov/assets/Legislative-Reports/2014-Annual-Report.pdf>.



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