CONNECT our

FUTURE

Regional Scan Document

Final Report _August 2013

CONNECT Our Future

Vibrant Communities–Robust Region

The 14-county bi-state region includes: Anson, Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly and Union Counties in North Carolina, and Chester, Lancaster, Union and York Counties in South Carolina.

Regional Scan Document

"CONNECT Our Future" is a process in which communities, counties, businesses, educators, non-profits and other organizations work together to grow jobs and the economy, improve quality of life and control the cost of government. This project will create a regional growth framework developed through extensive community engagement and built on what communities identify as existing conditions, future plans and needs, and potential strategies.

The work that provided the basis for this publication was supported by funding under an award with the U.S. Department of Housing and Urban Development. The substance and findings of the work are dedicated to the public. The author and publisher are solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the Government.

This document was prepared by Centralina Council of Governments and Catawba Regional Council of Governments in partnership with the Seven Hills Planning Group, Inc., and the Design and Society Research Center at the University of North Carolina Charlotte.

Preface

The regional scan document summarizes current conditions in the CONNECT Region, which will become the baseline for measuring and evaluating the trade-offs of alternative future year development scenarios contemplated for the Region. It provides a general overview of key trends and indicators that influence growth and development while acknowledging the desire of towns, cities, and counties to retain their unique character within the planning area.

Acknowledgments

Preparation of the Regional Scan Document for CONNECT Our Future was a collaborative process that involved numerous stakeholders, including Centralina Council of Governments, Catawba Regional Council of Governments, University of North Carolina Charlotte, and Seven Hills Town Planning Group, Inc. All of their efforts are greatly appreciated.

HUD Acknowledgment & Disclaimer

The work that provided the basis for this publication was supported by funding under an award from the U.S. Department of Housing and Urban Development. The substance and findings of the work are dedicated to the public. The author and publisher are solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the view of the Federal Government

Introduction

CONNECT Our Future is a three-year program (2012 – 2014) aimed at bringing together communities, counties, states, businesses, educators, non-profit organizations and the general public to develop a shared, long-term vision for the future. It builds on the CONNECT Vision completed in 2008, and continues the Region's focus on job growth and the economy, improved quality-of-life, and controlling the cost of government for a more sustainable future. The program is supported by a $4.9 million HUD Sustainable Communities

Six core values drive the program for CONNECT Our Future, including:

- Support a Strong, Diverse Economy
- Promote Sustainable, Well-Managed Growth
- Ensure a Safe and Healthy Environment
- Increase Collaboration Among Jurisdictions
- Enhance Social Equity
- Provide High-Quality Educational Opportunities

Fifty-four local governments and thirty-one private, business or non-profit organizations have formally joined the CONNECT Our Future Consortium. They provide oversight and guidance during the planning process under two official Consortium "forums": a Program Forum that provides technical review and recommendations to the project team and a Policy Forum that examines political, regulatory or messaging issues related to the planning process or its recommendations.

Also essential to the program is a commitment to community-based regionalism; instilling a collaborative, bottom-up approach to raise stakeholder awareness and build consensus around existing conditions, future plans and needs, and an implementation strategy that moves the region forward consistent with the six core values. More than 400 partner meetings are planned with residents, business leaders, key industry groups, service providers, elected officials, government staff, expert panels, etc. to engage stakeholders throughout the three-year program.

Recommendations from CONNECT Our Future will be shared with local leaders as they plan for their own futures. These recommendations will include the "preferred growth scenario" that emerges from the extensive exploration of alternative futures, coupled with a tool kit to help communities implement parts of the vision most important to them, and additional recommendations for regional collaboration on matters requiring regional action or attention. Regional consensus for recommendations in the program will also help coordinate large-scale, multi-billion dollar infrastructure investments to support continued quality growth and encourage existing and new business investment in the region.

The Regional Scan Document for CONNECT Our Future summarizes current conditions in the CONNECT Region, which will become the baseline for measuring and evaluating the trade-offs of alternative future year development scenarios

contemplated for the planning area. It provides a general overview of key trends and indicators that influence growth and development, while acknowledging the desire of towns, cities, and counties to retain their unique character within the planning area.

Copies of other documents supporting CONNECT Our Future are available on the project's website (www.ConnectOurFuture.org).

The prosperity of the CONNECT Region depends on our ability to ***plan for the future, collaborate across jurisdictions, and communicate our shared priorities to citizens, businesses and the public sector.***

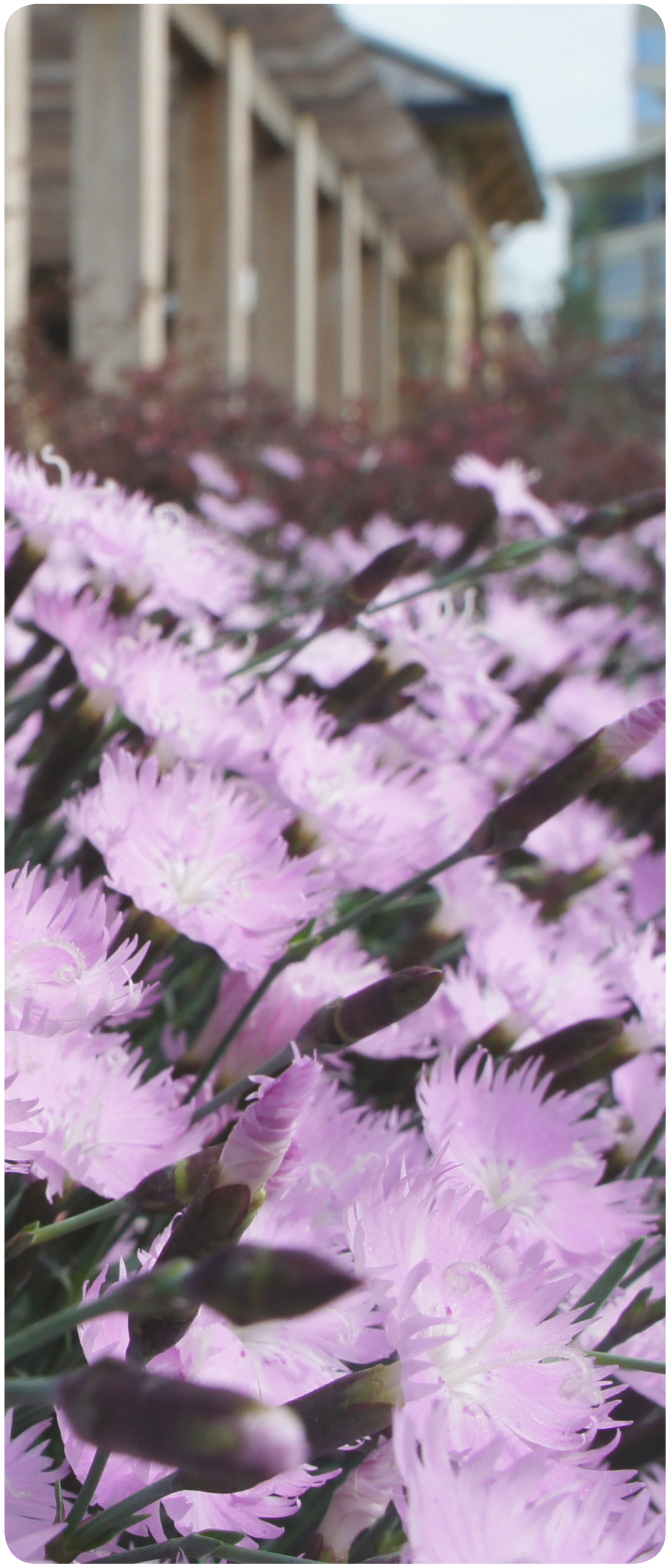
(Source: Economic Strategic Assessment for the Greater Charlotte Region, 2012)

Figure 1-3: All images taken at the ULI Reality Check Event held in Charlotte, NC June 4th, 2013

01

Region-At-A-Glance

This section of the document provides a snapshot of existing conditions and community features noted in the CONNECT Region. It describes the region's people and their economy, and communicates how land is organized, used, and supported by public facilities and services. General headings for the region-at-a-glance summary include: study area description, demographics, economy, growth trends and consequences, natural environment, built environment, supporting infrastructure, and community.



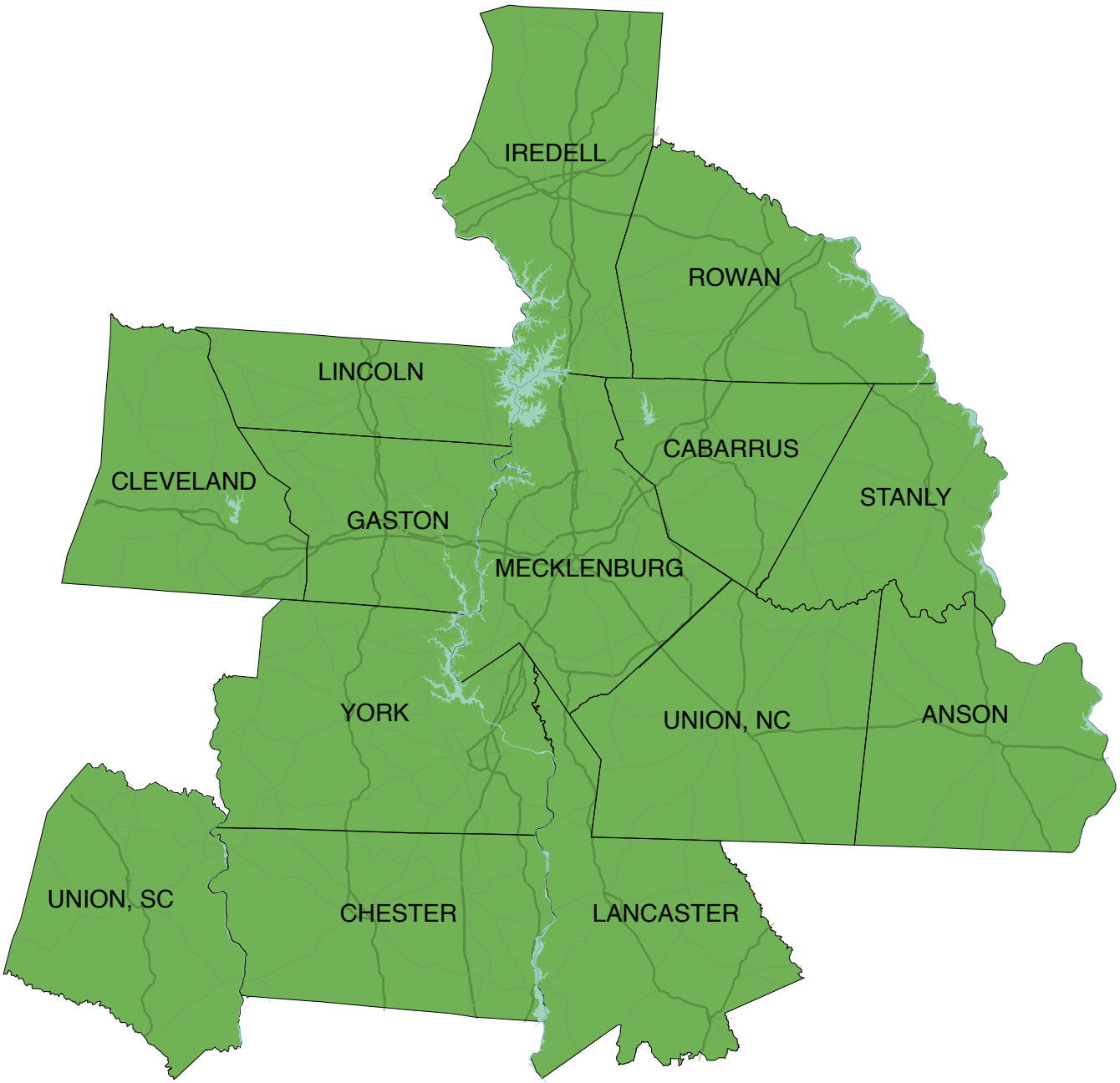
Study Area Description

The CONNECT Region is expansive, covering 7,200 square miles and 1.2 million parcels, in two states and fourteen counties. It includes 119 units of local government and countless special districts; including fire districts, school districts, soil and water conservation districts, transportation divisions, etc. Cities and towns in the region range from large metropolitan centers to rural hamlets. Environmental features, such as water basins, prime agricultural soils and air quality, bind the region together and blur political boundaries.

Together, the CONNECT Region represents a land area larger than the State of Connecticut and a population greater than fifteen US states (US Census Bureau, 2010).

The region is home to the world headquarters for eight Fortune 500 companies, as well as other major employers in medical, manufacturing, energy, financial and transportation business sectors[1]. Over half of the region's workforce lives in one county and works in another, which reinforces the need for more coordinated decision-making processes in housing, transportation, economic development, and other supporting infrastructure to realize a sustainable future[2].

Study Area Map Showing the 14 Counties Inlcuded in the CONNECT Region:

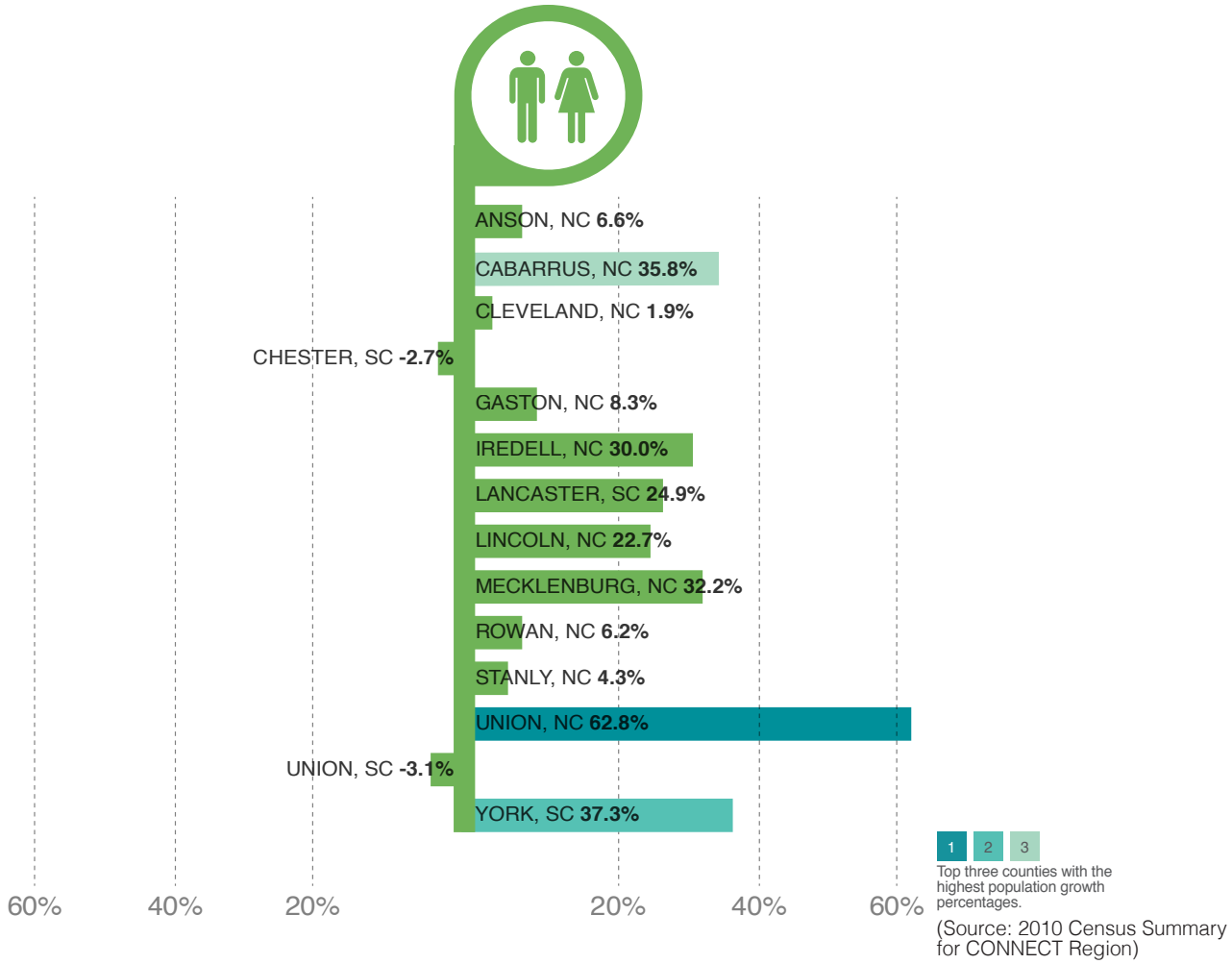


Demographics

The 2012 Comprehensive Economic Development Strategies (CEDS) documents (Centralina and Catawba Regions) for the CONNECT Region provide an assessment of current demographics and a basis for an economic assessment.[3,4] A summary of the CEDS reports findings, supplemented by county-level data from the US Census Bureau Data (2010) summarized for CONNECT Our Future, follows in the paragraphs below. Both documents are available from the CONNECT Our Future website (www.ConnectOurFuture.org).

The CONNECT Region grew in population every decade over the last 100 years. The pace of growth jumped dramatically in the 1990s, and reached double or triple times US growth rates during the housing boom between 2000 and 2008. Since the recession, population growth for the region has fallen steadily, reaching ten-year lows of 1 percent in 2010 and 2011. This statistic was barely above the US national average of 0.8% annual growth during the same time period. A summary of population growth for each of the fourteen counties in the CONNECT Region between 2000 and 2010 is provided below It shows half of the counties experienced rapid growth during the ten-year period (greater than 20%) while five additional counties experienced moderate growth (between 2% and 8%). Only Chester and Union Counties in South Carolina experienced a population decrease during the ten-year period.

Percentage of Population Growth In Each County:for 2000-2010:



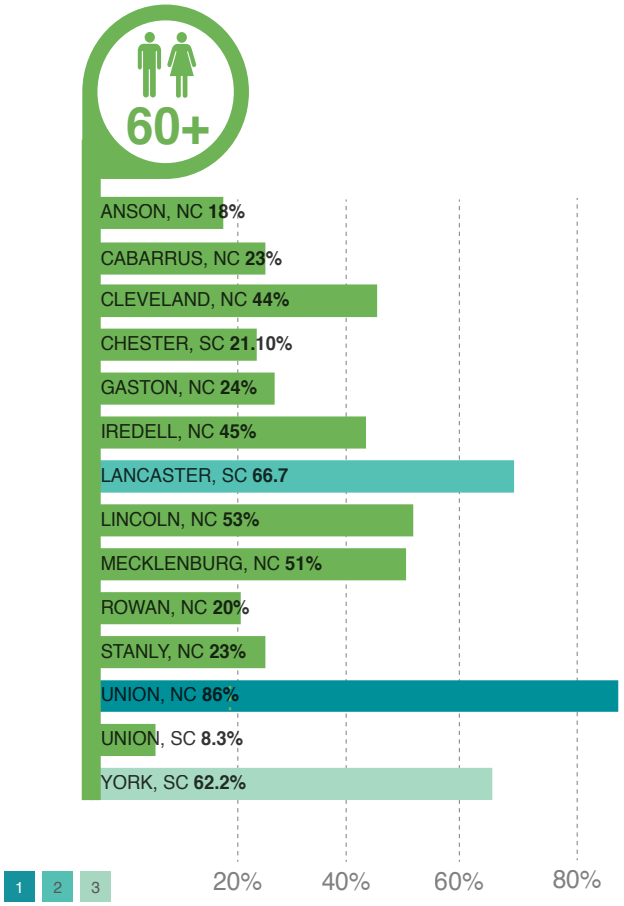
(Source: 2010 Census Summary for CONNECT Region)

The CONNECT Region had a larger share of families with young children compared to the US national average, and family households continued to grow rapidly in the region between 2000 and 2010 (over 77%). Population growth for children 0 to 19 years old increased in seven of the fourteen counties between 2000 and 2010 (between 14% and 75%). However, five counties in the region experienced some loss in their child population during the same ten-year time period (between -1% and -13%).

Residents between 25 and 44 years old also represent a large share of the Region's population. However, the largest increase in population growth for an age cohort over the past decade occurred among those 60 years and older. All fourteen counties in the region experienced growth in retirees and near-retirees, ranging from 8% in Union County, South Carolina to 67% in Lancaster County, South Carolina. This group (i.e., age 60 and older) still represents a smaller percentage of the Region's population compared to national averages.

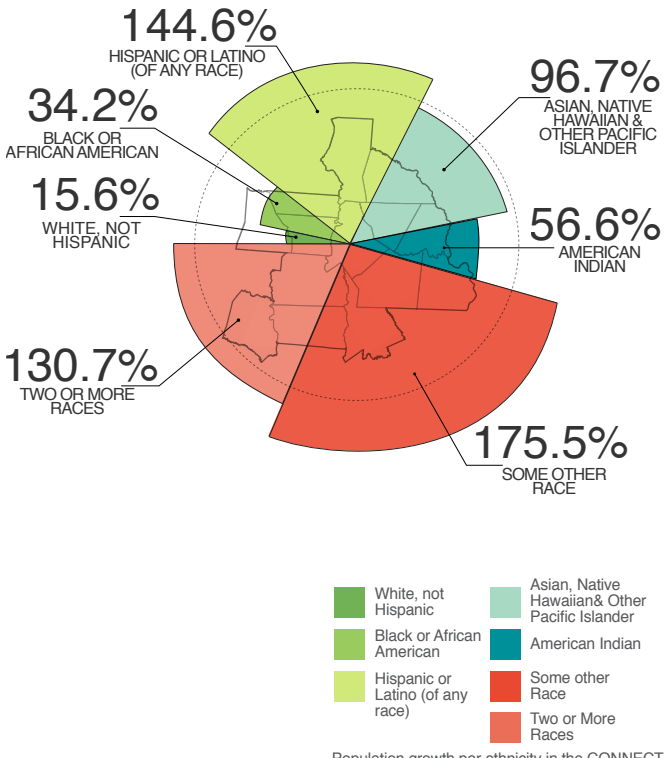
The CONNECT Region continued to become more diverse between 2000 and 2010. Significant growth for all races reported by the US Census Bureau – White, Black, Hispanic, Asian, American Indian, and Other Races – were experienced in the ten-year period. Hispanic populations greatly outpaced the growth of all others by a large amount.

Percentage of Increase in Population Over the Age of 60 from 2000-2010:



Top three counties with the highest 60+ population growth percentages.
(Source: 2010 Census Summary for CONNECT Region)

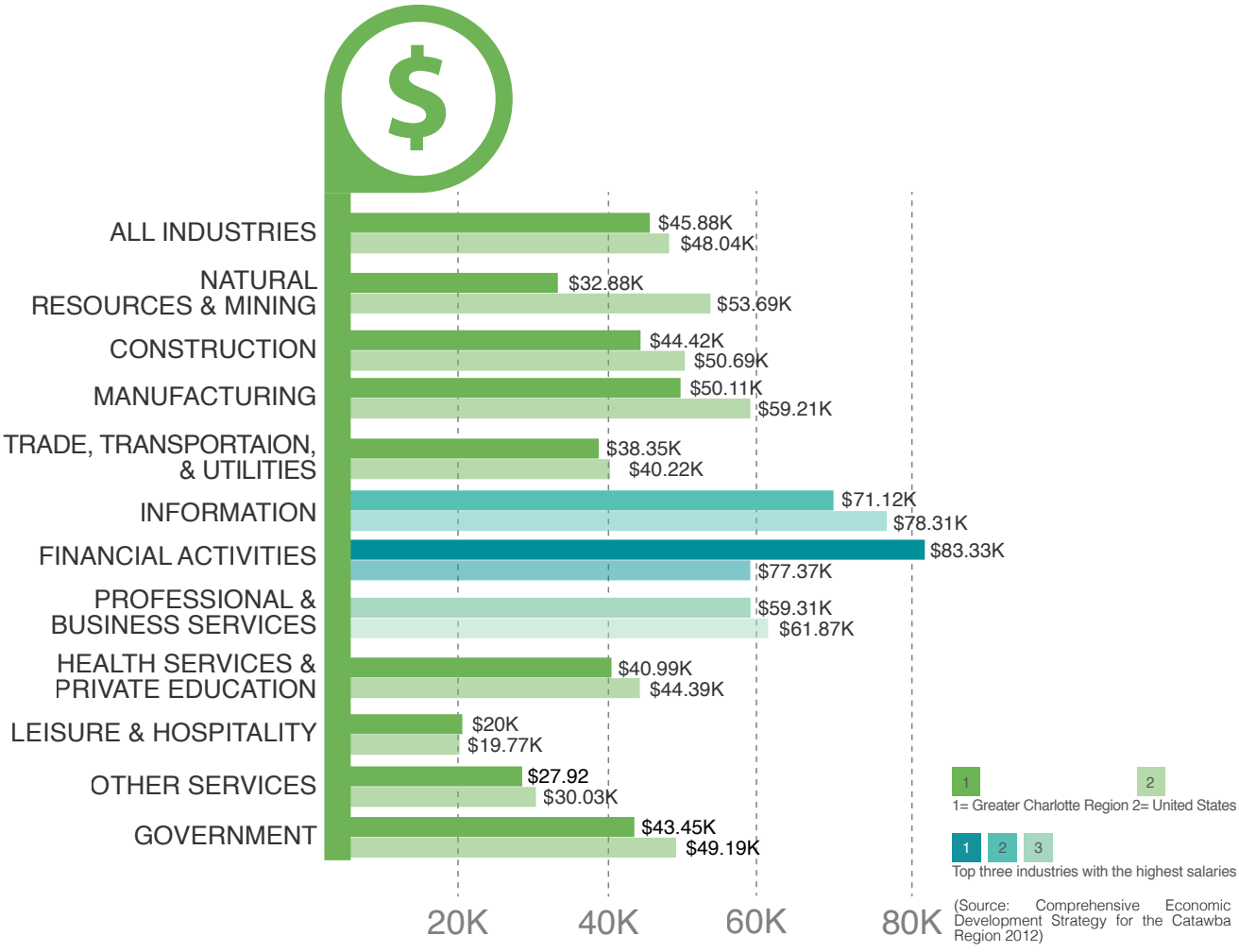
Percentage of Population Growth by Ethnicity form 2000-2010:



Population growth per ethnicity in the CONNECT Region
(Source: 2010 Census Summary for CONNECT Region)

The average salary in the CONNECT Region was reported separately for the Greater Charlotte (North Carolina) and Catawba (South Carolina) Regions. In the Greater Charlotte Region, the 2011 average salary for all industries was $45,900, approximately 96% of the US average salary of $48,040. The highest average paying industries in the region were financial activities ($83,330), information ($71,120), and professional and business services ($59,310). In the Catawba Region, the 2011 average salary for all industries was $37,412, approximately 78% of the US average salary of $48,040. The highest average paying industries in the region were information ($53,829), manufacturing ($51,820), and financial activities ($45,721). The graph below summarizes average salary, by industry, for all fourteen counties in the CONNECT Region.

Average Salary by Industry in 2011:



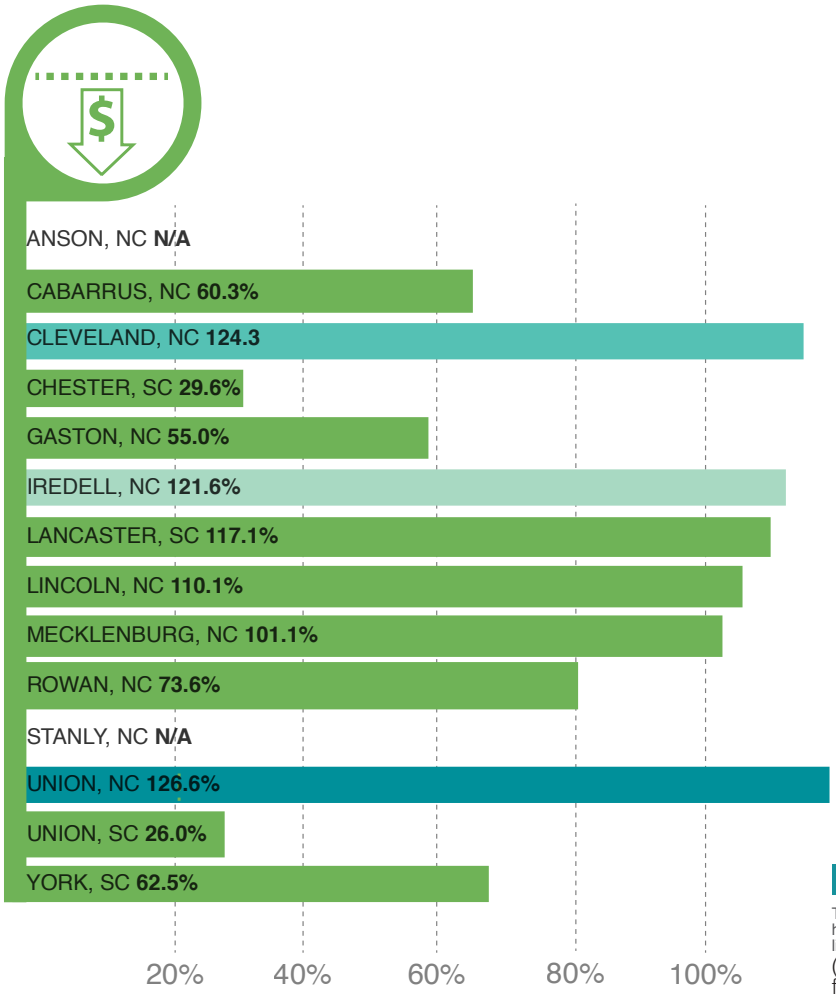
Prior to the recession, a smaller share of residents in the CONNECT Region lived in poverty (12%) compared to the US national average (13%). However, poverty grew by 35% in the time period between 2007 and 2010, reaching a total of 411,000 residents. This raised the region's poverty level slightly higher than the US national average, 16% locally compared to 15% nationally. The increase in persons living below the poverty line for each of the fourteen counties in the CONNECT Region between 2000 and 2010 is provided below. An increase in every county where data was available signals new demands for social programs administered in the region by federal, state and local government agencies or non-profit groups. Child poverty rates in the CONNECT Region also went up between 2007 and 2010, rising from 16% to 22%. The US childhood poverty rate rose from 18% to 22% for the same time period.

- *The CONNECT Region grew tremendously over the last decade; however, the distribution of growth by geography, age, race and the length of boom varied significantly by county.*

- *As a Region, we are getting older and more multicultural. Unfortunately, we are also seeing increased poverty levels in all counties for children and the elderly, and will need to develop policies and provide programs that improve social equity in the region.*

(Source: 2010 Census Summary for CONNECT Region, DATE ???)

Percentage of Increase in People Living Below Poverty Line from 1999-2009:



Top three counties with the highest percentage of people living below poverty line

(Source: 2010 Census Summary for CONNECT Region)

Economy

As identified above, the CEDS documents provide a comprehensive assessment of the CONNECT Region's economy and its potential five year expansion into key industries.[5,6] Summary findings follow in the paragraphs below.

Historically, the CONNECT Region economy grew faster than the US during recent boom years in the 1990s, 2006 and 2007, and on par or slightly worse in the bust years of 2001, 2002 and 2010. The Region was one of the hardest hit during the recent recession; losing nearly 88,000 jobs between 2008 and 2010. Job creation returned in 2011 with 24,000 jobs added to the local economy.

Today, the Region's three largest industries include trade, transportation and utilities (230,000 jobs), professional and business services (170,000 jobs) and government (165,000 jobs). More jobs were lost in manufacturing (a past staple in the economy) the previous five years than all other industries combined. Cities and towns heavily invested in manufacturing are now reinventing themselves for new industry growth.

Identified goals within the Comprehensive Economic Development Strategies documents included:

1. **Work Force and Education** - Prepare the Region's workforce and students with the skills, competency, and knowledge to align with key industry targets.

2. **Entrepreneurship and Innovation** - Foster a highly-innovative, entrepreneurial climate in the Region that drives the creation or expansion of high-growth firms.

3. **Infrastructure** - Ensure the Region maintains a highly-connected, efficient multimodal transportation system and abundance of shovel-ready sites for future development.

4. **Business Climate** - Create a globally-competitive Region around specific target industries and a strong business brand worldwide.

5. **Quality-of-Life** - Continue investing in the Region's lifestyle and amenities that make it attractive to a young professional workforce.

In addition to these five goals, target industries were identified for expanding the economy; including: automotive, biomedical and health, logistics and global commerce, financial services, energy, aerospace and defense, corporate headquarters, tourism and film. These industries were identified through quantitative commercial cluster analysis and qualitative input from the Carolinas Regional Partnership. Emphasis on one or more of the target industries will vary by city, town or county in the Region because of geography, workforce, available infrastructure, or potential economies of scale. Aligning target industries and workforce availability / nearby training for each county should close the gap for business development and recruitment.

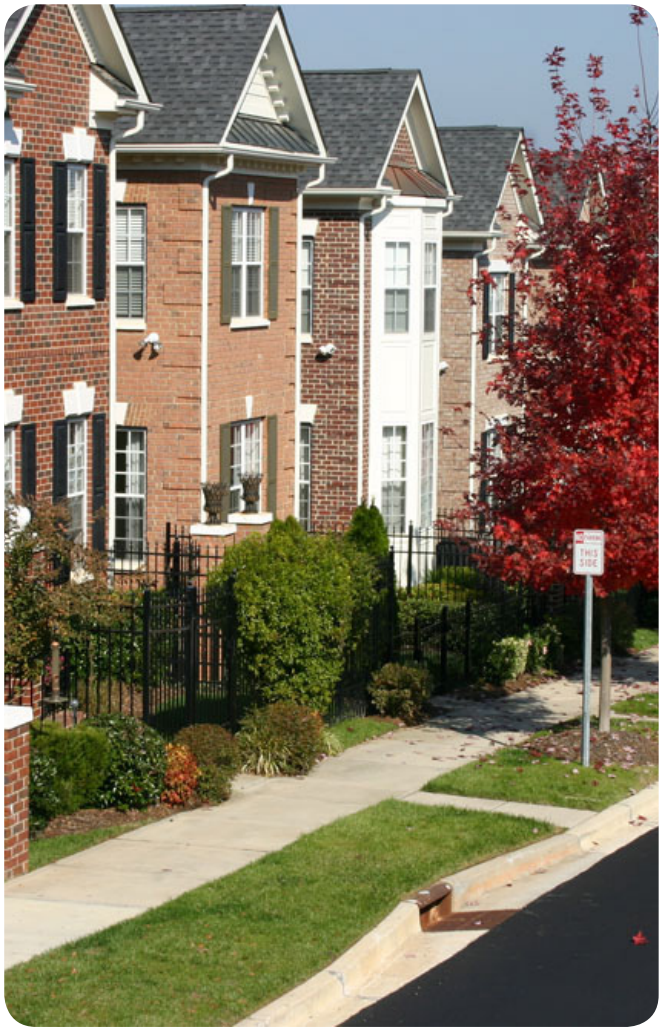
Interest in the Charlotte Region's investment, development, and homebuilding prospects posted significant improvement compared with 2012 results. Mostly understood as a big banking and financing town, this market has continued to expand, with a variety of businesses relocating to Charlotte and surrounding areas for their high quality-of-life, low cost of business, and world-class international airport. Since 2011, ***37*** *companies have moved to the area, creating more than* ***8,000 jobs.*** *The Charlotte Region is one of the stronger secondary markets in the US to watch.*

(Source: 2013 Emerging Trends in Real Estate, Urban Land Institute, 2013)

"The Charlotte Region is one of the stronger secondary markets in the US to watch."

Regional collaboration is a strong aspect in today's economic development initiatives; however, cooperation should be strengthened even more to foster entrepreneurship, infrastructure planning, education and workforce development.

(Source: Prosperity for Greater Charlotte, 2012)



"Experts agree high-quality job growth exists in energy markets where the natural gas boom and upward-trending oil prices lift prospects, the familiar high-tech industries, and "eds and meds" corridors around hospital centers and near major education institutions. Any place offering a combination of these employment drivers and attracting a highly educated workforce positions itself relatively well for near to medium term economic growth. Also, don't count out financial centers (with greater regulatory certainty, banking institutions can stabilize) and manufacturing making a comeback."

(Source: 2013 Emerging Trends in Real Estate, Urban Land Institute, 2013)

02

Growth Trends & Consequences


The Asian Legend
MOBILE CAFE
828-773-7073

Growth Trends & Consequences

The CONNECT Region grew tremendously over the last decade, influenced by strong job growth, vast amounts of developable land, and the influx of new residents from outside the region. Total population increased by 26% between 2000 and 2010; adding 504,685 new residents to the region. Employment increased by 27%; adding 278,695 new employees to the region during the same time period.

Growth is expected to accelerate through 2050 because of the Region's affordable housing, low cost-of-living, temperate weather and emerging business growth sectors. Forecasters anticipate 4.24 million people will call the CONNECT Region home by 2050; an increase of 74% from 2010. Employment is expected to increase to 2.18 million in 2050; an increase of 66% from 2010.

"The CONNECT Region is the fastest-growing large metropolitan region in the country. "

(Source: US Census Bureau, 2010 Decennial Census, www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html)

Nearly doubling population and employment in the region between 2000 and 2050 will significantly increase the development footprint, assuming the current decentralized growth patterns and densities continue. Other challenges associated with anticipated growth and current development patterns favored in the region include: accelerated land consumption, lost working farms, expensive utility expansion, lost environmental resources, and longer commutes and/or increased traffic congestion.

2010 Population = 2,431,600
2010 Employment = 1,313,995

*"You can **grow without destroying** the things that you love."*

Ed McMahon, ULI Reality Check 2050, June 4, 2013

For these reasons, future growth in the region may not be fiscally-sustainable (based on observed budget shortfalls today) and could overtax supporting infrastructure, leading to stress and shortfalls similar to those already experienced in some parts of the CONNECT Region. Leaders in the region agree other growth scenario alternatives should be considered that promote a higher quality-of-life, continued economic vitality, and greater fiscal responsibility for providing the public facilities and services necessary to support new development.

2012 Employment by Super-Sector in Region:

AEROSPACE **754**
AGRIBUSINESS & FOOD **23,166**
APPAREL & TEXTILES **13,194**
AUTOMOTIVE **13, 289**
BANK OFFICE **71,964**
BIOMEDICAL SUPPLIES & LABS **5,492**
BUILDING & CONSTRUCTION **74,964**
CONSUMER GOODS **4,967**
CULTURE & ENTERTAINMENT 121,988
PRIVATE EDUCATION **15,372**
ELECTONICS **19,311**
ENERGY **6,675**
ENGINEERING, DESIGN, & CONTENT **24,343**
FINANCE **74,617**
FURNITURE **13,175**
GOVERNMENT **176,400**
HEALTHCARE **108,750**
INDUSTRIAL MACHINERY **31,529**
LOGGING AND METAL/MINERAL MINING **1,414**
MATERIALS **23,306**
METAL-WORKING **20,054**
NON-PROFITS **5,383**
PROFESSIONAL SERVICES **54,245**
RESEARCH **15,175**
RETAIL 141,718
SHIPBUILDING **14**
SOFTWARE/INFORMATION TECHNOLOGY **14,724**
TELECOMMUNICATION SERVICES **7,167**
TRANSPORTATION & LOGISTICS **40,590**
TOTAL EMPLOYMENT: 1,123, 206

(Source: Avalanche Consulting, EMSI Covered 2012)

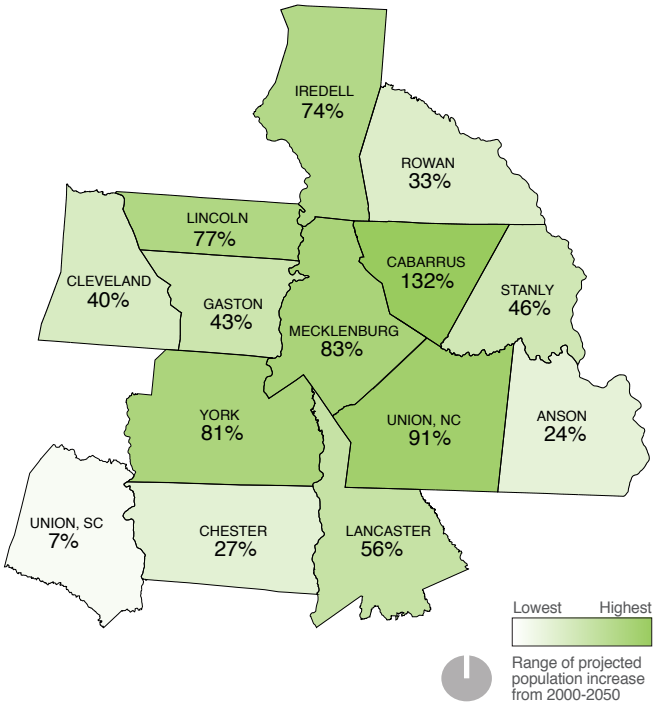
1 2 3

Top three super-sectors with the highest employment in 2012.

CONNECT Region Growth Trends:

	POPULATION			EMPLOYMENT		
COUNTY	2000	2010	2050	2000	2010	2050
ANSON, NC	25,275	26,900	33,300	10,900	10,100	11,200
CABARRUS, NC	131,063	178,000	413,500	58,000	69,595	157,453
CHESTER, SC	34,068	33,100	41,900	16,100	12,000	11,800
CLEVELAND, NC	96,287	98,100	137,400	46,900	42,000	48,300
GASTON,NC	190,365	206,100	295,100	69,900	92,700	117,780
IREDELL, NC	122,660	159,400	276,700	70,400	79,700	129,700
LANCASTER, SC	61,351	76,700	119,800	26,100	26,300	32,400
LINCOLN, NC	63,780	78,300	138,400	20,200	25,200	38,600
MECKLENBURG, NC	695,454	919,600	1,687,000	529,700	692,900	1,213,300
ROWAN, NC	130,340	138,400	184,500	49,600	53,500	67,013
STANLY, NC	58,100	60,600	88,200	19,000	25,500	42,709
UNION, NC	123,677	201,300	384,400	44,000	74,100	130,800
UNION, SC	29,881	29,000	31,100	12,800	9,200	8,900
YORK, SC	164,614	226,100	409,700	61,700	101,200	167,400
REGION	1,926,915	2,431,600	4,241,000	1,035,300	1,313,995	2,177,355
DELTA		504,685	1,809,400		278,695	863,360
% INCREASE		26%	74%		27%	66%

Population Growth Map 2010-2050:



Largest Employers in the Region:

Carolinas Healthcare System, Wells Fargo/Wachovia, Bank of America, Novant Healthcare, Wal-Mart Stores, Inc., Presbyterian Regional Healthcare Corporation, Delhaize America Inc. / Food Lion, LLC, Duke Energy Corporation, Ruddick Corporation, Daimler Trucks North America, Lowes Companies, Inc., US Airways Group, and Red Ventures.

(Source: Avalanche Consulting, EMSI Covered 2012)

03

Natural Environment


COPPER RIVER
CORN
4 FOR $5.00
SWEET
FRENCH BEANS
$7.99 LB.


PREMIUM
JUMBO
ASPARAGUS
$4.99 LB.
$3.99 LB.
LOCAL ORGANIC
EGGPLANT
MEDLEY
$4.99 LB.

Food Systems

Most food in the US is produced hundreds and sometimes thousands of miles from where is consumed, which requires significant energy (and cost) for handling and transportation, increases food spoilage during the journey, and undermines local markets that often grow or produce similar products. The number of agriculture commodities present in the CONNECT Region shows great opportunity for a more sustainable, local-first food system. Bringing together farmers and consumers in the region will strengthen the agriculture economy in rural areas and improve access to healthy food for disadvantaged communities.

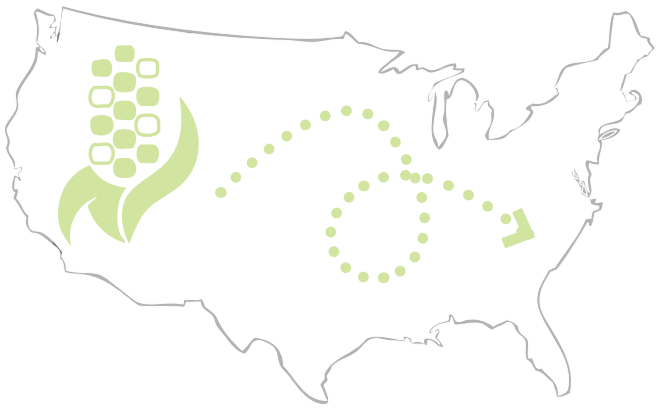
Food systems include all aspects of food production: the way food is grown or raised; the way food is harvested or slaughtered; and the way food is processed, packaged, or otherwise prepared for consumer purchase or food distribution.[7] Key partners in a food system include farmers, distributors, non-profit organizations, government agencies, and local consumers. Improving 'direct to the consumer' food distribution takes advantage of farmers markets, community buy-in programs where people invest in a local farm's projected harvest, pick-your-own farms, or on-site farm stands.[8] Improving 'direct to retail, food service or institutional markets' minimizes intermediate steps in the handling, storage and transportation process by helping farmers quickly deliver to nearby end-users.[9]

CONNECT Our Future commissioned a project in 2013 to study the tools needed for a sustainable regional food system, including a regional food systems assessment, action plan for food systems improvement, and network of food policy councils. The regional food systems assessment will inventory existing food production and consumption data by county and by food type, and evaluate assets present (i.e., land, water, labor or infrastructure) and demand anticipated in the region to establish a local food system. The regional food systems action plan will identify barriers, prioritize opportunities, and identify consumer preferences for implementation. New regional and sub-regional food policy councils will help sustain a local food system in the region.

40%

0f food produced in the US that is ***wasted*** *throughout the entire food system; starting at the farm and ending at what is thrown away by the consumer*

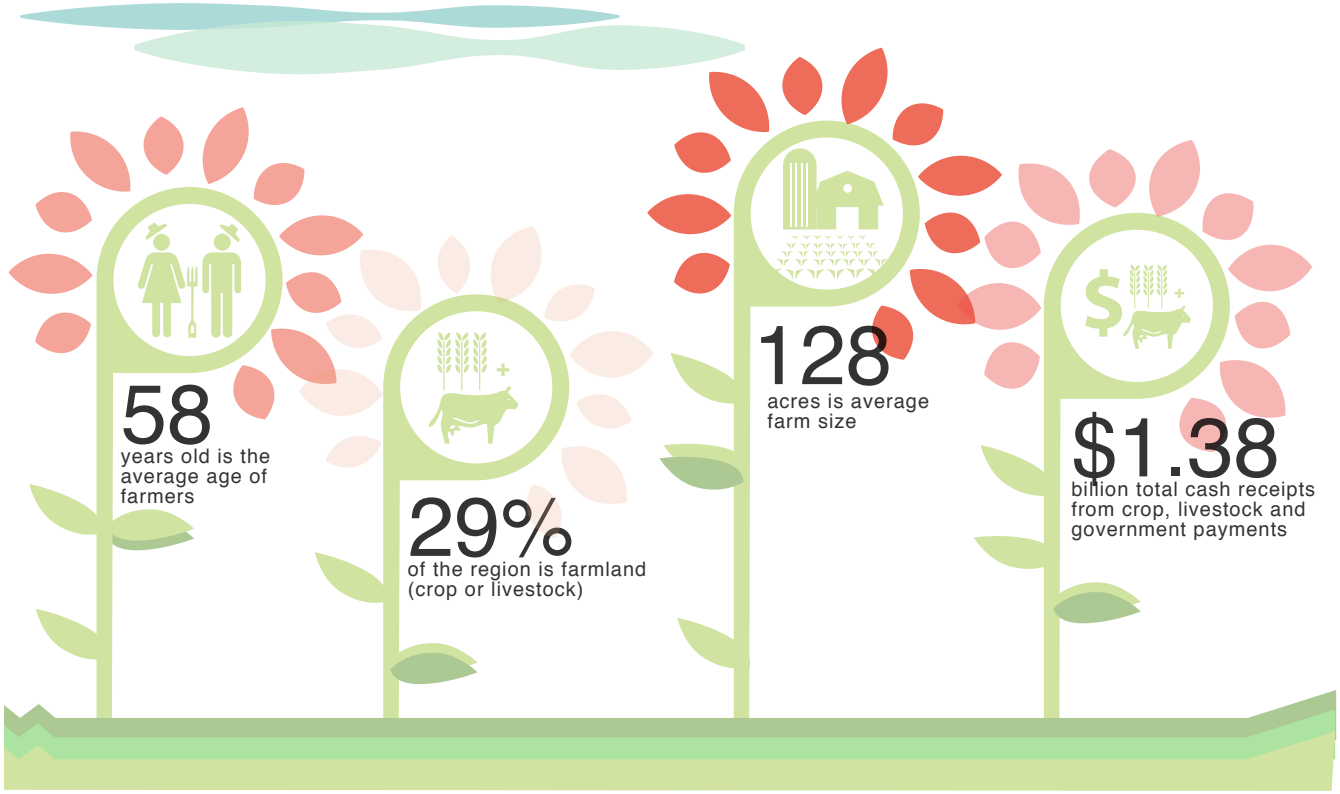
(Source:The Importance of Local Food Production, www.turningearchllc.com, July 14, 2013)



In the US, the average fruit or vegetable travels ***1,500 miles*** *from where it is grown to reach a consumer's dinner table*

(Source: The Importance of Local Food Production, www.turningearchllc.com, July 14, 2013)

CONNECT Region Agricultural Statistics:



COUNTY	TOTAL ACRES IN COUNTY	NO. OF FARMS	LAND IN FARMS (ACRES)	% LAND AREA IN FARMS	AVG. FARM SIZE (ACRES)	HARVESTED CROPLAND (ACRES)	AVERAGE AGE OF FARMER	RANK	TOTAL CASH RECEIPTS
ANSON, NC	340216	487	90770	27%	186	20065	58.9	19	$149,914,627
CABARRUS, NC	231524	611	66780	29%	109	27912	57.4	63	$33,629,863
CLEVELAND, NC	297120	1188	115637	39%	97	35365	58.9	38	$88,112,636
CHESTER, SC	227856	516	37561	16%	73	11218	57.8	84	$22,014,971
GASTON,NC	367488	1201	138416	38%	115	58052	57.7	27	$127,380,423
IREDELL, NC	190683	638	59360	31%	93	25545	57.2	65	$37,345,274
LANCASTER, SC	335216	236	19135	6%	81	6377	58.7	22	$151,540,447
LINCOLN, NC	327141	983	115942	35%	118	55560	56.7	45	$50,242,362
MECKLENBURG, NC	252836	713	104517	41%	147	49631	58.2	39	$88,760,564
ROWAN, NC	404160	1107	178193	44%	161	109598	57.6	3	$436,770,498
STANLY, NC	371622.4	544	111820	30%	206	N/A	58.7	26	$30,492,000
UNION, NC	351462.4	573	65210	19%	114	N/A	58.4	15	$67,998,000
UNION, SC	329068.8	262	45512	14%	174	N/A	60.3	45	$3,219,000
YORK, SC	435584	1038	124176	29%	120	N/A	57.2	7	$93,076,000
REGION	4461977.6	10097	1273029	29%	128		58		$1,380,496,665

* To Read more about the crops and livestock produced in the CONNECT Region see page 58.

(Source: North Carolina Department of Agriculture and Consumer Services, Agriculture Statistics, Commodities by County, www.ncagr.gov/stats/codata, July 14, 2013)
(Source: USDA Census for Agriculture, State and County Profiles, 2007, www.agcensus.usda.gov/publications/2007/online_highlights/county_profiles/South_Carolina, July 14, 2013)

Air Quality

Air quality measures pollution levels in the atmosphere, and reports conditions using federal standards and a color-coded air awareness index. Poor air quality occurs when pollutants reach high enough concentrations to endanger human health and the environment.[10] As the federal Air Quality Index (AQI) increases, more and more people are likely to experience severe adverse health effects while outdoors. The AQI is a communication tool used to help people understand the connection between air pollution level and impacts and it is a standardized way to communicate health thresholds that vary by pollutant. AQI is a static index and does not change as local air pollution concentrations change, instead the local ranking on the AQI will move based on local conditions.

The AQI is based on the six pollutants regulated by the Clean Air Act: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead.[11] The duration, concentration, and type of pollutants released into the air play a major role in determining the level of air pollution for an area.[12] Regional air quality is also affected by topography, weather, and the interaction between the suspended pollutants themselves.

In most summers, when the potential for poor air quality is highest, the CONNECT Region's weather is dominated by a "Bermuda High" pressure system. This system provides calm, virtually cloudless conditions where any pollution placed into the atmosphere remains suspended for an extended period of time.[13] Fortunately, compared to many other areas, the CONNET Region does not support activities that emit large-scale, long-term quantities of pollution regularly. But automobile congestion, along with construction activity and energy generation plants, can cause local problems for short periods of time.[14]

Federal, state, and local programs in the Region aim to minimize air pollution from industrial sites, cars, trucks, construction equipment, and lawn mowers. Air pollution reductions are targeted using public education, voluntary and incentive-based programs, and enforcement.[15]

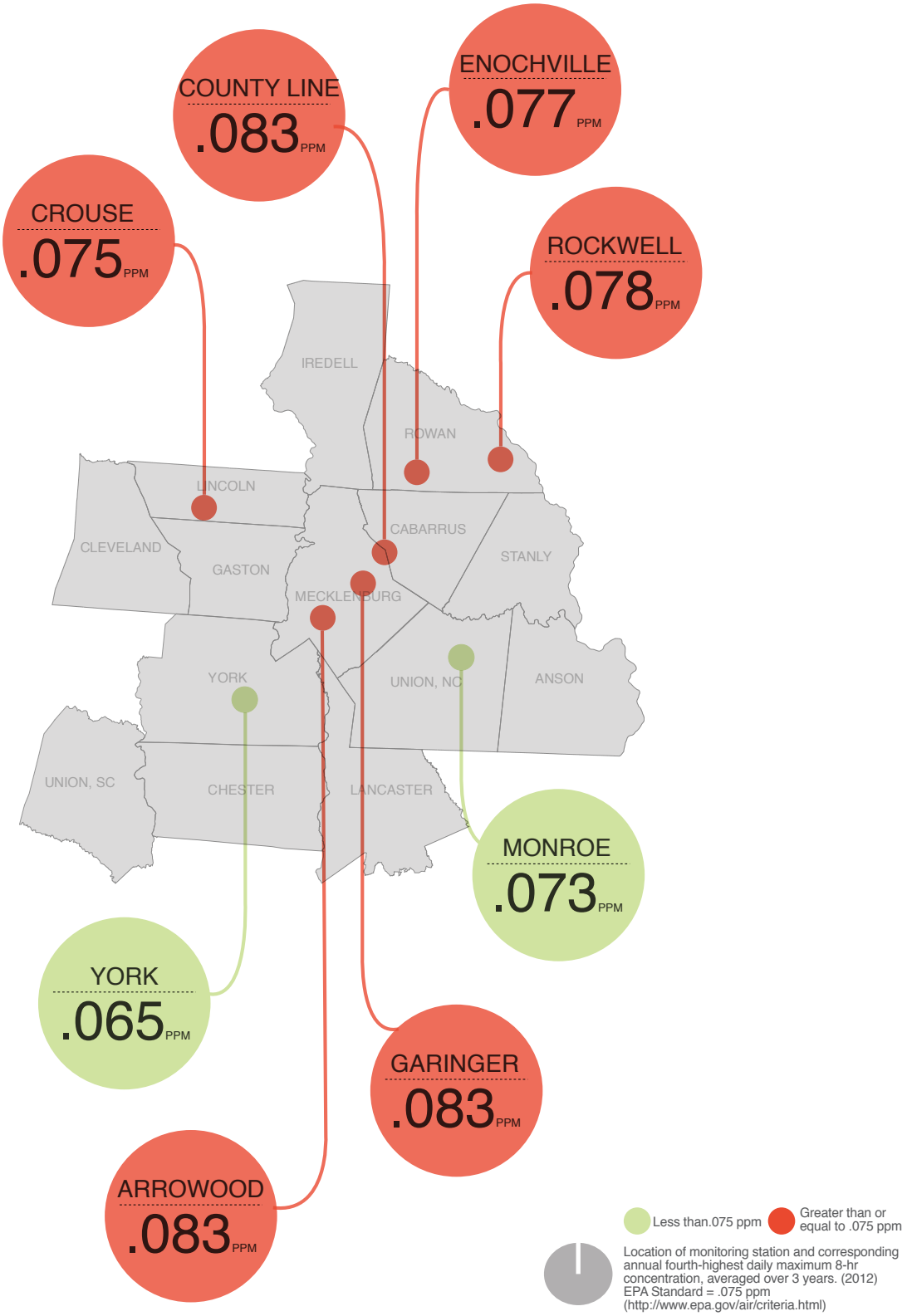
One specific program, Grants to Replace Aging Diesel Engines Plus (GRADES), provides incentive funding to organizations that replace or re-power heavy duty, diesel equipment.[16] Eligibility extends to thirteen counties in the CONNECT Region (excluding Union County, SC) and was expanded recently to construction, agriculture, and commercial industries operating non-road diesel, on-road heavy duty diesel, or stationary diesel equipment.[17] Funding in 2013 ($1.4 million) is targeted solely for modernizing non-road equipment in the Region's eight county air quality nonattainment area (Mecklenburg, Union, Cabarrus, Rowan, Iredell, Lincoln, and Gaston Counties in North Carolina and York County in South Carolina).

Building on the GRADES Program, CONNECT Our Future commissioned a project in 2013 to study black carbon emissions. It assessed the projected five-year impact of diesel black carbon emissions from major construction projects, develop strategies to address black carbon emissions, and estimate potential impacts including the potential for job creation in addressing this issue. Public and private sectors should benefit from the study by identifying alternatives to better use existing or new construction equipment to build more sustainably in the Region.

Black carbon, the main component of soot, is produced by the incomplete combustion of carbon rich fuels. Over the past decade, it has been recognized as a potent climate warmer, yet to date, it has not been targeted by regional or national climate change policies and regulations. Better coordination of air-quality and climate policies is urgently needed, with priorities placed on fast action to leverage existing regulatory authority and policy mechanisms.

(Source: The Center for International Environment & Resource Policy at Tufts University)

Three-Year Rolling Average Ozone Readings by Monitoring Stations in the CONNECT Region (2012):



Climate Change

Climate in the CONNECT Region represents a mixture of temperature, precipitation (rain or snow), humidity, wind and seasons that defines local weather patterns. Together, the elements of weather influence the area's economy, environment and overall quality-of-life, and contribute significantly to the population and employment booms expected to continue through 2050 as people move in from harsher climates (especially from areas in the Midwest and Northeast).

Most experts believe rising levels of carbon dioxide and other heat-trapping gases in the atmosphere are warming the Earth and causing wide-ranging impacts — rising sea level, melting snow and ice, more extreme heat events, fires and drought, and more severe storms, rainfall and floods — that will continue to worsen if current development patterns and energy-consumption behaviors continue unchanged.[18] Other concerns associated with climate change include losses in local food production, scarcity of water, and increased health risks.

The CONNECT Our Future Air Quality / Climate Change Work Group recently completed a climate change plan assessment for the Region. It identified a number of academic institutions, businesses, and local governments with plans, or specific goals in general plans, aimed at improving air quality; including reduction of CO2 and other emission sources commonly associated with climate change. Interviews with several plan participants from the survey cited reduced emissions as a key to improved economic, environmental, and social conditions.

"Other concerns associated with climate change include losses in local food production, scarcity of water, and increased health risks."

(Source: Preparing for a Changing Climate, State of Washington, Department of Ecology, 2012)

CONNECT Region Groups with a Climate Change Action Plan:

BANK OF AMERICA
BALFOUR BEATTY
CATAWBA COLLEGE
CHARLOTTE-MECKLENBURG SCHOOLS
CITY OF CHARLOTTE
CITY OF SALISBURY
COMPASS GROUP
DAVIDSON COLLEGE
DUKE ENERGY
IREDELL COUNTY
JOHNSON C. SMITH UNIVERSITY
LANE CONSTRUCTION
LINCOLN COUNTY
MECKLENBURG COUNTY
TOWN OF DAVIDSON
TOWN OF MATTHEWS
TOWN OF MOORESVILLE
UNION COUNTY
UNION COUNTY SCHOOLS
WELLS FARGO

(Source: CONNECT Our Future, Air Quality / Climate Change Work Group, Climate Change Plan Assessment, 2013)

Water Resources

Water resources, or the available supply of freshwater or groundwater, are used in the CONNECT Region for drinking and household needs, agriculture, hydropower, industrial and commerce, recreation, and the disposal and treatment of sewage. Efforts to balance water supply and demand in the Region are greatly affected by population density and distribution, seasonal and environmental variability, water pollution, and water use patterns.

The distribution of water resources in the CONNECT Region is uneven and unrelated to population demographics or economic development.

Water is a renewable resource; however, it can be ***depleted quickly*** *because of contamination, watershed modification, or over-withdrawal.*

(Source: GET FROM MATT)

Water's value in the CONNECT Region fluctuates in accordance with a source's location, quality, and availability. Location of a supply determines its accessibility, particularly the costs associated with water transport. If pollutant levels of a supply are found to be unsafe for use, potentially costly treatment services must be established. Seasonal variation in water levels determine a source's reliability and relative value for generating power, irrigation or direct consumption needs. Rising conflicts are expected in the Region through 2050 as populations expand, economies grow, and the competition for limited water supplies intensifies.

Therefore, the role of water basins, which maintain responsibility for water allocation and protection, are increasingly important. Three river basins serve the CONNECT Region: the Catawba-Wateree River Basin, the Broad River Basin, and the Yadkin-Pee Dee River Basin. A brief summary of each basin follows.

Catawba River Basin

The Catawba-Wateree River begins on the eastern slopes of the Blue Ridge Mountains, and flows east, then south into Lake Wylie on the North Carolina-South Carolina border. The longest free-flowing stretch of the river (approximately 30 miles) runs from York County through Lancaster and Chester Counties. The river includes the most major dams of any river in North Carolina, with the longest free-flowing section of the river only about 17 miles. Seven man-made lakes along the river supply electric power, drinking water, flood control, and recreation opportunities to nearby cities and towns. Lake Norman is the largest man-made lake at nearly 32,000 acres, which is often referred to as North Carolina's inland sea.[19]

The Carolina Heelsplitter, a federally-endangered species, makes a home in the Catawba River Basin along Waxhaw Creek in North Carolina and Gills Creek in South Carolina. Additional buffer requirements to protect their habitats in these areas are administered by local governments.[20]

The national organization American Rivers ranked the Catawba River as the most endangered river in America in 2008.

The Catawba is a beautiful river, but is threatened by the effects of growth, including storm water, sewage disposal, coal ash ponds, agriculture, timber harvesting and other side effects of increasing population and population densitys.

The flow of the Catawba River is, for the most part, controlled by releases from dams operated by Duke Power.

Powerplants are the largest single user of water on the Catawba River, accounting for approximately ***48%*** *of water use in the basin. These large withdrawals of water, combined with the discharge of warm water, place heavy stresses on the river.*

(Source:Catawba Riverkeeper, www.catawbariverkeeper.com, July 12, 201)

Since then, state agencies and local governments have been working to address water pollution and over-withdrawal in the river basin. The Catawba River Keeper is a citizen watch program established to education and involve nearby stakeholders in protection efforts. Additionally, the Bi-state Catawba/Wateree Advisory Commission is tasked by both North Carolina and South Carolina State Legislatures to assess and review water quality and quantity issues associated with this river basin.[21]

Broad River Basin

The Broad River begins in the Blue Ridge Mountains and flows south and east through the foothills before entering the midlands of South Carolina. There are four man-made lakes along the river, including Moss Lake in Shelby, North Carolina. About 30 percent of the streams in the basin are classified as trout waters, which means the State of North Carolina prohibits activities that would harm the fishery.[22]

Overall, water quality in the basin is good, but habitat degradation, new development, and storm water runoff are creating concerns about water quality through-out the basin. Stream habitats are becoming stressed because of runoff from construction sites, residential areas, cropland, pastures and paved areas that don't allow water to soak into the soil (e.g., roads, parking lots, driveways and sidewalks).[23] In addition, new development is forcing more efficient municipal sewer treatment technologies in the basin and new rules and regulations for properly constructed and maintained septic systems.

Yadkin - Pee Dee River Basin

The Yadkin River begins in the Blue Ridge Mountains and flows east and south north of Statesville, Lexington, and Salisbury. Its name changes to the Pee Dee River below Lake Tillery. Approximately half of the river basin is forestland, and nearly one-third is used for agriculture.[24] There are seven man-made reservoirs along the river, which were built in the first half of the 20th Century to power aluminum smelters and electric plants.[25]

The success of public, private and nonprofit partnerships in protecting land in the basin—through purchases and easements—has been lauded as a national model for conserving natural resources.

(Source: River Basin Publications, Catawba / Broad / Yadkin-Pee, NC Environmental Education, NC DENR Office of Environmental Education and Public Affairs)

Sediment runoff from soil erosion and new impervious surface in the area is the primary source of the basin's serious pollutants. And rapid growth in urbanizing areas has prompted the need for new, more efficient land use planning and development standards by state and local governments.[26]

Additionally, the Bi-state Yadkin/Pee Dee Advisory Commission is tasked by both North Carolina and South Carolina State Legislatures to assess and review water quality and quantity issues associated with this river basin.[27]

The Carolina Heelsplitter, a federally-endangered species, makes a home in the Catawba River Basin along Goose Creek in North Carolina and Flat Creek in South Carolina. Additional buffer requirements to protect their habitats in these areas are administered by local governments.[28]

Ground Water Aquifers

Groundwater aquifers store water in voids between rocks beneath the earth. Rainwater slowly adds water to the aquifer as it leaches through the rocks. Wells dug into the rock can be used to pump water back to the surface for consumption, irrigation, or industrial production. Pumping too much water, too fast from the aquifer draws down the water level and eventually causes the well to yield less water or run dry completely.[29]

Only a few of the water service providers in the CONNECT Region rely on groundwater wells for a portion of their bulk water needs, including China Grove, Cleveland, Faith, Harrisburg, Oakboro, Fallston, Iredell County, Lamplighter South/Danbery, and The Harbour / The Point. The percentage of total water supply in the region attributed to groundwater wells is less than one percent.[30]

Top Threats to the Water Resources in the CONNECT Region:

1. ***Sewer Treatment / Seepage:*** Sewer Treatment / Seepage: There is widespread use of septic tanks in all three river basins. Failing tanks could result in discharge of untreated waste into the rivers. Larger developments that are not on a municipal system are using package plant technology. These plans often do not have stringent requirements associated with full scale waste water treatment plans.

2. ***Inter-basin Water Transfers:*** These certificates allow for the withdrawl of water from one river basin and the returns to a different river basin. Controversial at times in the region, and also present elsewhere in the states of North and South Carolina and nationally, IBTs will continue to be an issue going forward as the region continues to grow..

3. ***Sedimentation:*** Documented as a leading source of non-point source pollutants, sediment may be carried by storm water runoff into streams and major rivers.

4. ***Stream Reclassification:*** Nutrient loading issues and stream reclassification processes will create a need for new rules, regulations, and permitting requirements at the local government level to protect our watersheds.

(Source: Catawba Riverkeeper, www.catawbariverkeeper.com, July 12, 2013
Yadkin Riverkeeper, www.yadkinriverkeeper.com, July 12, 2013
UNC-Chapel Hill School of Government, Environmental Finance Center, Interview January 3, 2013)

Conservation Land

Growth will continue to strain resource lands in the CONNECT Region without careful planning and purposeful conservation strategies. Conserving land increases property values near greenbelts and passive parks, saves tax dollars by encouraging more efficient development patterns, and reduces the need for expensive water filtration technologiesA. Education, advocacy, and partnerships are all part of a successful land conservation strategy.

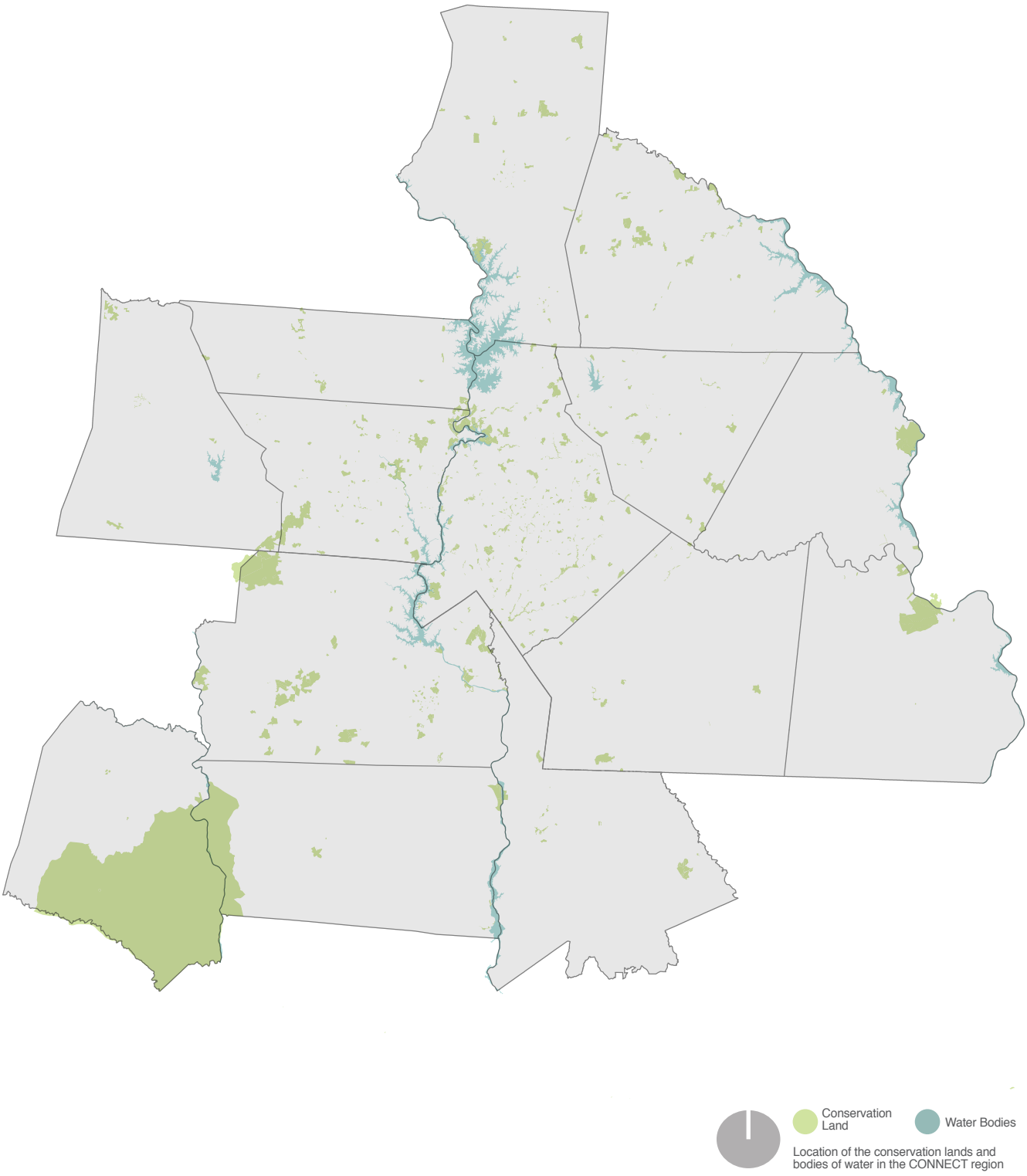
Today, only 7 percent of land in the CONNECT Region is protected as permanent open space, and decentralized growth patterns throughout the region are threatening wildlife habitat, scenic views, watershed protection areas, and working farms. Local advocacy groups and a limited number of local governments in the region are leading the way for land conservation; however, participants in CONNECT Our Future feel much more could be done and highly value parks, greenways, open space, and natural lands both now and as resources that matter in the futureB. Potential tools for increasing land conservation in the region include land acquisition, permanent conservation easements, purchase of development rights, and development exactions for permanent open space.

One success story for bringing together government agencies, local land trusts, non-profit organizations, and advocacy groups in the CONNECT Region to preserve natural lands is the Carolina Thread Trial. It is a regional network of greenways and trails that will reach fifteen counties and 2.3 million people in North Carolina and South Carolina. The trail system reaches thirteen of the fourteen counties in the CONNECT Region (only Union County, SC is excluded). Today, 117 miles of the proposed 1,500-mile trail system are open to the publicC. Full build-out of the trail system could take 10 to 20 years.

Show me a healthy community with a healthy economy and I will show you a community that has its green infrastructure in order and understands the ***relationship between the built and the unbuilt environment.***

(Source: Will Rodgers, Trust for Public Land)

Map of the CONNECT Region Conservation Land and Majo Water Bodies:



Location of the conservation lands and bodies of water in the CONNECT region

04

Built Environment


2619

Development Status

A survey of conservation and development patterns in the CONNECT Region provides a snapshot for the type, location, and intensity of growth experienced through 2010. These data represent the best available, most consistent data set for the entire region. Development status was assigned to 1.2 million parcels in the Region using aerial photography, property appraiser data, or specific GIS data sets.

At a regional scale, development is concentrated in the cities and towns for each of the counties. Unincorporated areas surrounding cities and towns also developed quickly in the high growth counties – Cabarrus, Gatson, Iredell, Lancaster (Panhandle/Indian Land Area), Mecklenburg, Rowan, Union (NC), and York – and generally now associate themselves with nearby jurisdictions. Development along major transportation corridors between the Region's cities and towns is also prevalent; especially along I-77, I-85, I-485, US 21, US 29, US 74, US 521, NC 16, NC 73, NC 150 and SC 160.

Significant amounts of land are still undeveloped (33%) or under-developed (19%) in the Region, and continued growth through 2050 with rapid expansion of the region's decentralized development footprint could drastically change the landscape forever. Many farms in the region, representing 24% of the total land area, are in danger of loss to development unless protection measures are adopted (or strengthened) in the Region.

A brief description of the six development status categories used for CONNECT Our Future follows. The map to the right illustrates observed growth patterns in the region. A large-scale, printable version of the map is available from the CONNECT Our Future website (www.ConnectOurFuture.org).

Permanent Open Space – Active or passive land dedicated to permanent or semi-permanent open space, including state parks, conservation areas, parks and recreation fields, and land set aside for open space in residential neighborhoods, commercial centers, business parks, etc.

Developed – Lots or parcels largely built-out with permanent buildings or structures. Developed status was also assigned to surface parking lots that serve adjoining buildings, or to sliver lots adjacent to developed parcels (appearing to be part of the same development or home site) where size, shape, or access limitations would generally keep them from developing in the future.

Undeveloped – Lots or parcels without permanent buildings or structures. Undeveloped status was also assigned to more rural parcels with temporary structures (e.g., pole barn, large storage shed, etc.) that could simply be removed to accommodate new development.

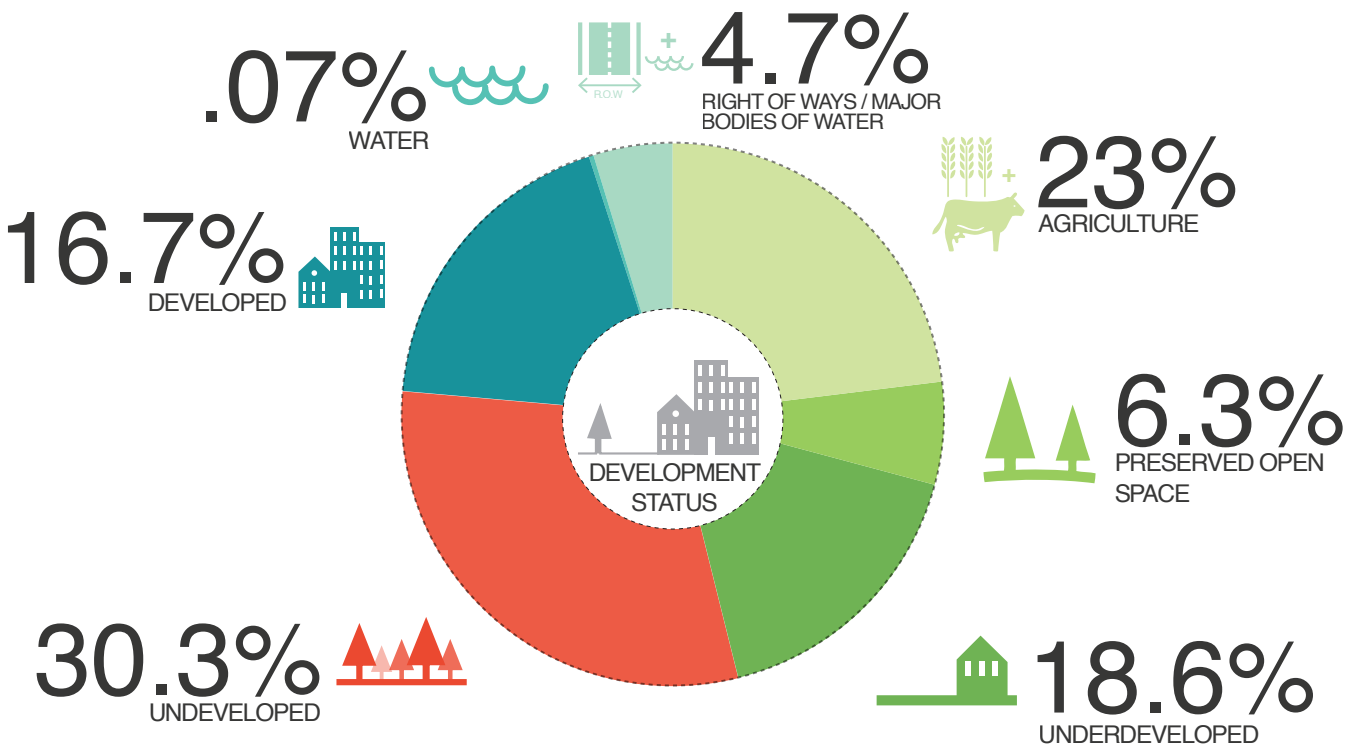
Under-Developed – Lots or parcels with permanent buildings or structures that occupy only a portion of the property, leaving significant area available for future development or redevelopment, or properties with low building to land value ratios that make them good candidates for redevelopment. Under-developed parcels were reviewed and endorsed by local governments during a peer review period.

Agriculture – A regional database for working farms or forestry tracts was not available for coding development status. 2010 aerial photography supplemented by property appraiser data or voluntary agriculture district inventories for some jurisdictions was used to assign agriculture status in the region.

Water – A lot or parcel covered entirely or almost entirely by a water feature.

What will happen to all the undeveloped,under-developed, or agriculture land in the future?

Development Status of the CONNECT Region:



Existing Land Use Patterns

CONNECT Our Future introduces the concept of "place types" and "community types" to the region, which generalize the various development categories used by 119 local governments to describe, measure, and evaluate the built environment.

Place types were assigned to 1.2 million parcels in the region for the trend development scenario using development status assignments and various GIS data sources. Developed parcels relied on 2010 aerial photography, property appraiser data, specific GIS data available for a jurisdiction (e.g., park or church locations), and fieldwork. Parcels assigned undeveloped, under-developed, or agriculture development status relied on locally-adopted comprehensive plans and zoning ordinances. A place type classification matrix prepared for each city, town and county in the region translated comprehensive plan land use categories or zoning districts to place types for CONNECT Our Future. Parcels assigned permanent open space or water development status were assigned "parks and open space" for place type.

Place type assignments for the trend development scenario were reviewed and endorsed by local governments during a peer review period. See the document entitled Place Types for CONNECT Our Future for more detailed information on place types; including land use considerations, general development characteristics, and images representing typical development in each place type category.

Community types are generalized development categories that will be used to contemplate alternative futures in the scenario planning process for CONNECT Our Future. Each community type is a compilation of one or more detailed place type categories. Rolling up thirty-one place types into eleven community types creates a manageable menu of choices for the scenario planning process. Brief descriptions of the eleven community types used for CONNECT Our Future follows.

Brief descriptions of the fourteen community types used for CONNECT Our Future follows. A large-scale, printable map of community types assigned in the region for the trend development scenario is available from the CONNECT Our Future website (www.ConnectOurFuture.org).

Open Space – Open space includes land dedicated for active and passive conservation and recreation. These areas are typically undisturbed or undeveloped and have been protected from development by local, state, and federal agencies or by public, private, and nonprofit organizations. In the CONNECT Region, these areas include national parks, state parks, community parks, greenways, athletic fields, cemeteries, land held in permanent conservation, land protected by municipal regulations (e.g., stream buffers or floodplains), and dedicated open space in residential neighborhoods.

The 'open space' community type is identified on the work map to capture existing conditions in the region; however, it will not be a chip played during the development chip game. Participants may use the black marker to identify proposed areas in the region that they feel should be set aside as Open Space (see the Work Schedule Section in the participant guide).

Working Farm - Working farms are actively being used for agriculture or forestry activities, including cultivated farmland, timber harvest, livestock, and woodlands. These areas also support the primary residence of the property owner and any out-buildings associated with activities on the working farm.

The 'working farm' community type is identified on the work map to capture existing conditions in the region; however, it will not be a chip played during the development chip game. Participants may use the black marker to identify proposed areas in the region that they feel should be set aside as Working Farms (see the Work Schedule Section in the participant guide).

Rural Living – Rural living areas are typically characterized by large lots, abundant open space and a high degree of separation between buildings. Large acreage, rural family homes and "hobby farms" are scattered throughout the countryside and often integrated into the landscape. The lot size and distance between dwelling units decrease with greater development densities.

Conservation-based subdivisions in some areas of the region cluster development and leave large areas for permanent open space and uninterrupted views. Small nodes of commercial activity such as gas stations, convenience stores, or restaurants are concentrated at rural crossroads, serving some daily needs of the surrounding rural population.

Industrial Center – Industrial centers concentrate manufacturing and production employment in the region, including warehousing, light manufacturing, medical research, and assembly operations. Heavy industrial sites may require larger sites because activities are not confined entirely to buildings. Conveyer belts, holding tanks, smoke stacks, or outdoor storage all may be present in a heavy industrial center.

Development is usually found in close proximity to major transportation corridors, such as highway or rail, and is generally buffered from surrounding development by transitional uses or landscaped areas that shield the view of structures, loading docks, or outdoor storage from adjacent properties. Clusters of industrial uses that support or serve one another are often located in the same industrial center.

Suburban Single-Family Neighborhood – Suburban single-family neighborhoods are formed as subdivisions or communities, with a relatively uniform housing type and density throughout. They may support a variety of single-family detached residential types, from mobile homes to large-lot, low-density single-family homes to denser formats of smaller single-family homes. Homes are oriented interior to the neighborhood and typically buffered from surrounding development by transitional uses or landscaped areas.

Suburban single-family neighborhoods are often found in close proximity to suburban commercial, office, and industrial centers, and help provide the consumers needed to support these centers.

Suburban Multifamily Neighborhood – Suburban multifamily neighborhoods are generally formed as complexes or communities, with a relatively uniform housing type and density throughout. They support the highest residential density in the suburban landscape, and may contain one of the following housing types: condominiums, townhomes, senior housing, or apartments.

Suburban multifamily neighborhoods are found in close proximity to suburban commercial, office, and industrial centers, and help provide the consumers needed to support these centers. Buildings are oriented interior to the site

and typically buffered from surrounding development by transitional uses or landscaped areas. Large parking lots and low street connectivity are common in suburban multifamily neighborhoods.

Suburban Commercial Centers - Suburban commercial centers serve the daily needs of surrounding residential neighborhoods. They typically locate near high-volume roads and key intersections, and are designed to be accessible primarily by automobile. Buildings are set back from the road behind large surface parking lots, with little connectivity between adjacent businesses. Common types of suburban centers in the region include multi-tenant strip centers, big box stores, small outparcels with a drive-through, and large shopping malls.

Suburban Office Centers - Suburban office centers provide opportunities to concentrate employment in the region. They include both large-scale isolated buildings with numerous employees as well as areas containing multiple office uses that support and serve one another. They are typically buffered from surrounding development by transitional uses or landscaped areas and are often located in close proximity to major highways or thoroughfares.

Walkable Neighborhood – A walkable neighborhood offers residents the ability to live, shop, work, and play in one community. These neighborhoods include a mixture of housing types and residential densities integrated with goods and services in a walkable environment that residents visit on a daily basis. The design and scale of the development encourages active living through a comprehensive and interconnected network of walkable streets. Mixed-use neighborhoods support multiple modes of transportation.

Walkable Activity Centers – Walkable activity centers serve broader economic, entertainment, and community activities as compared to mixed-use neighborhoods. Uses and buildings are located on small blocks with streets designed to encourage pedestrian activities. Buildings in the core of a walkable activity center may stand three or more stories. Residential units or office space may be found above storefronts. Parking is satisfied by using on-street parking, structured parking, and shared rear-lot parking strategies.

A large-scale walkable activity center may be surrounded by one or more neighborhoods that encourage active living, with a comprehensive and interconnected network of walkable streets

Transit Activity Centers – A transit activity center represents the concentration of mixed-use, dense development around a transit center, whether serving bus rapid transit, light rail, street car, or commuter rail. Uses and buildings are located on small blocks with streets designed to encourage bicycle and pedestrian activity. High-density development is located primarily within ¼-mile of the transit station, with progressively lower densities spreading out into neighborhoods surrounding the center. Different transit technologies will spur slightly different development patterns and intensities around transit centers, but their similarities are more important than their differences for the development chip game.

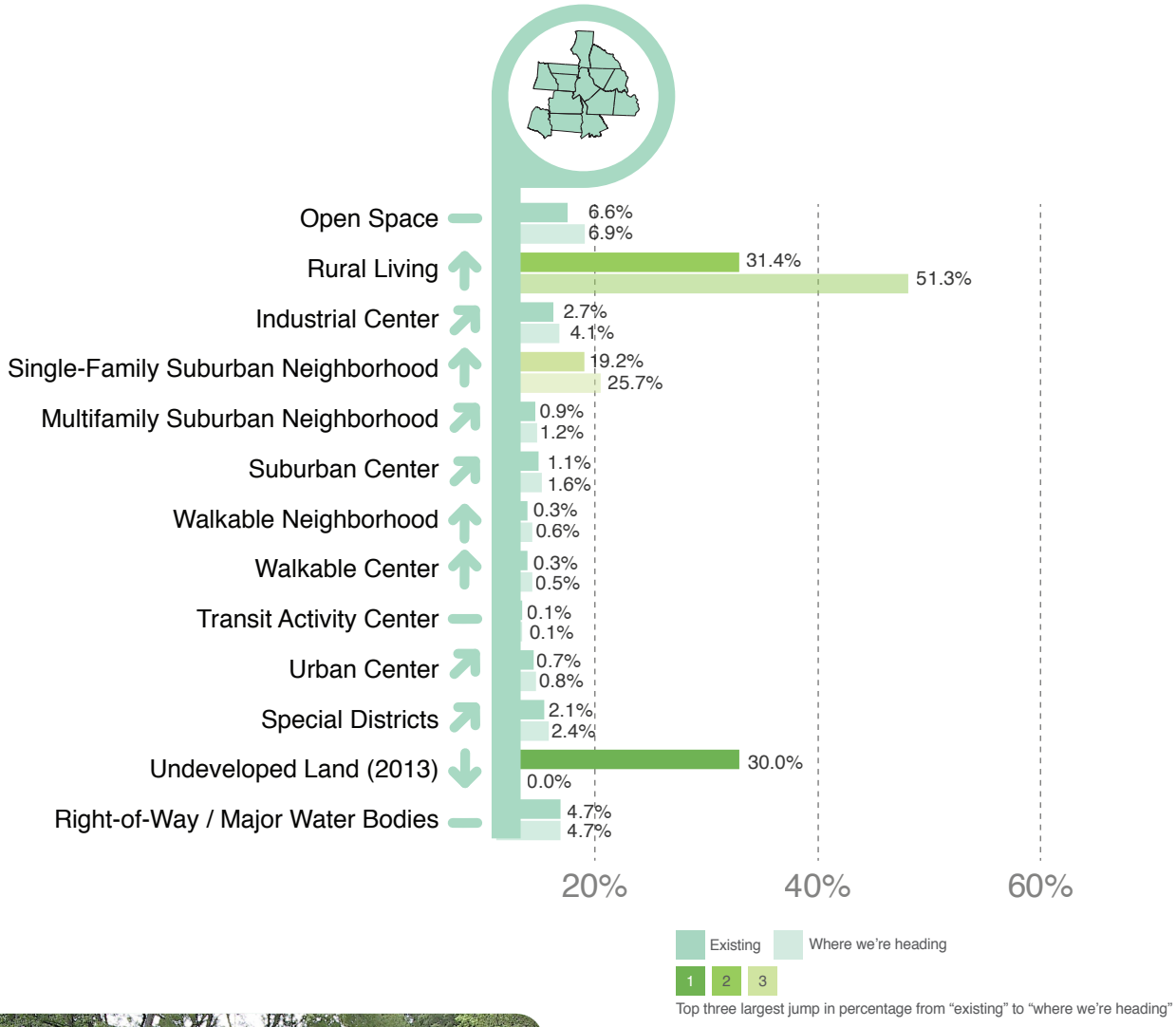
Urban Centers – Urban centers (especially small downtowns) satisfy daily economic, entertainment, and community needs for surrounding neighborhoods. Uses and buildings are located on small blocks with streets designed to encourage pedestrian activity. Buildings in a town center (or other economic activity center) typically stand two or more stories in height with non-residential uses on the ground floor and residential units above storefronts. Surrounding urban neighborhoods are relatively compact and support moderate- to high-density housing options, including small, lot single-family homes, townhomes, condominiums, or apartments.

Metropolitan Centers - A metropolitan center is the focal point of the region. It is a hub of employment, entertainment, civic, and cultural activities, with a mix of housing types and common open space for active living. As a magnet to surrounding towns and neighborhoods, the metropolitan center becomes an iconic symbol in the region, starting with very tall buildings and a compact street network. The walkable environment and mix of residential and non-residential uses in a metropolitan center support multiple modes of transportation. .

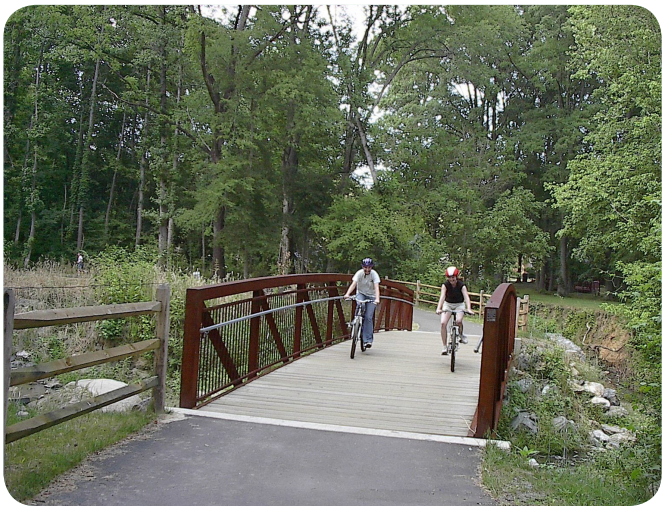
Special Districts – Special districts include airports, schools, utilities, government buildings, institutional/health care facilities, education campuses, amusement parks, etc. that are unique in the region and often orchestrated by their own sets of planning and design standards.

The 'special district' community type is identified on the work map to capture existing conditions in the region; however, it will not be a chip played during the development chip game. Participants should use their markers to identify areas in the county where unique uses should be located (see examples in the paragraph above) and add notes so the model development team understands the details behind the recommendation.

Land Uses in the CONNECT Region (Including Existing and Trend/"Where We're Heading" percentages):



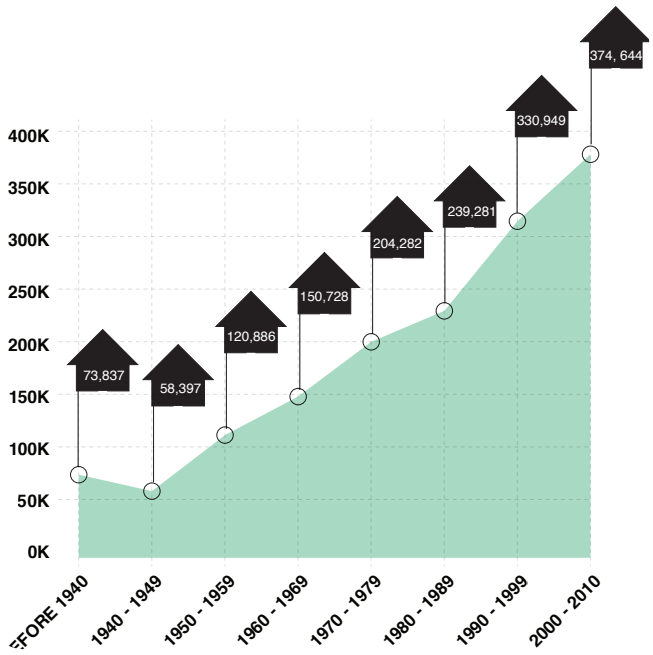
Top three largest jump in percentage from "existing" to "where we're heading"



Housing

Population and employment growth forecasted through 2050 will significantly increase the demand for housing throughout the region. Experts believe homebuilders will finally start registering a pulse again in 2013; especially as home prices continue to increase, foreclosures work through the system, workers' earning power increases, and unemployment rates fall[34]. Other key drivers for the next housing boom in the Region will include the age, income, and family size characteristics of new residents[35].

Amount of New Homes Built Per Decade:



(Source: US Census, American Community Survey, Five Year Data, 2006-2011)

Easy credit and extremely generous mortgage terms for people who could not afford the payments artificially stimulated demand for single-family homes between 1995 and 2009[36]. Home buyers purchased large homes with the belief they created greater wealth at the time of a future sale; however, the recession that devastated home prices moved many people to purchase smaller homes and/or enter the rental market[37].

Continued demand for new multifamily housing units (i.e., townhomes, condominiums, and apartments) will be fueled by young adult renters, downsizing baby boomers, and homeowners displaced by the housing bust. In addition, population shifts to urbanizing areas, especially near existing and proposed mass transit stops, will also favor new multifamily development especially as more people are willing to give up space and yards for greater convenience and freedom from car dependency[38].

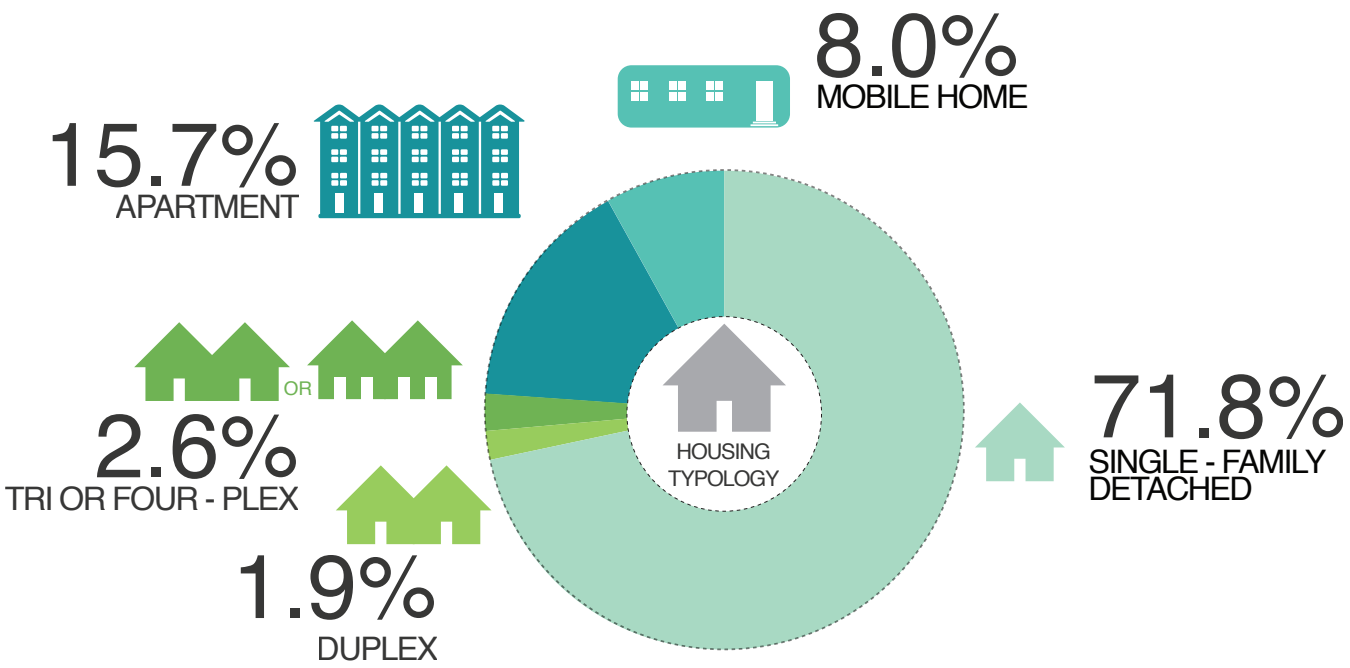
The Charlotte Region real estate market ranked ***17 out of 51*** *for overall real estate prospects in 2013*

(Source: 2013 Emerging Trends in Real Estate Urban Land Institute, 2013).

Population growth, rising rents, and family needs for housing will create demand for new single-family homes. However, home buyers are expected look for non-traditional features for their purchase compared to ten years ago: more energy efficient design, green building materials and technologies, less building square footage, simpler design and construction, flexible room size and design, more storage space, accessory living units, and greater affordability[39].

CONNECT Our Future commissioned a project in 2013 to develop a Comprehensive Regional Housing Strategy that will evaluate available housing and price points in the region, and explore options for meeting future demand for housing types, price points, and proximity by county. The study will also look at the interrelationship between housing and transportation, and infill development opportunities for multifamily housing that could meet the needs of young professionals, the elderly, etc. The final housing strategy report will be a resource for local governments and non-profit agencies operating in the region as they implement their own housing plans and programs.

Housing Types in the CONNECT Region:



Housing type illustrated opposite.
(Source: US Census, American Community Survey, Five Year Data, 2006-2011)

Housing Units by Tenure (2011):

- OWNER OCCUPIED UNITS **60.4%**
- RENTER OCCUPIED UNITS **30.0%**
- VACANT HOUSING UNITS **9.6%**

(Source: US Census, American Community Survey, Five Year Data, 2006-2011)

Disposition of Vacant Housing Units (2010):

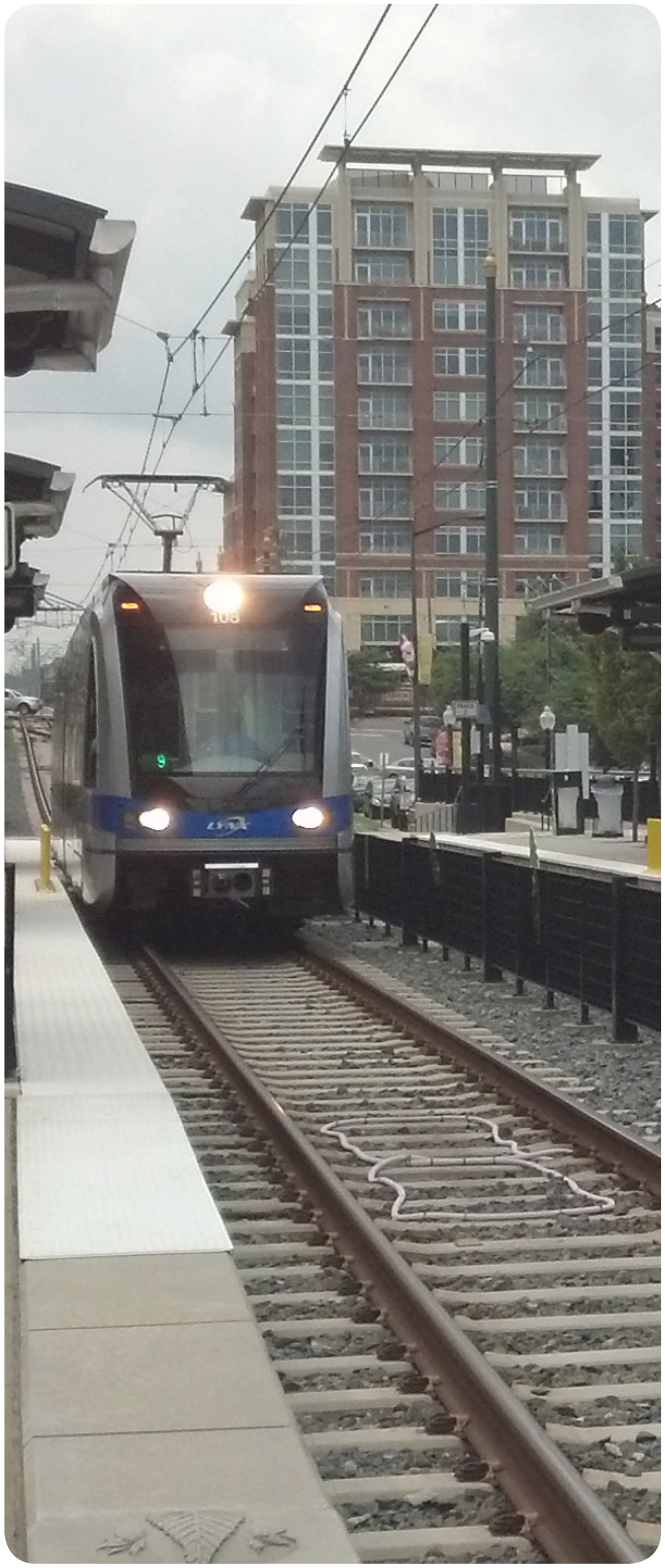
- FOR RENT **41.2%**
- FOR SALE **18.6%**
- RENTER OR SOLD, NOT OCCUPIED **4.6%**
- SEASONAL,RECREATIONAL, OR OCCASION USE **8.5%**
- MIGRANT WORKERS **0.1%**
- OTHER VACANT **27.0%**

(Source: US Census Bureau, 2010 Decennial Census, Summary File 1 Data)

Housing Types in the CONNECT Region:

05

Supporting Infrastructure



Parks & Recreation

Parks and recreation facilities in the CONNECT Region contribute significantly to residents' reported healthy lifestyle and higher quality-of-life.[40] An inventory in the Region noted 25,068 acres (less than 1% of the total land area in the CONNECT Region) maintained by local governments for active or passive recreation activities; including lakes and ponds, athletic fields or courts, swimming pools, playgrounds, recreation centers, amphitheaters, dog parks, natural areas and greenways.[41] Approximately 188,050 additional acres (about 4% of the total land area in the CONNECT Region) are maintained in the North Carolina and South Carolina State Park System or the National Forest and Park System for the enjoyment of all residents in the Region.

Sixty-two local governments maintain parks and/or administer recreation programs for youth and adult participants. Countless private organizations provide additional opportunities for fun and fitness throughout the Region (e.g., YMCA, Boys & Girls Club, private sport clubs, etc.). Special events hosted by both public and private organizations celebrate the arts, road races, sporting tournaments and holidays throughout the year. Demand for new parks and recreation facilities will rise dramatically as the population nearly doubles in the CONNECT Region by 2050.[42]

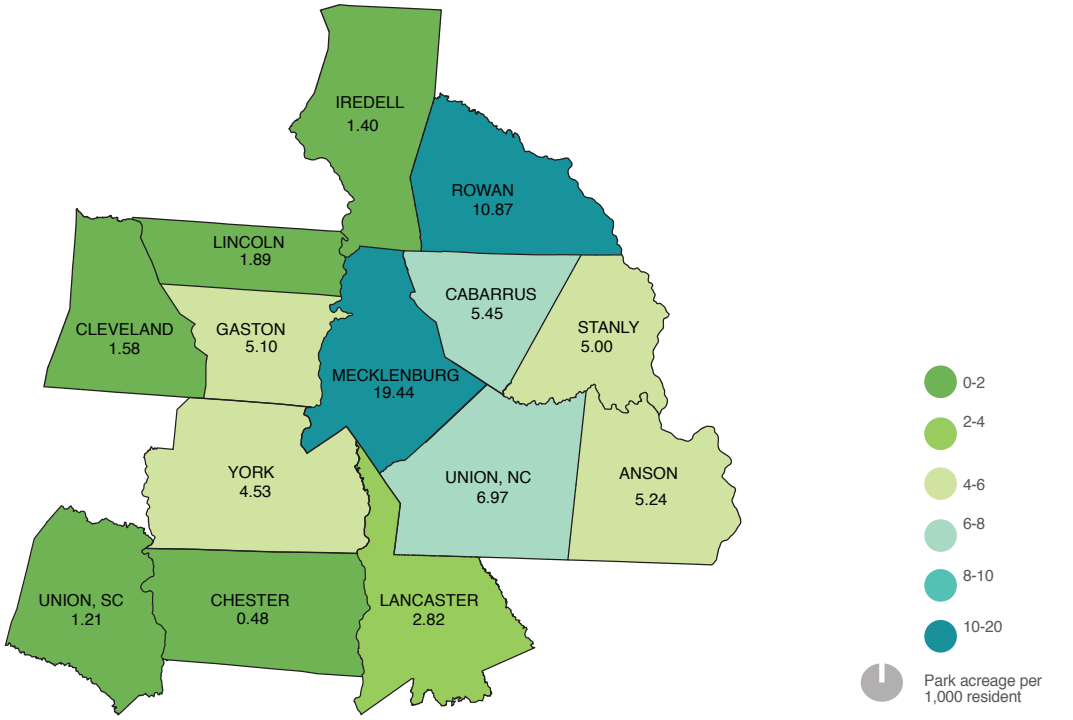
Officials report existing demand outpacing their resources and shrinking budgets hindering their abilities to build new facilities. Most parks and recreation departments are now looking to year-round, multi-purpose fields or facilities to keep up with demand. They are also working with area schools to share the use of their facilities. Under this partnership, parks and recreation departments improve facilities on school property in exchange for access to the site. Land dedicated for parks or recreation activities in new development projects could also significantly lower capital costs for building new facilities in the future.

Total park acreage for the CONNECT Region =

4,608,000

acres

Map of the Park Acreage per 1,000 Residents Maintained by Local Governments in the Region



Water Service

The quantity and quality of water available in the CONNECT Region plays an integral role in the life of every resident (and future resident). Water-dependent uses provide jobs in the region while lakes, rivers and streams provide wildlife habitat and recreation opportunities. Recent summer droughts and water wars also remind us how important this resource is for moving the region forward.

Surface water is the primary source for sixty-five service providers in the Region.[43] Major water bodies are fed by the Catawba, Yadkin and Broad Rivers. Some small service providers depend on deep wells for their bulk water needs. Water distribution systems in the region rely on gravity and pump station technology, and interconnected systems between utility providers ensure redundancy for reliable service.

Water consumption is anticipated to rise dramatically as population in the CONNECT Region nearly doubles by 2050.[44] In response, local service providers are identifying new water sources, expanding treatment plants, and improving distribution systems. However, water supply in the region is a finite source and our leaders must understand there is a limit to what we can draw or transfer between basins every day. Water conservation will be important for stretching available water resources, which could become 'water restrictions' if voluntary measures are not embraced region-wide by residential and non-residential customers.

Aging infrastructure will also tax future capital improvement plans, which could divert significant amounts of money away from system expansion. Key partnerships in the region will continue to strengthen as service providers link water sources with high-growth areas, and work to reduce overall consumption habits for users in the system.

Top Issues Facing Water Service Providers Today

1. **Available Funding:** Funding will be needed to replace aging infrastructure throughout the system, especially for the distribution lines, pump stations, etc. associated with large-volume industrial users.
2. **Short-Term Capacity:** There are areas in the region with vast amounts of short-term water capacity available for new customers because of declines in manufacturing and other industrial sectors in the system. How do we partner to match short-term supply with short-term demand?
3. **Education:** Need to educate elected officials and our customers on the urgency of long-term water supply issues and system maintenance/expansion needs to keep up with growth and development.
4. **Water Supply Plans:** Demand greater accountability, accuracy, and ability of local service providers to develop strategies for current water use, future water needs, coordination with adjacent service providers, etc.
5. **Water System Audits**: Identify the causes of waste in the system, including unaccounted water demand, meter replacements, meter calibration, etc.
6. **Water Withdrawal Rules:** Recent drought conditions and new 7Q10 low flow rules could reduce permitted water supply withdrawal by as much as 40% in some areas.
7. **Water Intake Requirements:** Need further explanation on the rules and requirements related to stream classification at water intake locations, specifically related to the process and mitigation alternatives for addressing concerns expressed by impact governments, etc. in the watershed.
8. **Regional Coordination:** New obligations on service providers to meet the needs of upstream/downstream users (pending outcome of current legal preceedings).

(Source: UNC-Chapel Hill School of Government, Environmental Finance Center, Interview January 3, 2013 / North Carolina Department of Environment and Natural Resources, Interview January 8, 2013 / Charlotte-Mecklenburg Utility Department, Interview with Barry Gullett, February 1, 2013)

WATER / SEWER INFOGRAPHIC

WAITING ON FINAL DATA FROM CCOG / CRCOG

Sewer Service

Nearly 500,000 customers in the CONNECT Region send their wastewater each day to local treatment plants.[45] And sixty-four wastewater treatment providers have a combined treatment capacity of 283.0 million gallons per day to meet present day demand.[46] Both numbers are expected to rise as population nearly doubles by 2050[47]; however, the magnitude and timing of sewer service expansion will depend greatly on preferred development locations, patterns and intensities in the region.

Local service providers are working on long-term plans to expand treatment plants, improve collection systems, and secure necessary state discharge permits. More immediate concerns in some parts of the region relate to excessive inflow (stormwater) and infiltration (groundwater) from outside the collection system. Extra stormwater or groundwater in the collection system increases demand at treatment plants, which could result in unnecessary, costly expansions to some facilities and/or potential negative environmental impacts associated with overflows at pump stations.

Similar to water service, key partnerships in the region will continue to strengthen as service providers increase wastewater treatment capacity in high-growth areas and work to reduce wastewater generation habits for users in the system.

WATER / SEWER INFOGRAPHIC

WAITING ON FINAL DATA FROM CCOG / CRCOG

Transportation

The transportation system in the CONNECT Region includes highway, transit, rail, air, bicycle and pedestrian elements. Streets in the highway network range from two-lane, rural roads to eight-lane interstates; including more than 2,800 miles of interstates and federal/state highways running throughout the fourteen counties.[48] Transit in the region includes the Blue Line in Charlotte (light rail) as well as regional bus service operated by agencies in Charlotte, Gastonia, Concord, Kannapolis and Salisbury. Railroads move freight in the Region to points throughout the country with lines operated by Norfolk Southern and CSX and several short-line providers. And Charlotte/Douglas International Airport is the second largest hub on the East Coast, welcoming more than 39 million travelers in 2011.[49]

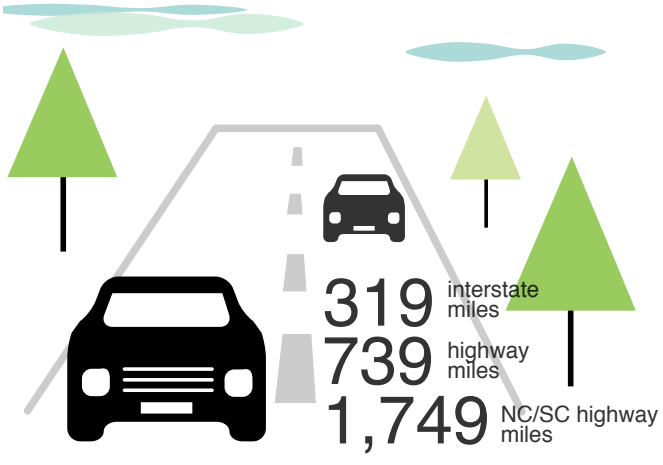
Several cities and towns in the region are also leading the way for more bicycle- and pedestrian-friendly communities. Charlotte, Davidson and Rock Hill were designated as national bicycle-friendly community award winners in 2012, and Charlotte and Davidson were designated as national walk-friendly communities in 2012.[50] Other initiatives in the region — such as the Carolina Thread Trail — will link local greenways into a 'super-highway' for bicycling and walking in the region.

The physical distance between complementary land uses (e.g., between home and work, home and school or home and shopping) and over-reliance on automobiles for meeting daily travel needs in the Region is leading to several unintended consequences — rapidly increasing vehicle miles traveled and energy consumption, longer commute times, increased air pollution, and heightened infrastructure and public service costs. Inadequate long-term transportation funding, and shifts in department priorities from new construction to maintenance, worsens the problem (i.e., the growing funding gap) as little can be done to keep up with existing and emerging decentralized growth patterns.

Local, regional and state transportation officials are working toward a more sustainable transportation system as the population nearly doubles in the CONNECT Region by 2050.[51] Policy statements in adopted plans and/or projects in adopted work programs favor the concepts of complete streets and context sensitive design solutions, which provide transportation choices (e.g., vehicle, transit, bicycle or pedestrian) in the same corridor consistent with surrounding land uses and densities. Transportation officials are also working very closely with local governments to better link transportation and land use decision-making processes, and study the opportunities/impacts associated with moving freight through the region.

Aging infrastructure is also a major concern for transportation officials in the region, and maintenance needs for roads, bridges, etc. will stress already scarce transportation resources for new construction. Big ideas for addressing the situation are now in discussion, including jurisdictional responsibility for streets in the system (i.e., state, county, city or town) and alternative funding sources to the gas tax for keeping up with growing demands.

Transportation Statistics for the CONNECT Region:



MPOs in CONNECTRegion

Cleveland Gaston Lincoln Metropolitan Planning Organi
Charlotte Regional Transportation Planning Organization
Cabarrus-Rowan Metropolitan Planning Organization
Rock Hill-Fort Mill Area Transportation Studytion

RPOs in the CONNECT Region

Rocky River Rural Planning Organization
Catawba Region Council of Governments

DOT Districts in the CONNECT Region

NCDOT District 9
NCDOT District 10
NCDOT District 12
SCDOT District 4

(Source: Seven Hills Town Planning Group, Inc., Web Survey / Telephone Survey of Parks and Recreation Departments in the CONNECT Region, 2013).

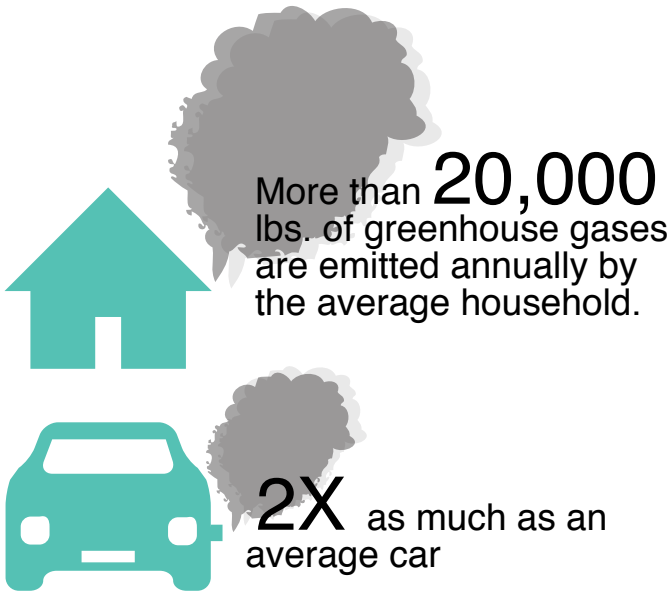
Energy

Energy is fundamental to a thriving region, providing jobs and very tangible ways to reduce environmental impacts in a cost-effective manner. Nationally, experts believe energy consumption will grow by more than 30 percent in 2050, and renewable energy (hydro, wood, biofuels, wind, waste-to-energy, geothermal, and solar) will continue to be a larger percentage of the energy portfolio for utility generators.[52]

The United States imports ***$1 billion of oil per day, and used 4.4 billion barrels of oil in 2011,*** *of which 71 percent was used in the transportation sector. Demand reduction strategies, such as better urban design and more efficient driving, can also lead to significant reductions in the need for transportation energy.*

(Source: Transportation Energy Futures (TEF) Study, US Department of Energy, March 15, 2013- http://www1.eere.energy.gov/analysis/transportationenergyfutures/)

Amount of Greenhouse Gasses Emitted by a Average Home and Car:



(Source:http://www.energystar.gov/ia/products/coolingInfographic.html)

Energy efficiency has great potential to save money and reduce carbon emissions in the Region. US Administration policy favors clean energy and energy efficiency with increased funding for the Department of Energy Renewable Energy and Energy Efficiency Technology Programs by more than 59 percent in 2013 (approximately $3.5 billion). New funds from federal, state, and private investment sources could make the CONNECT Region a center of energy if it can quickly attract new businesses and the people needed to invent, design, and operate within the energy sector. Specific target industries for the Region may include: nuclear, renewable electricity generation, energy-saving home technologies, and sustainable transportation. Natural gas could also play a new and unexpected role in the Region's energy mix.

Our future successes around energy in the CONNECT Region will require continued innovation, a coherent energy policy, workforce development strategy focused on energy skills and knowledge, and comprehensive coordination between energy programs, stakeholders, and shared resources.

(Source: Recent presentations to CONNECT Our Future Energy Working Group, Introduction to E4 Carolinas & Overview of an Energy Cluster Strategy, April 12, 2013 and Industrial Ecology Applications for Improving Solid Waste Management, June 14, 2013)

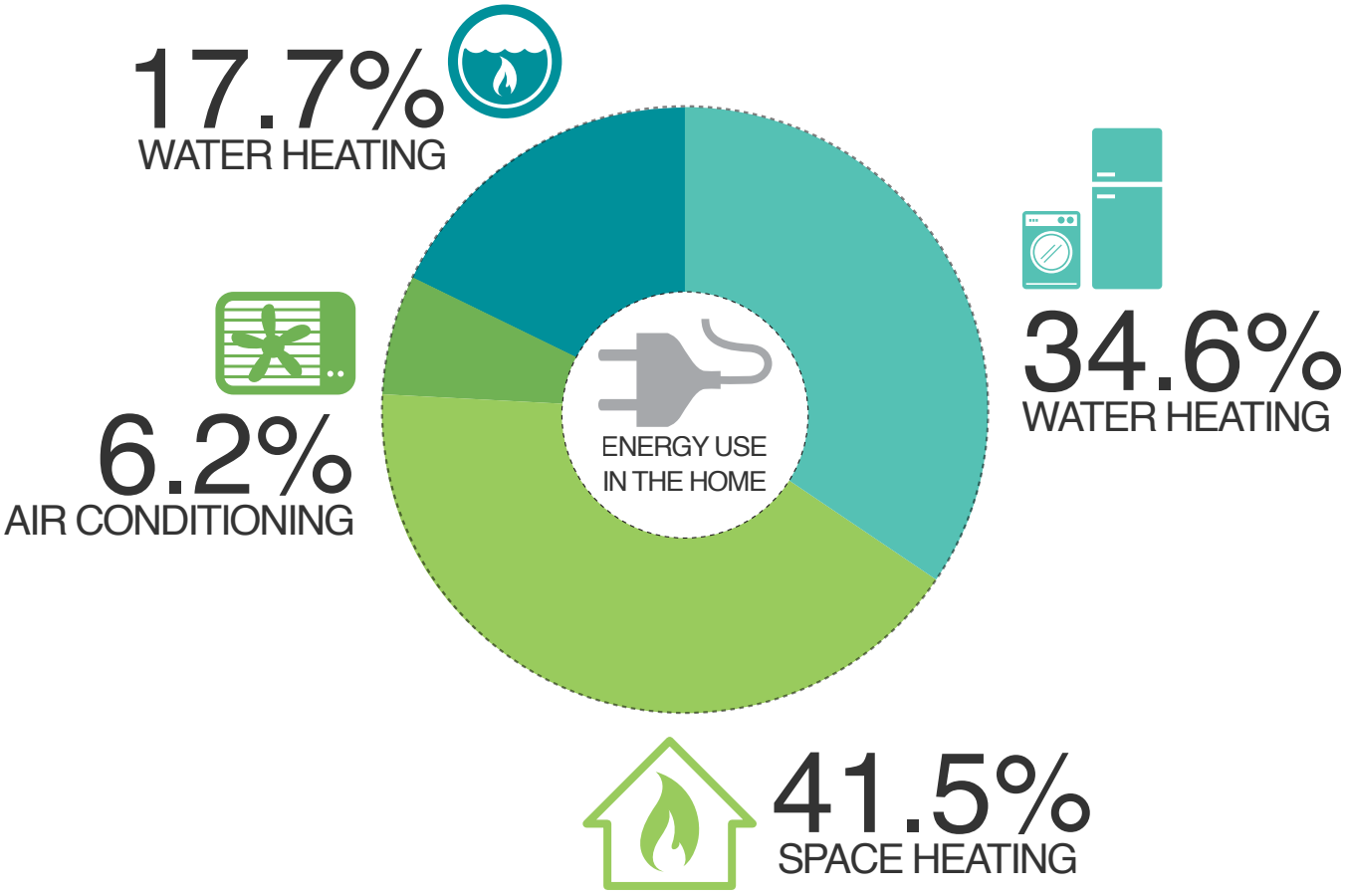
Our region has a critical mass of engineering and energy organizations that can grow jobs and increase economic development as an energy cluster.

(Source: Premise from April 2009 Energy Summit convened by Duke Energy's CEO and kicked off by the Governor of North Carolina)

Energy is the cornerstone of a modern economy, and energy leadership will reinforce its prosperity

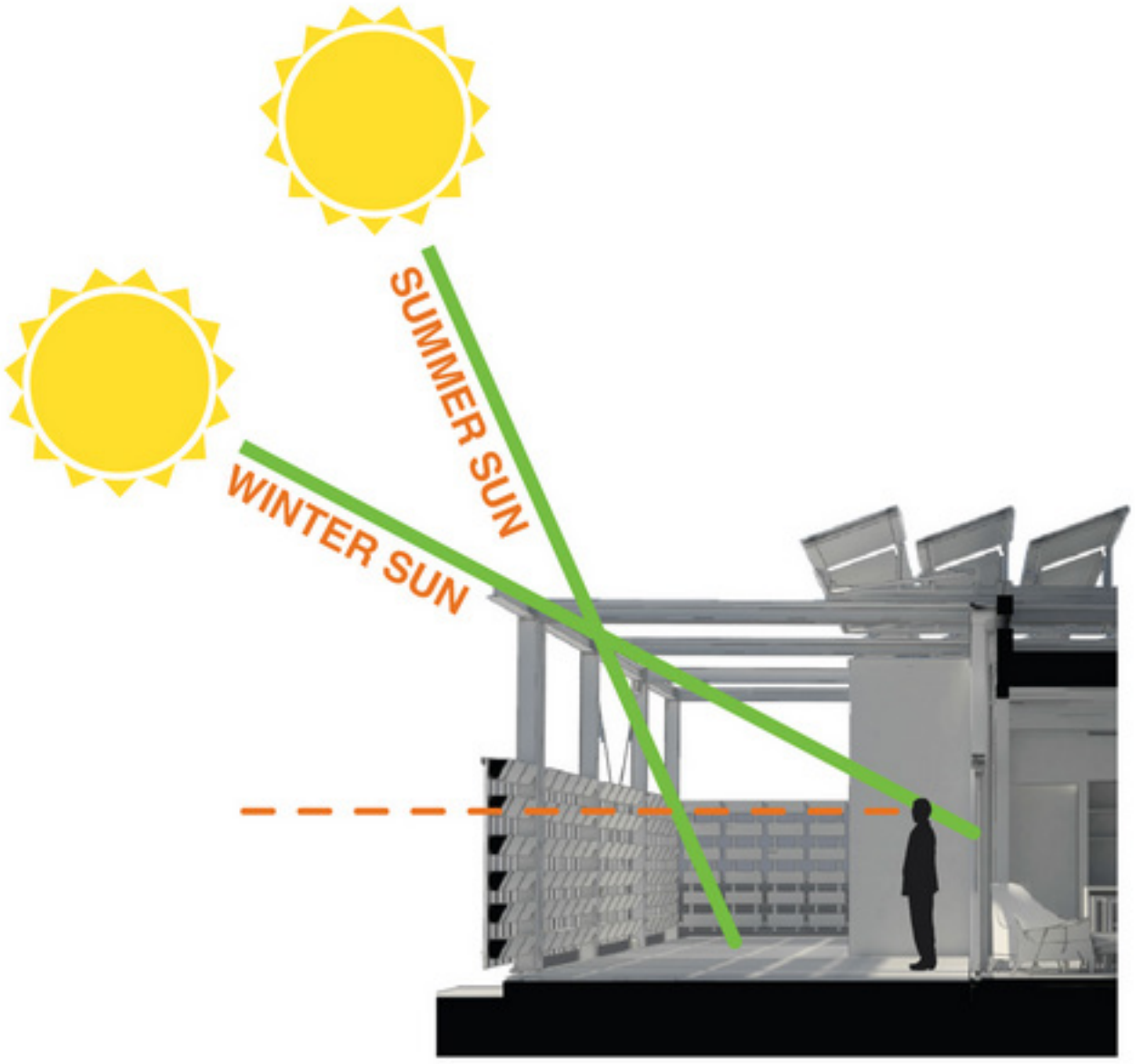
(Source: E4 Carolinas, www. e4carolinas.org, July 15, 2013)

Energy Consumption in Homes by End Uses (2009):



Source: U.S. Energy Information Administration, Residential Energy Consumption Survey.

UNCC's Urban Eden Solar Decathlon House Solar Design Diagram:



Design for solar energy can reduce power needs. (Source: http://urbaneden.uncc.edu/house/highlights/solar-strategies)

06

Community


N. CENTER


JAMES H. MALLORY III
ATTORNEY AT LAW

Education

Parents and children in the CONNECT Region have several choices to meet their education needs; including public schools, charter schools, private schools, and home-schooling. An inventory of the Region noted 732 school locations serving more than 423,000 students in grades pre-kindergarten through 12.[53] Nearly 90% of these students attend public schools, followed by 7% attendance in private schools and 3% attendance in charter schools.

Enrollment is anticipated to rise dramatically as population in the CONNECT Region nearly doubles by 2050.[54] Poverty level, household size, dropout rates and local government development policies (especially location, use, and density rules) were all cited by school officials as critical to identifying where new students will be in the Region.

New students will increase demand beyond what portable classrooms may supply, especially since school officials report new school construction is influenced more by the need for additional accessory space (i.e., gymnasium, cafeteria, library, playground equipment, etc.) versus new classrooms. Eventually, schools officials will not be able to feed children lunch or provide opportunities for physical fitness within North Carolina or South Carolina education guidelines without building new schools.

Recent data from school districts in the CONNECT Region shows the average cost for a new elementary school was $8.2 million, a new middle school was $11.5 million, and a new high-school was $31.6 million.[55] School districts in high-growth areas of the region are reserving significant funds in their five year school facility needs plans for new school construction to keep up with projected growth.

Additional stress on annual school budgets is tied to ballooning operation costs (especially personnel-related costs) that make up to 80% of a typical annual school budget. State and federal funds available for annual school budgets are trending downward, which creates additional stress year-to-year for public school and charter school officials. Most school districts in the Region are now looking for innovate funding mechanisms (e.g., corporate sponsorships, angel benefactors, field rental, etc.) to help fund their operating and capital shortfalls.

School District Statistics:

SCHOOL DISTRICT	GRADES	# OF SCHOOLS	2013 ENROLLMENT
ANSON COUNTY SCHOOL DISTRICT	K - 12	11	3,755
CABARRUS COUNTY SCHOOLS	PK - 12	38	28,465
CHARLOTTE - MECKLENBURG SCHOOLS	PK - 12	158	128,186
CLEVELAND COUNTY SCHOOLS	PK - 12	29	15,721
GASTON COUNTY SCHOOLS	PK - 12	55	30,900
IREDELL - STATESVILLE SCHOOLS	PK - 12	36	21,130
KANNAPOLIS CITY SCHOOLS	PK - 12	8	5,119
LINCOLN COUNTY SCHOOLS	PK - 12	24	11,674
MOORESVILLE GRADED SCHOOL DISTRICT	PK - 5 / 7 - 12	8	5,420
ROWAN - SALISBURY SCHOOL SYSTEM	PK - 12	35	20,002
STANLY COUNTY SCHOOLS	PK - 7 / 9 - 12	21	8,443
UNION COUNTY PUBLIC SCHOOLS	PK - 12	52	39,040
CHESTER SCHOOL DISTRICT ONE	PK - 12	13	5,740
LANCASTER SCHOOL DISTRICT ONE	PK - 12	20	11,728
UNION SCHOOL DISTRICT ONE	K - 12	9	4,614
YORK SCHOOL DISTRICT ONE	PK - 12	8	5,286
YORK SCHOOL DISTRICT TWO	PK - 12	9	6,390
YORK SCHOOL DISTRICT THREE	PK - 12	28	17,650
YORK SCHOOL DISTRICT FOUR	PK - 12	10	9,441

COUNTY	SINGLE FAMILY	MULTI-FAMILY
ANSON, NC	0.49	0.56
CABARRUS, NC	0.53	0.36
CHESTER, SC	0.50	0.62
CLEVELAND, NC	0.28	0.16
GASTON,NC	0.53	0.37
IREDELL, NC	0.52	0.35
LANCASTER, SC	0.51	0.61
LINCOLN, NC	0.49	0.54
MECKLENBURG, NC	0.60	0.31
ROWAN, NC	0.53	0.36
STANLY, NC	0.51	0.36
UNION, NC	0.65	0.54
UNION, SC	0.46	0.38
YORK, SC	0.58	0.37

Downtowns & Main Streets

Downtowns and Main Street play an important role for cities and towns in the CONNECT Region. They are the economic, cultural, entertainment and government centers throughout the region, and offer an opportunity for citizens to gather and interact as a community. A vibrant downtown or main street positively affects the ability of cities and towns to attract new businesses, residents, and investment throughout the community.[56]

Participants in the planning process for CONNECT Our Future continually ranked downtowns very high for improving overall quality-of-life in the Region.[57] Local government officials share this viewpoint for promoting a more sustainable future, and the development community historically has been a good partner in private-public partnerships to improve downtowns in the region.

> *"In most American cities, you can sense almost instantly and instinctively whether it is living or dying by its downtown."*
>
> (Source: The Tennessean, December 4, 2005)

References:

1. *Charlotte Regional Partnership*. Retrieved July 8, 2013, from www.charlotteusa.com.

2. US Census Bureau. Longitudinal Employer – *Household Dynamics*. Retrieved July 8, 2013.

3. *Comprehensive Economic Development Strategies*, Centralina Region, Prosperity for Greater Charlotte, 2012

4. *Comprehensive Economic Development Strategies*, Catawba Region, 2012

5. *Comprehensive Economic Development Strategies*, Centralina Region, Prosperity for Greater Charlotte, 2012

6. *Comprehensive Economic Development Strategies*, Catawba Region, 2012

7. *The Importance of Local Food Production*. Retrieved July 14, 2013 from www.turningearchllc.com.

8. *Local & Regional Food Systems.* Retrieved July 14,2013 from www.sustainabletable.org.

9. Ibid.

10. British Columbia Province, *BC Air Quality* Homepage. Retrieved July 14, 2013 from www.bcairquality.ca.

11. Environmental Protection Agency, *Air Quality Index – A Guide to Air Quality and Your Health AirNow.* Retrieved July 15, 2013 from www.airnow.gov.

12. British Columbia Province, *BC Air Quality* Homepage. Retrieved July 14, 2013 from www.bcairquality.ca.

13. State Climate Office of North Carolina. Retrieved July 15, 2013 from www.nc-climate.ncsu.edu/climate.

14. Ibid.

15. Mecklenburg County Air Quality Department. Retrieved July 14, 2013 from www.charmeck.org/mecklenburg/county/AirQuality.

16. Ibid.

17. Ibid

18. State of Washington, Department of Ecology. (2012). *Preparing for a Changing Climate*.

19. NC DENR Office of Environmental Education and Public Affairs. River Basin Publications, *Catawba / Broad / Yadkin-Pee, NC Environmental Education*.

20. North Carolina Wildlife Resources Commission. Retrieved July 18, 2013 from www.ncwildlife.org.

21. http://www.scstatehouse.gov/code/t44c059.php

22. NC DENR Office of Environmental Education and Public Affairs. River Basin Publications, *Catawba / Broad / Yadkin-Pee, NC Environmental Education*.

23. Ibid.

24. Yadkin Riverkeeper. Retrieved July 12, 2013 from www.yadkinriverkeeper.com.

25. Ibid.

26. NC DENR Office of Environmental Education and Public Affairs. River Basin Publications, *Catawba / Broad / Yadkin-Pee, NC Environmental Education*.

27. http://www.scstatehouse.gov/code/t44c059.php

28. North Carolina Wildlife Resources Commission. Retrieved July 18, 2013 from www.ncwildlife.org.

29. USGS, *Water Science School*. Retrieved July 12, 2013 from ga.water.usgs.gov/edu/earthgwaquifer.html.

30. NC DENR, *Local Water Supply Plans, Various Service Providers in the CONNECT Region and DHEC*, ????

31. The Nature Conservancy. Retrieved July 15, 2013 from www.nature.org.

32. CONNECT Our Future, *Phase 1 Public Outreach Summary*. Retrieved July 15, 2013.

33. Carolina Thread Trail Website. Retrieved July 22, 2013 from www.carolinathreadtrail.org.

34. Urban Land Institute (2013). *Emerging Trends in Real Estate.*

35.2011 Forecast for the Charlotte, NC Residential Real Estate Market, Helen Adams Realty, www.helenadamsrealty.com, July 16, 2013

36. Ibid.

37. Urban Land Institute (2013). *Emerging Trends in Real Estate.*

38. Ibid.

39. Marilyn Lewis, MSN Real Estate. Retrieved July 17, 2013 from www.realestatemsn.com/8-ways-the-economy-is-changing-new-homes.html.

40. CONNECT Our Future, Phase 1 Survey Results

41. Trend Growth Scenario, *Place Type Assignments*, Retrieved April 18, 2013.

42. Charlotte Department of Transportation, *Population & Employment Forecasts, 2050.*

43. Survey of Utility Service Providers in the Region, Seven Hills Town Planning Group, Inc. (May 1, 2012)

44. Charlotte Department of Transportation, Population & Employment Forecasts, 2050

45. North Carolina Local Water Supply Studies for providers in the CONNECT Region & Survey of Utility Service Providers in South Carolina by Seven Hills Town Planning Group, Inc., May 1, 2012.

46. North Carolina Local Water Supply Studies for providers in the CONNECT Region & Survey of Utility Service Providers in South Carolina by Seven Hills Town Planning Group, Inc. (May 1, 2012)

47. Charlotte Department of Transportation, Population & Employment Forecasts, 2050

48. GIS Database for CONNECT Our Future, Major Roads (May 2, 2012)

49. www.charlotteairport.com (May 2, 2012)

50. www.bikeleague.org & www.walkfriendly.com (May 2, 2012)

51.Charlotte Department of Transportation, Population & Employment Forecasts, 2050

52. E4 Carolinas. Retrieved July 15, 2013 from www.e4carolinas.org.

53. Retrieved April 29, 2013 from www.greatschools.org & www.privateschoolreview.com.

54. Charlotte Department of Transportation, *Population & Employment Forecasts*, *2050*

55. Retrieved April 30, 2013 from www.schoolclearinghouse.org.

56. Preservation Alliance of Minnesota. *Why is Downtown Important?* Retrieved July 17, 2013 from www.mnpreservation.org.

57. CONNECT Our Future, *Phase 1 Public Participation Summary Document*

Crop and Livestock Statistics for the CONNECT Region:

CROPS GROWN	LIVESTOCK
corn 24, cotton 34, hay 42, soybeans 37	broilers 9, cattle 37, hogs and pigs 23, layers 13, turkeys 8
corn 41, hay 10, soybeans 57, wheat 30, nursery 41, vegetables / fruits / nuts / berries 86	broilers 42, cattle 23, hogs and pigs 48
corn 56, cotton 40, hay 17, soybeans 44, wheat 15, nursery 32, vegetables / fruits / nuts / berries 27	broilers 17, cattle 14
hay 46, soybeans 61, wheat 34, nursery 60, vegetables / fruits / nuts / berries 68	broilers 44, cattle 37
corn 17, hay 5, soybeans 25, wheat 13, nursery 39, vegetables / fruits / nuts / berries 50	broilers 48, cattle 1, layers 5
corn 60, hay 32, soybeans 55, wheat 42, nursery 85, vegetables / fruits / nuts / berries 28	broilers 36, cattle 29, layers 50
hay 64, soybeans 73, nursery 1, vegetables / fruits / nuts / berries 71	cattle 65
corn 22, hay 8, soybeans 28, wheat 12, vegetables / fruits / nuts / berries 21	broilers 55, cattle 8, layers 24
corn 18, cotton 11, hay 27, soybeans 26, wheat 17, vegetables / fruits / nuts / berries 78	broilers 28, cattle 16, layers 28, turkeys 13
corn 2, cotton 35, hay 22, soybeans 1, wheat 16, nursery 10, vegetables / fruits / nuts / berries 20	broilers 3, cattle 10, layers 3, turkeys 4
corn 7, cotton 18, hay 10, soybeans 36, wheat 20	turketys 11, layers 12, cattle 5, horses 22, goats 33
corn 29, hay 16, soybeans 29, wheat 29	turkeys 2, broilers 21, cattle 12, horses 12, quail 12
hay 24, nursery 28, corn 31, vegetables fruits / nuts / berries 43	layers 16, cattle 24, goats 30, horse 36, pullets 29
hay 5, cotton 20, wheat 28, corn 34, peaches 8	turkeys 7, cattle 6, hogs and pigs 9, ducks 1, horses 6

CONNECT our Future
Vibrant Communities – Robust Region


CONNECT
Our Future
VIBRANT COMMUNITIES - ROBUST REGION


CCOG
Centralina Council of Governments


Catawba
Regional
Council of Governments


SEVEN HILLS
TOWN PLANNING GROUP


UNC CHARLOTTE


DSRC