

One North Central

A Roadmap for Regional Prosperity

June 2021

One Plan. One Voice. One Region.



acknowledgments

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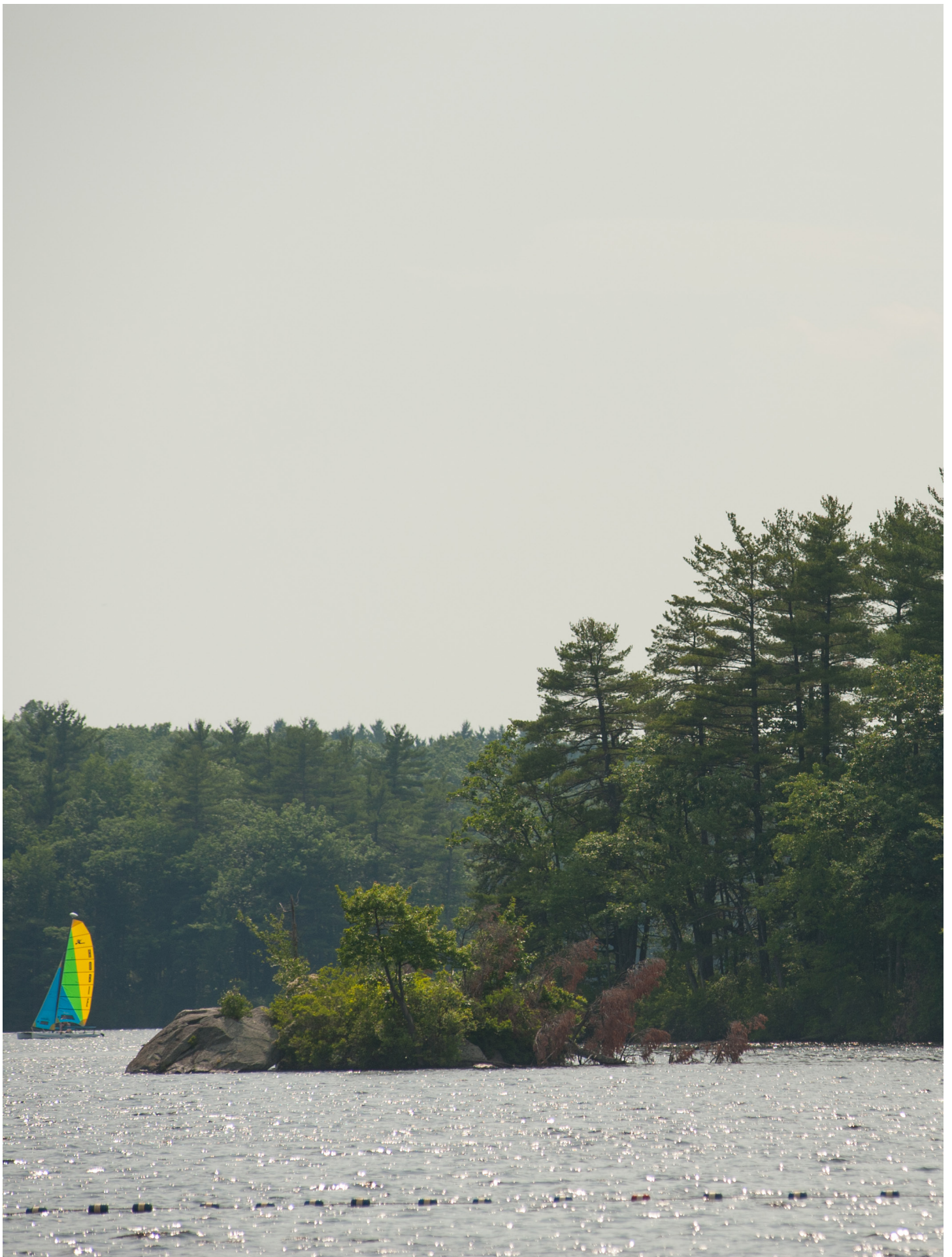


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North Central Massachusetts
Regional Economic Development Plan

**executive
summary**

about the plan

The North Central Massachusetts (NCM) region, comprised of 26 cities and towns and the former Fort Devens, is a diverse set of communities each with their own economic strengths and assets but also collective challenges. The strength of the region is found in the aggregation of these assets where the whole is greater than the sum of its parts.

The NCM region offers businesses, employees, residents, and visitors a wide spectrum of opportunities because of the diversity of community types where one can take commuter rail to a walkable downtown, open a small business in an old mill, build furniture in a state of the art manufacturing facility, learn to design a video game in a tech lab, or visit a farm or orchard for fresh produce. This regional economic development plan is about continuing to build on the things that make this region stand out, and come together to address the challenges that are ahead.

The North Central Massachusetts Chamber of Commerce (NCMCC) and the North Central Massachusetts Development Corporation (NCMDC) undertook an effort to create a new regional economic development plan looking ahead to how the region should position itself over the next 10 to 15 years. During the initial phases of the plan, the world was upended by the COVID-19 pandemic. This public health and economic crisis shifted the focus of the plan to looking at recovery and resiliency as well as future growth.

The prior plan for the region, completed in the early 1990s, was a great success and led to the implementation of several economic development programs the region benefits from today. The strong tourism focus continues to bring visitors and spending to the region, while the NCMDC's lending programs help support existing businesses and provide financial and business assistance to small start-ups and entrepreneurs.

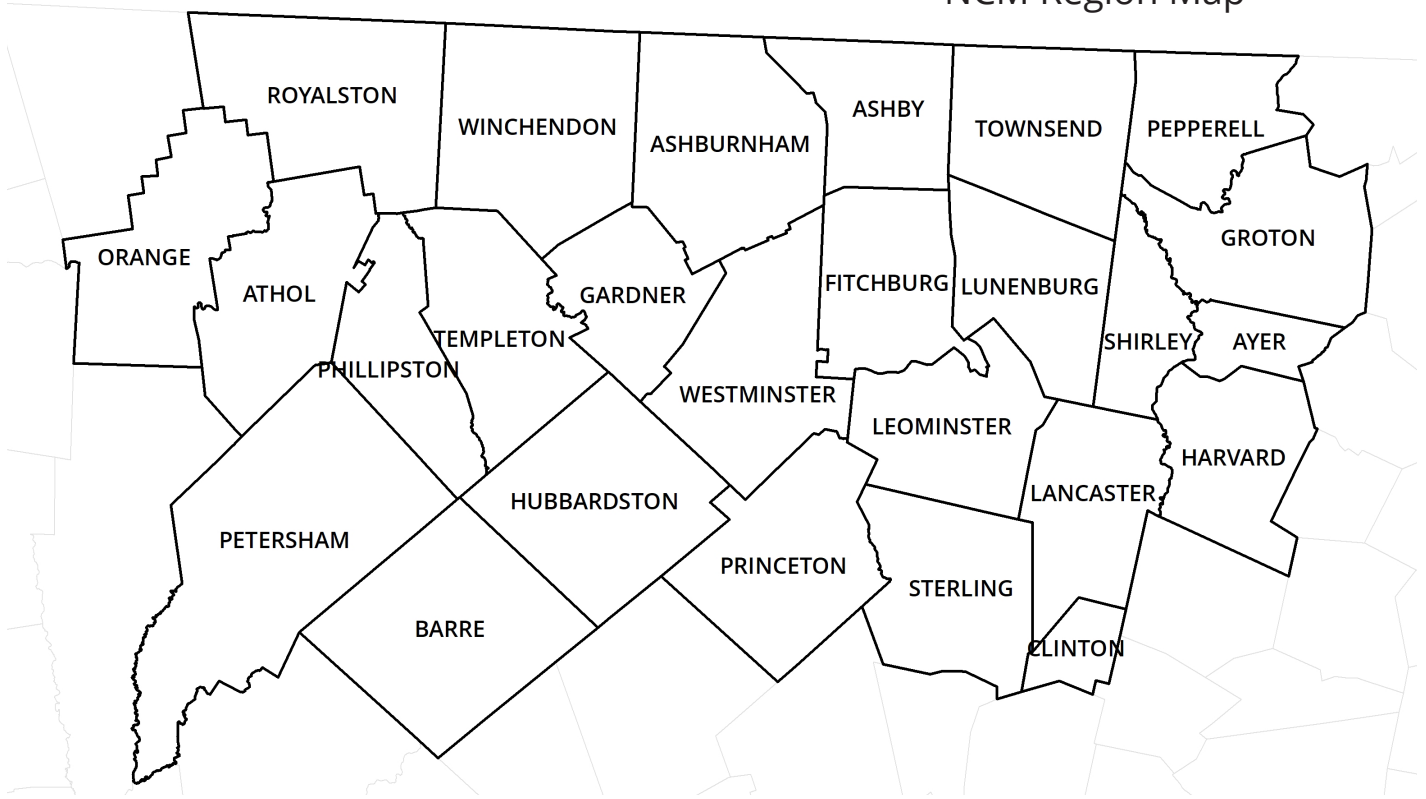
This regional economic development plan is formed around three foundation steps necessary to build toward success:

1. Defining goals for the region.
2. Assessing and defining market opportunities.
3. Identifying recommendations and actions that will advance economic development across the region.

A central tenet of this plan is growing from within. That means looking first at supporting existing businesses and strengthening the base, but also supporting new businesses and entrepreneurs who want to start and grow here in NCM. There are also opportunities to market the region's assets to outside enterprises and capture the region's share of new growth coming to Massachusetts. The goals and recommendations within the plan are structured to help the region come together and provide opportunities for all to succeed.

plan intent

NCM Region Map

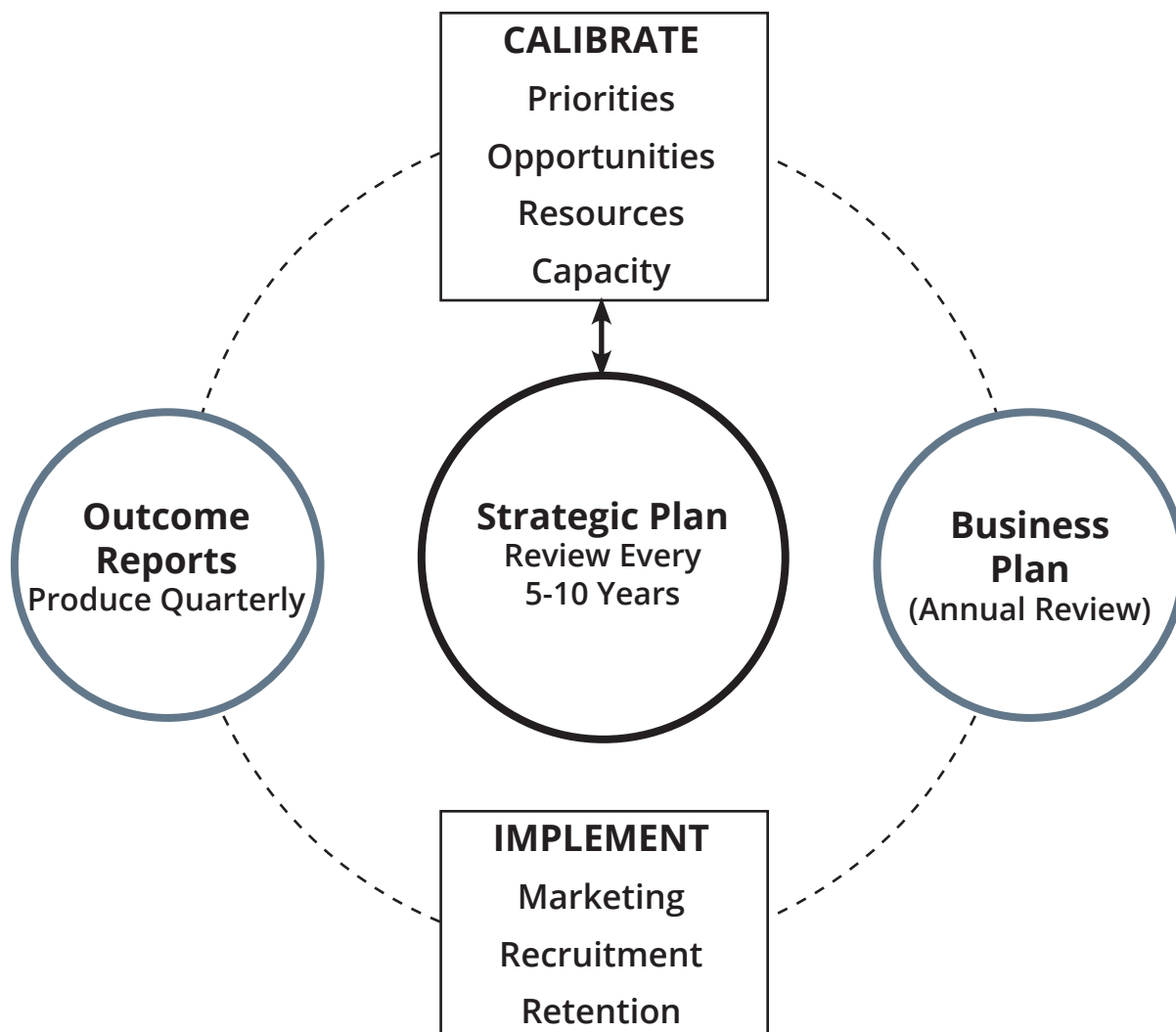


WHY DO WE NEED A PLAN?

The intent of the strategic economic development planning process is three-fold. First, the process intends to confirm the NCM region's goals for economic development. Second, it provides a series of recommendations and actions for the NCM Chamber, Development Corporation, and Visitor's Bureau to augment current efforts related to accomplishing the stated goals based on the resources committed to implementation. Finally, it identifies the roles and responsibilities for each public and private implementation partner. The full plan details the results of those efforts, culminating in an implementation matrix to help guide the region's future efforts to refine and expand its existing efforts.

The strategic goals and resulting recommendations are the culmination of the analytical and community engagement efforts performed over the the last year. The RKG Associates Team worked closely with NCM Chamber and Development Corporation staff and their Leadership Group to review all analyses, distill feedback from stakeholder meetings, and create strategic actions to position the region and each organization for success.

We encourage NCM, funding entities, community leaders, and interested citizens to embrace the plan and act effectively to implement it. The citizens and businesses of the NCM region will only be able to maximize the benefit of this effort through true partnership and collaboration. We recognize there will be dissenting opinions about some of the region's efforts and investment into economic development. Consistent and positive education and outreach will better inform the region at large, and enable discussions over disagreements to focus on substantive issues rather than subjective ones.



WHAT ARE THE STEPS?

The regional economic development plan is the critical first step in developing and implementing economic development initiatives. The plan provides regional leadership with the information necessary to reconcile the regional economic development priorities and the resources available to act. In other words, the plan is a “menu” of recommendations and actions tailored to the NCM region based on the quantitative data and qualitative input. However, the plan also provides detailed technical documentation explaining the rationale behind the implementation recommendations. This analytical effort and the resulting recommendations are presented in a manner that will allow the Chamber and Development Corporation to develop a more detailed business plan customized to the priorities and resources available.

It is important to reiterate that this plan is the first step towards implementing a coordinated, strategic action plan. As with any planning effort, the first step is to establish a strategic mission and enumerate specific objectives. This economic development planning process has gone a step further by providing recommendations and actions. Regardless, the next step should be to vet the results with leadership priorities, financial resource availability, and technical capacity. The vetting process should yield an annual action plan or business plan that identifies those components of the regional plan that are valued and achievable within a reasonable time frame (oftentimes within one year). As implementation of the annual action plan occurs, outcome reports should be generated (quarterly if possible) to gauge effectiveness of actions and if a change in delivery should occur. An annual calibration should take place before approving the next year’s annual action plan.

We also recommend the regional economic development plan be revisited and updated once every 5-10 years to identify successes, new/modified courses of action, and calibrate for new market/community climate.

WHAT DID WE LEARN?

DEMOGRAPHIC, ECONOMIC, AND REAL ESTATE MARKET ANALYSIS FINDINGS

Accessible and affordable.

North Central Massachusetts' diverse cities and towns provide a strong local job market as well as close connections to New England's largest cities, while still benefiting from a lower cost of living than more populous metro areas.

Slower growth and an aging population.

Modest population growth of 4% since 2010 is expected to slow in the decade to come, as post-retirement residents make up an increasing share of NCM's population. This could increase demand for healthcare services, more densely situated multi-family housing, and walkable communities, but also challenge employers to attract and retain younger workers.

Employment is concentrated in few sectors.

More than half of the region's employment is in three sectors: Health Care, Manufacturing, and Government/ Public Services. Jobs in the first two sectors offer employment at a wide array of pay grades and require both highly skilled and entry-level workers.

Manufacturing industry experiencing change.

Even as a center of traditional, "legacy" manufacturing, NCM's industrial sector has seen increased hiring in higher-paying, higher-tech firms that work in Chemical Manufacturing, Electronic Product Manufacturing, Research & Development, and Computer Systems Design, among others.

Proximity drives employment decisions.

The region's large geography means that while some communities function within the economy of a larger regional anchor like Boston or Worcester, others rely more heavily upon NCM markets like Fitchburg and Leominster. More workers living in the northern and western parts of the region tend to commute to other NCM communities and not out of the region.

New ground-up development has been limited.

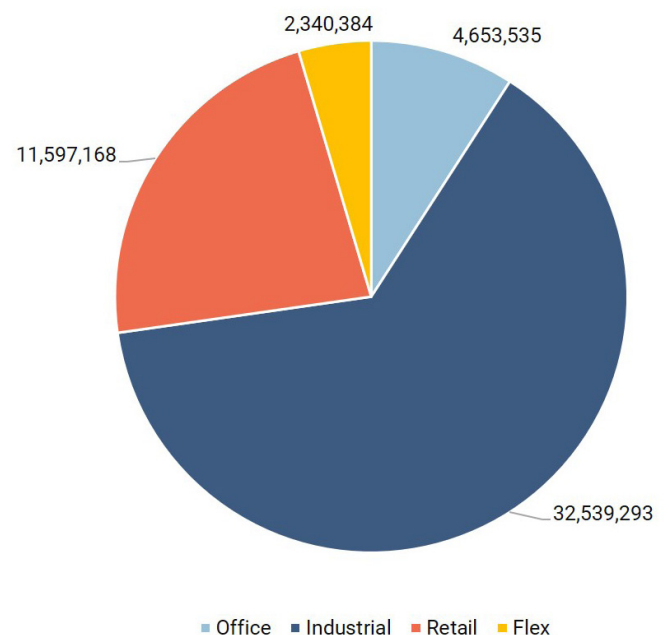
Investment in new, ground-up real estate development has been limited. Development that has taken place has been mostly small-scale residential, and at lower densities than NCM's already low-density historical average. Cities like Fitchburg and Gardner have seen success in redevelopment/adaptive reuse to help satisfy market demand for certain uses.

Vacancy has declined, but rent growth was slow.

The region's lack of substantial new development means that most new or growing firms are taking space in older structures that may not be able to charge more than average local rents. This can be an advantage in attracting some firms in higher-tech sectors may be unable to find suitable space in an older building.

**Distribution of Commercial Space SF in 2020
(NCM Region Overall)**

Source: CoStar



BENCHMARKING FINDINGS

The NCM Region was compared to five other regions including Route 128, Plymouth County, and MetroWest in Massachusetts, as well as Lehigh Valley, PA and Greenville County, SC.

Less expensive option.

From a cost perspective, real estate in the NCM region is less expensive than the Massachusetts comparison regions and, in some cases, less expensive than the regions outside Massachusetts. Lease rates, rents, and housing purchase prices are generally lower in NCM than in the other three Massachusetts regions. Average industrial and office lease rates can be \$4 - \$8 less per SF while residential rents can be as much as \$1,000 less per month.

Earnings are lower than other regions of Massachusetts.

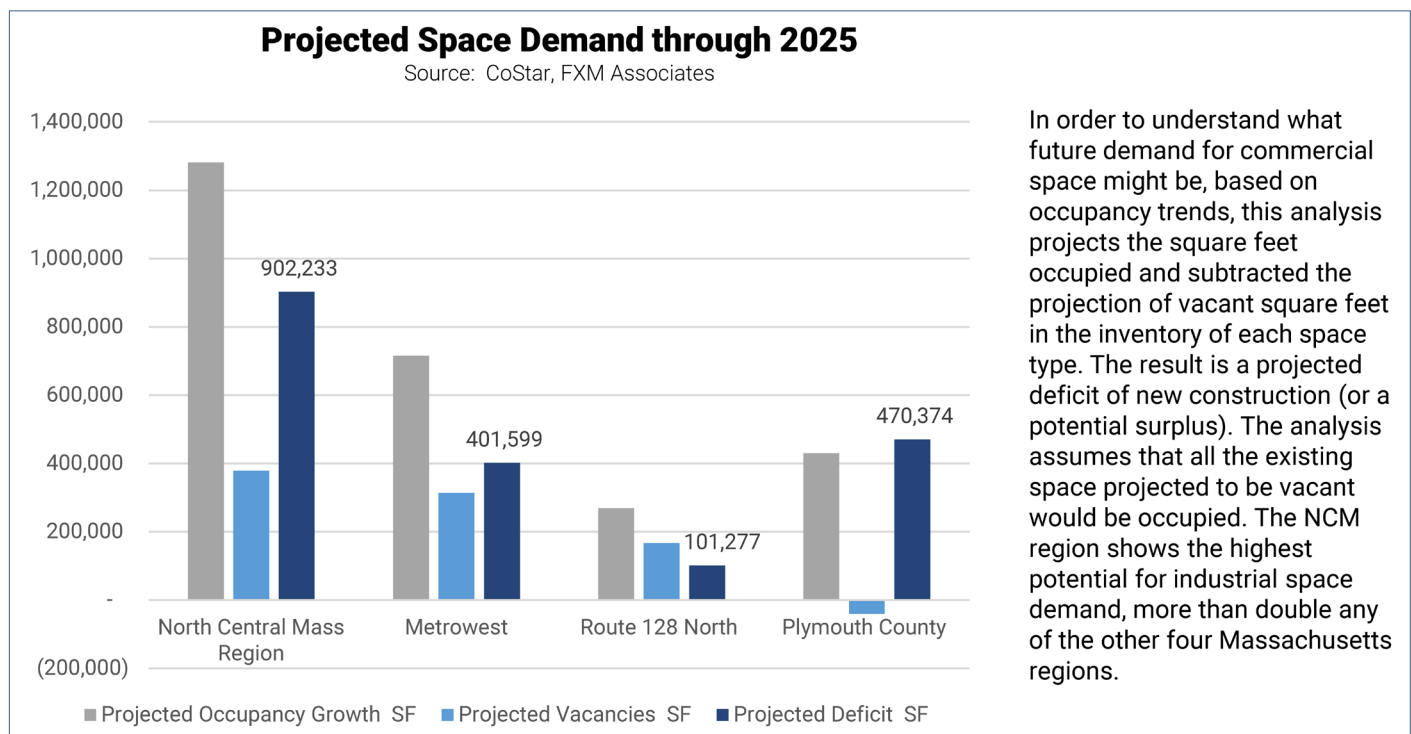
Average earnings for jobs in the NCM region are in line with those jobs in the Greenville and Lehigh Valley regions, but \$30,000 - \$40,000 less than MetroWest and Route 128. Concentrations of jobs in Professional and Technical Services and Life Sciences are being driven up by average wages in Greater Boston. Interestingly, while the average wages are similar in NCM to those of Greenville and Lehigh Valley, the cost of living is far less in those two regions compared to NCM.

Lower levels of educational attainment leads to lower incomes in NCM.

Educational attainment for NCM residents is lower than other Massachusetts regions, but on par with Greenville and Lehigh Valley. As of 2018, 32% of NCM residents over the age of 25 had obtained a bachelor's degree or higher. This compares to 51% in the Route 128 region and 55% in MetroWest. This also directly translates to a lower median household income in NCM (\$70,000) compared to MetroWest at \$107,000. Household incomes drive location decisions, housing prices, rents, and spending power for the local economy. They also reflect the mix of jobs.

Competitively priced space is an opportunity.

The NCM region has a relatively large share of competitively priced warehouse/distribution space. This type of "industrial" space has been growing nationally and is expected to continue to do so as e-commerce and shorter delivery windows accelerate. While the jobs are not as high paying as professional and technical services, they also do not require higher education levels. Industrial/warehouse/distribution space, when properly placed, provides an important source of business property tax revenue to NCM communities.



SWOT ANALYSIS

An analysis of regional strengths, weaknesses, opportunities, and threats (SWOT) was performed for the region informed by quantitative data analysis and qualitative conversations and surveys with regional businesses, organizations, and residents. The results of the SWOT are summarized below.

Strengths

- Lower real estate pricing and cost of living.
- Availability of land.
- Variety of community types.
- Accessibility and centralized location.
- Established economic development and tourism coalitions.

Opportunities

- Devens as a regional center of economic development.
- Downtowns as attractive mixed-use nodes.
- Legacy industries pivoting to, or adding, higher tech uses.
- Retain retirees with housing and amenities.
- Locate jobs and homes near transit stations.

Weaknesses

- Automobile access is essential.
- Age of the building stock.
- Relative lack of housing diversity.
- A common regional voice.

Threats

- COVID-19
- Macroeconomics and politics.
- Aging population and workforce.
- A common regional voice.



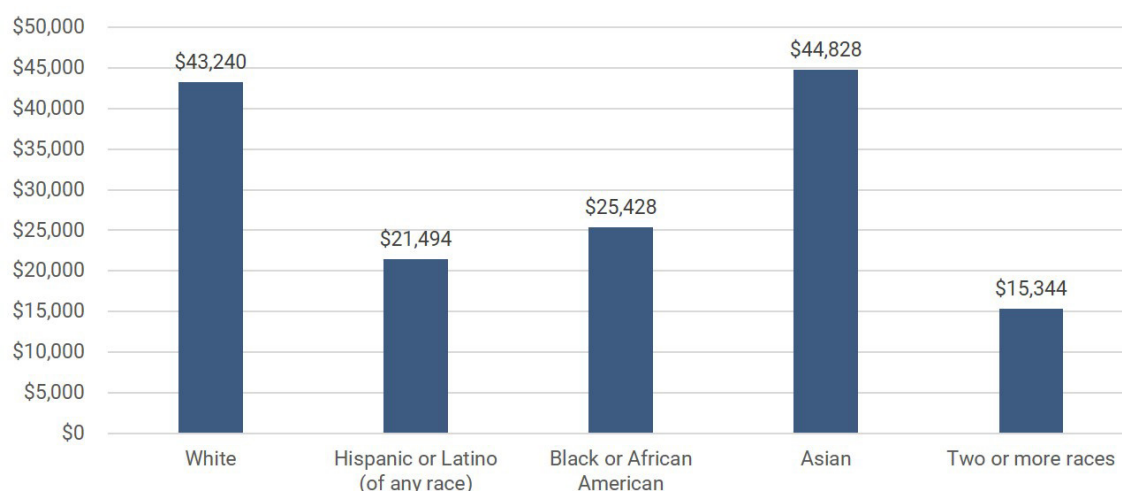
SKILLS AND WORKFORCE ANALYSIS

The skills within the region's existing workforce are well-aligned with the needs of target industry businesses. This is particularly true for Advanced Manufacturing. Some skills, such as new product development, automation, or pharmaceuticals are supplied in the region today, but are skills that are in high demand across several industry sectors. The region will need to focus on continuing to build those skills within the workforce, as they are likely to become more of a need in the future with advancements in technology across many industry sectors.

Emphasis should be placed on closing the education, skills, and income gaps for the region's Black or African American and Hispanic or Latino residents. The figures below show the per capita income disparity in the region across race and ethnicity and the share of occupations in the region by annual wage and race/ethnicity. This example shows occupations for the health care industry, which is one of the region's target industries as identified in this plan.

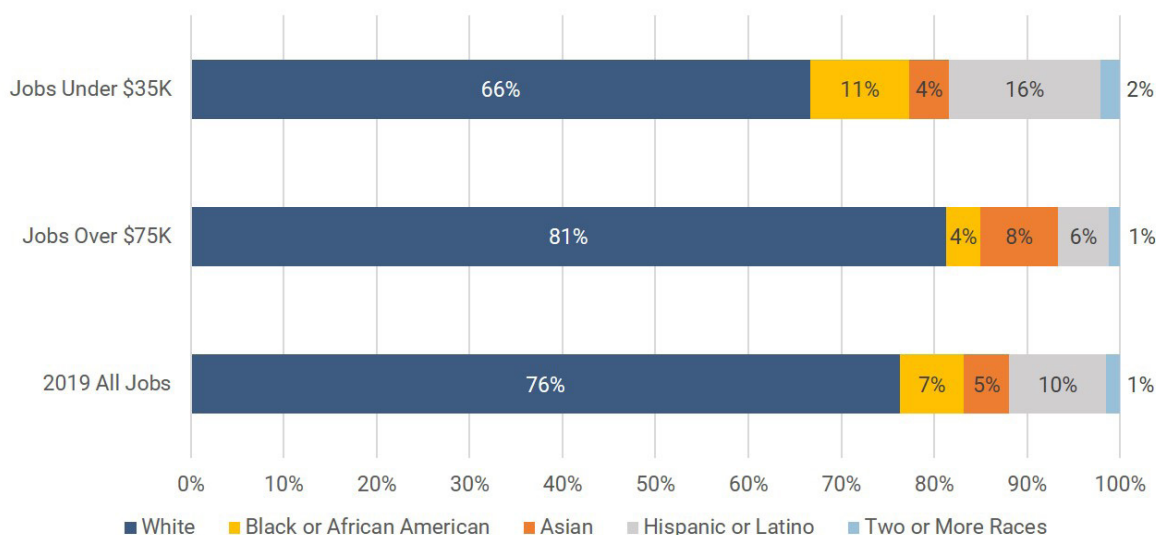
Hispanic/Latino Households Earn Half as Much as White Households

Source: ACS



Black and Hispanic/Latino Health Care Workers Make Up 27% of Workers Earning Less than \$35,000/Year and Only 10% of Those Earning Over \$75,000/Year

Source: EMSI

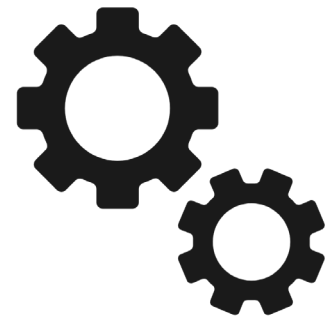


WHAT DO WE WANT TO ACHIEVE?

NCM REGIONAL ECONOMIC DEVELOPMENT GOALS

- Attracts, sustains, and grows a collection of employers providing jobs to workers who have a range of skills and education.
- Continues to support, grow, and evolve its manufacturing base.
- Builds talent from within through improved educational attainment, vocational training and apprenticeships, and skills building.
- Capitalizes on its unique location with enhanced transportation connectivity, modernized utilities, and digital connectivity that serves businesses and residents across the region.
- Sustains and grows unique town centers and downtowns that attract residents, employees, and visitors with places to live, work, learn, and enjoy.
- Recognized as a top destination for recreation and outdoor activity, family entertainment, and agri-tourism.
- Offers a diversity of housing types with a continued focus in town centers and downtowns to support employees and their families.
- Continues to have strong economic development leadership and coordination among organizations to support businesses through access to financing, marketing, networking, advocacy, and technical expertise.

HOW DO WE DO IT: KEY THEMES AND RECOMMENDATIONS



TARGET INDUSTRIES

First, we suggest the region focus in on four key target industry sectors that can serve as viable targets for supporting and growing existing businesses in the region and attracting new businesses in these sectors moving forward. To arrive at the chosen target industries, dozens of quantitative and qualitative factors were reviewed and analyzed, such as:

- NCM's existing employment and growth trends;
- Industry growth projections from sources including the Massachusetts Executive Office of Labor and Workforce Development;
- Area land use, building inventory, and land availability;
- Highway and transit access;
- Real estate costs (including for employee housing);
- Local fit factors such as educational attainment, workforce skills, and safety;
- Conversations with local business leaders, real estate professionals, economic development officials, and the public; and
- Previous studies and plans including the North Central Massachusetts Economic Profile.

Over the next ten years, the NCM region should focus on sustaining, growing, and attracting businesses in the following industry sectors:

- **Advanced Manufacturing**
- **Logistics & Distribution**
- **Tourism & Small Business**
- **Health Care**

ORGANIZING THEMES

Most of the recommendations and action steps cut across multiple regional goals, so to organize around implementation we developed five cross-cutting themes which help address the region's higher level economic development goals and serve as a way to organize recommendations and action steps. The five cross-cutting themes include:

1. Leverage the Region's Target Industry Growth Opportunities
2. Support Business Growth and Enhance Regional Equity through Talent and Workforce Development
3. Enhance NCM's Places and Infrastructure to Realize Economic Potential
4. Advance NCM's Innovation and Entrepreneurship Ecosystem
5. Improve the Delivery of Economic Development Efforts, Programs, and Funding

PRIORITY RECOMMENDATIONS

THEME 1: LEVERAGE THE REGION'S TARGET INDUSTRY GROWTH OPPORTUNITIES

- **Continue to Execute an Annual Business Survey**
 - » Execute an annual business survey and create longitudinal measures for tracking over time.
- **Create Target Industry Marketing Materials**
 - » Develop marketing materials for each target industry, quality of life metrics, workforce metrics, and available incentives.
- **Create Specific Target Industry Outreach Goals for NCM Region**
 - » Set an annual target for business outreach visits each year.
- **Market to Target Industries**
 - » Choose up to two target industries and engage in a robust and proactive marketing strategy. RKG recommends advanced manufacturing and logistics/distribution.
- **Create Industry Roundtables**
 - » Institute industry roundtables to meet semiannually and discuss market climate, industry trends, employment/skills needs, and growth prospects.
- **Host a Semiannual Regional Summit**
 - » Host a regional summit to discuss challenges and opportunities for target industry success.
- **Create a Centralized Database of Prospects**
 - » Work with local and regional partners to develop a database of business leads and prospects.

THEME 2: SUPPORT BUSINESS GROWTH AND ENHANCE REGIONAL EQUITY THROUGH TALENT AND WORKFORCE DEVELOPMENT

- **Develop a Workforce Dashboard**
 - » Develop an online dashboard to promote workforce programs and success metrics.
- **Create a North Central Massachusetts Job Fair**
 - » Host an annual NCM job fair, include soft skill workshops and trainings.
- **Strengthen the North Central Massachusetts Education Compact and establish a Collective Impact Partnership**
 - » Ensure all educational partners and institutions are part of the educational compact.
 - » Form a collective impact partnership to address root causes of education disparities.

THEME 3: ENHANCE NCM'S PLACES AND INFRASTRUCTURE TO REALIZE ECONOMIC POTENTIAL

- **Advocate for Downtown and Town Center Funding**
 - » Advocate for funding to help improve downtowns and town centers in the region.
- **Advocate for Regional Transportation Improvements**
 - » Advocate for regional transportation priority projects that could aid ED efforts.
- **Align Tourism and Economic Development Efforts**
 - » Ensure tourism and economic development efforts are aligned with regional ED goals.
- **Create a Public Relations Campaign**
 - » Hire a communications firm to increase positive media hits.
- **Expand Existing Visitor Center**
 - » Modernize visitor center with digital advertising, new exhibits, and local products.

- **Expand Sewer and Water Capacity**
 - » Study current systems and look for locations where expansion could aid ED efforts.
- **Strengthen Broadband Access Across the Region**
 - » Consider creating an NCM branded broadband network or a regional network.

THEME 4: ADVANCE NCM'S INNOVATION AND ENTREPRENEURSHIP ECOSYSTEM

- **Continue Efforts to Build and Expand Existing Small Business Programs**
 - » Boost small business technical assistance by working closely with regional partners.
- **Diversify Lending Programs**
 - » Add to existing lending portfolio by increasing micro-loan amounts and expand loan products.
- **Establish a Bi-Lingual Business Outreach Position**
 - » Hire a bi-lingual outreach staff person to help with business outreach and business start-ups.
- **Coordinate on Marketing and Services Offered at NCM Cowork Spaces**
 - » Coordinate with regional organizations on office hours at cowork spaces and centralizing efforts.
- **Expand Mentor-Protege Program**
 - » Train more mentors through SBA or SCORE, increase diversity of mentors as well.
- **Identify Local Supply Chain Linkages**
 - » Identify supply chain linkages for large businesses and anchor institutions in the region to increase purchases from smaller businesses.
- **Create a Workspace Location Grant Program**
 - » Work with municipalities to incentivize entrepreneurs to open small businesses in the region.

THEME 5: IMPROVE THE DELIVERY OF ECONOMIC DEVELOPMENT EFFORTS, PROGRAMS, AND FUNDING

- **Educate Municipal Leaders on the Importance of Flexible Regulations**
 - » Develop materials to educate leaders on the importance of being flexible with local regulations.
- **Develop a Process for Regionally-Coordinated Grant Applications**
 - » Create scoring metrics for regional grant applications and support high priority projects that advance ED efforts.
- **Support Area Planning Efforts Across the Region**
 - » Lend support to municipalities undertaking planning efforts that advance ED efforts.
- **Create a Dashboard of Economic Development Performance**
 - » Create a dashboard to track success metrics on regional economic performance.
- **Enhance Coordination of Marketing Materials**
 - » Work with regional partners to ensure ED marketing materials are displaying a consistent message.
- **Create a Centralized Inventory of Available Space and Properties**
 - » Create a centralized database of space and properties for prospective business leads in the region.
- **Create a Business Investment Fund for Regional Economic Development**
 - » Establish a municipal business investment fund to loan to businesses or match loans from lenders.
- **Create a Site Preparation Fund**
 - » Create a fund to be used for preparing sites for development/redevelopment in the region.
- **Consider the Creation of a Regional Land Bank**
 - » Create a regional vehicle for land banking properties key to long-term ED success

chapter 1

introduction

about the plan

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chapter 2

market analysis



The market analysis chapter provides an overview of regional demographics, employment and industries, and real estate conditions in North Central Massachusetts.

Key Takeaways

Accessible and affordable.

North Central Massachusetts' diverse cities and towns provide a strong local job market as well as close connections to New England's largest cities, while still benefiting from a lower cost of living than more populous metro areas.

Slower growth and an aging population.

Modest population growth of 4% since 2010 is expected to slow in the decade to come, as post-retirement residents make up an increasing share of NCM's population. This could increase demand for healthcare services, more densely situated multi-family housing, and walkable communities, but also challenge employers to attract and retain younger workers.

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Manufacturing industry experiencing change.

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market analysis



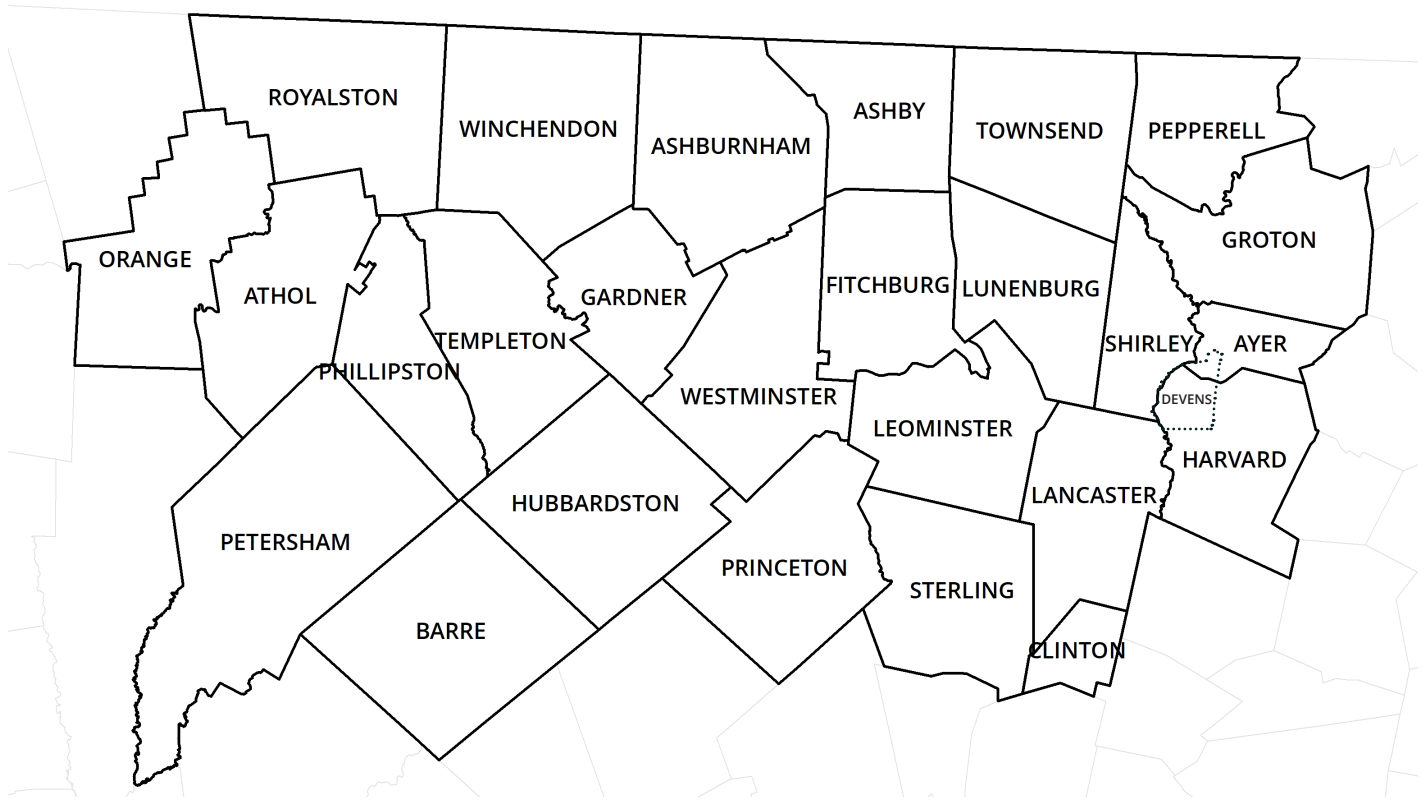
The market analysis chapter includes a review of regional demographics, socioeconomic trends, and information on the region's jobs, wages, employment projections, commuter patterns, and other data relevant to identifying target industries and recruitment/retention efforts. The real estate section provides data gathered from each of the 26 cities' and towns' property assessment databases, as well as commercial and residential rents, values, inventory, and projections of future demand. This chapter is the basis for informing future direction for the region.

STUDY AREA & LOCATION CHARACTERISTICS

The North Central Massachusetts region is comprised of 26 cities and towns, plus Devens, along the state's northern border with New Hampshire. The region's easternmost communities, like Groton and Harvard form the western edge of Boston's outer ring of suburbs, while some cities and towns in the region's south enjoy close economic ties to Worcester. NCM's two most populous municipalities, Fitchburg and Leominster, function as economic centers in their own right, at the region's geographic heart. Western communities like Athol and Orange are smaller and reflect the rural character of Western Massachusetts.

The region's principal east-west connector is Massachusetts Route 2, which runs from Cambridge in the east to Williamstown and the New York state line in the west. NCM's other major roads include Interstate 190, which connects Route 2 to Worcester and Interstate 90 beyond, and Route 202, a smaller connection between Route 2 and Concord, New Hampshire to the north. North Central Massachusetts is served by five stops on the MBTA's Fitchburg Commuter Rail line: Ayer, Shirley, North Leominster, Fitchburg, and Wachusett; the line terminates at Boston North Station. Locally, the Montachusett Regional Transit Authority ("MART") operates regional bus routes with service largely concentrated between Fitchburg, Leominster, and Gardner, and "G-Link" bus routes extending west to Orange and north to Winchendon. Figure 1 shows the communities that comprise the NCM region.

Figure 1: NCM Region



SOCIODEMOGRAPHIC REVIEW

The University of Massachusetts' Donahue Institute performed a socioeconomic review of North Central Massachusetts as part of its 2020 Economic Profile report. Several key trends and data points are summarized below.

KEY TAKEAWAYS

NCM has experienced moderate population growth since 2010, with a net increase of just over 10,000 residents (4%). With a regional population of approximately 275,000, the region's growth has been led by its easternmost municipalities, which enjoy the best access to I-495 and the Metro Boston job market.

The region's population growth is expected to slow over the next two decades, with a shrinking workforce and a rising number of residents over retirement age. While not unique to NCM, aging populations in many of the country's suburban and rural communities present new economic development and housing challenges. By 2040, as many as 27% of NCM residents may be over the age of 65, versus 12.5% in 2010.¹

The region's workforce is relatively well-educated, with 32% of its working-age population having earned a bachelor's degree or higher – roughly equivalent to the national average. NCM trails statewide educational attainment, although Massachusetts sets a high bar as the most-educated state in the country.²

NCM's median household income of \$69,775 is slightly below the state median – but many residents enjoy increased purchasing power due to a lower cost of living. Incomes vary significantly across the region, with its highest income municipalities clustered in the east and its lowest income communities concentrated in the northwest.

Median household incomes have grown in almost every NCM community in the last five years, with even some lower-income communities experiencing high income growth rates. Six communities have seen median household income growth greater than 20% since 2013; while Lunenburg (+33%) and Lancaster (+33%) are among NCM's higher-earning towns, other fast growers included Winchendon (+23%), Ashby (+22%), Fitchburg (+22%), and Royalston (+21%).³

¹ UMass Donahue Institute, Population Estimates Program

² bid.

³ American Community Surveys, 5-Year Estimates, 2009-2018, Table B19013

ECONOMIC INDICATORS

The most recent data available for most of these metrics are from 2019. While these figures still capture the relative strengths and weaknesses of NCM's economy in terms of location, workforce skills, and market capacity, all sectors will have been affected by the COVID-19 pandemic in 2020. Jobs data in 2020 will look markedly different from 2019, especially in service-industry sectors like Accommodation & Food Services, Retail Trade, Arts, Entertainment & Recreation, and others. Alongside the most recent data available for each economic measure, we offer commentary on how 2020 may have already affected the data and how COVID-19's impacts may continue in the months and years ahead.

KEY TAKEAWAYS

Regional employment grew by 10% from 2010 to 2018, slower than Massachusetts' 14% growth rate. Driven by firms in Health Care, Manufacturing, Construction, and Professional and Technical Services, job growth was concentrated in the Devens/Harvard/Shirley/Ayer cluster, and Leominster, with more moderate growth in Gardner, Fitchburg, and Athol.⁴

The region's two most developed industries, Manufacturing and Health Care, have continued to expand. Both sectors offer diverse employment opportunities, hiring high-earning, highly educated workers as well as lower-earning entry level employees. In NCM, however, Manufacturing employment is increasingly providing higher-than-average wages in subsectors like Chemical, Electronic, and Machinery Manufacturing, while much of the local growth in Health Care jobs has been in lower-paying social services and outpatient work.

Historic economic growth has been closely associated with geography, as NCM's eastern municipalities have enjoyed a faster growth rate and lower unemployment⁵ versus their western peers since 2010. Harvard, Groton, and Lunenburg had the region's lowest unemployment in 2016, while no community west of Westminster had unemployment below the state average.

Regional job growth is projected to slow to 3% between 2019 and 2024, down from 6% in the five years prior. Macroeconomic factors are expected to drive a reduction in retail, manufacturing, and information jobs, while an aging population and strong New England real estate market may push employment higher in Health Care and Construction, among other industries.

Commuter data shows that Boston and Worcester serve as employment draws for workers that live in many NCM cities and towns, although Fitchburg, Leominster, Gardner, Athol, and Clinton all serve as regional economic centers in their own right. NCM's most affluent communities tend to have the highest share of Boston commuters. That said, local job clusters are able to employ more of their own residents, and enjoy fiscal and economic benefits that come from concentrated local employment.

JOBS

Key to the economic future of North Central Massachusetts is its continued emergence as a low-cost region with easy access to major markets in Boston, Worcester, and southern New Hampshire. Large firms seeking sizable locations for research facilities, distribution centers, and corporate campuses helped to drive 10% job growth in the region from 2010 to 2018, with the region adding approximately 8,000 positions as a whole.⁶ That said, economic opportunity across the region remains highly imbalanced, as the region's eastern municipalities like Leominster and the Devens employment cluster have led the way in terms of job creation and wage growth. While residents of other communities may benefit by commuting to these clusters' higher-paying jobs, the fact remains that job centers like Fitchburg, Clinton, and Leominster enjoy the fiscal benefits of new jobs and commercial activity – which in turn makes them more competitive to attract and retain additional firms.

Three industry sectors comprise more than half of the region's employment: Government, Health Care, and Manufacturing. Contrary to the state of Massachusetts, which

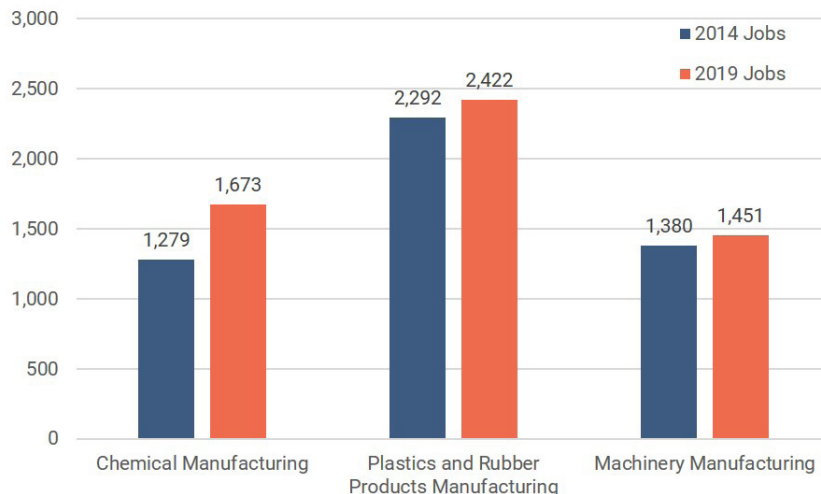
⁴ North Central Massachusetts Economic Profile Report, 2020.

⁵ Ibid.

⁶ North Central Massachusetts Economic Profile Report, 2020.

Figure 2: Top Manufacturing Growth Subsectors, 2014-2019

Source: EMSI



experienced a 2% decline in manufacturing jobs between 2014 and 2019, NCM's manufacturing employment grew by 3%, or more than 440 jobs during that period.⁷ That growth was driven by hiring in three of the sector's better-paying industries: Chemical Manufacturing (+390 jobs), Plastics & Rubber Products Manufacturing (+130 jobs), and Machinery Manufacturing (+70 jobs). NCM's manufacturing jobs are diverse, with employers seeking a wide range of skill levels at many different pay grades. Among subsectors with more than 100 regional employees, Computer and Electronic Product Manufacturing offered the highest annual salary in 2019, \$107,818. Chemical Manufacturing, Petroleum & Coal Products Manufacturing, Machinery Manufacturing, and others offered average wages well above the regional average of around \$42,000.⁸ While advanced manufacturing firms like Landrau Scientific Innovations (Leominster), Ecological Fibers (Lunenburg), and Micron Products (Fitchburg) are located all over the region, NCM's largest high-tech manufacturing firms are clustered at Devens: Johnson Matthey Pharma Services (pharmaceuticals), Bristol-Myers Squibb (pharmaceuticals), and SMC (medical devices), among others.⁹ Less skilled positions in Food Manufacturing, Wood

Product Manufacturing, and others pay less than \$60,000 per year on average, but offer stable employment to workers that may have less formal education than those in higher-tech manufacturing sectors.¹⁰

The Health Care sector was another large source of job growth within the NCM region, adding nearly 1,600 jobs from 2014 to 2019. Similar to Manufacturing, the Health Care sector provides jobs at a wide variety of wages, and opportunities for workers with different levels of educational attainment. NCM's Health Care employment skews towards lower-wage positions. Among NCM's 17,000-plus Health Care workers, more than half work in subsectors that pay less than \$55,000 - the regional average wage across all NCM industries.¹¹

Health Care employment growth since 2014 has been concentrated in these lower-paying subsectors; the largest and fastest growing category is Social Assistance.¹² Albeit critical to providing services upon which many NCM residents depend, Social Assistance workers' average wage of \$26,906 reflects lower-paying jobs in assisted living facilities, family services, vocational rehabilitation services, and community emergency services. The number of higher-paying Health Care jobs in medical facilities like general hospitals grew less quickly, by 5% from 2014 to 2019.

⁷ EMSI Industry Tables, NAICS Codes 31-33, 2014 and 2019

⁸ UMass Donahue Institute NCM Economic Profile Report

⁹ MassDevelopment and North Central Massachusetts Chamber of Commerce

¹⁰ EMSI Industry Tables, 2019

¹¹ EMSI Industry Tables 2014-2019; includes Government and non-QCEW jobs

¹² EMSI Industry Tables 2014-2019

Figure 3: Average Annual Wages, Manufacturing Sectors, 2019

Source: EMSI

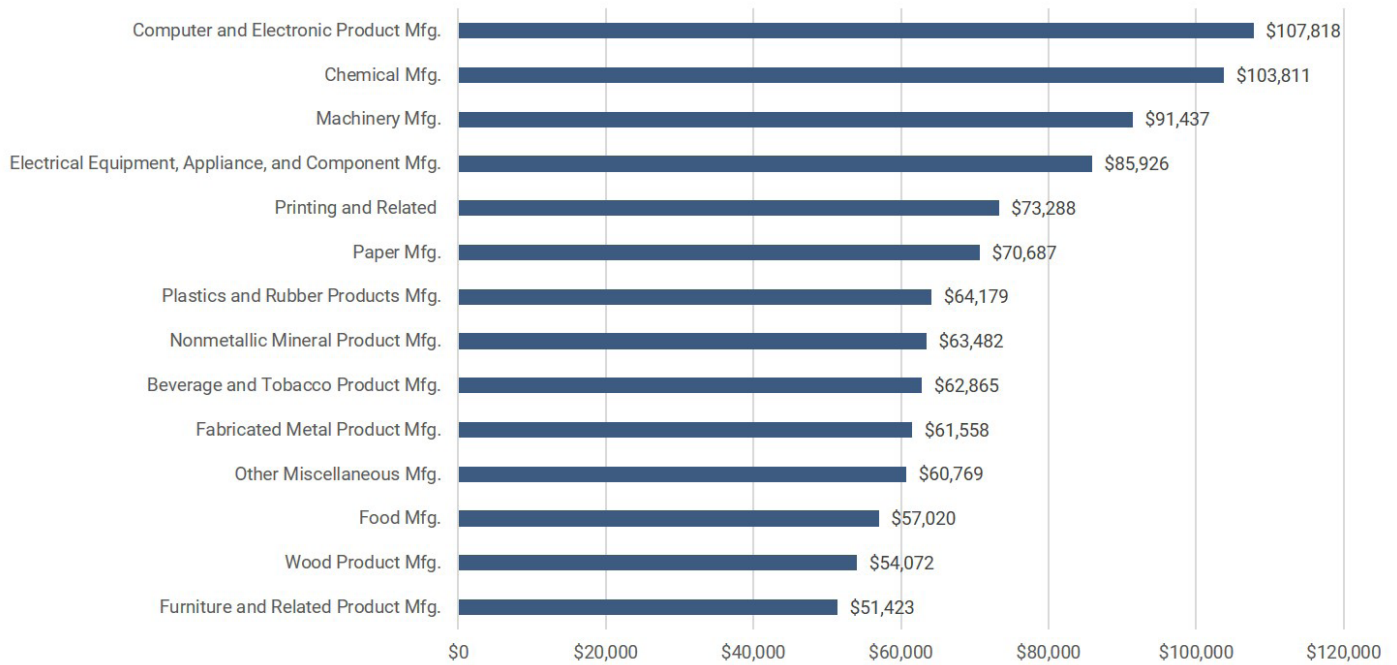
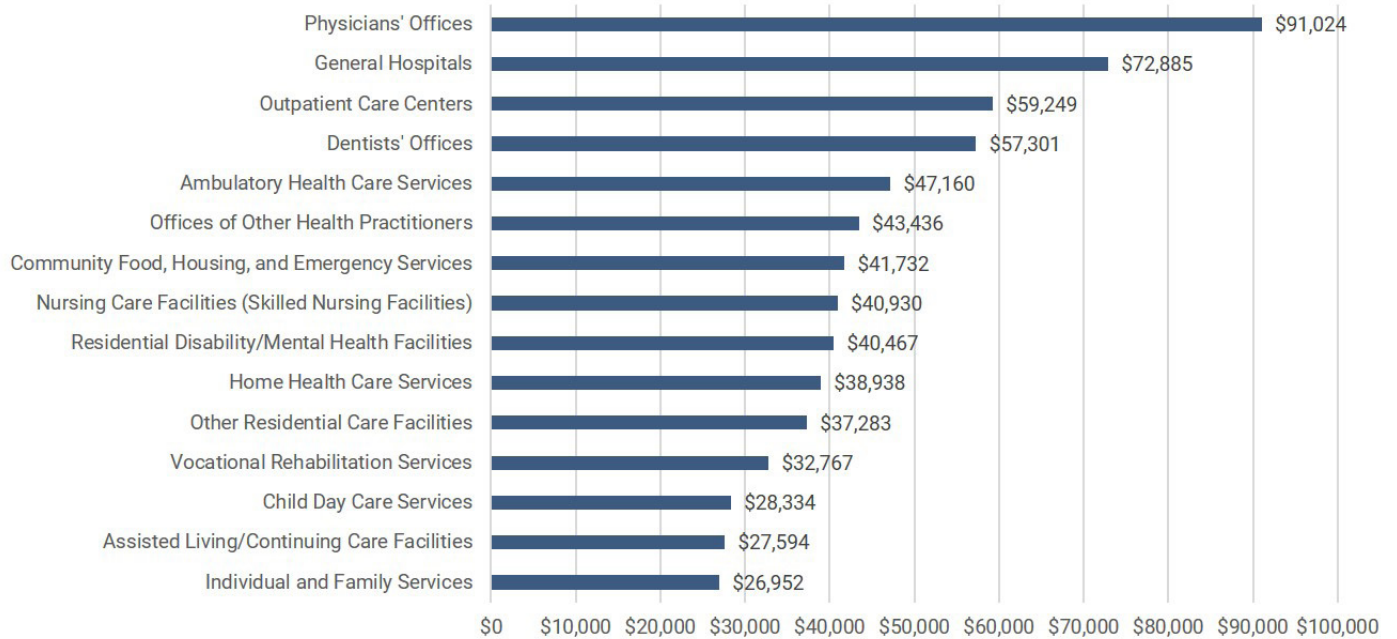


Figure 4: Average Annual Wages, Healthcare Sectors, 2019

Source: EMSI



JOB PROJECTIONS

Employment projections from EMSI forecast changes to the NCM region's job landscape over the next five years. Overall employment growth is expected to slow to 3% between 2019 and 2024, versus 6% from 2014 to 2019.

Projections for several employment sectors reflect broad national trends in consumer spending. A shrinking bricks-and-mortar retail industry has long been expected in communities across the country. Similarly, certain types of legacy manufacturing businesses face stiff competition from overseas firms as well as less-expensive states in the American south and Midwest. Large growth projections for Health Care and Social Assistance are common in areas with rapidly aging populations that will require increased medical capacity and care facilities.

While these broad trends are likely to continue, the magnitude of changes in employment may be even greater due to the COVID-19 pandemic. As employment in many retail, restaurant, and accommodation firms has dropped to virtually zero in a matter of weeks, a lengthy recovery means that year-on-year employment numbers will likely be substantially lower in the near-term. Governments facing lower tax receipts may institute service cuts, which in turn may lower hiring in public sector jobs. Uncertainty over demand for office space may translate to fewer construction starts and fewer construction jobs. The true economic impacts of COVID-19 will remain unknown for some time.

However, the majority of North Central's competitive advantages – its location, workforce, and cost of living, among them – will remain the same, and successful economic development efforts will continue to communicate them to prospective firms and residents, no matter the economic headwinds.

It is RKG's view that the projected decline in manufacturing employment should be taken less as a prediction, and more as a warning of how the local sector could be affected without continued evolution and innovation. The recent expansion of higher-tech manufacturing firms, driven in part by the region's access to highly educated workers, has helped pivot jobs into subsectors that are more likely to be resilient as manufacturing technology and geopolitics shift. Introducing new manufacturing technologies to older industries can also play a role in the sector's evolution. Local firms like AIS, an office furniture maker in Leominster, have incorporated innovative product design and manufacturing technology to become leaner and more sustainable. In addition, manufacturing firms taking advantage of NCM's large, relatively less-expensive spaces may feel less pressure than their more urban counterparts to reduce jobs per square foot as a means of maximizing efficiency. While NCM's more traditional, legacy manufacturers face risks from foreign competition, supply chain disruptions, and political uncertainty, they may be better positioned to retain local workers simply due to the unique combination of market access and low land costs that the region offers.

Figure 5: Net Employment Change Projections, 2019-2024

Source: EMSI



WAGES

Despite rising median household incomes across the region, North Central Massachusetts workers' real wages (aka adjusted for inflation) have remained mostly flat over the last decade. UMass reported that average private sector (QCEW) wages have held steady at around \$42,000 in 2018 dollars since at least 2001. This means that even as nominal wages have grown – 19.7% since 2010, and 10% in the past five years, according to EMSI – workers' purchasing power has remained flat.

Among sectors with over 1,000 employees in North Central Massachusetts, the Professional, Scientific, and Technical Services industry stands out for both its average wage growth and its high average wage. The sector, which includes professional jobs in scientific research, management consulting firms, computer systems and software design, architecture and engineering, and other subsectors, paid an average wage of just under \$105,000 within the region in 2019. NCM's largest professional subsector, Computer Systems Design, employed 931 workers at an average annual wage of \$151,665.

Construction jobs also benefited from a strong New England real estate market, driving 28% wage growth over the last five years. Regional employment in construction and related fields like general contractors, plumbers, electricians, etc. reached 3,834 in 2019, with an average wage of \$70,801.¹³

Employment and wages in lower-paying sectors have grown considerably as well. The average wage for a local retail worker grew by 27% from 2014 to 2019; for hotel, restaurant, and bar workers, 33%. Local jobs in educational services, entertainment, and "other services" (which includes repair and maintenance jobs, non-profit work, religious organizations, and others) saw similar wage growth. NCM's low cost of living means that workers in lower-paying sectors have a better chance of finding desirable housing than they might elsewhere in the state. When their pay rises, as it has over the last decade, the increase in local purchasing power may be especially impactful on the local economy.

Table 1: Average Wage Growth by Employment Sector, EMSI 2019

Sector	2019 Average Annual Wage	% Growth Since 2010	% Growth Past 5 Years	2019 Jobs
Management of Companies	\$136,280	47%	16%	968
Professional, Scientific, Technical Services	\$104,654	14%	29%	3,119
Manufacturing	\$77,945	2%	13%	13,991
Finance and Insurance	\$77,160	16%	36%	1,734
Wholesale Trade	\$76,757	7%	13%	2,257
Construction	\$70,801	19%	28%	3,834
Information	\$65,452	15%	20%	632
Real Estate	\$65,018	19%	40%	673
Government	\$58,375	11%	20%	17,910
Health Care and Social Assistance	\$51,845	6%	11%	17,368
Transportation and Warehousing	\$44,198	11%	25%	2,377
Administrative Services	\$41,139	12%	29%	2,971
Educational Services	\$40,070	4%	11%	1,739
Agriculture	\$37,372	14%	22%	1,297
Retail Trade	\$33,039	17%	27%	10,409
Other Services	\$30,589	9%	29%	2,781
Accommodation and Food Services	\$21,630	25%	33%	7,338
Arts, Entertainment, and Recreation	\$20,731	14%	19%	893

¹³ EMSI Industry Tables

COMMUTER PATTERNS

Given the broad geography of NCM's cities and towns, it's no surprise that different municipalities have different commuter habits. The number one destination for jobs among NCM's easternmost communities is Boston. The line of southern municipalities has more commuters heading to Worcester than any other city. And workers in some communities at the heart of the NCM region head to local job centers, like Fitchburg, Leominster, Gardner, and Athol.¹⁴

With the exception of regional job centers like Boston, Cambridge, and other larger cities, most American municipalities export the majority of their working residents to other municipalities as commuters. As a set of mostly low-density communities, many of which dedicate their land almost entirely to residential uses, this is very much the case in North Central Massachusetts. Still, the share of resident workers that commute out of town varies from community to community. Primarily residential "bedroom" communities like Petersham, Hubbardston, Phillipston, and Princeton export more than 19 in every 20 working residents as commuters.

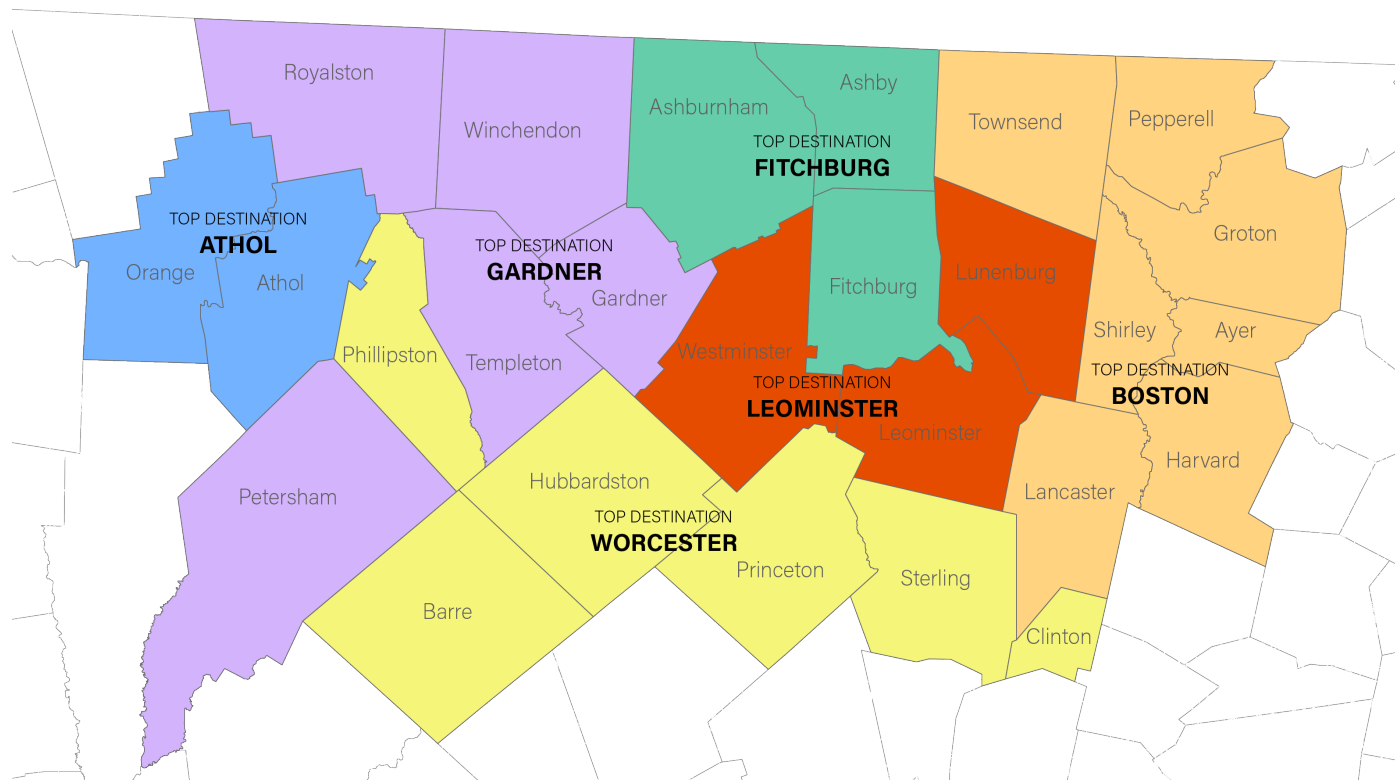
Communities with more substantial job bases are able to employ more of their own residents. In Athol, about a quarter of jobs are held by Athol residents, and one-fifth of Gardner's employees live in town.

While not every community desires substantial commercial development, those municipalities that are able to provide jobs and do so in sectors that match their local workforce can enjoy substantial benefits. Fewer out-of-town commuters means less automobile traffic. Cities and towns capture the fiscal benefits of commercial property tax receipts, as well as the secondary economic benefits of workers that spend money to support local restaurants, stores, and cultural and recreational amenities.

Still, even NCM's most self-sufficient economic communities have high, suburban levels of out-commuting. Regional job centers like Fitchburg, Leominster, and Gardner see roughly four in every five working residents commute out of town for their jobs.

Figure 6: Municipalities by Top Source of Jobs for Working-Age Residents

Source: Census On the Map



¹⁴ US Census Bureau, Longitudinal Employer-Household Dynamics database, 2019

REAL ESTATE MARKET & DEVELOPMENT ACTIVITY

The following section presents data and analysis on North Central Massachusetts' real estate market. The region's existing real estate inventory, as captured in each municipality's assessors' database and organized by MassGIS, is examined to understand changes in value, density, and land use over time and across locations. Market data on vacancy, prevailing rents and prices, and the forecasted need for new development provide perspective on where demand exists today and in the future.

KEY TAKEAWAYS

North Central Massachusetts remains a lower-cost alternative to expensive real estate markets in Greater Boston, offering value to firms and residents alike. Low housing costs, developable space, and commercial rents that are often a fraction of those in Boston's suburbs all can help the region to stand out in the eyes of site selection professionals.

New real estate development has been extremely limited across the region in the last decade, despite moderate growth in jobs and population. Development that has taken place has been mostly small-scale residential, and at lower densities than NCM's already low-density historical average. This indicates that many developers and residents have demonstrated a preference for larger spaces versus close access to local amenities and walkability.

Firms in logistics and distribution, health care, and advanced manufacturing have situated in locations like Devens and Leominster to take advantage of large, low-cost parcels with strong highway access to New England markets. These firms have fueled local growth in high-paying jobs in areas like Chemical Manufacturing and Research & Development.

Recent reductions in regional commercial vacancy suggest that demand for space in NCM will continue even as job growth slows in the near future. Modeling shows that demand for up to one million additional square feet of commercial space may materialize by 2025; while some new development may be required to meet demand, much will be covered by further filling of existing vacancies or further efficiencies in currently occupied stock.



Despite consistently rising home values over the last decade, NCM's housing costs continue to be a major advantage in the eyes of prospective firms and residents. The average home value was below \$400,000 for all but two of the region's municipalities in 2019.¹⁵ This may present an attractive proposition for households facing some of the nation's highest housing costs in Metro Boston.

NCM's shifting demographics – especially its rapidly aging population – will result in increased demand for smaller, more densely-situated homes, including rental housing. As many as 9,200 households per year may be looking for new rental housing in NCM, many of whom will be able to afford rents that are higher than those in much of the region's existing, low-cost rental housing stock.

Just as economic opportunity is often imbalanced between NCM's eastern and western communities, the market for real estate development is stronger in areas with better access to Boston, and to a lesser extent, Worcester. Slow (or negative) population growth in some western communities has led to the region's slowest growth in property values, which in turn can make job attraction and economic development efforts a more challenging task.

¹⁵ Zillow Home Value Index, Time Series, 1-Family and Condominiums/Co-Ops

DEVELOPMENT TRENDS ANALYSIS

Unlike in many Massachusetts municipalities (particularly those closer to Boston, Worcester, and other regional job centers), development in North Central Massachusetts has actually occurred at lower densities since the Great Recession versus historical patterns. This has likely taken place for several reasons. Massachusetts cities and towns nearer to major job centers have seen much of their new development in the last decade take the form of infill development, filling in the “missing teeth” in otherwise developed neighborhoods. In the NCM region, most recent development has been in further-out, lower-density areas where projects are not as confined by adjacent structures – but also where their economic benefits may not be as impactful or multiplicative.

Said another way, where many Massachusetts communities have seen a return to their historic town centers and a desire to live and work in more compact, mixed-use environments, investment in North Central has been less concentrated, taking place in open spaces where land is less expensive. The low cost of land in North Central Mass remains one of the key drivers of its economic development, both in terms of business attraction and its residential market. Table 2 shows how Fitchburg and Leominster – two of the region’s largest municipalities – have seen lower-density development over time. Density is measured by Floor Area Ratio (FAR), which is the ratio of an area’s total built square footage to parcel square footage.

Table 2: FAR by Land Use by Year Built, MassGIS & Municipal Assessor Data

Leominster	2007 & Earlier	2008-2012	2013 & Later
Residential	0.18	0.13	0.17
Industrial	0.30	0.16	0.10
Office/Medical	0.35	0.27	0.20
Retail	0.18	0.23	0.07
All Taxable Parcels ex. Agriculture	0.18	0.15	0.16

Fitchburg	2007 & Earlier	2008-2012	2013 & Later
Residential	0.09	0.07	0.05
Industrial	0.19	-	0.05
Office/Medical	0.32	0.16	0.20
Retail	0.09	0.19	0.18
All Taxable Parcels ex. Agriculture	0.10	0.08	0.07

Table 3: FAR by Municipality, excluding Vacant, Exempt, and Agricultural Parcels

Clinton	0.26
Leominster	0.14
Gardner	0.11
Fitchburg	0.09
Ayer	0.08
Shirley	0.03
ORA/ATH/ROY/WIN/ASBN/ASHBY	0.02
PRI/HUB/WES/BAR/PET/PHI/TEM	0.02
HAR/LAN/STE	0.03
TOW/PEP/GRO/LUN	0.02

Development patterns vary across NCM’s cities and towns. NCM municipalities with greater land area tend to have more acreage dedicated to agriculture and forestry, by definition low-density land uses. Towns with less land area that still maintain a historic, higher-density center, like Clinton, have higher overall development density figures.

COMMERCIAL MARKET REVIEW

This section describes trends in the inventory, vacancies, occupancy, and lease rates for office, industrial/warehouse, retail, and flex space in the North Central Massachusetts region and within individual communities. When measured parallel to employment-driven space demands, the analysis of supply trends can help identify development opportunities. The analysis also points to communities where real estate market conditions are not as favorable and can be uplifted through additional marketing, infrastructure investments, staffing resources, and other initiatives to stimulate economic development.

The data presented in this section are drawn from CoStar, a leading proprietary source of commercial real estate information and analytics, which uses multiple data bases to construct its products including owner and broker listings, recorded transactions, and field surveys by CoStar staff. It should be noted that the database compiled by CoStar does not include many abandoned or derelict properties that are no longer actively marketed for sale or lease. Additionally, the lease rates shown in this analysis are the average of all listed properties in the first quarter of 2020. The impacts of COVID-19 on the region's real estate remains to be seen; strategy concepts in future phases of the economic development planning process will consider the likely risks of the pandemic. That said, the historic real estate data that follows still has value. The factors that made one job cluster more competitive than another will likely still exist, a development site's location relative to Boston or Worcester won't change, and the qualities that make the NCM region unique will endure.

Given the large number of towns and cities in the region, detailed real estate data was examined for several of NCM's key economic communities, and for groups of more residential or rural communities in aggregate.

Individual communities

- Ayer
- Clinton
- Devens
- Fitchburg
- Gardner
- Leominster

Community groupings

- Townsend, Pepperell, Groton, Lunenburg, and Shirley
- Harvard, Lancaster, Sterling
- Princeton, Hubbardston, Westminster, Barre, Petersham, Phillipston, Templeton
- Orange, Athol, Royalston, Winchendon, Ashburnham, Ashby

Commercial space encompasses four major categories: office, industrial, retail and flex (multipurpose workspaces, such as lab/office, warehouse/manufacturing, and so forth). Within these categories, trends in various characteristics can reveal opportunities for economic growth. The key measures of each space type in this analysis are inventory, occupancy, vacancy rates, and rents. The following section examines historical supply trends, first for the region as a whole and then for the individual communities and groupings. Trend lines have been added to the graphs where there is large variation over time.

Key Supply Trends - North Central Massachusetts Region

For the purposes of the analysis, regional data were compiled from all 26 cities and towns (plus Devens) in order to provide a point of comparison for the individual communities as well as the overall regional perspective.

The inventory of office, industrial, retail, and flex space within the NCM region totaled 52 million square feet in the first quarter of 2020. Since 2006, the inventory of all these commercial space types has increased by 375,000 square feet (+1%); vacancies declined by 2.4 million SF (-49%); and occupancies increased by 3.2 million SF (+7%). Industrial/warehouse is by far the predominant space type.

The region's 1% growth in commercial inventory since 2006 means that supply has grown only marginally on a year-to-year basis – less than 0.1% on average. The regional supply of industrial space actually experienced a slight decline over the 15-year period, offset by modest increases in the office, retail, and flex categories (flex space was designated as a new classification in 2010).

Figure 7: Distribution of Commercial Space SF in 2020 (NCM Region Overall)

Source: CoStar

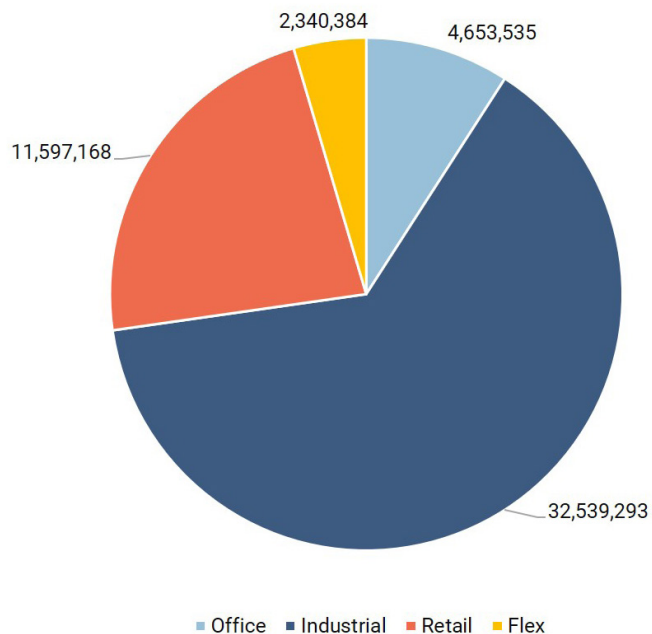


Table 4: Historical and Forecast Change in Commercial Space Inventory

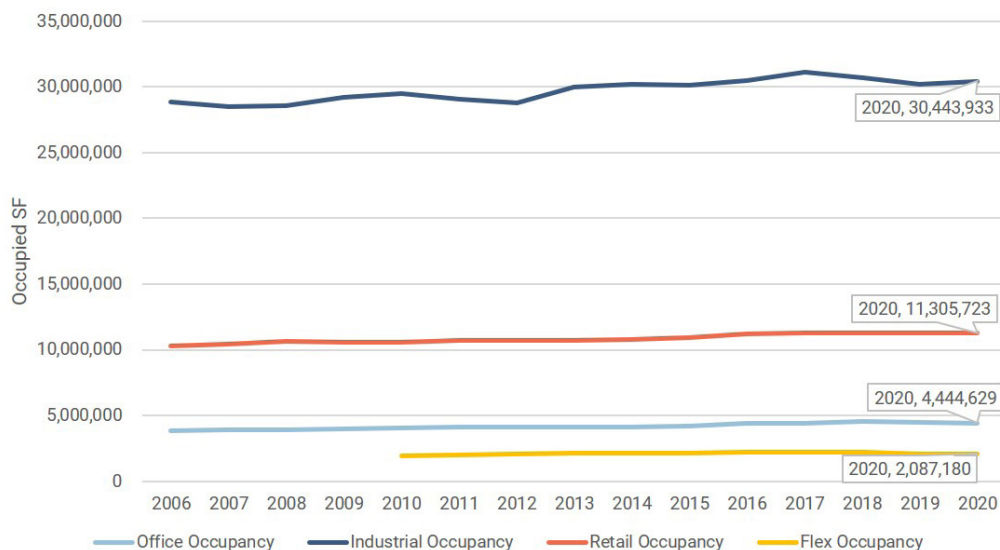
	Historical Change '06-'20	Avg Annual '06-'20	Projected Change '20-'25`	Avg Annual '20-'25
Office SF	579,759	41,411	310,000	62,000
Industrial SF	1,617,057	115,504	128,000	256,000
Retail SF	982,156	70,154	418,000	84,000
Flex SF	122,157	12,216	166,000	33,000

While the inventory in commercial space within the NCM region showed little change between 2006 and 2020, of greater concern for economic development planning purposes are historical and projected changes in occupancies, since these reflect actual job changes. The table below shows historical change in occupancies by type of space since 2006, and projected occupancy changes through 2025.

For each type of space, a linear extrapolation of historical trends suggests that average annual occupancies are expected to increase at a greater rate over the next five years than they did between 2006 and 2020. The subsequent graphs show historical trends in occupancies, vacancy rates, and average lease rates for each space type in the NCM region overall.

Figure 8: North Central Massachusetts Region Commercial Space Occupancy

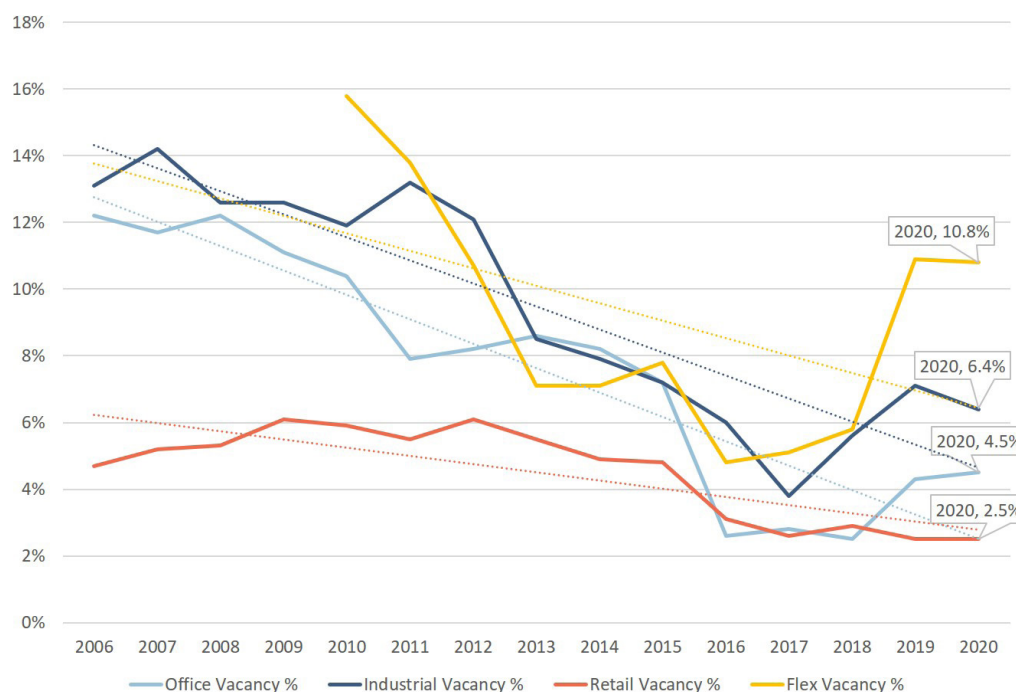
Source: CoStar, FXM Associates



Vacancy rates followed a downward trend until 2018, which saw a sudden rise in vacancy across all categories except for retail. The largest jump in vacant square feet was in industrial space. The primary driver was the closure of the Wheatabix cereal plant in Clinton, which eliminated 180 jobs in a 235,000 square foot facility.¹⁷

Figure 9:
North Central
Massachusetts
Commercial Space
Vacancy Rates

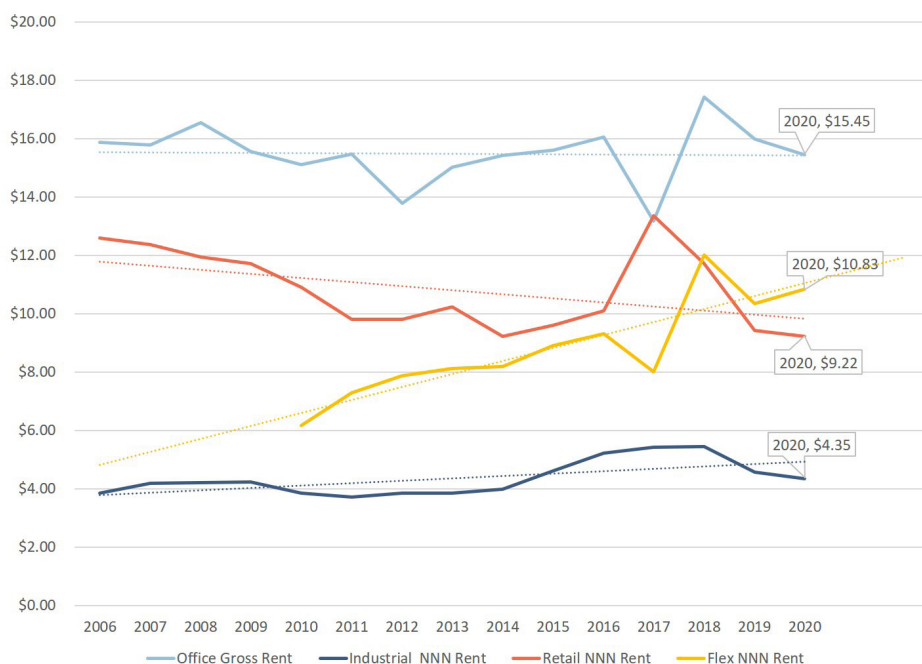
Source: CoStar, FXM Associates



Commercial rents have mostly held steady from the 2008 recession until 2017-2018. Among commercial categories, only flex space has shown a consistent upward trend in average rents in the last decade. Today, the region's average rents – around \$15 per square foot for office, less than \$5 per square foot for industrial – are likely too low to support most forms of new construction. That said, new buildings with higher-than-average quality fit-outs that can command above the regional average rents may prove capable of attracting investors, especially if well-located.

Figure 10:
North Central
Massachusetts
Commercial Space
Rents per SF

Source: CoStar, FXM Associates



Key Economic Clusters in Brief

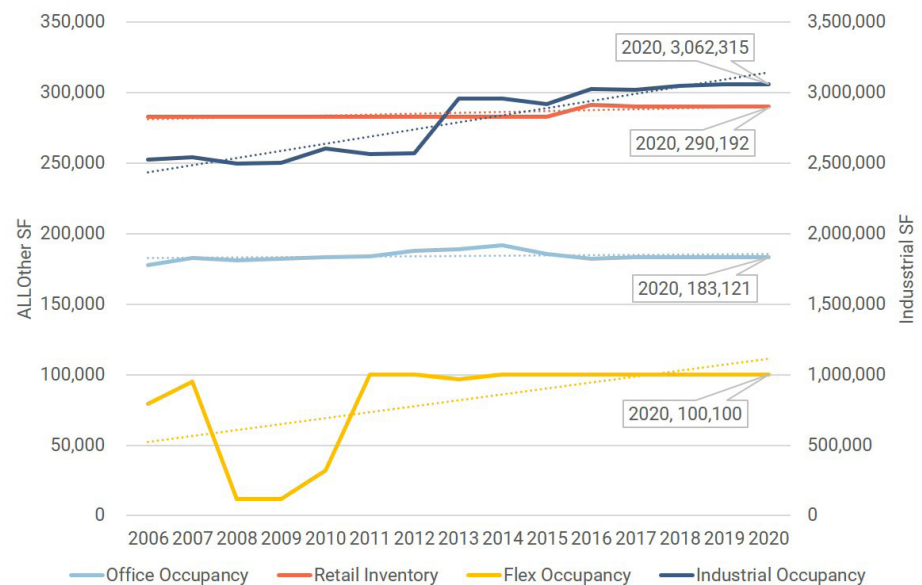
This section dives into the most pertinent commercial data for each individual city or cluster of communities to identify unique trends or challenges.

Ayer

Ayer has among the region's highest shares of industrial space relative to its total commercial inventory, with around 3.1 million sf of industrial space out of a 3.7 million sf commercial total in 2020. Ayer's industrial inventory has been among NCM's most consistent performers, with steadily rising occupancy, falling vacancies, and gradually increasing rents since 2006. The town's market is supported by close proximity to I-495 and the Boston market, as well as growing economic activity at Devens.

Figure 11: Ayer Commercial Space Occupancy

Source: CoStar, FXM Associates

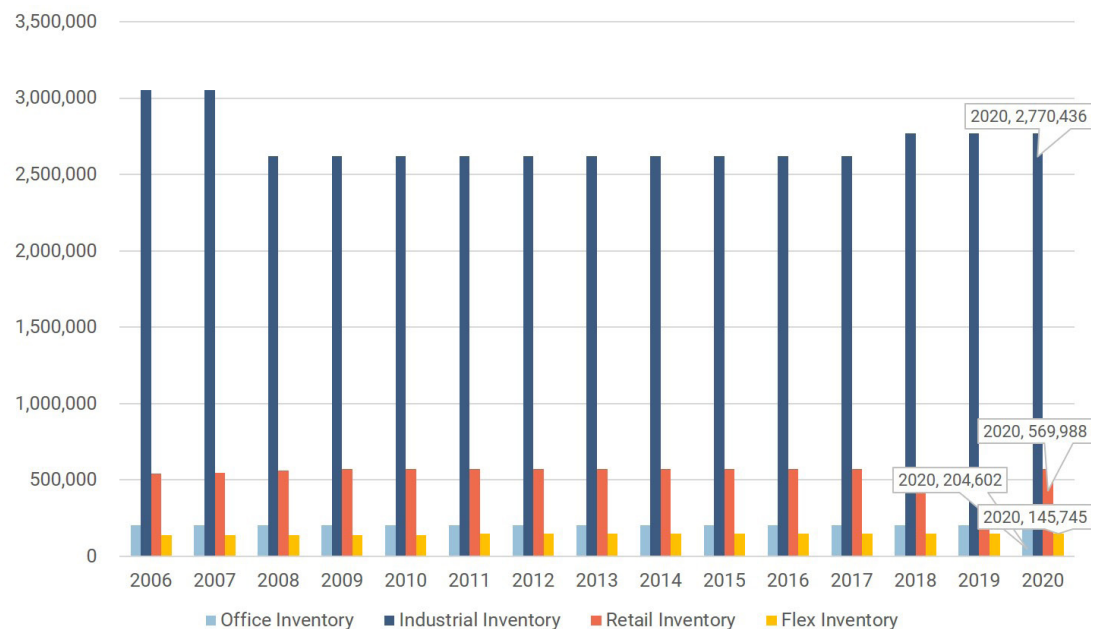


Clinton

The large, historic warehouses of Clinton provide much of the town's 2.77 million square feet of industrial space. Average industrial rent of \$5.44 per square foot is well above the regional average of \$4.35, likely reflecting the unique nature of these historic spaces, as well as their location within a compact, walkable town center. However, recent increases in industrial, flex, and office vacancy mean prospective firms may find space easier to come by in Clinton than in some comparable job clusters.

Figure 12: Clinton Commercial Space Inventory

Source: CoStar, FXM Associates

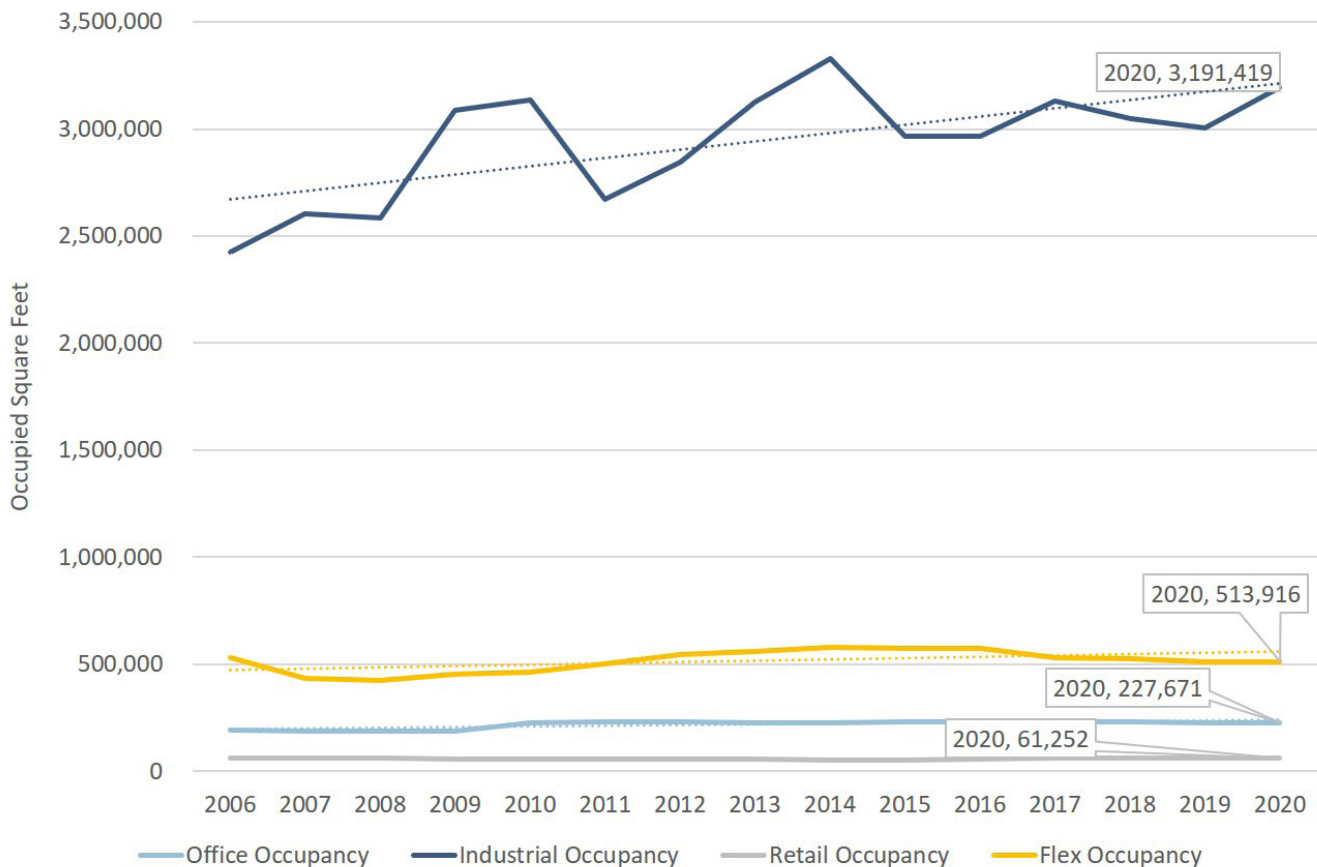


Devens

Devens' ongoing pivot from military base to regional economic cluster has seen commercial space occupancy reach nearly four million square feet in 2020, driven by just under 3.2 million square feet of industrial space. Home to corporate and research campuses of firms like Bristol-Myers Squibb and Jabil, Devens has also emerged as a logistics and distribution hub. Distribution centers of multiple hundreds of thousands of square feet have located off Barnum Road and Saratoga Boulevard, some through the economic development efforts of MassDevelopment. Vacancy levels have varied by use type, with industrial vacancy falling to 4.3% in early 2020, while the substantially smaller inventory of flex space had its highest vacancy since 2011 at 16.7%. Compared to its industrial and flex space, Devens' office inventory may be relatively underdeveloped for a regional jobs cluster. Its 240,719 square feet of office in 2020 accounted for just 5.5% of its total commercial stock, compared to nearly 10% in Leominster and 8.3% in Gardner.

Figure 13: Devens Commercial Space Occupancy

Source: CoStar, FXM Associates



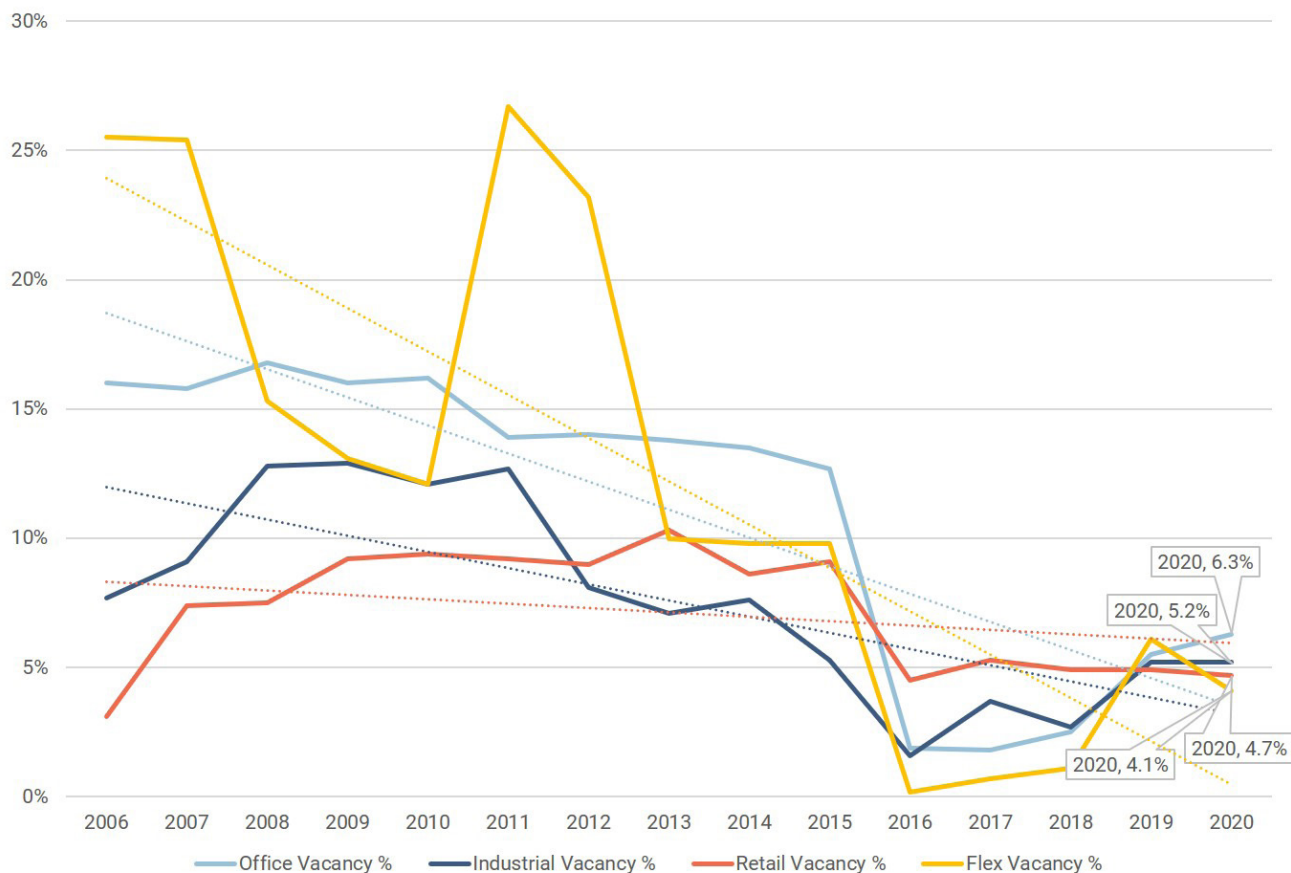
Fitchburg

The fortunes of Fitchburg's large commercial inventories have been a mixed bag over the last decade. Vacancy rates fell steadily from the Great Recession, fueled both by the nation's broad economic recovery but also by the removal of vacant, non-performing properties from the inventory. Most of these were industrial structures; Fitchburg's industrial inventory has fallen by more than 10%, or 772,000 square feet since 2006. With much of its unusable vacant space excluded from the data, Fitchburg's remaining industrial vacancy rate has been around 5% or less since 2015, and rents have actually increased slightly, with Fitchburg's better-maintained, newer industrial properties playing a larger role in the city's diminished inventory. Conversely, average rents for office, retail, and flex space have all been on a downward trajectory since the Great Recession despite roughly flat occupancy, suggesting that landlords have little pricing power.

Fitchburg has the second-largest inventory of industrial space in NCM, even with several hundred thousand square feet having been downgraded to vacant space over the past decade. Thirty-one percent of Fitchburg's taxable land is categorized as vacant. Fitchburg's industrial structures are generally older and lower tech than their counterparts in some other NCM cities and towns; according to assessors, their average built value per square foot is roughly \$16 (compare to \$21/sf in Leominster, \$20 in Clinton, and a much higher \$47/sf in Ayer). Since 2013, Fitchburg has added an estimated 153,000 square feet of residential space and 86,000 in retail, with less than ten small industrial and office properties seeing development. Fitchburg's office and medical facilities are, on average, its highest-value (and most densely situated) commercial structures, with an average built value per square foot of \$34 and an average FAR of 0.30.¹⁸

Figure 14: Fitchburg Commercial Space Vacancy Rates

Source: CoStar, FXM Associates



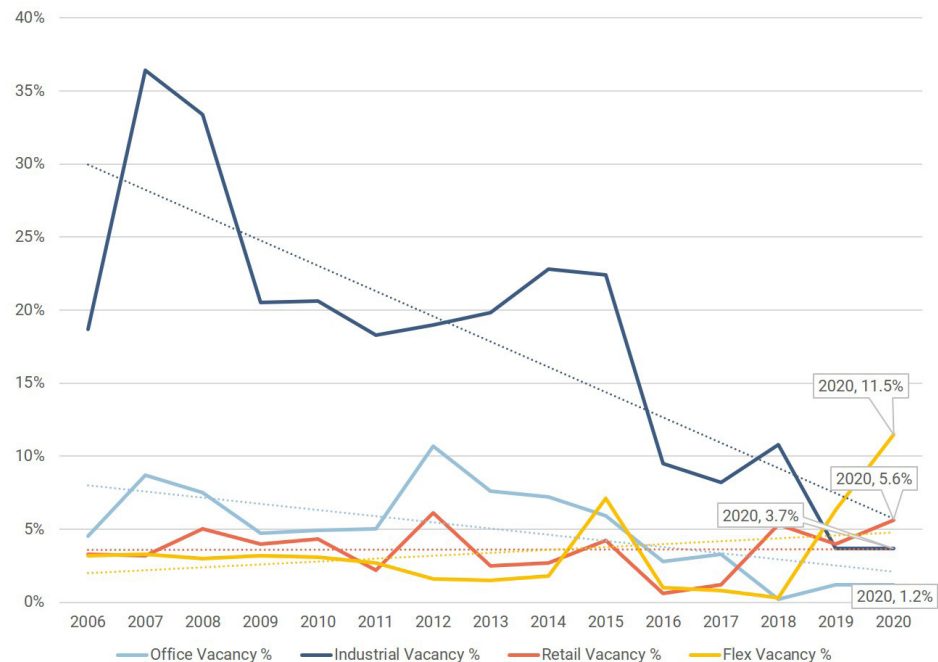
¹⁸ MassGIS, Municipal Assessors' Databases

Gardner

Despite Gardner's virtually flat industrial inventory since 2006, the city has seen vacancy rates drop consistently, reaching 3.7% in 2020. Steadily rising occupancy suggests that local industrial stock – even heavily aged properties – has been able to attract tenants with some of the region's lowest rents. The 2020 industrial average of \$3.98 per square foot is the lowest among NCM's main employment clusters. A significant proportion of Gardner's commercial real estate is retail, primarily in large-scale, big box retailers like Walmart, Big Lots, and Tractor Supply Company. These serve thousands of residents throughout NCM's western communities.

Figure 15: Gardner Commercial Space Vacancy Rates

Source: CoStar, FXM Associates



Leominster

Leominster has one of the region's largest commercial inventories, driven by several industrial/office parks, the large Mall at Whitney Field area, and an active downtown. Retail occupancy reached a post-Recession high of 3.7 million square feet in early 2020, as did office space, with roughly 1.1 million square feet occupied. While industrial inventory has mostly held steady over the past decade, the planned development of Southgate Business Park – adjacent to the highly active Jytek Industrial Park – may add hundreds of thousands of square feet with easy access to I-190.

On top of Leominster's industrial inventory, 1.3 million square feet of office/medical, and a 3.5 million square foot retail inventory make up the region's largest commercial stock, according to assessor data.¹⁹ Office and medical space in Leominster is among the region's most expensive, valued at \$73 per built square foot – still a low price point versus office space in suburbs nearer to Boston and Cambridge.

¹⁹ MassGIS, Municipal Assessors' Databases

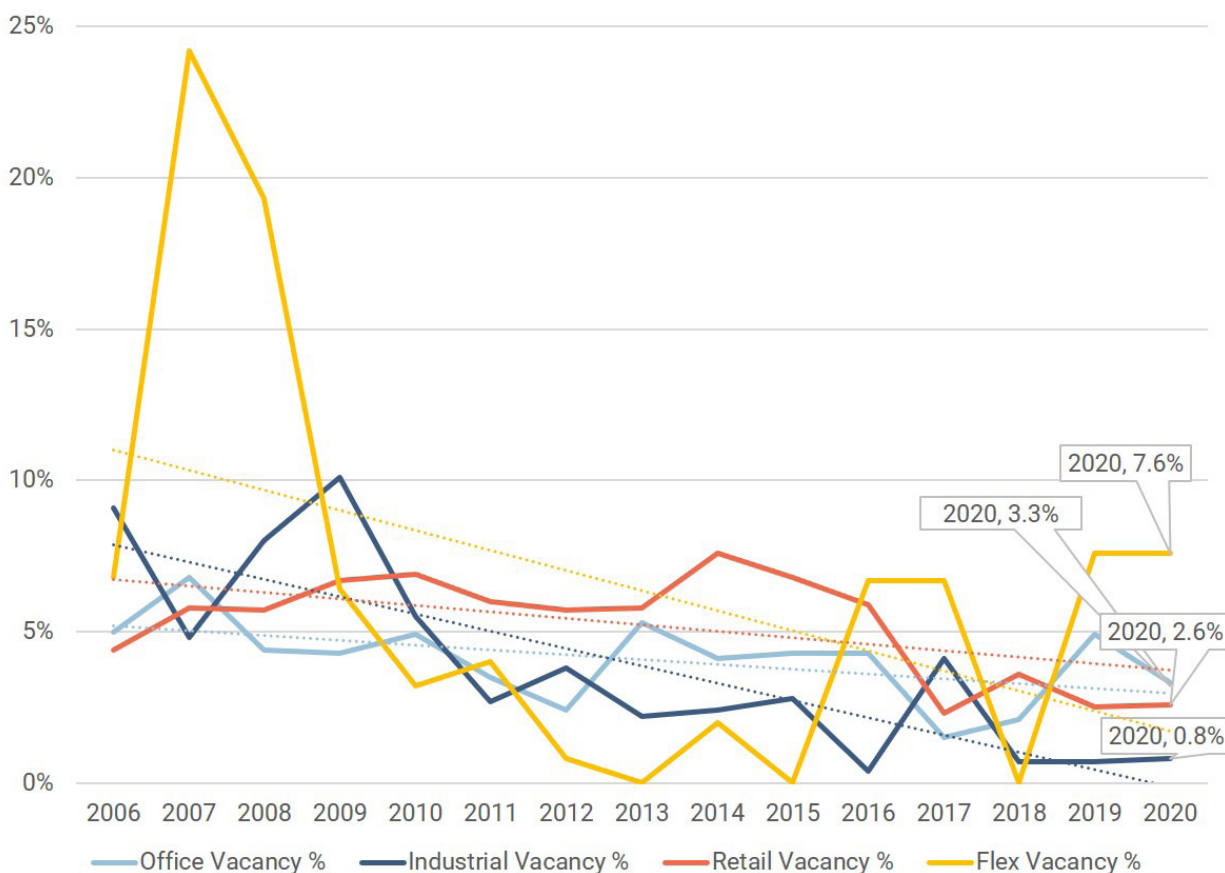
Town Clusters in Brief

Groton, Lunenburg, Pepperell, Shirley, and Townsend

This group of mostly residential communities forms the NCM region's northeastern corner, boasting some of the area's strongest access to Greater Boston, Nashua, NH, and the New Hampshire seacoast. All five communities saw rising employment from 2010 to 2018, with job growth mostly accommodated in existing structures, as evidenced by falling vacancies for office, industrial, and retail spaces. The town cluster has a very low industrial vacancy rate, at 0.8% across its 2.36 million square feet of space in 2020. Much of this space is in Pepperell's Lomar Park industrial development. In Shirley, the Phoenix Park Business Center, a repurposed mill complex, supplies more than 300,000 square feet of mixed office, light industrial, and flex space near Devens. While not included in these stats, the Massachusetts Correctional Institution at Shirley provides hundreds of jobs on-site and in support roles.

Figure 16: Townsend-Shirley Commercial Space Vacancy Rates

Source: CoStar, FXM Associates

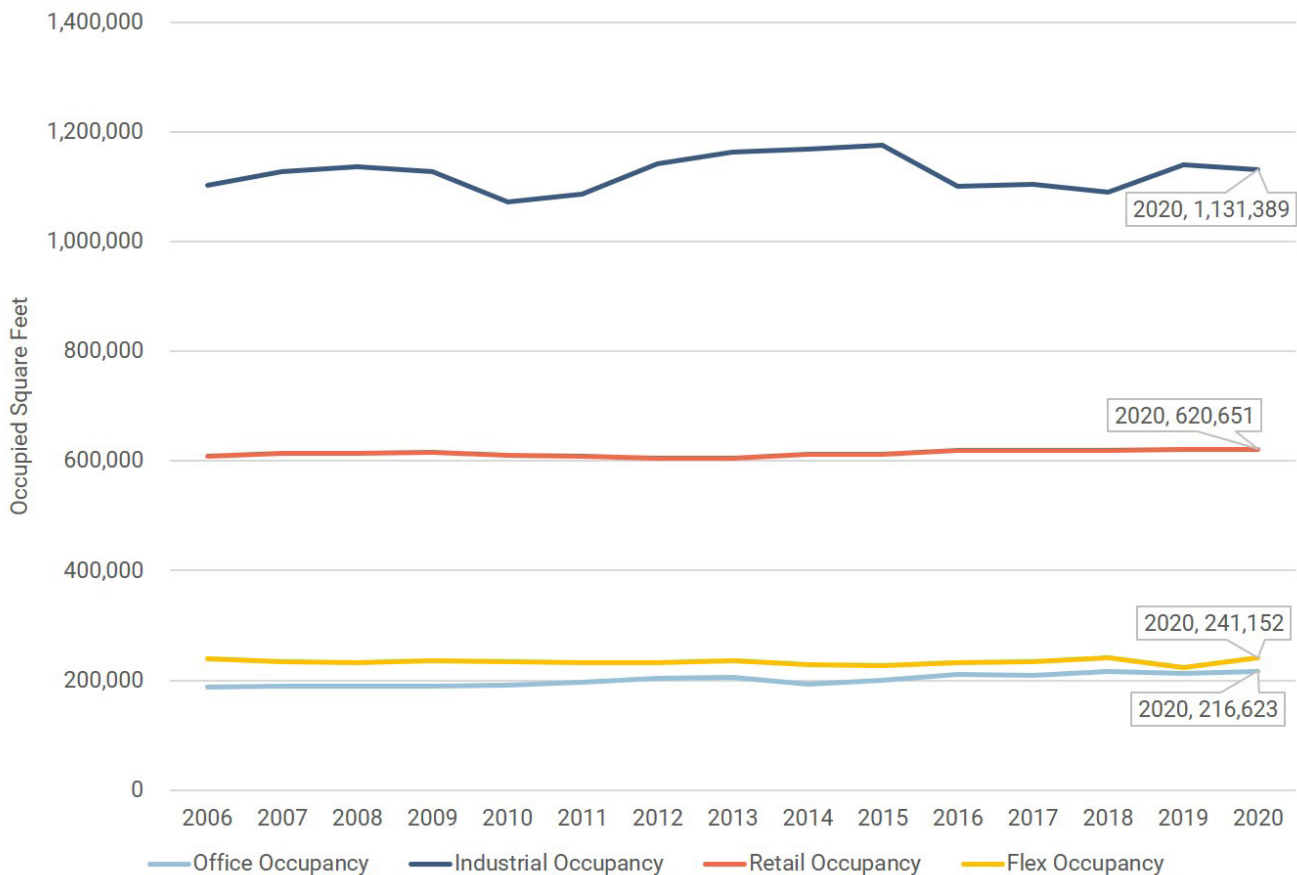


Harvard, Lancaster, and Sterling

The majority of this cluster's commercial space is in Sterling, concentrated around Chocksett Road and Route 12. Lancaster's Sterling Road and Lunenburg Road are home to a number of industrial facilities. In addition, several heavy industrial sites involved in NCM's crushed stone and gravel industry are located just inside Lancaster's border with Shirley and Lunenburg. The cluster's overall inventory has been virtually unchanged since 2006, with 1.19 million square feet of industrial space, 245,000 square feet of office, and 248,000 square feet of flex space. The majority of the area's 625,000 square feet of retail is in scattered structures in northern Sterling, near Leominster. Occupancy across all four categories has been flat.

Figure 17: Harvard, Lancaster, Sterling Commercial Space Occupancy

Source: CoStar, FXM Associates

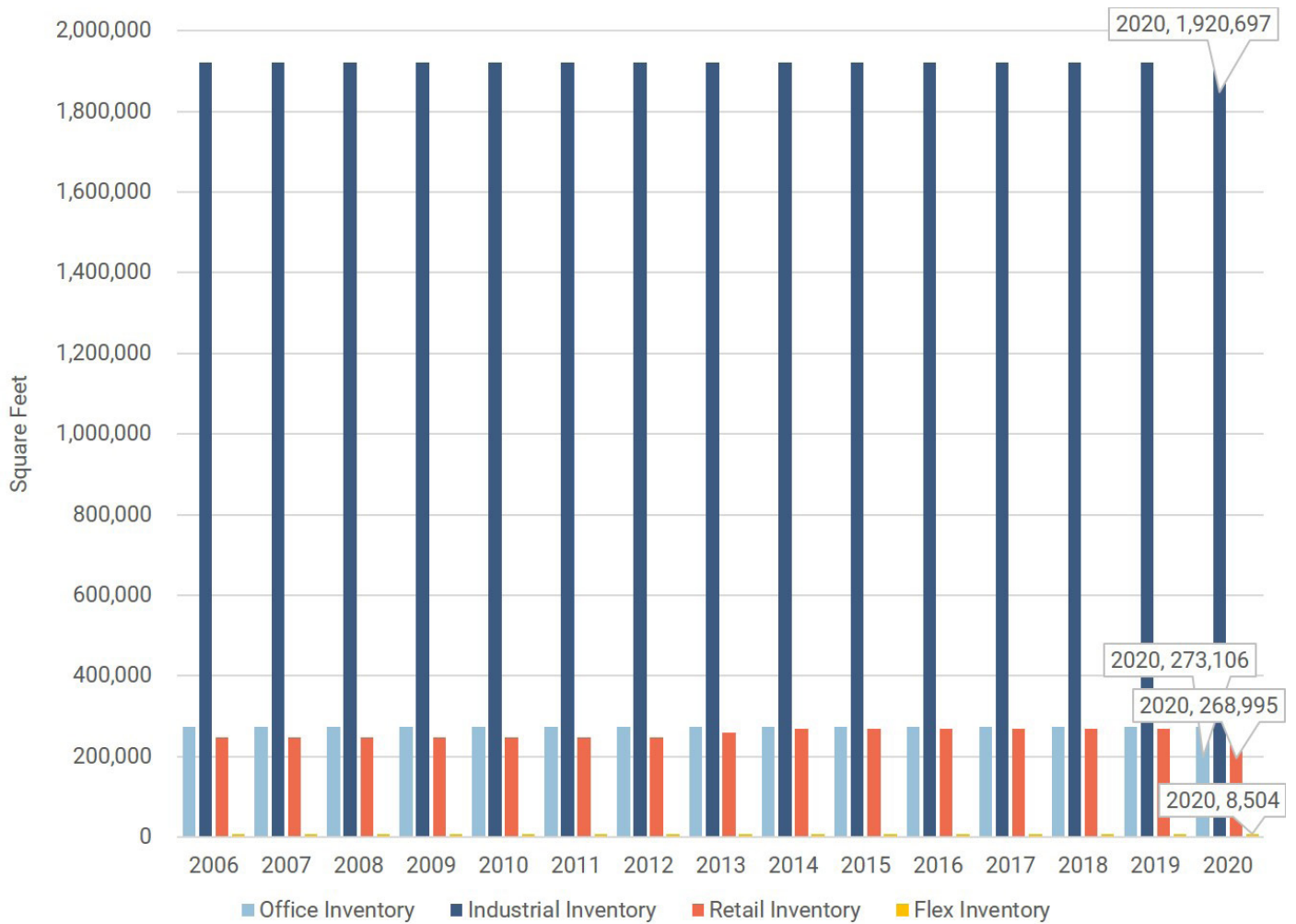


Barre, Hubbardston, Petersham, Phillipston, Princeton, Templeton, and Westminster

This cluster of very low-density bedroom communities has some of the scarcest commercial square footage per square mile in the region. Industrial vacancy has been among NCM's highest since 2006, averaging around 15% in any given year, and reaching 21.5% in 2020. Conversely, the area's limited and mostly severely aged office inventory has had less than 1% vacancy since 2018. Empty retail space has proved similarly scarce, a 0.6% area vacancy rate translating to just 1,600 square feet of rentable space.

Figure 18: Princeton-Templeton Commercial Space Inventory

Source: CoStar, FXM Associates

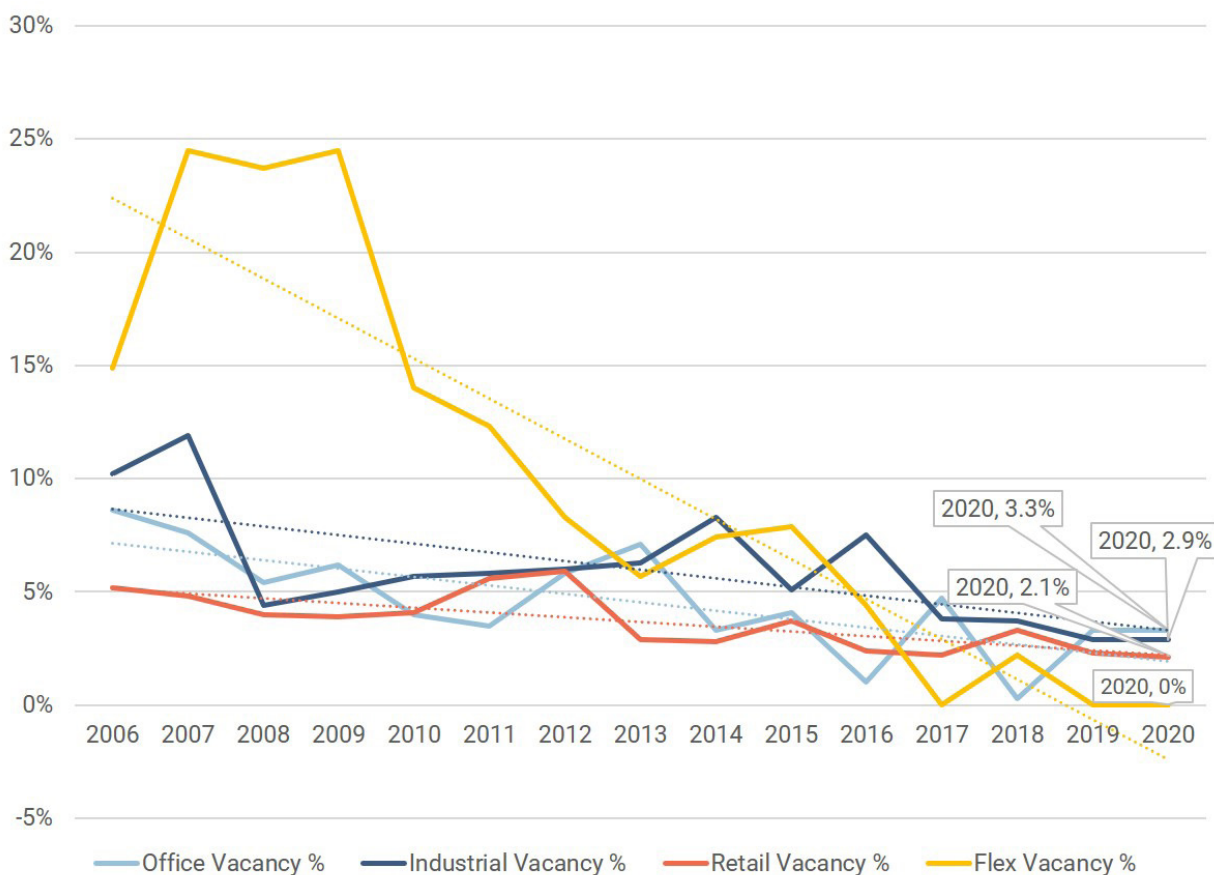


Ashburnham, Ashby, Athol, Orange, Royalston, and Winchendon

NCM's westernmost region has had a similarly stable commercial inventory over the past two decades. With a very limited amount of office and flex space, the area's commercial stock is almost exclusively comprised of industrial space (2.98 million square feet) and retail (1.28 million square feet). Commercial vacancy is low, consistently below 5% for all use types since 2017. Athol is the commercial center of NCM's western region; one of its largest commercial properties belongs to PEXCO, a plastic fabrication firm. The area's largest retail cluster is at Athol's Market Drive, anchored by Market Basket grocery store. Orange is home to Orange Municipal Airport and a small cluster of nearby distribution uses.

Figure 19: Orange-Ashby Commercial Space Vacancy Rates

Source: CoStar, FXM Associates



RESIDENTIAL MARKET REVIEW

A community's housing market is a key, and often under-appreciated, part of economic development. As businesses grow or relocate to the area, where will their workers live? Can households that earn at different ends of the pay scale find housing near their place of employment? Are housing, jobs, and amenities located in ways that require workers to buy a car, or multiple cars? Is the community a place that firm decision-makers and executives would like to live?

Understanding the housing options, costs, and opportunities of a community is a vital step to developing a message capable of attracting new firms and jobs. This residential market review section includes a brief analysis of NCM's estimated home values and recent sale prices, as well as a study of the region's rental housing inventory. Analysis by FXM Associates also provides demand projections for different types of rental housing, driven by North Central Massachusetts' shifting demographics.

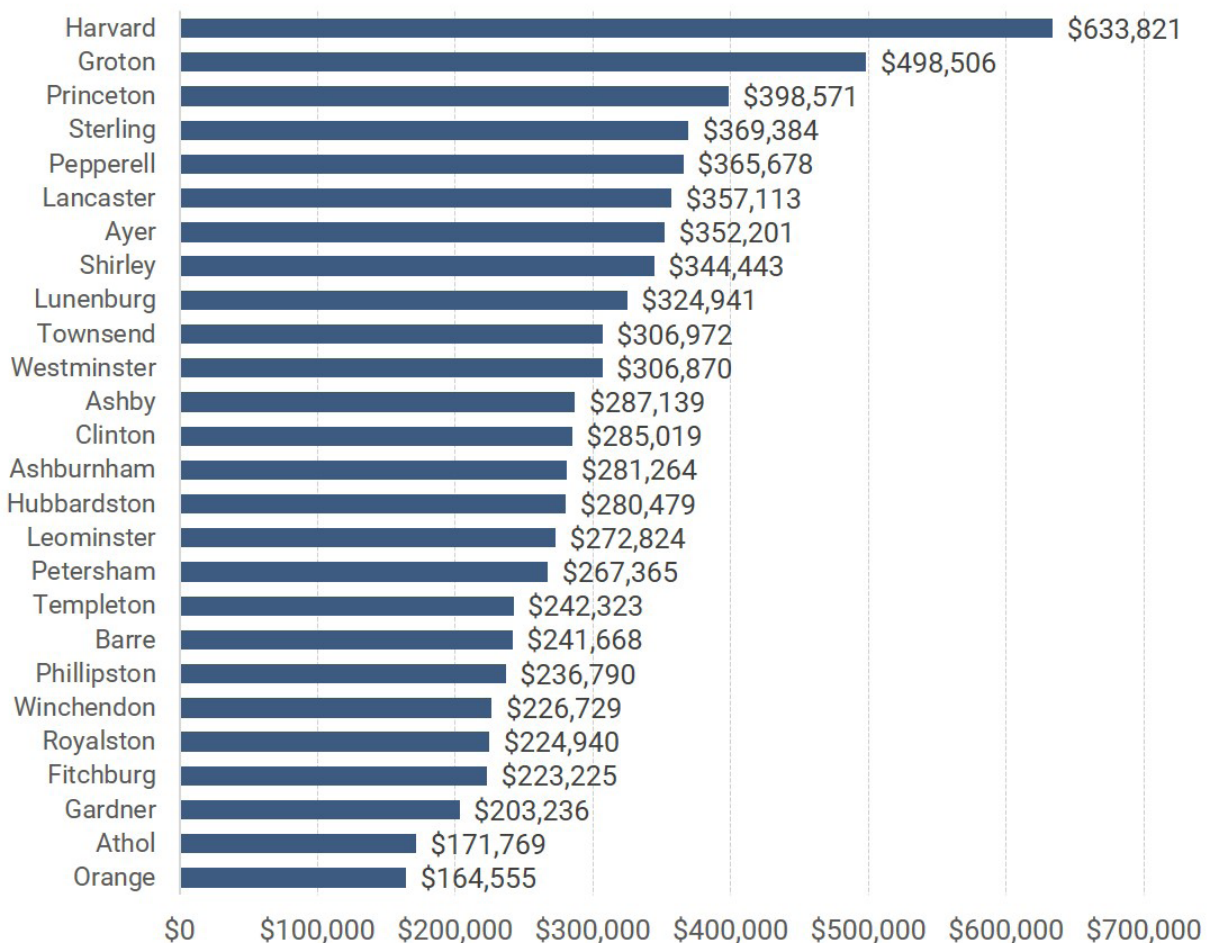
Key Supply Trends

Home Values & Sale Prices

Even as average home values have risen steadily across the region over the last decade, North Central Massachusetts' low housing costs relative to Greater Boston has remained one of its great competitive advantages. With the exception of Harvard and Groton – two eastern towns whose economies are in many ways more linked to Boston than to Central Massachusetts – the average home value was under \$400,000 for every municipality in the region in 2019.²⁰ The region's relatively low home prices are likely due to a number of factors, including an aging housing stock.

Figure 20: 2019 Average Home Values (Single-Family & Multi-Family)

Source: Warren Group, 2019

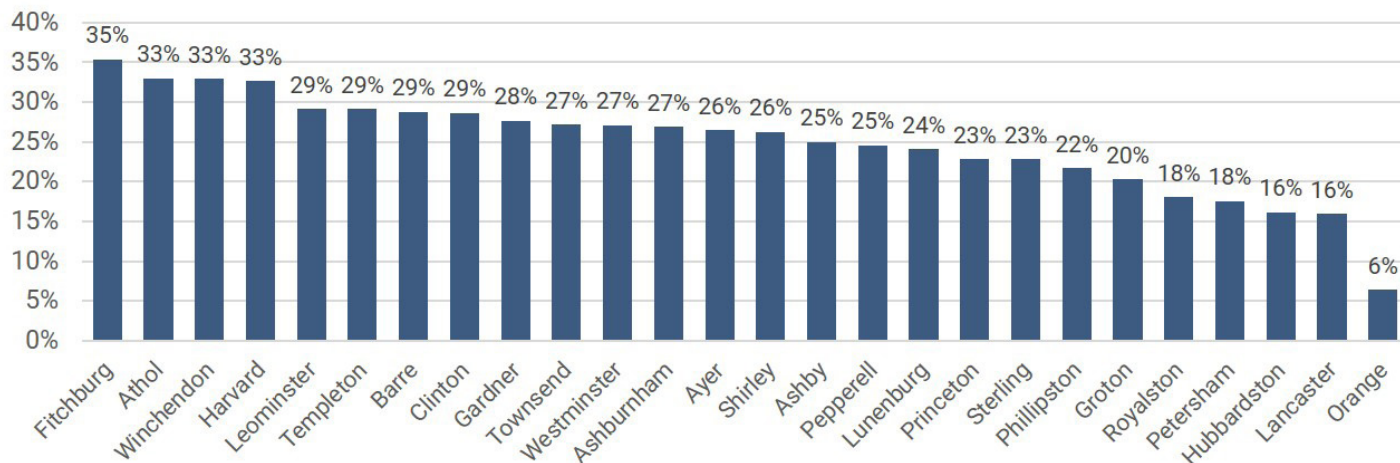


²⁰ Includes both single-family and multi-family homes, Zillow Home Value Index Time-Series Data, 2019 average.

The region's fastest rise in average home value over the past five years was in Fitchburg. This was likely the result of newly refurbished units coming online – many in multi-family buildings – as well as the removal of vacant, often abandoned properties from the housing inventory counts. At the other end of the spectrum, western towns with slower population growth like Phillipston, Petersham, and Hubbardston (and in the case of Orange, a shrinking population) saw some of the lowest rises in average home value.

Figure 21: Home Value Appreciation, 2014-2019

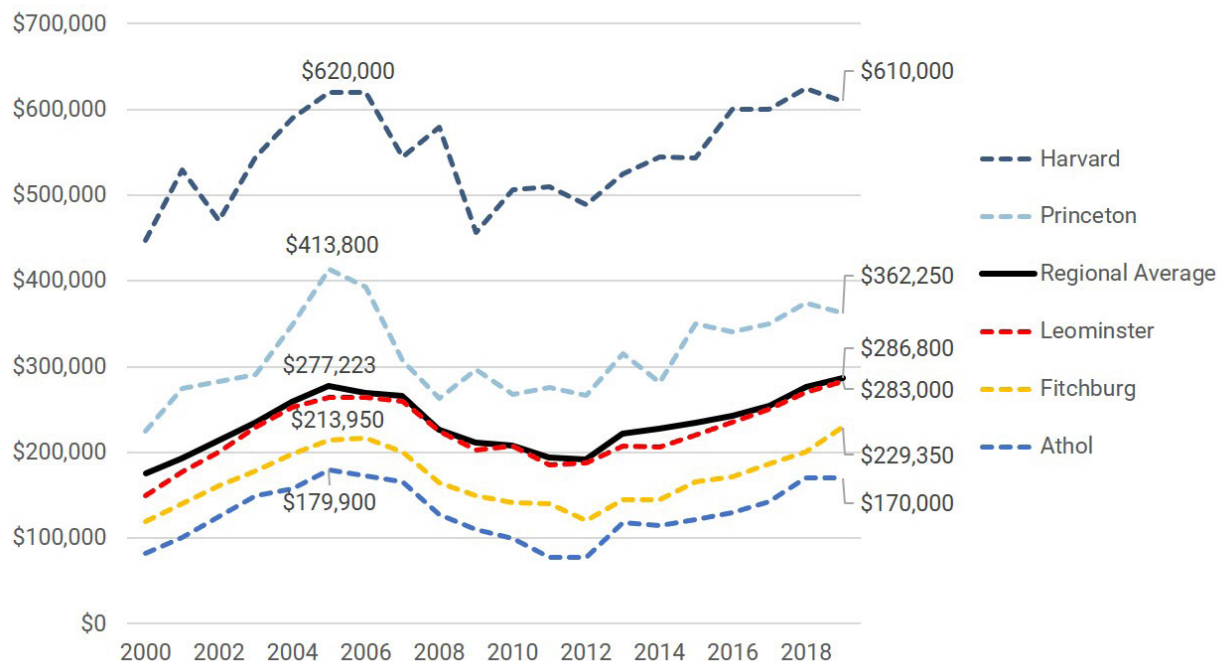
Source: Warren Group, 2019



Median sale prices for single-family homes – NCM's predominant housing type – have only recently recovered to the heights seen prior to the Great Recession.²¹ In some communities, the median price remains below peaks seen in 2005. While percentage increases in 2018, 2019 and 2020 remained strong across the region, it remains to be seen whether a more cost-conscious, post-COVID-19 public will result in slowing, or even negative, home price growth.

Figure 22: Median 1-Family Sale Price, Selected Municipalities

Source: Warren Group, 2019



²¹ The Warren Group, Calendar Year 1-Family Median Sale Prices by Town, 1987-2019.

The the \$286,800 regional average²² sale price, despite having risen by 26% over the previous five years, remains a key piece of NCM's low cost of living. Prices have remained affordable for most households as the region's number of transactions has increased. Even without any large addition of new residential inventory, over 3,000 sales were recorded each year in 2016, '17, '18 and '19 – a level previously reached only in 2004 and 2005.²³

Figure 23: Median 1-Family Sale Price

Source: Warren Group, 2019



Table 5: 5-Year Growth %

1-Family Home Median Sale Price	
Fitchburg	58%
Athol	48%
Winchendon	44%
Orange	41%
Clinton	39%
Gardner	39%
Lancaster	38%
Leominster	37%
Townsend	36%
Templeton	35%
Barre	32%
Westminster	30%
Ashby	30%
Princeton	29%
Lunenburg	29%
Regional Average	26%
Hubbardston	26%
Pepperell	25%
Groton	24%
Sterling	22%
Royalston	21%
Ayer	17%
Ashburnham	13%
Phillipston	13%
Shirley	12%
Harvard	12%
Petersham	7%

²² Weighted average of the by-municipality medians, weighted by the number of transactions per municipality per year.

²³ The Warren Group, Calendar Year 1-Family Transactions by Town, 1987-2019.

Rental Properties & Forecasted Demand

Rental housing is increasingly considered an important asset to economic development, particularly as it enables a community to attract and/or retain its younger labor force and others not interested in, or able to, afford homeownership in traditional single-family neighborhoods. To the extent that rental housing development can complement mixed uses in older downtown and neighborhood commercial centers, it also represents an opportunity to upgrade underutilized properties. Younger households and empty nesters are also able and willing, and often prefer, to live in areas that enable them to walk to restaurants, retail shops, recreational opportunities and even jobs that might not be suitable for traditional family housing. Employers are increasingly looking to communities that will enable their current and prospective employees to live and work close to the business location.

The residential component of a mixed-use project can make or break its financial feasibility , especially when trying to upgrade older downtown/village centers where retail/commercial rents are not adequate to support new construction or rehabilitation of existing commercial properties. In the case of the North Central Massachusetts region, higher density rental housing can add to the attractiveness, local spending, and livability of towns and village centers, as well as contribute net tax revenues for the Towns and Cities.

FXM's Housing Demand Model projects over the next five years the average annual demand for rental housing by age group, income and affordable rental rates. FXM's model is distinctive in that it captures mobility within the market area as well as net new growth. Over 90% of expected demand for rental housing in most market areas in New England is generated by households already residing in the area, who are looking to change from owners to renters, upsize or downsize from the current unit, or change location for family or work reasons. FXM's model explicitly accounts for propensity to own or rent and frequency of moving by householder age and income.

In addition to assessing average annual demand based on householder characteristics and tendencies, this section also analyzes recently available rental units within the market area by unit size, number of bedrooms, and rental rates; and analyzes historical trends in the inventory and monthly rents for rental units. The objective of the analytic exercise is to assist planners' and developers' understanding of residential development potential, and to target types of rental units, in terms of cost and size and amenities, to various age groups of potential renters.

For the purposes of this analysis the market area is defined as the area within a 45-minute drive time of the Westminster Town Hall. Usually an area described by a 20-minute drive time radius from a city or town center is used for this type of analysis, consistent with the generally accepted view of the primary geographic area within which communities offer similar economic development attributes and constitute the competitive region for attracting jobs and households. In the case of North Central Massachusetts, however, a more regional approach is needed given the large number of cities and towns being examined. Westminster was selected as being closest to the region's geographic center; a 45-minute drive time from there encompasses all 26 cities and towns of the region, plus some additional area in all directions, including New Hampshire, from which housing renters might come.

For this geographic area, FXM obtained proprietary data from EnvironicsAnalytics Claritas Spotlight Reports, estimating the number of households by age of householder and income ranges in 2020 and projected to 2025. Data in Table 6 provides an overview of population, households, and renters within this market area.

Table 6: Housing Demand Context 45 Minute Market Area	
Population	717,148
Households	272,488
Renter Households	92,249
% Renters	34%
Renters Moving in Avg Year	12,976
% of All Households	5%
Median Household Income	\$78,659

24 Virtually all the major real estate developments recently completed, currently underway or proposed, in greater Boston's superheated real estate market involve residential, retail/restaurant, and office components rather than stand-alone single uses.

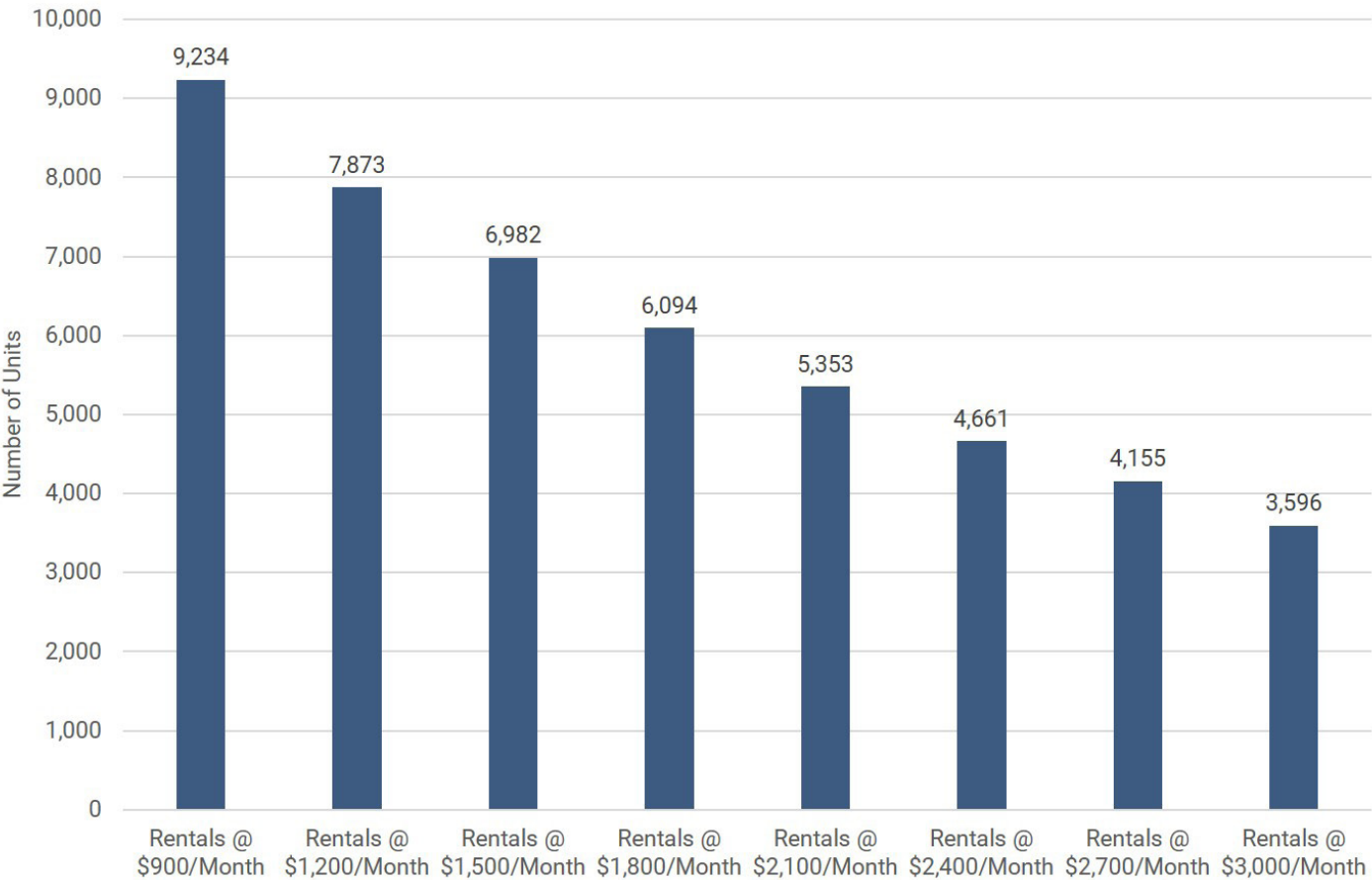
The following demand assessment is segmented by age and affordable rents. Rent levels needed to support rehabilitation or new construction will vary depending upon the development costs of specific projects, which may include tax credits, favorable financing terms, land write-downs and other mechanisms to assure feasibility.

Households within the under 35 and 55 to 74 age groups are the ones most frequently targeted by developers for urban and specialty rental housing, such as re-use of formerly commercial and institutional structures, because they are less likely to have school age children and therefore more open to units with fewer bedrooms in locations that are not necessarily ideal environments for children. They are also likely to be attracted to denser environments that allow walking distances to restaurants and retail shops. Households in other age groups, however, also generate demand for housing within the market area, and this analysis assesses potential demand for all age groups.

As previously noted, FXM's proprietary Housing Demand Model incorporates data on mobility rates by age of householder, propensities to own or rent by age of householder, current and projected number of households by age and income, and the qualifying income standards of commercial rental management companies. Model results for potential rental demand are compared to trends in the actual supply of rental units, including numbers and average monthly rents for 1, 2, and 3 BR units.

Figure 24 shows the average annual demand for all rentals by all age groups in the NCM Market Area, taking into consideration affordability, propensity to move in any given year, and propensity to rent.

Figure 24: Average Annual Demand for Rentals, 2020-2025 All Age Groups
Source: FXM Associates



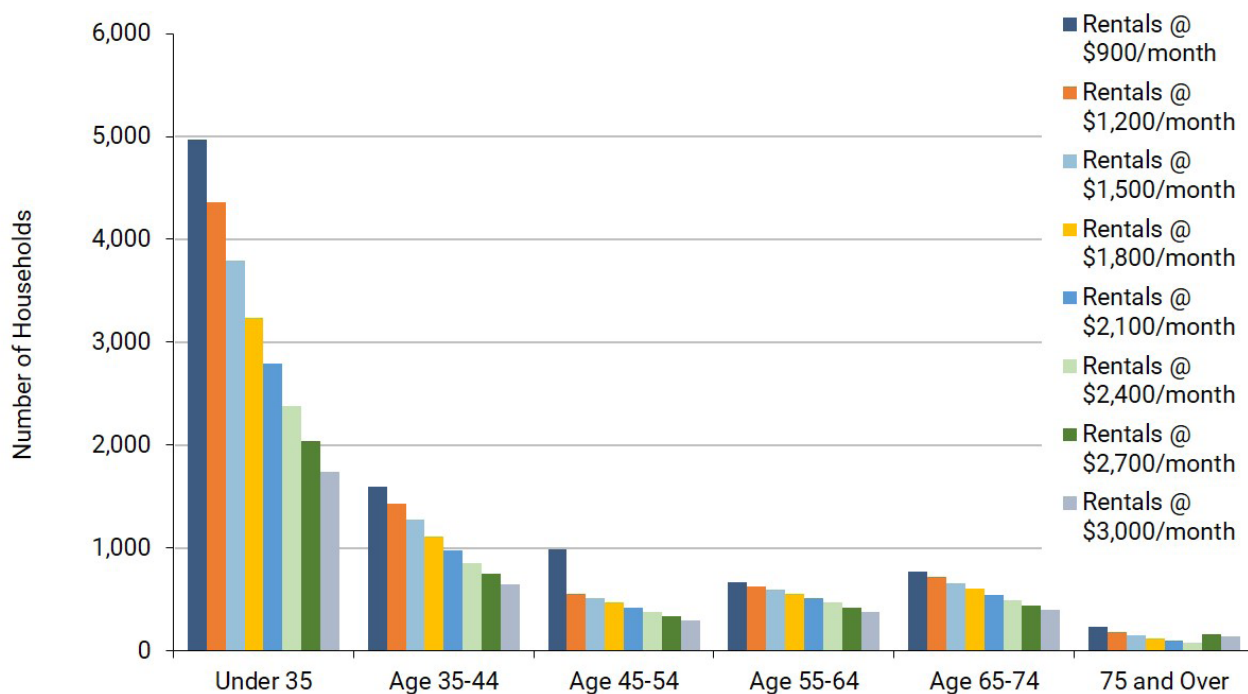
For example, of the total number of households, 9,234, expected to move to rental housing each year within the 45-minute market area and able to afford at least \$900 per month rent, approximately 6,094 would be able to afford monthly rents of up to \$1,800; 5,353 would be able to afford \$2,100; 4,155 would be able to afford \$2,700, and so forth.

The share of this potential total demand that any individual community within the region could attract will be, of course, relatively small. This will be determined by the share of rental housing already in place and the rate at which that housing is already attracting tenants and on the characteristics of any new rental developments (quality and size of units, price, location, marketing, and site and building amenities). The intent of the Housing Demand Model at this stage is to give a broad picture of the potential effective demand for rental housing in the region and closely surrounding areas. This information can be used as a tool in discussing opportunities with rental housing developers.

The information in the above Figure 2 can be further broken down into age groups, which may be useful to marketing efforts based on the relative numbers of households by age group. Figure 25 presents these data by age group.

**Figure 25: Average Annual Demand for Rentals by Affordable Rent and Age Group
2020-2025**

Source: FXM Associates



The graph reflects the greater propensity of younger households to rent and the frequency of their moving compared to older households, as well as the sensitivity of levels of demand to varying rental prices.

Figure 26 offers the same kind of analysis, but with the data for rents in the upper ranges only.

**Figure 26: Average Annual Demand for Selected Monthly Rents by Age Group
2020-2025**

Source: FXM Associates

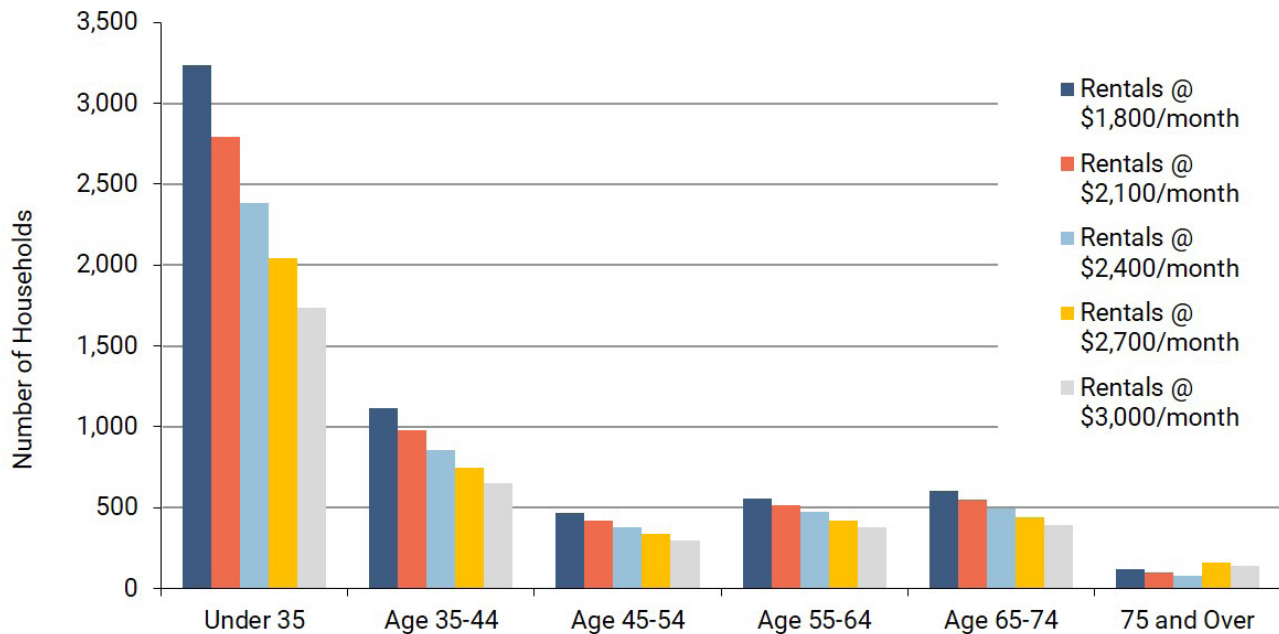


Figure 27 shows another dimension to the estimation of future rental demand: the changes projected over the next five years in numbers of households by age and income. The incomes chosen are in the upper ranges, since these households could afford the rents necessary to support rehabilitated or newly constructed housing.

These projections, if they prove to be accurate, provide an indication of robust ability to afford rents that could reasonably support new construction or renovation, except for the 45 to 54 age group. Households in the income category over \$108,000 – who could afford rents up to \$2,700 per month – gain population and households in all age categories, indicating a future demand for high quality rental housing for a variety of lifestyles.

Some developers in recent years have targeted rental units to households under age 35 and age 55 to 74, who often mix well within the same developments. Both groups show a higher propensity to live within walking distance of town and city centers, with retail stores, restaurants, and transit if possible. The households under age 35 are more mobile on average and more likely to rent, so they comprise a relatively large share of potential demand. The number of younger households, moreover, is projected to experience modest growth over the next five years.

Conversely, as shown by the data in Figure 27, the baby boom generation households are growing in number within the 55 and older age categories, and in affluence in the 55 to 64 age category. These 55+ households have shown an increasing propensity to rent in recent years as they become empty nesters and sell their single-family homes for smaller, more manageable units. Others want to cash in the equity of their former dwellings because they need liquid income in the absence of the pensions enjoyed by prior generations of retirees. Many also continue to work part time.

Figure 27: Change in Number of Households by Age by Income

2020-2025

Source: FXM Associates



Rental Housing Price and Supply Trends

The above analyses of demand for rental units at varying costs can be compared to the costs and supply of rental units over time. The following figures show multi-family rental trends from 2000 to 2020 for various geographic areas, beginning with the NCMDC region overall. The source of the data presented in this section is CoStar *Property Information Systems*, a subscription only proprietary data source. It includes commercial multi-family rental properties reported by owners, property managers, brokers, and inventories done by CoStar researchers. It does not include units available for rent in private homes (such as 2-3 family properties) not classified or marketed as commercial properties.

Figure 28 shows trends in average monthly effective rent (price actually rented for, as opposed to asking rent) for all multi-family rental units in the NCMDC market area. Rents increased in the overall market area by an average of 2.1% per year between 2000 and 2020. The 2020 average rent of \$1,153 is at the low end of the rents that income data would suggest are affordable in the region (see Figure 6 above). This indicates that there may be capacity to pay for more expensive units, but it could also indicate that residents are not willing to pay the higher rents that would be required to finance new construction.

As shown in Figure 29, there was virtually no change in the inventory of multifamily units in the NCMDC region between 2000 and 2007, based on data reported by CoStar. Between 2007 and 2020, 1,122 units were added, to reach a region-wide total of 8,660 in 2020. Over that period, an average of 86 multifamily units per year were added to the regional inventory, for an average annual increase of 0.7%. The 5-year trend line projection, based on the 2000-2020 time period, is statistically significant and projects an average annual increase of 93 units per year, slightly higher than the historical average.

Figure 28: Effective Rent, NCM Region

2000-2020

Source: CoStar

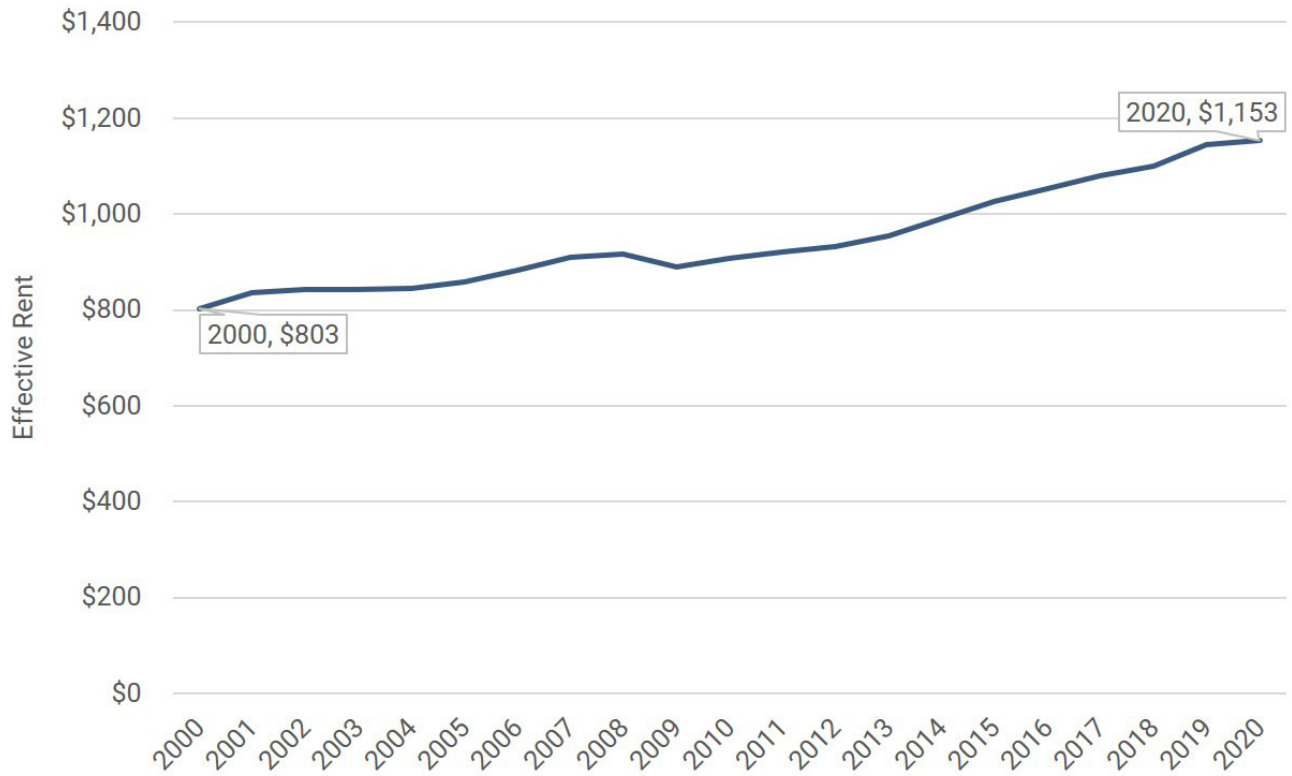
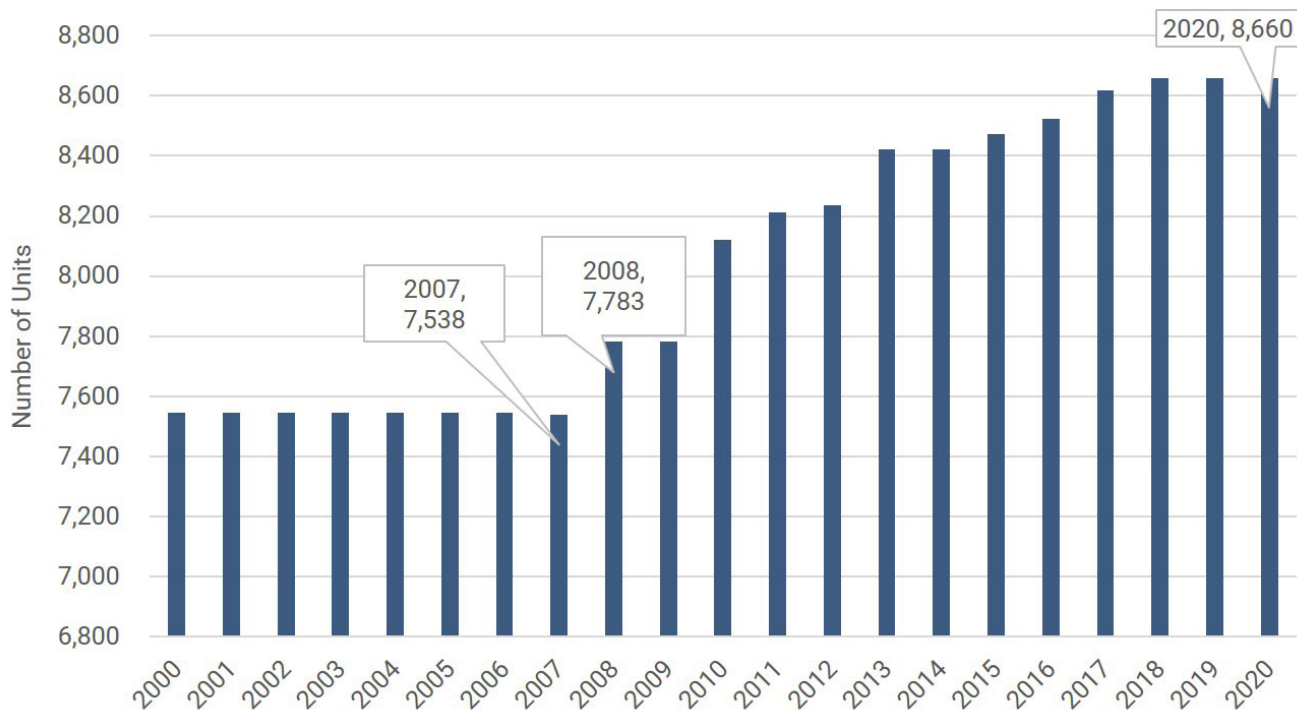


Figure 29: Multifamily Units, NCM Region

2020-2025

Source: CoStar



POTENTIAL IMPLICATIONS OF COVID-19 IMPACTS ON NCM'S REGIONAL ECONOMY

At the time of writing, the COVID-19 pandemic is in its tenth month since the first lockdown. The fluctuating levels of infections and deaths make it extremely difficult to draw more than broad conclusions about its economic impacts and impacts on such things as municipal finances. A second stimulus package has recently passed, while the longer-range burdens of unemployment, lost revenues by households, businesses, municipalities, and states continue to mount. The development and distribution of vaccines will help mitigate some of these impacts, but much remains unknown about the timing and extent of the rollout. There is still uncertainty too about how and whether Massachusetts budgets can help fill municipal gaps and support local needs, or worse, whether state budget shortfalls will be passed onto local municipalities.

With no real precedents, too many variables, and too much uncertainty over the duration of the virus and the attendant restrictions on businesses and governments, employees and consumers, forecasting the pandemic's effects on local economies and finances is not a straightforward process. In more normal times, for example, historical data could be used at least to suggest future trends and opportunities. Under current conditions, history may be used as a guide to recovery, but not in anything resembling a linear fashion.

This report is an effort to suggest how the pandemic might affect the North Central Massachusetts regional economy and the economic development strategies being devised for it. The direction of these potential effects will be easier to see than their magnitude, which will vary with time and resolution of some of the uncertainties.

Economic Overview

Moody's Analytics assumes the U.S. trade-weighted dollar should remain strong while oil prices will remain low—between \$35 and \$40 per barrel. Further, the Federal Reserve should keep the rate of federal funds between 0% to 0.25% through 2023. The Fed's emergency lending facilities will remain in place through the end of 2020 and tapering of quantitative easing will not begin until 2021.

²⁵ A longer-term economic risk is that schools remain closed to physical presence, permanently disadvantaging millions of children, but that is beyond the scope of this work. The impact of further fiscal stimulus has not been assessed but is expected to have relatively short term effects and may or may not affect longer term trends underlying this assessment.



The main risks are that:²⁵

- The current wave of COVID-19 causes states to shut down nonessential businesses more deeply.
- Disagreements in Congress prevent additional federal fiscal stimulus measures that may be needed in the coming year, causing unemployment to edge upward.
- The lack of sufficient unemployment insurance benefit funding weighs heavily on consumer spending, which in turn adds to the unemployment problem.
- A large wave of small-business bankruptcies causes additional issues.
- Financial markets tighten.
- Political and economic tensions between the U.S. and China intensify.

Which households suffer under Covid-19?

Moody's Analytics and Morning Consult (MA/MC) conducted a survey in mid-September 2020 and recently wrote a report entitled *Struggling Through: Household Finances in the Pandemic* (October 13, 2020). About 15% of its respondents report they have been laid off or lost their jobs since the onset of the pandemic, and 29% have lost pay or income, including those who were laid off or lost their jobs. Lower-income households have disproportionately suffered financial hardship. Among respondents who were actively working when the MA/MC survey was taken, 54% of lower-income respondents said that they leave their homes to work, compared with only 48% of middle-income respondents and 36% of high-income respondents.

Businesses tend to fire, furlough, and cut the hours of their least tenured employees during the early phases of a recession, and these employees live in households with lower annual incomes. MA/MC report that among currently employed respondents living in households with annual incomes over \$100,000, 60% have worked for their current employers for five years or longer, compared with just 33% of respondents living in lower-income households. This also makes lower-income households more vulnerable in times of economic crisis.

Among the those surveyed by MA/MC who noted they were unemployed, 56% identified that they relied on stimulus checks to pay for expenses. SNAP benefits/ food stamps were used by a third of the unemployed. More than 40% relied on funds from people they know, and nearly 30% of those unemployed were using unemployment insurance (UI) benefits to pay for expenses. UI benefits were skewed toward younger workers. Older and laid-off respondents tended to have more savings and related sources of income to lean on.

The implications of the above are important. First, personal income grew nationwide from March to April, due largely to federal transfer payments, which offset income losses to 70.7 million American households (or more than half of the 128 million total count nationwide). Second, UI benefits in particular tend to exhibit high spending multipliers since the unemployed are financially strained regardless of the state of the economy.

Shelter payments are a priority for most households. Still, over 20% of MA/MC respondents with mortgage debt report they lack full confidence that they can make minimum payments moving forward. Given the current rates of homeownership (67.9%) and the share of homeowners with a mortgage (63.1%), the implication is that nearly 8.6% of households (11 million households) lack confidence they will make mortgage payments in the not-so-distant future. Such a large share of households, given fading federal fiscal support, adds greater risk to the broader economy in months to come. Mortgage forbearance programs mitigate current potential fallout, however. Debt moratoriums (including student loans) are a temporary bridge and only postpone household financial problems; improved economic conditions are the only real long-term solution.

Unfortunately, forecasters tell us that job growth is likely to be slow over the course of the next few years. But COVID-19 makes matters bad for existing workers too. Some seek to work more to help alleviate family financial stress. The weak economy, health and safety concerns, and heightened family obligations disable this course of action as a possibility for many. Moreover, despite the chunk of job losses experienced to date, many workers remain anxious about potential future losses in employment income. This makes additional federal fiscal stimulus funds and an expanded social safety net all the more important to bolster any economic recovery.

Economic Tracker²⁶, which relies on Big Data, notes that matters in Massachusetts have been somewhat more disparate. In April 15, 2020, 17.9% of high-wage jobs²⁷, 31.8% of middle-wage jobs, and 46.1% of low-income jobs (less than \$27,000 annually) that had existed in January 2020 had been lost. By mid-August, 0.3%, 6.8%, 20.4%, respectively by income group, remained to be recovered. Nonetheless, spending has been buoyed, up 5.9% at the end of September 27, 2020, compared to March 15, just more than six months prior to, and the eve of, the pandemic recession. And the “spending bubble” applies to all income groups, albeit least for high-income households who tend to spend more on travel and entertainment, items now largely not on the household consumption table.

Not surprisingly, as of January 3, 2021, Economic Tracker reports that in Massachusetts spending remained particularly low in the Transportation (-49.3%), Entertainment (-59.5%), and Hospitality (-23.0%) industries.

²⁶ A website (tracktherecovery.org), see Chetty et al. (2020) for more details.

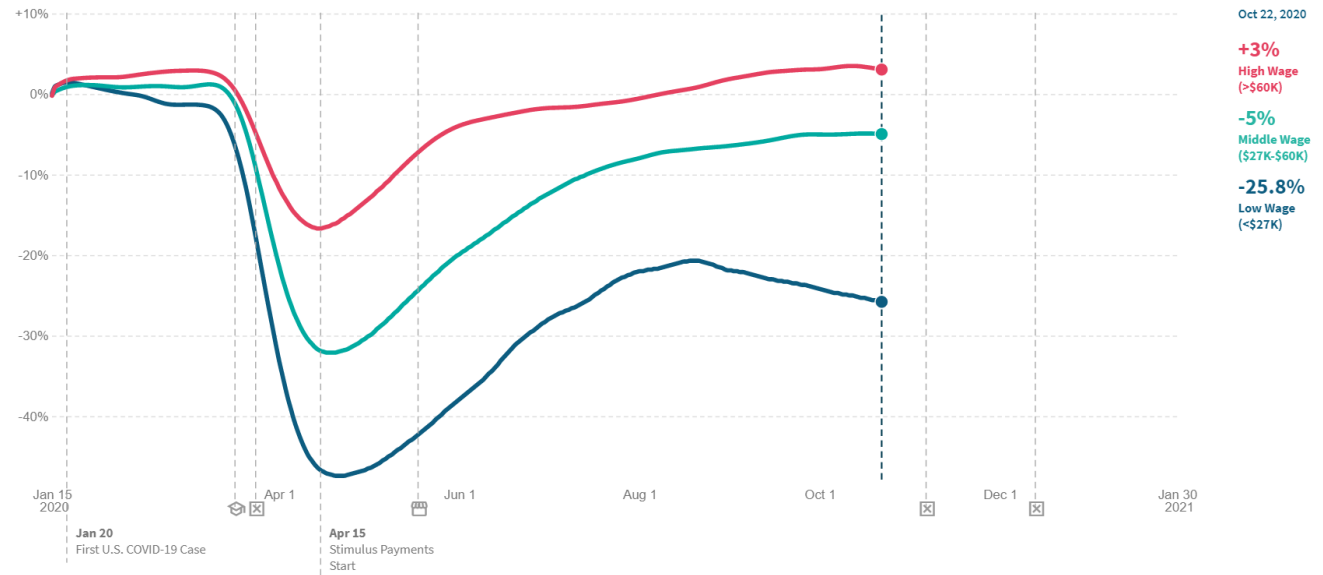
²⁷ High-wage jobs are those associated with salaries and wages of more than \$60,000 annually; middle-wage jobs 27,000-\$60,000 annually, and low-wage jobs less than \$27,000 annually.

Figure 30: Employment Rates in Massachusetts by Wage Tercile

Source: tracktherecovery.org

Percent Change in Employment*

In **Massachusetts**, as of **October 22 2020**, employment rates among workers in the bottom wage quartile **decreased** by **25.8%** compared to January 2020 (not seasonally adjusted).



*Change in employment rates (not seasonally adjusted), indexed to January 4-31, 2020. This series is based on payroll data from Paychex and Intuit, worker-level data on employment and earnings from Earm, and timesheet data from Kronos. The dotted line in the low-wage series is a prediction of employment rates based on Kronos data.

last updated: January 20, 2021 next update expected: January 30, 2021

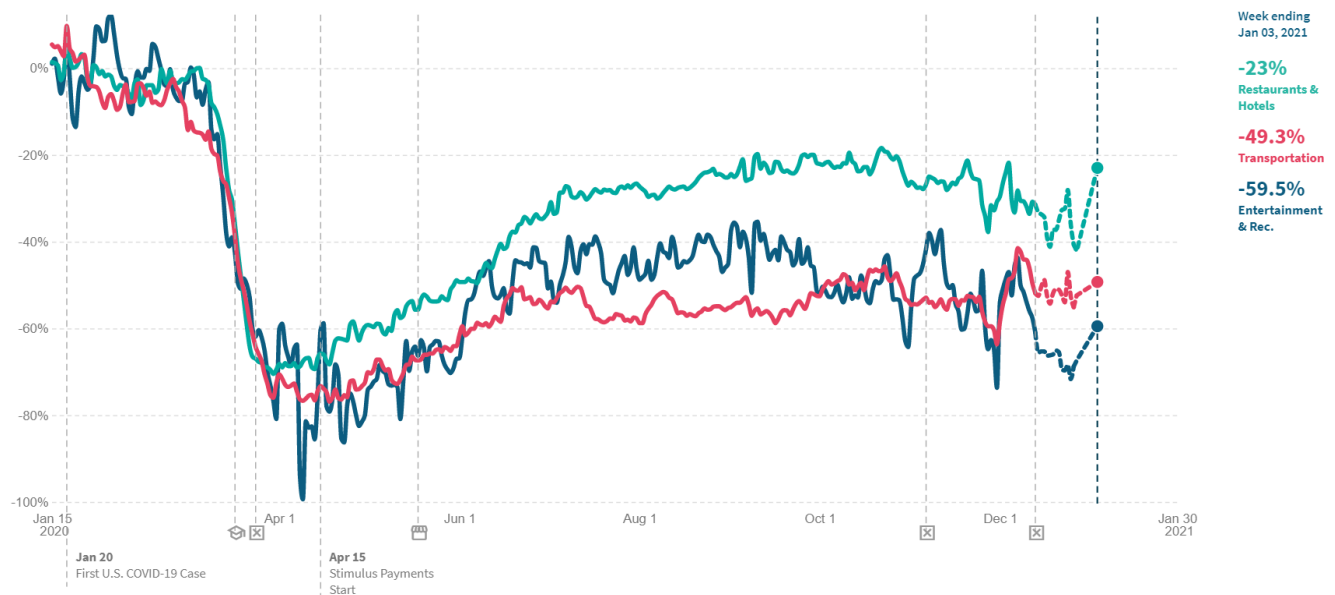
visit tracktherecovery.org to explore

Figure 31: Household Spending on Selected Items in Massachusetts Rates in Massachusetts

Source: tracktherecovery.org

Percent Change in All Consumer Spending*

In **Massachusetts**, as of **January 03 2021**, arts, entertainment, and recreation spending by all consumers **decreased** by **59.5%** compared to January 2020.



*Change in average consumer credit and debit card spending, indexed to January 4-31, 2020 and seasonally adjusted. The dashed segment of the line is provisional data, which may be subject to non-negligible revisions as newer data is posted. This series is based on data from Affinity Solutions.

last updated: January 26, 2021 next update expected: January 30, 2021

visit tracktherecovery.org to explore

What changes are likely to be coming?

The Covid-19 pandemic has done damage to be sure. Nationwide, spending at food stores did not quite compensate for revenue declines at restaurants. Existing trends in shopping online and telecommuting were accelerated. Unable to travel, wealthier households spent less and vacationed near home. As noted earlier, lower-income families spent any extra income at their disposal. In many ways, the economy's reaction to the pandemic was predictable: the hospitality and entertainment industries suffered most. Bricks-and-mortar retail and personal services also languished. Many contracted business services (e.g., landscaping, banquets and catering, vehicle rentals) also are hurting. But generally speaking, business to business supply chains suffered little disruption. Manufacturers, truckers, wholesalers, and businesses services closed for a month at most and then went back to day-to-day business dealings. The tough things to track have been the extent of furloughs, how deeply industries reduced workers' hours, and which entrepreneurs were forced to give up their dreams.

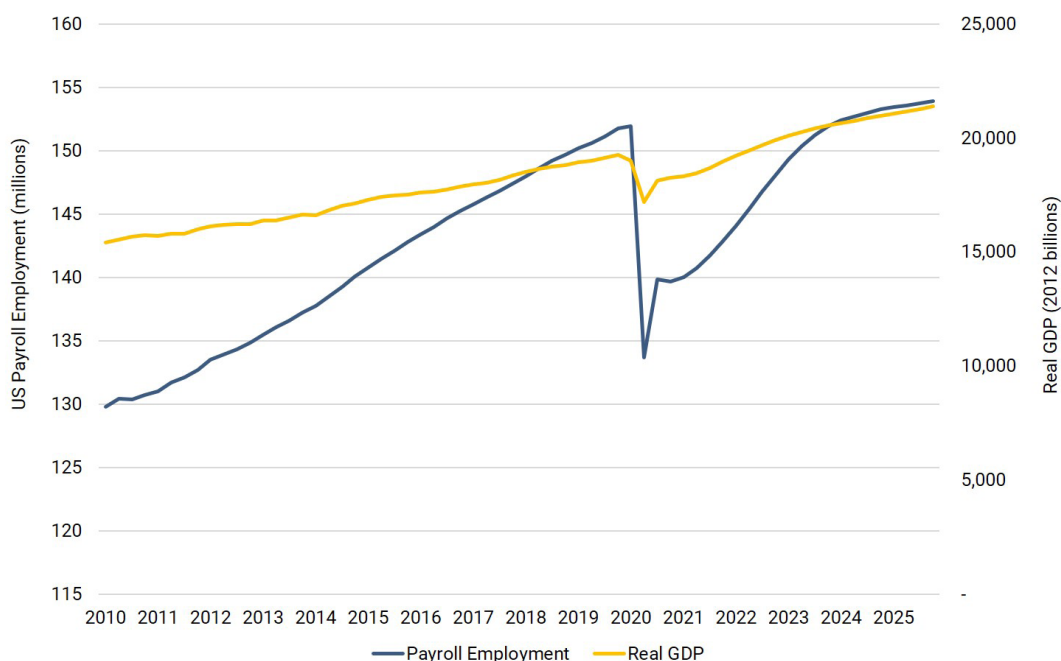
Forecasting accuracy is related to uncertainty. And with respect to the current crisis, some uncertainty pertains to public perception. Politicians are concerned with measures needed to minimize overall societal impacts of the pandemic, while the general population worries about how it will affect their health and livelihoods. After economic lockdowns, such reactions feed into how the economy will rebound. Regulatory-type measures clearly limit

access to some aspects of the economy; for example, mandated social distancing will continue to limit restaurants with indoor seating to about 50% of capacity and repercussions to large entertainment venues remain more severe (at best 25% of capacity if they are activated at all). But consumer fear of contagion will dampen visitation even further. The number of identified positive cases and count of deaths attributed to COVID-19 affect consumer fear, which also feeds into a jurisdiction's taste for taking regulatory action.

Moody's November 2020 forecast expects growth to remain restrained, until vaccines are developed and distributed—an expectation for next summer at the time of the forecast, but which may be too optimistic in light of rollout issues. Jobs and GDP are not expected to reach pre-crisis levels until late 2023 (see Figure 7). Still, nationwide recovery growth should be strong in 2022 and 2023. But by 2025, the growth rate for jobs is expected to settle down to 0.5-0.6% annually and that for GDP to hover around 2.0%, just below long-run rates predicted prior to the current crisis. Part of the drag on the economy is expected to be inflation as reflected in consumer prices. It will rise from pre-crisis levels, which were less than 2% annually, to levels closer to 2.3%-2.5% annually over the next 15 years. Such inflation is part and parcel due to interest that will be due on the national debt, which surged with the recent stimulus packages as well as the Tax Cuts and Jobs Act.

Figure 32: U.S. Payroll Employment and Real Gross Domestic Product

Source: Moody's Analytics, December 2020



Implications for the North Central Massachusetts Region Economic Development Strategies

Without additional data and analyses, specific assessments and forecasts of impacts on various types of NCM economic activity are not possible, but some observations about general sectoral trends visible thus far may be useful, as are the latest available (January 2021) forecasts of occupancy and rent trends by CoStar for each major space type. The sectors suffering the greatest losses due to the pandemic so far have been Transportation, Hospitality, and Entertainment and Recreation. Within these sectors, transit, air transportation, hotels, restaurants, movie theaters, performing arts, spectator sports, and large professional conferences/meetings are likely to be slowest to return, largely due to health risks perceived by consumers, although regulations with respect to social distancing also likely will play a role through at least the end of Summer 2021. But they will return eventually, although possibly with modifications to reduce risks. In the Commercial Space component of the report, the following table shows pre-pandemic projections of commercial space occupancies by type of space. At that time, average annual increases in occupancy over the period 2020-2025 were projected to be larger across all space types than the average annual increases for 2006-2020. The effects of the pandemic are yet to be assessed in detail for the NCM region, but in Figures 33, 34, 35, and 36 are CoStar's latest (January 2021) projections of Occupancy Rates and SF

Table 7: Historical and Forecast Change in Commercial Space Inventory

	Historical Change '06-'20	Avg Annual '06-'20	Projected Change '20-'25`	Avg Annual '20-'25
Office SF	579,759	41,411	310,000	62,000
Industrial SF	1,617,057	115,504	128,000	256,000
Retail SF	982,156	70,154	418,000	84,000
Flex SF	122,157	12,216	166,000	33,000

Rents shown through 2025.
These four figures highlight:

- Office space occupancy is projected by CoStar to remain relatively flat through 2025 while rents are projected increase by about 10% over the 5-year period.
- Industrial Space occupancy, Figure B, is projected to decline slightly even as SF rents are projected by CoStar to increase by nearly 30% between now and 2025.
- Retail Space occupancy, Figure C, is projected to drop sharply through the first half of 2021, increase slightly through the first half of 2022, and then continue to decline through 2025. Over the 5-year period CoStar is projecting retail rents per SF to grow by 10%.
- Flex space occupancy, Figure D, is projected to increase slightly through the first half of 2021 and then decline slightly over the ensuing four years, while rents are projected by CoStar to increase by about 15% over the next five years.



Figure 33: Office Space in NCM Region

Source: CoStar

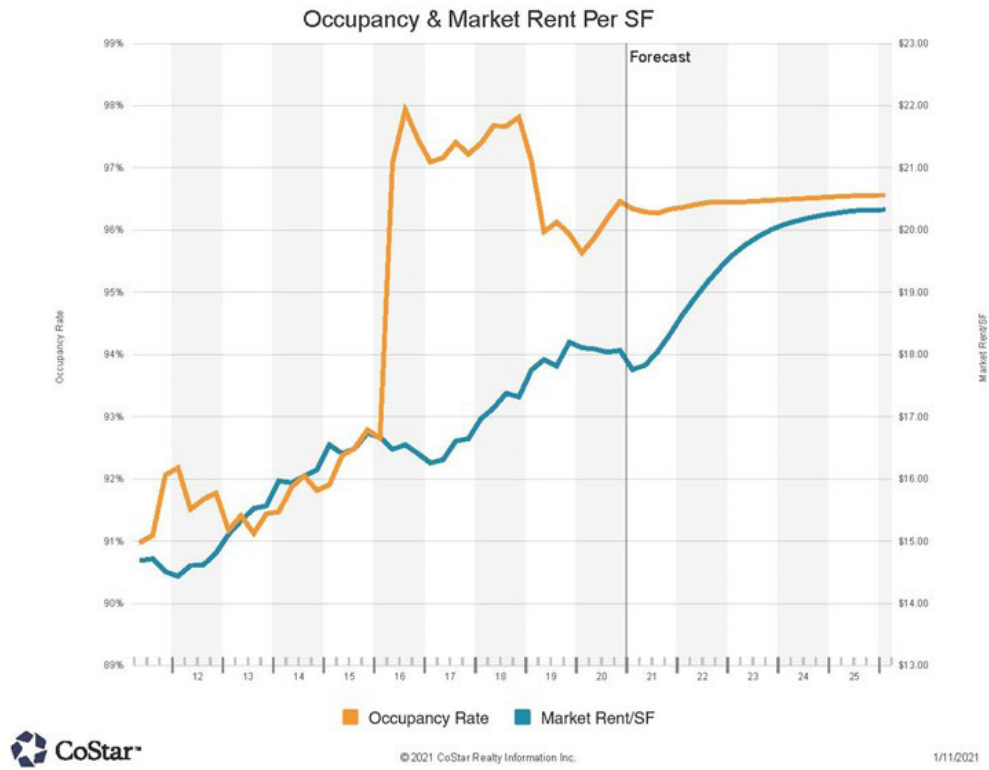


Figure 34: Industrial Space in NCM Region

Source: CoStar

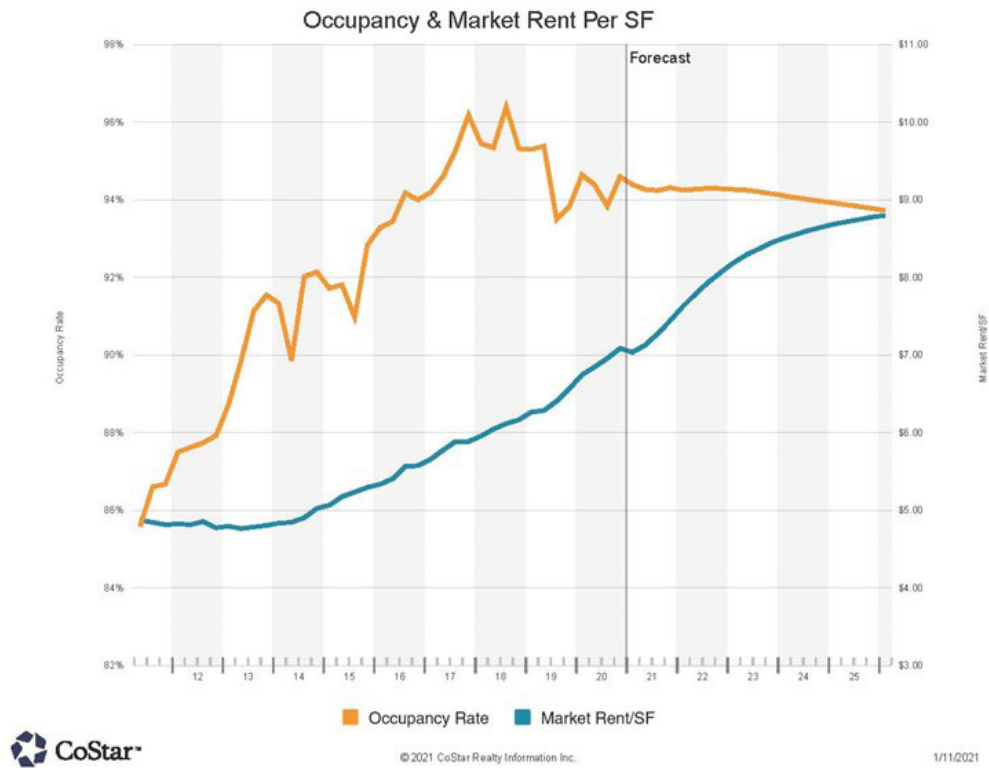


Figure 35: Retail Space in NCM Region

Source: CoStar

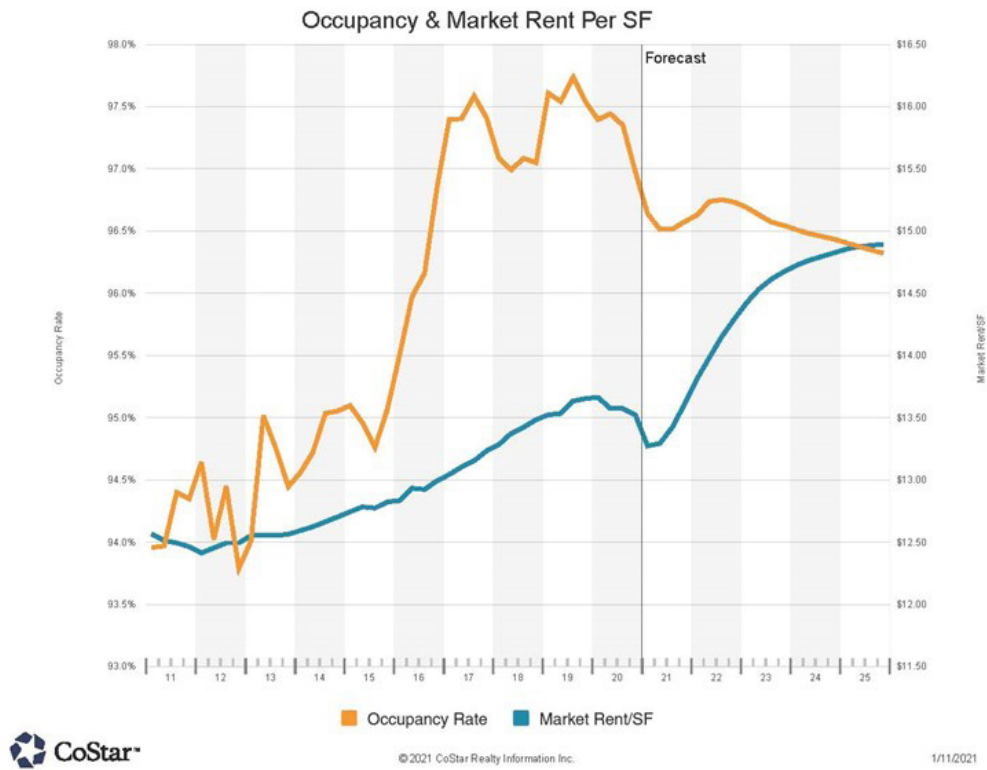
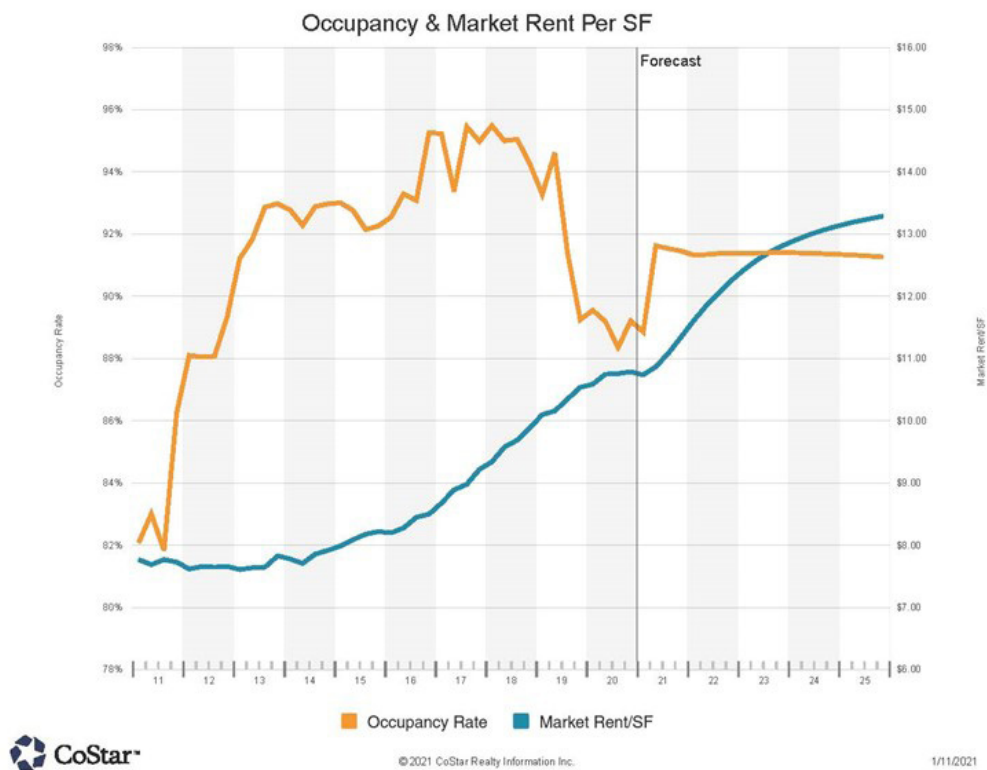


Figure 36: Flex Space in NCM Region

Source: CoStar



Certain permanent post-pandemic changes will induce some geographic redistribution of economic activity, Retail being a prime example: the global “Amazonization” of society, technically referred to as “non-store retailing.” Thanks to the pandemic, people have gained experience and, hence, confidence in purchasing a much broader array of products online. This has already spurred a decline in bricks-and-mortar retail stores, only some of which will return once the pandemic is under control. It will also continue to drive a rise in private delivery and related logistical services, including distribution facilities near freight transportation hubs and demand centers.

In Office-using industries, the COVID-19 pandemic has had the immediate impact of emptying offices of those who can work from home. With experience using virtual meeting platforms instead of office settings, many workers have become more comfortable using them, particularly for presentations, meetings, and workshops. This further enables telecommuting and lessens the need for centralized office workspaces. The pandemic has halted the rise of open-plan offices. Indeed, many web- and software-based businesses are opting to vacate permanent office space as the most productive workers elect to work collectively from their homes. Note these currently perceived tendencies are not likely to result in wholesale declines in the need for office space in the long run. But they are likely to cause commercial office vacancy rates in some cities and towns to rise in the short run as leases expire and alter some architects’ thinking about how interior spaces are configured and reconfigured. In the case of North Central Massachusetts, office vacancy rates had been in steep decline until 2016, when they leveled off, beginning to rise again in 2018, but, at 4.5% pre-pandemic, were still very low.

There are certain economic activities that will rise as a direct result of the pandemic. They are health-related, some medical and some mental. Both are tough to address during the pandemic due to issues of social distancing and patient attitudes toward seeking health care. This increased activity is particularly the case for home-based care options, but not all patients can be cared for and rehabilitated properly in their homes. The upshot of this is that for the next decade or so there is likely to be a rise in the need for health care centers, particularly those for cardiovascular and mental rehabilitation, as well as for treatment of the long-term effects of COVID-19.

In the draft recommendations prepared for the NCM economic development work plan over the next five to ten years, there are several points at which COVID-19 considerations may intervene. The following highlights parts of the recommendations for which pandemic response is especially appropriate.

- Business Recruitment recommended focus on target industry: if Logistics and Distribution is selected, the NCM region has a large inventory of industrial space to market. This sector is not one which has as yet experienced major declines due to the pandemic. Indeed, it has become critical to the new buying patterns of residents and businesses operating remotely. The activities using these large spaces are not labor-intensive, another factor to consider even after the pandemic is past.
- Small Business/Entrepreneurial Growth and Existing Business Retention and Expansion: Supportive activities to enable businesses, particularly small ones, to compete in e-commerce are critical. Although many such businesses already have on-line presences, they may also need to up their games.
- Strengthen broadband access across the region, particularly to locations where opportunities exist to support small business growth, satellite offices, and teleworking. The report recognizes that broadband access was important pre-pandemic. It is critical now.
- Changes to existing zoning ordinances, for example, to permit outdoor dining where not already allowed, are needed before warm weather arrives. Similarly, the allocation of sidewalk and roadway space to accommodate different users (pedestrians, cyclists, motorists, transit, outdoor dining, outdoor displays, curbside pick-up, increased delivery demands, etc.) would facilitate business survival and recovery.
- A business survey can contain specific items related to pandemic response.
- Enhance NCM web presence related to programs, opportunities, information, and contacts for businesses needing help for COVID-related issues.
- It goes without saying that all recommendations relating to business roundtables, communications, marketing, and outreach will be adapted for COVID safety practices until statewide and local protocols change.

Potential Fiscal Effects

With so much uncertainty inherent to any forecasts of economic and fiscal variables that will affect employment, business sales, and fiscal revenues must be approached with caution, and, in any case, are beyond the scope of this report. At the time of writing a new stimulus package is headed for implementation, a new and more calamitous wave of the virus has struck, and two vaccines have been approved and are beginning to be widely distributed. Most analysts believe the US federal stimulus will dampen what would otherwise be a second significant recessionary effect but are non-committal for how long and whether and to what extent additional fiscal stimulus will be necessary to support households and businesses. There is also uncertainty on the full impact of vaccinations on personal and business behavior and whether and to what extent they can restore the mostly positive economic and real estate market trends preceding the pandemic. Clearly there are potential longer-term changes – such as the extent of remote working and non-store retail sales – that could disrupt projections based on historical trends of business development and household location decisions. These will in turn affect real estate market conditions underlying the property tax base so critical to local government revenues.

The following general points may be useful in thinking about addressing fiscal issues:

- While state funding to municipalities is projected to be level for the coming year, this happens only because the state is drawing down its reserve account. In fact, 2020 revenues to Massachusetts are about 5% less than projected. One could apply this percentage to city and town budgets to see how such a reduction would affect the municipalities, but the impact would vary by how dependent each is on state aid. In many municipalities, particularly the larger communities in the NCM region, even a 5% loss in state aid will likely affect revenues more than any other single source (including property taxes, meals and lodging excise taxes and other local fees).
- For property tax revenues, municipalities will be affected to the extent that values are affected projected decreases in occupancy and possible income losses. Thus far, residential markets and property values have not been negatively affected. In fact, some markets have experienced increased activity and prices. Commercial revenues will experience effects depending on the distribution of space types in the communities: office, retail, industrial, and flex. Fortunately for the NCM region a significant share of commercial space is warehouse/ industrial which has remained a growth sector throughout the pandemic. However, square foot values for industrial space are less than half those of office and retail space, each of which is expected to see a decline in occupancy and resultant losses in income/assessed value.
- Local receipts vary in the proportion of total town revenues they contribute. They include meals taxes and hotel occupancy taxes, both of which are expected to be hard hit again in 2021, as well as motor vehicle excise taxes and other items affected by household income and spending.

LENDING IN A TIME OF GREAT NEED

The North Central Massachusetts Development Corporation (NCMDC) plays a critical role in small business support through its robust lending program. This is particularly important during and after the pandemic as businesses are looking for funding support to keep their doors open, and new businesses are looking to open as employees were laid off from jobs and looking to entrepreneurial activity as a means to generate income. The lending program at NCMDC has been very successful over the years, and interviews with staff indicate an increased demand for lending in the region and an opportunity to add more loan options to the portfolio. This section provides a brief overview of lending activity.

National Trends in Small Business Lending

Nationally, bank financing for small businesses experienced a steady recovery from its low point during the height of the Great Recession in 2009. By 2015, bank-lending for small businesses had returned to pre-recession highs and continued to grow, hitting a peak in 2019 before a rapid decline due to the COVID-19 economic shock. While lending on the chart below does seem to indicate a rapid recovery in mid-2020 after the initial COVID-related shock, this uptick is likely related to small business lending as part of the Paycheck Protection Program ("PPP Program") and may not be an indication that bank-financing will continue at pre-COVID levels unless there is additional program support.

Figure 37: Small Business Lending Index, 2006-2020

Source: PayNet

Lending Activity: For US



From 2012-2018, bank lending to small businesses in Worcester County, MA mirrored national trends over this time, with the total number of loans and total loan amounts growing by 30.7% and 26.7%, respectively. Much of the growth was fueled by an increase in the number and amount of smaller loans under \$100K.

Table 8: Small Business Lending Trends, 2012-2018, Worcester County, MA

Year	Under \$100K		\$100k-\$250k		\$250k+		Total	
	#	Total Value	#	Total Value	#	Total Value	#	Total Value
2012	10,641	\$113,994,000	285	\$48,155,000	290	\$155,687,000	11,216	\$317,836,000
2018	13,962	\$177,120,000	382	\$62,339,000	316	\$163,222,000	14,660	\$402,681,000
% Growth	31.2%	55.4%	34.0%	29.5%	9.0%	4.8%	30.7%	26.7%

Furthermore, the number of loans going to businesses with less than a \$1million in revenue also increased significantly from 2012 to 2018, however the average size of these loans decreased.

COVID-19 has had a significant impact on the US economy and has the potential to significantly reduce access to capital for small businesses in the short to medium term. According to polling of risk, underwriting, and small business lending professionals conducted in June 2020, a third of respondents believed the rate of lending activity would remain constant at pre-COVID levels, while 23% thought it may increase, with the remaining 43% believing it would likely decrease. The survey responses point to a general uncertainty about the impacts of the crisis on small businesses and lending.

Table 9: Small Business Loans Under \$1M, 2012-2018, Worcester County, MA

Businesses Under \$1M in Revenue			
Year	#	\$	\$/Loan
2012	4,444	\$104,458	\$24
2018	6,468	\$121,870	\$19
% Growth	46%	17%	-20%

In response to this uncertainty, 40% of respondents said they believe underwriting standards are likely to become more stringent. As such, loan terms may become less favorable for borrowers than in previous years and many borrowers may find themselves cut off from traditional financing sources.

Small Business Lending in North Central Massachusetts

NCMDC is the most significant non-bank source of small business financing in the region. The organization has strong relationships with the community banks and credit unions that originate the majority of traditional small business loans in the region. If one of these institutions is unable to provide a loan due to the applicant's credit issues or not having a suitable lending program, lenders refer applicants to the NCMDC for assistance.

NCMDC has a total of six microloan funds, but two main programs for small business lending include:

- **SBA Micro-Loan Program:** this program provides funding to eligible small businesses in North Central Massachusetts. Borrowers are often start-up businesses or businesses requiring additional capital that may not be eligible for a loan from a traditional financial institution.
- **EDA Revolving Loan Fund:** this program was created through funding provided by an EDA CARES ACT Recovery Assistance grant to assist small businesses in North Central Massachusetts impacted by COVID-19.

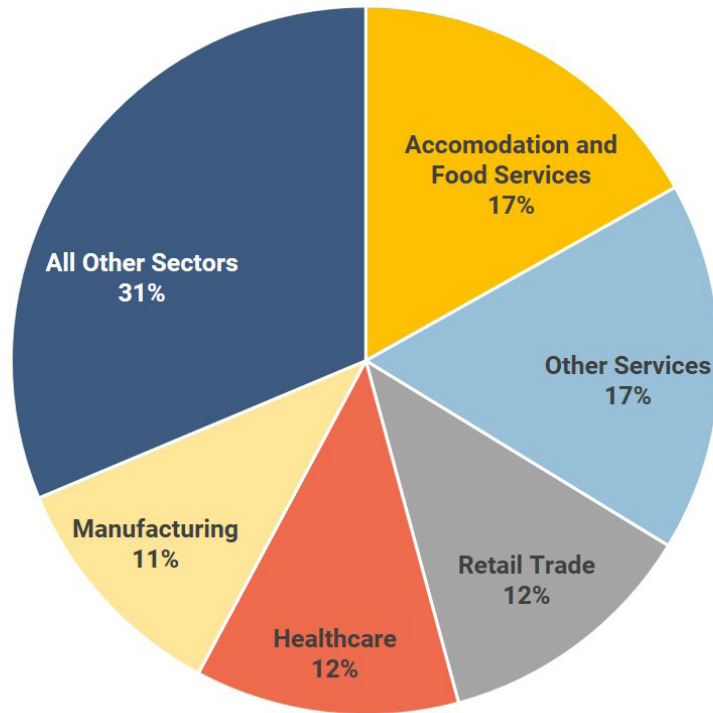
SBA Micro-Loan Program

Since 2015, NCMDC through its SBA Micro-Loan Program has issued 83 loans to small businesses, of which 66 (nearly 80%) were for loans under \$50,000 and all but one loan were for amounts under \$100,000. Over the same time period, NCMDC has approved approximately \$2.5 million in loans, for an average loan amount of approximately \$31,000. According to NCMDC, these loans allowed recipients to retain 166 jobs and create an additional 192 jobs.

Accommodation & Food Services, Other Services, and Retail are the industry sectors most represented amongst the loan recipient businesses. These have mostly consisted of restaurants, coffee shops, salons, and store fronts. While all small businesses are important to the economic health of a region, the nature of these small businesses not only contribute to the economy but are customer facing in nature and contribute to the region's culture and quality of life. The next two largest loan pool sectors were healthcare and manufacturing, consisting of small medical and related practices and food-production facilities. Together, these five sectors account for over two-thirds of all small business loan recipients funded through NCMDC.

Figure 38: Share of SBA Micro-Loans by Industry Sector, 2015-2020

Source: NCMDC



COVID-19 Impacts

Since the start of COVID-19, the NCMDC has noticed many more established and larger businesses coming to the organization for financial assistance through the EDA loan fund. Additionally, NCMDC has worked with area businesses on determining the best course of action moving forward such as repositioning or closing due to changes in the economic environment. Mirroring national trends, NCMDC noticed that the health of small businesses in the region were largely dependent on the industry-sector of the business, with service-sector businesses amongst the hardest hit.

Another trend NCMDC noted since the onset of COVID, is an uptick in the number of new start-up businesses engaging with the organization for technical assistance and financing. While counter-intuitive to national economic trends, NCMDC has noted an increase in the number of service industry start-ups looking for financing and technical assistance. Many of these new businesses were founded in direct response to changes in the local economy due to COVID, as many proprietors seek to pivot careers or capitalize on perceived market opportunities. NCMDC believes these trends are likely to continue in the months ahead as more individuals look to capitalize on perceived permanent shifts in the business environment and consumer behavior.

chapter 3

benchmarking



To better understand how NCM compares to other regions, we have benchmarked NCM against five other regions across Massachusetts and beyond.

Key Takeaways

Slower growth.

The NCM region is gaining both population and employment, but at a slower rate than the other five comparison regions. As the workforce continues to age in the NCM region, attracting new younger residents to live and work will be imperative.

Less expensive option.

From a cost perspective, real estate in NCM region is less expensive than the Massachusetts comparison regions and, in some cases, less expensive than the regions outside Massachusetts. Lease rates, rents, and housing purchase prices are generally lower in NCM than in the other three Massachusetts regions. Average industrial and office lease rates can be \$4 - \$8 less while residential rents can be as much as \$1,000 less per month.

Earnings are lower than other regions of Massachusetts.

Average earnings for jobs in the NCM region are in line with those jobs in the Greenville and Lehigh Valley regions, but \$30,000 - \$40,000 less than MetroWest and Route 128. Concentrations of jobs in Professional and Technical Services and Life Sciences are likely driving up average wages in some Massachusetts regions. Interestingly, while the average wages are similar in NCM to those of Greenville and Lehigh Valley, the cost of living is far less in those two regions compared to NCM.

Education correlates to earnings in NCM.

Educational attainment for NCM residents is lower than other Massachusetts regions, but on par with Greenville and Lehigh Valley. As of 2018, 32% of NCM residents over the age of 25 had obtained a bachelor's degree or higher. This compares to 51% in the Route 128 region and 55% in MetroWest. This also directly translates to a lower median household income in NCM (\$70,000) compared to MetroWest at \$107,000. Household incomes drive location decisions, housing prices, rents, and spending power for the local economy. They also reflect the mix of jobs.

Competitively priced space is an opportunity.

The NCM region has a relatively large share of competitively priced warehouse/distribution space. This type of "industrial" space has been growing nationally and is expected to continue to do so as e-commerce and shorter delivery windows accelerate. While the jobs are not as high paying as professional and technical services, they also do not require higher education levels. Industrial/warehouse/distribution space, properly placed, is also likely to be significantly net fiscally positive, affording communities a welcome source of tax revenues.

Find new ways to market the region.

Several development corporations in comparison regions offer online platforms for advertising and searching for available sites and buildings. The NCM region does not have a service like this currently and from discussions with stakeholders, many communities and regional economic development entities rely on MassEcon and their ReadyMass 100 site advertising platform. This may not capture all available sites, spaces, or buildings in the NCM region as it's limited to only the top sites in the Commonwealth.

benchmarking

NCM Benchmarking Analysis

Quality of Life Metrics

MEAN TRAVEL TIME TO WORK

Source: ACS 2018, Table S0801



Plymouth County – 33.3 minutes

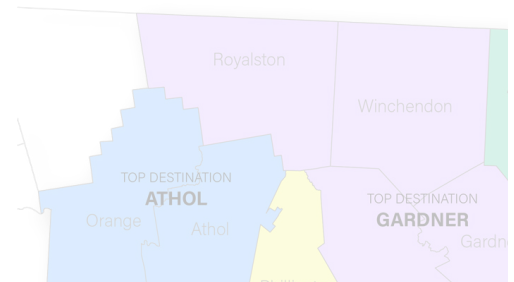
MetroWest – 32.7 minutes

North Central Mass – 30.9 minutes

Route 128 North – 29.9 minutes

Lehigh Valley – 26.2 minutes

Greenville – 22.6 minutes



Looking at the NCM region in a vacuum ignores the world around it and the lessons we can learn from how other regions and economic development entities are growing and sustaining their share of the pie. To better understand how NCM stacks up to other regions in Massachusetts and beyond, this section benchmarks NCM to five other regions across a range of demographic, employment, market, and quality of life metrics. While some direct comparisons can be made, particularly to those regions within Massachusetts, the focus of the benchmarking should be on why some regions perform better than others and what we can learn from them. In the end, NCM is unlikely to directly compete with a region in South Carolina but if we can learn what they are doing to create successful outcomes it may help NCM compete for companies, talent, and tax dollars within its own marketplace.

BENCHMARKED REGIONS

The benchmarking analysis compares six regions across a variety of metrics. The regions selected include:

- Greenville County, South Carolina
- Lehigh Valley Region (Lehigh and Northampton Counties), Pennsylvania
- Route 3 South Region (Plymouth County), Massachusetts
- MetroWest Region, Massachusetts
- Route 128 North Region (Burlington, Reading, Wilmington, Woburn)
- North Central Massachusetts Region

The five comparison regions are comprised of those inside Massachusetts that are seen as direct competitors with NCM or have a composition this region may want to strive for. The two regions outside Massachusetts (Greenville and Lehigh Valley) were chosen because of their robust manufacturing and transportation/logistics sectors and both are experiencing significant job growth compared to national averages. The five comparison regions were chosen in consultation with NCM staff.

This section is organized into several components, each highlighting different quantitative and qualitative metrics and statistics for each region. The section moves through demographic and employment data, industry sector information, real estate and market data, and quality of life measures. It wraps up with an overview of the region economic development entity that operates in the region to see what, if any, programs, policies, financing tools, and marketing information are available.

KEY TAKEAWAYS

The NCM region is gaining both population and employment, but at a slower rate than the other five comparison regions. As the workforce continues to age in the NCM region, attracting new younger residents to live and work will be imperative.

Average earnings for jobs in the NCM region are in line with those jobs in the Greenville and Lehigh Valley regions, but \$30,000 - \$40,000 less than MetroWest and Route 128. Concentrations of jobs in Professional and Technical Services and Life Sciences are likely driving up average wages in some Massachusetts regions. Interestingly, while the average wages are similar in NCM to those of Greenville and Lehigh Valley, the cost of living is far less in those two regions compared to NCM. Therefore, an employee looking for the same job in NCM and Greenville may be more likely to choose the location with a lower cost of living if all other factors are equal.

Health Care, Government, Manufacturing, and Retail industry sectors dominate the employment base of nearly all comparison regions. Jobs in the Professional, Scientific, and Technical Services industry sector ranked #1 in the Route 128 region and #2 in MetroWest but did not comprise a significant number of jobs in the NCM region. This matches with market data suggesting new office and lab space is not being constructed in the NCM region at the same rate as in the other three Massachusetts comparison regions.

The Arts, Entertainment, and Recreation industry sector was the highest percentage growth sector in five of the six regions. Finance and Insurance, as well as Education sectors were tops in four of the six regions. As we look at the impacts of the current pandemic, the arts and entertainment sector is experiencing significant setbacks nationwide which could slow that growth going forward. Several of the comparison regions show large employment growth (in raw numbers) in the retail, accommodations, and food sectors which are also experiencing significant setbacks from the pandemic.

From a cost perspective, real estate in NCM region is less expensive than the Massachusetts comparison regions and, in some cases, less expensive than the regions outside Massachusetts. Lease rates, rents, and housing purchase prices are generally lower in NCM than in the other three Massachusetts regions. Average industrial and office lease rates can be \$4 - \$8 less while residential rents can be as much as \$1,000 less per month. That is a substantial value so long as the spaces are of the same quality, fit out, and meet the specifications of today's businesses and residents. That is not often the case given NCM's older commercial and residential stock. Nevertheless, there may be opportunities to market advantages around cost of living and doing business.

Educational attainment for NCM residents is lower than other Massachusetts regions, but on par with Greenville and Lehigh Valley. As of 2018, 32% of NCM residents over the age of 25 had obtained a bachelor's degree or higher. This compares to 51% in the Route 128 region and 55% in MetroWest. This also directly translates to a lower median household income in NCM (\$70,000) compared to MetroWest at \$107,000. Household incomes drive location decisions, housing prices, rents, and spending power for the local economy. They also reflect the mix of jobs.

The NCM region lacks a central anchor city that can serve as a regional destination for workers, residents, and visitors. Each of the comparison regions has at least one larger central city such as Greenville, Allentown, Framingham, Woburn, or Plymouth. A walkable and accessible activity center with restaurants, retail offerings, services, cultural opportunities, and recreational activities can attract residents and jobs. Cities like Fitchburg are working hard to bring back Main Street and create that environment so many residents and employees are looking for.

The NCM region has a relatively large share of competitively priced warehouse/distribution space. This type of “industrial” space has been growing nationally and is expected to continue to do so as e-commerce and shorter delivery windows accelerate. While the jobs are not as high paying as professional and technical services, they also do not require higher education levels. Industrial/warehouse/distribution space, properly placed, is also likely to be significantly net fiscally positive, affording communities a welcome source of tax revenues.

Several development corporations in comparison regions offer online platforms for advertising and searching for available sites and buildings. The NCM region does not have a service like this currently and from discussions with stakeholders, many communities and regional economic development entities rely on MassEcon and their ReadyMass 100 site advertising platform. This may not capture all available sites, spaces, or buildings in the NCM region as it’s limited to only the top sites in the Commonwealth.

Several comparison region organizations promote local, state, and federal advocacy as one of the services offered to members. Having a unifying voice advocating for a region can be a powerful tool and a featured selling point for membership in the organization. It has allowed some organizations to step outside their traditional role in economic development and advocate for policies and regulations that are synergistic with jobs and businesses, like housing for example.

BENCHMARKING ANALYSIS

The following pages provide a comparison of the NCM region to the five other benchmarking regions both within Massachusetts and in other states. This information is intended to be used to understand what strengths and opportunities NCM has compared to other regions, and how the region may look to improve its competitive position over time. Both the data comparisons and the organizational comparisons at the end of this chapter were used to inform the recommendations in this economic development plan.

Demographic and Economic Metrics

Total Population 2014 and 2024

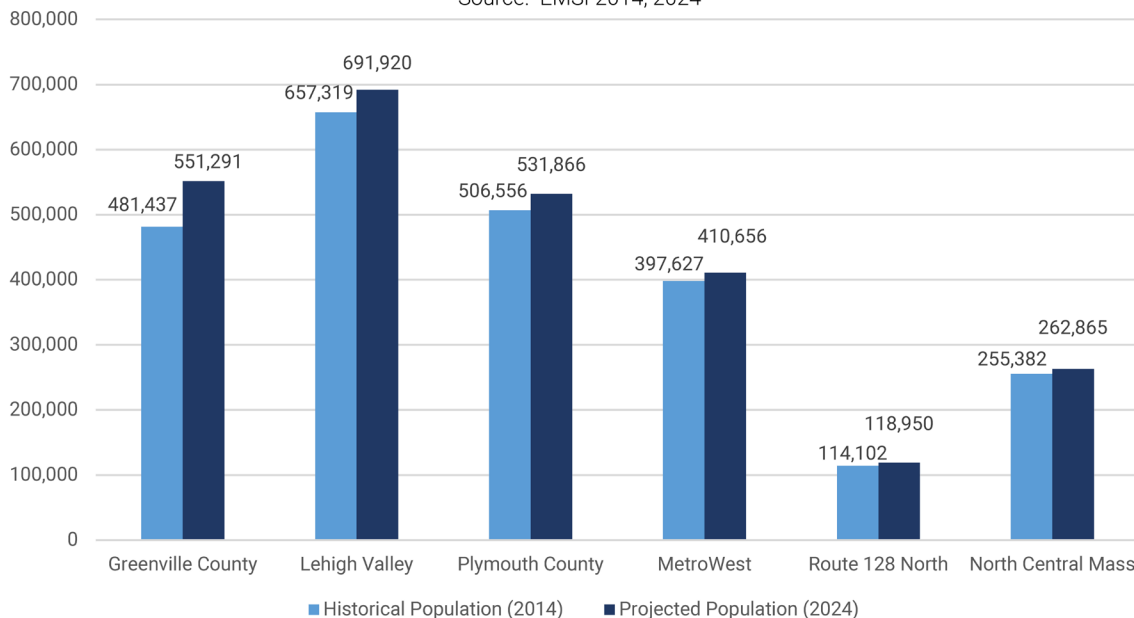
Source: EMSI 2014, 2024

POPULATION CHANGE (2014-2019)

Greenville – 8.4%
Lehigh Valley – 2.9%
Plymouth Cty – 2.8%
MetroWest – 2.0%
Route 128 North – 2.9%
North Central – 1.8%

POPULATION CHANGE (2019-2024)

Greenville – 5.6%
Lehigh Valley – 2.3%
Plymouth Cty – 2.1%
MetroWest – 1.3%
Route 128 North – 1.3%
North Central – 1.2%



TOTAL POPULATION AND PROJECTED CHANGES

The NCM region continues to experience modest population growth but does lag the other comparison regions. All regions, except for Greenville, are within 1% of each other for historic growth and projected population growth. In terms of raw numbers, the larger regions like Greenville, Lehigh Valley, and Plymouth are expected to add substantially more residents than NCM.

Total Jobs 2014 and 2024

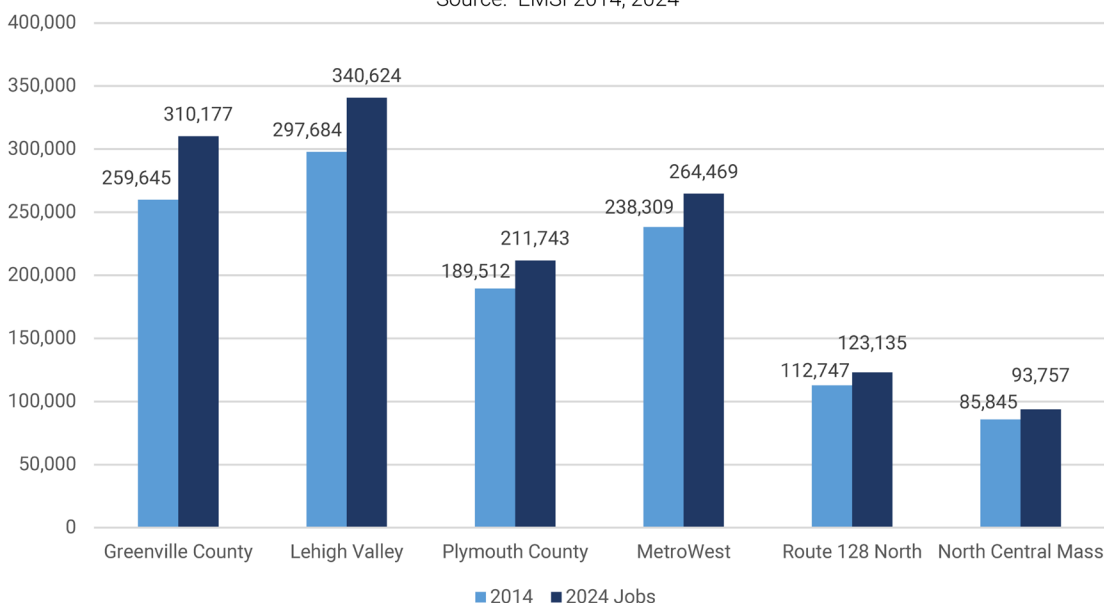
Source: EMSI 2014, 2024

JOBS CHANGE (2014-2019)

Greenville – 11.8%
Lehigh Valley – 8.7%
Plymouth Cty – 7.2%
MetroWest – 6.8%
Route 128 North – 6.5%
North Central – 6.4%

JOBS CHANGE (2019-2024)

Greenville – 6.8%
Lehigh Valley – 5.2%
Plymouth Cty – 3.9%
MetroWest – 2.6%
Route 128 North – 4.3%
North Central – 2.5%



TOTAL EMPLOYMENT AND PROJECTED CHANGES

Similar to population counts, the NCM region continues to experience employment growth that has been in line with other Massachusetts regions, yet less than the two out of state regions. Interestingly, average earnings of workers in NCM are in line with Greenville and Lehigh Valley, but are \$30,000 - \$40,000 lower than MetroWest and Route 128, respectively. This is likely due to the higher percentages of jobs those two regions have in professional and tech services, and life sciences.

Industry Sector Metrics

Top Five Industry Sectors by Total Jobs, 2019

Source: EMSI 2019, 2-Digit NAICS Code Analysis

Industry Sector	Greenville	Lehigh Valley	Plymouth County	Metro West	Route 128 North	North Central Mass
Health Care	5	1	1	1	5	1
Government	2	3	2	4	-	2
Manufacturing	3	2	-	5	2	3
Retail Trade	4	4	3	3	3	4
Accommodation/Food Services	-	-	4	-	-	5
Construction	-	-	5	-	-	-
Professional/Scientific/Technical Services	-	-	-	2	1	-
Administrative, Support, Waste Management	1	-	-	-	4	-
Finance and Insurance	-	-	-	-	-	-
Educational Services	-	5	-	-	-	-

Top 5 Industry Sectors by Total Jobs: Rank order 1-5, 1 being highest number of jobs.

EMPLOYMENT BY INDUSTRY SECTOR

Looking at jobs across 2-digit NAICS codes for each region revealed a high concentration of jobs in several key industry sectors that included Health Care, Government, Manufacturing, and Retail. The Health Care sector ranked at the top in four of six regions, while Manufacturing played a major role in five regions. Within Manufacturing there are different industry specialties that range from turbine generators in Greenville to plastics in North Central Mass to semiconductor technology in Route 128. Interestingly, in MetroWest and Route 128 their top job producing industry sectors included Professional and Technical Services which is likely driving the average earnings per worker in those regions.

GROWING SECTORS

From a percentage growth perspective, most of the regions have seen higher growth trends in industry sectors geared toward personal and business services. Sectors like Arts and Entertainment, Finance and Insurance, and Educational Services. Several regions experienced a large percentage growth in Construction and Real Estate related industries, as those regions have a growing population and employment base. In most of the regions, large numbers of jobs are still in the traditional sectors of Healthcare, Government, and Retail but the share of that growth is shifting slightly to these other industry sectors.

HIGHEST PERCENTAGE GROWTH SECTORS
2014-2019

Arts/Entertainment/Recreation – 5 of 6 regions
 Finance/Insurance – 4 of 6 regions
 Educational Services – 4 of 6 regions
 Real Estate – 3 of 6 regions
 Construction – 3 of 6 regions
 Agriculture/Forestry/Fishing – 3 of 6 regions

LOCATION QUOTIENTS AND NATIONAL COMPETITIVENESS

Location quotient (LQ) is a measure of the concentration of a region's industry sectors compared to the United States as a whole. Location quotients above 1.0 indicate a concentration in that sector. Four of the six benchmark regions, including NCM, had an LQ higher than 1.0 for the Manufacturing sector. Only Plymouth County and MetroWest did not. In many cases, these regions have major employment centers like a regional mall, a regional hospital and support services, or large corporate headquarters that are driving high LQs in sectors like Healthcare, Retail, and Management of Companies. These industry sectors and major employers can draw in or spin off smaller businesses to create clusters and specializations within the regional economy.

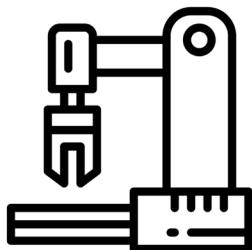
HIGH LQ INDUSTRY SECTORS
2019

Manufacturing – 4 of 6 regions
 Health Care – 3 of 6 regions
 Retail Trade – 3 of 6 regions
 Management of Companies – 3 of 6 regions
 Information – 3 of 6 regions

Industrial Space Real Estate Sector Metrics

INDUSTRIAL SPACE BREAKDOWN BY REGION

Source: CoStar, CBRE, FXM Associates, Q1 2020.



Industrial Market Comparison, Q1 2020

Source: CoStar, CBRE, FXM Associates.

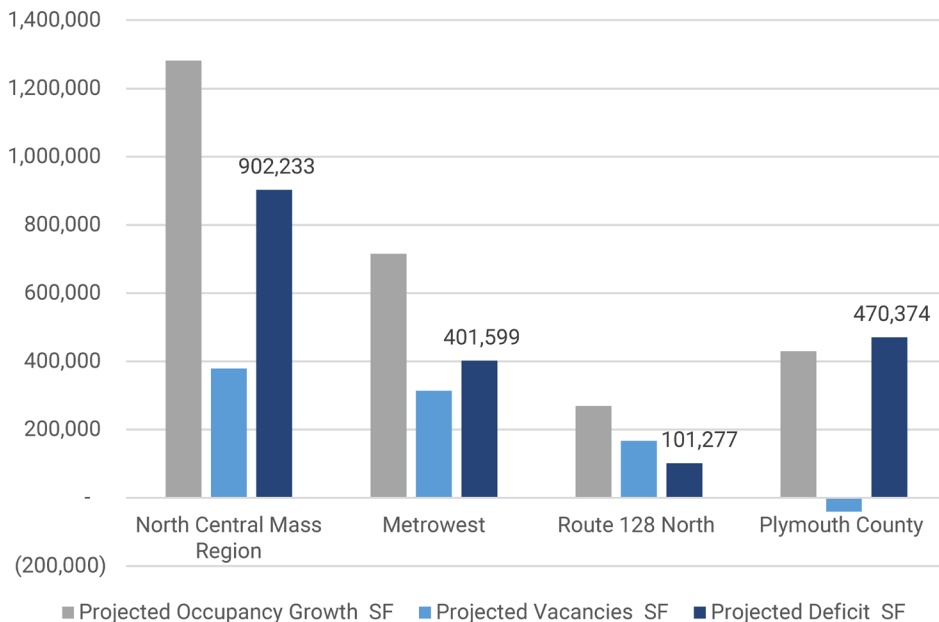
Industry Sector	Total Inventory (Million Sqft)	Vacancy Rate	Lease Rate (NNN)
Greenville	190.6	8.1%	\$3.50
Lehigh Valley	125.7	4.7%	\$5.94
MetroWest	35.6	4.0%	\$7.68
North Central Mass	32.5	6.4%	\$4.35
Plymouth County	25.3	3.3%	\$7.18
Route 128 North	17.9	4.4%	\$12.89

The Greenville-Spartanburg and Lehigh Valley regions are some of the most prominent manufacturing and logistics markets in the country. Access to markets, transportation network, land availability, workforce, and favorable tax environments (Greenville in particular) are driving large-scale industrial development. Comparatively, total industrial square footage has been shrinking in NCM, Route 128, and Plymouth County as former industrial spaces are converted to other uses or torn down and redeveloped. According to data from CoStar, the NCM region lost nearly 937,000 sqft of industrial space since 2011. Despite declining inventory, industrial space occupancy is growing in NCM and projections show a demand to support new construction through the year 2025.

A combination of the demand for industrial space and the reduction or flattening of supply has led to sharp declines in vacancy in each of the four Massachusetts regions since 2006. In the case of MetroWest, the region added nearly 15 million square feet of space since 2006 yet saw vacancy drop from 10% to 4% over that same period. Industrial space in NCM was recording a 13% vacancy rate in 2006 and has since declined to 6.4% in 2020. From a cost perspective, NCM continues to offer lower lease rates than the other Massachusetts regions and Lehigh Valley. Greenville is the lowest of all the regions.

Projected Space Demand through 2025

Source: CoStar, FXM Associates



In order to understand what future demand for commercial space might be, based on occupancy trends, this analysis projects the square feet occupied and subtracted the projection of vacant square feet in the inventory of each space type. The result is a projected deficit of new construction (or a potential surplus). The analysis assumes that all the existing space projected to be vacant would be occupied. The NCM region shows the highest potential for industrial space demand, more than double any of the other four Massachusetts regions.

Office Space Real Estate Sector Metrics

OFFICE SPACE BREAKDOWN BY REGION

Source: CoStar, CBRE, FXM Associates, Q1 2020.



Office Market Comparison, Q1 2020

Source: CoStar, CBRE, FXM Associates.

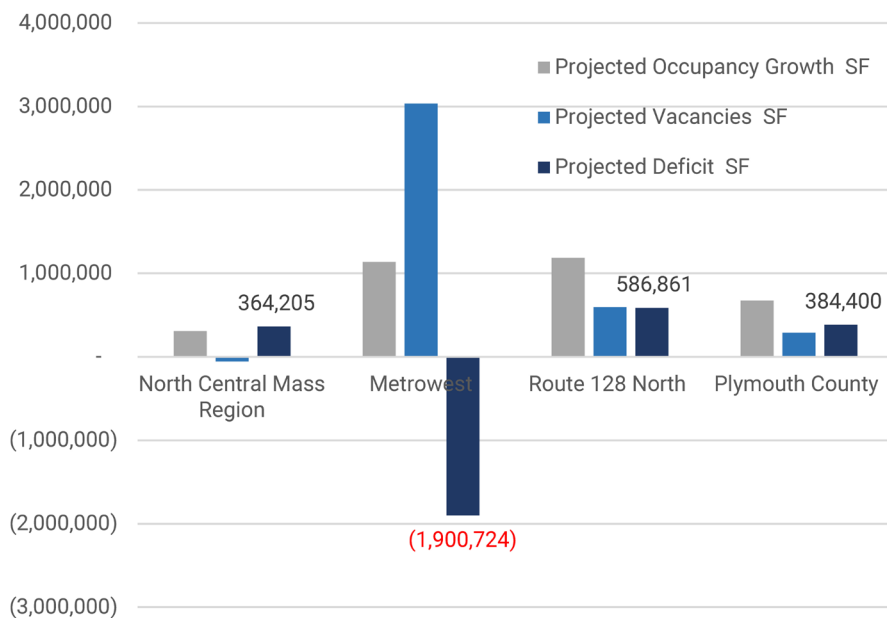
Industry Sector	Total Inventory (Million Sqft)	Vacancy Rate	Lease Rate (NNN)
Greenville	11.5	10.1%	\$21.15
Lehigh Valley	16.2	10.6%	\$16.10
MetroWest	30.3	11.6%	\$19.93
North Central Mass	4.7	4.5%	\$15.45
Plymouth County	12.9	4.7%	\$22.55
Route 128 North	16.8	7.9%	\$21.30

The office market can fluctuate in large swings by the addition of several major office developments or conversely a major tenant vacancy. Each of the benchmark regions have seen positive absorption and declining vacancy through Q1 of 2020. Since 2006, the NCM, Plymouth, and Route 128 regions have seen steep declines in vacancy ranging from 7-10% over the 14-year period. Vacancy in MetroWest has been increasing, which is likely a result of added inventory and the fluctuations that market has seen with major companies relocating and/or consolidating. Greenville is quickly becoming a location for office tenants as well, with positive absorption and steadily declining vacancy since 2013. The desirability of Greenville as a place to live and do business, as well as their workforce and favorable cost structure is driving the office market. They are seeing a mix of traditional suburban office development, downtown offices in mixed-use buildings, and conversions of former mills spaces into office buildings.

The NCM region continues to offer a more competitive office lease rate than the other Massachusetts regions, but new product has been slow to enter the market. Since 2006, the NCM region has added about 200,000 square feet of office space to the overall inventory. Each of the other regions have added close to 1 million square feet. This is likely driving up their rents as more Class A space is added, and existing Class B or C space is updated for today's tenants.

Projected Space Demand through 2025

Source: CoStar, FXM Associates



Like the industrial space projections, this analysis projects the potential demand for office space through the year 2025. Three of the four Massachusetts regions, including NCM, are showing modest projections of demand in the future but the impacts of the pandemic are still not fully understood. If work from home and social distancing become more engrained in work culture and practice, demand for office space in many markets could shrink. Conversely, if companies look to open more satellite branches closer to workers, there could be more demand in regions like NCM.

Retail and Flex Space Real Estate Sector Metrics

RETAIL AND FLEX SPACE BREAKDOWN FOR MASSACHUSETTS REGIONS

Source: CoStar, CBRE, FXM Associates, Q1 2020.

Retail Market Comparison, Q1 2020

Source: CoStar, FXM Associates.



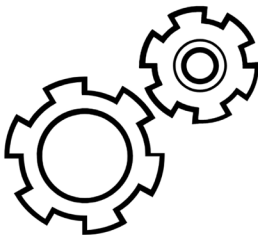
Industry Sector	Total Inventory (Million Sqft)	Vacancy Rate	Lease Rate (NNN)
MetroWest	27.2	5.2%	\$18.24
Plymouth County	27.2	3.5%	\$15.90
North Central Mass	11.6	3.3%	\$9.22
Route 128 North	9.8	2.5%	\$24.12

Retail and Flex Space figures available through CoStar for Massachusetts Regions only.

Digging a bit deeper into the four Massachusetts regions, we see that retail rents as well as vacancy in the NCM region are both lower than most other regions. MetroWest rates are nearly double that of NCM, but it's important to note the retail demand is highly localized, and there is no real competitive advantage to lower average rents in the NCM region. Retail is primarily driven by supply and demand for goods and services, and if demand in a region is not strong retail is unlikely to locate there. Prior to COVID, all indicators for retail were strong for the NCM region with inventory up, occupancy up, and vacancy down but the impacts of online retailers and the pandemic have created more uncertainty in the market. Projections through 2025 show little to no demand for additional retail space in any of the Massachusetts regions. It is likely new businesses will backfill vacancies in existing spaces, especially if many businesses struggle to make it through the pandemic.

Flex Space Market Comparison, Q1 2020

Source: CoStar, FXM Associates.



Industry Sector	Total Inventory (Million Sqft)	Vacancy Rate	Lease Rate (NNN)
MetroWest	17.3	8.3%	\$9.44
Plymouth County	6.3	11.1%	\$10.98
North Central Mass	2.3	10.8%	\$10.83
Route 128 North	9.9	5.8%	\$13.32

Retail and Flex Space figures available through CoStar for Massachusetts Regions only.

Flexible space is defined as multi-purpose workspaces that often include several business components in the same space. This includes a business that may manufacture a product in a portion of the space while packaging and storing it in another. It could also include space that is used for lab testing with offices in the front. The space is flexible enough to be reconfigured as businesses grow/shrink/change over time, or as tenants come and go. Across Massachusetts, we have seen this space typically lease at higher rates than traditional industrial but not as high as office. There also seems to be more demand for this space to support smaller start-up businesses that are combining manufacturing, testing, storage, and sales in the same location. As evidenced in the CoStar data, lease rates are higher for this space and projections through 2025 estimate the capacity to support an additional 76,000 square feet across the NCM region. This could be an opportunity to think about how older, existing industrial spaces could pivot to serve more cross-functionality for businesses and thereby increase the competitiveness of those spaces.

Residential Real Estate Sector Metrics

MEDIAN OWNER-OCCUPIED HOME VALUE

Source: ACS 2018, Table DP04

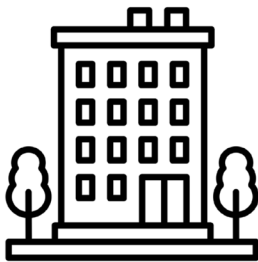


Route 128 North	– \$470,293
MetroWest	– \$440,288
Plymouth County	– \$388,500
North Central Mass	– \$261,859
Lehigh Valley	– \$219,200
Greenville	– \$192,700

In 2018, the median value for an owner-occupied home in NCM was just under \$262,000. Compared to the other three Massachusetts regions, the median value in the NCM region is significantly lower and a big advantage from a housing affordability standpoint as well as a competitive advantage for attracting and growing businesses. All Massachusetts regions are more expensive than the two out-of-state comparators. This is not surprising as Massachusetts has some of the highest housing costs in the country.

MEDIAN GROSS RENT

Source: ACS 2018, Table DP04

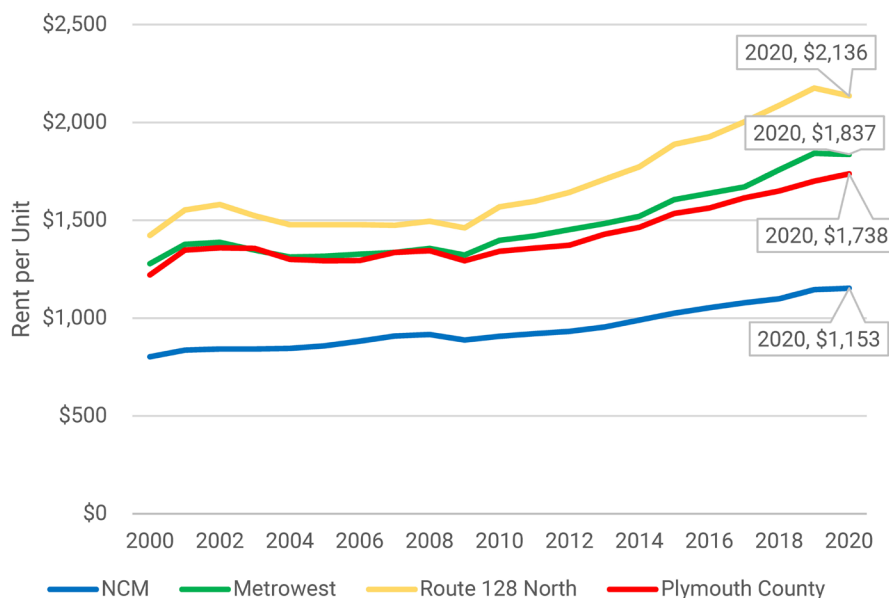


Route 128 North	– \$1,616
MetroWest	– \$1,378
Plymouth County	– \$1,296
Lehigh Valley	– \$1,075
North Central Mass	– \$977
Greenville	– \$943

The median gross rent (including utilities) for a unit in NCM was estimated to be \$977 per month. This is the second lowest gross rent of the six regions, and only outpacing Greenville by \$34. As with median owner value, rents in the NCM region are quite affordable compared to the other Massachusetts regions. Much of that has been driven by the delivery of new, high-end multi-family product within the Greater Boston region. Lower rents in the NCM region reflect an older rental housing stock, particularly rental units in structures with fewer than five units.

Average Rents per Unit, 2000-2020

Source: CoStar, FXM Associates



Looking just at the Massachusetts regions, NCM has always been a more affordable option than other regions closer to Boston. According to data from CoStar, average rents in buildings with five or more units in NCM are 85% less than Route 128 and 60% less than MetroWest. CoStar data tends to track larger rental developments across each region, whereas the Census data above tracks all rental units regardless of building type.

CoStar is projecting NCM to add another 470 multi-family units through the year 2025 which is about a 5.4% increase. This is in line with both MetroWest and Plymouth, but quite a bit less than Route 128 (12.6% growth).

Educational Attainment, 2018

Source: ACS 2018, Table B15002. Population Over 25 Years of Age

Industry Sector	Greenville	Lehigh Valley	Plymouth County	MetroWest	Route 128 North	North Central Mass
Less than High School	11%	11%	7%	6%	4%	10%
High School or GED	25%	34%	28%	19%	23%	30%
Some College	20%	17%	18%	13%	15%	19%
Associates Degree	9%	9%	10%	7%	7%	10%
Bachelor's Degree	22%	18%	23%	30%	29%	20%
Master's and Above	13%	11%	14%	25%	22%	12%

EDUCATIONAL ATTAINMENT – BACHELOR'S AND HIGHER

Greenville – 34%
 Lehigh Valley – 29%
 Plymouth County – 37%
 MetroWest – 55%
 Route 128 North – 51%
 North Central Mass – 32%



Although the NCM region has a lower percentage of residents with a Bachelor's degree or higher compared to other Massachusetts's regions, 29% of residents do have some college education and advanced training. This matches well with the region's focus on manufacturing and health care. NCM is generally in line with the other regions except MetroWest and Route 128, where educational attainment is far higher.

MEDIAN HOUSEHOLD INCOME (2018)

Source: ACS 2018, Table S1903, S1901

MetroWest	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
Route 128 North	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
Plymouth County	\$\$\$\$\$\$\$\$\$\$\$\$\$
North Central Mass	\$\$\$\$\$\$\$\$\$
Lehigh Valley	\$\$\$\$\$\$\$\$\$
Greenville	\$\$\$\$\$\$\$

Each \$ = \$10,000

Median household income in 2018 for North Central Mass was just under \$70,000. This is anywhere from \$15,000 to \$30,000 less than the other three Massachusetts regions. NCM's median household income is slightly higher than Lehigh Valley (\$5,000 more) and Greenville County (\$13,000 more).

COST OF LIVING ADJUSTMENT

Route 128 North – 136.7
 MetroWest – 131.3
 North Central Mass – 126.1
 Plymouth County – 124.8
 Lehigh Valley – 102.5
 Greenville – 102.4

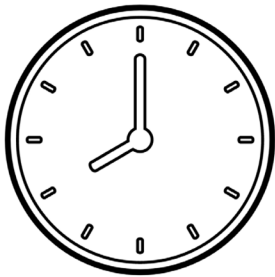
Source: EMSI 2020

Benchmarking each region against the United States, the six regions are all more expensive places to live and do business than the US average (100). COL in the Route 128 region is 36.7% higher than the US average, while Greenville is only 2.4% higher. Compared to NCM, both Lehigh Valley and Greenville are 19% cheaper while Route 128 is 8.5% higher. From the perspective of hiring, an employee in NCM may require a salary 19% higher than what the same employee might require in the Lehigh Valley. Average earnings by industry sector do not appear to reflect that COL adjustment between those two regions. The difference in earnings is closer to an average of 6% across all industry sectors.

Quality of Life Metrics

MEAN TRAVEL TIME TO WORK

Source: ACS 2018, Table S0801



Plymouth County – 33.3 minutes

MetroWest – 32.7 minutes

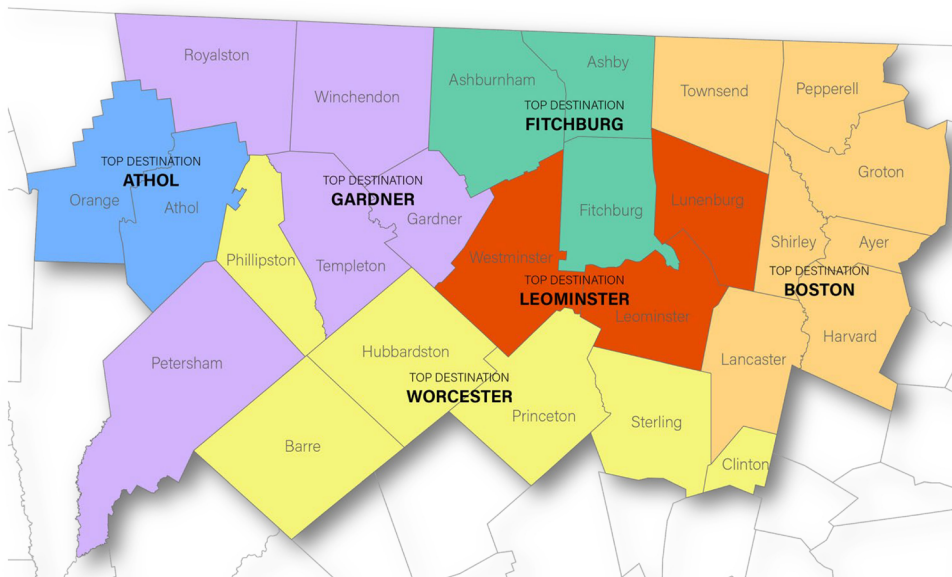
North Central Mass – 30.9 minutes

Route 128 North – 29.9 minutes

Lehigh Valley – 26.2 minutes

Greenville – 22.6 minutes

Mean travel time to work measures the amount of time in minutes it takes working residents of a region to get to their place of employment. The NCM region is comparable to the other three Massachusetts regions, and higher than Lehigh Valley and Greenville. This is likely attributable to the number of NCM residents commuting out to major employment centers in Worcester, Boston, and congestion levels on our highways and interstates.



Source: US Census, LEHD, 2019.

No city or town in the NCM region has more than 25% of their working residents remaining in the community for employment. Most communities have 88% or more of their working residents commuting to jobs outside the city or town in which they live. Within NCM, there are employment destinations like Gardner, Fitchburg, and Leominster that are serving as regional job hubs for residents not traveling to places like Worcester and Boston.

Crime Rates per 1,000 People

Source: EMSI, FBI Uniform Crime Reporting Program, 2019

Category	Greenville	Lehigh Valley	Plymouth County	MetroWest	Route 128 North	North Central Mass
Property Crime Rate	27.7	10.5	17.1	11.5	11.4	10.8
Violent Crime Rate	4.7	3.3	2.6	2.4	2.3	1.7

According to the FBI's Uniform Crime Reporting Program, in 2019 the NCM region saw fewer incidents of both violent crime and property crime than most of the other comparison regions. The only exception was property crime where NCM was just above Lehigh Valley. The NCM region compared favorably to the United States as well, which had a violent crime rate of 3.87 and a property crime rate of 22.9.

REGIONAL ECONOMIC DEVELOPMENT ORGANIZATION COMPARISON

In addition to the quantitative comparison of each benchmarked region, it is important to understand the structure of regional economic development organizations and the role they play in promoting and supporting their region. For this comparison, we specifically searched for regional economic development organizations such as a chamber of commerce, economic development corporation, development corporation, or other similar entity that covered multiple communities or counties. The review assessed each organization and their capacity to carry out economic development activities across the following categories:

- Structure/Organization
- Member Programming
- Financing or Lending Programs
- Advocacy
- Marketing the Region
- Marketing Specific Sites
- Other

The findings from this benchmarking comparison will be linked back to recommendations around organization, capacity, and programming for the NCM Chamber and Development Corporation.

Table 10: Comparison of Regional Entities by Services/Programs Offered

Region	Member Programming	Financing/ Lending	Advocacy	Marketing the Region	Marketing Sites	Other
Greenville	X	-	X	X	X	X
Lehigh Valley	X	X	X	X	X	X
MetroWest	X	-	X	X	-	X
Plymouth County	X		X			X
Route 128 North	No Entity Identified for this Region					



Greenville – Greenville Area Development Corporation (GADC)

Founded in 2001, the GADC is a non-profit organization established by the Greenville County Council to promote economic growth and development in Greenville County. The organization is primarily funded by local tax

dollars but does receive some marketing funds from the private sector. The GADC serves as a liaison between client companies and various communities, as well as the contact for businesses, site selection consultants, communities, and other government agencies looking to advance economic development, infrastructure, and marketing. Uniquely, the GADC is the only organization at the local level that has the legislative authority to negotiate incentives for new or expanding companies.

The GADC is governed by a fifteen-member Board of Directors who are appointed by the Greenville County Council. Board members serve a three year term where each year four members are up for appointment, three of which are appointed by the Council and one is appointed by the Council Chairman. The current Board is a mix of business executives and members of the County Council. The GADC is run by a staff of six which includes a CEO, vice president, two project managers, a research manager, and an office manager. In addition to the financial support from local tax dollars, the GADC does solicit funding from private sector “investors” which can come at three levels: \$600, \$1,500, \$5,000 annually. The level of investment provides different levels of benefit primarily dealing with marketing and exposure on the website, printed materials, and at events.

The GADC currently offers the following services:

- Member Programming
 - » While the GADC does host some events throughout the year, it does not appear to be their primary focus. Greenville has a very large and robust Chamber of Commerce that hosts events throughout the year as well as many other business support services. These two organizations are separate with their own staff, funding, and programs.

- Advocacy
 - » The GADC provides resources to support legislative initiatives and programs that are aligned with its mission of facilitating investment and job growth, as well as those that serve the immediate needs of existing businesses in the region.
- Marketing the Region
 - » The GADC has advanced six target industries through specific studies conducted of the region. Each target industry includes a downloadable brochure with statistics on the industry and why it is being advanced in Greenville County. There are also links to academic and training programs supporting that industry sector, a company case study, and testimonials from businesses talking about the advantages of Greenville County. Lastly, there is a dropdown menu of select companies working within the target industry sector for those looking at competition in the area or clustering with other businesses that are part of their upstream or downstream supply chain.
 - » The GADC has a section of their website dedicated to Quality of Life indicators that cover everything from demographics to education to healthcare to cost of living. Key comparison data can be easily accessed on the GADC website across eight primary categories and even compared to other counties in South Carolina and in some cases, to other regions across the United States.
- Marketing Sites
 - » The GADC has an entire section of their website dedicated to marketing sites and buildings across the region. Opportunities are organized by land use type and type of property (building, site, or business park). For each type there is a listing which includes parcel size, marketing material for the property, and features such as location within an Opportunity Zone or if it's a Data Center Qualified Site.
- Other
 - » The GADC has dedicated a portion of their website to data that promotes Greenville as a place to do business. This information ranges from transportation accessibility to market conditions to workforce availability and readiness to tax incentives.
 - » As noted earlier, the GADC has the unique ability to negotiate tax incentives for new or expanding companies in the region. These financial incentives include property tax abatements, fee-in-lieu of property tax, and industrial revenue bonds for financing a new or expanded operation.

Additional information on the GADC can be found on their website:

<https://www.greenvilleeconomicdevelopment.com/>



Lehigh Valley – Lehigh Valley Economic Development Corporation (LVEDC)

The LVEDC was founded in 1995 as the lead organization to bring about the economic change needed on the heels of mill and factory closures that had driven the regional economy for decades. Beginning with the

anchor cities of Allentown, Bethlehem, and Easton, then fanning out across two counties, the Lehigh Valley has become one of the most prominent economic development regions under 1 million people in the Northeast. The LVEDC has both county partners as well as private sector “investors” who contribute financially to the organizations efforts.

The LVEDC is governed by a 35-member Board of Directors comprised of both public and private sector members. The LVEDC is run by a staff of 17 which includes a CEO, several vice presidents who each oversee different primary functions of the organization, and directors who are tasked with overseeing specific functions. There are around 100 individual investors in the LVEDC who contribute annually to the organization and receive a variety of market benefits depending on their level of investment. In addition, the organization partners with non-profits, local and county governments, and regional organizations to leverage resources, staff, and knowledge.

The LVEDC currently offers the following services:

- Member Programming
 - » The LVEDC offers a mixture of in-person and online programming for its members mostly geared toward information sharing and learning. There is a robust alliance with the Greater Lehigh Chamber and Discover Lehigh Valley to offer events and marketing. This was promoted most recently through their initiative called Made Possible in Lehigh Valley.
- Financing
 - » LVEDC offers financing through their partnership called Lehigh Valley Lending Network (LVLN) which is a unique partnership of local financial institutions that creates a single point of access to allow business plans to be broadcast to many commercial lending institutions as once. The partnership allows traditional lenders to combine forces with specific programs offered by LVEDC to provide the most resources possible to help businesses succeed. The LVEDC is also a clearinghouse for information on SBA funds, County funding programs, and more recently COVID-related financing and grants.
- Advocacy
 - » As described in the LVEDC's most recent strategic plan, the organization is striving to take a more active role in advocating at the local and state levels on new initiatives or policy changes that improve the region's competitiveness. Part of the strategy includes engaging a coalition of developers and economic development entities to address shortages in real estate and to facilitate a dialogue among government agencies to reduce redundancy and streamline service delivery to improve competitiveness with other states and regions.
- Marketing the Region
 - » The LVEDC has advanced four target industries and offers marketing videos and data to support site selectors and companies who are considering this region. These target industries emerged from the regional economic development strategy published in 2014.
 - » The LVEDC also offers prospective businesses quantitative and qualitative data on the region measuring demographic, economic, and quality of life metrics. There is information on housing, education, healthcare, employers, infrastructure, and more.
- Marketing Sites
 - » The LVEDC has a section of their website for site selectors or businesses looking for specific properties or buildings in the region. The webpage includes free quarterly real estate reports, information on financing programs, and an interactive map where users can search for building and sites based on their own search parameters.
- Other
 - » The LVEDC includes a redevelopment program called the Lehigh Valley Land Recycling Initiative (LVLRI) which is an advisory group focused on the redevelopment of brownfields by assisting with environmental remediation work and other areas.

Additional information on the LVEDC can be found on their website:

<https://lehighvalley.org//>



MetroWest – MetroWest Chamber of Commerce

The MetroWest Chamber of Commerce was founded in 1895 as the Framingham Board of Trade and since evolved into the regional chamber of commerce. As a chamber of commerce, they offer members typical benefits and programs but also partner with other regional organizations to advocate in the best interest of its members. The

Chamber often partners with the 495/MetroWest Partnership and other commercial and community-based groups to advocate for the region. The Chamber is governed by a 33-member board of directors comprised of individuals representing public and private sector businesses and institutions. There are five staff members at the Chamber including a CEO, deputy director, accountant, and marketing and social media staff. As a membership organization the Chamber relies on corporate sponsors and dues paying members to fund their activities.

The Chamber currently offers the following services:

- Member Programming
 - » The Chamber's primary focus is on member events, networking, and strengthening connections amongst business in the service area.
- Advocacy
 - » The Chamber partners with other regional organizations, like the 495/MetroWest Partnership to advocate for policies, funding, and infrastructure projects that would directly benefit their members.
- Marketing the Region
 - » The Chamber has a dedicated space on their webpage for marketing the region and provides information on lodging, shopping, dining, real estate, recreation, and relocation information. Since the Chamber's primary focus is on member support services, they are not as focused on economic growth as other comparison region organizations are.
- Other
 - » The Chamber offers small business counseling services to members through a partnership with the Small Business Development Center at Clark University. An expert business counselor is available on Thursdays at the Chamber office to provide one-to-one management and technical assistance in finance, marketing, and business planning.

Additional information on the Chamber can be found on their website:

<http://www.metrowest.org/>

Plymouth County – South Shore Chamber of Commerce (SSCC)

The SSCC was founded over 115 years ago and has been advocating for businesses across the South Shore region's 25 communities since. As a chamber of commerce, the SSCC offers members typical benefits and programs but also partners with other local chambers and regional organizations to advocate in the best interest of its members. The Chamber is governed by a 33-member board of directors comprised of individuals representing private sector businesses across the region. There are eight staff members at the SSCC including a CEO, CFO, directors of development, community development, and membership. There are also staff members who lead the SSCC housing initiative and a data and design manager. As a membership organization the SSCC relies on dues paying members to fund their activities. The SSCC also has a separate program for "Partners" who can contribute at four different levels and receive added marketing and event benefits.

- Member Programming
 - » The SSCC offers a wide range of in-person and virtual programs, networking events, and educational seminars. With the onset of the pandemic, all in-person events have been suspended and many have moved to online platforms. Events are divided into several categories which include virtual events, membership engagement, advocacy, and community events.
- Advocacy
 - » The SSCC has developed a legislative agenda that focuses on issues most important to their members. These include healthcare, regulations and taxes, employment laws, and housing. In addition, the SSCC has adopted an ambitious regional development agenda with critical topics that include housing and infrastructure.
- Other
 - » The SSCC website includes a job board where active members can post jobs in the region for free. Non-members can pay a fee to the SSCC to have a job posted to the board. Anyone from the public can access the job board and see the postings.
 - » In recent years, the SSCC has developed a specific focus around housing to build and support businesses and the workforce they need. As a region with an aging population, attracting younger workers is critical to supporting and sustaining economic activity and housing that is affordable and available is a driving factor.

Additional information on the SSCC can be found on their website:

<https://www.southshorechamber.org/>

chapter 4

target industries



The target industries chapter sets the future direction of strengthening and growing the region's economic base by aligning opportunities, addressing weaknesses, preparing the workforce, and identifying incentives and programs to help fill gaps.

Key Takeaways

SWOT Analysis

- The diversity of community types, land availability and costs, the overall cost of living, transportation accessibility, and an existing network of economic development and tourism coalitions are all strengths in the region.
- The age of the building stock, relative lack of housing choice diversity, and the distances between activity centers and use types are weaknesses in the region.
- The transition of some legacy industries to higher tech uses/users, ability to leverage downtowns and town centers as activity centers, building off successes at Devens, and retaining retirees are all opportunities in the region.
- The COVID-19 recovery process, the aging and shrinking of the workforce, and shifts in macroeconomic policy and politics are all threats to the region.

Target Industries.

- The NCM region should focus future efforts toward strengthening and growing the Advanced Manufacturing, Logistics & Distribution, Tourism & Small Business, and Health Care industry sectors. These sectors represent a combination of strong and stable industry sectors already in the region and ones that have strong potential to grow over time.

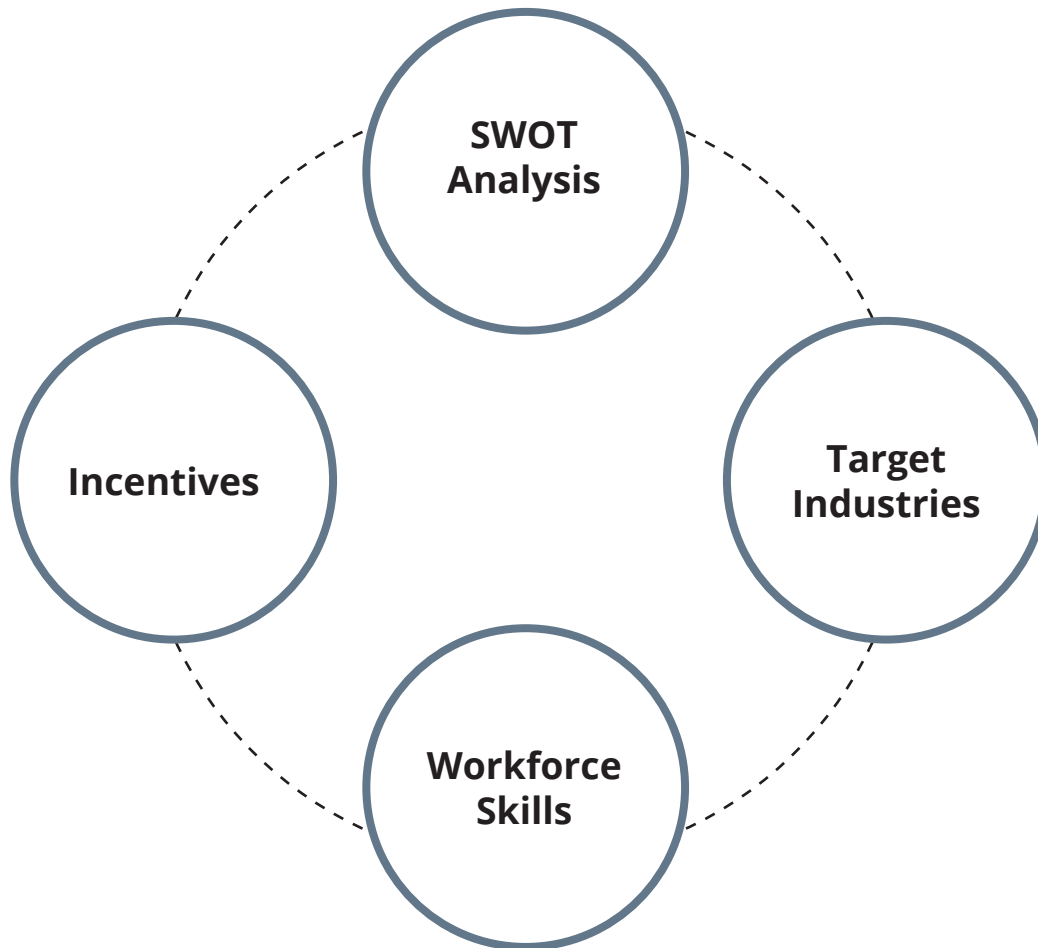
Skills and Workforce.

- The skills within the region's existing workforce is well-aligned with the needs of target industry businesses. This is particularly true for Advanced Manufacturing.
- Some skills, such as new product development, automation, or pharmaceuticals are supplied are in the region today, but are skills that are in high demand across several industry sectors. The region will need to focus on continuing to build those skills within the workforce, as they are likely to become more of a need in the future with advancements in technology across many industry sectors.
- Emphasis should be placed on closing the education, skills, and income gaps for the region's Black or African American and Hispanic or Latino residents.

Incentives.

- The incentives available to regions, municipalities, organizations, and businesses align well with advancing the retention and growth of the target industries in the region. Funding sources are available to cover needs such as workforce development, infrastructure, real estate development and site preparation, planning and technical assistance, and housing.

target industries



Based on the market strengths and real estate trends identified in Chapter 2, the target industries analysis takes a closer look at the how the region's assets could be positioned to grow or attract businesses within certain industry sectors. We begin by looking at the benefits and drawbacks of the region and its competitive factors. Those are then used to create industry sector targets for which marketing, programming, and financial tools could be geared toward. We then look geographically across the region to better understand where new business activity could or should

occur and how best to leverage existing incentive programs to accomplish economic development goals.

These efforts are not intended to supplant other local or statewide business recruitment efforts, but instead guide the region's direct business recruitment and entrepreneurial development efforts. This chapter aims to identify those industries that can be most impactful and provide the best chance for successful retention, expansion and recruitment efforts implemented in the region.

BUSINESS CLIMATE FACTORS

Before examining the NCM region's strengths and opportunities for business retention and recruitment efforts, it is worth evaluating the overall business climate in comparison with the state and the U.S. Doing so can assist in identifying programs or initiatives that can help the region stand out from the crowd as an exceptional place to live and do business within Massachusetts and New England in general.

While quantifying specific business climate factors like household savings rates and student loan default rates is difficult at the regional level, the non-profit group Prosperity Now's annual Development Report Card for States provides this valuable information at the state level. The group's 2020 report ranks each state in 92 categories, 58 of which were included in the analysis. They are grouped under the following subcategories: Financial Assets and Income, Business and Jobs, Housing and Homeownership, Healthcare, and Education. Indicators where Massachusetts is performing very well or very poorly are shown in this analysis.

Analyzing Massachusetts's standing within these categories can have several benefits for the region. In categories where the state performs extremely well, like Health Care and Education, NCM can determine if it is keeping pace, and if not, may choose to prioritize catching up as a goal. In categories where the state doesn't do as well, like in Housing Affordability (51st in the nation), NCM can seek to differentiate itself by, for example, marketing a lower cost of housing than many surrounding regions across the Commonwealth.

These choices can help make the region as attractive as possible for firms looking to expand, relocate, or put down roots. It can also help the employees of those firms to see the region as a great place in which to work and live.

Financial Assets and Income

In 2020, Massachusetts ranked 6th out of 51 states in terms of the 58 quality of life measures. The first grouping of metrics is Financial Assets and Income which measures wealth and income equality across the state. From an economic development perspective, states with broader wealth and income distribution tend to be more prosperous and have more dynamic entrepreneurial marketplaces.

According to Prosperity Now, Massachusetts is among the country's strongest states in this category, ranking in the top 10 in categories such as access to credit, low bankruptcy rates, high net worth, and low percentage of unbanked households. In Massachusetts, only 2.6% of households are unbanked compared to 6.5% nationally and 77% have an active savings account. Massachusetts does not rank high on measures of income inequality (48 out of 51) and the percentage of individuals who have fallen behind on paying their bills (43 out of 51).

Although Massachusetts is a state with high median incomes and earnings, there are many segments of the population that continues to struggle financially. This is particularly true when cutting income data cross race and ethnicity. This is an opportunity where the NCM region can and should place added focus.

Table 11: Financial Assets and Income Ranking, Prosperity Now 2020

Metric	National Rank
Access to Revolving Credit	1st out of 51
Borrowers over 75% Credit Card Limit	3rd out of 51
Consumers with Collections	4th out of 51
Bankruptcy Rate	5th out of 51
Unbanked Households	6th out of 51
Net Worth	9th out of 51
Income Volatility	40th out of 51
Fell Behind on Bills	43rd out of 51
Income Inequality	48th out of 51

Business and Jobs

The Business and Jobs metrics report on the quality of jobs and access to business ownership for existing residents. While Massachusetts's performance in this category is a bit more varied than in the Financial Assets category, the state still does well mostly due to the large number of higher wage positions across top industry sectors. Massachusetts ranks third in the percentage of low wages jobs (4.8% compared to 18.7% nationwide) and second in average annual pay per job at \$67,290 compared to \$57,266 nationwide.

While jobs within large corporations certainly are providing numerous benefits to Massachusetts residents, business ownership is second only to homeownership as a source of wealth for Americans. Massachusetts currently ranks in the middle of the pack for microenterprise ownership rates nationwide. Generally, the higher the Microenterprise Ownership Rate, the higher the percentage of working residents who have the opportunity to build wealth through business capital accumulation.

Areas where Massachusetts is challenged are around the ratio of businesses owned by women compared to men and business ownership by race. In 2020, Massachusetts ranked last nationwide for the ratio of businesses owned by women compared to men. The value of businesses owned by women were also much lower than for men, ranking the state 46 out of 51 in that metric. Massachusetts ranked 27th in percentage of non-White businesses owners, but the average value of those businesses ranked 7th nationwide.

Boosting the number of businesses owned by women and racial and ethnic minorities should be a focus for NCM going forward. Conversations with lending and business planning staff at the NCMDC indicate higher numbers of Hispanic and Latino-owned businesses seeking financial assistance and business planning technical assistance. This has been accelerated by the COVID-19 pandemic.

Table 12: Business and Jobs, Prosperity Now 2020

Metric	National Rank
Average Annual Pay	2nd out of 51
Low-Wage Jobs	3rd out of 51
Business Value by Race	7th out of 51
Unemployment Rate	9th out of 51
Business Value by Gender	46th out of 51
Business Ownership by Gender	51st out of 51

Homeownership and Housing

Not surprisingly the high cost of housing, whether rental or ownership, here in Massachusetts is a major factor in the ability to attract and keep top talent to fill jobs. Housing costs add considerably to the overall cost of living in Massachusetts, and can lower available spending in other key economic sectors like transportation, education, healthcare, and goods and services. As today's workforce continues to age and retire, housing must be part of the state's solution to attracting new employees to backfill existing jobs and fill new ones as companies expand or relocate here in the Commonwealth.

This is where the NCM region has a competitive edge to many other regions closer to Boston. The lower cost of both owner and renter housing could attract new talent to live in the region and even purchase homes that would be out of reach in many other parts of the state. Building housing in locations that are walkable, transit accessible, and amenity-rich will help attract younger workers and provide places for retirees to remain in the community. The lower cost of ownership units provides an a more affordable option for families, or those looking for more space to accommodate home offices after the pandemic.

Table 13: Homeownership and Housing, Prosperity Now 2020

Metric	National Rank
High-Cost Mortgage Loans	4th out of 51
Housing Cost Burden - Renters	46th out of 51
Housing Cost Burden - Owners	51st out of 51
Homeownership Rate	51st out of 51
Affordability of Homes	51st out of 51

Healthcare

Healthcare metrics provide insight into residents' access to health insurance, their overall health status, employers' share of healthcare premiums, and other measures. In this category, Massachusetts is one of the country's highest-performing states. Only 3.2% of residents are uninsured, the lowest insured rate in the country. Only 2.1% of Massachusetts' low-income children are uninsured, the second lowest in the country.

None of these metrics, nor Massachusetts' overall healthcare score is surprising given the long-term commitment the state has had toward creating access to health insurance. The state is also a national leader in medical advancements, procedures, and medtech industries.

For the NCM region, healthcare continues to be a growing industry sector with over 17,000 jobs in the healthcare industry with 1,600 of those added in the last five years. With the region's resident population continuing at a rapid rate, the need for additional healthcare and social services is likely to grow and will serve as one of the key industry sectors for growth over the next ten years.

Table 14: Healthcare, Prosperity Now 2020

Metric	National Rank
High-Cost Mortgage Loans	4th out of 51
Housing Cost Burden - Renters	46th out of 51
Housing Cost Burden - Owners	51st out of 51
Homeownership Rate	51st out of 51
Affordability of Homes	51st out of 51

Education

High-performing schools are critical to attracting and retaining new firms and residents, especially those that wish to "put down roots" in the community for the long term. Separating "successful" schools and districts from the pack is difficult, as academic success can be measured in many different ways. Standardized test scores and graduation rates are among the most commonly-cited measures, but fail to account for socioeconomic factors that may be driving them; a graduation rate of 85% in "community X" may actually represent a more impressive performance than a 90% graduation rate in "community Y" if the former faces starker economic or social challenges.

That said, traditional measures of school district success are readily available online and can dramatically affect the marketability of a community in the eyes of prospective firms and residents. Massachusetts has one of the top ranked educational systems in the country, reflected by their rankings across education metrics. The state is first in math and reading proficiency and 13th in high school graduation rate (87.5%). The NCM region has several colleges, universities and tech schools all contributing the advancement of students and preparing them for a wealth of opportunity. Additionally, several institutions collaborate with employers to ensure current workers can be trained or retrained to meet the demands of today's jobs and tasks.

Table 15: Education, Prosperity Now 2020

Metric	National Rank
Math Proficiency	1st out of 51
Reading Proficiency	1st out of 51
Four-Year College Degree	2nd out of 51
Disconnected Youth	4th out of 51
Early Childhood Education Enrollment	5th out of 51
Severely Delinquent Student Loan Debt	5th out of 51
High School Graduation Rate	13th out of 51

SITE SELECTION CRITERIA

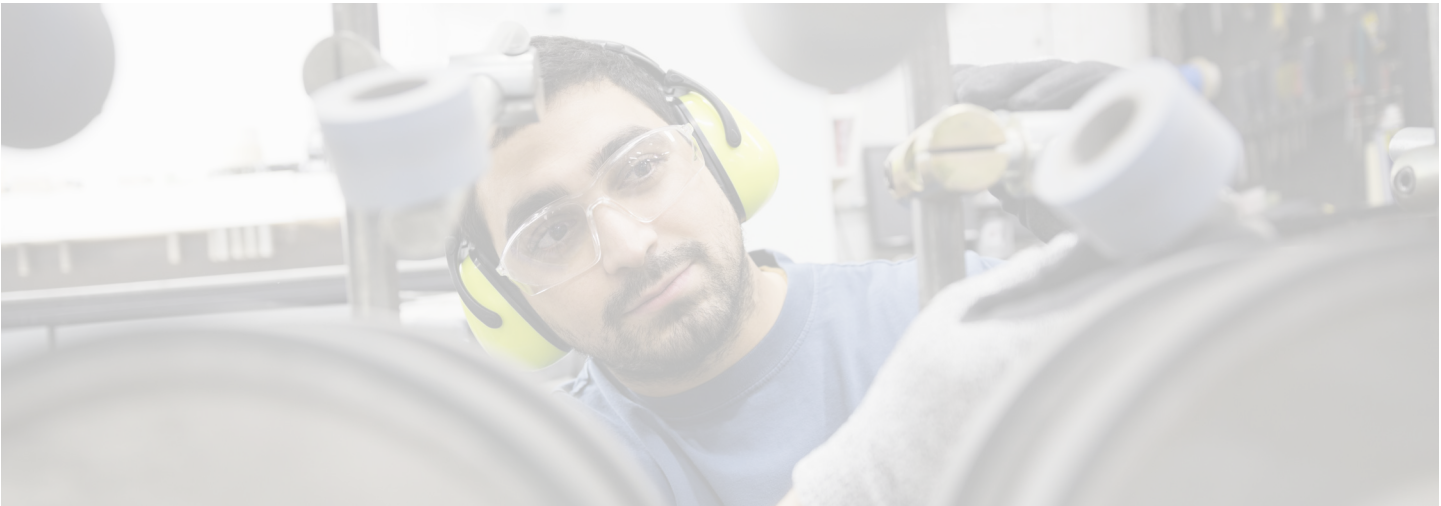
Site-specific selection factors are key criteria when firms weigh decisions about where to locate, move, or remain. Are there vacant parcels or adaptable structures available for development? Does a site have good access to highways or public transportation? Is it available at a reasonable cost? In addition to a site being physically and financially within reach, business leaders evaluate factors like local labor costs, tax rates, and labor availability, among others. Area Development Magazine, a site and facilities planning publication, releases an annual ranking of top site selection factors according to a survey of American corporate executives. The information in the ranking highlights the relative importance of a variety of factors, ranging from quality of life to labor availability, when making site selection decisions. While the survey results are not specific to any geographic area, they can help regions to understand how they meet firms’ most pressing site selection needs, and where to focus efforts to improve.

Firms’ most important selection criteria have shifted over time. While highway accessibility and labor costs have consistently been the two most important factors in site selection since at least 2000, firms now pay much closer attention to “soft criteria” like the quality of life that communities can offer would-be employees. A necessity to seek out sites that offer high quality of life may be reflective of a more employee-focused culture in which firms feel the need to court prospective workers that change jobs relatively frequently. The strong national economy (prior to the pandemic) that emerged since the 2008 financial crisis has also seen firms place less importance on a state or region’s incentive packages.

The NCM Region is competitive across several of these criteria including highway accessibility, a skilled labor force, quality of life, and occupancy costs. The following page provides additional information across ten site selection criteria and the benefits of and improvements needed in the region.\

Table 16: Executive’s Top Site Selection Criteria: Changing Preferences
Area Development Magazine and RKG Associates, 2020











2019	2010	2000
Highway Accessibility	Highway Accessibility	Highway Accessibility
Availability of Skilled Labor	Labor Costs	Labor Costs
Labor Costs	Tax Exemptions	Availability of Skilled Labor
Quality of Life	Occupancy or Construction Costs	Corporate Tax Rate
Occupancy or Construction Costs	State & Local Incentives	State & Local Incentives
Corporate Tax Rate	Corporate Tax Rate	Tax Exemptions






The NCM region has several advantages compared to other parts of Massachusetts which provide measures of which the region can compete for businesses, employees, and residents. The information below provides an expanded look at the top 10 site selection criteria and how NCM fairs within each.

Table 17: Top Ten Site Selection Criteria: NCM Region's Strengths and Opportunities

Area Development Magazine and RKG Associates, 2020

NCM Region Relative to Other Massachusetts Markets			
Highway Accessibility		Occupancy/Construction Costs	
Labor Costs		Proximity to Major Markets	
Availability of Skilled Labor		Corporate Tax Rates	
Quality of Life		State & Local Incentives	
Tax Exemptions		Available Land	

 Positive
  Drawback
  Neutral

NCM Region's Strengths in Business Attraction:

Location: Centrally located to major markets

Quality of Life: Cost of living, open space, amenities

Lower Cost: Rents, leases, sale prices, land prices

Availability of Land: More land for development here than in other parts of the state

Availability of Workforce: Some industries have higher concentrations of trained workers

Education System: Opportunities for collaboration with 2 year, 4 years, vocational schools

NCM Region's Opportunities in Business Attraction:

Collaboration: Regional cooperation and communication

Focus: Implement focused approach to retention, expansion, recruitment

Approvals: Continue to improve predictability and length of process

Infrastructure: Expand access to water, sewer, and broadband

Housing: Advocate for more investment in housing, particularly in transit-accessible, downtown locations

SWOT ANALYSIS

While success in economic development can be defined in many ways in North Central Massachusetts, the clearest and most prominent measure is typically the attraction and retention of jobs. This will especially be the case as the region recovers from COVID-19. Creating or keeping employment, in almost any field, has a positive impact on NCM's economy. However, with recognized limitations on staffing and financial resources available for a holistic recruitment, marketing, and coordination effort, regional decision-makers should focus their efforts on those employment sectors that have the greatest likelihood of choosing to open, relocate to, or remain in the NCM region.

Later on in this chapter a set of target industries are identified that can be most impactful and provide the best chance for successful retention, expansion, and recruitment efforts in NCM. In addition to informing recruitment efforts, a focus on growing these industries locally can help officials identify and refine appropriate land uses and regulations for development projects, and to encourage the types of buildings best-suited for a target use or industry. The target industry clusters are by no means the only sectors that could view NCM as an ideal place to do business. That said, they are likely the sectors to which the region's economic development community should dedicate the most time and effort due to their outsized compatibility with NCM's economic advantages and ecosystem.

Before arriving at the identified target industries, this section analyzes the region's strengths, weaknesses, opportunities, and threats in a SWOT analysis. NCM's SWOT may make it more, or less competitive to businesses and site selection professionals considering locations in New England and can influence which industries have the greatest chance of success.

SWOT Summary Diagram

Strengths

- Lower real estate pricing and cost of living.
- Availability of land.
- Variety of community types.
- Accessibility and centralized location.
- Established economic development and tourism coalitions.

Opportunities

- Devens as a regional center of economic development.
- Downtowns as attractive mixed-use nodes.
- Legacy industries pivoting to, or adding, higher tech uses.
- Retain retirees with housing and amenities.
- Locate jobs and homes near transit stations.

Weaknesses

- Automobile access is essential.
- Age of the building stock.
- Relative lack of housing diversity.
- A common regional voice.

Threats

- COVID-19
- Macroeconomics and politics.
- Aging population and workforce.
- A common regional voice.

Strengths

Low land costs and cost of living.

Perhaps NCM's greatest single advantage in economic development is its ability to serve as a "pressure valve" for Greater Boston's overheated real estate market. Firms from mom-and-pop retailers to multinational pharmaceutical companies are seeing NCM as an alternative to sky-high rents in the immediate Boston core, and even to still-costly Boston suburbs along the Route 128 corridor. The cost savings also relate to housing, both ownership and rental, where prices in the NCM region are substantially lower than in much of the Greater Boston region. New residents, particularly those seeking ownership opportunities, can find lower housing prices, larger homes, larger lots, and still maintain a high quality of life. Post-COVID, these considerations may have even more bearing on location decisions for new residents as working from home is likely to become more prevalent making dispersion of the workforce less of a challenge for many business sectors.

Available land.

The relatively low-density development patterns of most of NCM, while presenting their own set of economic development challenges, mean that firms with space-intensive land uses have a good chance of finding available land in the region. Economic development professionals can help by maintaining a complete listing of available development sites and marketing them to prospective firms, site selection professionals, or even trade publications. Some communities in NCM have already taken proactive steps to plan for, or even create, new pad ready sites and areas for future investment. Gardner, as an example, has taken proactive steps to study and prepare for future industrial development along Route 140.

Cities and towns with unique buildings and fabric.

NCM's variety of community types, and the downtowns at the center of many of them, provide ready-made nodes for new investment and development. Clinton, Fitchburg, Ayer, and others have made significant strides in their efforts to make their downtowns into more vibrant, pedestrian-friendly centers for business and leisure. The creation of different types of housing at a variety of price points, and affordable office and small-industrial spaces in and around downtown can help advance these efforts. NCM is unique in its ability to offer ample, low-cost land to firms that need it, while still affording workers the opportunity to live in and visit

downtowns and town centers. Making the most of these assets will be key to attracting and retaining firms as worker preferences evolve. This is also a critical component to attracting and retaining residents who may be moving to NCM from other amenity-rich neighborhoods closer to Boston.

Transportation Access.

NCM's value proposition for prospective and existing firms is its combination of low land costs and accessibility. Nowhere in the region is more than roughly 15 miles from Route 2, one of the Commonwealth's critical east-west routes. Direct highway access into Boston and Cambridge mean easy routes for distributors and out-of-region commuters, as well as to Boston Logan Airport and its 82 domestic and 56 international flight destinations.²⁸ NCM also enjoys highway access to Worcester via I-190, communities along the I-495 circumferential beltway, and local state routes accessing jobs in Nashua, NH, and other secondary markets. The MBTA's commuter rail service along the Fitchburg Line provides additional access into Boston and communities along the way, and regional bus service on MART connects the region's largest cities and towns. The NCM region's central location is a huge asset not to be overlooked.

Established economic development and tourism coalitions.

NCM has a strong advantage versus many regions in that it already has well-established and active Chambers of Commerce, a regional Development Corporation, and the Visit North Central Massachusetts tourism organization. Including information and marketing materials tailored to NCM's target industries can help ensure these organizations are getting their message in front of key decision makers.

Weaknesses

Distance between uses makes automobile travel essential.

The same lower development intensity that may attract space-intensive industries can also be a barrier to economic development. Distances between different land use types make it more difficult to create and support people-oriented places where visitors can live, shop, eat, and work without requiring separate trips in a car – places that people tend to cherish as special and unique. While there are several downtowns and town centers in the region that can

²⁸ MassPort.

support more compact and walkable uses, a review of assessors' databases found that new development in NCM over the past decade has overwhelmingly taken place in lower-density areas with separation between land use types (Market Analysis Chapter).

Age of the building stock.

Some areas of NCM have seen the recent addition of tens of thousands of square feet of commercial space, new single-family homes, and refurbished mill buildings have helped lower vacancy, expand the tax base, and add to the housing stock. That said, NCM's overall real estate inventory has remained relatively flat over the last decade, according to a review of Costar data (see Market & Existing Conditions Report). This means that some firms may not find suitable, ready-to-occupy spaces (especially for higher-tech uses). Retrofitting existing older space with new modern mechanicals and floor space layouts is expensive and rents in the region may not justify the initial investment. The region's relatively low number of new and refurbished rental housing units means that renters interested in newer more modernized product may have to leave the region to find it.

Relative lack of housing diversity.

NCM's housing stock is overwhelmingly comprised of detached, single-family units; those that are in multi-family structures tend to be older and may need significant investment to modernize for today's renters and buyers. The region is likely to see increasing demand for smaller, more centrally located rental units in the decade to come (see the Rental Housing Demand Model analysis in the Existing & Market Conditions Report). NCM's low housing costs go a long way to promoting equitable access to housing – yet still, not every household wants, or can afford, a single-family home on its own lot. Creating housing diversity is about more than providing housing at a variety of price points, it is also about siting housing closer to amenities, in different sizes, and/or with different maintenance responsibilities. Encouraging more diverse housing, in addition to helping current residents find their ideal living arrangement, can also help the region to appeal to post-retirement seniors that wish to downsize, and to young professionals looking for low-cost accommodations in walking distance of amenities and transportation.

Common regional voice.

During interviews and regional discussions it became clear that a key weakness in the region is the lack of coordination and communication between municipal, regional, and state entities in advocating for regional priorities, funding sources, and legislative efforts. The region needs to come together as one and coordinate on regional priorities to effectively communicate to state and federal officials.

Opportunities

Devens as a regional center of economic development.

MassDevelopment's efforts in marketing, financing, and planning have guided the repositioning of Devens as a 21st century employment cluster. Uses ranging from distribution and logistics to high-tech research and development show that the area is more than a single-use cluster – firms of all different types are seeing the advantages that Devens can offer. The area's continued progress can serve as a magnet for additional firms, and can have secondary benefits on retailers, restaurants, and other businesses in Devens and in nearby Ayer, Shirley, and Harvard.

Tools leveraged by MassDevelopment at Devens can be replicated at other growing employment clusters across the region, especially those with publicly owned land. The NCM Development Corporation has lending and financing tools at its disposal to help in this effort. Other communities in the region have leveraged partnerships with agencies like MassDevelopment to apply for technical assistance and site readiness funding to study, acquire, and prepare land for future development.

Downtowns can serve as attractive mixed-use nodes.

As written in the previous "Strengths" section, NCM's numerous historic downtowns and town centers can serve as the focal points for investment that grows the local market for retailers, restaurants, small office clusters, and other uses. These can in turn serve as magnets for young professionals and the companies that court them, as well as families, seniors, and visitors.

Legacy industries pivoting into (or adding) higher tech uses.

Many traditional industries are putting information technology and flexible manufacturing processes to work to become more efficient and nimbler. Accessing the funding to do so – especially in sectors

where profit margins are narrow – can be a difficult task. Economic development professionals may be able to play a role in connecting these firms to funding that can help them be more competitive. Success stories should be celebrated in marketing materials and as examples to get other legacy firms thinking about how they can use technology to their advantage. Shared innovation spaces like makerspaces and fabrication labs (“Fablabs”) may have a role to play in helping firms discover new opportunities for tech.

Retain retirees with housing and amenities that fit their lifestyle.

One advantage of having a growing number of retirement-age residents is harnessing their spending power. Generally, at the end of their careers, these individuals will have their highest earning potential and are often willing to spend more on leisure activities and at retailers and restaurants. Many look to downsize their home, as any children have moved out, and in some cases, retirees look forward to less space and on-going maintenance. If they are unable to find new housing that meets their needs in terms of cost, size, location, and amenities, they may look to other cities and towns in other regions or states. NCM can help avoid this by encouraging the development of housing and commercial amenities that allow them to enjoy a certain lifestyle in the communities they know.

Locate jobs and homes near transit stops.

NCM’s five stops on the MBTA Commuter Rail are assets that many communities across the Commonwealth desire, access for which some cities and towns spend many years advocating for. Fitchburg’s station location downtown is an asset that draws new residents and businesses in and will help the community to better take advantage of its train service. North Leominster and Wachusett present opportunities for infill development, with large parking lots and undeveloped lots surrounding some existing industrial uses. Ayer and Shirley have stations situated in their respective town centers. Ayer instituted a form-based code in 2019, with a “Downtown Transit-Oriented Lifestyle District” that aims to attract new investment and amenities. Placing jobs and homes near transit stops can have significant economic benefits, limit environmental impacts, and even reduce automobile traffic.

Threats

COVID-19.

NCM’s economic development community will need to be proactive and highly engaged in the months and years after the COVID-19 pandemic subsides. Many firms that have downsized their workforce or closed entirely will need assistance and guidance to get back on their feet. Unemployed residents will need help connecting to potential employers. Landlords and developers will seek flexibility to ensure they can continue accommodating commercial and residential tenants. If the Greater Boston market sees rents fall as demand for commercial space shifts, NCM’s value proposition may diminish as firms suddenly can afford rents closer to Boston. If that occurs, economic development officials will have to redouble efforts to court investment, market NCM’s assets, and continue to invest to improve the region’s infrastructure and downtowns. While NCM is not traditionally an office-heavy market (the land use perhaps most likely to be affected by habit change in a post-COVID-19 world), economic development officials can help owners of office space to pivot their properties to more flexible uses like industrial flex space.

Macroeconomics & Politics.

Beyond the global economic recovery from COVID-19, many industries – particularly manufacturing – remain intimately tied to macroeconomics and politics due to their global supply chains. The outcome of the 2020 presidential election, among other political factors, may influence manufacturers’ ability to access global markets. For manufacturers, this has direct impacts on their ability to export their products, as well as to source raw materials and components from other parts of the supply chain. According to IBIS World, “exports will likely benefit from a depreciating dollar,” over the next five years, although “retaliatory trade measures could pose a threat” to manufacturers.²⁹ While local decision-makers have little ability to mitigate these risks, helping to diversify the regional economy’s jobs and firms can serve as a safeguard.

An aging population and shrinking workforce.

NCM faces a demographic challenge familiar to many suburban and rural communities across the country. Projections show a continued rise in the number of post-retirement residents in NCM, coupled with a fall in the working-age population. In addition to trying to attract working-age residents that in turn can attract companies, economic development professionals can help connect firms to qualified workers in a world with fewer overall workers. There may also be a need to up-skill or retrain members of the workforce to prepare them for jobs in the future as the industry mix shifts and occupational demands change.

²⁹ IBIS World, US Industry Reports, Manufacturing in the US Industry Outlook, May 2020.

TARGET INDUSTRIES

The target industry analysis for this Economic Development Strategy “cast a wide net” regarding the potential for different business sectors to spark economic development in the region. In analyzing possible target industries beyond NCM’s historical economy or previous development efforts, this screening process ensured that any potentially viable target industries could be tested and analyzed before being eliminated in favor of more promising options. This analysis also acknowledges that not every employment sector may be a perfect fit with the vision for the region’s future.

Selected Target Industries for NCM Region

Advanced Manufacturing



Health Care



Logistics & Distribution



Tourism & Small Business



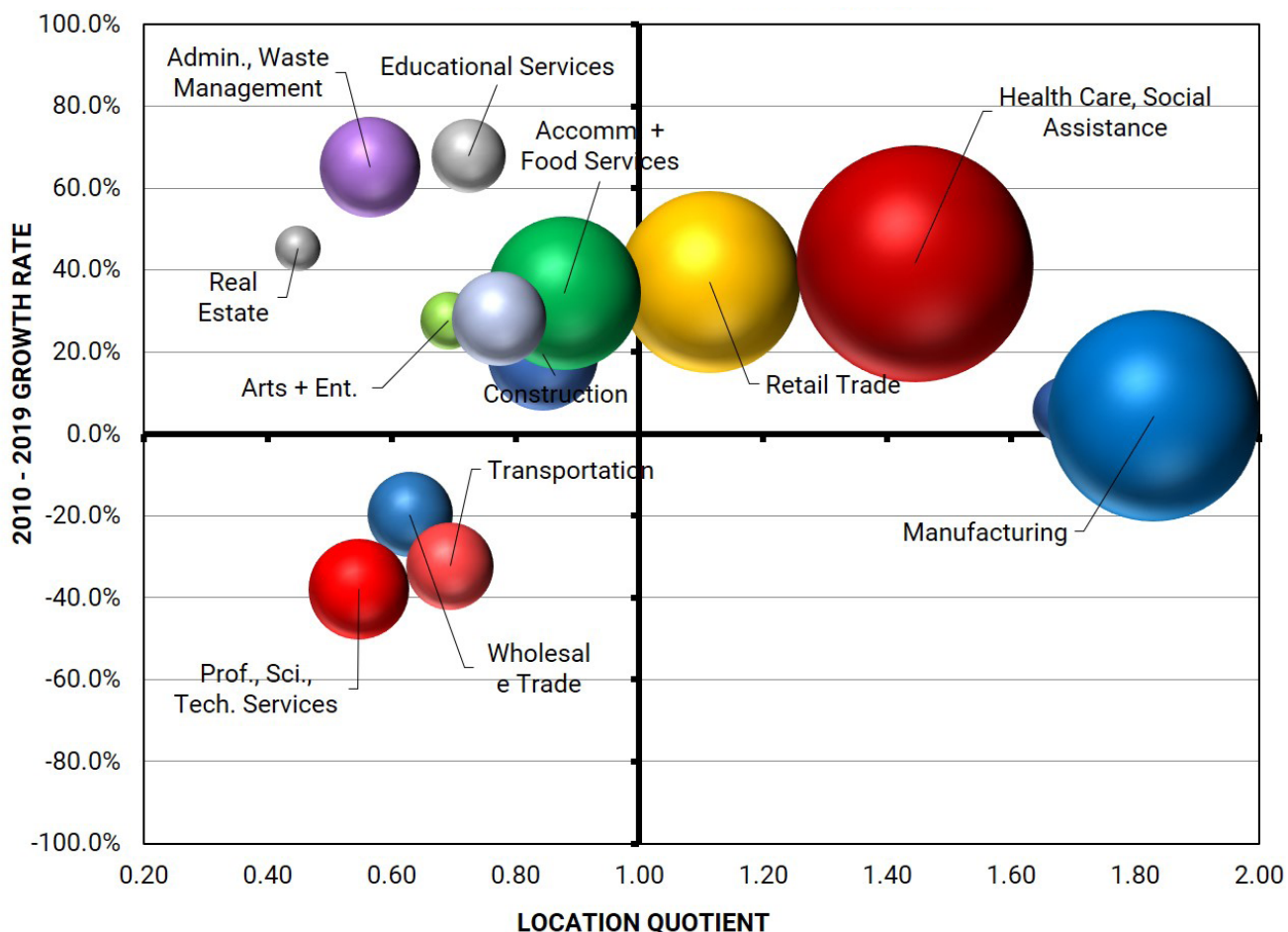
These target industries were selected upon a review of dozens of quantitative and qualitative factors, such as:

- NCM’s existing employment and growth trends;
- Industry growth projections from sources including the Massachusetts Executive Office of Labor and Workforce Development;
- Area land use, building inventory, and land availability;
- Highway and transit access;
- Real estate costs (including for employee housing);
- Local fit factors such as educational attainment, workforce skills, and safety;
- Conversations with local business leaders, real estate professionals, economic development officials, and the public; and
- Previous studies and plans including the North Central Massachusetts Economic Profile.

The chosen target industries for NCM are ones that show either existing market strengths that are important to retain and build upon going forward, and those industries showing an opportunity to grow in the future. The figure below shows each of NCM's primary industry sectors and their relative concentration compared to the state as a whole. The graph also shows which sectors are growing or shrinking relative to their concentration within the region. For example, Health care is an industry poised to grow in the region and is one that already has a large employment concentration. Accommodations and Food Services, related to Tourism and Small Business, is not as highly concentrated but could become a more prominent sector through future growth.

Figure 39: Industry Strength by Sector, 2010-2019

Source: EMSI



Opportunity

Growing, not concentrated

Strength

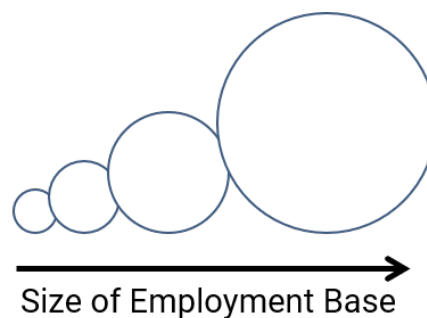
Growing and concentrated

Weakness

Shrinking, not concentrated

Threat

Shrinking and concentrated



Advanced Manufacturing

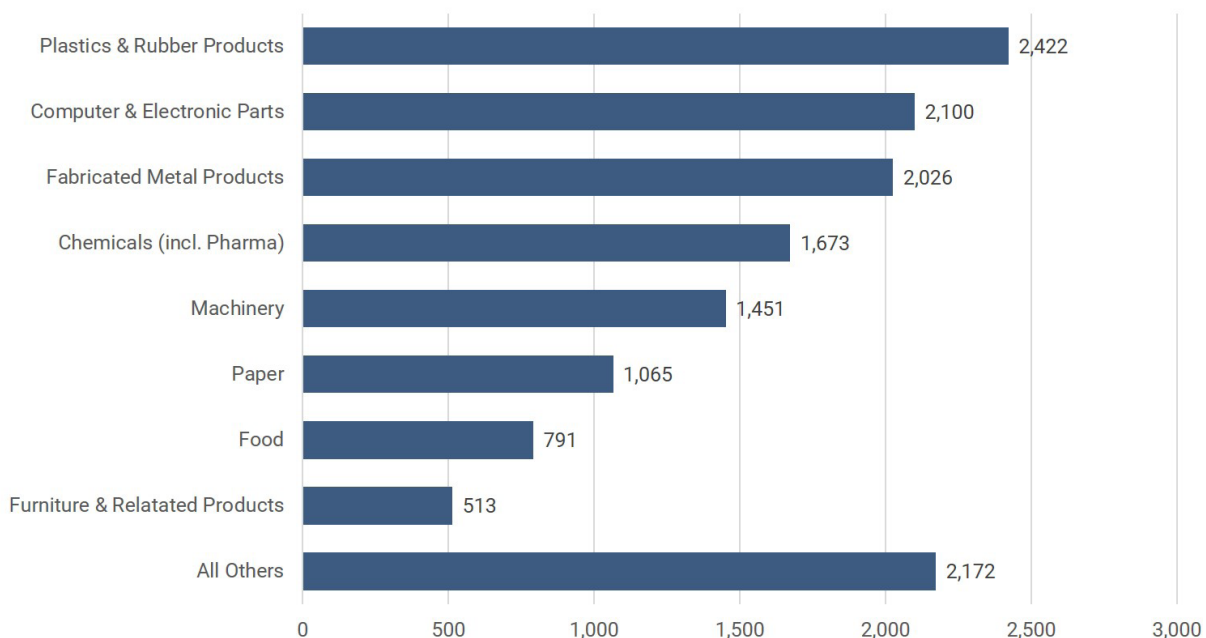
Already established as one of NCM's most important economic drivers and as the region's "niche" employment cluster, the rapidly evolving local Manufacturing sector should be at the center of any local job retention/expansion strategy. Manufacturing firms employed more than 14,200 workers in NCM in 2019, around 15% of the region's total employment.³⁰ Local firms in the sector are highly diverse. Most can be sorted into two broad categories: "legacy" manufacturers of consumer goods like furniture, car parts, and food products, and "high-tech" firms specializing in innovation-driven products like pharmaceuticals, electronic components, and machinery parts.

Locally, the sector has historically served as a bridge to the middle-class and stable employment for thousands of NCM's workers across a wide range of education levels. Today, most manufacturing subsectors pay average annual wages greater than the region's overall average of around \$55,000, and opportunities are well-spread across many of the region's municipalities.

The largest manufacturing subsector in NCM is Plastics and Rubber Product Manufacturing, with more than 2,400 local jobs. The subsector's location quotient of 5.50 underlines its importance to the region's economy. NCM's Plastics and Rubber Product Manufacturing jobs are mostly legacy manufacturing roles, making products like building materials, hoses, bottles, plastic films and piping, and others, many of which are used as components of other processes including automobile manufacturing and the construction industry. In general, these are low volatility, mature industries that mostly compete on price; product innovation tends to be limited. The number of domestic firms in the subsector has experienced decline over the last decade, "due to increased pressure from foreign manufacturers," according to IBIS World.³¹ New entrants to the field are unlikely, given the high capital requirements and typically low margins. For this reason, the subsector's continued importance in the region will largely depend upon its existing firms and their ability to remain competitive on cost. Recent employment growth in the category, which added 130 jobs between 2014 and 2019, has been driven in part by the strong New England construction industry, and subsequent demand for building materials and components.³² Now, with demand for new real estate, cars, and other high-cost products uncertain in the recovery from COVID-19, firms in this relatively low-tech subsector will rely upon their ability to provide low-cost components more than ever. In addition to preserving low land costs and strong transportation links, NCM decision-makers may be asked to provide short-term incentives or support to help these local firms withstand broader market headwinds.

Figure 40: Manufacturing Jobs by Subsector, 2019

Source: EMSI



³⁰ EMSI Industry Tables, NAICS Codes 31-33, 2019

³¹ IBIS World US Industry Report: Rubber Product Manufacturing in the US, Industry at a Glance

³² IBIS World US Industry Report: Plastic Products Miscellaneous Manufacturing in the US (32619)

Some successful firms in more traditional manufacturing industries, like AIS, an office furniture maker in Leominster, and Dean's Beans, a specialty coffee roaster in Orange, rely heavily upon creative marketing and branding approaches. Economic development professionals can help "celebrate" these success stories by highlighting them as examples of creative manufacturing being done in the region. This can be done in NCM's own marketing materials like investment prospectus, trade material, social media, and others.

Firms in higher-tech subsectors, while not unaffected by the COVID-19 crisis, may be better equipped to withstand the market uncertainties that lie ahead. Computer and Electronic Product Manufacturing firms employ 2,100 local workers and pay an average wage of nearly \$129,000 per year.³³ Electrical Equipment Manufacturers, which make slightly lower-tech products like batteries, generators, and power transmission equipment, employ another 250 workers.³⁴

Computer and Electronic Product Manufacturing can take on many forms; the subsector includes makers of products ranging from high-tech medical devices and navigational equipment, to semiconductors, microprocessors, and solar panels. Locally, semiconductor and related device manufacturers employ nearly 700 workers, and military contractors for aeronautical and nautical guidance and navigation systems employ 900. Leominster's IR HiRel Products, for example, researches and produces power electronics "for extreme environments, such as those found in space and national security programs."³⁵

NCM's fastest-growing manufacturing subsector is Chemical Manufacturing. In 2019, the subsector employed nearly 1,700 workers, about 400 more than were employed in 2014. In NCM, the largest chemical manufacturers are in the pharmaceutical industry, with Devens' Bristol-Myers Squibb the largest single employer and the largest source of new jobs. Even as pharmaceutical manufacturers face increasing regulatory scrutiny domestically and fast-growing competition internationally, the sector is projected to experience annual growth of nearly 3% from 2019 to 2024. The \$200 billion industry (not including

the \$60 billion generic pharmaceutical sector) is pivoting; "increasing price scrutiny, competition from generics, and rising research and development costs" have led some large firms to shift their focus upon higher-margin, lower-volume drugs in "rare diseases and oncology."³⁶ Biologic drugs, or those that are produced from living organisms or that contain components of living organisms, are also viewed as a key space for innovation in pharmaceutical manufacturing firms. Bristol-Myers Squibb's Devens facility added a Biologics Development Building in 2016, employing several hundred additional workers in the research and manufacturing of biologics.³⁷

Like firms in many other sectors, manufacturing companies are finding ways to be more efficient with their space, reducing the square footage per employee as certain tasks are streamlined or automated entirely. That said, manufacturing continues to be a space-intensive industry. Rising land costs, especially in locations near high-cost markets like Boston, are felt acutely by firms that require ample space, whether for manufacturing activities themselves, distribution, or both. Lower-tech firms require low-cost land and access to labor; higher-tech firms may have slightly more flexibility on land costs but need access to highly educated workers and communities that are capable of attracting them as residents.

NCM decision-makers face a bifurcated manufacturing sector. A two-pronged approach will likely be needed to lay the groundwork for its post-COVID-19 recovery and continued growth. For most legacy firms in the Plastics, Fabricated Metal Products, Food & Beverage, Wood Product, and Printing industries, the primary goal will likely to be **retain existing jobs**, and later **help NCM's established firms to thrive**, with strong marketing, connectivity, and technological advances where possible. For many firms in higher-tech, "advanced" manufacturing subsectors, decision-makers should seek to **support the region's growing cluster, attract new firms, identify skill gaps and training to up-skill the labor force, and create living environments capable of attracting the highly-educated workers they seek.**

Logistics and Distribution

³³ EMSI Industry Tables

³⁴ IBIS World US Industry Report: Electrical Equipment Manufacturing in the US (33531)

³⁵ Infineon Technologies: www.irf.com

³⁶ IBIS World US Industry iExpert Summaries Report: Brand Name Pharmaceutical Manufacturing in the US 32541A

³⁷ news.bms.com/press-release/biologics/bristol-myers-squibb-opens-expanded-biologics-facility

The NCM region's strategic location between Greater Boston, Worcester, and markets in New Hampshire has fueled its status as a hub for distribution. While some manufacturers and distribution centers have been established in the region for decades, a new slate of large-scale warehouses and distributors has taken root, especially at Devens.

66 Saratoga Avenue, a 415,000 square foot distribution center built in 1997, doubled its size in 2018, adding 425,000 square feet with direct rail access.³⁸ The property currently hosts tenants including Quiet Logistics and A. Duie Pyle, a major transportation and logistics provider.³⁹ Quiet Logistics, an order fulfillment and returns management firm that serves e-commerce retailers, expanded in 2018 to a second, 355,000 square foot distribution center at 64 Jackson Road, the former home of American Superconductor.⁴⁰ At nearby 15 Independence Drive, O'Reilly Auto Parts' 370,000 square foot distribution center was significantly renovated in 2014.⁴¹ Jobs in logistics and distribution tend to provide

good wages, especially relative to workers' formal education levels. Roles are typically either warehousing jobs – working in distribution centers – or trucking jobs. Locally, the number of warehousing jobs has grown much quicker than the number of trucking jobs since 2014 – 12% versus less than 3%.⁴² Trucking jobs, which numbered 659 in 2019, have paid better and experienced stronger growth than warehousing jobs on average. The average local trucking job paid around \$61,500 in 2019, up nearly 22% over the last five years. Warehouse workers, meanwhile, earned an average wage of \$39,800, just 3% more than in 2014.

Despite recent employment growth and several high-visibility distribution center investments, NCM is underdeveloped as a logistics and distribution hub relative to the rest of the country. Over the last five years, location quotients for the Warehousing & Storage, General Freight Trucking, and Specialized Freight Trucking subsectors dropped with all three at values less than 1.0. This calls attention to several possibilities.

Table 18: Logistics and Distribution Jobs and Wages, 2014-2019

EMSI

NAICS	Subsector	2019 Jobs	'14-'19 % Chg	Avg Annual Wage	'14-'19 % Chg	2019 Location Quotient
4931	Warehousing and Storage	513	12%	\$39,820	5%	0.72
4841	General Freight Trucking	387	4%	\$60,155	18%	0.52
4842	Specialized Freight Trucking	273	1%	\$63,727	28%	0.95
4821	Rail Transportation	153	-1%	\$100,803	7%	1.16
4885	Freight Transport. Arrangement	15	15%	\$57,912	40%	0.10

38 BLDUP, www.bldup.com/projects/66-saratoga

39 Ibid.

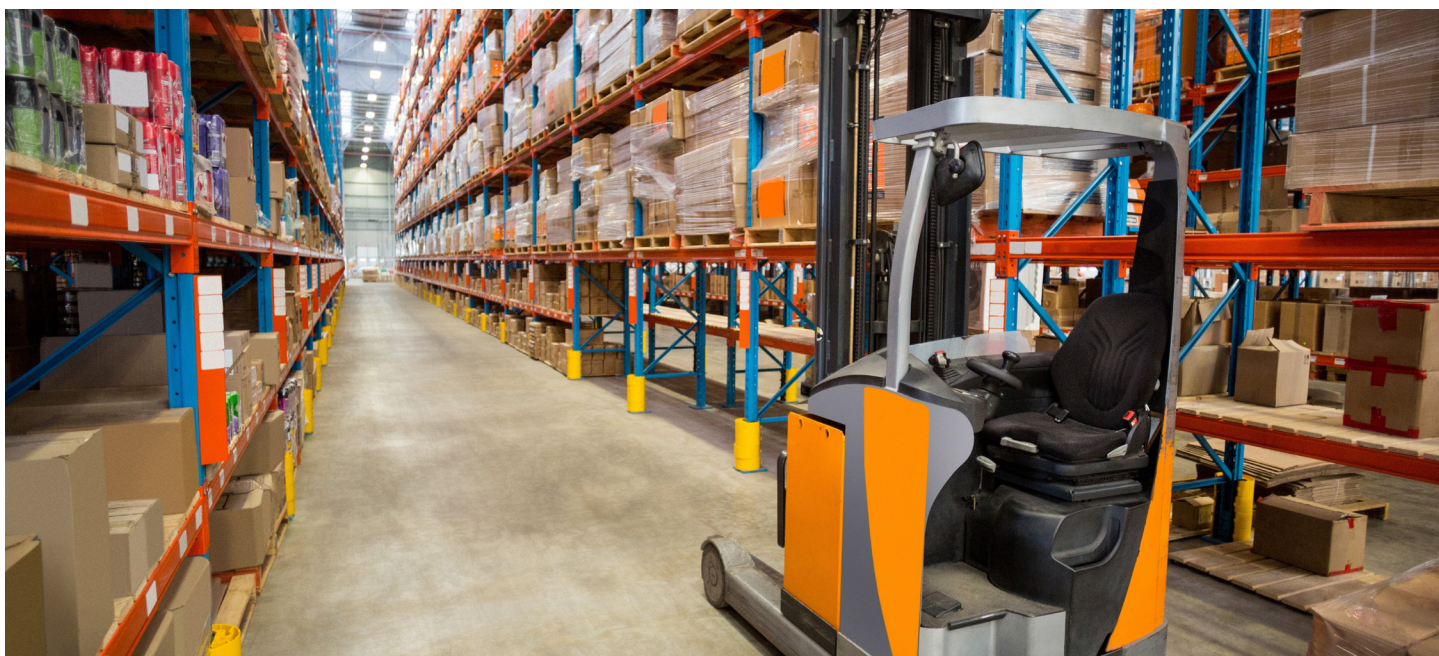
40 www.ngkf.com/home/media-center/press-releases.aspx?d=12139#sthash.7uZSWfj1.dpbs

41 www.nerej.com/campanelli-const-completes-375-000-s-f-renovation-for-o-reilly-auto-part-s-distribution-center

42 EMSI Industry Tables, NAICS codes 4931 Warehousing & Storage, 4841 General Freight Trucking, 4842 Specialized Freight Trucking.

In a region as geographically vast as NCM, recent investments in Devens and nearby distribution facilities remains somewhat of a “drop in the bucket” versus NCM’s overall employment numbers. Distribution and logistics firms tend to employ relatively few employees per square foot, frequently in large, expansive facilities. This means that developing a truly substantial employment cluster often requires the creation of a very high number of space-intensive distribution properties. In NCM, this is possible as some communities offer access to flat land and good access to the highway and rail distribution networks which are important physical qualifications for this industry sector. For this reason, the sector is a strong candidate for future economic development efforts and job creation in several of NCM’s communities. While the level of investment in new and expanded properties has been less in towns west of Fitchburg, firms like Royco Distributors in Westminster continue to operate in smaller footprint structures that offer inexpensive access to local highways. As Devens fills out in the years to come, the level of marketing, financing, and logistical support provided by MassDevelopment at Devens could be pivoted to other areas along Route 2 to create the next set of distribution clusters.

NCM may also serve as a desirable home for businesses in the “smart logistics” category. These professional service businesses often function as third-party planners and consultants that help the trucking and distribution industry maximize their operating efficiency. The “Freight Transportation Arrangement” subsector is undergoing dramatic changes thanks to the increasing incorporation of information technology. The field is transitioning away from paper-based documentation for orders, schedules, and “shared rides,” instead shifting to intelligent software models that optimize shipping processes for efficiency and cost. Economic development organizations in other regions, like Georgia’s Metro Atlanta Chamber (MAC), have invested in building an “Internet of Things” business ecosystem that taps into local industrial firms. The “IoT” initiative focuses on the ways in which the internet and communications technology can create value in manufacturing and supply chain logistics via advances in software. Jobs that focus on applying the concepts of big data and predictive analytics to distribution and manufacturing can, in addition to supporting an expanding logistics cluster, help attract young, highly-educated talent to the region. NCM’s economic development professionals can clearly express the region’s interest in attracting supply chain technology firms and put NCM in the running for infrastructure initiatives that involve testing new logistics and industrial technologies.



Tourism and Small Business

While tourism's effect on a local economy can sometimes be difficult to quantify, its impact can be transformative. Hotels, restaurants, retailers, arts and culture, and entertainment venues all benefit when a region adds the impact of visitors on top of the dollars spent by residents and employees. In the aftermath of COVID-19, NCM will face its highest unemployment rate in years. This will be felt most acutely by many of the region's lowest-wage workers: servers, cashiers, maintenance workers, sanitation staff, and owners of independent retailers and restaurants. The sectors that employ these workers will look different after the pandemic; some may never look the same again. While economic development plans tend to focus on creating and retaining jobs that pay high wages in fast-growing industries that add maximum value, jobs in retail, restaurants, and accommodations truly are the backbone of the local economy. They help run many of the businesses that make NCM a great place to live and to visit. Recovering as many of these jobs as possible will require more than recreating the job market of 2019; it will require the creation of new businesses in new or refurbished spaces, with a clearly defined strategy for each community.

Short of adding substantial numbers of new residents or workers to the area, expanded tourism can be an effective way to grow the local market for retail, restaurants, hotels, and cultural/recreational amenities. Opportunities for expanded tourism in NCM may be a "silver lining" of the COVID-19 pandemic. International and long-haul leisure travel will decrease and could last for years, while shorter-distance domestic travel may subsequently increase in popularity. Within easily drivable and transit-accessible distances from Boston, Worcester, and markets in New Hampshire, Vermont, Connecticut, Rhode Island, and New York, NCM's natural amenities, food and farm attractions, and arts and culture venues may present an appealing and affordable option, especially for families and seniors.

An increasing body of research makes clear that the consumer effects of tourism extend far beyond the traditional "tourism industry": hotels, entertainment venues, and transportation. In fact, Accommodations and Food Services businesses account for just 30% of the dollars spent by tourists on vacation, according to a study by the Harvard Kennedy School.⁴³ They also spend money on apparel and accessories (16%), at

general merchandise stores like Target and Wal Mart (12%), and at grocery, alcohol, and specialty food stores (12%). The data makes clear that the impacts of tourism extend into many subsectors of the local and regional economy.

Over 19,000 of NCM's jobs are in retail, food & drink, accommodations, or arts, cultural, and entertainment businesses – combined, the region's largest private employment sector. As many as 16,000 of these jobs are in businesses that would likely benefit from out-of-town visitors (for this analysis we exclude jobs in car sales, online order fulfillment, building materials, and other retailers unlikely to benefit from tourism). One of the challenges with jobs in these sectors are the low average wages which can impact and individual or family's ability to secure affordable housing, reliable transportation, healthcare, and advancing education. The weighted average of annual wages in tourist-friendly jobs was just \$24,318 in 2019, although that represented growth of 20.3% since 2014.⁴⁴

Restaurant and bar workers comprised nearly 6,500 jobs in 2019. The number employed after COVID-19 is likely to be smaller as businesses determine if, how and when to bring back workers. That said, recovering businesses and the addition of new restaurants and bars – perhaps started by entrepreneurial-minded workers laid off during the pandemic – stand to benefit substantially from an increase in tourist activity. A second opportunity for NCM in a post-COVID-19 world is the opportunity to attract new residents to the region who may have more flexibility to work from home throughout the week and are seeking more affordable housing outside the denser urban cores of Boston and Worcester. If some percentage of new residents are coming from urban, amenity-rich environments and moving to NCM communities they may help spark revitalization efforts in downtowns and town centers through demand for retail, restaurants, and services. While not at the same scale as places like Worcester or Somerville, downtowns in NCM have the space to support small business growth and entrepreneurs with new ideas for serving residents and tourists alike. While the businesses models may look different and space requirements may change post-COVID-19, these local businesses could help backfill vacancies in downtowns and add jobs to a sector that is extremely challenged today.

⁴³ www.hks.harvard.edu/centers/cid/about-cid/news-announcements/tourist-spending-insights

⁴⁴ ESRI Industry Tables; excludes tips for tipped workers.

Tourist Destinations as an Anchor for the Industry

NCM is already home to several well-established tourist destinations that together employ hundreds of workers. The region's tourism website touts NCM as "simply a place where you can escape the hustle and bustle of everyday life, take a short drive down a scenic road, see some amazing views, and visit unique destinations."⁴⁵ Wachusett Ski Resort in Princeton and Westminster calls itself "New England's most accessible ski resort;" it can be reached from Boston by MBTA commuter rail via the new Wachusett stop. Fitchburg's Great Wolf Lodge is a popular family getaway with an indoor water park, outdoor activities, and a hotel. Davis Farmland in Sterling provides an excellent family day trip outing. The Fitchburg Art Museum, the Museum of Russian Icons in Clinton, and the Fruitlands Museum in Harvard are unique examples of the area's arts and cultural scene. Outdoor amenities, dozens of parks, farms, orchards, golf courses, and hiking areas like the Mass Audubon's Flat Rock Wildlife Sanctuary, Cogshall Park, and the West Fitchburg Steamline Trail offer memorable landscapes and ample recreation space.

NCM is special in that its recreation amenities are situated around small towns and centers – spaces that offer amenities and unique experiences, and can do even more as part of an integrated, targeted tourism effort. Many of the same amenities that are helpful in recruiting workers are also magnets for tourists: walkable town centers with unique restaurants, shops, great open spaces, and an interesting, comfortable built environment. While not every NCM municipality is ideal for growing these nodes of activity, downtowns in Gardner, Clinton, Fitchburg, Leominster, and others have a head start. Future investments in these areas can be tied into marketing materials or promotions at regional entertainment venues like Wachusett Mountain or Great Wolf Lodge to encourage visits. The existing visitnorthcentral.com website is a high-quality, well-branded marketing tool that does a great job of highlighting existing assets.

Table 19: Tourism-Friendly Jobs and Wages, 2019

EMSI

Sector	2019 Jobs	2019 Average Annual Wage
Retail		
Grocery Stores	2,457	\$23,813
Department Stores	1,254	\$23,509
Health and Personal Care Stores	675	\$40,999
General Merchandise Stores	653	\$25,078
Food & Beverage		
Restaurants	6,327	\$20,918
Bars and Taprooms	156	\$15,133
Accommodation		
Hotels and Motels	464	\$31,176
RV Parks & Campgrounds	22	\$38,406
Arts, Culture & Entertainment		
Fitness and Recreational Sports Centers	290	\$19,095
Golf Courses and Country Clubs	273	\$26,523
Skiing Facilities	139	\$12,142
Independent Artists, Writers, and Performers	87	\$32,063
Performing Arts Companies	71	\$23,748
Museums, Historical Sites, and Similar Institutions	68	\$32,326
Amusement Parks and Arcades	44	\$10,675
Bowling Centers	36	\$25,805

Success stories in western Massachusetts' Berkshires region may offer a guide. Home to a historic manufacturing sector, the Berkshires have made a well-documented pivot to culture and tourism over the last two decades. While NCM may not have a cultural destination on the level of North Adams' Massachusetts Museum of Contemporary Art – yet – investment in historic downtowns are viewed as complementary to the area's tourist attractions. Officials in the Berkshires say they continue to court "housing and mixed-use development... to put more feet on the streets."⁴⁶ This, in turn, can grow a market for unique food, retail, and art gallery options. North Adams Mayor Thomas Bernard has said that the goal is to create an environment "equally attractive to locals who have lived here their whole lives, people who transplanted here because they love the idea of this small New England city, and tourists who are here for the day or the weekend."

⁴⁵ www.visitnorthcentral.com

⁴⁶ www.businesswest.com/blog/north-adams-touts-a-diverse-economy/

Health Care

Health Care is the largest individual private employment sector in NCM, with over 17,000 workers in the region. The sector will play an increasingly large role in the region's economy in the decades ahead – the nearly 1,600 Health Care jobs that were added from 2014 to 2019 may be an indicator of what is to come. Health Care as a proportion of overall jobs is ramping up across the country, and especially in suburban and rural communities where residents are aging or places that are attracting older residents as they look to retire.

As one might expect of a region with 275,000 residents, NCM has its share of good-paying hospital, dentistry, outpatient care and physicians' office jobs – more than 8,000 in 2019.⁴⁷ However, the majority of the region's Health Care and Social Assistance jobs, and the majority of job growth, are in lower-paying subsectors like Home Health Care Services, Assisted Living/Continuing Care Facilities, Family Services, and Disability/Mental Health Facilities. Many of these are in "third-party" firms that operate as offshoots of the area's hospitals – outpatient blood testing and in-home rehabilitation, for example. The services provided by workers in these subsectors are critical. As NCM's population grows older – as many as 27% of residents will be over the age of 65 in 2040, as opposed to 12.5% today⁴⁸ – workers in these fields will be needed more than ever. That said, the secondary benefits of these jobs, from an economic development perspective, may be relatively limited as average pay tends to be modest.

Businesses in these sectors can choose to co-locate or cluster around major medical centers and hospitals where secondary or tertiary support services and outpatient clinics are needed. For example, a rehabilitation clinic may choose to locate near a hospital to provide outpatient therapy for those recovering from major surgeries. In this sense, partnerships with hospitals or other major medical providers are important for the region to understand their needs and how the healthcare field may be changing over time. Secondly, businesses in the healthcare sector can be supportive of development in city and town centers where individual or group practices for doctors, dentists, or physical therapists can help anchor a downtown and provide daytime employment and patient foot traffic. Post-COVID-19 recovery may increase desires to have localized medical care in many communities as travel was made more difficult, trust in local practitioners more important, and supporting local businesses more critical than ever.

Growing the number of local hospital and physician jobs is often difficult in communities with limited projected population growth. That said, existing health care providers can expand into additional areas of medicine, offering better levels of care for residents and supporting additional jobs at all levels of pay. Some of the NCM region's existing hospitals have already expanded in recent years, including Fitchburg's Simonds Sinon Regional Cancer Center⁴⁹ and Leominster's UMass Memorial HealthAlliance-Clinton Hospital Emergency Room.⁵⁰ Assisting NCM's existing health care assets in expanding and improving their level of care will likely be the most effective method for growing sector employment.

Table 20: Health Care and Social Assistance Jobs and Wages, 2019
EMSI

Sector	2019 Jobs	2019 Average Annual Wage
Total Health Care & Social Assistance	17,368	\$51,845
General Hospitals	5,784	\$72,885
Individual and Family Services	3,202	\$26,952
Nursing Care Facilities	1,677	\$40,930
Outpatient Care Centers	872	\$59,249
Physicians' Offices	772	\$91,024
Home Health Care Services	737	\$38,938
Child Day Care Services	704	\$28,334
Dentists' Offices	702	\$57,301
Residential Disability/Mental Health Facilities	589	\$40,467
Assisted Living/Continuing Care Facilities	544	\$27,594
All Others	1,786	-

⁴⁷ EMSI Industry Tables, Health Care & Social Assistance Sector, NAICS 62, 2019

⁴⁸ UMass Donahue Institute, Population Estimates Program

⁴⁹ <https://www.wbjournal.com/article/fitchburg-cancer-center-expansion-underway>

⁵⁰ <https://www.sentinelandenterprise.com/2018/01/03/hospital-receives-donation-of-100g-for-expansion/#ixzz54SPb5lrj>

SKILL ANALYSIS

The availability of a skilled local labor force, or the ability to cultivate a skilled local labor force, is a critical component to support future employment and economic growth. The regional Workforce and Skills Analysis aims to identify the skills currently possessed by the workforce in NCM and understand what skills are needed to support the **target industries** in the region.

This analysis aims to understand the core competencies of the regional workforce today. Additionally, for each target industry, the most critical occupations were identified as well as the corresponding skills needed for those occupations. This comparison of industries, occupations, and skills provides insight on the skills that may be missing and need to be cultivated going forward. When compared to the skills of the current workforce, the analysis identifies gaps in skills by target industry which will help guide strategies for up-skilling, education pipelines, job training, and apprenticeships.

This analysis measures how competitive the market is for each of the top skills identified between different industries and how concentrated the talent pool for each skill is within the target industry. These measures have implications when determining the best approach to ensure the target industries have an appropriately skilled workforce.

Skills within NCM Workforce

The Workforce and Skills Analysis first aims to identify the skills already most prevalent in the NCM workforce to understand the core competencies of the regional workforce today. Using EMSI's Labor Market Analytics platform, which analyzes the prevalence of hard skills (those requiring specific technical knowledge) and soft skills (those based on personality traits) contained within historical job postings, online resumes, and LinkedIn profiles in Worcester County (proxy for NCM region). This analysis, however, is limited to hard skills as they are easier to address through education and/or training programs.

The following table lists the most prevalent hard skills in the workforce today. While many of the top 50 skills, such as Accounting, Strategic Planning, and Sales Management are applicable across a wide swath of industries, some more specialized skills such as Nursing, Data Warehousing, and SQL are also prevalent in the workforce. These skills align more closely with the relative size of the healthcare industry and the increased use of advanced technology by legacy industries.

There are over 1,000 individual hard skills possessed by the workforce in Worcester County today. The table above illustrates the Top 50 most prevalent hard skills and provides a good baseline for understanding the competencies possessed by the current workforce.



Table 21: Top 50 Skills in Worcester County, 2020

EMSI

Rank	Skill	Rank	Skill
1	Accounting	26	Selling Techniques
2	Project Management	27	Marketing Strategies
3	Strategic Planning	28	SQL (Programming Language)
4	Sales Management	29	New Business Development
5	Microsoft Access	30	Quality Management
6	Event Planning	31	Adobe Photoshop
7	Business Process Improvement	32	Restaurant Operation
8	Customer Satisfaction	33	Inventory Control
9	Customer Relationship Management	34	Fundraising
10	Billing	35	Multitasking
11	Cardiopulmonary Resuscitation (CPR)	36	Project Planning
12	Purchasing	37	Java (Programming Language)
13	Budgeting	38	Packaging and Labeling
14	Merchandising	39	HyperText Markup Language (HTML)
15	Auditing	40	Public Relations
16	Operations Management	41	Curriculum Development
17	Business Development	42	Financial Statements
18	Accounts Payable	43	Forecasting
19	Account Management	44	Lean Manufacturing
20	New Product Development	45	Business Analysis
21	Office Management	46	C (Programming Language)
22	Inventory Management	47	Software Engineering
23	Data Warehousing	48	Continuous Improvement Process
24	Accounts Receivable	49	Technical Support
25	Nursing	50	Warehousing

Target Industry Skills

Methodology

The Target Industry Analysis identified the following industries most critical to future economic development for NCM:

- Advanced Manufacturing
- Logistics and Distribution
- Tourism and Local Business
- Healthcare

For each target industry, all relevant occupations were identified to understand the entire universe of occupation types contained within each industry. From there, every occupation that met a certain threshold in 2019 was selected for skills analysis:

- Advanced Manufacturing – occupations with 50 employees or more
- Logistics and Distribution – occupations with 25 employees or more
- Tourism – occupations with 100 employees or more
- Healthcare – occupations with 250 employees or more

For all industries, the selected occupations account for approximately 90% or more of all employees within each target industry. As such, analyzing the skills associated with the selected occupations gives a comprehensive picture of the skills needed to support each industry. The top ten hard skills for each target industry were identified using EMSI's Job Posting Analytics module. This module details the following information for each skill:

- Frequency in Job Postings (Target Industry) – Share and total number of total job postings in Worcester County by Target Industry that lists the specific skill
- Frequency in Job Postings (Worcester County) – Share and total number of jobs postings regardless of industry requiring that specific skill
- Frequency in Profile (Target Industry) – Share and total number of worker profiles in occupations in the Target Industry that list the specific skill
- Frequency in Profile (Worcester County) – Share and total number of worker profiles that list the specific skill regardless of industry

These data points allow the following to be analyzed for each skill:

- Is there a balance between demand for a specific skill (as measured by the share of job postings) and supply of workers with a specific skill (as measured by the share of profiles listing a specific skill)?
- How competitive the market is for certain skills between industries (as measured by the share of total postings in Worcester County in the target industry)?
- How concentrated a specific skill set is within a target industry (as measured by the share of total profiles in Worcester County in occupations in the target industry)?

These measures help to evaluate the degree and nature of potential skill gaps between what is required to support the target industries and what is present in the region's workforce today.

Advanced Manufacturing

The following occupations were analyzed to understand the skills needs of the Advanced Manufacturing industry and account for approximately 90% of all Advanced Manufacturing-related occupations in Worcester County today:

Table 21: Top Health Care Occupations, 2020

EMSI

SOC	Occupation Description	Employed in Industry Group (2019)
17-2000	Engineers	492
51-9000	Other Production Occupations	484
51-2000	Assemblers and Fabricators	433
15-1200	Computer Occupations	223
11-3000	Operations Specialties Managers	220
13-1000	Business Operations Specialists	191
17-3000	Drafters, Engineering Technicians, and Mapping Technicians	182
51-4000	Metal Workers and Plastic Workers	143
41-4000	Sales Representatives, Wholesale and Manufacturing	136
11-9000	Other Management Occupations	119
49-9000	Other Installation, Maintenance, and Repair Occupations	119
51-1000	Supervisors of Production Workers	117
11-1000	Top Executives	114
53-7000	Material Moving Workers	105
43-5000	Material Recording, Scheduling, Dispatching, and Distributing Workers	95
19-2000	Physical Scientists	90
11-2000	Advertising, Marketing, Promotions, Public Relations, and Sales	83
19-1000	Life Scientists	75
13-2000	Financial Specialists	68
19-4000	Life, Physical, and Social Science Technicians	65
43-4000	Information and Record Clerks	55
43-6000	Secretaries and Administrative Assistants	51

EMSI's Job Postings Analytics identified the following as the ten most prevalent hard skills associated with job postings for the above occupations in Advanced Manufacturing, as well as the balance between supply/demand, the competition for the skills across industries, and the concentration of the skill within the workforce of the Advanced Manufacturing industry.

Table 22: Advanced Manufacturing Skills Summary, 2020

EMSI

Skill	Supply/Demand Balance in Workforce	Competition for Skill Across Industries	Concentration of Skill Set within Industry
New Product Development	Balanced	High	Low
Corrective and Preventive Action	Balanced	High	Low
Auditing	Balanced	High	Low
Automation	Balanced	High	Low
Continuous Improvement Process	Balanced	Moderate	Moderate
Agile Software Development	Balanced	High	Low
Good Manufacturing Practices	Balanced	High	Moderate
Manufacturing Processes	Balanced	Moderate	Moderate
Project Management	Oversupply	High	Low
Pharmaceuticals	Balanced	High	Low

Key Takeaways

- There is demand for the skills most critical to Advanced Manufacturing from other industries, namely Professional, Scientific, and Technical Services. Coupled with the fact these skills are also currently deployed in other industries means that Advanced Manufacturing is likely going to be competing with other industries for qualified workers as the industry grows. Attracting employees to North Central Massachusetts from other parts of the state could also be challenging as competing industries such as Professional, Scientific, and Technical Services are highly concentrated in other regions like the Boston core and the Route 128 belt.
- Today, supply/demand for most skills is balanced with enough skilled workers in the industry to support current needs. However, to support the future growth of this industry sector, additional skilled workers are likely needed.
- Since the market for this skills set is competitive, efforts to build these skills within the NCM region should be pursued and secondarily look at efforts to attract and retain new talent from outside the region should a large enough supply of skilled workers for Advanced Manufacturing not materialize through regional education and training pipelines.

Logistics and Distribution

The following occupations were analyzed to understand the skills needs of Logistics and Distribution and account for approximately 95% of all Logistics and Distribution-related occupations in Worcester County today:

Table 23: Top Logistics and Distribution Occupations, 2020

EMSI

SOC	Occupation Description	Employed in Industry Group (2019)
53-3000	Motor Vehicle Operators	751
53-7000	Material Moving Workers	345
43-5000	Material Recording, Scheduling, Dispatching, and Distributing Workers	87
53-4000	Rail Transportation Workers	59
53-1000	Supervisors of Transportation and Material Moving Workers	49
49-3000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	44
43-4000	Information and Record Clerks	36
11-1000	Top Executives	34
43-9000	Other Office and Administrative Support Workers	32
11-3000	Operations Specialties Managers	30
13-1000	Business Operations Specialists	27

EMSI's Job Postings Analytics identified the following as ten of the most prevalent hard skills associated with job postings for the above occupations in Logistics and Distribution, as well as the balance between supply/demand, the competition for the skills across industries, and the concentration of the skill within the workforce of the Logistics and Distribution industry.

Table 24: Logistics and Distribution Skills Summary, 2020

EMSI

Skill	Supply/Demand Balance in Workforce	Competition for Skill Across Industries	Concentration of Skill Set within Industry
Flatbed Truck Operation	Undersupply	Low	N/A
Warehousing	Balanced	High	Low
Dry Van Truck Operation	Undersupply	Low	N/A
Reefer Truck Operation	Undersupply	Low	N/A
Truckload Shipping	Undersupply	Low	Low
Palletizing	Balanced	High	Low
Forklift Truck	Balanced	High	Low
Packaging and Labeling	Balanced	High	Low
Purchasing	Oversupply	High	Low
Supply Chain	Balanced	High	Low

Key Takeaways

- Skills related to storage and warehousing (Warehousing, Palletizing, Packaging, etc.) tend to be dispersed across industries besides Logistics and Distribution such as Retail Trade and Manufacturing both in terms of demand for skilled workers and the current industries of employed skilled workers.
- There are fewer workers with skills related to transportation (Truck Operation and Shipping) relative to demand for workers with these skills. While some of this discrepancy may be due to data limitations (Truck Drivers are less likely to have online resumes and LinkedIn profiles) the difference between the number of postings requiring these skills and the number of profiles indicates there is likely an undersupply.
- As demand from online retailing and e-commerce continues to grow, and even accelerated by the pandemic, demand for operators, packers, and supply chain management will grow too. The NCM region's unique location from a logistical standpoint makes it ideal for serving as a logistics hub for many parts of Massachusetts and Southern New Hampshire.

Tourism and Local Business

The following occupations were analyzed to understand the skills needs of the Tourism and Local Business industry and account for approximately 93% of all occupations in this industry in Worcester County today:

Table 25: Top Tourism-Related Occupations, 2020

EMSI

SOC	Occupation Description	Employed in Industry Group (2019)
35-3000	Food and Beverage Serving Workers	4,224
41-2000	Retail Sales Workers	3,908
35-2000	Cooks and Food Preparation Workers	1,390
53-7000	Material Moving Workers	1,157
35-9000	Other Food Preparation and Serving Related Workers	699
41-1000	Supervisors of Sales Workers	687
35-1000	Supervisors of Food Preparation and Serving Workers	554
11-1000	Top Executives	311
43-4000	Information and Record Clerks	295
37-2000	Building Cleaning and Pest Control Workers	229
11-9000	Other Management Occupations	225
29-2000	Health Technologists and Technicians	206
53-3000	Motor Vehicle Operators	205
39-9000	Other Personal Care and Service Workers	192
51-3000	Food Processing Workers	143
43-1000	Supervisors of Office and Administrative Support Workers	138
29-1000	Healthcare Diagnosing or Treating Practitioners	133
43-3000	Financial Clerks	113
27-2000	Entertainers and Performers, Sports and Related Workers	109

EMSI's Job Postings Analytics identified the following as ten of the most prevalent hard skills associated with job postings for the above occupations in the Tourism and Local Business industry as well as the balance between supply/demand, the competition for the skills across industries, and the concentration of the skills within the workforce of the Tourism and Local Business industry.

Table 26: Tourism-Related Skills Summary, 2020

EMSI

Skill	Supply/Demand Balance in Workforce	Competition for Skill Across Industries	Concentration of Skill Set within Industry
Merchandising	Undersupply	Low	Low
Selling Techniques	Balanced	Moderate	Low
Restaurant Operation	Balanced	Moderate	Moderate
Cash Register	Balanced	Low	Low
Warehousing	Undersupply	High	Low
Food Services	Balanced	Moderate	Low
Food Safety	Balanced	Moderate	Low
Inventory Management	Oversupply	Moderate	Low
Loss Prevention	Balanced	Low	Low
Franchising	Balanced	Moderate	Low

Key Takeaways

- The skills needed to support the Tourism and Local Business industry are skills often associated with restaurant and retail occupations. In general, there is a balance between the demand for these skills and the supply of skilled workers.
- Workers with the skills listed above are generally dispersed across multiple industries, however, this is likely a function of workers in other industries having experience working in restaurants and retail even if they currently work in a different industry.
- There is a slight undersupply of workers with Merchandising skills (inventory planning and organization within a store). However, this skill is related to Inventory Management (process of planning, ordering, and storing products for sale), in which there is a slight oversupply of skilled workers. As such, it is likely any need for Merchandising workers could be filled with workers who are skilled in Inventory Management.
-
- Given the effects of the pandemic on the restaurant and retail industry in the near term, there is uncertainty around the demand for future skilled workers and how much these industries may contract. As such, there is unlikely to be a short-term undersupply of skilled workers to support this industry. However, this could be an opportunity to support growth in local businesses and entrepreneurship if skilled workers are looking at the NCM region as a place to open their own business and hire locally.

Healthcare

The following occupations were analyzed to understand the skills needs of the Healthcare industry and account for approximately 97% of all Healthcare occupations in Worcester County today:

Table 27: Top Health Care Occupations, 2020

EMSI

SOC	Occupation Description	Employed in Industry Group (2019)
31-1100	Home Health and Personal Care Aides; and Nursing Assistants, Orderlies, and Psychiatric Aides	18,200
29-1000	Healthcare Diagnosing or Treating Practitioners	14,845
21-1000	Counselors, Social Workers, and Other Community and Social Service Specialists	7,438
29-2000	Health Technologists and Technicians	5,996
43-6000	Secretaries and Administrative Assistants	3,159
31-9000	Other Healthcare Support Occupations	3,038
39-9000	Other Personal Care and Service Workers	2,891
11-9000	Other Management Occupations	2,501
43-4000	Information and Record Clerks	1,717
25-2000	Preschool, Elementary, Middle, Secondary, and Special Education Teachers	1,229
37-2000	Building Cleaning and Pest Control Workers	1,226
13-1000	Business Operations Specialists	1,106
43-9000	Other Office and Administrative Support Workers	923
43-3000	Financial Clerks	922
35-3000	Food and Beverage Serving Workers	843
11-1000	Top Executives	681
43-1000	Supervisors of Office and Administrative Support Workers	677
35-2000	Cooks and Food Preparation Workers	572
11-3000	Operations Specialties Managers	563
25-9000	Other Educational Instruction and Library Occupations	477
19-3000	Social Scientists and Related Workers	476
31-2000	Occupational Therapy and Physical Therapist Assistants and Aides	432
15-1200	Computer Occupations	395
49-9000	Other Installation, Maintenance, and Repair Occupations	385
53-3000	Motor Vehicle Operators	328
13-2000	Financial Specialists	297
19-1000	Life Scientists	278
43-5000	Material Recording, Scheduling, Dispatching, and Distributing Workers	259
39-1000	Supervisors of Personal Care and Service Workers	253

EMSI's Job Postings Analytics identified the following as the ten most prevalent hard skills associated with job postings for the above occupations in the Healthcare industry, as well as the balance between supply/demand, the competition for the skills across industries, and the concentration of the skill within the workforce of the Healthcare industry

Table 28: Health Care Skills Summary, 2020

EMSI

Skill	Supply/Demand Balance in Workforce	Competition for Skill Across Industries	Concentration of Skill Set within Industry
Nursing	Undersupply	Moderate	Moderate
CPR	Balanced	Moderate	Low
Social Work	Balanced	Low	Low
Treatment Planning	Balanced	Low	Moderate
Mental Health	Balanced	Low	Moderate
Basic Life Support	Undersupply	High	High
Caregiving	Undersupply	Moderate	Low
Home Care	Balanced	Moderate	Moderate
Psychology	Balanced	Moderate	Low
Rehabilitation	Balanced	Moderate	Moderate

Key Takeaways

- The three skills that are currently undersupplied are related to nursing/home healthcare occupations. Given how demand for these occupations is expected to grow as the population ages, ensuring adequate training in these skills is critical.
- The demand for workers with nursing skills in the Healthcare industry is greater than the supply of workers with this skill set in the industry today. This gap will likely need to be addressed through training and/or talent attraction as demand for healthcare services continues to increase.
- Not only is there a slight undersupply of workers proficient in Basic Life Support (a level of medical care which is used for victims of life-threatening illnesses or injuries until they can be given full medical care at a hospital), but the healthcare industry has to compete with other industries such as Administration and Support Services for skilled workers while currently having a high concentration of workers from which other industries could benefit.
- Caregiving is relatively decentralized across many industries (including Administration and Support Services), but the demand for workers with this skill is moderately concentrated in the Healthcare industry.

OPPORTUNITY ANALYSIS

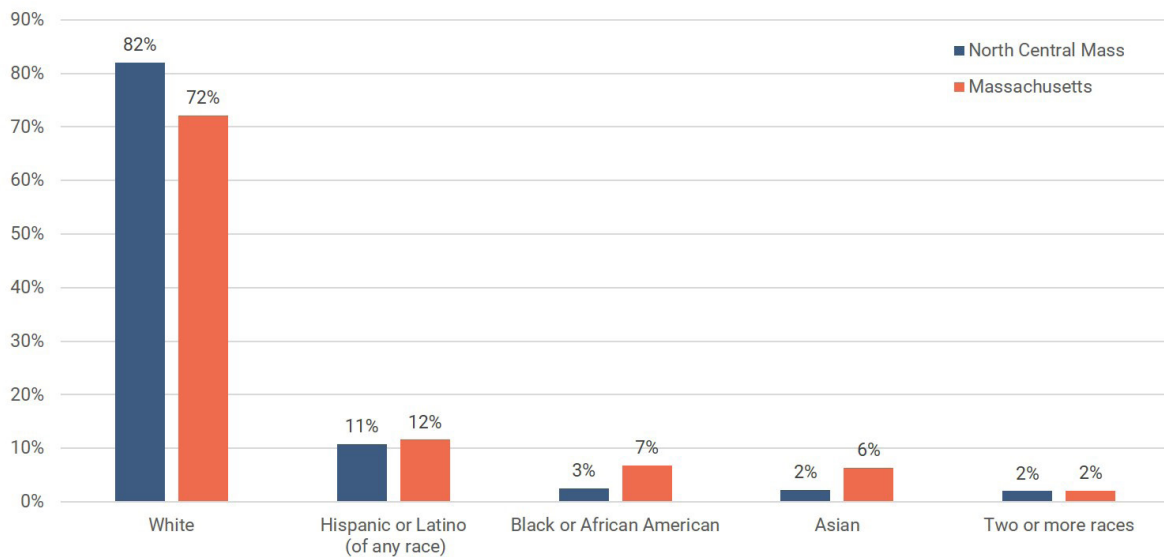
Working to address skills gaps in each of the target industries is important for economic success, but equally important is identifying and addressing opportunity gaps within the workforce itself. Opportunity gaps exist when certain populations, often women and people of color, are underrepresented in certain industries and occupations due to systemic forces in the education system and the labor markets. This section looks at disparities across educational attainment, employment, and income and earnings. While economic development is only one facet of addressing disparities across racial and ethnic groups, education, employment, and income are critically important to long-term wealth creation. For purposes of aligning the opportunity analysis with the skills analysis, all data presented in this section is for Worcester County which accounts for 70% of the cities and towns in the NCM region.

Educational Attainment in NCM

The NCM region overall is less diverse than Massachusetts with only 18% of the population identifying as a race or ethnicity other than White compared to 28% of the population in Massachusetts.

Figure 41: Population by Race/Ethnicity, 2018

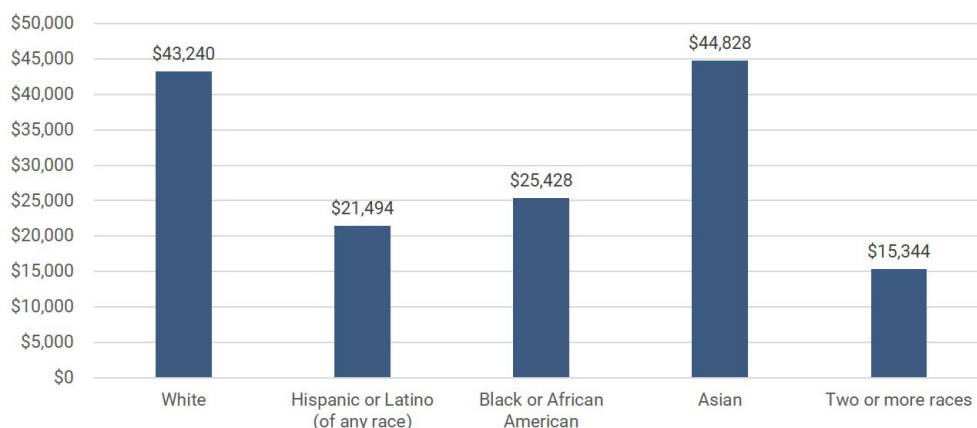
Source: ACS



While minority populations comprise a smaller share of the region's population, there are significant differences in economic prospects and opportunities between White residents and workers and those identifying with other racial and ethnic groups. For example, White residents in the region have an average per capita income of \$43,340 which is significantly higher than all other racial and ethnic groups except for Asian residents. White residents have an average per capita income that is 70% higher than Black/African American residents and 101% higher than Hispanic/Latino residents.

Figure 42: Per Capita Income by Race/Ethnicity, 2018

Source: ACS



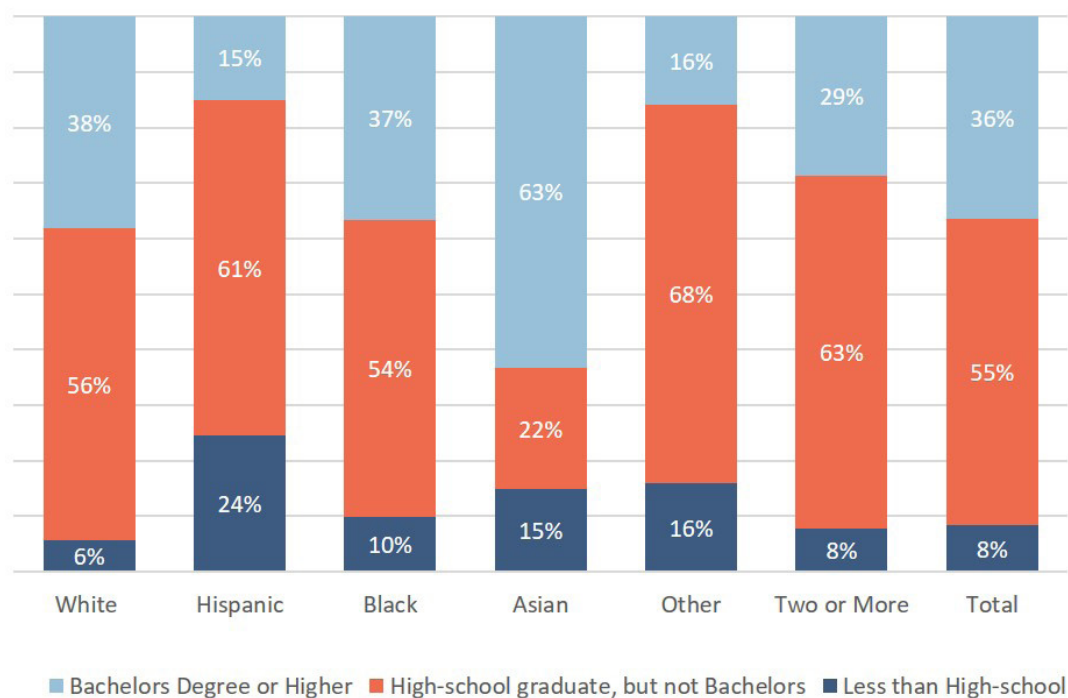
One driver of the per capita income gap between White and Asian residents and other racial/ethnic groups is the difference in educational attainment. Currently in NCM, White residents account for 81% of all those with a bachelor's degree or higher, roughly in line with the group's share of the total population. Asian residents comprise a higher share of those with a bachelor's degree than they do of the total population. Additionally, 63% of all Asians have a bachelor's degree or higher, far outpacing all other racial and ethnic groups.

Of all residents with less than a high school diploma, nearly half identify with a race or ethnicity other than White, a far higher share than in the overall population. The biggest disparity is amongst Hispanics, who make up 28% of people without a high-school degree but only approximately 11% of the total population in NCM.

However, differences in education attainment among different racial and ethnic groups is only one factor in understanding income disparities. For example, White residents and Black residents have similar levels of educational attainment with 38% and 37% of the population holding a bachelor's degrees or higher. However, per capita income for White residents is over 70% greater than that of Black residents, indicating significant differences in income exist even when accounting for educational attainment.

Figure 43: Educational Attainment by Race/Ethnicity, 2018

Source: ACS



All these differences suggest there is an opportunity gap in the region with minority populations not having the same access to education as the White residents and not having the same employment opportunities within industries and occupations requiring similar levels of education.

Opportunity Gap

In addition to identifying differences in income and educational attainment by race and ethnicity, opportunity gaps were analyzed for the employment base as a whole and within the Target Industries to identify any potential disparities. For this analysis, the racial and ethnic composition of the current job base was reviewed and compared to the racial and ethnic distribution of higher-wage jobs (those with median annual wages of \$75,000 or more) and lower-wage jobs (those with median annual wages of \$35,000 or less). This would identify if there were major disparities between the target industries and between higher-wage and lower-wage jobs with each industry.

All Occupations

In Worcester County today, approximately 76% of all jobs are held by White workers, and these same workers hold over 81% of all higher-wage jobs. Conversely, Black and Hispanic/Latino workers account for 13% of the total population and 17.3% of all employees, but account for over 25% of all workers earning less than \$35,000 per year. As noted in the education section, White and Black residents hold bachelor's degrees at similar rates, however 18% of White workers hold higher-wage jobs compared with 10% of Black workers. This assumes that educational attainment is directly correlated to higher earnings

Figure 44: All Occupations by Race/Ethnicity, 2020

Source: EMSI

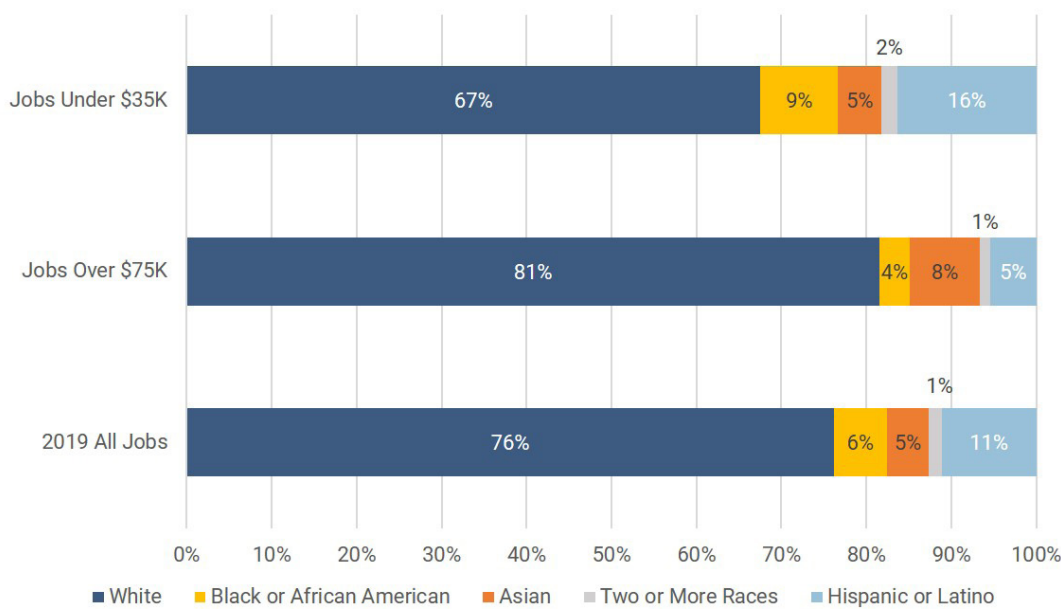
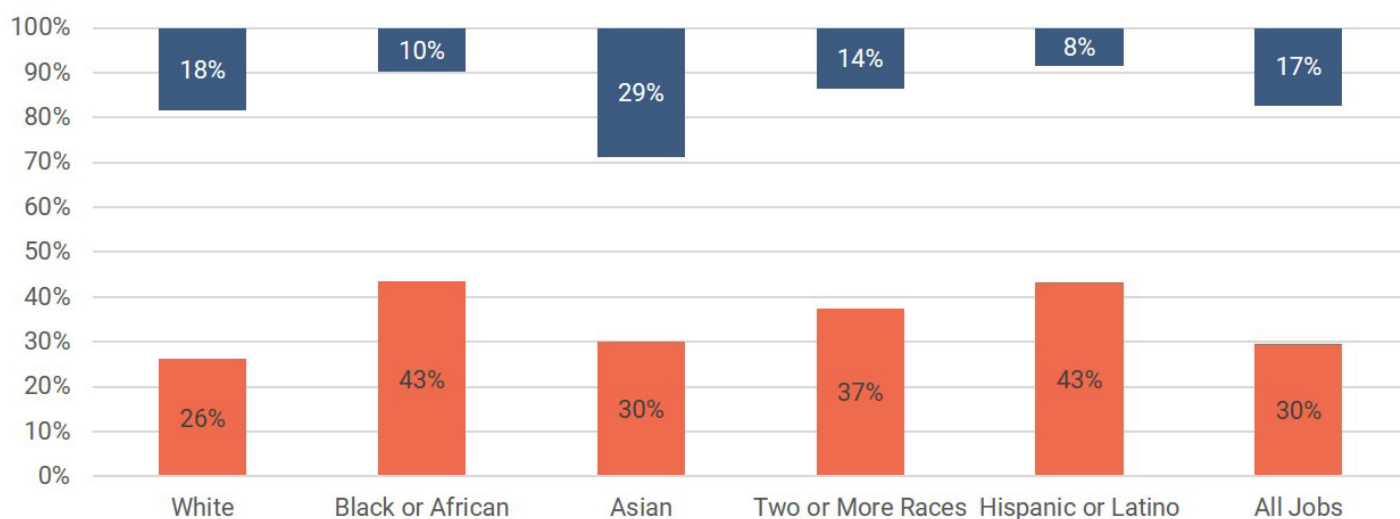


Figure 45: Share of All Jobs by Race/Ethnicity, 2020

Source: EMSI



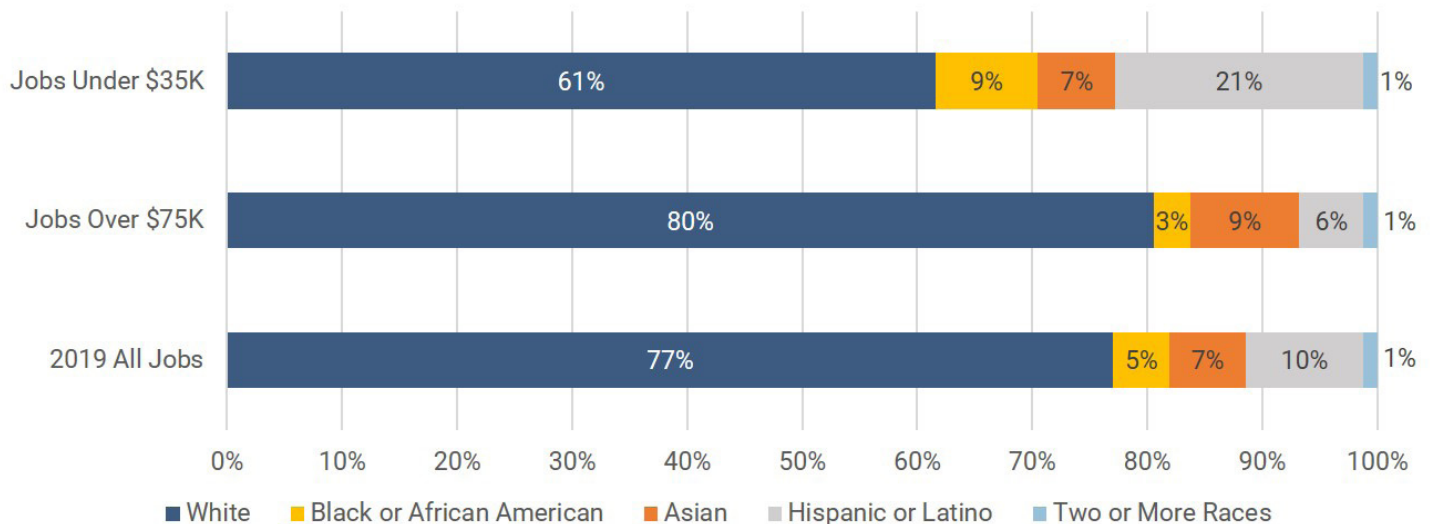
Between the four target industries, there are only slight variations in the composition of the industry-wide workforces. However, differences start to emerge in the evaluation of racial/ethnic disparities within each of the target industries for higher-wage and lower-wage occupations.

Advanced Manufacturing

Occupation and income trends by race and ethnicity in the Advanced Manufacturing industry generally mirror regional trends, however a greater share of Asian workers are employed in the industry compared to the overall workforce (6.6% vs. 5%) while a smaller share of Black and Hispanic/Latino workers are employed in the industry compared to the overall workforce (15.1% vs. 17.3%). Despite making up a smaller share of the industry, Black and Hispanic/Latino workers make up approximately 30% of all lower-wage jobs in the industry, a higher share than in the overall workforce. This trend is particularly pronounced among Hispanic/Latino workers who hold approximately 16% of all lower-wage jobs in the region, but 21% of all lower-wage jobs in Advanced Manufacturing.

Figure 46: Advanced Manufacturing Occupations by Race/Ethnicity, 2020

Source: EMSI

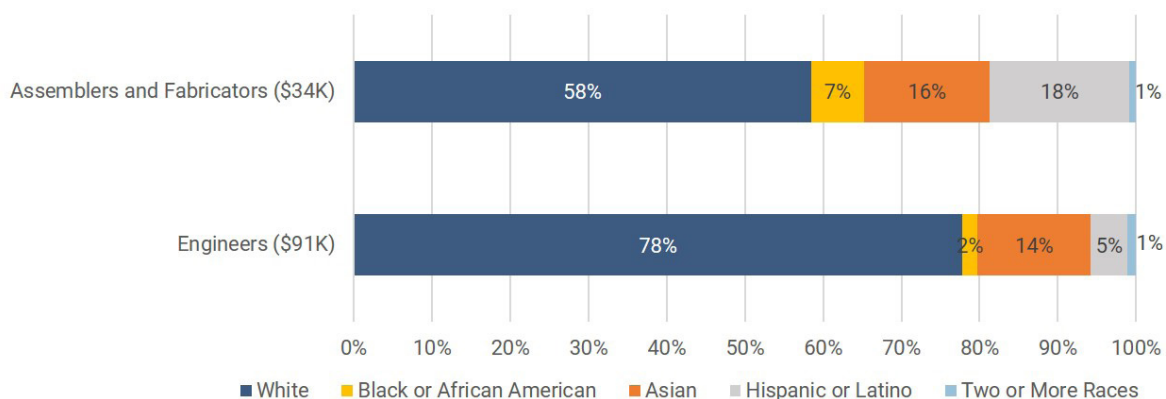


For the occupation-specific comparison, this analysis compares Assemblers and Fabricators (lower-wage job) to Engineers (higher-wage job) across racial and ethnic categories. Within the Engineering occupation, White workers and Asian workers comprise a larger share of Engineers as compared to their representation across all jobs in the region. Black and Hispanic/Latino Engineers comprise a very small share of workers in this occupation compared to their share across the industry sector.

The lower-wage occupation of Assemblers and Fabricators tells a much different story where Black and Hispanic/Latinos are overrepresented compared to their share within the Advanced Manufacturing industry. Workers who identify as Asian are also overrepresented in this occupational category compared to their share of the overall industry. Interestingly, 42% of all Assembler and Fabricator jobs are held by workers identifying with a race or ethnicity other than White.

Figure 47: Racial/Ethnic Composition of Selected Advanced Manufacturing Occupations, 2020

Source: EMSI

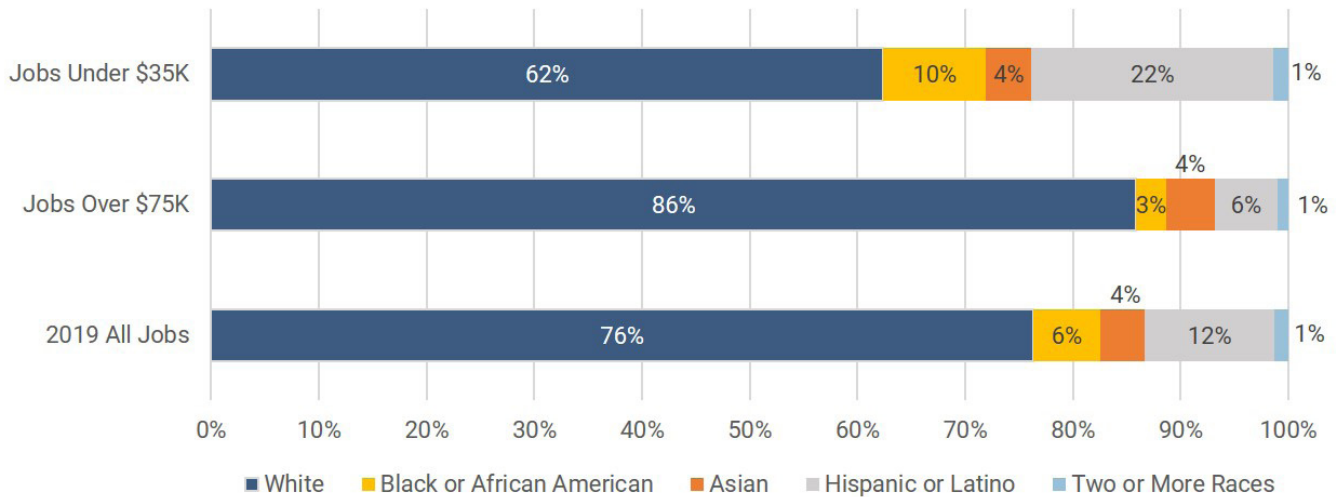


Logistics and Distribution

Occupation and income trends by race and ethnicity in the Logistic and Distributions industry mirrors the overall workforce in the region. However, Hispanic/Latino workers hold a disproportionate share of lower-wage jobs (22%) compared to all jobs (11%) and all lower-wage jobs (16.3%). On the other hand, White workers hold a larger share of high-income occupations (86%) in the Logistics and Distribution industry compared to all high-wage jobs (81%).

Figure 48: Logistics Occupations by Race/Ethnicity, 2020

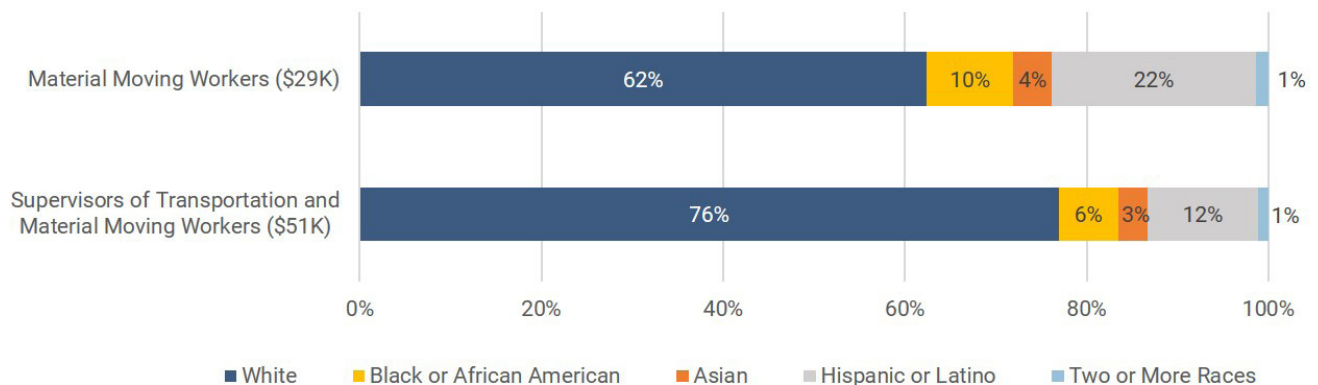
Source: EMSI



For the occupation-specific comparison, this analysis compares Material Moving Workers and their Supervisors. While not a higher-wage occupation (over \$75,000), Supervisors of Transportation and Material Moving Workers earn incomes approximately 76% higher than those they manage. The composition of Supervisors is similar to the composition of all Logistics and Distribution workers and all workers across the region. However, the lower-wage Material Moving Workers occupation shows an over-representation of Hispanic/Latino workers, comprising 22.4% of this occupation despite comprising 12% of all jobs in Logistics and Distribution.

Figure 49: Racial/Ethnic Composition of Selected Logistics Occupations, 2020

Source: EMSI

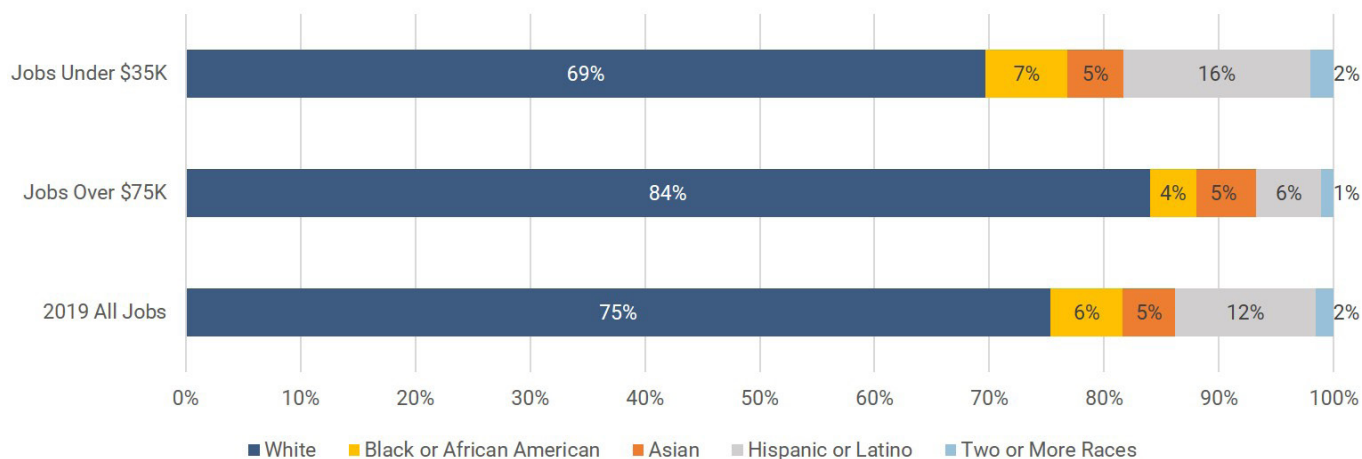


Tourism and Small Business

Occupation and income trends by race and ethnicity in the Tourism and Local Business industry sector is nearly identical to the racial/ethnic composition of the region's overall workforce. While a similar trend emerges in this industry sector (White workers holding a disproportionate share of higher-wage jobs and Black and Hispanic/Latino workers holding a disproportionate share of lower-wage jobs), the trends do not significantly deviate from the trends seen across the region's workforce.

Figure 50: Tourism and Small Business Occupations by Race/Ethnicity, 2020

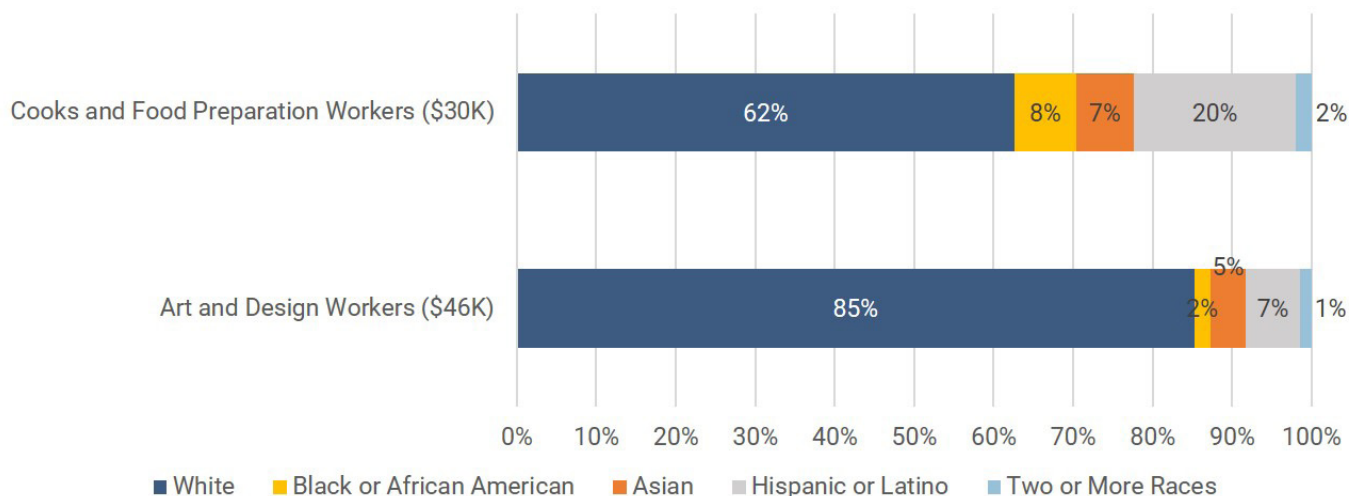
Source: EMSI



For the occupation-specific comparison, this analysis compares Cooks and Food Prep Workers (e.g., line cooks, fast food workers, etc.) and Art and Design Workers (e.g., fine artists, floral designers, etc.). While neither occupation is a higher-wage occupation, this analysis aims to identify if there is a racial/ethnic disparity between “creative” occupations and those in food service. The Art and Design workers overwhelmingly identified as White, with nearly 85% of all occupations held by White workers. Comparatively, Cooks and Food Prep occupations show a disproportionate share being held by Hispanic/Latino workers.

Figure 51: Racial/Ethnic Composition of Selected Tourism/Small Biz Occupations, 2020

Source: EMSI

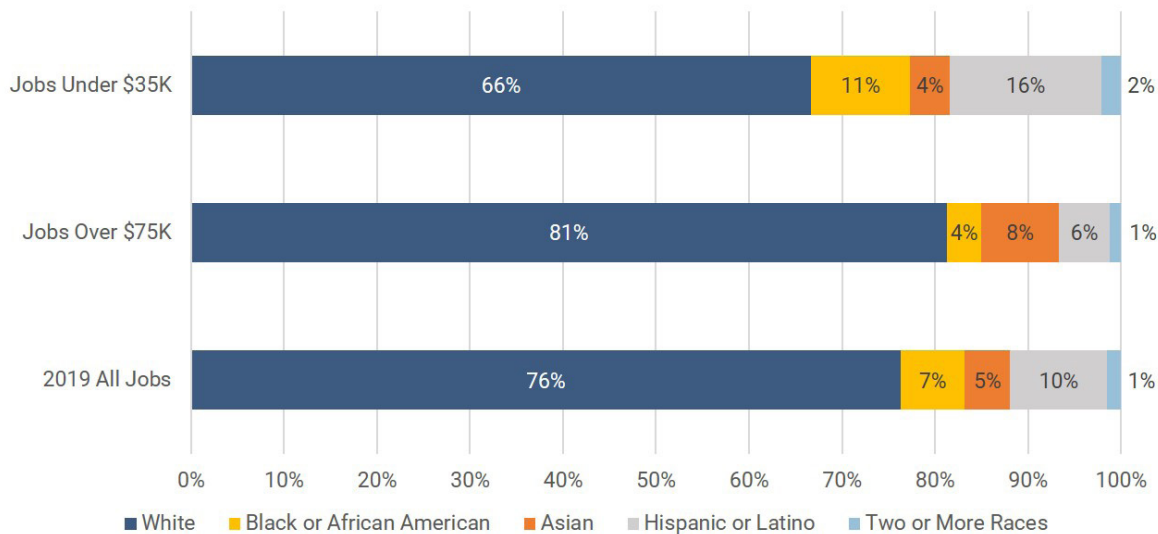


Health Care

Occupation and income trends by race and ethnicity in the healthcare industry tend to mirror those of the overall workforce. Among higher-wage jobs in the industry, White workers and Asian workers are over-represented compared to their share of the overall workforce while Black and Hispanic/Latino workers are over-represented among lower-wage occupations. Lower-wage healthcare jobs are disproportionately held by Black workers, as approximately 11% of lower-wage healthcare workers identify as Black compared to 9% of all lower-wage jobs and 6.2% of all workers.

Figure 52: Health Care Occupations by Race/Ethnicity, 2020

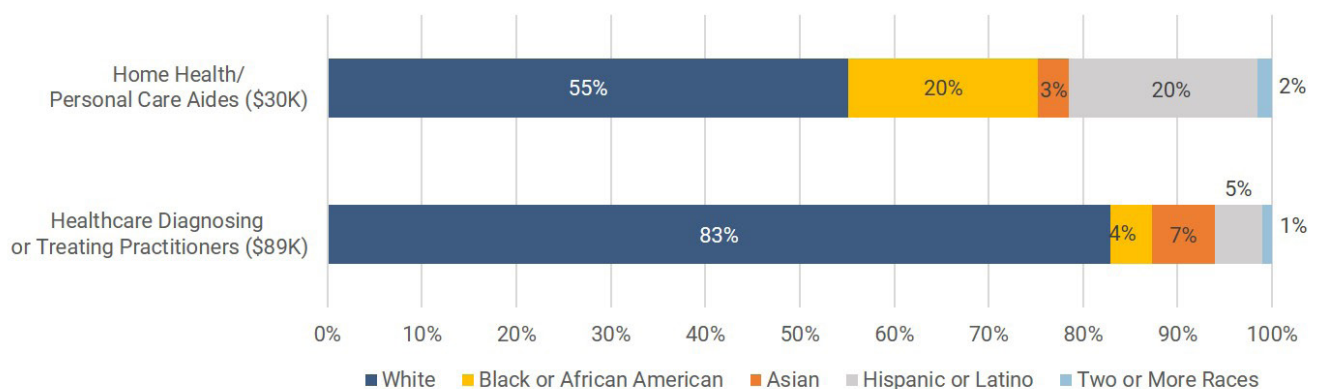
Source: EMSI



In addition to looking at the overall racial and ethnic composition of higher- and lower-wage jobs in the healthcare sector, one high-wage and low-wage occupation in the healthcare sector was selected to see how the racial and ethnic compositions of workers holding the job differed. The lower-wage occupation selected was Home Health/Personal Care Aides (i.e., nursing assistants, home care aides, etc.) which had average earnings of \$30,000. This occupation has an over-representation of Black and Hispanic/Latino workers compared to all lower-wage jobs within the Healthcare sector and all lower-wage jobs across all occupations in the region. This compares to nearly 83% of all Healthcare Diagnosing or Treating Practitioners (doctors, dentists, nurses, etc.), a greater share than in healthcare occupations overall (82.8% vs. 76.1%). These positions are higher-wage, with average earnings of approximately \$89,000. These positions also require higher levels of education and training.

Figure 53: Racial/Ethnic Composition of Selected Health Care Occupations, 2020

Source: EMSI



The Importance of Addressing Opportunity Gaps

Addressing opportunity gaps is important from both an equity and economic development perspective. In creating an economic development plan that will serve as a road map to help promote future growth in the region, it is important to ensure the plan has strategies to provide opportunities for all groups of people in the region, including those that have traditionally been marginalized.

Providing opportunities for groups that, historically have not had the same access to education or job opportunities, allows these groups to make economic gains through higher paying jobs affording increased disposable income and the ability to build wealth. Studies have shown that nationally, narrowing the racial wealth gap would increase total GDP by 4-6% by 2028⁵¹, illustrating that working to ensure equal opportunities for all groups makes good economic sense. Closing opportunity gaps will help to ensure a more prosperous future for all people in the NCM region.

⁵¹ The Economic Impact of Closing the Racial Wealth Gap, McKinsey & Company.

ECONOMIC DEVELOPMENT INCENTIVES, PROGRAMS AND GRANT FUNDING FOR NCM

This section provides a listing and description of the most relevant economic development incentives, financing tools, programs and grant funding opportunities at the state and local levels in Massachusetts. These have been grouped into: a) incentives and financing; and b) programs and grant funding. More information is available online (with web links provided) for each financing tool and funding program. The information in this section can be used to advance the retention, growth, and attraction of businesses within each of the target industries. These programs, and more, will also be used to inform potential funding sources tied to strategies and the implementation of the plan.

Incentives and Financing

This section presents available economic incentives and financing tools to support redevelopment, expansion and new location projects. The majority of the incentives are state-level with tax increment financing (TIF) and special tax assessments the primary municipal tools.

Economic Development Incentive Program (EDIP)

The most common and well-known state-level economic development incentive in Massachusetts is the Economic Development Incentive Program (EDIP) which provides an investment tax credit for business expansion and new location projects. The amount of the incentive is related to the size of the private investment in the expansion project and applications for this incentive are reviewed and approved by the Economic Assistance Coordinating Council (EACC). For eligibility, projects are assessed in terms of job retention and creation, firms with sales out of the state, location within designated target areas, or projects within Gateway Cities (such as Fitchburg and Leominster). For more information, application documents and past awards, see: <https://www.mass.gov/service-details/economic-development-incentive-program-edip>

Tax Increment Financing (TIF)

One of the most well-known forms of economic incentives are property tax abatements which reduce the amount of property taxes owed by firms that expand or locate in an area. In Massachusetts, this incentive is administered at the municipal level through tax increment financing (TIF) which ends up being a negotiated reduction in future property tax payments as a percentage of the increment (or increase) in property taxes that result from the expansion project. For example, a community might

agree to reduce the amount of additional property taxes that would a business would pay by 50% over 10 years after they invested in a new or expanded facility. TIF decisions are made locally, typically requiring city council (or similar) approval, but TIF decisions are also reviewed and approved by the state-level EACC known as a Local Incentive Only Application: <https://www.mass.gov/service-details/apply-for-the-economic-development-incentive-program>

Special Tax Assessment

Very similar to TIF, special tax assessments reduce real property taxes based on negotiated agreements with municipalities based on projects that create and/or retain jobs in the local area. Similar to TIF, these agreements are subject to review and approval by the EACC: <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter23a/Section3e>

Opportunity Zones

The 2017 U.S. Tax Cut and Jobs Act created the Opportunity Zone program, with official designation and administration via the U.S. Department of Treasury. Opportunity Zones (OZs) are intended to stimulate private investment in low-income communities by providing tax deferral and/or relief for qualified real estate and business investments in designated OZ areas. In NCM, there are six communities with designated OZ areas (census tracts): Athol, Clinton, Fitchburg, Gardner, Leominster, and Orange. More information can be found here: <https://www.mass.gov/opportunity-zone-program>

District Improvement Financing (DIF)

District Improvement Financing (DIF) is a locally-enacted program enabled by the state of Massachusetts aimed at creating a designated district within a municipality for economic development, where future property tax revenue streams can be used to finance infrastructure and other public improvements. In other words, a municipality can pay for (bond) public improvements such as roadways, parking, or water/sewer capacity based on the increase in future property tax revenues stemming from the development stimulated by the public improvement. DIF does not increase taxes or tax rates but rather acts as a financing tool for cities/towns to focus public improvements to catalyze economic development. For more information, see: <https://www.massdevelopment.com/what-we-offer/real-estate-services/technical-assistance/district-improvement-financing>

Brownfields Tax Credit Program

The Brownfields Tax Credit program is administered by the Massachusetts Department of Revenue and “offers eligible businesses and nonprofits a tax credit for the costs incurred in a brownfields remediation project. Brownfields tax credits may be used against state tax liabilities, or transferred or sold to third parties.” Eligible costs include the removal of oil or hazardous materials on the property the taxpayer owns or leases for business purposes and which is located within an economically distressed area. In general, the amount of the credit will be either 25% or 50% of the net response and removal costs. For more information, see: <https://www.mass.gov/doc/form-bca-1/download>

New Market Tax Credits (NMTC) Program

“The NMTC Program attracts private capital into low-income communities by permitting individual and corporate investors to receive a tax credit against their federal income tax in exchange for making equity investments in specialized financial intermediaries called Community Development Entities (CDEs). The credit totals 39% of the original investment amount and is claimed over a period of seven years.” MassDevelopment is a designated CDE in Massachusetts and has applied their NMTC funding to help a variety of commercial, mixed use, industrial, and community center projects: <https://www.massdevelopment.com/what-we-offer/financing/tax-credits/#new-markets>

Massachusetts Historic Rehabilitation Tax Credit Program

The Historic Tax Credit Program is an annual state allocation of tax credits where applications are accepted and reviewed on a rolling basis for funding. The typical annual cap of the program is \$50 million dollars which can be used for qualified rehabilitation expenditures (QRE) as a percentage of the project’s total cost. Applications can be for up to 20% of the QRE on a project. Projects can include residential, commercial, industrial, hotels, and even civic/institutional buildings. This program is not limited to only projects that have a direct impact on jobs, although economic impact is one of several criteria the Massachusetts Historical Commission (MHC) considers.

Housing Development Incentive Program (HDIP)

HDIP is a state-level incentive to support market-rate housing development in Gateway Cities (such as Fitchburg and Leominster) “while increasing residential growth, expanding diversity of the housing stock, supporting economic development, and promoting neighborhood stabilization in designated areas. The program provides two tax incentives to developers to undertake new construction or substantial rehabilitation of properties for lease or sale as multi-unit market rate residential housing: 1) local option tax to reduce the property tax on the ‘increment’ of improvement; or 2) state tax credits on qualified project expenditures.” While not strictly speaking an economic development incentive, HDIP can be used, for example, to support mixed use development projects in Fitchburg or Leominster that also include a retail, restaurant, or office component to add vibrancy to a downtown district. HDIP incentives are administered by MA DHCD: <https://www.mass.gov/service-details/housing-development-incentive-program-hdip>

Programs and Grant Funding

In addition to the incentives and financial tools mentioned above, there are a number of economic development-related programs and grant funding that are relevant to NCM (and some that already apply directly to some of the cities/towns in the region). Of note, a number of these programs are under the umbrella of MassDevelopment as the state’s leading real estate development (and financing) quasi-public state agency.

Gateway Cities

Originally identified and named as part of a Brookings Institute/MassINC research study that highlighted the disparities between small- to mid-size cities outside of the Boston area, the state of Massachusetts now recognizes 26 Gateway Cities. “Under the General Laws, gateway cities have a population between 35,000 and 250,000, with an average household income below the state average, and an average educational attainment rate (bachelor’s degree or above) below the state average.”⁵² In NCM, there are two gateway cities: Fitchburg and Leominster. Gateway City designation provides a number of prioritized economic development program and funding opportunities such as access to MassWorks grants and the potential to have a sub-city local district designated as part of the Transformative Development Initiative (TDI). <https://massinc.org/our-work/policy-center/gateway-cities/about-the-gateway-cities/>

⁵² https://en.wikipedia.org/wiki/Massachusetts_gateway_cities#:~:text=The%20original%20eleven%20cities%20are,Pittsfield%2C%20Springfield%2C%20and%20Worcester.

Transformative Development Initiative (TDI)

To advance revitalization in Gateway Cities, Massachusetts adopted a transformative development program with an approach defined as “public and private financial support for projects that catalyze significant follow-on investment in weak markets, leading over time to the transformation of an entire downtown or urban neighborhood.”⁵³ Now codified as TDI and led by MassDevelopment, this program accepts applications from Gateway Cities to designate targeted areas of their city for urban revitalization and strengthening via a mix of public investment, local staff resources (TDI Fellows) and partnership building, and specific small business, place-making, and creative economy program tools. Fitchburg’s downtown area is an active TDI district. For more information see: <https://www.massdevelopment.com/what-we-offer/key-initiatives/t-di/> and <https://www.massdevelopment.com/what-we-offer/key-initiatives/t-di/t-di-districts/fitchburg>

MassWorks Infrastructure Program

“The MassWorks Infrastructure Program is a competitive grant program that provides the largest and most flexible source of capital funds to municipalities and other eligible public entities primarily for public infrastructure projects that support and accelerate housing production, spur private development, and create jobs throughout the Commonwealth.” Since 2015, Massachusetts has awarded over \$456 million for public infrastructure projects, including awards of \$1.5 million to Clinton and \$3 million to Fitchburg in 2019. The authorizing legislation defines eligible projects as grants “for design, construction, building, land acquisition, rehabilitation, repair and other improvements to publicly-owned infrastructure including, but not limited to, sewers, utility extensions, streets, roads, curb-cuts, parking, water treatment systems, telecommunications systems, transit improvements, public parks and spaces within urban renewal districts, and pedestrian and bicycle ways.” Among other investment goals, 50% or more of the investment is targeted for supporting development in Gateway Cities. For more information, see: <https://www.mass.gov/service-details/massworks-infrastructure-program> and <https://www.mass.gov/doc/massworks-2020-rfr-and-program-guidelines-revised-6302020/download>

Site Readiness Grants

“The Site Readiness Program, administered by MassDevelopment, aims to increase the Commonwealth’s inventory of large, well-located, project-ready sites; to accelerate private-sector investment in industrial and commercial projects; and to support the conversion of abandoned sites and obsolete facilities into clean, actively-used, tax-generating properties. In its first four years, the program has awarded approximately \$10.4 million to 48 projects in almost every region of the Commonwealth.” In many cases, site readiness grants are aimed at positioning and advancing industrial and commercially-zoned properties and industrial parks to be ‘market-ready’ for development through market feasibility, master plan and marketing projects, or acquiring key parcels or infrastructure. NCM has been awarded about 10 site readiness grants from FY 17 to FY 20 in the communities of Clinton, Fitchburg, Gardner, Leominster, Orange, and Westminster. For more info: <https://www.massdevelopment.com/what-we-offer/real-estate-services/site-readiness/>

Workforce Training Funding

“The Workforce Training Fund Program (WTFP) helps address business productivity and competitiveness by providing resources to Massachusetts businesses to fund training for current and newly hired employees...While available to businesses of all sizes, the WTFP focuses on small to medium-sized businesses that would not be able invest in improving employee skills without the assistance of the Fund.” There are three categories of programs: 1) general program with grants up to \$250,000; 2) the express programs with grants up to \$30,000 per year; and 3) small business direct access program for businesses with up to 100 employees for a limited/specific set of training courses. WTFP is the primary workforce training funding source that employers can apply for in Massachusetts. For more info: <http://workforcetrainingfund.org/>

Technical Assistance

Another MassDevelopment program aimed at helping to position municipalities for development is their Technical Assistance program. Through a mix of in-house expertise and available ‘house doctor’ consultants, MassDevelopment helps communities with market feasibility studies, master plans, property reuse and activation plans, and assorted other economic planning services. For more info: <https://www.massdevelopment.com/what-we-offer/real-estate-services/technical-assistance/>

⁵³ <https://massinc.org/our-work/policy-center/ttod/about-t-di/>

Expedited Permitting and 43D

In 2006, Massachusetts established a standard for 'expedited permitting' by allowing communities to designate commercial, industrial, mixed use or residential districts for a more transparent and efficient permitting process. Known as 43D districts and having to meet a series of criteria establishing a local development process, these areas also qualify for priority on MassWorks infrastructure grants, brownfield remediation assistance, and other financing assistance. Twelve communities within NCM have designated at least one 43D district for expedited permitting: Athol, Ayer, Clinton, Fitchburg, Gardner, Groton, Lancaster, Leominster, Lunenburg, Orange, Shirley, and Westminster. For more info: <https://www.mass.gov/service-details/chapter-43d-expedited-local-permitting> and <https://www.mass.gov/service-details/chapter-43d-communities>

Other MassDevelopment Grants

Additional economic-development related grant opportunities from MassDevelopment include collaborative workspaces, Commonwealth Places (placemaking), community health center grants, and the cultural facilities fund (among others). For more info: <https://www.massdevelopment.com/what-we-offer/financing/grants/>

Brownfields Redevelopment Fund

MassDevelopment also leads the funding and administration of brownfields redevelopment loans and grants. These funds are intended to "help transform vacant, abandoned, or underutilized industrial and commercial properties throughout Massachusetts where development is hampered by real or perceived environmental contamination." Funding falls into the categories of interest free financing up to \$100,000; brownfield remediation loans of up to \$500,000; and recoverable grants. For example, the city of Gardner "used a \$490,475 Brownfields Redevelopment Fund award from MassDevelopment to abate hazardous materials prior to the demolition of the former Orpheum Theater Block. The project is part of the city's Downtown Urban Renewal plan..." For more info: https://www.massdevelopment.com/assets/what-we-offer/brochures/brownfieldsredevelopmentfund_brochure.pdf

Community Compact and Best Practices

The Baker Administration established the 'community compact' initiative to give "Massachusetts cities and towns the chance to make needed improvements through collaboration with and support from the Commonwealth. Each compact is a voluntary, mutual agreement between the Baker-Polito Administration and the local government." These agreements then provide enhanced opportunities for state grants as well as technical assistance from the Commonwealth to help communities achieve their goals. The vast majority of cities and towns now have signed agreements and also establish best practices in areas such as housing and economic development: <https://www.mass.gov/info-details/community-compact-best-practice-areas#housing-and-economic-development-best-practices->

RPA Technical Assistance/DLTA

The regional planning agencies (RPAs) that overlap with NCM communities also offer a series of technical assistance programs to help municipalities and regions advance economic development. District Local Technical Assistance (DLTA) is an annual appropriation of funds from the Commonwealth to regional planning agencies to assist with a wide range of projects that include economic development, housing, transportation, general planning, zoning, and more. In addition, RPAs bring their own dollars and other grant funds to the region covering a variety of purposes and project types.

Federal HUD Funds (CDBG, HOME, etc.)

Federal housing funds such as Community Development Block Grant (CDBG) and HOME funds are appropriated on an annual basis for entitlement communities across the country. Communities like Fitchburg and Leominster receive federal housing funds which can be put toward addressing housing issues, but portions of funds can also be used to address economic issues and infrastructure. <https://www.hud.gov/states/massachusetts>



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chapter 5

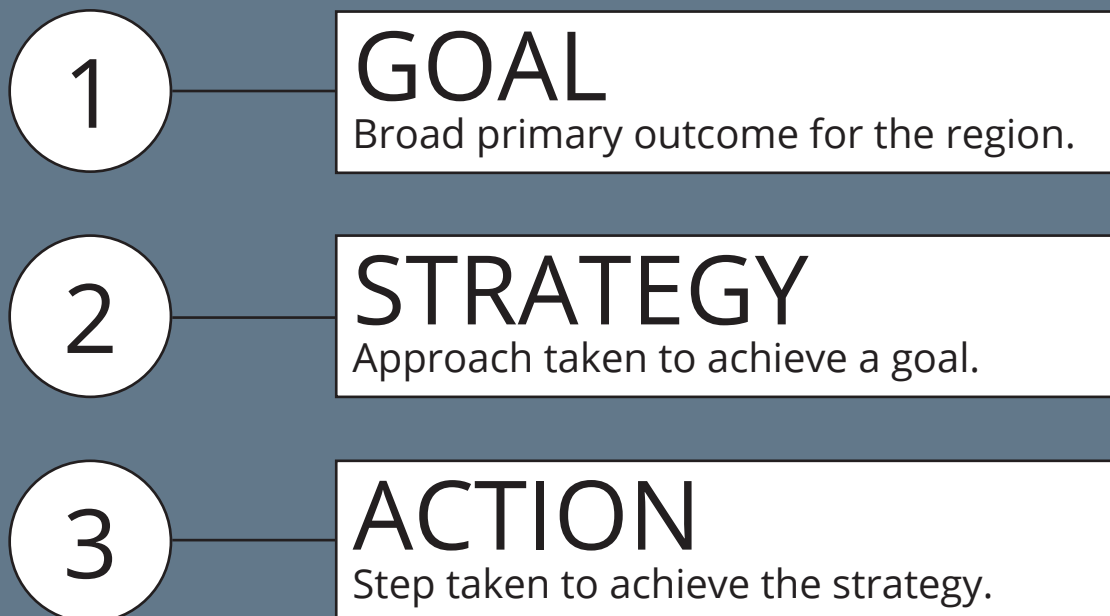
goals & recommendations



The rapid reshaping of the economy has created a critical need for creating and sustaining a holistic ecosystem to advance economic development.

Chapter Structure

The economic development plan for North Central Massachusetts has been structured with a set of goals, strategies, and actions that will put the region in the best position to respond to challenges and opportunities, recognize change and adapt, and be a leader in retaining, attracting, and growing businesses in the region. The framework for this chapter includes a set of higher level goals which are meant to unite the region and guide actions, strategies that provide direction for addressing goals, and action steps which provide details for accomplishing individual strategies over time.



Priority strategies and actions which we believe to be most critical to the region's short- and long-term success have been given additional attention in detail in this chapter. These priority strategies have been arranged under several cross-cutting themes which address key challenges and opportunities across the region. The goals, themes, and strategies were informed by extensive data analysis, stakeholder interviews and focus groups, discussions with staff, and input from the project's leadership group.

goals

When the North Central Massachusetts Development Corporation and Chamber of Commerce began the process of creating an economic development plan with the RKG team, the priority was to create a 10 year strategy focused on a trend of continued growth and prosperity. The economy of Massachusetts and the United States was experiencing a long period of economic growth with very low unemployment rates and positive growth emanating toward the NCM region from the Greater Boston region. Those positive growth trends were quickly upended in March 2020 with the rapid spread of COVID-19 and the ensuing shutdown of the national economy.

The pandemic has shifted the context of economic development across the entire ecosystem and while it is difficult to predict the short- and long-term systemic impacts and changes, this plan needs to look forward recognizing the challenges that lie ahead and the opportunities during and after recovery.

The goals developed for this economic development plan have been structured to address current and near-term needs through the economic recovery, as well as looking forward past the recovery to a future where the region prioritizes strategic yet organic growth that is cultivated from within.

REGIONAL ECONOMIC DEVELOPMENT GOALS

- North Central Massachusetts attracts, sustains, and grows a collection of employers providing jobs to workers who have a range of skills and education.
- North Central Massachusetts will continue to support, grow, and evolve its manufacturing base.
- North Central Massachusetts builds talent from within through improved educational attainment, vocational training and apprenticeships, and skills building.
- North Central Massachusetts capitalizes on its unique location with enhanced transportation connectivity, modernized utilities, and digital connectivity that serves businesses and residents across the region.
- North Central Massachusetts sustains and grows unique town centers and downtowns that attract residents, employees, and visitors with places to live, work, learn, and enjoy.
- North Central Massachusetts is recognized as a top destination for recreation and outdoor activity, family entertainment, and agri-tourism.
- North Central Massachusetts offers a diversity of housing types with a continued focus in town centers and downtowns to support employees and their families.
- North Central Massachusetts will continue to have strong economic development leadership and coordination among organizations to support businesses through access to financing, marketing, networking, advocacy, and technical expertise.

recommendations

The following section details the recommendations for the NCM region to consider as it creates its annual actions and economic development business plans for the next 10 years. These recommendations represent a culmination of the outreach efforts, the consultant's empirical research, feedback from local and regional implementation partners, the direction of the Leadership Group, and input from staff. The priority recommendations have been organized under five cross-cutting themes which help address the region's higher level economic development goals.

The priority recommendations in this section have been organized across the following five cross-cutting themes:

1. Leverage the Region's Target Industry Growth Opportunities
2. Support Business Growth and Enhance Regional Equity through Talent and Workforce Development
3. Enhance NCM's Places and Infrastructure to Realize Economic Potential
4. Advance NCM's Innovation and Entrepreneurship Ecosystem
5. Improve the Delivery of Economic Development Efforts, Programs, and Funding

This section is followed by the full implementation table which includes all strategies and actions regardless of priority to help the region transition from vision to action.



THEME 1: LEVERAGE THE REGION'S TARGET INDUSTRY GROWTH OPPORTUNITIES

The first organizing theme for the priority recommendations is around leveraging the new focus on four target industries to grow the region's economy: advanced manufacturing, logistics/distribution, health care, and tourism. This includes retaining existing businesses within each of the target industries, finding ways to support and encourage them to grow locally over time, and create materials and resources to attract new businesses to the region. The identified target industries are suggestions for where the NCM region should begin to prioritize time and efforts, but it is important to recognize these opportunities are not the only ones that may come to the region. These strategies are meant to organize efforts around the target industries specifically to capitalize on the competitive advantages the region offers to these industry sectors.

Priority Recommendations

Recommendation 1: Continue and Enhance the Annual Business Survey

The Chamber currently conducts an annual business survey to identify annual business needs. We recommend the Chamber expand the survey questions to cover topics such as workforce needs/challenges, market growth opportunities, competition challenges, location/physical needs, etc. The Chamber can use the expanded responses in four ways. First, program and policy recommendations can be created to address challenges/opportunities identified by several businesses. Second, trends/issues in a given industry or area can be identified and mitigated through collaboration with key stakeholders. Third, individual responses can be used to ensure site visits are targeted to those businesses that have the greater opportunities to grow/are at risk of downsizing/closing. Finally, survey findings can be tracked over time to identify market trends and fine tune programs based on the current and projected economic climate.

As awareness of the survey grows, it can be expanded to serve as a comprehensive approach to identify workforce, market, regulatory, and growth needs of the business base. At that time, the results collected from this effort can guide any changes to existing business outreach approach and help define economic development policy focus for North Central Massachusetts.

Recommendation 2: Create Target Industry Marketing Materials

Create marketing materials specific to each target industry described in the Target Industry chapter of the plan. This includes Advanced Manufacturing, Logistics & Distribution, Tourism & Small Business, and Health Care. It is important to note that while having marketing materials is a minimum benchmark for disseminating information, keeping those materials current is essential. This is particularly important for Internet-based materials, as having inaccurate/out-of-date data sources can harm the region's potential for a prospect before ever learning about the opportunity. Specific recommendations include:

- **Quality of Life Sheet** – The quality of life brochure should focus on the intangibles of living and working in the NCM region, highlighting the various technology, workforce, cost of living, and social amenities of the area. The content should emphasize factors such as school performance, cultural assets, proximity to road and rail transportation, access to the regional markets, and quality/variety of leisure activities. The information in this brochure can be pulled from the UMass Donahue Institute's Report, this Economic Development Plan, and tourism information from Visit North Central Mass. The quality of life material is particularly valuable in the professional services recruitment and entrepreneurial development.
- **Target Industry Materials** – Industry-specific marketing materials for each of the target industries is important for disseminating specific data that is valuable to the region's target industries. Each document should be customized based on the target industry (see Chapter 4). The documents should highlight information including employment and establishment growth data, regional wage rates, current businesses operating in the area, competitive advantages of operating locally, unique incentives available (where applicable) and local business contacts (ambassadors) who can speak to the benefits of the region for specific target industries.
- **Incentive Sheet** – The region's incentive marketing materials should focus on those programs relevant to the industry group being targeted. Prospective businesses can use this document to gauge the financial benefits to doing business in the region, and existing businesses may be alerted to incentive programs they were unaware of, therefore helping to ensure their continued presence in the region. The incentive

sheet package should be a mix of local incentive programs, state incentive programs, and any assistance that could be offered at the regional level by the Development Corporation, Chamber, or other regional partners. An initial list has been compiled and included as part of this study.

- Workforce Information – Given the challenges nationwide of talent attraction and retention, the workforce information package will be very important and could potentially give the NCM region a leg up over other regions for certain target industries. Highlighting the skills the current workforce has, number of employees in specific industry sectors, educational attainment figures, and information about regional education programs/trainings/up-skilling opportunities. Several skills opportunities and gaps have already been highlighted in this study.
- Infrastructure – Certain target industries, namely Advanced Manufacturing and Logistics & Distribution, will likely be interested in the existing infrastructure networks that exist today and how those can help their businesses succeed. Information on major highways and trucking routes, freight rail, water and sewer availability to key industrial sites, power availability, and even broadband connectivity are important to note in this package.

Recommendation 3: Create Specific Outreach Goals for NCM Region

The Chamber already has a modest outreach effort to meet with local businesses. However, current resources have limited this initiative. We recommend the Chamber engage with the municipalities and the business community to provide the resources to enhance this initiative to be more proactive in engaging existing businesses, expand the number and type of businesses engaged, and develop a detailed tracking strategy to inventory responses and identify policy opportunities. As noted, the business survey will provide real-time business needs and challenges based on responses. This information can help determine a comprehensive outreach strategy. The Chamber should establish a target number of visits to be completed each year, building as more resources become available. Coordination with regional (e.g., Mass Development) and local partners (e.g., municipal economic development staff) is essential as well. The intent should be to avoid repetitive or duplicative visits to businesses.

Recommendation 4: Market to Target Industries

Choose up to two target industries (we recommend Advanced Manufacturing and Logistics & Distribution) and engage in a robust and proactive marketing strategy to both build up and support existing businesses as well as bringing in new businesses to the region. The marketing strategy should include the following efforts:

- Join a national trade organization for the target industry and market specifically to members. For example, the Intermodal Association of North America which covers Logistics & Distribution or the Association for Manufacturing Technology covering the Advanced Manufacturing industry.
- Utilize a service like Dun and Bradstreet to research and identify potential leads or prospects to market to. The industry specific marketing material described in Recommendation 1 could be sent to target businesses.
- Engage existing businesses to identify both vertical and horizontal supply chain partners that may want to locate in the NCM region. This helps to support existing businesses by bringing supply chain partners closer to the manufacturing facilities and it also brings in new jobs, businesses, and tax base to the region. The industry sector round tables (described later) could be very helpful in identifying common supply chain partners for marketing efforts.
- Engage more directly with regional partners such as MassDevelopment's Business Lead, Massachusetts Office of Business Development (MOBD), MassEcon, and the MassHire North Central Career Center to leverage marketing and business recruitment efforts and workforce and skills training to benefit the entire region.

Recommendation 5: Create Industry Roundtables

Develop industry roundtables for each of the four target industries to advance discussions around current market climate, changing industry trends, regulatory issues, employment and skills needs, and growth prospects and potential barriers to growth in the region. Specific actions for the roundtables include:

- Formulate industry specific roundtables with participation of a minimum of 5 and a maximum of 12 industry representatives ensuring members can participate regularly and with predictability.
- Each group should plan to meet quarterly or semiannually depending on the availability of members and depth and breadth of topics.
- Roundtables should be used to test business surveys for each industry sector, identify market leads, advocate for regional economic development efforts, create pathways from schools to job placement, and how to identify and address the short- and long-term impacts of the pandemic.

Recommendation 6: Host a Semiannual Regional Summit

Host a semiannual regionally-coordinated summit to discuss regional challenges, opportunities, and potential partnerships to help strengthen business development, retention, and growth within each of the identified target industries. This group should be comprised of regional and state organizations engaged in economic development, municipal leaders, educational institutions, workforce development organizations, lenders, and industry-specific business owners. The group should be engaged in discussions around the challenges, opportunities, partnerships, and coordinated solutions to advance economic development initiatives across the region. This may also be a forum to discuss regional coordinated approaches to advocating for funding, infrastructure projects, and marketing.

Recommendation 7: Create a Centralized Database of Prospects

The NCM Chamber should consider expanding its data collection efforts to compile a database of industry prospects that can be managed and monitored at the regional level. Maintaining these activities allows for the Chamber and the municipalities to proactively engage the local business community based on changing/emerging market trends. For example, collecting information that shows local manufacturers consistently look for 50,000 SF spaces allows the Chamber and its regional partners to consider a public-private partnership to develop speculative space to meet this need. In other words, the effort will help North Central Massachusetts enhance its ability to retain companies, assist them in growing, and attract new companies to the region through proactive analytics.

We understand and respect the confidentiality of prospect monitoring and the potential concerns some entities may have with sharing information on prospective business leads. However, there are ways to mitigate these concerns (i.e., using project code names instead of the actual business names) to protect the prospect and opportunity. There could also be information sharing agreements where NCM does not share sensitive information from one municipality with another. That said, the reason for collecting and analyzing this information is not to proactively engage or take over the assistance process. Rather, it is to have the information to be able to refine future retention and recruitment efforts, strategize on needed regulatory changes, and to identify missing physical assets that may be costing the region business growth and attraction opportunities. Further, centralizing this information under the Chamber of Commerce preserves the security for the individual municipalities since the Chamber is not aligned with any single community.

Business retention and recruitment efforts currently are executed by various entities within North Central Massachusetts, including through the Chamber and some municipalities. However, RKG did not identify any active Client Relationship Management (CRM) or prospect tracking information being tracked locally. This information is invaluable to economic development efforts, as understanding the success and failures (and the reasons for those successes and failures) provides insight into emerging markets, specific business/industry needs, and potential partnership opportunities.

THEME 2: SUPPORT BUSINESS GROWTH AND ENHANCE REGIONAL EQUITY THROUGH TALENT AND WORKFORCE DEVELOPMENT

The second organizing theme for the priority recommendations is around supporting business growth and enhancing regional equity through talent and workforce development efforts. As was noted in the skills analysis section of Chapter 4, the region has a diverse workforce with a wide range of skills, some of which are directly applicable to target industries. With the aging of the region's workforce and stiff competition for younger, high skill workers, the NCM region must focus on strengthening workforce development efforts and partnerships to both ensure existing businesses can continue to thrive and have the available workforce to support new businesses locating in the region. The workforce analysis also pointed to a glaring disparity across industry sector occupations where White workers in the region tend to be concentrated in higher earning occupations while non-White workers were concentrated in lower-earning occupations. Addressing these disparities in the workforce will help provide opportunities for education and training, upward mobility, and long-term wealth creation for all NCM workers and residents.

The recommendations of this particular theme are guided by several overarching principles to provide a more strategic pathway to achieving desired outcomes. First, workforce development and educational programs should be aligned with the regional target industries. This was a focus of the prior regional economic development plan and should continue with this one. There must be a focus on getting people back to work as part of the region's COVID-19 recovery plans. Particular emphasis should be placed on the region's lowest paid workers and non-White workers who were most acutely impacted by the pandemic. Lastly, partnerships with regional educational institutions like Fitchburg State and Mount Wachusett Community College to align programs, degrees, and training with the needs of target industry sector employers. These guiding principles will help the region recovery more quickly and set it up for future growth.

Priority Recommendations

Recommendation 1: Develop a Workforce Dashboard

Create a tracking dashboard for all workforce programs to monitor use and placement of regional jobs. The dashboard should be set up to track total use and placement for each locally-available training program. A survey should be distributed annually to all businesses that use workforce programs as a way to identify opportunities to improve offerings and outcomes. The dashboard and available programs should be proactively marketed to local businesses through direct outreach (digital or print) and could be incorporated into scheduled site visits with businesses once it is safe to do so. Lastly, the dashboard should incorporate key educational outcome metrics like graduation rates, MCAS scores, and college or vocational training acceptance rates.

Recommendation 2: Create a North Central Massachusetts Job Fair

There is an opportunity for the NCM Chamber to lead a regional effort to increase awareness of existing job and career opportunities for both adults and local students. Part of building that awareness is to highlight existing employers and provide the local workforce access to understanding both the type of job as well as the prerequisites for obtaining that job. A regional job fair will provide employers and job seekers to collectively interact, increasing the potential for employers to find workers and residents to find jobs.

Host a three-day job fair connecting regional businesses with existing and potential employees. Advertise to and engage local businesses in the region as a first priority and make spaces available for businesses to meet with candidates on-site to expedite the process for identifying potential employees. Work with exhibitors in advance to educate them on the most useful materials for potential job seekers which could include education and skills requirements (soft and hard skills) and income levels for available jobs. In addition, the job fair should also include opportunities for on-site resume building advice and soft skill development for attendees. Lastly, to engage regional residents at an early age, host a "school day" where middle and high school students could attend the job fair with their guardians to learn more about jobs in the region, possible career paths, and education and skill requirements. If it is financially feasible, exhibitor fees could be used to advance or implement additional workforce development recommendations.

Recommendation 3: Strengthen the North Central Massachusetts Education Compact and Establish a Collective Impact Partnership

The existing Education Compact is a great first step for the region and the group should continue to meet on at least an annual basis to discuss how best to facilitate and strengthen the relationship between employers and schools throughout the region. In order to facilitate partnerships and educational outcomes that best prepare students and workers for jobs in the region, the Compact should include all public school, vocational, community college, and four-year institutions. Data from the annual business survey and information gleaned from industry roundtable meetings should be used to inform the agenda, discussions, and outcomes of the Education Compact meeting. Quantitative data and qualitative input from these resources should be used leading up to the Education Compact to identify the potential changes or needs for workforce development in the region.

The Chamber already engages educational partners and workforce development organizations in North Central Massachusetts through its Education Compact. Fitchburg State University, Mount Wachusett Community College, the North Central Massachusetts Workforce Investment Board, the North Central Massachusetts Career Center, and other workforce/training partners have created a strong foundation for the region's businesses and residents. This includes the Chamber's existing programs such as AMP it up! Initiative to assist students and adults get into advanced manufacturing career paths. While existing programs exist in the region, the establishment of a Collective Impact Partnership would address root causes of disparity across the education spectrum starting with early education and running through career development. A collective impact partnership extends beyond the work of individual institutions or programs and creates an ecosystem that is comprehensive and inclusive.

Establishing an effective collective impact partnership will take time, effort, and true collaboration and openness. The process should begin by establishing what organizations, groups, and individuals need to lend their expertise and voices to the effort, which should be informed by the issues you want to solve or opportunities to leverage. As this is a long-term commitment there must be a regional champion as well as buy-in from funders to provide money to hire staff and operationalize the program. These are typically funded through a combination of philanthropies, businesses, and local contributions with the understanding addressing educational issues can take time to see actual results.

THEME 3: ENHANCE NCM'S PLACES AND INFRASTRUCTURE TO REALIZE ECONOMIC POTENTIAL

The third organizing theme for the priority recommendations is around creating, strengthening, and improving the places and connective infrastructure that make the region a great place to live, work, conduct business, and visit. As a region of 26 communities plus Devens, there are a wide variety of community types each with its own distinctive built environment, assets, and infrastructure. However, from a regional perspective it is the notable and special places that attract businesses, employees, residents, and visitors to spend time and money which directly benefit the region. Throughout the plan process, stakeholders noted the lack of a notable, centralized downtown with the walkable, amenity rich environment many other regions in Massachusetts enjoy. While progress has been made in places like Fitchburg, Ayer, and Leominster, there are still improvements to be made and hard work to be done. The desires by both younger and older residents to live and work in downtown and town center locations has been a driving force for real estate investments over the last ten years and is likely to continue going forward.

Case Study:

Strive Partnership, Cincinnati, Ohio

The Strive Partnership is a Collective Impact Partnership model advancing educational outcomes from cradle to career. This approach runs from school readiness and early education through college and career readiness and even into career training and advancement opportunities. Strive's leadership group includes educators, business leaders, community groups and agencies, and elected officials. There are also smaller council groups focused on specific education touch points like early education or post-secondary education.

More information:

<http://strivepartnership.org/>

The region is blessed with a wide array of transportation options from regional highways to commuter rail lines to local bus transit to an airport. It is these transportation connections and the centralized location of the region that provides added benefits for business attraction and access to a competitive workforce. Yet, there are improvements to be made on infrastructure that are beyond transportation. Regional stakeholders noted the desire for expanded sewer and water capacity to unlock undeveloped tracts of land for future industrial parks, as well as the challenges with broadband connectivity for both businesses and residents. As the pandemic has proved, working from home has become a more acceptable practice across many industry sectors and is likely to comprise a higher percentage of workers than before the pandemic. This will require a coordinated regional effort to improve broadband reliability and connectivity as more people demand quality service.

Lastly, the region also benefits from a diversity of tourism attractions which cover both indoor and outdoor activities. The region has unique museums, skiing, indoor recreation, regional sporting venues, and an abundance of natural features, forests, and preserves. The pandemic has brought into focus the importance of outdoor space and recreation which is a benefit for the NCM region and to the industry sectors directly tied to tourism and visitation.

Priority Recommendations

Recommendation 1: Advocate for Downtown and Town Center Funding

Downtowns and Town Centers are the life blood of the region and the activity centers that attract local spending and drive tourism dollars. Unique downtowns and town centers with historic buildings, retail and restaurant amenities, open spaces and parks, and visitor attractions in a walkable environment create marketable destinations for the region. To continue the region's efforts to improve downtowns and town centers, focused advocacy and support should be provided to municipalities looking to raise funds to undertake infrastructure improvements for walkability, aesthetics, and circulation systems. These improvements could have immediate benefits to existing small businesses, help attract new businesses to an area, and help bring in additional customers and spending. There are many sources of technical assistance funding and infrastructure money at the local, regional, and state level including (but not limited to):

- Local
 - » District Improvement Financing
 - » Chapter 90 Funds
- Regional
 - » TIP Funds
 - » Regional Planning Agency Technical Assistance Funding
- State
 - » MassWorks Infrastructure program
 - » MassDevelopment Site Readiness
 - » MassDevelopment Technical Assistance
 - » MassDevelopment Transformative Development Initiative (Fitchburg TDI District as an example)
 - » DHCD Downtown Initiatives
 - » Community Compact Funds

Recommendation 2: Advocate for Regional Transportation Improvements

Transportation connectivity, reliability, and safety are critical to the long-term economic vitality of the region. The Chamber should work with local and regional partners to advocate for transportation improvement projects that will open access to developable areas, ease congestion, improve safety, advance multi-modal access, and address transportation equity issues. One option is to create a list of regional transportation priorities to advocate for using the region's Transportation Improvement Program (TIP) and Long Range Transportation Plan (LRTP) processes. These two documents are overseen by the Montachusett Regional Planning Commission and are required to guide spending of federal transportation dollars in the region. The Chamber could develop a list of priority transportation improvement projects using the list included in these documents and also solicit input from the business community on their top priorities.

The LRTP already lists several long-term regional transportation priority projects which includes improvements to segments of Route 2 and interchanges along Route 2 including a lane addition along segments in Athol and Phillipston and safety improvements at the Route 2/Mt. Elam Road location. There are also regional priorities around improving transit such as expanding evening routes that serve local colleges like Mount Wachusett or Fitchburg State. The LRTP also includes recommendations specific to improving economic vitality which includes improving freight rail access, improving truck access to the 10 identified Opportunity Zones in the region, and improving external and internal access to regional recreational destinations.

Recommendation 3: Align Tourism and Economic Development Efforts

Ensure economic development and tourism goals, actions, and resources are aligned to maximize the benefit of investments over time. Marketing materials, as one example, should discuss and describe the same quality of life metrics and highlight similar regional assets that will be a draw to both businesses and visitors. Tourism and small business development is a target industry for the region so aligning these efforts is critical to maximizing the impact of the resources at hand. The region should also explore additional sources of funding that can sustain Visit North Central's regional destination market efforts. The impacts of COVID has reduced state funding through the Tourism Trust Fund and local rooms tax collections are down. New funding sources that come from a diversity of pools should be identified and activated.

Recommendation 4: Create a Public Relations Campaign

Retain a communications firm that has significant experience in place-based public relations and marketing to develop and execute a public relations campaign that helps promote the region and secures additional positive earned media. This marketing campaign could provide benefits to multiple touch points in this plan including bringing more visitors to the region, attracting new businesses, and bolstering the image of the region as a great place to live. The marketing campaign should take into account the cross-cutting topics that would appeal to visitors, residents, and businesses to maximize the outcomes of this effort and finding ways to use the new media outputs across various channels at the Chamber, the Development Corporation, and the Visitors Bureau.

Recommendation 5: Expand Existing Visitor Center

Look for creative ways to expand the space or utilize the space at the existing Johnny Appleseed Visitor Center in new ways which showcase the history and heritage of the region. This could include adding more historical and cultural displays that showcase things like the agricultural history and current attractions in the region, or the manufacturing heritage and products from the region. Interactive displays could be developed using different media forms to create an experience at the Visitor Center which then could link visitors to actual destinations in the region that follow through on the exhibited themes. The Visitors Bureau could approach businesses in the region for sponsorships, particularly those businesses that are in the same industry sectors as the theme presented.

Additionally, the Visitors Bureau should consider adding amenities to modernize the facility to support the traveling public including electric vehicle charging stations, public WiFi, video displays with tourism information, and a new septic system upgrade. Similar to other visitor centers around the country, local products from vendors within the region should be prominently displayed in a section of the center focused on local artisan products including ciders, craft beers, wines, packaged goods, and other locally produced goods.

Recommendation 6: Expand Sewer and Water Capacity

To improve the viability of development on current undeveloped land across the region, sewer and water infrastructure needs to be expanded. Currently, only some municipalities across the region have public sewer

Case Study:

495/MetroWest Partnership's Regional Transportation Priorities

The 495 Partnership works closely with its members to develop a list of "transportation nightmare" projects which sets regional priorities for advocating and advancing transportation improvements that will directly benefit both businesses and residents.

More information:

<https://www.495partnership.org/trnightmares14>

and water service and extending service across municipal boundaries can create capacity, cost, and political challenges. To improve regional competitiveness and open up additional sites for future development, which would arguably improve regional outcomes, an assessment of existing water and sewer capacity and location of lines should be completed. An organization like the Montachusett Regional Planning Commission (MRPC) could lead the study on behalf of the region with funding from local, regional, state, or even national sources. This is a study that would help all municipalities across the region and benefit economic development and marketing efforts considerably. Once location and capacity constraints/availability has been identified, then the region can come together to support applications for funding to improve the existing system and find ways to provide service to developable parcels.

Recommendation 7: Strengthen Broadband Access Across the Region

To improve service to both businesses and residents, NCM should implement a regional approach for expanding broadband access. This regional approach/program could be branded as the NCM Fiber program and work with all broadband internet providers in the region to create an initiative under a common brand. This approach could help attract businesses that require strong and reliable connectivity, but also help attract and retain talent within the region. Work with local municipalities or regional entities to ensure there are procedures for installing 5G infrastructure in new developments. The region could also begin to explore the possibility of building its own broadband network and leasing it back to internet service providers as a way to push last mile connections to communities and residents at the edges of the region. This could also help bridge the digital divide gap amongst the region's low- and moderate-income households to ensure adults have access to the internet for work purposes and children have access for education.

Case Study:

Gig City, Chattanooga, Tennessee

In 2007, EPB prepared a 10-year plan to build a Fiber Optic network throughout its entire service area. They were confronted with opposition and a few lawsuits from Comcast and the state cable association, who attempted to scare local citizens into opposing the project, but their plan was enthusiastically supported by the public and elected officials. Today, Chattanooga's Fiber Optic Network allows for upload and download speeds that are 200 times the national average, and 10 times faster than the FCC's National Broadband Plan.

More information:

<http://chattanooga.gig.com/>

THEME 4: ADVANCE NCM'S INNOVATION AND ENTREPRENEURSHIP ECOSYSTEM

The fourth organizing theme for the priority recommendations is around creating a culture and support network for innovation and entrepreneurship. If one pillar of the NCM region's economic development strategy is to grow organically from within, a strong support network for the innovators and entrepreneurs in the region is crucial. The quality of life and livability of the NCM region is a marketable asset to those individuals who want to start their own business. The support network and ecosystem must span multiple touch points including, but not limited to:

- Providing and/or partnering with small business support resources
- Having a stable of mentors covering different topics and specialties
- Offering virtual and in-person training and information sessions
- Having shared services for human resource, marketing, bookkeeping, and accounting needs
- Having small, affordable spaces available for co-working, small scale manufacturing, distribution, and sales
- Creating a varied portfolio of lending options

Given what we know about existing disparities among racial and ethnic groups in the region, NCM should work on creating new entrepreneurial programs that offer specific opportunities to women and minority populations. This could include outreach in multiple languages, business planning and lending support for specific industry sectors, and diversifying the mentorship program to include more women and people of color.

Priority Recommendations

Recommendation 1: Continue Efforts to Build and Expand Existing Small Business Programs

Continue the efforts of the NCMDC and Chamber, organizational partners, financial institutions to strategize on how to better implement and market entrepreneurial and small business programs. NCMCD and the Chamber should lead an effort to bring groups like the Small Business Development Center at Clark University, regional banks and lenders, and NewVue Communities to the table to talk about how to create and expand on existing resources to support small business expansion. This could include things like:

- Assistance with writing business plans
- Steps for legally patenting research, ideas, and products
- Assistance with securing the right type of small business loan
- Providing shared administrative services that most businesses need on a part-time basis such as human resources, marketing, bookkeeping, accounting, legal services, and advice around scaling your business for growth.
- Technical assistance for businesses engaging in e-commerce, web-based payment platforms, website design, and search engine optimization.

Case Study: New Bedford SourceLink

The New Bedford EDC partnered with several regional and national organizations to create a one-stop shop for small business and entrepreneurial support. The SourceLink site includes information on starting a business, finding funding that's right for you, business start up resources, and information to sign up for upcoming programming.

More information:
<https://newbedfordsourcelink.com/>

Recommendation 2: Diversify Lending Programs

There are several opportunities for the NCMDC to increase its overall toolbox for lending. There are potential changes and additional programs available to NCMDC through the U.S. Small Business Administration (e.g., Certified Development Corporation). There are also several models of public and public-private lending programs that can be initiated in coordination with the local municipalities. First we recommend the NCMDC increase micro-loan amounts from the current limit of \$150,000 to \$250,000 which would put the NCMDC more in line with other CDFIs and industry best practices.

The second recommendation is around expanding loan products. The Small Business Administration certifies development corporations to collaborate with banks on providing loans to qualified businesses (based on total value and annual revenue) for acquisition/improvement of a range of assets that promote business growth and job creation. These include the purchase or construction of existing buildings or land, new facilities, long-term machinery and equipment, or the improvement or modernization of existing facilities, land, streets, utilities, parking lots, and landscaping.

Recommendation 3: Establish a Bi-Lingual Business Outreach Position

Consider establishing a position within the NCM Chamber for a bi-lingual business outreach staff member who would be responsible for engaging with the Hispanic and Latino population in the region. This person would be responsible for reaching Hispanic and Latino residents and getting them more involved in the region's entrepreneurial ecosystem. Latinos are the largest minority group in the NCM region and they are starting businesses at a higher rate. If materials are not translated into native languages, the region may miss out on opportunities to help residents establish businesses and engage in services offered by the NCM Chamber and its affiliated partners. This position could also be responsible for engaging with existing Hispanic and Latino business owners to identify any assistance they may need and offering information on programming, technical assistance, and financial assistance offered by the Chamber or Development Corporation.

Recommendation 4: Coordinate on Marketing and Services Offered at NCM Cowork Spaces

There are several entities within the region that participate in small business development and/or entrepreneurial development. There are business development/incubator facilities, several entities operate micro/small business/traditional loan programs, and various support efforts defined by the grant funds used

to operate those efforts (including those of the Chamber). While we respect the autonomy of these entities, the reality is that each provides a part of the small business retention and expansion effort. We recommend the Chamber consider two parallel recommendations.

First, this small business consortium should work with interested municipalities to create a mobile assistance team that can establish set hours each month in a local Town/City Hall or library that business interests can use. The concept is to identify 4-6 locations geographically located throughout the region to increase access and convenience for prospects. The mobile assistance unit should have representation from each of the partners, or at least detailed documentation from each partner on the available programs and services they provide. Creating the mobile support concept further increases potential awareness (and therefore participation) by existing businesses and emerging entrepreneurs. Establishing set days (i.e., the second Tuesday of each month) and times (i.e., 12:00 PM to 5:00 PM) will allow for more effective marketing.

Second, we recommend working with these entities to create a single physical location where all of the initiatives are centralized. This would enable any entrepreneur/small business to receive a continuum of assistance based on their individual needs. Having each operator in a single place reduces the prospect's need to go to one provider for space in one community and another provider for financing in another. Centralizing all these partners creates a true 'one-stop shop.'

Recommendation 5: Expand Mentor-Protege Program

Expand the mentor-protege program by integrating services also offered by regional partners such as NewVue Communities and the Wachusett Business Incubator (WBI). Given the limited staff and funding resources in the region, it is important to look for ways to create regional partnerships with organizations that are either providing duplicative services or could augment services being offered by the NCMDC and Chamber. This could be one way to grow the regional impact and increase resources available to small businesses and start-ups. Specific actions for program expansion include:

- Train additional mentors through the SBA or SCORE program and look for ways to attract more women and people of color as mentors through these programs. Bi-lingual mentors are also important in this process as Hispanic and Latino small businesses comprise a growing share of the region and nation's new small businesses
- Strengthen the focus of the mentorship program by bringing in experts knowledgeable about businesses in target industry sectors.
- Avoid financial advisors as mentors where possible as this can often become a guise for selling services and less about helping small businesses get started or grow.

Recommendation 6: Identify Local Supply Chain Linkages

Work with each industry roundtable to identify supply chain linkages up and down stream that could directly benefit businesses in the NCM region and increase local supplier opportunities. This program would establish a "buy local" supply chain system whereby larger anchor institutions (Fitchburg State, hospitals, community colleges) or businesses that purchase bulks materials or goods shift their preferences to purchasing as much as possible from local suppliers in the region. These supply chain linkages would create additional business for suppliers and create relationships across businesses and industry sectors in the region. This recommendations could be aided in two ways. One action step would be create a specialized business list/director identifying minority- and woman-owned businesses that could directly benefit from the supply chain purchasing program. The other could be to organize "meet the buyer" events so institutions and businesses can communicate to the local businesses regarding what they buy, the process to qualify to bid as a supplier, etc.

Recommendation 7: Create a Workspace Location Grant Program

The Chamber can work with local municipalities and the state to create a site location grant program to incent businesses that use entrepreneurial/small business programs and/or one of the region's business development incubators. The fund provides a no-interest, forgivable loan to the graduate business if they locate and operate within the region for a set period of time (typically five years). The loan amount generally is reduced by a prorated amount for each year the business operates in the target area until being fully forgiven when the business reaches the full term.

THEME 5: IMPROVE THE DELIVERY OF ECONOMIC DEVELOPMENT EFFORTS, PROGRAMS, AND FUNDING

The fifth and final organizing theme for the priority recommendations is around improving the delivery of economic development efforts, programs and funding to ensure coordination of efforts, collaboration across municipalities and organizations, and centralizing information to create consistency in the delivery of future efforts. Regional coordinated efforts around recovery, resiliency, and growth should be centered on:

- Common policies, regulations, and zoning
- Funding, financing, and local business investment
- Regional collaboration on site development assets, infrastructure priorities, and marketing and outreach efforts

These recommendations are a direct connection to the feedback gained throughout the plan process where numerous stakeholders discussed a strong desire to communicate priorities, advocate for resources, and market to businesses as a region. A common theme during input sessions was the region was stronger together than as individual pieces. Pooling resources, whether that is funding, staffing, knowledge, or assets, can expand the capacity of the region and allow it to compete more effectively for jobs, businesses, tax base, and residents alongside other regions from across New England. The ability to speak consistently with one coordinated voice will show businesses and funding entities the region is aligned on priorities and moving forward together in the same direction.

Priority Recommendations

Recommendation 1: Educate Municipal Leaders on the Importance of Flexible Regulations

Create educational material to share with municipal leaders and their staff around the importance of flexible zoning and permitting regulations, some of which have been tested and adopted in reaction to the current pandemic. The flexibility in these regulations and permitting process are allowing businesses to adapt to changing conditions in the most difficult of times. If these flexible regulations are allowed to continue post-COVID, it may provide businesses with creative opportunities to adapt their business models and attract more customers over time.

The NCM Chamber could work with local, regional, and state partners to develop educational materials for distribution and serve as the region's resource for best practices around municipal permitting, repurposing streets and public space, and flexible zoning. Leveraging relationships with statewide organizations like DHCD and MassDevelopment could help bring in best practices and innovative techniques from around the state and country. Areas to focus on might include:

- Enable greater flexibility for outdoor dining
- Flexible permitting that provides small businesses the flexibility to adapt quickly to changes in the market or to business processes (alcohol licensing, outdoor dining and health regulations, parking utilization, signage, etc.)
- Increase use and zoning flexibility in commercial nodes/zones
- Promote best practices for street reconfigurations to allocate sidewalk and roadway space to accommodate different users (pedestrians, cyclists, motorists, transit, outdoor dining, outdoor displays, curbside pick-up, increased delivery demands, etc.)

Recommendation 2: Develop a Process for Regionally-Coordinated Grant Applications

Develop a process for prioritizing and supporting regionally-significant grant applications for statewide programs which are now all available through the Commonwealth's [One Stop for Growth](#) single application portal. Pursuing regional grant opportunities for infrastructure and real estate development are critical to the region's long-term success and attractiveness. Prioritizing regionally-significant projects, even if they occur at the local level, will communicate to funders that the region speaks with a common voice and applications are supported region-wide. Letters of support from regional organizations and agencies, businesses, elected officials, and municipal partners will only serve to strengthen the application and focus efforts on the most critical projects in support of economic development.

The NCM Chamber and Development Corporation could use a scoring process similar to that of MassWorks or the regional planning agency's Transportation Improvement Program (TIP), whereby projects are submitted (usually by municipalities) and then scored against established criteria. Projects are then ranked by score and submitted for funding. The Chamber and Development Corporation could work with local and regional partners to define the scoring criteria being careful to balance scoring factors across community types (criteria that favors urban over rural or vice versa). This process may in fact strengthen the quality and effectiveness of projects submitted for consideration and create better alignment with regional economic development goals.

Recommendation 3: Support Area Planning Efforts Across the Region

The NCM Chamber and Development Corporation should support, and even engage in, planning efforts across the region that would enhance and improve downtown and town centers, industrial areas, and commercial/employment nodes. When applications for funding to undertake these important studies are being submitted, there should be support from the Chamber and/or Development Corporation behind the applications advocating for why these efforts are critical to future economic development success.

Recommendation 4: Create a Dashboard of Economic Development Performance

The NCM Chamber and Development Corporation should adopt performance measures that track the effectiveness and efficiency of various implementation programs and progress on supporting and attracting target industries. This approach differs from the nominal approach by measuring how successful a program is compared to its investment and desired outcome. For example, a more impactful measure of an entrepreneur program is the graduation rate rather than the number of jobs created. Graduation rate can identify deficiencies in the screening process or the curriculum. If small business development is a regional priority, the investment should be tracked against the efficacy and continued improvement of the program. For nominal measures, programs should be compared to each other to determine if certain efforts produce results at a lower cost or time frame. However, the priority of a given program should be considered along with the nominal results.

The NCM Chamber and Development Corporation should establish a formal economic development dashboard to track performance across each of these topic areas (as implementation resources are added): [1] business retention and expansion, [2] business recruitment, [3] entrepreneurial development, [4] workforce development, [5] fiscal sustainability. Metrics for each topic area could include:

- Business retention and expansion
 - » Site visits performed
 - » Ombudsman assists
 - » Jobs retained/expanded
 - » New capital investment
 - » Network event attendance
 - » Priority retention prospect contacts
- Business recruitment
 - » Number of prospects assisted
 - » Number of successful projects
 - » Incentive cost per job created ratio
 - » Average annual wage of new jobs
 - » Incentive cost compared to total capital investment
 - » Debrief highlights from lost opportunities and subsequent recommendations
- Entrepreneurial development
 - » Enrollment inquiries versus enrollment
 - » Graduation rates
 - » Jobs created per graduate
 - » Debrief on businesses leaving the mentorship program and subsequent changes
- Workforce development
 - » Regional programs offered
 - » Program application and enrollment of regional businesses/residents

- » Internships, apprenticeships, and employment placements
- » Business inquiries versus program engagement
- Fiscal sustainability
 - » Number of incentives given
 - » Dollar value of incentives compared to jobs created/preserved
 - » Dollar value of incentives compared to capital investment created
 - » New business tax revenues

Recommendation 5: Enhance Coordination of Marketing Materials

The North Central Massachusetts region is benefited by having several communities and organizations engaged in various facets of economic development. However, one unintended side effect of this is having several different entities marketing similar information in differing ways. We recommends the Chamber consider working with its regional partners to standardize the look and branding for economic development materials. Collaborating to develop a unified look will increase brand awareness while ensuring content is complementary and consistent.

Recommendation 6: Create a Centralized Inventory of Available Space and Properties

The NCM Chamber and Development Corporation should work with local and regional partners to establish a comprehensive database of all property (land and buildings) available for non-residential activity. Currently, the region generally relies on MassEcon's *ReadyMass 100* statewide inventory of top 100 properties and buildings that can meet the square footage needs of significant users. These sites are limited to buildings with 50,000 SF or more or land that can accommodate a 100,000 SF or more build-out. Currently there are only 7 listings in North Central Massachusetts out of the full list of 100.

The NCM Chamber and Development Corporation should work with regional partners like MRPC who may have database, mapping, and graphical capabilities to create an online listing with an interactive map and marketing materials for each property. The NCM database could interact or be a subset of the already established MassBuilds statewide database show in the call out box above. It is imperative that a staff member from one of the regional organizations be assigned to monitor and update the list and be the primary point of contact. It is important the NCM regional list is updated regularly so it can remain a trusted source of accurate and timely information for prospective businesses looking for space or land. The Chamber could also work with municipal planners and economic development staff to collate sites in each community they want to market. If desired, there could also be an online portal for brokers/property owners to submit properties to the list too. The centralized database can then be posted to the NCM Chamber or Development Corporations website along with other marketing material about the region and materials about each target industry.

While this listing is important for statewide visibility and marketing purposes, there are many more existing built spaces and vacant land in the region that could benefit from a centralized *regional* listing and database. This would be particularly helpful for those properties that are under 50,000 SF in size or land that cannot accommodate the 100,000 SF build-out requirement. Spaces under 50,000 SF in size are likely more appropriate to the businesses the region tends to attract more often, but it does not limit the region to just marketing smaller assets.

Case Study: MassBuilds Statewide Database

The Metropolitan Area Planning Council (MAPC) has created a comprehensive statewide development database where approved users (anyone from the public) can sign up and contribute development projects and project updates to MAPC for approval. This model requires less staff time as inputs are generated by municipal staff, developers, property owners, brokers, and the public at large. While it does not account for every development and is updated only as frequently as users contribute, it is a great resource for the region and Commonwealth.

More information:
<https://www.massbuilds.com/map>

Recommendation 7: Create a Business Investment Fund for Regional Economic Development

Currently, municipalities in the NCM region are not investing their own money in the regional economic development effort. This is a very common economic development approach nationwide. One approach to garnering their participation is through a regional Business Investment Fund. This fund typically provides a pool of money to make no-interest or low-interest loans to further economic development efforts. These efforts can include:

- Capital investment and Job creation
- Infrastructure costs, including e-commerce
- Hard and soft construction costs

The Investment Fund can have a forgivable clause for meeting specific performance benchmark (i.e., minimum net new jobs, percent hires from within the region...). The recommended funding approach is to create a per capita investment from all North Central Massachusetts municipalities to be paid annually into the fund. The funding can be a term commitment (e.g., 10 years) or a perpetual effort. The length of investment can be determined by the capital raised and whether the lending pool can become self-sustaining. A variant to this effort is to use the Investment Fund to partner with local banks to do an investment match/loan management program (which can be done on a case-by-case basis). We recognize this may be challenging for municipalities from a funding and a tax base perspective, but we believe working together to support and grow jobs in the region will help all municipalities.

Recommendation 8: Create a Site Preparation Fund

The NCMDC should consider the creation of a site preparation fund typically requires a public/private partnership for the development of new non-residential buildings. The fund typically combines public dollars with private equity to develop pad-ready parcels, build speculative buildings, and fund infrastructure in areas underserved. The concept typically places the private investment in the primary position and the public dollars in a forgivable/secondary position. When the parcel is sold to the end user, the private investor is paid back first (with return) and the public dollars are returned to the Preparation Fund. The return of public investment can be reduced (through a lower selling price) in exchange for meeting pre-defined economic development metrics (i.e., minimum job creation or minimum capital investment).

Recommendation 9: Consider the Creation of a Regional Land Bank

One of the challenges that the region faces is a lack of physical assets to market to expanding companies and prospects looking to move to the North Central Massachusetts region. While there are several factors that have limited private sector interest in land assemblage and speculation for economic development, the primary challenge has been the financial risk/reward imbalance. Simply put, the risk of assembling land/developing speculative space is too high for the private sector to do on its own. One approach several regional economic development efforts use is the creation of an economic development land bank. The land bank is a tool to assemble land intended for economic development use and market that land for business development. The land bank concept would allow the North Central Massachusetts region a vehicle that is less risk averse, since profit margins are not the primary focus. Rather, this tool offers the region a method to identify and acquire land for economic development, market the property, and sell/lease the land when a prospect is identified. Land banks are typically created as public entities by local ordinance pursuant to state enabling legislation. These could reside within a Redevelopment Authority or other publicly-designated organization. Land banks could be funded through a variety of sources such as federal recovery funds, foundation grants, municipal contributions, general fund appropriations, or grants, and eventually from the sale of property. The Business Investment Fund could be used as an initial options to finance the land bank too. Proceeds from sale of land/leases can continue to augment funding the land bank through operation.

Case Study: Michigan Economic Development Land Banks

The state of Michigan currently has 47 local land banks in addition to a statewide land bank for the acquisition and disposal of property. The land bank approach puts control of land, pricing, and development in the hands of the municipality, region, or state to create community development plans that match local market conditions and the goals of the community or organization.

More information:

<https://www.michigan.gov/leo/0,5863,7-336--507408--,00.html>

chapter 6

implementation

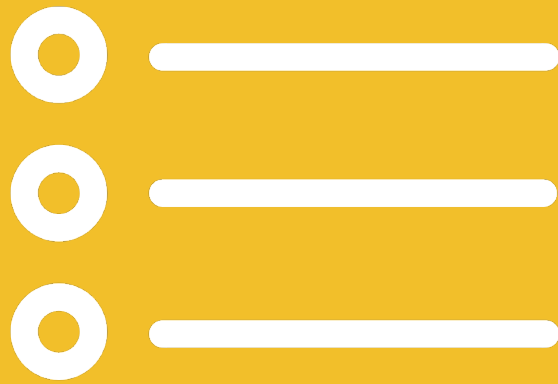


Table Structure

The following Implementation Matrix presents the full range of objectives and corresponding action items for consideration by the NCM Chamber, Development Corporation, Tourism Bureau, and all associated partners. This matrix should serve as a reference document as the organizations and staff craft their annual work plans. The timelines, estimated costs, and implementation partners for each action item identified in the matrix reflects the RKG Associates Team's professional recommendation guided by input from NCM staff and the input from many stakeholders throughout the process. The Chamber and Development Corporation's economic development annual work plans should be structured to advance the goals established through this effort but prioritized and scaled based on the available staffing and capital resources available at that time. The final timing, focus, and potential costs for each action item should be refined by staff and/or the responsible implementation partner when implementation occurs.

The implementation matrix includes the following information to help inform the timing and prioritization of recommendations and specific actions:

- **Recommendation** - strategy put forward to address the goals of the plan.
- **Action** - specific action step(s) for a recommendation if the recommendation needs to be broken down into more concrete actionable pieces. Not all recommendations include actions.
- **Implementation Lead** - identified organization, agency or partner from the public sector side as well as from the private side. Not all actions will include leads from both public and private sides.
- **Implementation Timing** - an estimated time frame for implementing each recommendation and action ranging from one to ten years.
- **Estimated Cost** - an estimated cost range for each recommendation and action.
- **Cost Type** - estimated frequency of cost or payment over the ten year period.

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type	
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10			
Theme 1: Leverage the Region’s Target Industry Growth Opportunities															
Recommendation 1: Continue and Enhance the Annual Business Survey															
Action 1.1: Design survey questions to capture trends and longitudinal responses, track trends and report back	CC, DC, VB	B, F												Staff	Annually
Action 1.2: Issue survey annually to the business community, consider issuing in multiple languages	CC, DC, VB	B, F												Staff	Annually
Recommendation 2: Create Target Industry Market Materials															
Action 2.1: Create all materials in print and digital format, update annually	DC														
Action 2.2: Create target industry-specific fact and information sheets	DC														
Action 2.3: Create quality of life information sheets on livability and amenities	DC, CC, VB, RPC, PS, MUN													\$15k-\$25k	Bi-Annual
Action 2.4: Create information sheets on available incentives	DC, MO, MD, MUN														
Action 2.5: Create information sheets on infrastructure capacity and assets	DC, RPC, MUN														
Recommendation 3: Create Specific Outreach Goals for NCM Region															
Action 3.1: Determine minimum number of business outreach visits per week	CC	B												See 1.3.1	Annually
Action 3.2: Track and prioritize businesses that reach out to NCMD or the Chamber with specific needs or opportunities	CC, DC	B												Staff	Continuous
Recommendation 4: Market to Target Industries															
Action 4.1: Join national trade organization for target industries	DC													<\$1,000	Annual
Action 4.2: Use Dun and Bradstreet to identify potential leads	DC													\$1k-\$3k	Bi-Annual
Action 4.3: Engage businesses to identify vertical and horizontal supply chain partners who may want to locate in NCM region	DC, CC	B												Staff Time	Annual
Action 4.4: Leverage marketing and recruitment efforts of MassDevelopment	DC, CC, MD, ME, MOBD													Staff Time	Quarterly
Recommendation 5: Create Industry Roundtables															
Action 5.1: Formulate industry specific roundtables with participation of a minimum of 5 and a maximum of 12 industry representatives	DC, CC	B												Staff	Annually
Action 5.2: Each group should plan to meet quarterly or semiannually	DC, CC	B												Staff	Quarterly

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10		
Theme 1: Leverage the Region’s Target Industry Growth Opportunities														
Recommendation 6: Host a Semiannual Regional Summit Action 6.1: Reinstate regional working group comprised of a diverse mix of municipal members, regional and state organizations, education and workforce partners, and businesses Action 6.2: Host semiannual summits to discuss challenges, opportunities, partnerships, and solutions to advance regional economic development	All Leaders	F, B, O, RE											Staff	Quarterly
	All Leaders	F, B, O, RE											\$1k-\$3k for four groups	Semi-Annually
Recommendation 7: Initiate Semiannual Meetings with Regional and State Partners to Coordinate on Efforts to Attract Target Industry Businesses Action 7.1: Meet semiannually with organizations like MassHire North Central Mass, NewVue Communities, EOHEd, MassDevelopment, MassEcon, and Mass Growth	CC, DC, MD, MOBD, MG, NV, WIB, LE												Staff	Semi-Annually
Recommendation 8: Develop a Comprehensive Business List to Help with Target Industry Retention and Attraction Efforts Action 8.1: Work with municipalities to create a standard form for business licensing which can then be captured in a single database Action 8.2: Maintain and update database annually in partnership with municipalities Action 8.3: Use database to create marketing campaigns geared toward target industries, identify businesses in the supply chains for target industries, and use business information to create marketing material for prospective target industry leads	CC, DC, MUN	B											Staff	Continuous
	CC, DC, MUN	B											Staff	Continuous
	CC, DC												Staff	Continuous
Recommendation 9: Create a Centralized Database of Prospects Action 9.1: Coordinate with municipal leads on collecting prospects on a quarterly basis, or as leads come in Action 9.2: Develop database for tracking and following up on leads	DC, MUN	RE, B, O											\$50k-\$80k for New Staff Member	Annual
	DC, MUN													
Recommendation 10: Create Priority Site Prospectus Book Action 10.1: Work with municipalities and property owners to identify 10-15 priority economic development sites, requires buy-in from owner on a clear vision for the site Action 10.2: Create digital and print marketing materials geared toward target industry sectors and includes information on ownership, parcel specifics, amenities, infrastructure, community vision, and available programs/incentives Action 10.3: Update prospectus book annually to reflect completed projects or new/changed information	DC, CC, MUN	B, O, RE											Staff	Annually
	DC, CC, MUN	B, O, RE, C											\$1k-\$2k	Annually
	DC, CC, MUN	B, O, RE											Staff	Annually

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10		
Theme 2: Support Business Growth and Enhance Regional Equity through Talent and Workforce Development														
Recommendation 1: Continue to Build Apprenticeship Programs Through Business and Industry Collaboration	DC, CC, WIB, U/C	B, R											Staff	Quarterly
Recommendation 2: Develop a Workforce Dashboard														
Action 2.1: Track total usage and placement for each locally-available training program	DC, CC, WIB, U/C	B											Staff	Semi-Annually
Action 2.2: Survey businesses that use workforce programs to identify opportunities to improve offerings	DC, CC, WIB	B											Staff	Annually
Action 2.3: Market to local businesses through direct outreach/visits	DC, CC	B											Staff	Continuous
Recommendation 3: Create a Centralized Database of Prospects	DC, MUN	B, O, RE											Included in 1.7.1 Cost	Monthly
Recommendation 4: Create a North Central Massachusetts Job Fair														
Action 4.1: Host a 3-day job fair connecting businesses with prospective employees	DC, CC, WIB, NV, U/C, WBI, OCC	B, F, R											\$15k-\$20k	Annually
Action 4.2: Engage local businesses to exhibit, consider using exhibit fees to fund workforce development initiatives	DC, CC	B, F, R											Staff	Annually
Action 4.3: Make space available for on-site interviews, soft skill training, and technical assistance	DC, CC, WIB, NV, U/C	B, F, R											Included in 2.5.1 Cost	Annually
Action 4.4: Hold a “school day” and invite area middle and high school students and parent to learn about jobs and required skills in the region	DC, CC, WIB, U/C, PS	B, F, R											Included in 2.5.1 Cost	Annually
Recommendation 5: Strengthen the NCM Educational Compact														
Action 5.1: Ensure all public school, vocational, community college, and four-year institutions are involved	DC, CC, WIB, U/C, PS, MUN												Staff	Continuous
Action 5.2: Use feedback from annual business survey to inform workforce development needs	CC, DC, WIB	B											Staff	Annually
Action 5.3: Establish a collective impact model for education in the region	DC, CC, WIB, U/C, PS, MUN	B, F, R											Staff	Quarterly
Recommendation 6: Create Unified Marketing Materials to Increase Awareness of Workforce Development Programs														
Action 6.1: Enhance the existing workforce development website in partnership with MassHire North Central Mass	DC, CC, WIB, U/C	B, R											Staff	Annually
Action 6.2: Create industry-specific workforce development materials and distribute across the region, including middle and high schools	DC, CC, WIB, U/C	B, R											Included in 1.1.1 Cost	Bi-Annually
Action 6.3: Publish marketing materials for all workforce programs, including in languages other than English	DC, CC, WIB	B, R											Staff	As Needed

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10		
Theme 3: Enhance NCM's Places and Infrastructure to Realize Economic Potential														
Recommendation 1: Advocate for Downtown and Town Center Funding	DC, CC, MUN, RPC	B, O, R											\$100k Each	As Needed
Recommendation 2: Advocate for Regional Transportation Improvements														
Action 2.1: Develop a list of regional transportation priority projects with direct input from the business community	DC, CC, MUN, RPC, LE	B, O, R											Staff	Bi-Annually
Action 2.2: Advocate at the regional and state level for transportation projects that will benefit economic development in the region	DC, CC, MUN, RPC, LE	B, O, R											Staff	Annually
Recommendation 3: Advocate for Additional Funding from the State's Tourism Trust Fund and Local Communities for Cooperative Marketing	VB, CC	B											Staff	Annually
Recommendation 4: Create a Tourism Marketing District	VB, CC	B											Staff	One-Time
Recommendation 5: Align Tourism and Economic Development Efforts	DC, CC, VB	B											Staff	Continuous
Recommendation 6: Create a Public Relations Campaign														
Action 6.1: Retain a communications firm to develop and execute a public relations campaign that helps promote the region	DC, CC, VB, MUN	B											\$25k-\$50k	Tri-Annually
Recommendation 7: Expand Existing Visitor Center														
Action 7.1: Add cultural and historical exhibits showcasing the region	VB												Staff	Bi-Annually
Action 7.2: Expand offering of local products and goods for sale	VB	B											Staff	Quarterly
Action 7.3: Add modern amenities like electric charging stations, WiFi, video displays, and a new septic system upgrade	VB												>\$200k	One-Time
Recommendation 8: Expand Sewer and Water Capacity														
Action 8.1: Advance a study of regional sewer and water coverage and capacity	MUN, DC, RPC	B, O, R											\$50k-\$100k	One-Time
Action 8.2: Advocate for regional coordination for extending service and added capacity to open up new developable parcels for economic development	DC, CC, MUN, RPC	B, O, R											Staff	Continuous
Recommendation 9: Pursue the Development of Additional Hotels	VB, DC	B											\$30k-\$50k	Per Study
Recommendation 10: Strengthen Broadband Access Across the Region														
Action 10.1: Consider branding a regional broadband network and work with providers to expand service under the coordinated brand	DC, CC, MUN, RPC, MD, LE, U/C, MOBD	B, F, R											\$5k-\$8k	Tri-Annually
Action 10.2: Explore the possibility of building an NCM network and leasing back to internet providers as a way to pay for last-mile connections and bridge digital divides for low- and moderate-income households.	DC, CC, MUN, RPC, MD, LE, U/C, MOBD, UT	B, F, R											Included in 3.1.1 Cost	Tri-Annually

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type	
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10			
Theme 4: Advance NCM’s Innovation and Entrepreneurship Ecosystem															
Recommendation 1: Continue Efforts to Build and Expand Existing Small Business Programs															
Action 1.1: Create a strategy for bringing together and leveraging regional small business support partners	CC, DC, SBC, NV, U/C, WIB, WBI	B, R, F, RE												Staff	Continuous
Action 1.2: Expand small business programs and offerings such as business plan assistance, securing patents, lending assistance, shared administrative services, and technical assistance with e-commerce and digital marketing	CC, DC, SBC, NV, U/C, WIB, WBI	B, R, F, RE												Staff and Volunteers	Continuous
Recommendation 2: Continue Offering Topical Programs for Entrepreneurs and Small Businesses	DC, CC, SBC, WIB, U/C	B, F, R												\$1k-\$10k	Per Program
Recommendation 3: Raise Awareness of and Grow Existing Revolving Loan Fund															
Action 3.1: Coordinate cross-marketing with lending partners across the region to raise awareness of the fund	DC	F, B												Staff	Continuous
Action 3.2: Consider moving applications for fund to an online platform as well	DC	F, B												Staff	One-Time
Recommendation 4: Diversify Lending Programs															
Action 4.1: Become and SBA Certified Development Corporation to expand loan products in partnership with local financial institutions	DC	B, F												Staff	One-Time
Action 4.2: Increase existing micro-loan limits from \$150,000 to \$250,000 to better align with existing best practices among CDFIs and micro-lenders	DC	B, F												Staff	One-Time
Recommendation 5: Establish a Bi-Lingual Business Outreach Position	DC, CC													\$50k-\$80k for New Staff Member	Annually
Recommendation 6: Coordinate on Marketing and Services Offered at NCM Cowork Spaces															
Action 6.1: Explore ways to coordinate with other organizations in the area offering/utilizing coworking space as a base of operations for helping small businesses in the region	CC, DC, SBC, NV, U/C	B, R												Staff	Bi-Annually
Action 6.2: Advertise and host recurring office hours at coworking spaces around the region to go to where small businesses and entrepreneurs are	CC, DC, SBC, NV, U/C	B, R												Included in 4.2.1 Cost and Staff	Weekly
Action 6.3: Assess traditional coworking space in the region with spaces specific to those who wish to create products (maker spaces)	CC, DC, NV, U/C	B, R												>\$500k	Bi-Annually
Recommendation 7: Expand Mentor-Protege Program															
Action 7.1: Train additional mentors through SBA or SCORE programs. Look for ways to attract more women and people of color as mentors. Look for bi-lingual mentors as well to help bridge language gaps.	CC, DC, SBC, NV, U/C, WIB, WBI	B, R												\$2k-\$3k	Per Training
Action 7.2: Bring in mentors with specific knowledge of the target industries	CC, DC, SBC, NV, U/C	B, R												Included in 4.2.1 Cost	Per Training

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10		
Theme 4: Advance NCM’s Innovation and Entrepreneurship Ecosystem														
Recommendation 8: Identify Local Supply Chain Linkages Action 8.1: Work with industry roundtables to identify supply chain linkages up and down stream that could directly benefit businesses in the region Action 8.2: Develop a list of women- and/or minority-owned businesses that could directly benefit from the program	DC, CC	B											Included in 1.3.1 Cost	Continuous
	DC, CC	B												
Recommendation 9: Create a Workspace Location Grant Program Action 9.1: Create a workspace location grant program to incentivize businesses graduating from business incubators like WBI to establish in the region Action 9.2: Identify the needs of current entrepreneurs and businesses in existing incubator or coworking spaces and tailor grants to the needs of industry/company/individual	MUN, DC, WBI, U/C	B, O, F											\$5k-\$10k	Per Loan
	DC, CC, U/C, NV, WIB, WBI	B											Staff	Annually
Theme 5: Improve the Delivery of Economic Development Efforts, Programs, and Funding														
Recommendation 1: Advocate for Economic Resiliency Changes in the Region Action 1.1: Improve data collection and data sharing to enhance business retention, expansion, and recruitment (regional collaboration on best practices for items like streamlined permitting, building permits, online permitting, etc.) Action 1.2: Work with municipalities and other economic development partners to collaborate on identifying and marketing smaller vacant spaces (i.e. downtown storefront) Action 1.3: Manage and market business districts and commercial corridors where many small businesses congregate and co-locate Action 1.4: Foster peer-to-peer networks among small-business owners and entrepreneurs to share resources and advice, serve as prospective buyers of other local businesses, and build collective action to inform and influence ecosystem strategies and initiatives Action 1.5: Educate municipal leaders on the importance of flexible regulations (zoning, signage, parking, shared streets and public space, alcohol licensing, outdoor dining)	DC, CC, RPC, MUN	B, O, RE											Staff	Continuous
	DC, CC, MUN, RPC	B, O, RE											Included in 1.3.1 Cost	Continuous
	DC, CC, MUN	RE, B, O											Included in 4.8 Cost	Continuous
	CC, DC, MUN, RPC	B											Staff	Monthly
	CC, DC, MUN, RPC	B, RE, O											Included in 4.8 Cost	Annually
Recommendation 2: Enhance Web Presence of NCMDC and Chamber Action 2.1: Include information on target industries, incentives available, links between target industries and workforce, materials on infrastructure and available assets. Action 2.2: Add online loan information and application to the website	DC, CC	B											Staff	Monthly
	DC, CC	F, B											Staff	One-Time

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10		
Theme 5: Improve the Delivery of Economic Development Efforts, Programs, and Funding														
Recommendation 3: Develop a Process for Regionally-Coordinated Grant Applications Action 3.1: Develop a set of criteria for which to prioritize support for regional grant applications. Criteria should heavily weigh ability to address key economic development issues and opportunities Action 3.2: Draft letters of support on behalf of the region and send to funding agencies along with the high priority applications	DC, CC, MUN, RPC, LE, MD, WIB, U/C												Staff	Bi-Annually
	DC, CC												Staff	Continuous
Recommendation 4: Support Area Planning Efforts Across the Region Action 4.1: Draft letters of support for area planning efforts that will advance economic development goals in the region	DC, CC, MUN												Staff	Continuous
Recommendation 5: Create a Dashboard of Economic Development Performance Action 5.1: Publicize targeted economic development goals, actions, and results from efforts each year and using longitudinal measures and trends. Utilize website, social media, and print media/marketing to showcase results each year and progress toward economic development and action on the plan’s recommendations	DC, CC, VB												Staff	Semi-Annually
Recommendation 6: Enhance Resident/Community Engagement Action 6.1: Host an annual town hall meeting/event to discuss the current year’s accomplishments and the work plan for next year Action 6.2: Consider issuing a resident survey each year alongside the business survey Action 6.3: Continue to host panel discussions on economic development topics with a focus on relevant existing efforts Action 6.4: Provide a tool on the website to submit feedback or questions	DC, CC, VB	B, R, O, F, RE											Staff, \$1k-2k per year	Annually
	DC, CC, VB	R											Staff	Annually
	DC, CC, VB	B, R, O, F, RE											Staff	Monthly
	DC, CC, VB												Staff	One-Time
Recommendation 7: Continue Advertising Chamber/Development Corporation Content Through Online and Email Marketing Campaigns.	DC, CC, VB												Staff	Continuous
Recommendation 8: Enhance Coordination of Marketing Materials8 Action 8.1: Work with all direct and indirect partners to standardize and coordinate marketing efforts and collateral. Consider standardized looks/branding for economic development materials.	All Leaders												Included in 1.1.1 Cost	Bi-Annually

NCM Region	Implementation Lead		Implementation Timing (Year)										Estimated Cost	Cost Type
Economic Development Plan Implementation Matrix	Public/NP	Private	1	2	3	4	5	6	7	8	9	10		
Theme 5: Improve the Delivery of Economic Development Efforts, Programs, and Funding														
Recommendation 9: Create a Centralized Inventory of Available Spaces and Properties Action 9.1: Engage municipal and regional partners to determine the best pathway for creating an online centralized database. Determine how it should be set up, who should maintain it, and who should be responsible for updating it Action 9.2: Explore creating a database similar to MassBuilds but specific to the NCM region and one that includes a map, photos, and marketing material for the property Action 9.3: Consider allowing brokers and property owners to submit candidate sites for the database through an online portal	DC, CC, MUN, RPC, MD, MOBD, ME	B, RE, O											Staff	One-Time
	DC, CC, MUN, RPC	B, RE, O											Included in 1.3.1 Cost	Continuous
	DC, CC, MUN, RPC	B, RE, O											Included in 1.3.1 Cost	Continuous
Recommendation 10: Create a Business Investment Fund for Regional Economic Development Action 10.1: Advocate for a municipal contribution to the fund, possibly on a per capita basis so larger communities who may benefit more pay more Action 10.2: Use funding resources to make low-interest/no-interest rate loans for capital investment and job creation. Could be used for infrastructure or to cover hard and soft construction costs Action 10.3: Consider forgivable clause for meeting specific performance metrics like net new jobs created, raising income levels of new jobs, percent of hires from the region Action 10.4: Coordinate with local banks to do an investment match and possibly manage the loans	MUN, DC, CC	B											>\$1M	Annually
	MUN, DC, CC	B											Included in 5.3.1 Cost	Continuous
	MUN, DC, CC	B											Staff	Annually
	MUN, DC, CC	F, B											Staff	Quarterly
Recommendation 11: Create a Site Preparation Fund Action 11.1: Create a no-interest or low-interest rate loan program to assist property owners in site development costs Action 11.2: Consider partial/full repayment relief for projects that meet minimum criteria for job creation, investment to the local economy, percentage of hires made from the region, etc.	MUN	O, B											>\$1M	Annually
													Included in 5.8.1 Cost	Case by Case
Recommendation 12: Consider the Creation of a Regional Land Bank	DC, CC, MUN, RPC	B, RE, O											Staff	One-Time

Legend

Implementation Leaders

Public

CC - NCM Chamber
 DC - NCM Dev't Corp
 VB - Visit NCM
 MUN - Municipalities
 RPC - Montachusett RPC
 PS - Public Schools

Partners

MD - MassDev't
 MO - MOBD
 ME - MassEcon
 MG - Mass Growth
 SBC - Small Business Center
 LE - Legislators
 OCC - Other Chambers
 U/C - Universities and Colleges
 WIB - MassHire NCM
 NV - NewVue
 WBI - Wachusett Incubator
 UT - Utility Companies

Private

C - Consultant
 F - Financial Institution
 B - Businesses
 R - Residents
 O - Property Owners
 RE - Realtors/Brokers