

Chapter 3 - THE REGION

The Region

The Genesee-Finger Lakes Region (the Region), located in Western New York, includes the counties of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates. The nearly 4,700 square-mile Region stretches south from the shore of Lake Ontario to the low rolling hills of the Appalachian Highlands. Many striking natural features and scenic vistas lie within the Region including the western Finger Lakes, the Genesee River, and Letchworth State Park, commonly known as the "Grand Canyon of the East."

While topography and natural features shaped the earliest physical development of the Region, it was the opening of the Erie Canal in 1825 that laid the foundation for its prosperous future. The presence of such an efficient transportation route to America's frontier enabled entrepreneurial skills and talents to be combined with the natural resources necessary to fill a burgeoning nation's demand for goods and provisions.

The Erie Canal eventually gave way to railroads and then highways as the primary modes of travel, but it remains an excellent example of how transportation influences the character and development of a region. Regardless of the form it takes in the future, the ability of people and freight to move safely, efficiently, and reliably will continue to be a major factor in determining the quality of life and economic success of the Region.

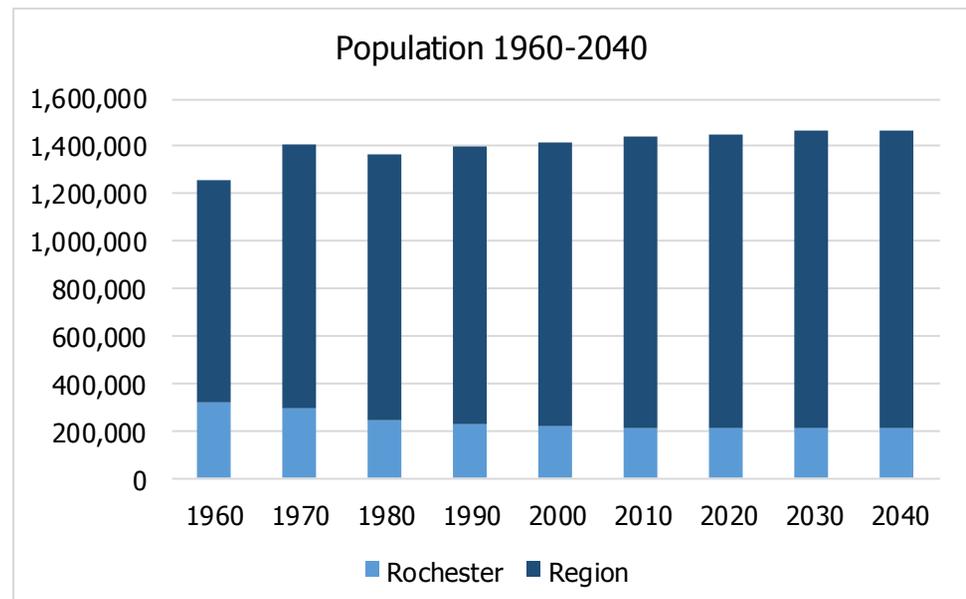
People

The nine-county Region is home to over 1.2 million residents and over one-half million workers. The Region's population alone exceeds nine of the fifty states. Rochester is New York State's third largest city (2010 population: 210,565) and the 51st largest metropolitan statistical area (MSA) in the nation,

consisting of Livingston, Monroe, Ontario, Orleans, and Wayne counties.

After experiencing a nearly 20 percent increase in population from 1960-1970, the Region has experienced modest population growth over the past 40 years as shown in Exhibit 3. Since 1970 the population has increased modestly at an average rate of 2.4 percent each decade. In continuation of this trend, the 2010 Census population figures confirmed a modest growth rate of 1.5 percent since 2000 for the nine-county Region. New York State's total population grew at a slightly faster rate of 2.1 percent from 2000-2010. By 2040 it is projected that the Region will grow at a slightly faster rate of 3.5 percent and approximately 1.26 million people will call the Region home. The City of Rochester's population has been steadily declining since 1960. Over the past decade (2000-2010) Rochester lost 4.2 percent of its population. This trend is projected to continue through 2040, as shown in Exhibit 4.

Exhibit 3

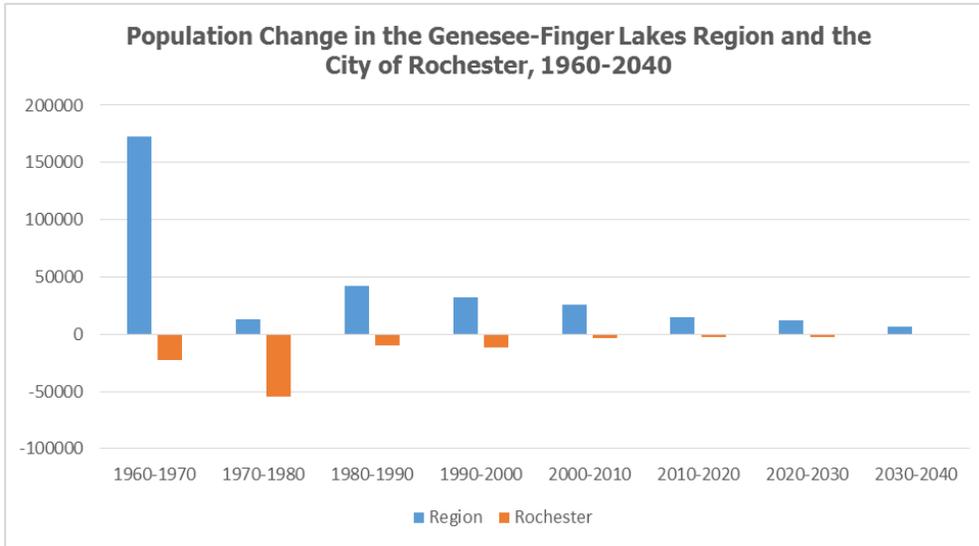


Source: U.S. Census Bureau and Genesee-Finger Lakes Regional Planning Council





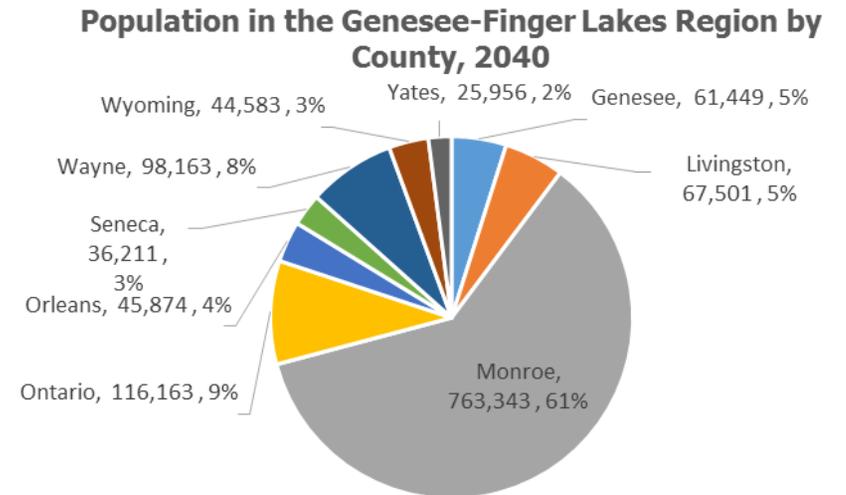
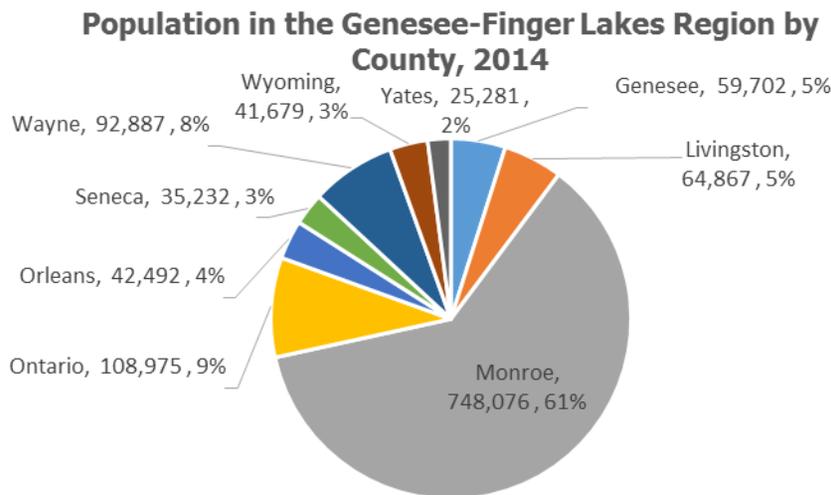
Exhibit 4



Source: U.S. Census Bureau and Genesee-Finger Lakes Regional Planning Council

Monroe County remains the most populated county with approximately 61 percent of all the Region’s residents residing therein. Ontario County is the second most populated home to 8.4 percent of the Region’s residents and is the fastest growing county since 2000. Livingston, Monroe, Ontario, Seneca, Wayne, and Yates counties all saw population increases over the past decade while the western most counties Genesee, Orleans, and Wyoming lost population. Through 2040, each of the nine-counties are projected to see modest population gains with the greatest gains expected in Monroe and Ontario counties. Exhibit 5 presents the population by county for 2014 and 2040. Over the next 25 years the population distribution in the Region, by county, is projected to remain the same.

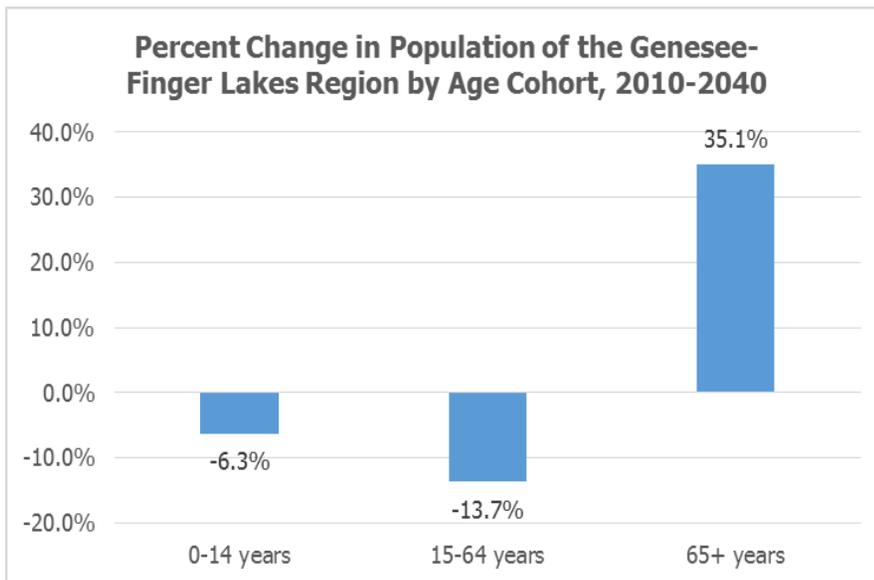
Exhibit 5



Source: U.S. Census Bureau and Genesee-Finger Lakes Regional Planning Council

In 2010, 14.3 percent of the Region’s population was 65 years of age or above. Projections show that about 20 percent of the Region’s population will be 65 and older by 2040 as the youngest Baby Boomers turn 65 by 2029. The “graying” of the population is a national trend not unique to the Region. By 2029 it is projected that 20 percent of the entire U.S. population will be 65 and over. Keeping an aging population mobile will present challenges and opportunities moving forward. Between 2010 and 2040 the population over 65 will increase 35 percent, as shown in Exhibit 6. Persons 14 years and younger along with working age persons, 15-64 years, will both decrease through 2040 as the population continues to “gray”.

Exhibit 6

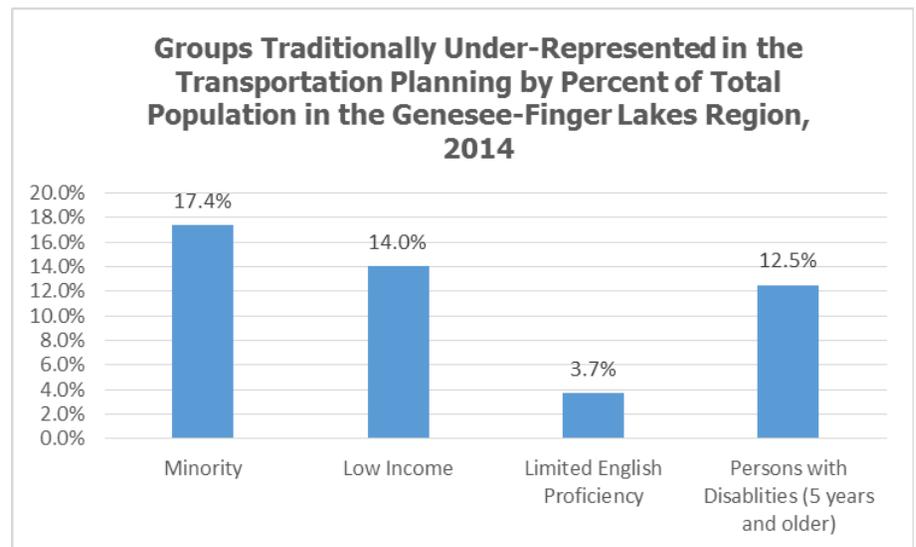


Source: Cornell University Program on Applied Demographics

Several groups of people are traditionally underrepresented in the transportation planning process including, minorities (i.e., non-whites and those of Hispanic origin), individuals with low-incomes,

individuals with limited English proficiency (LEP), and individuals with disabilities. These residents face transportation challenges that include, but are not limited to, access to employment and needed services, inability to obtain or understand pertinent information about opportunities to participate in the planning process, and a lack of required accommodations. The presence of these groups relative to the overall regional population is presented in Exhibit 7.

Exhibit 7



Source: U.S. Census Bureau

The *GTC Environmental Justice, Title VI, and Americans with Disabilities Act Involvement Plan* was adopted in December 2010. This plan identifies these groups by location within the Region and discusses the actions that GTC is undertaking to ensure opportunities for their increased involvement in the metropolitan transportation planning process. The Ladders of Opportunity and the Coordinated Planning sections, beginning on page 31, further discuss the impacts of the existing transportation system in relation to jobs, education, healthcare, and other access opportunities for these residents.



Businesses & Employment

According to the Quarterly Census of Employment and Wages (QCEW) in 2014 nearly 30,000 establishments employing more than 544,000 workers – 84 percent of whom are employed by the private sector – are located in the Region. The majority of these jobs, approximately 70 percent, are located in Monroe County.

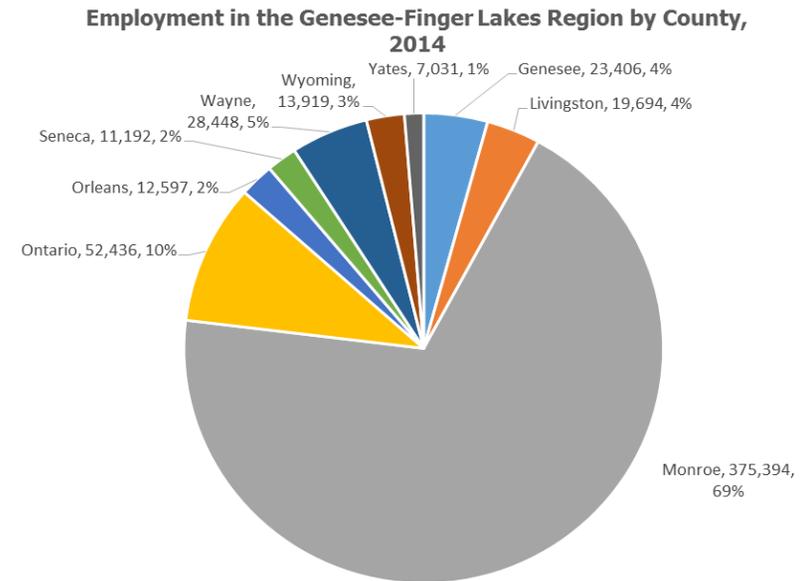
As with population, the distribution of employment within the nine counties of the Region is expected to remain nearly constant through 2040. Employment in the Region over the next 25 years is expected to increase at a rate consistent with the projected rise in the population. The distributions of regional employment by county in 2014 is shown in Exhibit 8. The distribution of employment for 2040 is expected to continue along 2014 distribution pattern with the majority of employment opportunities continuing to be located in Monroe County.

In terms of value, the Gross Domestic Product (GDP) of the Rochester MSA was the 55th largest out of the nearly 381 metropolitan areas in the nation in 2014 at more than \$53.3 billion, demonstrating that the regional economy is an important contributor to the national economy.

Overall, employment in the Region declined three percent (slightly less than 18,000 jobs) between 2000 and 2014. During this period the manufacturing sector saw the largest decline losing more than 44,000 jobs. Nearly two-thirds of the new jobs created in the Region have been in the health care, social assistance and educational services sectors, accounting for more than 22,000 of the approximately 38,000 new positions added from 2000 to 2014. Exhibit 9 presents regional employment by sector in 2000 and 2014.

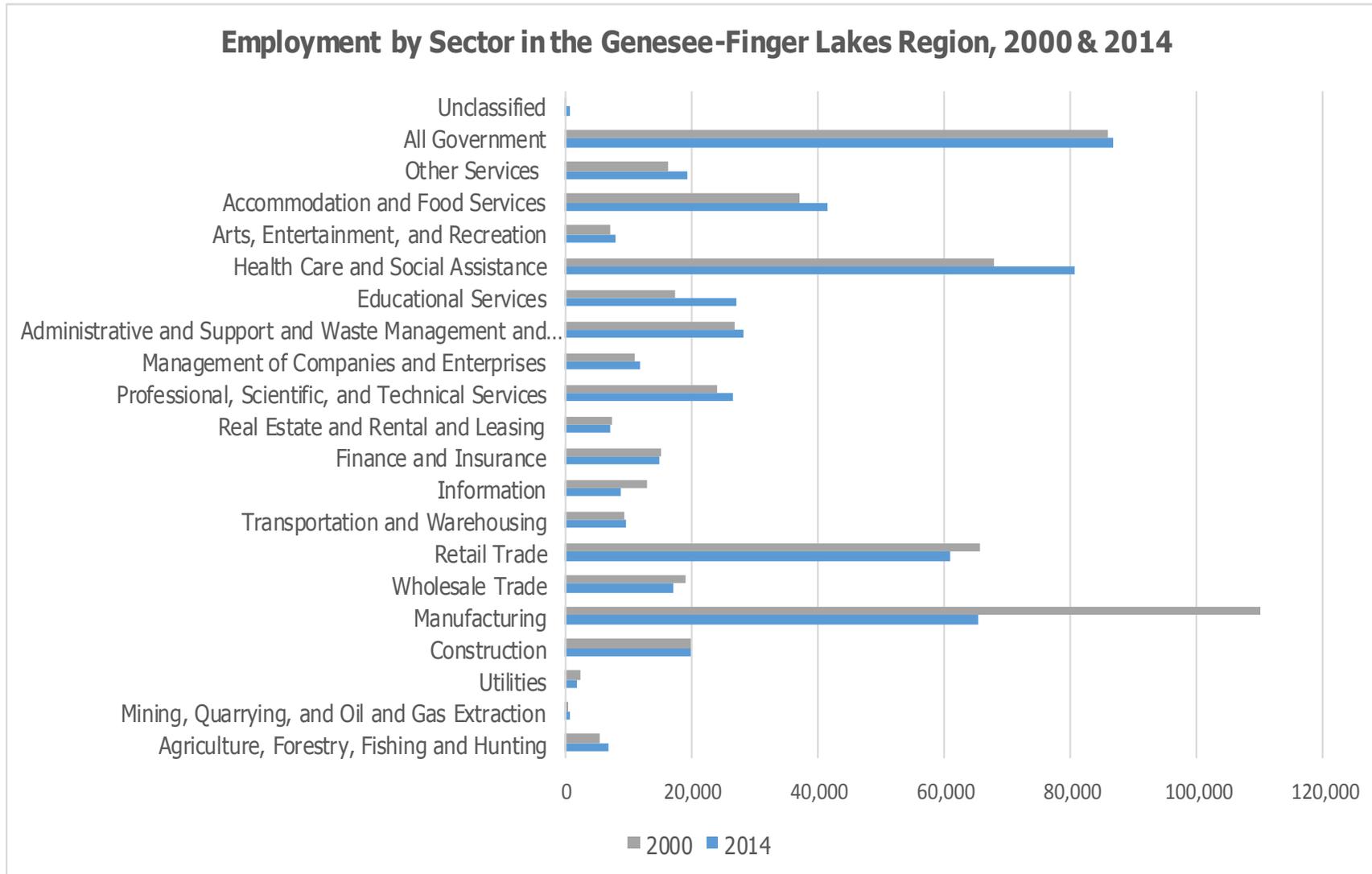


Exhibit 8



Source: New York State Department of Labor

Exhibit 9



Source: New York State Department of Labor

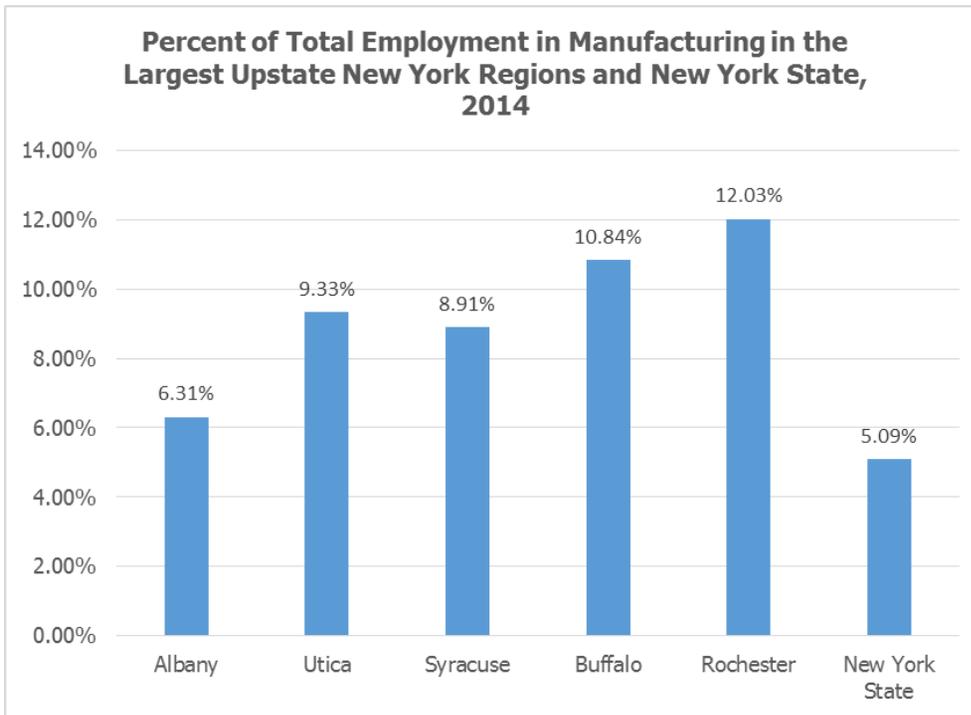
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Even as manufacturers continue to shed jobs and transition to higher value-added activities to compete in the global marketplace, they remain a major component of the regional economy. As shown in Exhibit 10, the percentage of jobs in manufacturing in our Region exceeds that of the other four largest metropolitan areas in Upstate New York, as well as New York State as a whole. Due to increases in productivity, the volume of goods produced (both finished products and intermediate inputs) in the Region is expected to continue to grow.

greatest potential for job creation include optics and imaging, alternative energy and fuels, biotechnology, printing and publication, food and beverage manufacturing, telecommunications, and precision instruments. Growth in biotechnology and food and beverage manufacturing thrive upon the Region's skilled workforce and plentiful natural resources, such as agriculture and access to fresh water. Over the last decade, Genesee County has been consistently recognized as one of the one of the fastest-growing food-processing industry metros in the country.



Exhibit 10



Source: New York State Department of Labor

Not all manufacturing firms will continue to reduce the number of workers they employ. Emerging and established high-value components of the Region's manufacturing sector that have the

Agriculture and related agri-business are also important components of the regional economy that require transport of products to market and processing facilities. In 2012, approximately half of the land in the Region (1.5 million acres) was dedicated farmland. The total market value of agricultural products sold was over \$1.6 billion (up from \$1.2 billion in 2007). In 2012, five of the nine counties in the Region ranked within the top 10 in New York State in market value of agricultural products sold. Wyoming County ranked number one in the entire state, with \$320 million sold. Four counties ranked in the top 100 nationwide in market value of milk from cows and three counties ranked in the top 100 in the country for market value of fruit and vegetable crop products sold in 2012. These products are shipped over the transportation network to markets throughout the Region, the state, the nation, and the world.

The Region is home to 18 colleges and universities that educate over 88,000 full- and part-time students. These institutions of higher education are essential to training the future workforce, upgrading skill sets for those seeking continuing education, and acting as an economic catalyst. The Region ranks third in degrees per capita nationwide. Higher education and research is identified as an economic enabler to facilitate economic growth by the Finger Lakes Regional Economic

Development Council (FLREDC) and have an estimated economic impact of \$5.5 billion. The University of Rochester (UR) and its affiliates employ almost 27,000 people alone, making it the Region’s top private employer.

These institutions play a vital role alongside local industry in creating an environment of innovation that is one of the highest in the nation as measured by the number of patents issued per worker. The prominence of colleges and universities continues to grow and is vital to the current and future economic success of the Region.

Recreational and Cultural Resources

The Region is not only defined by its residents and businesses but by its geography, history, scenic beauty, and recreational venues – providing opportunities to live, work, and play.

Freshwater resources shape the Region’s landscape. The shore of Lake Ontario define the Region’s northern boundary, the Erie Canal is responsible for the small canal villages that dot the landscape, the western Finger Lakes stretch down to the southern end, and the mighty Genesee River flows through the center. Given the Region’s rich hydrological resources, water-based activities offer numerous opportunities for increased visitor spending and have the potential to be further expanded through tourism promotion.

The Erie Canal, a significant engineering feat in its time and influential to the development of the Region, continues to serve as a major attraction for residents and tourists. The Erie Canalway Trail transverses



east to west across the entire Region, as well as the state, attracting cyclists from all over the world.

Residents and visitors enjoy all four seasons in the Region. The normal daily average temperature in Rochester varies from 24 degrees Fahrenheit in January to 71 degrees Fahrenheit in July. The City of Rochester claims a spot on the list of the snowiest major U.S. cities averaging over 100 inches per year. Much of this snowfall is attributed to lake effect snow off of Lake Ontario. Given the Region’s long experience with snow, there is limited impediment to the movement of people and goods.

The Region's parks offer affordable year-round opportunities to enjoy a range of outdoor activities and fresh air. The Region is home to 20 New York State Parks. The most notable being Letchworth State Park, known as the Grand Canon of the East, is nestled in southern Wyoming and Livingston Counties. The Genesee River winds through the park’s 14,350 acres, flows over three major waterfalls, and carves out the 17-mile gorge.

The City of Rochester is home to an “emerald necklace” of parks designed by Fredrick Law Olmsted, the father of American landscape architecture. These parks are located along the Genesee River’s banks, Erie Canal, and Lake Ontario, and provide a multitude of recreational opportunities.

The Monroe County parks system is extensive and home to many of the Region’s renowned festivals. Highland Park, designed by Olmstead, with over 1,200 lilac bushes hosts the acclaimed Rochester Lilac Festival.

From an historical standpoint, the Region is renowned as the birthplace of the women's suffrage movement, center of the abolitionist movement, the birthplace of Memorial Day, and for its American Indian heritage. This history is preserved and celebrated in numerous venues including the Women's Rights National Historic Park, the Susan B. Anthony House, Memorial Day celebration in



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Waterloo, and the Ganondagan State Historical Site.

The Region's agricultural bounty is showcased throughout the local farmers markets and the flourishing local food, wine, and spirits industries.

The Rochester Public Market has been at its location since 1905 and was voted the number one farmer's market in the 2010 America's Favorite Farmers Market contest sponsored by the American Farmland Trust. On any given Saturday as many as 40,000 customers visit the market. The City of Rochester is undergoing an \$8 million dollar Public Market renovation project, including include a new winter shed, a new outdoor shed, and upgraded food stands, for slated for completion in August 2017.



Many communities in the Region now boast their own farmers market allowing residents easy access to fresh healthy foods. The Rochester Public Market and many smaller community markets participate in New York's Supplemental Nutrition Assistance Program (SNAP) to Market campaign. This program allows qualifying residents to use their benefit card directly at the farmers market aiming to provide additional access to quality, nutritious foods.

The Finger Lakes Wine Region is the largest wine producing area in New York State and is world-renowned for its Rieslings. The lakes offer the ideal climate for growing grapes, moderating the temperature throughout the year. The wineries attract a large number of tourists year round, supporting the local economy, particularly in the summer months and during the fall to admire the foliage along the lakeshores.

Local agriculture trends are reshaping the Regional food and spirits tourism industry. The Finger Lakes Wine trails have long been a popular tourist and local attraction. Recently new trails focused on edible specialties have been forming. The Finger Lakes Cheese trail twists and turns throughout the southeastern portion of the Region featuring small scale cheese producers. Breweries

and distilleries have been springing up rapidly throughout the Region over the past few years. Experts believe the craft beverage (beer and distilled spirits) trend is just starting to pick up momentum and will transition into an economic engine potentially supporting thousands of jobs. The recently created Rochester Craft Beverage Trail is verification of the industry's rapid growth and popularity.

The Region's cultural center is the City of Rochester, home to the museums of science and art, theatrical productions, the National Museum of Play at the Strong, Rochester Philharmonic Orchestra, the George Eastman House and its International Museum of Photography and Film, and numerous festivals. The arts and cultural attractions in the Region drew 3.8 million attendees in 2013.

The National Center of Arts Research ranked the Rochester MSA 20 out of 937 MSAs throughout the U.S. as part of their Arts Vibrancy Index for 2015. Rochester shares a spot on the top 20 list with other major metro areas, such as New York City and San Francisco, a testament to the Region's vibrant arts and cultural sector.

Area amusement and water parks include Darien Lake Theme Park, Seabreeze Amusement Park, and Roseland Water Park. Concert Venues throughout the Region draw national recording artists and entertainment acts. These include the Blue Cross Arena, Constellation Brands Marvin Sands Performing Arts Center (CMAC), and Darien Lake Performing Arts Center. The traffic generated during events at these facilities can be significant and is noted as event related delay in the discussion of the Congestion Management Process.

Tourism remains a major economic driver. In 2013, the total tourism revenue, including money spent on hotels, fuel, and other expenses, was over \$1.5 billion. Recreational spending, money spent by tourists on recreational activities, totaled \$82 million in 2013.

Places

The type of place impacts the transportation needs of people, businesses, and institutions. Given the geographic diversity of the Region *LRTP 2035* first classified types of places based on land use patterns and uses as well as physical, social, and economic characteristics now and as then projected through 2035. Considerations in delineating these areas include their population density and the time period in which the majority of their residential growth occurred, the amount of space they provide, and for what economic activity they are meant to serve for the employment places. Given the consistent land use patterns and projected demographic changes from 2035 to 2040, no changes to the place classifications were made for *LRTP 2040*.

The combination of a place’s purpose and the built environment determines the use of physical space and the associated transportation needs now and in the future. Map 2 shows the Genesee-Finger Lakes Region by place and Map 3 provides greater detail of the same for the Rochester MPA. The various types of places in the Region are discussed in detail below.

Regional Urban Core

The Regional Urban Core is comprised of the City of Rochester and includes the densest neighborhoods, the largest central business district, and major civic, cultural, and sports venues. The largest number of infill and redevelopment opportunities exists in the Regional Urban Core and the strength of this place is critical to the success of the overall Region.

Sub-Regional Urban Cores

The Sub-Regional Urban Cores include the cities of Batavia, Canandaigua, and Geneva and the villages in the Census Bureau-defined Rochester Urbanized Area. Land use in these places includes mixed-use areas of residential and commercial that are

less dense than the Regional Urban Core. Historic, civic, and cultural venues are also located in these places. The Sub-Regional Urban Cores possess infill and redevelopment opportunities that can preserve and strengthen their neighborhoods and commercial districts.

Mature Suburbs

Mature Suburbs include areas in the Census Bureau-defined Rochester Urbanized Area that experienced the earliest expansion of development (initially, residential) outside of the urban cores. Population density is less than in the urban cores but multi-family housing is more prevalent than in other places (including Recent/Emerging Suburbs). Non-residential development that serves commercial uses is less dense than in the urban cores and more automobile-oriented. Infill and redevelopment opportunities exist, as recent residential and commercial development have increased in the Recent/Emerging Suburbs, but to a lesser extent than in the urban cores.

Recent/Emerging Suburbs

Recent/Emerging Suburbs include the portions of towns in the Rochester MPA that have experienced their greatest amount of development over the last thirty years with residential development of a less dense character than the Urban Cores or Mature Suburbs. Associated retail and commercial development in proportion to residential development has occurred in some but not all of these places, and is almost exclusively automobile-oriented.

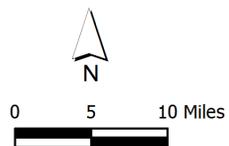
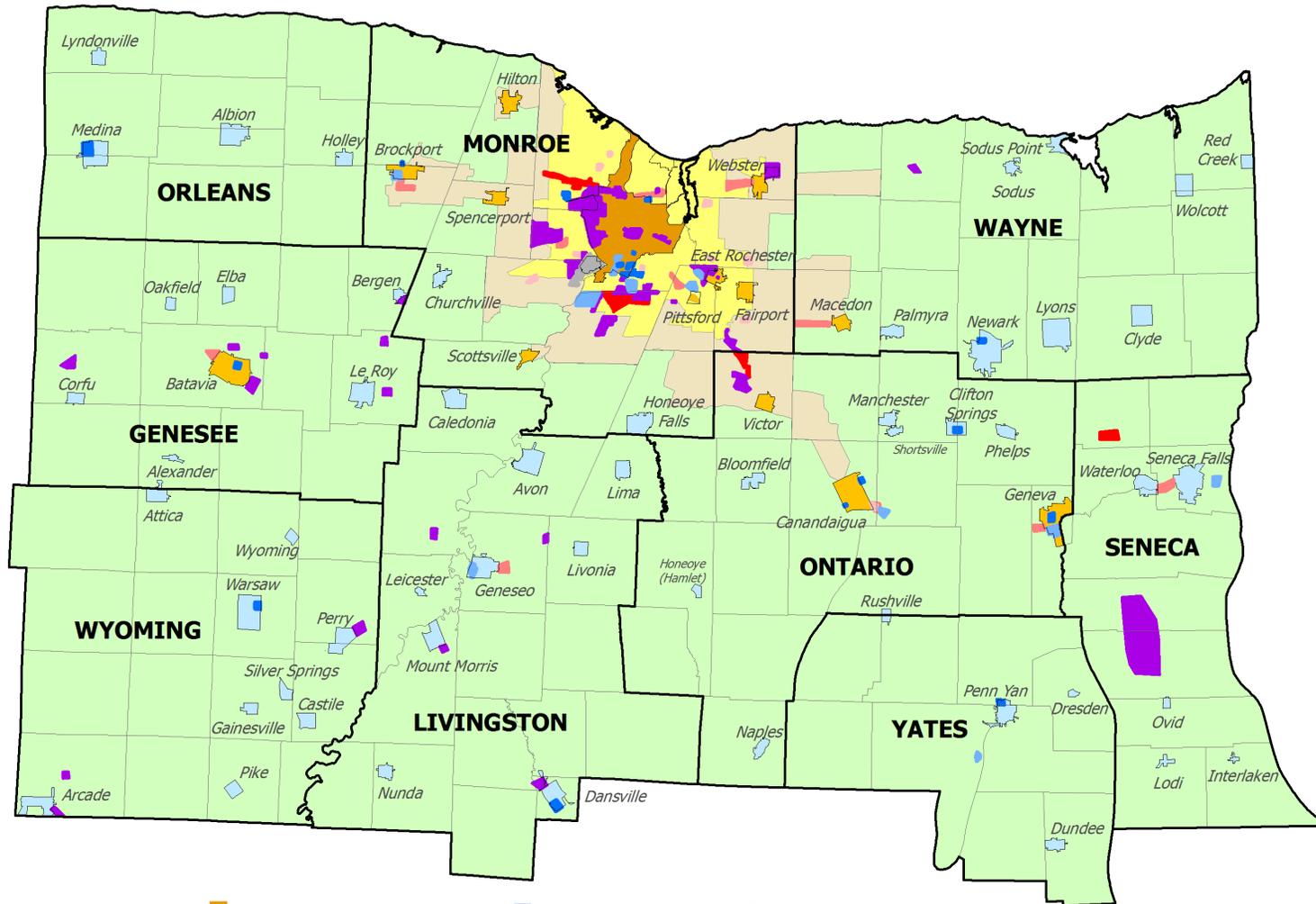
Rural

Rural places include towns with the lowest residential and employment densities and significant portions of their land devoted to critical agriculture and related agri-business uses—which are integral to the regional economy and food system—as well as forested lands and open space. Pressure for residential and



Genesee-Finger Lakes Region by Place

Map 2



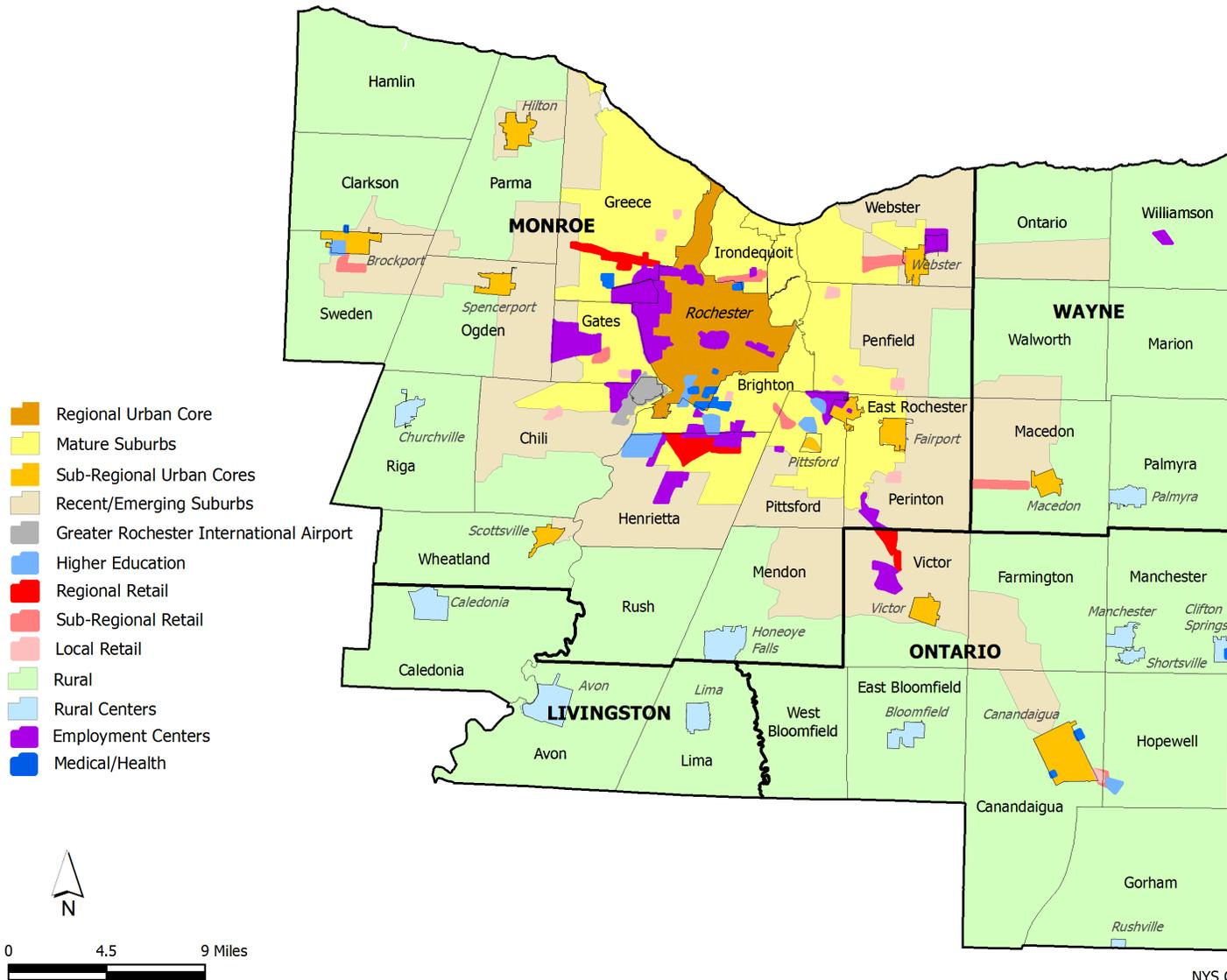
- | | | |
|---|---------------------|--------------------|
| Regional Urban Core | Higher Education | Rural |
| Mature Suburbs | Regional Retail | Rural Centers |
| Sub-Regional Urban Cores | Sub-Regional Retail | Employment Centers |
| Recent/Emerging Suburbs | Local Retail | Medical/Health |
| Greater Rochester International Airport | | |

Note
The former Villages of Lyons, Pike, and Seneca Falls are shown because they continue to function as centers of activity within their respective towns.

Sources: GTC, 2010
NYS GIS Program Office, 2015

Rochester Metropolitan Planning Area by Place

Map 3



Sources: GTC, 2008
NYS GIS Program Office, 2015

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associated retail and commercial development is limited compared to Mature Suburbs and Recent/Emerging Suburbs, as are infill and redevelopment opportunities.

Rural Centers

Rural Centers include Villages and hamlets located in Rural places that include mixed use development and provide localized but limited commercial and civic uses with most residents required to travel to other places for necessary employment, retail, and civic needs. Infill and redevelopment opportunities exist but are limited given population and associated market opportunities. Although select rural Villages in the Region have chosen to dissolve their formal government structure, the compact walkable nature of these Villages remain intact and are still considered Rural Centers.



Employment Centers

Employment Centers include industrial and business parks that, due to their location (with limited surrounding residential development in the case of industrial) and associated infrastructure (including transportation), have been and are planned to be developed to support the attraction and retention of large-scale employment opportunities.

Regional Retail

Regional Retail includes the Region's malls and adjacent retail and commercial development that are the major agglomerations of national shopping chain outlets, contain some associated non-retail commercial development but little or no residential development, and are almost exclusively automobile-oriented.

Sub-Regional Retail

Sub-Regional Retail includes retail and commercial development that are agglomerations of national and regional chain outlets which are smaller than and of a less intense nature than Regional Retail places and may contain limited residential development but are still primarily automobile-orientated.

Local Retail

Local Retail includes retail and commercial development with a supermarket as the typical anchor that serves a portion or combination of suburban, urban, and/or rural places and is typically primarily automobile-oriented but can be accessed by bicycling or walking due to residential development in closer proximity than in Regional Retail and Sub-Regional Retail places.

Medical/Health

Medical/Health includes either a hospital and/or an agglomeration of health-related facilities that provide wellness services to the Region's residents and will gain importance due to the increasing senior population through 2040 and the overall growth of jobs in the health care sector.

Higher Education

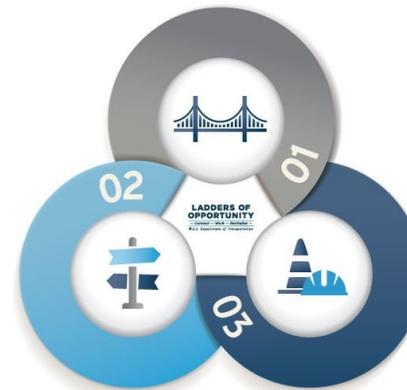
Higher Education includes the universities and colleges which serve as both a major component of the regional economy and include student housing that results in higher residential density than the immediately surrounding area (particularly in Mature and Recent/Emerging Suburban places), but does not necessarily support higher employment density other than potentially adjacent retail uses.

Airport

This represents the Greater Rochester International Airport and the surrounding area that supports the transport and logistics needs of the majority of goods moved by airplane in the Region, which are typically high-value and low-volume. Development opportunities must strictly adhere to clearance requirements necessary for the safe and efficient movement of airplanes.

Ladders of Opportunity

According to the Rochester Area Community Foundation's *Poverty and the Concentration of Poverty in the Nine-County Greater Rochester Area*, the City of Rochester has one of the highest concentrations of persons living in the poverty compared to similar sized cities. Poverty is also prevalent throughout the Region, as the majority (59 percent) of those that live in poverty live outside of the City of Rochester. Over a third of blacks and Hispanics live in poverty compared to just 10 percent of whites. People living in poverty face many barriers to accessing employment, services, and recreational opportunities - transportation should not be a limiting factor.



"We must reinvent how we think about transportation. We need to aspire for more. We need a transportation system that connects people to opportunity while bringing opportunity to people."

-U.S. Secretary of Transportation Anthony Foxx



The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) support a variety of transportation projects intended to better connect communities to centers of employment, education, and services (including non-drivers) as implementing strategies for President Obama's Ladders of Opportunity Initiative.

The guiding principle of the Ladders of Opportunity is that creating these connections will stimulate long-term job growth, especially in economically distressed areas by connecting disadvantaged and

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low-income individuals, veterans, seniors, youth, and others including people with disabilities, with local workforce training, employment centers, health care, and other services vital to daily life. Three strategies to support these efforts include:

- Enhancing access to work for individuals lacking ready access to transportation, especially in low-income communities;
- Supporting economic opportunities by offering transit access to employment centers, educational and training opportunities, and other basic needs; and
- Supporting partnerships and coordinated planning among state and local governments and social, human service, and transportation providers to improve coordinated planning and delivery of workforce development, training, education, and basic services to veterans, seniors, youth, and other disadvantaged populations.



As an illustration of Ladders of Opportunity in the form of transit bus service helping to meet employment needs, Map 4 shows where people with lower incomes live and work, and where transit bus services is available in the Region. Each blue dot represents 25 people with incomes at or below the federal poverty level based on the U.S. Census Bureau's 2009-2013 American Community Survey. Each red dot represents 25 lower wage jobs, defined as those where workers earn \$1,250 or less per month, from the U.S. Environmental Protection Agency's (EPA) *Smart Location Database*. The green lines on the map show fixed-route transit bus services in the eight counties where it is available in the Region, with a half-mile buffer on each side to represent a 10-minute walking distance. As such, Map 4 shows the jobs-housing relationship for low-income individuals in the Region and how transit might help them access employment. Map 5 provides an inset for Monroe County.

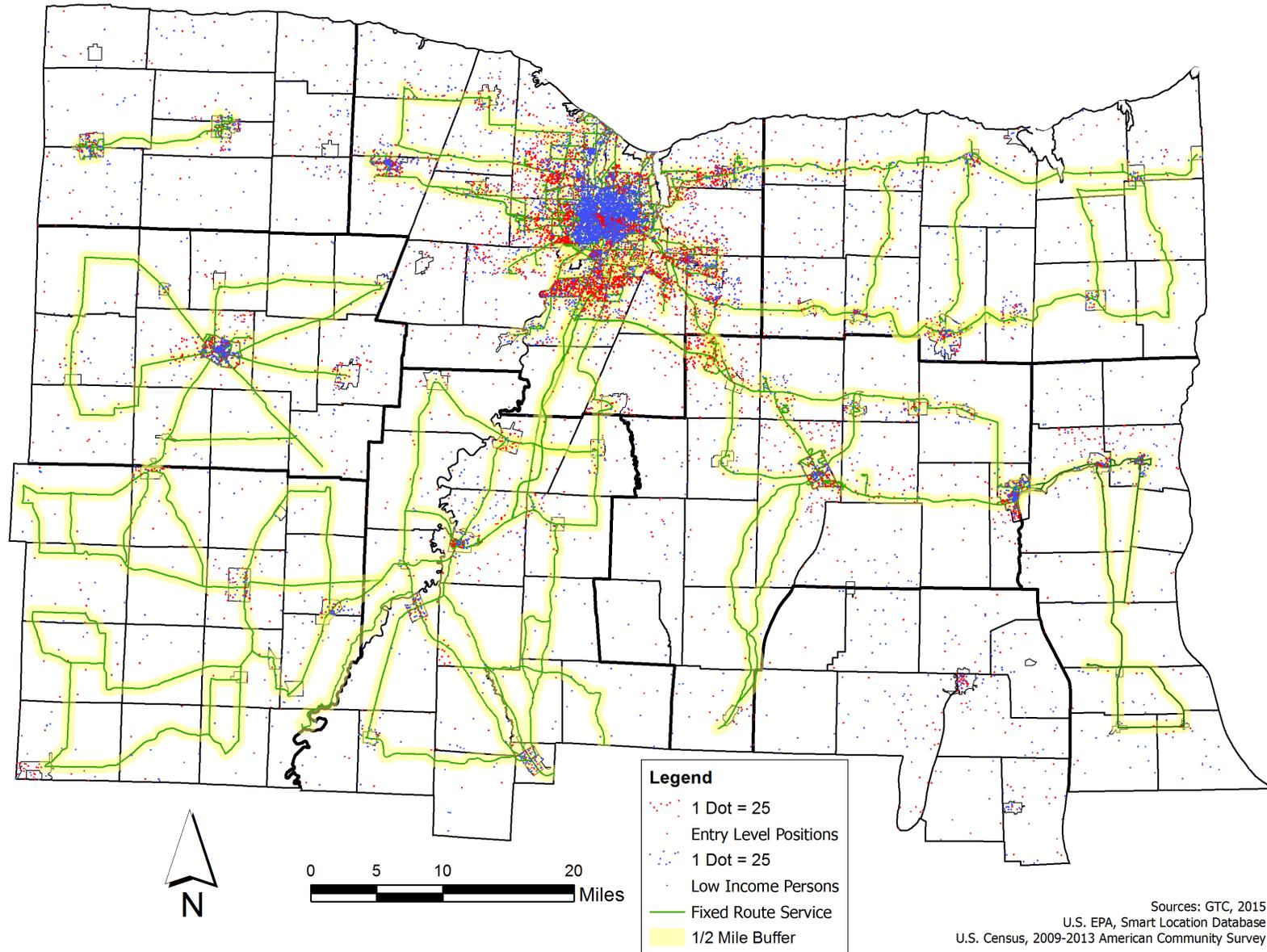
A review of Maps 4 and 5 suggests several findings:

- Eight out of nine counties in the Region are served by public transportation;
- In all nine counties, with the exception of Monroe County, lower income individuals and lower-wage jobs are most concentrated in the cities, villages, and hamlets;
- In Monroe County, lower income individuals are concentrated in the City of Rochester, but many also live in the inner-ring suburbs;
- In Monroe County, lower wage jobs are concentrated in the City of Rochester as well as in suburban towns such as the Town of Greece (Greece Ridge Mall) and the Town of Henrietta (Marketplace Mall). Eastview Mall located in the Town of Victor, Ontario County, also provides lower-wage job opportunities for individuals including many living in the City of Rochester who access these positions via transit buses; and
- There are areas in all of the counties (including Yates County which lacks public transportation services) where moderate numbers of both lower-income individuals and lower-wage jobs are located outside the service area for fixed route transit.

New York State recently passed a budget that calls for steady increases in the minimum wage. This has the potential to reduce the number of low-skilled positions available to workers. In order to climb the economic ladder, workers need to aspire to higher positions. They need opportunities to gain skills that allow them to move into higher-skilled positions that command a higher wage. These aspirations can be crushed if transportation is a barrier to these opportunities.

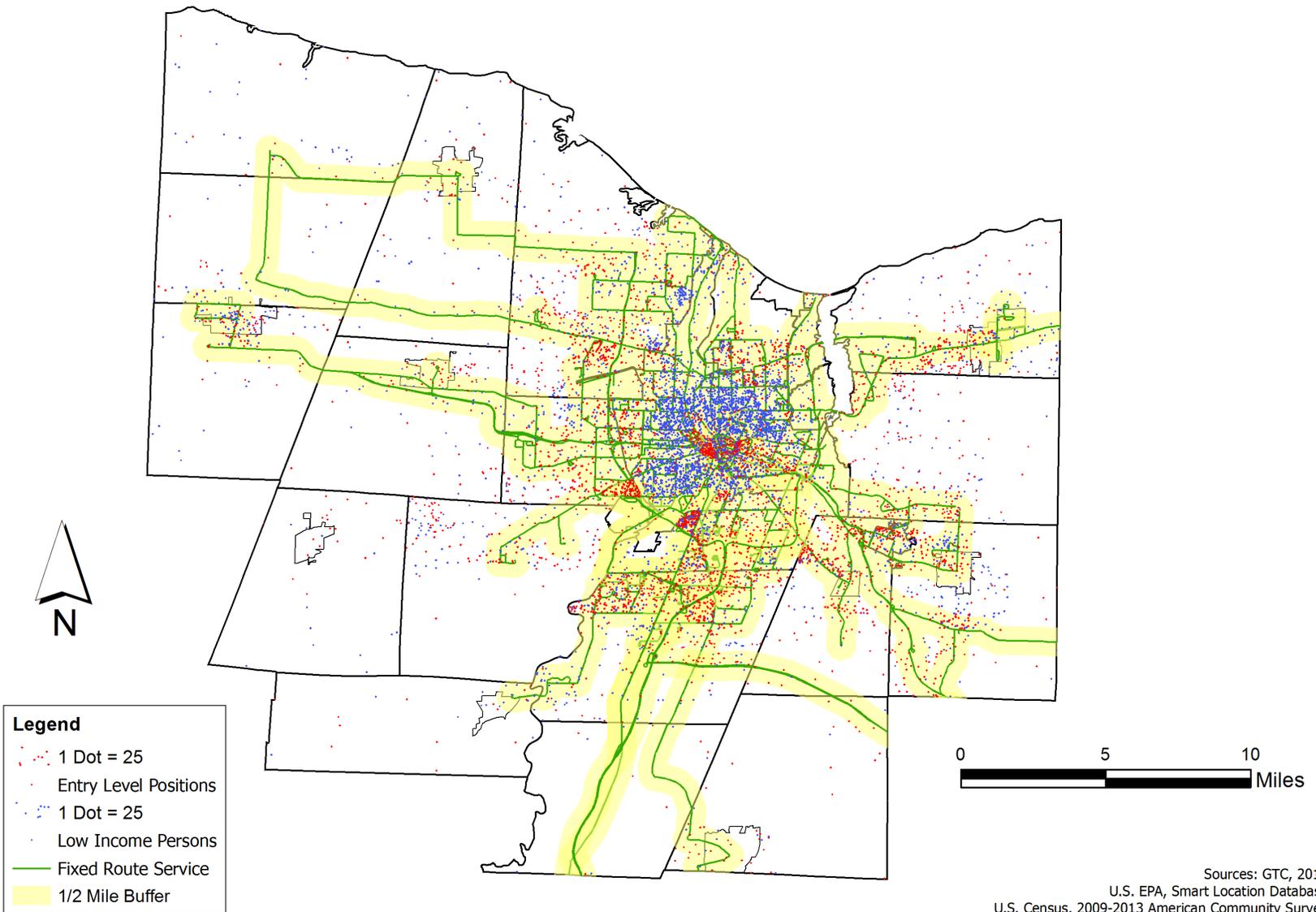
Ladders of Opportunity in the Genesee-Finger Lakes Region

Map 4



Ladders of Opportunity in Monroe County

Map 5



Coordinated Planning

The previous discussion, focused on Ladders of Opportunity to employment, underscores the fact that there are geographic areas, individuals, and opportunities for employment in the Region that are not, and in some cases can't be, cost effectively served by fixed-route bus service.

Similar findings can be made with respect to fixed-route bus service access to education, health care, and other services important to veterans, seniors, youth, and other disadvantaged populations. In addition, many individuals with disabilities are unable to utilize fixed-route bus service even where available, because they may require specialized "door-to-door" or "door-through-door" transportation services which can't be provided via fixed-route buses.

The gap in geographical areas that can be cost-effectively served by fixed-route transit and the need to serve individuals of all ages, incomes, and ability levels (including many who cannot utilize fixed-route transit) drives the need for coordinated planning. Coordinated planning can help to improve the delivery of workforce development, training, education, and other basic services to veterans, seniors, youth, and other disadvantaged populations.

To help meet these needs as required by federal law, the GTC adopted the *Coordinated Public Transit-Human Services Transportation Plan for the Genesee-Finger Lakes Region* (Coordinated Plan) in 2007. This plan was updated in September 2011 and again in March 2016. While the coordinated planning requirements (2007) predate the concept of "Ladders of Opportunity", the coordinated planning process fully embraces the concept of connecting people with the services, employment, and opportunities that they need to participate in daily life of the community.

The 2016 update to the Region's 2011 Coordinated Public Transit-Human Services Transportation Plan includes the following components:

- A validation of the 2011 assessment of transportation needs for individuals with disabilities, older adults, and persons with limited incomes;
- An update to the previous inventory of available services identifying areas of redundant services and gaps in services;
- A review and update of the 2011 strategies to address the identified gaps in services;
- A review and update of the 2011 identification of coordination actions to eliminate or reduce duplication of services and strategies for more efficient utilization of resources; and
- A reassessment and re-prioritization of implementation strategies.



Emerging Issues and Opportunities

Regional Emerging Issues and Opportunities, first identified in *LRTP 2035*, are planning considerations that will significantly impact the Region over the next several decades. How they are addressed both now and in the future will be vital to the success of the Region both in terms of quality of life and economic development.

The Growing Importance of Seniors: An Economic Engine



The increase in the senior population presents tremendous opportunities for our Region's economy and society. According to the American Community Survey 2009-2013 five year estimates, households in the Region that were headed by persons 65 years and older realized over \$5.8 billion in income. The Baby Boomers who, with their keen sense of lifestyle and personal fulfillment, currently outspend every population cohort and can be expected to do so as they age. According to the Bureau of Labor Statistics Consumer Expenditure Survey, the Baby Boomers are outspending all other generations by \$400 billion every year on consumer goods and services. Accordingly, the ability to retain wealthy retirees (including current and potential "snowbirds") presents the opportunity to increase economic development in the Region. In the Region, seniors had disproportionately more income than their population size – 17.8 percent of the Region's total household income compared to comprising 14.7 percent of the Region's population.

Few things are more important to seniors than remaining independent, aging in place, and being able to drive as long as possible. Nationally and locally, seniors prefer almost exclusively to age-in-place or retire where they raised their families over living in group quarters, such as senior housing. In order to reap the economic benefits of an aging population we must continue to help seniors remain mobile. Our Region's mobility challenge is two-fold: in the urbanized portion of our Region, we have to figure

out how meet the new and growing demands for transportation infrastructure and services; in other areas, we have to figure out how to match transportation services to smaller populations that are more spread out and therefore more difficult and expensive to serve.

The Regional Food System: Stability and Enhancement

Agriculture and food production both remain significant economic engines for the Region, especially for the rural communities. The regional food system – and the contribution of agriculture to the economy and equitable access to fresh fruits and vegetables – can be stabilized and enhanced by ensuring that the transportation system connects production with consumption. Since the inception of *LRTP 2035*, several region-wide initiatives have been conducted to support both the transportation system and the regional food system.



In 2011, GTC and the New York State Department of Transportation, in cooperation with its partners, completed *Transportation Strategies for Freight and Goods Movement in the Genesee-Finger Lakes Region* (Regional Goods Movement Strategy) to determine how transportation investments can be

leveraged to increase regional economic competitiveness and maximize economic growth. A key objective was to develop goods movement strategies that will position the Region's transportation system as a distinguishing factor in retaining and attracting both traditional and emerging-technology manufacturing firms as well as enhancing the viability of agriculture. The Regional Goods Movement Strategy aims to contribute to the regional food system by enhancing the regional freight network through recommendations that improve efficiency, preserve and improve access, provide a safe and secure system while mitigating negative community and environmental impacts, and create opportunities for job growth that are cost-effective in nature.

The FLREDC lists Agriculture and Food Production as a core job driver, or pillar, and calls for strategic investments through proposed priority projects to support the viability of this industry throughout the Region.

The Transportation System's Role in Public Health: Beyond Safety

Transportation's traditional role in public health over the past several decades has been almost exclusively focused on safety and air quality. While decreasing the number of motor vehicle crashes that result in fatalities, injuries, and property damage is and will continue to be the primary safety goal of GTC, opportunities have risen to positively impact current public health issues through our built environments. The transportation system and how our communities are designed has a profound effect on one's personal health whether it's limited access to fresh healthy foods or health care, increased air pollution and noise, limited or dangerous walkability and bicycling options, or an overall lack of options aside from taking a private vehicle.

Most importantly from a transportation perspective, enabling bicycling and walking promotes active transportation that has the potential to reverse the epidemic of obesity that is one of, if not

the most, pressing public health issue in the nation. The most acute illustration of this is the widely publicized fact that the current generation of children is the first in history to have a life expectancy less than its parents as a result of a sedentary lifestyle combined with unhealthy eating habits. Increasingly, communities in the Region are taking the lead and developing Active Transportation Plans to enhance quality of life, livability, and economic opportunity through increased multi-modal options for all people regardless of age or ability. GTC continues to lead regional active transportation projects such as the Regional Walkability Improvement Program that developed action plans in ten communities to address pedestrian safety, accessibility, convenience, and comfort in downtowns and on main streets.



With an increasing senior population, it is imperative that access to health care (including preventative services that reduce overall costs) be a primary consideration in the design of future transportation services. Overall the reductions in emissions from the transportation sector has been and will continue to be the result of advances in technologies regarding a vehicle's fuel efficiency, design, material, and pollution controlling devices.



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The Larger Mega-Region: Positioning the Region for Success

Over the past 50 years, metropolitan regions have expanded – both physically and economically. Cities today compete in the global economy where national and geographical boundaries are blurred. The connections between metropolitan regions have increased both physically and functionally into agglomeration economies as defined by the clustering of related industries combined with shared customers and the available labor force. Mega-regions are tied together by geographical features and resources, cultural linkages, transportation infrastructure, and economic interdependencies. As presented in Exhibit 11, the Region has been included in two identified mega-regions: the Royal Institute of Technology-Centre of Excellence for Science and Innovation Studies' Tor-Buff-Chester (i.e., Toronto-Buffalo-Rochester) Mega-Region and the Regional Plan Association's Great

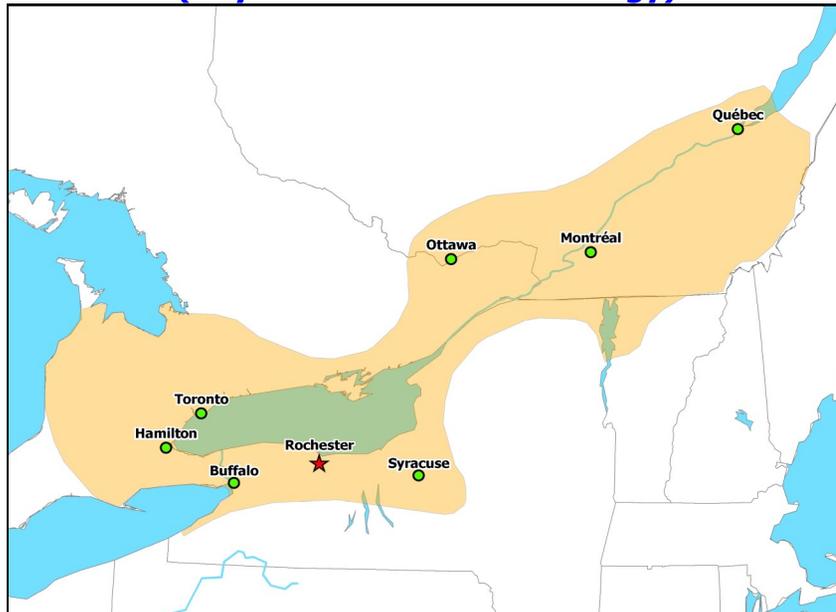
Lakes Mega-Region. The Region is also included in the Greater Golden Horseshoe (GGH), a moniker since the 1950s, which starts in Toronto, wraps around the western shoreline of Lake Ontario and terminates at Rochester [creating the illustrious "horseshoe" shape]. The GGH is a "smaller" mega-region situated within the "larger" Tor-Buff-Chester and Great Lakes mega-regions. All of these mega-regions include the Greater Toronto Area.

The U.S. and Canada have the largest bi-national flow of goods, people, and services of any two nations in the world. Over \$1.95 billion worth of good cross the border every day. Keeping the transportation system at the border functioning is vital to this bi-national, symbiotic, trading relationship. Trade accounts for over half of Ontario, Canada's GDP and 90 percent of this trade is with the United States. The Greater Toronto Area alone produces 20 percent of Canada's GDP. This prosperous economic relationship represents significant opportunities for the Region. Moving goods

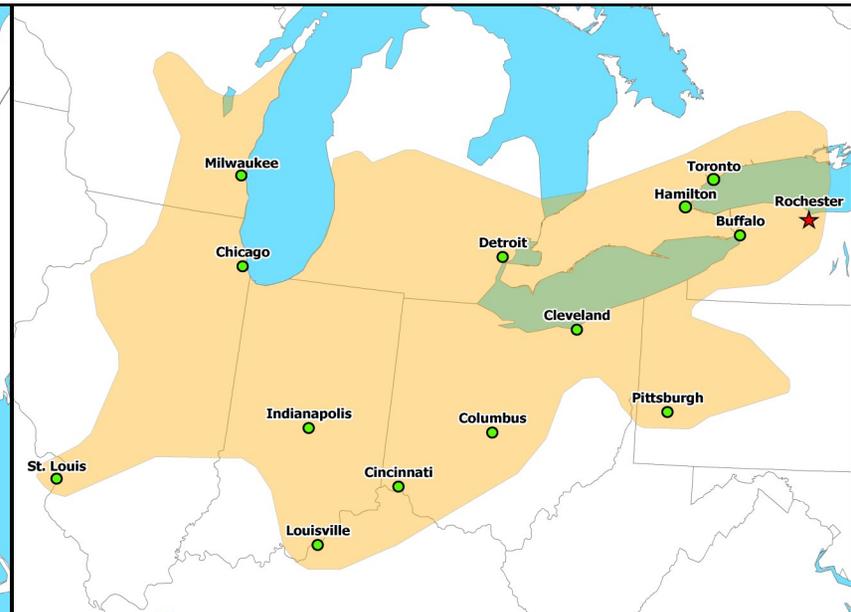


Exhibit 11

**Tor-Buf-Chester
(Royal Institute of Technology)**



Great Lakes



and people throughout the mega-region efficiently will increasingly gain importance for future economic growth and success. To take full advantage of this Region’s geographic location, the transportation system will need to ensure reliable, convenient, and cost-effective connections for people and freight both within the larger mega-region and to other domestic and international markets.

The Impacts of Climate Changes: Mitigation and Adaptation

Extreme weather events (e.g., Hurricanes Irene and Sandy) have been increasing in frequency and strength and pose a significant threat, through amplified flood events and stormwater runoff, to the integrity of the transportation system. Transportation policies, services, and programs have the ability to reduce the emission of greenhouse gas (GHG) and the dependency on foreign oil. Policies that reduce GHG and seek alternative fuel sources simultaneously attain other significant benefits that are far reaching from an environmental, economical, and a national security perspective.

Adapting transportation facilities to be more resistant and resilient to climate change is clearly a public responsibility given that the vast majority of associated infrastructure and services are provided by government entities. The recently completed *Genesee-Finger Lakes Critical Transportation Infrastructure Vulnerability Assessment*, assesses the vulnerability of the Region’s roads, bridges, railroads, operations centers, intermodal transfer facilities, and other surface transportation infrastructure assets to natural and manmade hazards and proposes solutions for preventing and/or mitigating the impacts of hazard events on those assets. Through 2040, the reconstruction and replacement of transportation facilities should include design features as well as operations and management capabilities that account for these impacts and increase resiliency and resistance throughout the system.

The Future of Energy Requirements of the Nation: Undecided Sources

Uncertainty remains surrounding transportation’s preferred future energy sources through 2040. According to the U.S. Energy Information Administration’s Annual Energy Outlook 2015, gasoline consumption in the transportation sector for 2040 is expected to decrease given the new Corporate Average Fuel Economy (CAFE) and GHG standards. This downward trend represents a shift from the historical average given that gasoline consumption has continued to rise steadily since the early 1970s. By 2040 the average light duty vehicle will achieve an average of 37.0 miles per gallon compared to the current standard of 21.9 miles per gallon in 2013. These increases in fuel economy will offset GHG emissions created by additional vehicle miles traveled through 2040. In other words, people will be driving more than ever but decreasing fuel consumption and polluting less thanks to tighter regulations at the federal level.

The mobility provided by private automobiles, the fact that public transportation primarily utilizes buses, the need for trucks to transport freight to its final destination, and the significant investment in facilities (e.g. highways and bridges) that serve these modes demand that alternative fuel sources be identified and that related infrastructure be developed. Although alternative fuel, flex-fuel, and hybrid vehicles will continue to increase their market share by 2040 the Annual Energy Outlook 2015 is projecting the largest share of light duty vehicles sold will continue to be gasoline-only vehicles at 46 percent of the total market share.

Hydraulic fracturing (commonly referred to as hydrofracking), as noted in *LRTP 2035*, remains at the forefront of energy-related issues in the Region. Hydrofracking involves injecting water and chemicals into horizontally drilled wells to fracture rock formations and release natural gas. The Marcellus Shale formation, located in the southern portion of the Region, and the Utica Shale, a deeper formation extending throughout the entire Region, both contain



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extensive reserves of natural gas that would need to be “fracked” in order to be extracted.

On June 29, 2015 the New York State Department of Environmental Conservation (NYSDEC) issued the *State Environmental Quality Review Findings Statement* for hydrofracking that officially banned fracking in New York State. According to the NYSDEC a horizontal well with high-volume hydraulic fracturing may produce a total of 6,790 heavy and light duty truck trips. Road use agreements are the primary means of holding well operators financially accountable for any damage caused to the local roads, bridges, and drainage infrastructure due to fracking activities and the resulting required repairs. The *2011 Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program* called for site-specific Transportation Plans to be developed in order to hold well operators accountable for any resulting transportation infrastructure damage. If the ban is lifted the impacts on the transportation system and resulting deterioration to roads and bridges will be significant – pursuing and securing additional funding to repair the impending damage will be imperative given the current climate of fiscal constraint.



Connected and Automated Vehicles

The rapid development of Connected and Automated Vehicle (C/AV) technologies in recent years has led to an explosion of interest and concern as to how these technologies will impact our transportation system and the people who use it. Connected Vehicles are vehicles that use wireless technology to communicate with other vehicles and roadside infrastructure, while Automated Vehicles are vehicles with safety features that function automatically, i.e., without driver input. Many Automated Vehicle technologies (e.g., adaptive cruise control, collision avoidance, emergency braking, blind-spot detection, lane-keeping assist, and automated parking) are already available on the market.

The full range of impacts from these emerging technologies is unknown. Anticipated benefits include greater mobility for all system users, including those who cannot drive due to age, disability, or health concerns; increased safety through reduction in crashes; improved productivity for commuters, freight carriers, and other travelers, reduced vehicle emissions and increased road capacity due to greater vehicle and roadside infrastructure operations efficiency. However, a range of potential disadvantages have also been identified. These include the initial high costs of adopting and deploying C/AV supportive technology, data security and privacy issues, and induced demand for road space which may lead to increased congestion and emissions, as well as the simple fact that many people enjoy driving and may not want to give up manual control of their vehicles. The current national sentiment towards these technologies is mixed. A 2016 study conducted by the American Automobile Association (AAA) found that while 75 percent of drivers are afraid of self-driving cars, 61 percent also want autonomous features in vehicles. Balancing the public’s concerns with the potential benefits of these emerging technologies will be among the key challenges that transportation agencies, the automotive, legal, and technology industries, as well as the community at-large will need to address over the next several decades.



Image credit: U.S. Department of Transportation

The Region in 2040

L RTP 2035 presented two future scenarios for the Region that were developed based on the projected population and employment and the Emerging Issues and Opportunities through 2035. Scenario planning is typically conducted by regions that expect to experience significant growth in residents and jobs that will drastically impact future transportation needs. Even though population and employment growth in the Region is not anticipated to be comparable to that of high-growth areas, it was decided during the development of *L RTP 2035*, it would be beneficial to consider how the anticipated moderate growth in the Region would be geographically distributed. Given that the population and employment projections for 2040 are similar to 2035, the scenarios presented in *L RTP 2035* are still reasonable through 2040.

Additional feedback from the public was sought for *L RTP 2040*. During the Customer Engagement process two surveys were distributed and respondents were asked a series of preferential questions that focused on the Region’s issues and opportunities and quality of life indicators. Respondents were asked if they wanted the Region’s population to be less, stay where it is now, or grow. Approximately 56 percent of respondents noted they wanted the Region’s population to grow, 39 percent wanted it to remain the same, and approximately five percent wanted the population to decrease. The second survey asked respondents where they wanted future population growth to occur in the City of Rochester, suburbs, villages, and/or rural communities. The majority of respondents wanted growth to be concentrated in the City of Rochester, followed by villages, suburbs, and rural communities.

The following two scenarios assume the same population and employment projections but distribute the growth differently among the identified places, as follows:

- “Familiar Tomorrow” - assuming growth will continue to occur as it has in the past based on historical trends (i.e., development will continue to sprawl out from the urban center); and
- “Changing Landscape” - incorporates a re-densification within the Rochester MPA driven by increased energy costs and/or other factors that precipitate changes that alter the demand for housing and location of firms in a way that results in more compact development.

Compared to the “Familiar Tomorrow” scenario, the “Changing Landscape” scenario can be summarized as:

- Stabilization of and increase in the population of the City of Rochester as opposed to a decrease;
- Similar population growth in the Sub-Regional Urban Core and Rural Center places;
- Reduced population growth in the Mature Suburban, Recent/Emerging Suburban, and Rural places; and
- Greater concentration of manufacturing, wellness services, and shopping in the existing Employment Centers, Medical/Health, and Regional, Sub-Regional, and Local Retail places.

Based on feedback received from the community the “Changing Landscape” scenario is the most desirable future growth pattern for the Region through 2040. Nevertheless, the development pattern that materializes in the Region will depend on decisions made at the local level regarding land use and types of development that are allowed by municipalities’ comprehensive plans and zoning codes. The vast majority of this development will be driven by the private sector as it responds to market demand within locally-determined land use regulations. However, major



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transportation infrastructure and services will continue to be provided by the public sector; specifically, state and regional agencies. Accordingly, coordinating transportation and land use planning is essential as transportation facilities and services determine the land uses that can be reasonably supported while land use decisions determine the demand for transportation infrastructure and services.

Recognizing that transportation is one of many considerations in the land use planning and development processes, it is imperative that cities, towns, and villages work with county, regional, and state transportation agencies to gain a full understanding of how their decisions impact the existing transportation system and what improvements are generally achievable given physical and fiscal constraints.

GTC has and continues to develop resources that allow for better integration of transportation and land use planning, and provides direct financial assistance through the UPWP to local governments to conduct coordinated transportation and land use plans and transportation-focused zoning code updates.



GENESEE TRANSPORTATION COUNCIL



Long Range Transportation Plan for the Genesee-Finger Lakes Region 2040