

# PROSPERITY FOR ALL

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*GREATER CHARLOTTE REGION  
COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY  
2023-2028*



## Executive Summary

The Centralina Economic Development District (EDD), a 501(c)3 nonprofit established in 2005 by Centralina Regional Council (Centralina), promotes a diversified and innovative regional economy through collaboration and advocacy. The Centralina region includes nine counties in the greater Charlotte area - Anson, Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly and Union - and is delineated as North Carolina Council of Government Region F.

The Centralina EDD is designated by the U.S. Economic Development Administration (EDA), a bureau with the U.S. Department of Commerce, as the approved regional Economic Development District. It is responsible for developing and maintaining the Centralina region's Comprehensive Economic Development Strategy (CEDS). The CEDS is a locally based, regionally driven economic development strategy to generate good jobs, diversify the economy and spur economic growth.

Over the past 10 months, the Centralina team worked in partnership with the Centralina EDD Board of Trustees, CEDS Steering Committee and a range of stakeholders to assess the region's current economic conditions and develop a strategy to build on existing assets while addressing both short-term shocks and structural challenges to the economy. At the heart of our *Prosperity for All* approach is the desire to improve the overall resilience and inclusivity of the people, places and economy of our nine-county Centralina region.

Our region is at an important crossroads to recover from the COVID-19 pandemic and build a resilient, globally connected regional economy that deepens the prosperity for all. Our vision will be achieved through regional collaboration and collective action across three goals, 15 recommendations and 58 near-term action items over the next five years. We invite you to review the full plan below to learn more about where the region is today and our plan to move towards prosperity for all.



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## 1.0 Prosperity for All Foundation

### Introduction

The Centralina Economic Development District (EDD), an affiliate of the Centralina Regional Council (Centralina), is responsible for developing and maintaining the region's Comprehensive Economic Development Strategy (CEDS). *The CEDS is a locally based, regionally driven economic development planning process and strategy that brings together a diverse set of partners to generate good jobs, diversify the economy and spur economic growth.* Our focus is the greater Charlotte region, which includes the nine counties of Anson, Cabarrus, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly and Union.



Over the past 10 months, the Centralina team worked in partnership with the Centralina EDD Board of Trustees, CEDS Steering Committee and a range of stakeholders to assess the region's current economic conditions and develop a strategy to build on existing assets while addressing both short-term shocks and structural challenges to the economy.

*At the heart of our Prosperity for All approach is the desire to improve the overall resilience and inclusivity of the people, places and economy of our nine-county Centralina region.*



The need for a balanced policy and investment approach across these spheres can't be understated. For example, over investing in places through beautification and incentivizing development can lead to rising housing costs and displacement. Growth without the improvement of individual household economic prospects through education, career advancement and small business support only risks

leaving people behind. Focusing only on attracting new businesses without working to retain or support the expansion of existing businesses is another example of an unbalanced agenda.

The CEDS is primarily a roadmap for the public sector – local governments, county economic development organizations, workforce development boards, community colleges and universities – but relies heavily on collaboration with and ultimately action by the private sector to achieve its vision and goals. The public sector can invest in education and workforce development systems, build infrastructure and support regional collaboration and coordination on economic development policy that attracts and retains businesses. There are, however, many factors that influence economic growth and prosperity that are outside of the influence of the public sector. In this context, the CEDS creates a foundation for public policy, investment and regional collaboration to facilitate economic resilience and inclusive growth.

*Emerging from the COVID-19 global pandemic and entering recovery has put the Centralina region at a crossroads. Growth is slowing, recovery is uneven, there is more national competition for jobs and talent and there are lingering structural challenges and inequalities that compound our current state.* Between 2017 and the beginning of 2020, the nine-county Centralina region led the nation in robust economic growth and low unemployment fueled by the in-migration of people and businesses. In fact, the region grew by 7% between 2016 and 2021, with growth expanding beyond Charlotte and inner ring suburban communities to the edges of our rural areas. In this period, the region also saw impressive business growth, driving the region to rank fourth in the nation in job growth.

The greater Charlotte region was not immune to the shock of the global COVID-19 pandemic, which stunted growth and highlighted pre-pandemic social, economic and geographic inequalities. The average unemployment rates in the region changed from 3.7% in March 2020 to a peak of 13.1% in May 2020 before gradually decreasing to approximately 5.9% in the fourth quarter of 2020.

The pace and scale of today's recovery is very much shaped by the challenges brought on by pre-pandemic regional growth. According to the Center for Neighborhood Technology's H&T Index, the housing and transportation costs in the metro region now make up 48% of household expenditures. More communities across the region now struggle with ensuring a safe and affordable housing supply with a diversity of housing choices especially for families and older adults. Our transportation systems are strained with increasing population growth and growth of transportation-heavy industries and there is an urgent need for expanded mobility choices to ensure people can get to where they need to go in safe, convenient and affordable modes. Educational attainment and college enrollment have also been negatively impacted by the pandemic with individuals struggling to maintain progress and overcome pre-existing achievement gaps. All these challenges are being felt at different scopes and scales across the diverse geography of our urban, suburban and rural communities.

Recovery from the pandemic and building back a more resilient economy will require the region to collaborate around many issues that require cross-border and cross-sector solutions. It's against this backdrop that the CEDS outlines a roadmap for regional collaboration to enhance economic opportunity (*People*), build critical infrastructure (*Place*) and grow a resilience and inclusive economy (*Economy*). The CEDS must be flexible to enable local governments to respond to local needs while being regionally relevant over a five-year period. The following chapters will outline our approach to answering these three key questions:

1. *How might the region strengthen the systems for talent and business development?*
2. *How might the region collaborate to implement key infrastructure improvements that support a growing economy?*
3. *How might the region build resilience in its economy?*

## Planning Process Overview

Centralina placed a high emphasis on a regionally driven and locally engaged planning process to generate the *Prosperity for All* CEDS. Centralina designed the planning process to address several lessons learned from the 2017-2022 CEDS development and implementation. Principally, the planning process emphasized the importance of regional ownership over the strategy development process and direct engagement with organizations about their capacity to participate as an implementing partner. Further, Centralina approached the CEDS as a roadmap that can be continuously updated and refined rather than a final blueprint of static solutions. This emphasis on flexibility and adaptability of the strategy intentionally set the expectation that the CEDS is a vital tool for regional collaboration.

Centralina relied heavily on the active participation of the Centralina EDD Board of Trustees and Steering Committee who are dynamic representatives from the public, private and institutional sectors working in counties across the region. Their diverse perspectives and experiences were critical in shaping a plan that reflected local realities and shared regional aspirations. See the Acknowledgements chapter for the full listing of all stakeholders engaged in the process.

The planning process itself included several phases of technical activities and stakeholder engagement. The pre-planning stage launched in the late summer of 2021 and included a range of technical analyses to assess the state of the economy and regional clusters. Centralina collaborated with Ernst & Young (EY) on the Centralina Target Cluster Opportunity Analysis and AI/Automation Risk Assessment, which brought forward critical insights on the impact of the pandemic on the regional economy and disruptive factors that will influence recovery; key takeaways from this work are outlined in Appendix C.

When the planning process began in earnest in January of 2022, Centralina took the lead on additional technical data projects, a SWOT (Strengths Weakness Opportunities and Threats) assessment and launched the CEDS Steering Committee composed of Centralina EDD board members. In the assessment and visioning phase, the Centralina project team facilitated the Steering Committee towards crafting a new CEDS vision and set of goals. In the strategy development phase, Centralina coordinated stakeholder working groups to develop specific recommendations and actions items. Land use consultants at City Explained also completed an Industry Land Use Assessment. All other technical analysis and stakeholder engagement activities were completed or led by Centralina staff.

### Engagement by the Numbers

- **202** stakeholders representing **113** organizations, businesses or institutions participated in the CEDS Steering Committee and Working Groups.
- **39** meetings or briefings held with individual organizations during the process.
- **313** respondents to three CEDS

Planning Process Timeline			
Phase	Pre-Planning	Assessment & Visioning	Strategy Development
Timeline	August 2021 – December 2021	January 2022 – June 2022	June 2022 – September 2022
Technical Analysis	<ul style="list-style-type: none"> <li>Regional Target Industry Cluster Analysis (Ernst &amp; Young)</li> <li>AI/Automation Risk Analysis (Ernst &amp; Young)</li> </ul>	<ul style="list-style-type: none"> <li>Regional Data Evaluation &amp; Mapping</li> <li>Prosperity Profile Indicators &amp; Analysis</li> <li>SWOT Analysis</li> <li>Visioning – review of existing, development of new vision</li> <li>Goal Setting</li> </ul>	<ul style="list-style-type: none"> <li>Industrial Land Use Analysis (City Explained)</li> <li>Career Pivot Online Tool Development (Ernst &amp; Young)</li> </ul>
Engagement	<ul style="list-style-type: none"> <li>Supply Chain Survey (Charlotte Regional Business Alliance)</li> <li>Regional Dialogues Series Survey</li> <li>Regional Dialogues Series Focus Groups</li> <li>County Economic Development Commission Interviews</li> </ul>	<ul style="list-style-type: none"> <li>Steering Committee / Centralina EDD Board Meetings: <ul style="list-style-type: none"> <li>January 20</li> <li>March 17</li> <li>April 21</li> <li>May 19</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Regional CEDS Survey</li> <li>Steering Committee/ Centralina EDD Board Meetings: July 21, September 15</li> <li>Talent Working Group Meetings: June 18, August 3</li> <li>Entrepreneurship Working Group Meetings: June 23, August 11</li> <li>Economic Development Working Group Meetings: September 1, September 9</li> </ul>

**Prosperity in the Centralina Region – Summary Background**

Our *Prosperity For All* framework reflects our desire to improve the resilience of the people, places and economy of our region as we grow more inclusively. The following section outlines the key facts and data points regarding our region’s prosperity profile by people, place and economy. It draws on data from the Centralina EDD’s interactive data portal, technical analysis completed by EY and original research conducted by Centralina to create a set of regional data indicators to measure prosperity. An expanded data profile for this section is available in Appendix A and additional in-depth data points related to the CEDS goals are included in later chapters, as well as in the appendices.

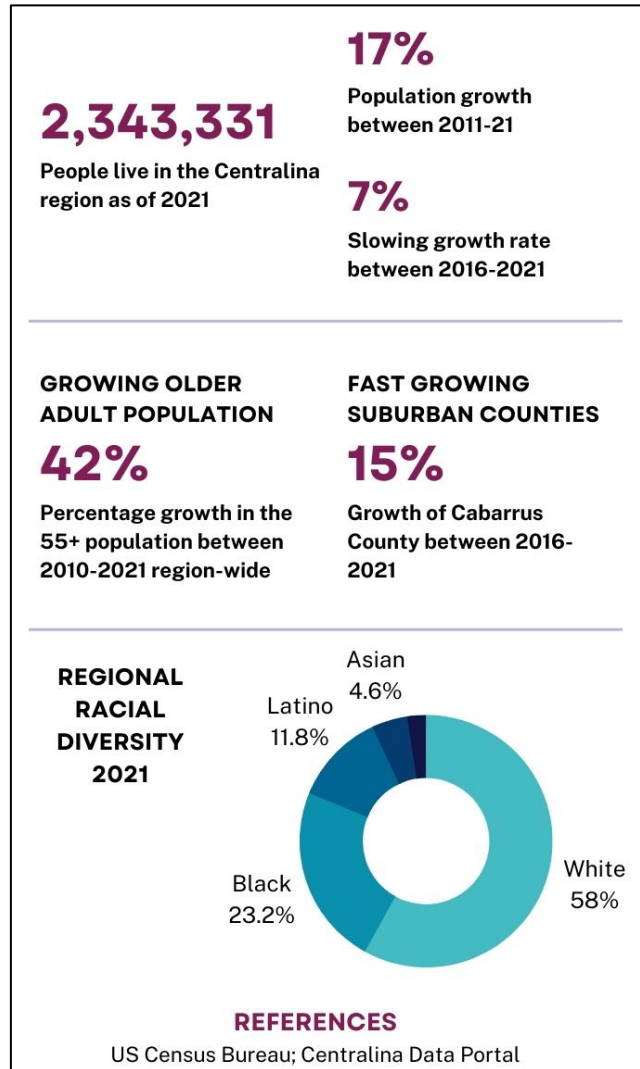


**PROSPERITY PROFILE: PEOPLE**

The population of the Centralina region in 2021 was 2,343,331 people, which reflects a 7% rate of growth during the period of 2016 to 2021 and an increase of 161,056 new people. This represents a slowing of the rapid growth the region experienced between 2010 and 2016. A deeper look at the current demographics and trends over time highlights several important

insights that inform the CEDS (see Appendix A for additional data points).

- **Growth has slowed by 10% since 2011.** From 2020-2021, Charlotte ranked 8<sup>th</sup> in population growth compared to our 13 benchmark metro areas with Austin, Raleigh-Durham, Nashville, Kansas City and Atlanta growing at faster rates.
- **Our population is aging** and the highest rates of population growth between 2016-2021 are among adults 55 and older. The region is out pacing the U.S. in population growth in these age groupings by an average of 7%.
- **Racial and ethnic diversity has increased** region wide since 2010.
- **The fastest growing populations are Asian (19%) and Latino (16%),** although these are the smallest racial and ethnics groups in terms of total population.
- **Region-wide college enrollment decreased by 2% between 2016 and 2022,** however, enrollment increased for Latinos (26%) and Asians (29%).
- **Minimal growth in educational attainment** from 2016-2020 with only a 1.5% increase in bachelor’s degrees.
- **Median income increased by 27% between 2015 and 2020** with the highest wage earners being Asian and White.



While the overall demographics and socio-economic indicators from the last five years points to a generally healthy economy with rising household income and wages, there is widely held



regional concern among stakeholders about inequality. Two surveys conducted during this process confirmed this assertion. In the CEDS survey (August 2021), 84% of respondents were concerned about rising inequality and 86% of respondent were concerned about regional geographic inequality. In the data, the overall measure of income inequality, the Gini Index, was 0.47 in 2020, which is lower than the national average and slightly lower than in 2019, indicating an improvement in income inequality. However, this measure at the regional level can mask differences in income equality by race, gender and geographic location.

There are also many other ways to assess equity and incomes. The first step towards understanding the state of prosperity or an examination of equity conditions in the Centralina region was to develop a set of prosperity indicators. While the indicators are not an exhaustive measure of all equity considerations, they provide a high-level overview of how each county is performing on a variety of metrics related to economic, social and community wellbeing.

The Centralina team scanned numerous resources to determine best practices and distill what was important and relevant for our region. Moreover, the team scanned for available data sets for all nine of the Centralina counties. Ultimately a set of indicators based on the National Equity Atlas<sup>i</sup> indicators developed by the non-profit Policy Link and the USC Equity Research Institute was adapted for our region, with some additions and modifications from other equity analytics reported by the U.S. Census Bureau, U.S. Department of Labor, U.S. Economic Development Administration and the Federal Emergency Management Agency.

Further, these indicators were grouped under three distinct categories, identified as *Resilience*, *Community* and *Mobility*, to form the **Centralina Region Prosperity Framework**. The table below provides an overview of each category and corresponding indicators.

Centralina Region Prosperity Framework		
Resilience	Community	Mobility
<i>Ability to withstand economic shocks and bounce forward as a result</i>	<i>Local economic and social conditions that may inform quality of life and participation in the economy</i>	<i>Access to economic prosperity through transportation, economic and social resources</i>
<ul style="list-style-type: none"> <li>• Median Household Income</li> <li>• Air Pollution Index</li> <li>• Community Resilience Index (three or more risk factors)</li> </ul>	<ul style="list-style-type: none"> <li>• Individual Poverty</li> <li>• School Poverty</li> <li>• Neighborhood Poverty</li> <li>• Housing Burden: Rent</li> <li>• Housing Burden: Mortgage</li> </ul>	<ul style="list-style-type: none"> <li>• Educational Attainment: Bachelor's degree or more</li> <li>• Labor Force Participation Rate (ages 16-24)</li> <li>• Unemployment Rate</li> <li>• School Enrollment Rate</li> <li>• Rate of Jobs Requiring a Bachelor's Degree</li> <li>• Unemployment</li> <li>• Commute Time</li> </ul>

		<ul style="list-style-type: none"> <li>Housing and Transportation Costs as a Percentage of Income</li> </ul>
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The Prosperity Profile informs the Centralina EDD’s efforts to monitor economic prosperity across the Centralina region. The purpose of the data is to encourage people in the region and elsewhere to utilize the findings to pursue solutions to economic prosperity. As with all data analysis tools there are limitations and therefore, it will be important to continue to evaluate and evolve the Prosperity Profile throughout the five-year CEDS implementation process.

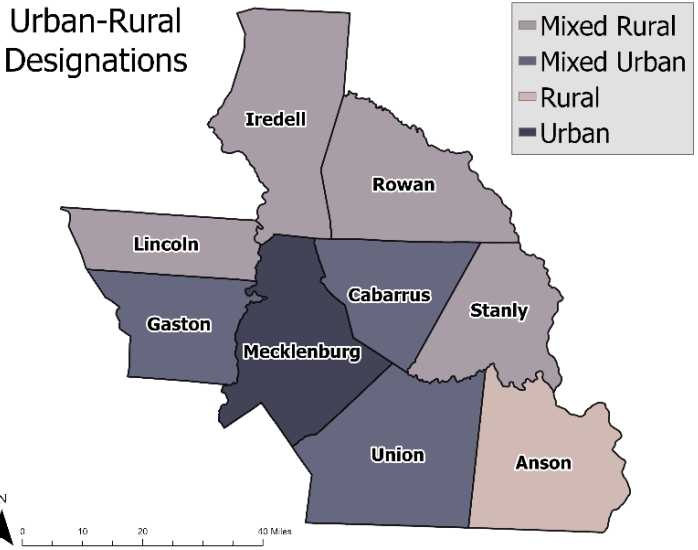
The Centralina Region Prosperity Framework outlined above will be used throughout the CEDS to define our areas of opportunity for improvement at the county and regional levels. The Prosperity Profiles will also become an integral part of the evaluation and monitoring approach.





**PROSPERITY PROFILE: PLACE**

Our region is a mosaic of unique counties, cities, towns and villages each with their own local priorities and challenges. The population and economic growth the region has experienced since 2010 has not been evenly experienced across the region, although since 2017 there is an increasing interest in development and investment further from the center city urban area and inner ring suburbs.

To explore the geographic impact of prosperity, the Centralina team utilized the Prosperity Profile framework to assess the indicators in each of the region’s nine counties. To provide a more constructive framework for comparison of the Prosperity Profile indicators, Centralina utilized a typology of urban-rural designations: urban, mixed urban, mixed rural and rural. These categories are based on the population density and the number of residents in urbanized areas within each county. Mecklenburg is the only urban county and Anson the only rural county. Mixed urban counties, which include Gaston, Cabarrus and Union, form an arc on the northern part of the region.



The indicators for each county were also compared against a regional average to create a Prosperity Profile for each county. Indicators with a level of equity or prosperity attributes are considered “strength” areas when the county is over performing compared to the region while opportunity areas are those that are under-performing compared to the region. This rating is symbolized as follows:

<b>Strength</b>	Indicator for which the county value overperforms compared to the state/region value	
<b>Opportunity</b>	Indicator for which the county value underperforms compared to the state/region value	

The following table provides a snapshot of each county’s relative strengths and opportunities by indicator. The full Prosperity Profile report and associated County maps reveals additional place-based differences within each county. Data from the County and Regional Prosperity Profiles are used throughout the CEDS report to illustrate baseline conditions and opportunities for improvement through CEDS implementation. For example, urban and mixed urban communities performed better than rural and mixed rural communities for all resilience, community and mobility metrics. Urban and mixed urban communities tend to have, on average, higher median incomes, lower poverty rates and lower unemployment rates than their rural and mixed rural counterparts in the region.

**Prosperity Profile: Counties Compared to Regional Average**

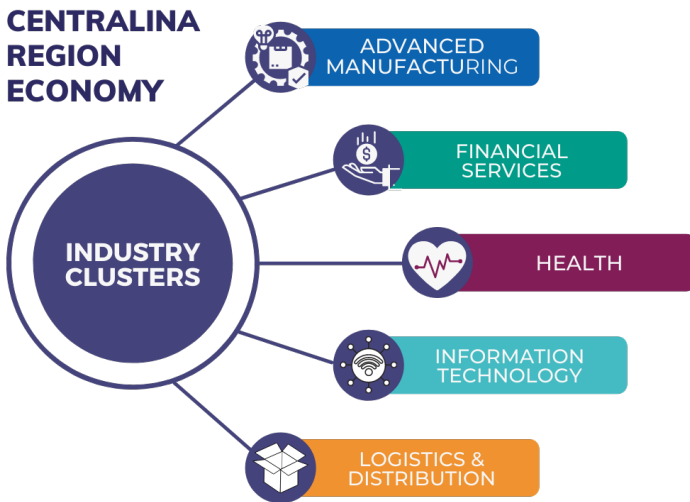
Variable		Urban	Mixed Urban			Mixed Rural				Rural
		Mecklen- burg	Cabarrus	Gaston	Union	Iredell	Lincoln	Rowan	Stanly	Anson
<b>Resilience</b>	Median Household Income	●	●	●	●	●	●	●	●	●
	Air Pollution	●	●	●	●	●	●	●	●	●
	Three or more risk factors from Community Resilience Index	●	●	●	●	●	●	●	●	●
<b>Community</b>	Individual Poverty	●	●	●	●	●	●	●	●	●
	School Poverty (Ages 5-17)	●	●	●	●	●	●	●	●	●
	Neighborhood Poverty	●	●	●	●	●	●	●	●	●
	30% or more of income on rent	●	●	●	●	●	●	●	●	●
	30% or more of income on housing expenses (for homes with mortgages)	●	●	●	●	●	●	●	●	●
<b>Mobility</b>	Bachelor's degree or more	●	●	●	●	●	●	●	●	●
	Labor Force Participation Rate (Ages 16-24)	●	●	●	●	●	●	●	●	●
	Unemployment Rate (Ages 16-24)	●	●	●	●	●	●	●	●	●
	School Enrollment Rate (Ages 15-24)	●	●	●	●	●	●	●	●	●
	Share of jobs requiring a bachelor's degree	●	●	●	●	●	●	●	●	●
	Unemployment Rate	●	●	●	●	●	●	●	●	●
	Commute Time	●	●	●	●	●	●	●	●	●
	Housing and Transportation Costs as a % of Income	●	●	●	●	●	●	●	●	●

**PROSPERITY PROFILE: ECONOMY**



As noted in the introduction, the Centralina region experienced strong economic growth up until 2020 and the start of the COVID-19 global pandemic. Prior to the pandemic the region outperformed both the U.S. and competitor metros in job growth and median household income. However, unlike many other U.S. metros, the greater Charlotte regional economy is strikingly broad based making it particularly ripe for a strong focus on supporting continued economic diversification and resilience.

The regional economy includes a robust service sector and five growing industry clusters in



advanced manufacturing; financial services; health; logistics and distribution; and information technology. The Prosperity Profile findings indicate urban and mixed urban communities have a greater proportion of the jobs within the industry cluster employment sectors and rural and mixed rural communities tend to have a greater number of advanced manufacturing jobs per person in the labor force, when compared to the other industry clusters. The Prosperity Profile data indicate the need for differing

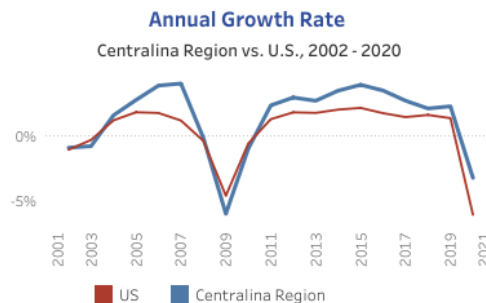
approaches across the region to support economic growth and prosperity concerns.

**EMPLOYMENT TREND**  
Centralina Region

2020		2019 - 2020	
Employment Base:	1,071,349	Job Growth:	-3.2%
Payroll Base:	\$69,109K	Payroll Growth:	4.2%
Total Unemployed:	88,750	Unemployed Growth:	100.0%
Average Salary:	\$64,506	Salary Growth:	7.7%



**% Growth Rate:** Centralina Region’s job growth has outperformed the US over the past 19 years. It had a larger downturn during the recession. Centralina Region has rebounded faster than the US following the recession, reaching a 2.3% growth rate in 2011.



Source: BLS Quarterly Census of Employment & Wages. <https://www.centralinaedd.org/tableau/job-growth-summary/>

<p>EY's Framework of Disruptive Forces</p>
<p><u>Economic</u></p> <ul style="list-style-type: none"> <li>• Federal Spending Boost</li> <li>• The Retail Revolution</li> <li>• The New Globalization</li> </ul>
<p><u>Technological</u></p> <ul style="list-style-type: none"> <li>• The Internet of Everything (IoT)</li> <li>• Electrification of Vehicles</li> <li>• Artificial Intelligence &amp; Automation</li> </ul>
<p><u>Demographic</u></p> <ul style="list-style-type: none"> <li>• Help Wanted</li> <li>• A Silver Tsunami</li> <li>• Where Work Gets Done</li> </ul>

In the pre-planning phase of the CEDS process, Centralina contracted with EY to evaluate the impact of the pandemic on the regional economy and assess the region's industry clusters. EY's analysis affirmed the presence of and growth potential for the current industry clusters. They also determined that a number of national and global disruptive factors will influence the clusters' trajectory. Pre-pandemic (2014-2019), all five industry clusters posted employment gains, accounting for 40% of all jobs created in the region. The forecast for continued growth in these clusters will depend heavily on several factors including the availability of skilled labor, the future pipeline of qualified workers and improvement in the domestic supply chain.

As part of the industry cluster analysis, EY examined the global and national disruptive forces that impact the economic resilience of the region's clusters and our overall economy. In the years ahead, technological, economic and demographic forces promise to transform our communities as well as the people and industries that power them. Increased federal

spending, for example, may increase the competitiveness of aging places with antiquated infrastructure as well as fast-growing locales with overburdened roads, bridges and ports. The aging of America will continue to contribute to sustained healthcare spending while potentially worsening the talent shortages that already plague many industries.

Continued advancements in artificial intelligence, for example, may lead to another wave of automation. In some instances, the macro forces and disruptors pose risks for existing market leaders as well as individual industries. In other areas, a rapidly evolving competitive environment will create new market opportunities. Communities that can help firms navigate these macro forces and industry disruptors will be well-positioned to thrive in the years ahead. See Appendix A for additional information and data related to disruptive forces.

Of particular note is the strong disruptive impact that AI and automation will have on almost all the region's clusters. Technologies that automate functions currently performed by humans are poised to revolutionize the labor market. Automation will eliminate and/or fundamentally transform jobs that are routine and follow formal operating rules. At the same time, it will fuel the creation of new occupations. While the rise of automation will help maintain U.S. economic competitiveness, it will also create significant disruptions in the labor market.

Charlotte ranks 49th out of the top 100 metros in the U.S. for "automation potential." Across metros of all sizes, Charlotte ranks at the 25th percentile (with 100 being highest automation potential). While Charlotte may not be at risk as other metros, there is a clear and growing case for AI use in the industry clusters presented in Appendix A.

The AI/Workforce Automation Risk Assessment completed by EY identified those occupations that are most at risk for automation in the Centralina region. The assessment also highlighted the risks to occupations for each of the target industry clusters, showing which occupations are most at risk and least at risk of automation. Not surprisingly, lower-skill jobs that are repetitive or prone to machinery displacement are at the greatest risk. In the Centralina region, the jobs with the greatest risk of automation are those requiring no formal education (83% ) or those requiring a high school diploma (64%). These at-risk jobs represent nearly 700,000 people in the Charlotte region.

EY created a weighted index using an aggregate of the risk factors by occupation cluster to highlight where automation is most likely to occur. Back Office, Hospitality, Personal Services, Logistics and Manufacturing/Production occupations (not industries) were determined to have the greatest risk of automation.

Occupation	Employment (2019)	% Risk of Automation	Cluster Connection
Hospitality	144,996	77.6%	
Production	71,062	76.1%	Advanced Manufacturing
Back Office	151,150	71.6%	Financial Services
Financial	52,020	66.6%	
Logistics	122,883	67.8%	Logistics & Distribution

For most organizations, scarcity of automation talent will be the reality. Recruiting and retaining tech talent is challenging due to the competitive hiring environment and rapidly increasing salaries for professionals with automation expertise (e.g., machine learning, natural language generation, chatbots). In general, leaders should consider that upskilling technical talent is an incremental option, not a categorical option for new skills. For example, statisticians may become data scientists, but data entry personnel will typically not successful in transitioning to these roles. However, with the right underlying talent and skills analysis, an estimate of the expected talent transition through upskilling programs may be possible.

Economic and workforce developers will face significant new challenges in preparing and training workers to use AI-enabled technologies. Existing workforce will need new training, displaced workers will need re-training and future workers will need to be drawn from a large diverse set of skills, not just software coders and mathematicians.

A related challenge to our region’s economy is the instability of the supply chain. EY and Centralina collaborated with the Charlotte Regional Business Alliance to conduct survey of regional businesses on the current state of the supply chain. The most prevalent theme the 2021 Supply Chain Survey was centered around competitive location factors. A near unified 98% of survey respondents agreed that availability of qualified workforce was very important with 78% indicating that it was extremely important. This tied directly to the next section of the survey:

long-term factors attributing to the overall competitiveness and the resiliency of supply chains. Over 74% of respondents indicated workforce upskilling was a very important long-term factor and about 43% stated that robotics/automation was a very important factor.

Another important theme from the open-ended section of this survey, while not as prevalent as the labor issue, was a desire to source more components and inputs locally. Some of the most common components mentioned were raw materials, steel, metal and plastics. There is an overall desire to source many components more regionally among many survey respondents.

In addition, EY identified potential scenarios for supply chains in the future due to disruption from the pandemic as well as technology. Companies may move from “just in time” to “just in case,” with more stockpiling of critical components/goods to ensure supplies. Environmental, social and governance goals for companies will become a growing factor in global site selection in the drive or regulation to de-carbonize. More locally sourced supply chains may result, and OEMs (original equipment manufacturer) will increasingly seek to decarbonize their own supply chains. Trends toward a global minimum tax of 15% will reduce the benefits of low tax countries. Another factor may include growing consumer demand for customization and speed to market, requiring more resilient supply chains. These are all important factors to consider in the CEDS update to support short-term recovery and long-term resilience in the economy.

## 2.0 Prosperity for All Vision & Goals

The foundation of *Prosperity for All* is a compelling vision for the greater Charlotte region over the next decade. The vision statement is a refinement of a previous version from the 2017-2022 CEDS. The Steering Committee overwhelmingly felt that this original vision statement provided a strong roadmap for the last five years of robust regional growth and global engagement. However, this success, coupled with pandemic recovery, has levied new challenges to communities, businesses and workers including rising inequality and decreasing available labor. The Steering Committee underscored the need for the vision to focus on collaboration across boundaries - geographic, sectoral and industry - and to prioritize regional engagement as a vital support to maintaining the region’s global presence and reputation.

**The greater Charlotte region collaborates to inclusively support businesses, innovators and individuals in reaching a prosperous and globally connected future.**

**Region Collaborates:** *Our success depends on engagement and collaboration across public-private sectors and across county lines.*

**Inclusively Support:** *Our strategy is grounded in inclusion. We acknowledge that different members of our community and different parts of our region require unique support to achieve prosperity and global connectivity.*



**Business, Innovators and Individuals:** *Our audience and beneficiaries for this work are our region's businesses and industries, our innovators and entrepreneurs and our residents learning, working and contributing to the economy.*

**Prosperous and Globally Connected Future:** *Our goals and recommendations drive towards this outcome for our businesses, innovators, individuals and ultimately for our communities.*

To realize this vision of *Prosperity for All*, our region must advance an aligned agenda that addresses opportunity, infrastructure and resilience. The following CEDS goals were developed through robust data analysis, regional engagement and shaped by the expertise of the CEDS Steering Committee and working groups.

The goals are intentionally cross-cutting, touching on a range of themes and issues - workforce, talent, education, physical and community infrastructure, entrepreneurship and innovation, business climate and economic competitiveness. The goals help to achieve the *Prosperity for All* vision through a focus on people, place and economy. The goals are aspirational and stretch beyond the five-year CEDS implementation time horizon. Moreover, the goals respond to our urgent need as a region to address equity and economic resilience to ensure that the economic prosperity that we have benefitted from continues into the future and benefits more of our residents and businesses.



The following chapters outline the existing conditions, regional data and stakeholder input that drove the creation of each goal. Each chapter then outlines the regionally generated solutions or recommendations and near-term implementation actions.

### 3.0 Expanding Economic Opportunity

#### Summary Data & SWOT Analysis

The first goal of the *Prosperity for All* vision is a focus on expanding economic opportunity for individuals, businesses and innovators across our region. Within the framework of the CEDS and influence of our public sector partners, economic opportunity includes five components as illustrated to the right.

Our definition of the levers of economic opportunity includes education and talent development to connect people to high-growth, high-wage careers; expanding and connecting initiatives to support small businesses and entrepreneurs; and improving the alignment of workforce systems and their alignment to economic development planning through robust regional collaboration.

The top regional concern from the CEDS survey was the availability of skilled labor with 80% of respondents indicating that this will impact economic recovery and the prospects of future regional growth. The depth and diversity of education and workforce providers in the region is an asset so long as there is collaboration, alignment and partnership with industry. Regardless of where an individual lives in the region, there should be clear and consistent information and industry-informed curriculum and career pathways available.

Workers who are parents are also struggling to balance work and family obligations. According to the North Carolina Family Foundation, North Carolinians pay 41% more for childcare than they do for rent. Childcare is now an economic development issue and reflects the growing synergy between social and economic policy issues. The Centralina region needs to work to build a sustainable childcare model that addresses access and affordability region wide.

Entrepreneurs, small businesses and micro businesses are the backbone of the local economy and supportive measures should be aligned with regional economic development goals. For example, the micro-business growth in the Centralina region between 2016 and 2019 grew from 38,483 for all industries to 41, 290 in 2019. In 2019 these micro-business entities (less than 10 employees) represented 71% of the share of total businesses. From 2016 to 2018 there was an 8.4% increase in self-employed businesses with no employees representing more than \$8.7 million in receipts.




**EDUCATION ACCESS & ATTAINMENT**  
From early childhood access to post-secondary attainment



**CAREER PATHWAYS DEVELOPMENT**  
Education and industry partnerships



**SMALL BUSINESS & ENTREPRENEUR SUPPORT**



**SYSTEMS ALIGNMENT**  
Aligning workforce and economic development systems



**REGIONAL COLLABORATION**  
Collaboration across institutions and across borders

Finally, collaboration between regional partners is a crucial element to achieving a “no wrong door” workforce system that supports individuals throughout their education and career journey. Regional stakeholders agree that collaboration around talent development and systems alignment should be a top priority with 65% of CEDS survey respondents indicating that regional collaboration on alignment of workforce development and economic development systems is needed.

The table below summarizes the main findings from our analysis which led to the creation of the Expanding Economic Opportunity recommendations and action items. Appendix B outlines the full data profile of all the inputs from the CEDS planning process that shaped this goal.

<b>Expanding Economic Opportunity</b>	
<b>Weakness to Address</b>	<b>Threats to Mitigate</b>
<ul style="list-style-type: none"> <li>• Few consistent mechanisms for coordination across workforce boards, intermediaries and education institutions</li> <li>• Need to tell the story about what jobs, training and talent resources are available in the region – no wrong door for service access</li> <li>• Lack of talent supply, strained labor market, soft skills limitations and focus on adult learners</li> <li>• Entrepreneur networks and supports concentrate in certain parts of the region</li> <li>• Access to capital a challenge for entrepreneurs</li> <li>• Better support for immigrant entrepreneurs to understand how to navigate red tape for licensing or even the process of access to capital</li> </ul>	<ul style="list-style-type: none"> <li>• Continued automation of standard jobs, creating a gap between those available to work, jobs that pay living wages and a robust local economy</li> <li>• Silver Tsunami of retirements and aging workforce, especially in manufacturing</li> <li>• Support 21<sup>st</sup> century workforce desires for remote and hybrid work options</li> <li>• High degree of automation / AI risk in industry clusters present in the region, especially advanced manufacturing</li> <li>• Region not seen a national hub of entrepreneurship and innovation</li> </ul>
<b>Strengths to Build On</b>	<b>Opportunities to Leverage</b>
<ul style="list-style-type: none"> <li>• Maintain and strengthen communication, empowerment and collaboration gains across education, workforce development, economic development and business channels</li> <li>• Range of robust local, county initiatives to improve workforce outcomes and improve educational attainment</li> <li>• Density of community colleges, colleges and universities in the region; Network of small</li> </ul>	<ul style="list-style-type: none"> <li>• Statewide initiative, MyFutureNC, to expand college attainment through local county actions</li> <li>• Efforts to expand alternative pathways to four-year college degree and support technology upgrades in the classroom with industry support (hardware and software)</li> <li>• Reimagining advanced manufacturing as a preferred career for young people</li> </ul>

<p>business support centers at community colleges and universities</p> <ul style="list-style-type: none"> <li>Recent initiatives to support diverse entrepreneurs can be expanded</li> </ul>	<ul style="list-style-type: none"> <li>NC Commerce support for economic development and workforce development systems alignment</li> </ul>
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The following recommendations and supportive near-term implementation actions address the five dimensions of community supportive infrastructure.

### *Goal 1 Recommendations & Near-Term Actions*

#### ***Recommendation 1: Improve cross-regional coordination to align regional workforce and economic development systems.***

- 1.1 Harmonize disparate labor market data collection and dissemination tools across various workforce and economic development groups in the region to provide consistent and clear data that aligns with industry clusters and niche sectors region wide.
- 1.2 Integrate career pathway information and related data to ensure alignment of message across the region and maximize resources that may be available outside of different workforce development service areas.
- 1.3 Assess the various job-seeking resources and career awareness tools used by workforce providers and educators across the region and engage leaders to discuss opportunities for collaboration.
- 1.4 Map workforce development resources and tools by county to identify opportunities for cross promotion by partners to improve navigation of available services by jobseekers, students, unemployed and under employed individuals.
- 1.5 Facilitate cross-workforce board area meetings and agenda items that promote information exchange to enhance collaboration and encourage partnerships across the Centralina region.
- 1.6 Examine opportunities to advocate for greater access to the Workforce Innovation and Opportunity Act data that is accessible to select partners as non-aggregate geographic sub-data that remains secure and protective of sensitive data features.

#### ***Recommendation 2: Boost the talent pipeline through collaborative, innovative and person-centered approaches.***

- 2.1 Network local business engagement leaders across various workforce and economic development organizations to collaborate on talent solutions to address businesses' needs.
- 2.2 Support career counselors and educators understanding of the impact of AI/Automation on jobs in the region and the available resources to support job seekers with career transition or upskilling opportunities by capitalizing on technology like Centralina Career Pivot, Centralina Career Headlight and NCCareers.org.
- 2.3 Support the region's growing older adult population (55+) by establishing an Experienced Workforce Initiative to re-engage the cohort and repurpose professional skills.

- 2.4 Create a regional community of practice among educators, workforce development partners, industry and economic developers interested in collaborating to map, share and scale local practices that strengthen career pathways.
- 2.5 Through NCWorks NextGen, expand local on-ramps to education, training and employment for our disconnected youth and young adults and share innovative best practices region wide.
- 2.6 Support local educational attainment goals via county commitments to the myFutureNC.org initiative and share good practice across the region.

***Recommendation 3: Expand local access to high-quality and affordable childcare and early childhood education region wide.***

- 3.1 Support local efforts to engage business and industry in constructive conversations and creative solutions to address childcare needs and promote family-friendly workplace practices with Family Forward NC.
- 3.2 Support local governments with land use planning and best practice models for the safe siting of community early care facilities to meet employee needs.
- 3.3 Convene interested policy makers, elected officials, businesses and educators around universal pre-kindergarten and other policy solutions that support early childhood education.

***Recommendation 4: Increase the regional availability and connectivity of entrepreneurship and small business supports.***

- 4.1 Map resources by county to assist with partnership development and improve outreach to entrepreneurs and small business owners.
- 4.2 Promote connectivity within region's entrepreneurial ecosystem through linkage of entrepreneurial resources, support groups and state-wide organizations such as NC IDEA.
- 4.3 Support innovation through or by stage of development partnerships that assist with aligning resources to entrepreneurs through stage development (e.g., Small Business and Technology Development Center, NC Community College Small Business Centers).
- 4.4 Identify and engage pre-retirement small business owners to explore business transition strategies, including employee ownership.
- 4.5 Increase corporate involvement in the entrepreneurial ecosystem by establishing opportunities for entrepreneurs to become industry problem solvers.

***Recommendation 5: Increase engagement of the region's anchor institutions as key implementers in an inclusive economic growth strategy.***

- 5.1 Support the regular leadership convening of community colleges, universities and health care institutions to build networks and explore project specific collaborations.

5.2 Develop an anchor institution strategy that identifies opportunities to enhance procurement, hiring, workforce development and other levels of inclusive growth.

## 4.0 Building Community Supportive Infrastructure

### Summary Data & SWOT Analysis

Addressing the unique needs and assets of local communities is fundamental to achieving our vision of *Prosperity for All*. The Prosperity Profile analysis indicated that our rural and mixed rural counties have not benefitted as robustly from pre-pandemic growth as other areas of the region. Within our urban and mixed urban counties there are pockets of poverty and distressed neighborhoods that also lack resources. The Prosperity Profile findings indicate increased housing cost burdens are more concentrated in urban and mixed urban communities and the affordability of housing in rural and mixed rural communities is often counteracted by the increased cost of transportation. The public sector can make strategic investments in high-quality, accessible and affordable infrastructure that supports communities and inclusive regional growth.

For the CEDS, we define community supportive infrastructure as five investment areas shown to the right. Access to affordable choices of housing, transportation, broadband and utilities will enable individuals to participate more fully in the economy and provide an even playing field across communities in the region. Communities need resilient and supportive infrastructure to compete for jobs while attracting and retaining local talent. The region also requires a network of connected and amenity rich communities to drive a thriving regional economy.

The Centralina region has made strides in collaborative planning efforts over the last decade to set an agenda for regional growth (CONNECT Our Future), mobility (CONNECT Beyond) and freight transportation (Greater Charlotte Regional Freight Mobility Plan). The vision for how we grow sustainably and connect across the region is clear. In the implementation



#### HOUSING CHOICES

Housing choices and affordability that reflect local needs and align with regional growth principles



#### MOBILITY CHOICES

Expanding access to different modes of transportation and connectivity to local and regional destinations



#### BROADBAND CONNECTIVITY

Broadband affordability and access for households and businesses



#### ENERGY & WATER

Resilient systems for energy, water, stormwater and site specific utility investments



#### FREIGHT SYSTEMS

Movement of goods to support local, national and international supply chains.

of the vision, we will try to balance local needs with regional goals and seek to leverage an unprecedented level of public funding for investments in resilient infrastructure.

The table below summarizes the main findings from our analysis which led to the creation of the Building Community Support Infrastructure recommendations and action items. Appendix C outlines the full data profile of all inputs from the CEDS planning process that shaped the development of this goal.

<b>Building Community Supportive Infrastructure</b>	
<b>Weakness to Address</b>	<b>Threats to Mitigate</b>
<ul style="list-style-type: none"> <li>Challenges to regional collaboration due to multiple transportation planning organizations – three MPOs and one RPOs</li> <li>No coordinated regional advocacy agenda for infrastructure funding</li> <li>Limited resources for public investment and match requirements for federal grants, especially in rural counties</li> <li>Broadband affordability</li> <li>Lack of robust regional strategy to manage the energy transition, climate change impacts</li> </ul>	<ul style="list-style-type: none"> <li>Highly competitive environment for federal infrastructure funding despite availability</li> <li>Cost control and budgeting for long-term infrastructure projects due to inflation</li> <li>Supply chain and labor availability for infrastructure projects</li> </ul>
<b>Strengths to Build On</b>	<b>Opportunities to Leverage</b>
<ul style="list-style-type: none"> <li>Regional plans for growth, mobility and freight are in place and implementation is ongoing</li> <li>Strengthen the diverse, open and international brand of the greater Charlotte region while maintaining small town charm throughout region and promoting rural renaissance opportunities</li> <li>CLT airport and network of regional airports</li> <li>Access to freight rail corridors near first-tier markets</li> <li>Regional network of leaders working on transportation, economic development and emergency management</li> </ul>	<ul style="list-style-type: none"> <li>Unprecedented public investment opportunity through various federal formula and competitive grants</li> <li>Savings for regional coordination and funding for water projects, sewer utility services and rural broadband service/access</li> <li>Support regional innovation and resilience by maintaining and building upon regional planning successes that will mean more efficient, i.e., lesser cost financial investment over time – CONNECT Our Future, CONNECT Beyond, Centralina Regional Resilience Collaborative</li> </ul>

The following recommendations and supportive near-term implementation actions address the five dimensions of community supportive infrastructure.

### *Goal 2: Recommendations & Near-Term Actions*

#### ***Recommendation 1: Support implementation of completed regional mobility initiatives CONNECT Beyond and the Greater Charlotte Regional Freight Mobility Plan.***

- 1.1 Develop an employer-based commuter program for major regional and community employment centers.
- 1.2 Expand the regional coalition of CONNECT Beyond champions to coordinate major cross-jurisdictional mobility investments and exploration of regional partnership models.
- 1.3 Improve transit system coordination (routes, scheduling, fares, etc.) across fixed-route and human services transportation and include equity considerations identified by the CONNECT Beyond transportation equity variables.
- 1.4 Support N.C. Department of Transportation (DOT) planning process to develop a regional architecture for digital transportation communication, known as intelligent transportation system (ITS) and identify opportunities for economic developer or industry engagement where appropriate.

#### ***Recommendation 2: Increase coordination between transportation planning organizations Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), transit agencies and local economic developers.***

- 2.1 Develop stronger systems for regional coordination between MPO, RPO, transit agencies and county economic development leads through joint meetings, joint planning exercises and proactive dialogue to understand the infrastructure needs of major industry.
- 2.2 Evaluate opportunities for consortium applications to competitive infrastructure grants offered under the Bipartisan Infrastructure Law (e.g. MEGA, INFRA, RAISE) that address regional or cross-jurisdictional infrastructure needs.
- 2.3 Seek economic development leader advocacy for major transportation projects and support for competitive funding applications, even for projects that are located outside of a leader's county.
- 2.4 Support the early participation of MPO and RPO staff in business recruitment and economic development strategy initiatives at the county and regional levels to consider how adjacent land uses, existing and planned transportation connections and employee health inform the siting of new employment centers.
- 2.5 Ensure all Centralina region MPOs and RPOs participate in the update of land use data that supports the region's travel demand model and the forecast of employment and population distribution within each county.



***Recommendation 3: Identify regional infrastructure and utility gaps impacting major employment sites and develop innovative, resilient solutions.***

- 3.1 Work with counties to identify and map infrastructure and utility gaps for major employment sites (future office/industrial park locations, large land tracts, etc.).
- 3.2 Support local competitive funding applications for utility and infrastructure planning and investment while exploring opportunities for regional consortium opportunities where appropriate.
- 3.3 Support the inclusion of innovation and resilience in infrastructure investments and include consideration of the hazard mitigation strategies identified in Federal Emergency Management Agency (FEMA) approved Hazard Mitigation Plans and the Centralina Regional Resilience Collaboration (RRC) program.
- 3.4 Work to incentivize green infrastructure solutions (nature-based stormwater solutions, electric vehicle charging infrastructure, multimodal transportation infrastructure such as bike racks, sidewalks, transit stops, etc.) in mixed-use, commercial and industrial site development.

***Recommendation 4: Support local government land use planning and development decision making to align with the region's growth framework (CONNECT Our Future).***

- 4.1 Launch a regional housing dialogue to understand challenges to housing diversity, quality and affordability and opportunities for collaboration.
- 4.2 Identify and share models for compact industrial development and other solutions from high-growth regions with limited supply of industrial land.
- 4.3 Conduct outreach to examine local government regional growth framework implementation activities via adoption in their land use, zoning and comprehensive plan documents.
- 4.4 Promote the Prosperity Profile resilience, mobility and community urban-rural variables as a measure of equity conditions for the region.

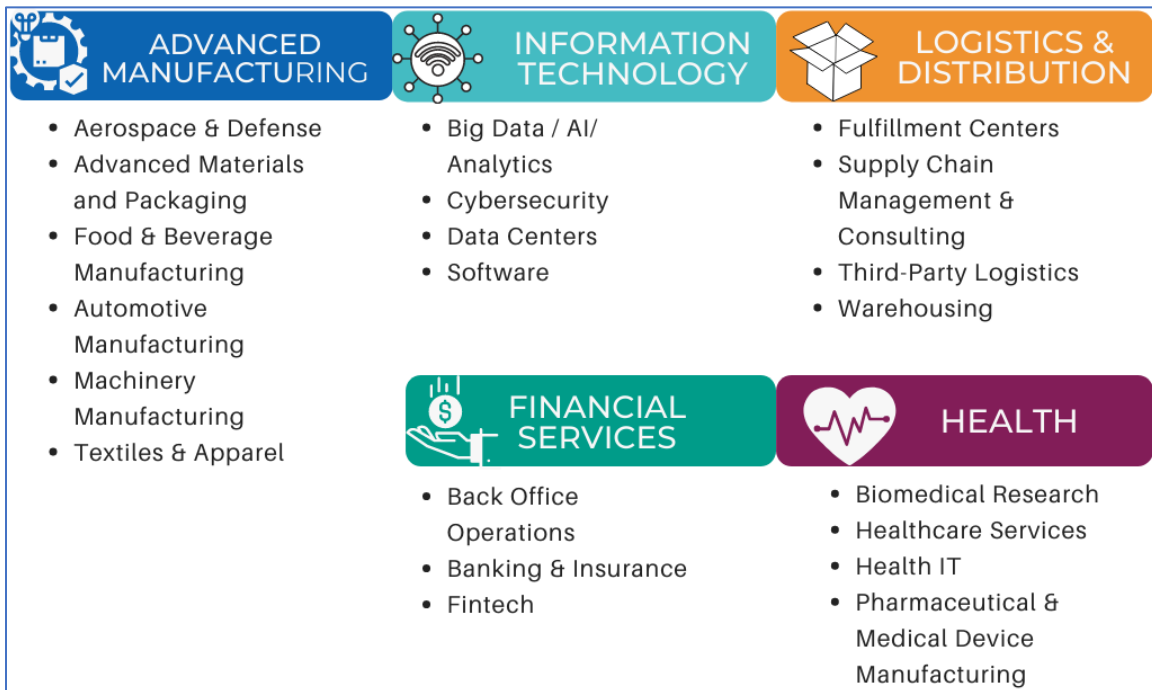
***Recommendation 5: Expand broadband and digital infrastructure across the region and within communities.***

- 5.1 Support NCDOT initiatives to incorporate broadband into new and upgraded transportation facilities.
- 5.2 Develop a Digital Inclusion Plan for the region that supports the State of North Carolina's Digital Divide Plan and leverages new resources offered in the American Rescue Plan Act and other related state and federal digital infrastructure funding opportunities.
- 5.3 Support local competitive funding applications for broadband and digital infrastructure planning and investment while exploring opportunities for regional consortium opportunities where appropriate.

## 5.0 Strengthening Regional Resilience and Global Competitiveness

### Summary Data & SWOT Analysis

As discussed in Chapter One, EY conducted an assessment of the region’s existing target industries and clusters, identified county-level trends and showed how global and national disruptors are affecting the industry clusters. Ultimately, the analysis helped assess the economic impacts of the COVID-19 pandemic on the Centralina region’s target industries and can help ensure that the region is best positioned for growth during the subsequent recovery.



The analysis affirmed the region’s five target industry clusters and associated niche sectors continue to drive regional growth and Centralina’s global competitiveness. These clusters generally have a strong growth trajectory, have performed well across all counties and align with local values, which typically emphasize high-growth industries with healthy wages and capital investment. On paper, announced capital investment outpaced the first quarter of 2019 and traded-sector companies announced \$323 million in capital investment, compared to only \$93.6 million in the same quarter of 2019. Average annual wages for the target clusters also varies widely from \$53,991 for logistics and distribution to over \$129,000 for financial services. This diversity of wages pulls the regional average wage to \$62,916, just above the U.S. average.

In terms of the geographic clustering of the sectors, all nine counties have diversification of niche sectors within the advanced manufacturing cluster, with an average of four niche sectors per county. Gaston, Iredell and Rowan have the highest diversity of sector activity. In addition to back-office operations, banking and insurance is strong across the counties, especially first ring suburban counties. Cabarrus, Iredell, Mecklenburg and Union have the highest diversity of sector activity. The health cluster niche sectors demonstrate synergy and potential for convergence with other clusters such as IT and advanced manufacturing. Health IT is strong in the same counties

that have a niche sector of software in the IT cluster. Pharmaceutical and medical device manufacturing are prevalent sectors in rural and suburban counties across the region; Cabarrus, Iredell, Lincoln and Union have the highest diversity of sector activity. The IT cluster has the greatest distribution across the region, with region-wide data centers and software and cybersecurity present in more than half of the region’s counties.

EY’s analysis affirmed that the region has a diverse economy with five industry clusters that meet the technical definition of a cluster, however, during the stakeholder engagement process it became apparent that there is a lack of consistent and active stewardship in policy, investment, programming or marketing across the region’s industry clusters. County and city economic development organizations loosely coordinate but are often in competition for investment and talent. The system to support both local action and regional collaboration is not well established and is a primary weakness that this CEDS seeks to address. Further, several clusters share similar supply chain and labor needs that raise the potential for cross-linkages.

Without a strong system for regional collaboration and action it will be challenging to address common challenges like supply chain weaknesses, labor shortages and global disruptive forces changing the very nature of the industries we seek to attract to the region. The lack of cohesive cluster strategy puts the resilience of the regional economy at risk. Further the region is reacting to opportunity rather than actively driving growth in sectors of the economy that will bring prosperity for all.

Our approach to building economic resilience and continuing the region’s global engagement relies on four mutually supportive activities that are linked by a focus on stronger regional engagement and collaboration across economic development actors.

## RESILIENCE & GLOBAL COMPETITIVENESS



Appendix D outlines the full data profile of all inputs from the CEDS planning process that shaped the development of goal three and approaches to building Regional Resilience and Global Competitiveness. The table below summarizes the main findings of the SWOT and data analysis.

<b>Regional Resilience and Global Competitiveness</b>	
<b>Weakness to Address</b>	<b>Threats to Mitigate</b>
<ul style="list-style-type: none"> <li>• Lack for formally articulated and implemented cluster strategy</li> <li>• Low stakeholder confidence related to advanced manufacturing growth potential (CEDs survey)</li> <li>• Lack of a focused rural economic development strategy and the identification of a regional agenda that resonates with all urban, suburban and rural stakeholders</li> <li>• Regional promotion and marketing are fragmented and inefficient for storytelling</li> <li>• Not all economic development organizations participate in regional entities (Charlotte Regional Business Alliance, Centralina)</li> <li>• Skilled labor shortages</li> <li>• Innovation and R&amp;D commercialization activities are limited</li> </ul>	<ul style="list-style-type: none"> <li>• Supply chain uncertainties</li> <li>• Inconsistent business/firm approach to engaging with R&amp;D, innovation and entrepreneurs</li> <li>• Businesses have low incentive to engage given other challenges/pressures</li> <li>• Federal and state research dollars may diminish and not come to the region versus established research locations</li> <li>• Rise of AI and automation and its impact on industry clusters</li> <li>• Aging workforce and Silver Tsunami of retirements</li> <li>• Competition from other areas of N.C. and the southeast region</li> <li>• Changing view and value of work impacts available labor</li> </ul>
<b>Strengths to Build On</b>	<b>Opportunities to Leverage</b>
<ul style="list-style-type: none"> <li>• Diverse economy activity as seen in the breadth of industry clusters present</li> <li>• International reputation and foreign direct investment</li> <li>• Diverse population and international migration to the region</li> <li>• High stakeholder confidence in future growth of the life sciences, healthcare and information technology industry target clusters</li> <li>• High stakeholder confidence in the growth of health/healthcare services and cybersecurity niche sectors (CEDs survey)</li> <li>• Existing centers of excellence and university research programs align with industry clusters</li> <li>• Existing manufacturing assets and legacy</li> </ul>	<ul style="list-style-type: none"> <li>• New medical school investment</li> <li>• Understanding the convergences and linkages across the industry clusters and sectors</li> <li>• There is a sufficient supply of industrial land throughout the region for development to support new industrial growth</li> <li>• The opportunity to foster and connect with existing industry is seen as an opportunity in the region, especially for advanced manufacturing</li> </ul>

### ***Goal 3: Recommendations & Near-Term Strategies***

#### ***Recommendation 1: Develop a refined regional cluster strategy that builds on cross linkages and responds to emerging growth opportunities.***

- 1.1 Identify cross linkages and convergences within the advanced manufacturing, health & life sciences and IT and logistics & distribution clusters.
- 1.2 Work with county economic development agencies to identify opportunities to revise cluster strategy based on convergence analysis, focusing specifically on supply chain, talent development, R&D and branding/marketing.

#### ***Recommendation 2: Build economic resilience in the advanced manufacturing cluster to address talent, R&D and regional collaboration needs.***

- 2.1 Investigate and determine feasibility of a regional Supply Chain Council to engage existing industry to plan for effective solutions.
- 2.2 Support the development of a regional network of innovation hubs to house advanced manufacturing research, testing, prototype fabrication and workforce development programming.
- 2.3 Develop stronger systems for business engagement and industry knowledge sharing to understand and engage on critical issues such as available supportive resources, AI/automation transition, Industry 4.0 innovations and youth career awareness.
- 2.4 Invest in diversifying and upskilling the advanced manufacturing talent pipeline through apprenticeships, harmonized career pathway descriptions and collaborative training models.
- 2.5 Facilitate expansion of second and third tier companies by offering supports related to supply chain diversification, enhancing their product or materials innovation and manufacturing capabilities and supporting their expansion into new foreign and domestic markets.

#### ***Recommendation 3: Strengthen internal knowledge sharing and external promotion of the region.***

- 3.1 Improve cross-regional knowledge of target industries and niche sectors in each county to strengthen regional competitiveness and identify opportunities for collaboration.
- 3.2 Amplify regional branding and storytelling of target industries and niche sectors to highlight county assets and reinforce regional competitiveness.
- 3.3 Engage in cross-region and cross-state economic development initiatives that align with the region's target industries, including the health innovation corridor, N.C. clean tech cluster and N.C. biotech cluster initiatives.

**Recommendation 4: Enhance the research and development capacity within the region through proactive support and engagement of universities and industry.**

- 4.1 Support the development of new and expansion of existing centers of excellence that support commercialization activities within the region’s industry clusters and niche sectors such as energy, materials, defense, IT/cyber and life sciences.
- 4.2 Assess the R&D, innovation and technology commercialization resources within the region’s industry clusters to identify areas of weakness, opportunity and collaboration.
- 4.3 Expand and integrate R&D capabilities within the industry clusters by connecting industry and entrepreneurs with R&D capabilities at universities and centers of excellence.

**Recommendation 5: Strengthen the region’s global engagement approach.**

- 5.1 Map relationships, investments and assets by county to identify target countries for a regionally coordinated global engagement strategy.
- 5.2 Explore and encourage creative partnerships with target countries or global networks that bring expertise, investment and good practice to addressing economic development, infrastructure and policy challenges in the region.
- 5.3 Connect Centralina EDD global engagement efforts to public diplomacy efforts of local governments, colleges and universities and explore opportunities for collaboration.

## 6.0 Implementation Roadmap

The *Prosperity for All* CEDS lays out a roadmap for how to advance our region’s economy towards a more inclusive, globally competitive and resilient state. Achieving the vision of the CEDS and “prosperity for all” will require strong regional partnerships and bold leadership from key stakeholders across the public, private and institutional spheres. The following implementation roadmap outlines each goal and associated recommendations and action plans. The tables include lead entities who have raised their hands to play a leading role in implementation and supportive partners will be critical to achieving success.

Partners include:

- **Workforce Development Boards:** Gaston, Centralina and Charlotte Works; **NCWorks Career Centers:** Anson, Cabarrus, Charlotte, Gaston, Lincoln, Mooresville, Statesville, Stanly, Union and Gaston
- **Economic Development Organizations:** Anson Economic Development Partnership, Cabarrus Economic Development, Charlotte Regional Business Alliance (CRBA), City of Charlotte, Gaston County Economic Development Corporation, Iredell County Economic Development, Lake Norman Economic Development Corporation, Lincoln Economic Development Association, Mecklenburg County, Monroe-Union County Economic Development, Rowan Economic Development and Stanly Economic Development

- **Public School Systems:** Anson County, Cabarrus County, Charlotte-Mecklenburg, Gaston County, Iredell-Statesville, Kannapolis City, Lincoln County, Mooresville, Rowan-Salisbury, Stanly County and Union County
- **Colleges and Universities:** Belmont Abbey, Cabarrus College of Health Science, Carolinas College of Health Science, Catawba, Davidson, Johnson & Wales, Johnson C. Smith, Livingstone, NASCAR Technical Institute, Pfeiffer, Queens, UNC-Charlotte and Wingate
- **Community Colleges:** Central Piedmont, Gaston College, Mitchell, Rowan-Cabarrus, South Piedmont and Stanly
- **Transportation Planning Organizations and Transit Agencies:** Cabarrus-Rowan MPO, Charlotte Regional TPO, Gaston-Cleveland-Lincoln MPO, Rocky River Rural Planning Organization, five fixed-route transit providers and nine community transportation providers.
- **State Agencies and Partners:** North Carolina Department of Commerce Division of Workforce Solutions, North Carolina Economic Development Partnership, North Carolina Department of Health and Human Services and North Carolina Department of Transportation
- **Local Governments:** County and municipal governments within the Centralina region

Centralina has also rate each action item with an implementation priority score, pending available resources and capacity.

- **Urgent:** Initiate within the next 18 months (Jan 2023 - June 2024)
- **Critical:** Initiate by June 2025
- **Moderate:** Initiate by June 2027

### Goal 1: Expanding Economic Opportunity for All

<i>Recommendation 1: Improve workforce and economic development alignment</i>				
	<i>Action Item</i>	<i>Lead</i>	<i>Partners</i>	<i>Priority</i>
1.1	Harmonize disparate labor market data collection and dissemination tools across various workforce and economic development groups in the region to provide consistent and clear data that aligns with industry clusters and niche sectors region wide	Workforce Development Boards  Centralina EDD	Workforce Development Boards, NCWorks Career Centers, Charlotte Regional Business Alliance (CRBA)	Urgent
1.2	Integrate career pathway information and related data to ensure alignment of message across the region and maximize resources that	Workforce Development Boards	NCWorks Career Centers, Public Schools, Community Colleges, UNC Charlotte, NGOS (e.g., career pathway community partners)	Urgent

	may be available outside of different workforce development service areas			
1.3	Assess the various job-seeking resources and career awareness tools used by workforce providers and educators across the region and engage leaders to discuss opportunities for collaboration	Workforce Development Boards	NCWorks Career Centers, Public Schools, Community Colleges, Gaston Business Association, UNC Charlotte, NGOS (e.g., career pathway community partners)	Critical
1.4	Map workforce development resources and tools by county to identify opportunities for cross promotion by partners to improve navigation of available services by jobseekers, students, unemployed, and under employed individuals	Workforce Development Boards	NCWorks Career Centers, Public Schools, Community Colleges, Economic Development Organizations (e.g., Lake Norman EDC), UNC Charlotte	Urgent
1.5	Facilitate cross-workforce board area meetings and agenda items that promote information exchange to enhance collaboration and encourage partnerships across the Centralina region	Centralina EDD Workforce Development Boards	Community Colleges	Critical
1.6	Examine opportunities to advocate for greater access to the Workforce Innovation and Opportunity Act data that is accessible to select partners as non-aggregate geographic sub-data that remains secure and protective of sensitive data features	Centralina EDD	Centralina Advocacy, CRBA Advocacy, UNC Charlotte, Workforce Development Boards	Moderate



**Recommendation 2: Boost the talent pipeline through collaborative, innovative and person-centered approaches**

	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
2.1	Network local business engagement leaders across various workforce and economic development organizations to collaborate on talent solutions to address businesses' needs	Centralina EDD	Economic Development Organizations, NCWorks, NC Commerce	Urgent
2.2	Support career counselors and educators understanding of the impact of AI/automation on jobs in the region and the available resources to support job seekers with career transition or upskilling opportunities by capitalizing on technology like Centralina Career Pivot, Centralina Career Headlight, NCcareers.org	NCWorks  Centralina EDD	NCWorks Career Centers, Community Colleges, UNC Charlotte	Moderate
2.3	Support the region's growing older adult population (55+) by establishing an Experienced Workforce Initiative to re-engage the cohort and repurpose professional skills.	NCWorks	Workforce Development Boards, NGOs (ex. AARP, United Way of Iredell), Senior Employment Service Providers	Moderate
2.4	Create a regional community of practice among educators, workforce development partners, industry and economic developers interested in collaborating to map, share and scale local practices that strengthen career pathways	Centralina EDD	NCWorks Career Centers, Public Schools, UNC Charlotte, EDPNC	Critical
2.5	Through NCWorks NextGen, expand local on-ramps to education, training and employment for our disconnected youth and young adults and share innovative best practices region wide	NCWorks-NextGen	Public Schools, Charlotte Racial Equity Initiative, EDPNC, NGOS (ex. United Way of Iredell and career pathway community partners)	Critical
2.6	Support local educational attainment goals via county commitments to the myFutureNC initiative and share good practice across the region	myFutureNC	Boards of County Commissions, Community Colleges, Centralina, CRBA, Workforce Development Boards	Moderate

**Recommendation 3: Expand local access to high-quality childcare and early childhood education region wide**

	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
3.1	Support local efforts to engage business and industry in constructive conversations and creative solutions to address childcare needs and promote family-friendly workplace practices with Family Forward NC	Centralina	Family Forward NC, UNC Charlotte, EDPNC, Community Colleges, NC Department of Health and Human Services (NCDHHS), Boards of County Commissions	Critical
3.2	Support local governments with land use planning and best practice models for the safe siting of community early care facilities to meet employee needs.	Centralina Local Governments	Centralina, Transportation Planning Organizations, NCDHHS	Urgent
3.3	Convene interested policy makers, elected officials, businesses and educators around universal pre-kindergarten and other policy solutions that support early childhood education	Centralina	Local Governments, Economic Development Organizations, UNC Charlotte, Community Colleges, NGOs (e.g., United Way of Iredell), NCDHHS, Childcare Resources, Inc	Critical

**Recommendation 4: Increase the regional availability and connectivity of entrepreneurship and small business supports**

	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
4.1	Map resources by county to assist with partnership development and improve outreach to entrepreneurs and small business owners	CRBA	Innovate Charlotte, UNC Charlotte, City of Charlotte	Urgent
4.2	Promote connectivity within region's entrepreneurial ecosystem through linkage of entrepreneurial resources, support groups and state-wide organizations such as NC IDEA	Innovate Charlotte	UNC Charlotte, CRBA, City of Charlotte	Urgent
4.3	Support innovation through or by stage of development partnerships that assist with aligning resources to entrepreneurs though stage development	Small Business and Technology Development Center (SBTDC)	NC Community College Small Business Centers, UNC Charlotte, Rev Tech	Critical

4.4	Identify and engage pre-retirement small business owners to explore business transition strategies, including employee ownership	NC Community College Small Business Centers	SBTDC, UNC Charlotte, NC Employee Ownership Center	Moderate
4.5	Increase corporate involvement in entrepreneurial ecosystem by establishing opportunities for entrepreneurs to become industry problem solvers	UNC Charlotte	SBTDC, Rev Tech	Critical

***Recommendation 5: Increase engagement of the region’s anchor institutions as key implementers in an inclusive economic growth strategy.***

	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
5.1	Support the regular leadership convening of community colleges, universities and health care institutions to build networks and explore project specific collaborations.	Centralina	UNC Charlotte, Community Colleges, Atrium Health, Novant Health, CRBA, Charlotte Regional Collaborative for a Global Workforce	Urgent
5.2	Develop an anchor institution strategy that identifies opportunities to enhance procurement, hiring, workforce development and other levels of inclusive growth	Centralina	UNC Charlotte, CRBA, Charlotte Regional Collaborative for a Global Workforce	Urgent

***Goal 2: Building Community Supportive Infrastructure***

***Recommendation 1: Support implementation of completed regional mobility initiatives CONNECT Beyond and the Greater Charlotte Regional Freight Mobility Plan.***

	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
1.1	Develop an employer-based commuter program for major regional and community employment centers	Centralina	Economic Development Organizations, UNC Charlotte, CRBA	Urgent
1.2	Expand the regional coalition of CONNECT Beyond champions to coordinate major cross-jurisdictional mobility	Centralina	Transportation Planning Organizations, Transit Agencies, NC Department of Transportation, Local Governments, Economic	Urgent

	investments and exploration of regional partnership models		Development Organizations, CRBA	
1.3	Improve transit system coordination (routes, scheduling, fares, etc.) across fixed-route and human services transportation and include equity considerations identified by the CONNECT Beyond transportation equity variables	Centralina	Transportation Planning Organizations, Transit Agencies, NC Department of Transportation, Local Governments, Economic Development Organizations	Critical
1.4	Support NCDOT planning process to develop a regional architecture for digital transportation communication – known as intelligent transportation system (ITS) and identify opportunities for economic developer or industry engagement where appropriate	Transportation Planning Organizations	Centralina, Economic Development Organizations, Local Governments	Critical

<b>Recommendation 2: Increase coordination between transportation planning organizations</b>				
	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
2.1	Develop stronger systems for regional coordination between MPO, RPO, Transit Agencies and county economic development leads through joint meetings, joint planning exercises and proactive dialogue to understand the infrastructure needs of major industry	Centralina	Centralina, Transportation Planning Organizations, Economic Development Organizations, Local Governments	Critical
2.2	Evaluate opportunities for consortium applications to competitive infrastructure grants offered under the Bipartisan Infrastructure Law (e.g. MEGA, INFRA, RAISE) that address regional or cross-jurisdictional infrastructure needs	Transportation Planning Organizations	Centralina, Transit Agencies, Local Governments	Urgent

2.3	Seek economic development leader advocacy for major transportation projects and support for competitive funding applications, even for projects that are located outside of a leader's county	Centralina	CBRA, Economic Development Organizations	Urgent
2.4	Support the early participation of MPO and RPO staff in business recruitment and economic development strategy initiatives at the county and regional levels to consider how adjacent land uses, existing and planned transportation connections, and employee health inform the siting of new employment centers	CRBA	Centralina, Transportation Planning Organizations, Transit Agencies, Local Governments, Economic Development Organizations, Public Policy Consulting, LLC	Critical
2.5	Ensure all Centralina region MPOs and RPOs participate in the update of land use data that supports the region's travel demand model and the forecast of employment and population distribution within each county	Centralina	Transportation Planning Organizations, Economic Development Organizations, Local Governments	Urgent

***Recommendation 3: Identify regional infrastructure and utility gaps impacting major employment sites and develop innovative, resilient solutions***

	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
3.1	Work with counties to identify and map infrastructure and utility gaps for major employment sites	Duke Energy and Economic Development Organizations	Centralina, Transportation Planning Organizations, UNC Charlotte, EDPNC, Public Policy Consulting, LLC	Critical
3.2	Support local competitive funding applications for utility and infrastructure planning and investment while exploring opportunities for regional	Centralina EDD	Local Governments, UNC Charlotte, EDPNC	Urgent

	consortium opportunities where appropriate			
3.3	Support the inclusion of innovation and resilience in infrastructure investments and include consideration of the hazard mitigation strategies identified in Federal Emergency Management Agency (FEMA) approved Hazard Mitigation Plans and the Centralina Regional Resilience Collaboration (RRC) program	Centralina	State Agencies (NCDPS, EDPNC), Catawba-Wataree Water Management Group, UNC Charlotte, Local Governments	Moderate
3.4	Work to incentivize green infrastructure solutions (nature-based stormwater solutions, electric vehicle charging infrastructure and multimodal transportation infrastructure such as bike racks, sidewalks, transit stops, etc.) in mixed-use, commercial and industrial site development	Local Governments	Centralina, UNC Charlotte	Moderate

***Recommendation 4: Support local government land use planning and development decision making to align with the region’s growth framework***

	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
4.1	Launch a regional housing dialogue to understand challenges to housing diversity, quality and affordability and opportunities for collaboration	Centralina, CRBA	UNC Charlotte, NGOs (e.g., United Way of Iredell, Community Development Corporations, Fair Housing Advocates) Housing Authorities, Local Governments, housing providers, affordable housing providers	Urgent
4.2	Identify and share models for compact industrial development and other solutions from high-growth regions with limited supply of industrial land	Centralina	UNC Charlotte	Moderate

4.3	Conduct outreach to examine local government regional growth framework implementation activities via adoption in their land use, zoning and comprehensive plan documents	Centralina	UNC Charlotte, Local Governments	Critical
4.4	Promote the Prosperity Profile resilience, mobility and community urban-rural variables as a measure of equity conditions for the region	Centralina	UNC Charlotte	Critical

***Recommendation 5: Expand broadband and digital infrastructure across the region and within communities***

	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
5.1	Support NCDOT initiatives to incorporate broadband into new and upgraded transportation facilities	Transportation Planning Organizations	Central Piedmont Community College, Economic Development Organizations, Local Governments	Urgent
5.2	Develop a Digital Inclusion Plan for the region that supports the State of North Carolina’s Digital Divide Plan and leverages new resources offered in the American Rescue Plan Act and other related state and federal digital infrastructure funding opportunities	Centralina NC State Institute for Emerging Issues	State Agencies (NC Department of Information Technology), Local Governments, Community Colleges and Universities (e.g., Central Piedmont Community College)	Urgent
5.3	Support local competitive funding applications for broadband and digital infrastructure planning and investment while exploring opportunities for regional consortium opportunities where appropriate	Centralina	NC Department of Information Technology	Urgent

### Goal 3: Strengthening Economic Resilience and Global Competitiveness

<b>Recommendation 1: Develop a refined regional cluster strategy that builds on cross linkages and responds to emerging growth opportunities</b>				
	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
1.1	Identify cross linkages and convergences within the advanced manufacturing, health & life sciences and IT and logistics & distribution clusters	Centralina	CRBA, Economic Development Organizations, UNC Charlotte, CRBA's Economic Development Advisory Council	Urgent
1.2	Work with county economic development agencies to identify opportunities to revise cluster strategy based on convergence analysis, focusing specifically on supply chain, talent development, R&D, and branding/marketing	Centralina	Economic Development Organizations EDPNC, UNC Charlotte, CRBA	Critical

<b>Recommendation 2: Build economic resilience in the advanced manufacturing cluster to address talent, R&amp;D and regional collaboration needs</b>				
	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
2.1	Investigate and determine feasibility of a regional Supply Chain Council to engage existing industry to plan for effective solutions	Centralina	Economic Development Organizations, Businesses, CRBA	Urgent
2.2	Support the development of a regional network of innovation hubs to house advanced manufacturing research, testing, prototype fabrication and workforce development programming	Centers of Excellence, Colleges and Universities	Centralina	Urgent
2.3	Develop stronger systems for business engagement and	Centralina EDD	Economic Development Organizations, NCWorks, NC Commerce, UNC Charlotte	Critical



	industry knowledge sharing to understand and engage on critical issues such as available supportive resources, AI/automation transition, Industry 4.0 innovations and youth career awareness			
2.4	Invest in diversifying and upskilling the advanced manufacturing talent pipeline through apprenticeships, harmonized career pathway descriptions and collaborative training models	Workforce Development Boards  Private sector	NCWorks Career Centers, Public Schools, Community Colleges, NGOS (e.g., career pathway community partners)	Urgent
2.5	Facilitate expansion of second and third tier companies by offering supports related to supply chain diversification, enhancing their product or materials innovation and manufacturing capabilities and supporting their expansion into new foreign and domestic markets	Economic Development Organizations	State Agencies (e.g., EDPNC) UNC Charlotte	Moderate

<b><i>Recommendation 3: Strengthen internal knowledge sharing and external promotion of the region</i></b>				
	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
3.1	Improve cross-regional knowledge of target industries and niche sectors in each county to strengthen regional competitiveness and identify opportunities for collaboration	CRBA	Economic Development Organizations	Urgent

3.2	Amplify regional branding and storytelling of target industries and niche sectors to highlight county assets and reinforce regional competitiveness	CRBA	Economic Development Organizations	Critical
3.3	Engage in cross-region and cross-state economic development initiatives that align with the region's target industries including the health innovation corridor, NC clean tech cluster and NC biotech cluster initiatives	Centralina	Economic Development Organizations, State Agencies, Partners in other regions (e.g., Clean Tech Cluster, Bio Tech)	Critical

<b><i>Recommendation 4: Enhance the research and development capacity within the region through proactive support and engagement of universities and industry</i></b>				
	<b><i>Action Item</i></b>	<b><i>Lead</i></b>	<b><i>Partners</i></b>	<b><i>Priority</i></b>
4.1	Support the development of new and expansion of existing centers of excellence that support commercialization activities within the region's industry clusters and niche sectors such as energy, materials, defense, IT/cyber and life sciences	UNC Charlotte Community Colleges	EDPNC, Centralina EDD, EDA	Urgent
4.2	Assess the R&D, innovation and technology commercialization resources within the region's industry clusters to identify areas of weakness, opportunity and collaboration	UNC Charlotte	Centralina EDD	Urgent

4.3	Expand and integrate R&D capabilities within the industry clusters by connecting industry and entrepreneurs with R&D capabilities at universities and centers of excellence	Colleges & Universities	Centralina EDD, Entrepreneurial Support Organizations and hubs	Moderate
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**Recommendation 5: Strengthen the region’s global engagement approach**

	<b>Action Item</b>	<b>Lead</b>	<b>Partners</b>	<b>Priority</b>
5.1	Map relationships, investments and assets by county to identify target countries for a regionally coordinated global engagement strategy	CRBA	Economic Development Organizations	Critical
5.2	Explore and encourage creative partnerships with target countries or global networks that bring expertise, investment and good practice to addressing economic development, infrastructure and policy challenges in the region	CRBA	EDPNC	Moderate
5.3	Connect Centralina EDD global engagement efforts to public diplomacy efforts of local governments, colleges and universities and explore opportunities for collaboration	Centralina	UNC Charlotte, EDPNC, Local Governments	Moderate

## 7.0 Maintaining Our Momentum

Centralina is committed to coordinating regional stakeholders and partners in support of CEDS implementation and leading certain action items where appropriate. Specific action items and activities to be undertaken by Centralina will be outlined in the annual workplan and presented to the Centralina EDD Board of Trustees. Relevant items will also be included in the overall workplan and budget for Centralina Regional Council. As the EDA-designated lead entity for the CEDS, our role is to steward implementation by monitoring and evaluating progress including lifting up success stories and identifying when adjustments to the strategy are needed. The monitoring and evaluation framework Centralina will employ during the CEDS implementation period is outlined in the table below.

Phase	MONITORING Did we do what we say we would?	EVALUATION What was the impact of the work?
Scope	Tracking of near-term implementation actions by status (Complete, In-Process, Not Started)	Tracking of goal impact indicators ( <i>Quantitative</i> ) and success stories ( <i>Qualitative</i> )  Recommendations for adjustments to or new implementation actions
Approach	Centralina will engage identified lead entities and partners to obtain information on implementation progress	Centralina will continuously track impact indicators and collaborate with partners to identify success stories
Reporting	EDA Centralina EDD Board of Trustees	EDA Centralina EDD Board of Trustees
Frequency	Bi-annual, aligned to EDA reporting cycle	Annual, aligned to EDA reporting cycle
Additional External Communications	Annual report on near-term implementation actions by status will be shared with CEDS stakeholders	Success stories from CEDS implementation will be featured on Centralina's website and in the monthly newsletter

## *Impact Indicators*

Evaluating the impact of the CEDS on the region's economy is complex since many of the forces shaping economic prosperity and resilience lay outside of the control of the Centralina EDD and our partners. Nevertheless, tracking of overall economic indicators and Prosperity Profile indicators, in addition to CEDS specific measures, will provide an overall picture of regional progress. In considering what metrics to track to measure the impact of the CEDS, Centralina considered the following:

- Indicators that had strong correlation to the recommendations and action items identified in the strategy
- Indicators that aligned with the sphere of influence of the Centralina EDD and its partners
- Indicators with available data sets for all nine counties in the region

The table below summarizes the indicators that Centralina will use to measure the impact of the CEDS and the prosperity progress of the regional economy. There are five categories of indicators:

1. **Economic Indicators:** general economic measures and data points drawn from the Central EDD interactive data portal
2. **Prosperity Profile Indicators:** specific indicators from the resilience, community and mobility categories
3. **Collaboration and Engagement:** measurements of the number and frequency of regional collaboration activities conducted related to CEDS action item implementation
4. **Public Investment:** measures the level of public investment in programs, projects or initiatives related to CEDS action item implementation
5. **Stakeholder Perceptions:** measures the perceptions of regional stakeholders on related economic development issues

Centralina will track the indicators based on related CEDS activities. We will also deploy an annual CEDS survey to receive feedback on indicators related to stakeholder perceptions. In addition, Centralina will complete an annual update to the Prosperity Profiles for each county and the Centralina region to track progress on the indicators related to the resilience, community and mobility themes. The table below outlines the major indicators for each goal.

	<b>Expanding Economic Opportunity for All</b>	<b>Enhancing Regional and Community Supportive Infrastructure</b>	<b>Strengthening Economic Resilience and Global Competitiveness</b>
<b>Centralina EDD Portal Economic Indicators</b>	<ul style="list-style-type: none"> <li>• Small business growth</li> </ul>	N/A	<ul style="list-style-type: none"> <li>• International export in goods</li> <li>• International export by county</li> <li>• Amount of foreign direct investment</li> </ul>
<b>Prosperity Profile Indicators</b>	<ul style="list-style-type: none"> <li>• Unemployment</li> <li>• Educational attainment: bachelor's degree or more</li> <li>• Median household income</li> <li>• Poverty</li> <li>• School poverty</li> <li>• Neighborhood poverty</li> </ul>	<ul style="list-style-type: none"> <li>• Community resilience Index (three or more risk factors)</li> <li>• Housing burden: rent</li> <li>• Housing burden: mortgage commute time</li> <li>• Housing and transportation costs as a percentage of income</li> </ul>	<ul style="list-style-type: none"> <li>• Rate of jobs requiring a bachelor's degree</li> </ul>
<b>Collaboration &amp; Engagement</b>	<ul style="list-style-type: none"> <li>• Number and frequency of regional collaboration activities to improve alignment of workforce and economic development</li> </ul>	<ul style="list-style-type: none"> <li>• Number and frequency of regional collaboration activities to improve collaboration between regional transportation planning organizations and economic developers</li> </ul>	<ul style="list-style-type: none"> <li>• Number and frequency of global engagement activities</li> </ul>
<b>Public Investment</b>	<ul style="list-style-type: none"> <li>• Number of competitive grants submitted for new workforce development initiatives</li> <li>• Amount of public funding invested in entrepreneurship and small business support facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Amount of public funding invested in transportation, utility and broadband systems</li> <li>• Number of letters of support issued by Centralina EDD for competitive funding applications for transportation, utility and broadband investments</li> </ul>	<ul style="list-style-type: none"> <li>• Number of competitive grants submitted for facilities or programs that support R&amp;D, innovation and commercialization activities</li> <li>• Number of letters of support issued by Centralina EDD for competitive grants</li> </ul>
<b>Stakeholder Perceptions</b>	<ul style="list-style-type: none"> <li>• Percent change in confidence that labor market conditions are improving</li> <li>• Percent change in confidence that entrepreneurs and small business owners have access to regional networks and supports</li> </ul>	<ul style="list-style-type: none"> <li>• Percent change in confidence that the regional is collaborating on infrastructure investments</li> </ul>	<ul style="list-style-type: none"> <li>• Percent change in confidence of the growth potential of the region's five industry clusters</li> <li>• Percent change in confidence that the supply chain is improving</li> </ul>

## 8.0 Acknowledgements

The Comprehensive Economic Development Strategy (CEDS) is funded by the U.S. Department of Commerce Economic Development Administration (EDA) and we wish to express our sincere gratitude for their support and funding of this effort. The CEDS represents the work of Centralina across the Community Economic Development, Workforce Development and Regional Planning departments. The primary process facilitators and lead authors are listed below along with key contributors and research leads.

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### Centralina EDD Board Members and CEDS Steering Committee Members

The planning process and final strategy was shaped by the invaluable contributions of the Centralina Economic Development District Board of Trustees and the CEDS Steering Committee comprised of representatives of counties, municipalities, economic development organizations, business organizations, small business assistance providers, workforce development entities and academic institutions. The diversity of the perspectives on the Committee made the plan stronger and provided opportunity for discussion of the various strategies needed to guide economic resilience and recovery. Given this diversity,

it is important to note that the final recommendations do not fully reflect the opinions of every member of the Board and Committee. Board of Trustee members are also noted with an asterisk.

**Centralina EDD Board of Trustees Officers**

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John Marek, Anson Economic Development Partnership

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Melanie Underwood, NC Economic Development Partnership\*

Chairman Jarvis Woodburn, Anson County Board of Commission\*



## CEDS Working Group Members & Participating Organizations

In addition to Steering Committee members, the following individuals contributed to our working groups:

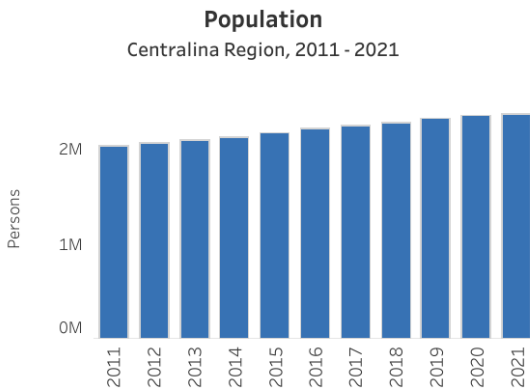
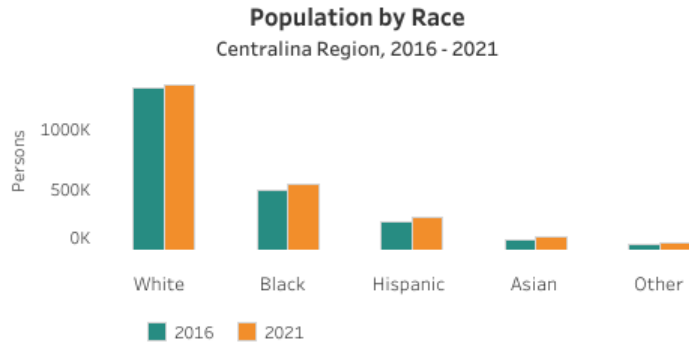
Daryle Adams, Kannapolis City Schools	Craig Lamb, Rowan-Cabarrus Community College
Nikkie Allen, Electrolux	Deb Lazenby, Mitchell Community College
José Alvarez, Prospera	Eric Lewis, NXT CLT
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# Appendix A: Prosperity Profile Data

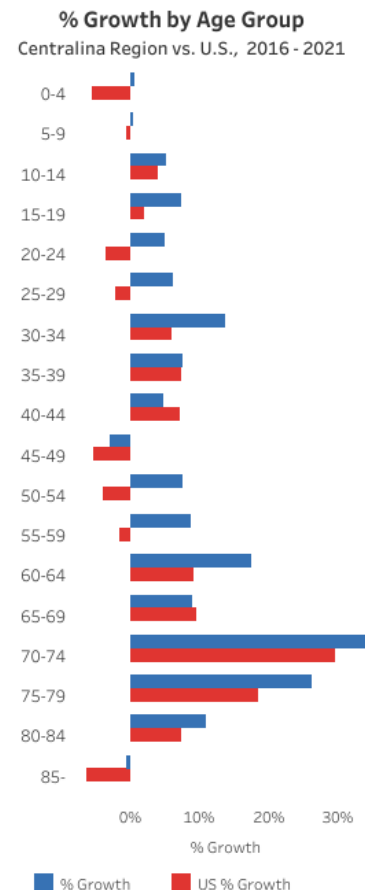
## Demographics Overview

The population of the Centralina EDD region in 2021 was 2,343,331 people which reflects a 7% growth during the period of 2016 to 2021 and an increase of 161,056 new people. This represents a slowing of the rapid growth the region experienced between 2010 and 2016. During this period Mecklenburg County



Source: US Census (Population Estimates Program) <https://www.centralinaedd.org/tableau/age-race-demographics/>

experienced a 6% increase in population growth and Anson County experienced a 6% decrease in population. However, the suburban counties of Cabarrus (10%), Lincoln (9.5%), Iredell (9%) and Union (8.6%) all experienced more growth in population during this period than Mecklenburg County. Rowan County, the next most rural county in the region, during this period experienced a 4% population growth and Stanly County experienced a 4% population growth rate.

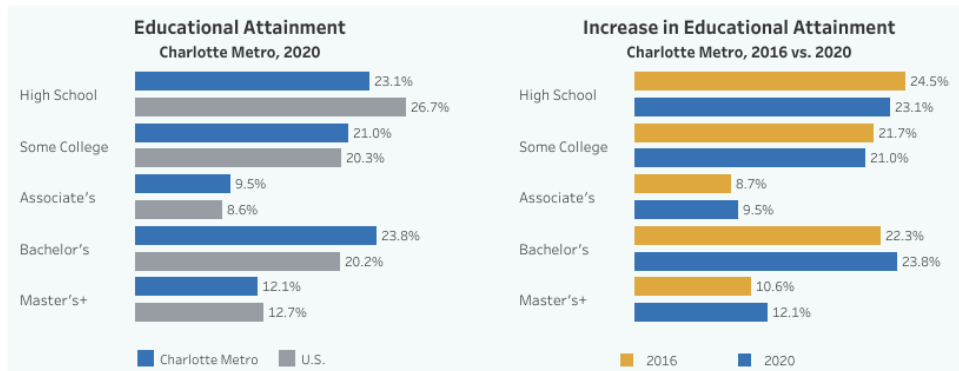


The age distribution of the Charlotte region from 2017 to 2021 indicates an increase in population for all ages between 50 to 84 years old with 42% average growth in these age bands. Those aged 30 to 44 years old also represent an increase in the region’s population between 2017 and 2021. The new population of residents during this period is greatest for 30 to 34 years old, 60 to 64 years old and 70 to 74 years old with the greatest loss of 45 to 49 years old. The Centralina region outperforms the percent growth by age of the U.S. overall for ages 30 to 34 years, 60 to 64 years and 70 to 84 years old. The term used for this aging demographic trend is Silver Tsunami and it is referred to throughout the CEDS report.

The region is also becoming more diverse. Between 2010 and 2021, the Latino population grew by 30%, the Black population grew by 21% and the Asian population grew by 45%. However, between 2016 and 2021, as regional growth slowed, so did the growth of non-white populations.

The median household income in the Charlotte region during the period of 2009 to 2019 increased by 34.5% and 8.1% from 2018 to 2019. The median household income in 2019 for the region was \$68,487. The median household income in Anson County during the period of 2009 to 2019 increased by 25.6% and 7.4% during the period of 2018 to 2019. The median household income in 2019 for Anson County residents was \$40,826. This demonstrates that even the most rural county and population in the region experienced economic growth, however it continues to lag as compared to the region overall and the more urbanized counties and communities.

**EDUCATIONAL ATTAINMENT TRENDS: Charlotte Metro**



Source: US Census (American Community Survey) <https://www.centralinaedd.org/tableau/educational-attainment-trend/>






The Charlotte metro area educational attainment trends during the period of 2012 to 2020 experienced a plateau in the increase in educational attainment across the high school to master's plus degree population. The greatest increase in educational attainment was in the master's plus degree population going from 10.1% in 2012 to 12.1% in 2020.

## BENCHMARK PERFORMANCE

### Charlotte Metro

Benchmarks include

Atlanta, Austin, Boston, Columbus, Dallas, Denver, Greenville-Spartanburg, Kansas City, Nashville, Raleigh-Durham, Tampa and Washington-DC metros

Metric / Latest Year	Benchmark	Charlotte's Rank out of 13	Source
Private Sector Employment 2016 - 2021	9.6% Growth	 3	US Bureau of Labor Statistics (QCEW)
Population 2016 - 2021	8.2% Growth	 5	US Census Bureau Population Estimates Program
25-44 Year-old Population 2016 - 2021	8.8% Growth	 3	US Census Bureau Population Estimates Program
Median Home Value 2012 - 2017	20.2% Growth	 5	US Census American Community Survey
Lower values rank better	\$197,100	 5	

Available: <https://www.centralinaedd.org/tableau/benchmark-scorecard/>

### *Additional Data from Centralina Target Cluster Opportunity Analysis & AI/Automation Risk Assessment*

The top forces and disruptors identified for the Centralina region include:

#### **Economic**

- Federal Spending Boost
- The Retail Revolution
- The New Globalization






#### **Demographic**

- Help Wanted
- A Silver Tsunami
- On the Move

#### **Technological**

- The Internet of Things (IoT)
- Accelerating Change
- Artificial Intelligence & Automation

These nine macro forces and industry disruptors examined in the assessment are deeply intertwined. Mass deployment of autonomous vehicles, for example, will require investments in “smart” infrastructure. Talent shortages in fast-growing sectors such as transportation and logistics may increase the race to automate warehousing operations. In turn, the push towards automation will likely involve the maturation of the IoT technologies to produce new efficiencies.

CENTRALINA REGIONAL ECONOMY MOST IMPACTFUL DISRUPTORS			
Industry Cluster	Technological Disruptors	Economic Disruptors	Demographic Disruptors
 <b>ADVANCED MANUFACTURING</b>	Artificial Intelligence Gets Real	Federal Spending Boost, New Globalization	
 <b>FINANCIAL SERVICES</b>	Artificial Intelligence Gets Real		Silver Tsunami
 <b>HEALTH</b>			Silver Tsunami, Help Wanted
 <b>INFORMATION TECHNOLOGY</b>	Artificial Intelligence Gets Real; Internet of Things; Electric Vehicles		Where the Work Gets Done, Help Wanted
 <b>LOGISTICS &amp; DISTRIBUTION</b>	Artificial Intelligence Gets Real, Internet of Things	Retail Revolution	Help Wanted

The chart above summarizes the most impactful disruptors to our region’s five industry clusters. AI and the Internet of Things are the top technological disruptors followed by the aging workforce (Silver Tsunami) and labor market shortages (help wanted). Interestingly, the “where work gets done” disruptor that addresses the rise of remote work was only a high-impact factor for the IT cluster.

## Appendix B: Sources & Data Profile for Expanding Economic Opportunity

The most important aspect of a prosperous region is its people. At its core, the economy and places of our region are only successful in that they lead to prosperous people and prosperous communities. The Prosperity Profile uses four place-types—urban, mixed urban, mixed rural and rural—to assess at a high level how the region is performing with regards to resilience, community and mobility. The economy and place section of this report share findings related to these general place types. However, the Prosperity Profile also reveals an intuitive but often overlooked fact: Prosperity at the regional level or the county level does NOT imply prosperity for all people.

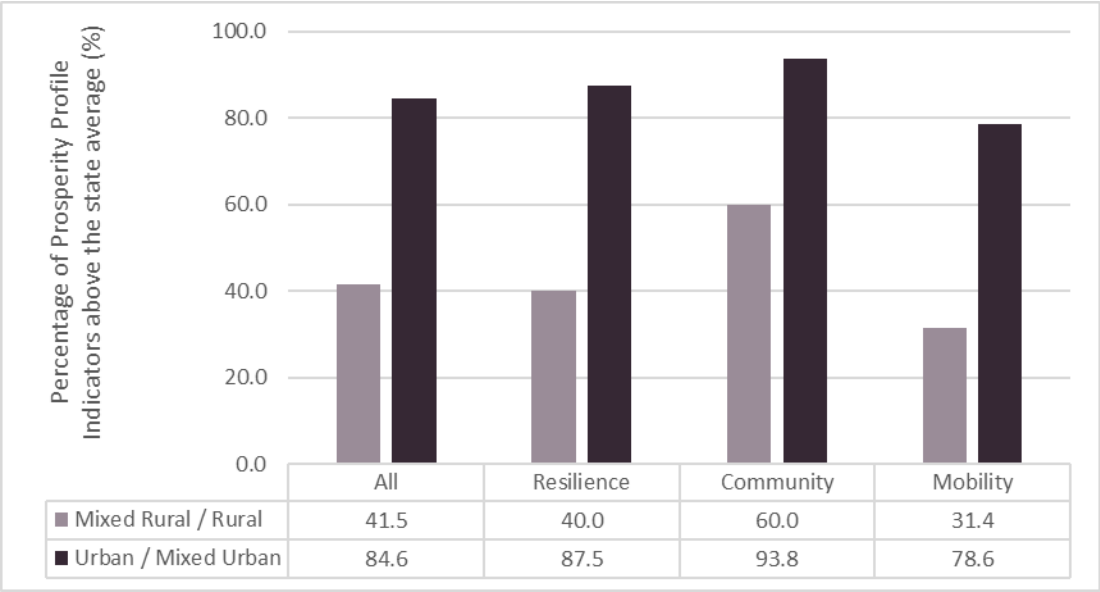
In 2013 Raj Chetty of Harvard University released a report which found that **Charlotte ranked 50th out of the 50 largest U.S. cities for economic mobility**—that is, people born into low-income households were the least likely to move up the economic ladder in adulthood. Further, the report found that outcomes varied dramatically by neighborhood, even residents in adjacent census tracts had drastically different life outcomes.

After the release of this report, the City of Charlotte and Mecklenburg County responded by creating a task force to investigate the causes of this disparity and potential solutions. The Leading on Opportunity Task Force released a report in 2017 which identified three determinants (early care and education; college and career readiness; family and child stability) and two cross-cutting factors (social capital, the impact of segregation) that were determined to be the “most likely to influence the opportunity trajectory of an individual.”

While the Prosperity Profile used an entirely different framework for its analysis, its findings confirmed those of the Leading on Opportunity Task Force. Further, while the Chetty report focused on the City of Charlotte and Mecklenburg County, the Prosperity Profile showed that many of the same disparities are also present across the region, even the rural and mixed rural communities.

### Appendix C: Sources & Data Profile for Building Community Supportive Infrastructure

The geographic lens of the Prosperity Profile reinforced the impact of place. In our region, both urban and mixed urban communities performed best on the resilience, community and mobility metrics. For example, the urban / mixed urban communities have, on average, higher median incomes, lower poverty rates and lower unemployment rates.

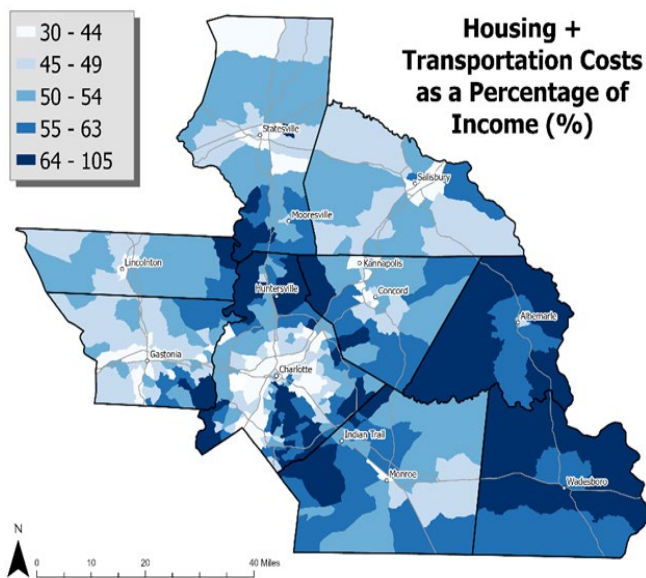


One major reason for this difference is the presence of more high-opportunity places in urban / mixed urban communities in terms of employment (e.g., target industry jobs) and resources. While it is important step must be to create more opportunity throughout the region (economy) and to invest in our citizens (people), it is equally important to increase access and connections (place) throughout the region. The Prosperity Profile assists the Centralina EDD and regional partners and stakeholders via a shared lens define how housing and transportation are integral to decreasing barriers to living in or accessing high-opportunity places.

A key indicator for the Prosperity Profile was the combined cost of housing and transportation as a percentage of annual income. Housing affordability is a regional problem, especially in the last few years as the cost of housing has increased throughout the nation. The highest concentration of housing outside the income or affordability range for many residents is in or near many of the urban / mixed urban communities in the region, particularly Mecklenburg County. These areas have a high demand for housing due to the concentration of people, jobs, hospitals and education opportunities. For many, however, prosperity is limited by the high cost of housing in these areas.

The lack of affordable housing in many parts of our urban / mixed urban communities has pushed people to either move further away towards rural / mixed rural communities where housing is more affordable or to acquire housing in parts of the urban / mixed urban communities, which have been historically disadvantaged, and where consequently, housing is more affordable. These patterns clearly demonstrate the high demand for housing options throughout the region, but particularly in high-opportunity places.

Unlike housing, transportation costs tend to be lowest in high-opportunity places within urban / mixed urban communities, as well as the urban centers in rural / mixed rural communities. The



places where the cost of transportation is the lowest are also the places that are more walkable and have public transportation options. In rural / mixed rural communities, residents have fewer transportation options both locally and regionally, and when coupled with the cost of owning and operating a vehicle, this makes the cost of transportation proportionately higher. Thus, the affordability of housing in rural / mixed-rural housing is often counteracted by the increased cost of transportation.

So, when considering both housing and transportation costs, the places that are most relatively affordable are those where people live close to high-opportunity places where there are a variety of affordable housing options and where there are local and regional transportation options that provide an alternative to driving.



As the region grows, providing affordable transportation options will be fundamental. However, transportation equity involves more than just cost. As part of the [CONNECT Beyond](#) mobility project, Centralina developed a [Transit Equity Portal](#) to highlight how equity is impacted by the current transportation options in the region. The portal uses various metrics such as vehicle accessibility, transit propensity and persistent poverty to identify where there are gaps in the transportation network and where future service should be prioritized. The findings confirm and reflect those of the Prosperity Profile—to meet the transportation needs of the Centralina region, affordable transportation options are needed to both connect urban and rural communities and to support local communities.

The [CONNECT Our Future](#) project that was completed in 2015 continues to serve as the regional vision for future economic growth, quality of life and efficient land use decisions. The CONNECT Our Future process utilized scenario planning to create different scenarios of future regional growth. The scenario modeling process incorporated various indicators of economic growth and quality of life based on a variety of “community types” that are physical descriptions of various built or natural environments.

After extensive regional engagement and buy-in on core values and needs, CONNECT Our Future developed a [preferred growth scenario](#) that includes growing in multiple centers connected by regional transit. The project also conducted an [economic analysis](#) focusing on the property tax revenue productivity of different development patterns that exist within the nine-county Centralina region and across the 14-county study region. The analysis found that mixed-use, more compact development patterns, scaled in context with local needs, created more net revenues for communities. The economic growth and development assets and opportunities examined as part of the CEDS indicate many of the factors identified in the CONNECT Our Future continue to be relevant perspectives for informing the near-term community actions of the CEDS.

### *Freight & Mobility Conditions*

One of the key drivers of population growth within a region is the availability of jobs. As the population of the greater Charlotte region grows, the demand for housing, retail trade, commercial and professional services and other land uses absorbs the most strategic locations, pushing business and industry further and further away from the employees they need. As the journey to work becomes more expensive, it is often the people who truly need access to employment opportunities who are least able to afford the cost of getting to work.

More and more employers recognize the value of integrating places where people work with places where people live. When many businesses evaluate locations for facility expansion they ask about transit services, ride sharing and affordable housing near business concentrations. Land assets that can support freight facilities and services and a growing economy is essential to the greater Charlotte region’s economic future.

Centralina Regional Council, in collaboration with regional partners, finalized the Greater Charlotte Regional Freight Mobility Plan (Freight Plan) in December of 2016. The Freight Plan

identifies multiple goals based on a needs assessment of freight movement and freight-oriented land uses along with current capabilities for meeting those needs now and in the future. As the movement of goods transcends jurisdictional boundaries and responds to shifts in global supply chain conditions, freight-related decisions can have wide-ranging impacts within and outside of the region. The Freight Plan supports the CEDS and other regional efforts, ensuring freight priorities complement other important economic development initiatives.

The Freight Plan represents a comprehensive planning effort that includes considerations of the demands of land use trends and population growth, economic indicators and the performance of the transportation network connecting the region. Implementation of the recommendations requires coordination from local, regional, state and national partners, involving both public and private sectors. Because Centralina is not directly responsible for land use planning, it is necessary that the Freight Plan be implemented via local municipalities, counties and governmental agencies in their comprehensive plan updates, land use and zoning policies and in the conduction of developmental services.

### *Water Supply Conditions*

The Catawba-Wateree River Basin (Basin) provides water for the Centralina region and beyond. It serves as the water resource for approximately 25% of Duke Energy's power generation in the Carolinas. It also serves as a vital natural water resource for over 2.2 million people and jobs. The Catawba-Wateree River is the heart and soul of our region. It provides water for our homes, farms and factories as well as the energy to power our lives and supporting natural recreation and tourism for our region. The net water withdrawn from the Basin in 2021 was 205 million gallons per day. This daily withdraw reflects more than 50% for public water systems, approximately 28% for power production, 18% for agriculture and less than 0.05% for direct industrial uses (approximately 1 M gal/day).

[The Catawba-Wateree Water Management Group \(CWWMG\) 2021-22 Annual Report](#) indicates during the next 50 years the region could face significant water supply shortages and the increased need to partner regionally to develop and adopt more efficient and sustainable approaches to water resource management. The CEDS includes recognition of water and energy supply concerns in the recommendations and implementation actions. The need to partner with industry, energy providers, utilities, agriculture, tourism and communities to develop sustainable water source protection via proactive planning, cutting edge research and water shortage preparedness makes ecological and economic sense.

Centralina Regional Council staff serve on the CWWMG Advisory Committee and provide local government perspectives related to governance and strategic plans. CWWMG Integrated Water Resources Plan is an important component of the economic health of the Centralina region and the success of local communities to understand how land use practices, development activities and variable climate conditions implicate the economic vulnerability of the region now and in the future.

### *Broadband Availability*

Addressing the digital divide within the state and the region is led by the [North Carolina Division of Broadband and Digital Equity](#). Broadband infrastructure is a major challenge, affecting both rural and urban areas in North Carolina. In accordance with the 2019 North Carolina Broadband Availability Index the Centralina region varies in the percent of population with access and availability to broadband from 100% of the population in Mecklenburg to 29% of the population in Anson County. As expected, the more urbanized a county is the greater the percentage of the population with availability to broadband access. The mixed urban counties in the Centralina region range from 83% in Cabarrus County, 78% in Gaston County and 69% in Union County. The mixed rural counties of Rowan 74%, Lincoln 68% and Stanly 69% are comparable to the mixed urban counties however most counties at the sub-county level particularly in rural areas continue to experience gaps in availability and access to broadband.

### *Economic Resilience Conditions*

The Centralina Economic Development District (EDD) partnered with Centralina Regional Council and the nine-county emergency management (EM) directors to launch the [Regional Resilience Collaborative \(RRC\)](#) in April 2021. The RRC program examines the viability and resiliency of EM disaster recovery plans and economic resilience needs to ensure the region benefits from greater efficiency in responding to current and future natural and man-made disasters and economic shocks.

The RRC supports the Comprehensive Economic Development Strategy (CEDS) five-year economic plan required by the U.S. Economic Development Administration (EDA) by examining the economic recovery needs for the region now and in anticipation of future economic shocks. Long-term disaster recovery requires local governments to include recovery management protocols in their day-to-day operations, particularly in their finance departments, to ensure response and recovery costs when incurred can meet federal and state reimbursement requirements. EM departments, small towns and rural areas have limited capacity for ensuring their communities are as resilient as they need to be prior to the next disaster event. The RRC serves as a scalable and replicable example of how council of governments are appropriate to serve as a critical trusted partner for economic recovery and resilience.

The key impact of the Centralina RRC project is the establishment of a regional pre-disaster working group of EM leaders, local government leaders, community and non-profit entities working collaboratively to prepare for economic shocks and community disruptions caused by natural and man-made disasters. While all counties in the region have up-to-date FEMA and state required Hazard Mitigation Plans (HMP), the EM directors admit they are not prepared to implement those plans as part of a recovery process. In fact, the HMP informs but does not require an approved local recovery plan.

## Appendix D: Sources & Data Profile for Strengthening Regional Resilience and Global Competitiveness

### *Highlights from [Centralina Target Cluster Opportunity Analysis](#) report on five industry clusters*

The analysis conducted by Ernest and Young (EY) on the Industry Target Cluster evaluation determined all five existing industry clusters identified in the 2017-2022 CEDS continue to be the foundation for our region's economic development strategy. Unlike other U.S. metros, the region's economy is broad based with five growing industry clusters in advanced manufacturing; financial services; health; logistics and distribution; information technology. These industry clusters reflect the target industry clusters for the CEDS analyses.

Pre-pandemic (2014-2019), all five industry clusters posted employment gains, accounting for 40% of all jobs created in the region. Employment growth in these clusters outpaced the U.S. by 5%-20%. From an employment perspective, Centralina's target industries vary widely in size. Health is the largest target cluster with nearly 110,000 workers in the region. Information technology on the other hand, employs just 23,000 workers in the Centralina region though many IT workers are employed in other clusters. Advanced manufacturing and financial services are nearly identical in size, with 75,000 and 78,000 workers respectively. The logistics and distribution cluster in Centralina employ nearly 54,000 workers.

The pandemic brought an abrupt end to global economic momentum and the Centralina region was no exception. The average unemployment rates in the region changed from 3.7% in March 2020 to a peak of 13.1% in May 2020 before gradually decreasing to approximately 5.9% in the fourth quarter of 2020. The pandemic also spotlighted the region's vulnerabilities related to a dependence on global supply chains which are key to our advanced manufacturing and logistics and distribution clusters.

Looking beyond the region's five core target industries, the dynamics seen at the metro level show the stark changes that occurred in the economy in 2020. Leisure and hospitality lost over 27,000 jobs from January to June; 23,000 jobs were regained over the next 12 months.

Government employment lost over 13,000 jobs and only regained 7,000 jobs. Health services lost nearly 12,000 jobs and regained just one third of jobs lost. Similarly, manufacturing regained only 32% of the 7,000 jobs lost. Overall, the metro had about a gap of 1.8% below January 2020 levels as of June 2021. Unemployment rates rose dramatically to 14% in April 2020 and have since fallen. Still, low unemployment rates are masked by the loss of available labor force that has since fallen out of the workforce.






The pre-pandemic economic health of the Centralina region was strong as demonstrated by employment growth and capital investment across all five industry clusters. The impact of the pandemic hit all cluster initially and recovery has been uneven and challenged by supply chain and worker shortages throughout 2021. Centralina's target industries are all poised to post

significant rebounds in the years ahead and will contribute to the resiliency and growth of the Centralina region's economy. Each of these clusters is well-positioned to leverage the region's assets in the face of economic, technological and demographic changes, which are likely to continue to drive change in the region's economy.

As part of the industry cluster analysis, EY examined the global and national disruptive forces that impact the economic resilience of the region's clusters. In the years ahead, technological, economic and demographic forces promise to transform our communities as well as the people and industries that power them. Increased federal spending, for example, may increase the competitiveness of aging places with antiquated infrastructure as well as fast-growing locales with overburdened roads, bridges and ports. The aging of America will continue to contribute to sustained healthcare spending while potentially worsening the talent shortages that already plague many industries. Continued advancements in artificial intelligence, for example, may lead to another wave of automation. In some instances, the macro forces and disruptors pose risks for existing market leaders as well as individual industries. In other areas, a rapidly evolving competitive environment will create new market opportunities. Communities that can help firms navigate these macro forces and industry disruptors will be well-positioned to thrive in the years ahead.

The nine macro forces and industry disruptors examined in the report are deeply intertwined. Mass deployment of autonomous vehicles, for example, will require investments in "smart" infrastructure. Talent shortages in fast-growing sectors such as transportation and logistics may increase the race to automate warehousing operations. In turn, the push towards automation will likely involve the maturation of the IoT technologies to produce new efficiencies

On pages 38-53 of Appendix A, there is a cluster-by-cluster analysis of the impacts of these disruptors. The chart below summarizes the most impactful disruptors to our region's five industry clusters. AI and the Internet of Things are the top technological disruptors followed by the aging workforce (Silver Tsunami) and labor market shortages (help wanted). Interestingly, the "where work gets done" disruptor that addresses the rise of remote work was only a high-impact factor for the IT cluster. This disruption analysis points to important vulnerabilities that the CEDS will need to address in the strategy development phase.

CENTRALINA REGIONAL ECONOMY MOST IMPACTFUL DISRUPTORS			
Industry Cluster	Technological Disruptors	Economic Disruptors	Demographic Disruptors
 ADVANCED MANUFACTURING	Artificial Intelligence Gets Real	Federal Spending Boost, New Globalization	
 FINANCIAL SERVICES	Artificial Intelligence Gets Real		Silver Tsunami
 HEALTH			Silver Tsunami, Help Wanted
 INFORMATION TECHNOLOGY	Artificial Intelligence Gets Real; Internet of Things; Electric Vehicles		Where the Work Gets Done, Help Wanted
 LOGISTICS & DISTRIBUTION	Artificial Intelligence Gets Real, Internet of Things	Retail Revolution	Help Wanted






In the years ahead, technological, economic and demographic forces promise to transform our communities as well as the people and industries that power them. Increased federal spending, for example, may increase the competitiveness of aging places with antiquated infrastructure as well as fast-growing locales with overburdened roads, bridges and ports.

The aging of America will continue to contribute to sustained healthcare spending while potentially worsening the talent shortages that already plague many industries. Continued advancements in artificial intelligence, for example, may lead to another wave of automation.

### *Artificial Intelligence (AI)/Automation*

Ernst & Young prepared a special report on the [AI/Automation Risk Assessment](#) based on the initial disruption findings from the Target Cluster Opportunity Analysis. Artificial intelligence (AI), automation and the Internet of Things (IoT) are some of the disruptive technologies that are changing the world as we know it. Moreover, AI and automation are causing significant concern about the long-term future of job creation, destruction and transformation. Not surprisingly, lower-skill jobs that are repetitive or prone to machinery displacement are at highest risk.

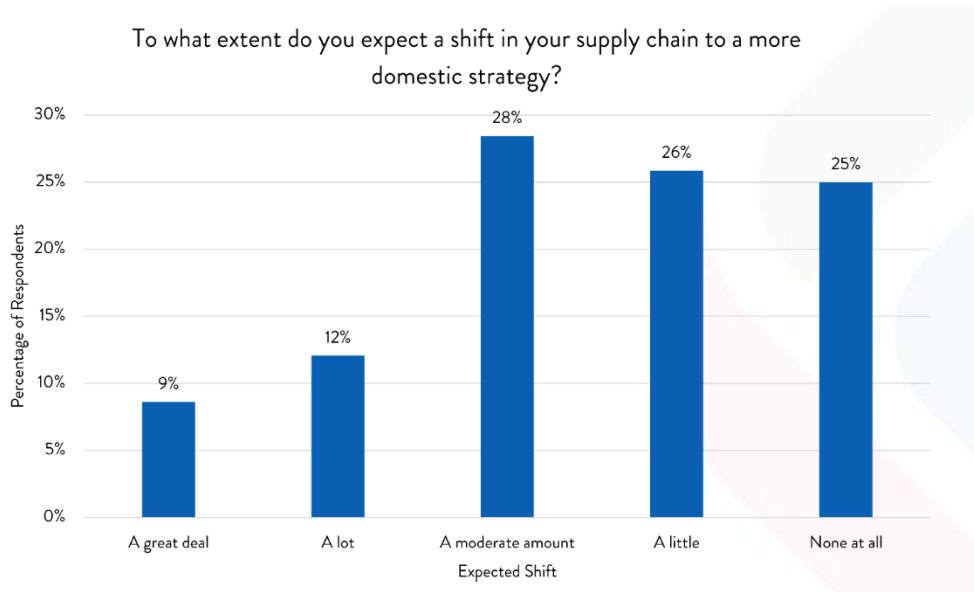
Automation in the manufacturing industries has been driven by the installation of industrial robots to boost production and make workers more products. Long-term trends show a significant increase in robotics, from just over 150,000-unit installations worldwide in 2010 to 415,000 in 2018. A slight dip in investment in 2019 and 2020 is expected to reverse, with a nearly 40% increase in robotics installations over the next four years. The chart below maps the impacts of AI/automation on Centralina’s industry clusters.

CENTRALINA REGIONAL ECONOMY WHERE IS AI FOUND IN OUR TARGET CLUSTERS?		
 <b>ADVANCED MANUFACTURING</b>	Robots Industry 4.0	Inventory Management Energy Reduction
 <b>FINANCIAL SERVICES</b>	Fintech Risk Assessment	High Volume Loan Approvals Customer Service/Chat Bots
 <b>HEALTH</b>	Drug Discovery Health Monitoring	Diagnostics
 <b>INFORMATION TECHNOLOGY</b>	Big Data Analytics AI Adoption	Data Center Automation Energy Reduction
 <b>LOGISTICS &amp; DISTRIBUTION</b>	Robots Augmented Reality	Autonomous Trucking Inventory Management

### Supply Chain

Centralina and Ernst and Young (EY) partnered with the Charlotte Regional Business Alliance (CRBA) to develop and distribute a [supply chain survey](#) to key manufacturers in 16 North and South Carolina counties represented by both Centralina EDD and the CRBA. The survey collected 116 results from different manufacturing companies within this region during June-August 2021.

The most prevalent theme the 2021 Supply Chain Survey captured was centered around competitive location factors. A near unified 98% of survey respondents agreed that availability of qualified workforce was very important, with 78% indicating that it was extremely important. This tied directly to the next section of the survey: long-term factors attributing to the overall competitiveness and the resiliency of supply chains. Over 74% of respondents indicated



workforce upskilling was a very important long-term factor. Additionally, about 43% of respondents agreed robotics/automation was a very important factor.

Another important theme from the open-ended section of this survey, while not as prevalent as the labor issue, was a desire to source many more components and inputs locally. Some of the most common components mentioned were raw materials, steel, metal and plastics. There is an overall desire to source many components more regionally among many survey respondents.

In addition, the supply chain analysis identified potential scenarios for supply chains in the future due to disruption from the pandemic as well as technology. Companies may move from “just in time” to “just in case,” with more stockpiling of critical components/goods to ensure supplies. ESG (environmental, social and governance) goals for companies will become a growing factor in global site selection in the drive (or regulation) to de-carbonize. More locally sourced supply chains may result, and OEMs (original equipment manufacturers) will increasingly seek to decarbonize their own supply chains. Trends toward a global minimum tax of 15% will reduce the benefits of low tax countries. Another factor may include growing consumer demand for customization and speed to market, requiring more resilient supply chains. These are all important factors to consider to support short-term recovery and long-term resilience in the economy.

### Industrial Land Use Study

Table 2: Industrial Land Inventory, Areas Highly-Constrained for Development Removed

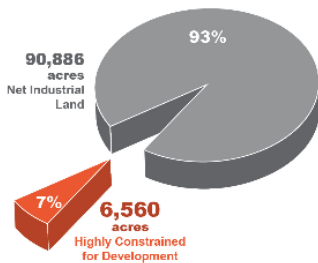
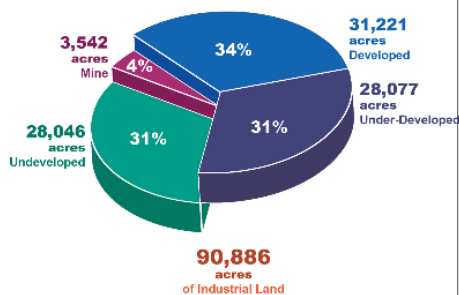


Table 3: Net Industrial Land Inventory, Categorized by Development Status for the CEDS Region



City Explained, Inc. (CEI) conducted an industrial audit for the nine-county Centralina region. The purpose of the study was to examine if there is enough industrial land available in the region to accommodate projected growth in 2040.

The findings of the study, as illustrated in the following charts, indicate approximately 91,000 acres of industrial land are available across the nine-county region and approximately 6,560 acres are highly constrained for development, mostly due to floodplain limitations. The region may anticipate 60,156 new industrial employees by 2040 representing approximately 23,185 acres of new industrial parcels needed.

Specific objectives identified for the audit include:

1. Enumerate the amount of industrial land in the region today and the number of employees the land supports.
2. Approximate demand for industrial land in the future (2040) to support an expanding economy and industrial base for the region.



3. Estimate the current supply of industrial land in the region, including land currently used for industrial uses and land identified through policy to support industrial uses sometime in the future; and
4. Calculate a surplus or deficit of industrial land for each county to meet projected demand through 2040.

Table 5: Industrial Employee Future Year Projections for the CEDS region, 2022 to 2040 (Aggressive)

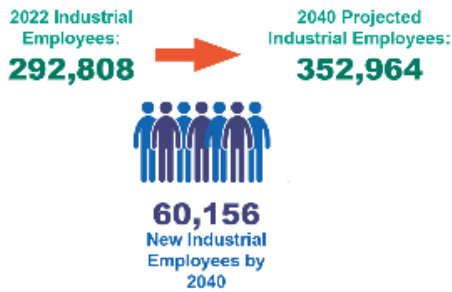


Table 6: Industrial Building Square Feet Reported by Tax Assessor Office for the CEDS Region &

Table 7: Employee Space Ratios Computed for the CEDS Region



Table 8: Demand for New Industrial Building Square Feet Based on Future Year Projections and Employee Space Ratios for the CEDS Region

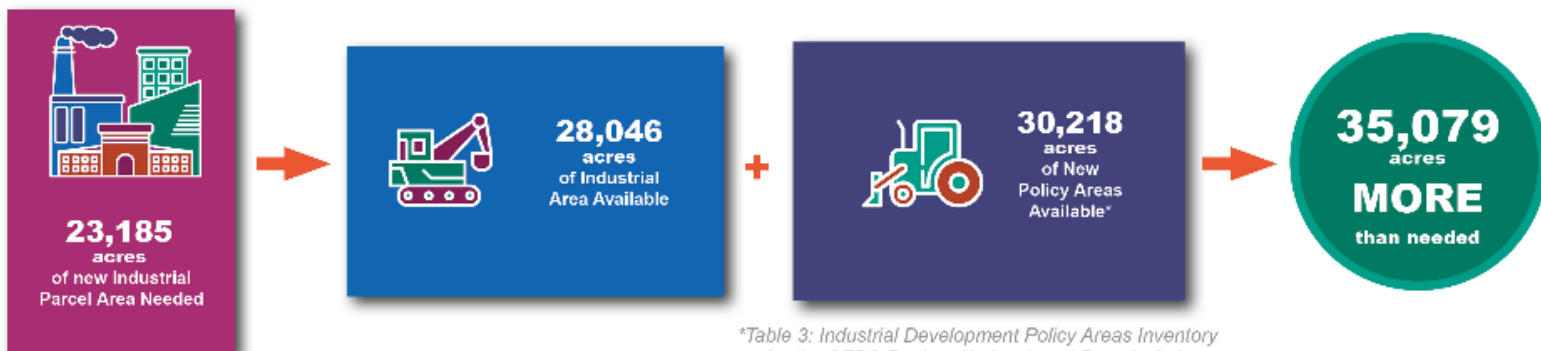


Table 9: Average Floor Area Ratios Computed for the CEDS Region &

Table 10: Projected Demand for Industrial Land to Meet Future Year Needs in the CEDS Region, 2022 to 2040



Table 11: Computed Demand vs. Available Supply to Meet Future Year Industrial Needs in the CEDS Region, 2022 vs. 2040



\*Table 3: Industrial Development Policy Areas Inventory for the CEDS Region, Undeveloped Parcels Only

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**CENTRALINA**  
REGIONAL COUNCIL

PREPARATION OF THIS REPORT WAS FINANCED IN PART BY A GRANT FROM THE  
U.S. ECONOMIC DEVELOPMENT ADMINISTRATION (EDA)



U.S. ECONOMIC DEVELOPMENT ADMINISTRATION