ADDING IT UP: GROWTH TRENDS AND POLICIES IN NORTH CAROLINA

A Report Prepared for the Z. Smith Reynolds Foundation
by the
Brookings Institution
Center on Urban and Metropolitan Policy

July, 2000

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Acknowledgements

The Brookings Institution Center on Urban and Metropolitan Policy would like to thank the Z. Smith Reynolds Foundation and Peter Tavernise for their support and guidance. We would also like to thank the many individuals who met with our researchers, shared information, and gave important critical feedback. The views expressed in this report are those of the Brookings Institution Center on Urban and Metropolitan Policy, and not necessarily those of the trustees, officers, and staff members of the Brookings Institution.

We welcome comments on this report. Please send all correspondence to ksommer@brookings.edu.

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I. INTRODUCTION

North Carolina has enjoyed significant population and economic growth throughout the 1990s. The state is the 6th fastest growing state in the nation, and 5th in terms of drawing new residents from other parts of the country. A very important part of what draws these people—almost one million from 1990 to 1998—and the businesses for which they work, is the state's quality of life. "Quality of life" is a hard thing to quantify precisely. It encompasses everything from schools to the environment to jobs to the cost of living to the number of symphony orchestras, colleges and universities, and recreational opportunities.

North Carolina metropolitan areas frequently show up at the top of lists of the nation's best places to live or work. This year, Forbes magazine ranked 200 metro areas by wage, salary, and job growth, and increases in high tech clusters. Charlotte was 14th, Raleigh was 21st, and Wilmington was 35th. Money magazine's, "The Best Places to Live, 2000" ranked Raleigh-Durham 2nd, Greensboro / Winston-Salem 11th, and Charlotte 12th among large metropolitan areas in the South.[1] The Research Triangle Region alone was highly ranked in over 40 magazines, books, reports and newspapers over the last seven years.[2]

Aside from a very healthy economy and growing technology sector, North Carolina also has numerous physical and social attributes that contribute to its quality of life. It has the rich environmental diversity of the mountains and coastal areas. It has the intellectual and cultural attractions offered by its many institutions of higher education.

Yet, the very things that make North Carolina desirable become threatened when too many people act on their desires and move there. Thus, urban growth, and its environmental, social, and economic consequences, has become a pressing political issue across the state. Elected officials are struggling to balance economic and population growth with the preservation of natural resources and enhancements in the quality of life. The state's metropolitan areas—especially Charlotte and the Research Triangle Park area—are grappling with growth's fiscal, social, and environmental costs, as are some small towns and rural areas. Meanwhile, many rural areas have the opposite problem: a lack of growth and prosperity.

Growth does not just happen. It is the result of market forces, particular policy decisions, and the relationship between the two. Policymakers need to understand where growth's pressures are most intense, what drives growth to some places and not others, if North Carolina is to grow differently. They must understand the connections between public policies and development, and the link between little or no growth in some parts of a metropolitan area and explosive growth in other sections of the same region.

Recognizing the need to understand the state's growth pressures, the Z. Smith Reynolds Foundation recently asked the Brookings Institution Center on Urban and Metropolitan Policy to assess the state of research on growth patterns in North Carolina. Urban Center staff members have made several trips to North Carolina, and have met with leading elected officials, researchers, advocates, and grassroots organizations. We also surveyed 100 people in the state who were working on or knowledgeable about growth issues. Finally, we have analyzed studies on urban and metropolitan growth in North Carolina, its consequences, and policy implications.

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[1] Additionally, the September 1999 edition of Business Development Outlook ranked national cities by quality of life. Raleigh placed 7th, Durham placed 14th, Winston-Salem placed 19th, and Greensboro placed 24th.

[2] Hammer, Siler, George Associates, The Research Triangle Park: The First Forty Years, (Silver Spring, Maryland, 1999) Appendix H.

In section one, this report summarizes what we found in our analysis of research on growth patterns in North Carolina. It is not intended to be a comprehensive summary of all of the state and metropolitan research that exists, but rather is a compilation of the research we were able to identify. It presents the general social and economic trends the state is facing. We also identify critical questions that the current research—at least as far as we know—does not answer.

In section two, we discuss our main findings, which are:

- North Carolina is growing at a dramatic pace—in population, in jobs, and in land consumption.
- The preponderance of growth is located in the state's seven major metropolitan areas.
- Rapid, sprawling growth is threatening the quality of life in many parts of North Carolina and could undermine the state's competitive edge.
- Growth is not uniform across the state, however: rural areas and areas with high concentrations of minorities are being left behind.
- North Carolina needs to grow differently; its growth needs to be more compact and balanced.

Section three describes the efforts North Carolina has made to shape growth, from revitalizing rural main streets to protecting water quality and preserving coastal areas. Section four draws largely on the example of other states to outline an admittedly ambitious smart growth policy agenda that North Carolina should consider, in addition to its existing efforts. This agenda consists of eight steps:

- Step One: Level the Playing Field Between Older Communities and Newer Developments.
- Step Two: Rethink Transportation Policy
- Step Three: Invest in Land Acquisition and Reclamation.
- Step Four: Consider Broad Growth Management Policies.
- Step Five: Give Local Governments Growth Management Tools and Assistance
- Step Six: Strengthen and Streamline Existing Regional Governance Authorities
- Step Seven: Continue to Support Rural Economic Development
- Step Eight: Disclose Growth and Spending Patterns

Finally, section five describes the research still to be done that will underpin the implementation of the smart growth strategies we suggest. We recommend that North Carolina's corporate, civic, and political leaders undertake or support the following:

- Create a "Research North Carolina" network, to compile and seed research on growth and development patterns.
- Support research, or additional research, on:
  - Intra-metropolitan and rural trends.
  - The impact of government policies on sprawl and central city revitalization efforts.
  - The implementation of smart growth in other states and localities.
  - Variations on costs of sprawl—fiscal, environmental, and social—in various parts of the state.
  - Housing affordability's impact on growth patterns.

Ultimately, the purpose of this project and report is to prompt further research and policy efforts that help North Carolina's metropolitan and rural areas grow fundamentally stronger.

II. What the Research Tells Us

The quality and quantity of the research on North Carolina is impressive. There are dozens of researchers who have looked at the nature and consequences of growth trends in the state. These researchers work for a variety of organizations including state governmental entities, regional bodies, city and county governments, non-profit and for-profit entities, and universities.

We do not pretend to have uncovered all of the research available in the state. But this section sketches the kind of information that we did find from various sources. We also attempt to highlight important questions for which we could not find research. These "research gaps" provide the foundation for the recommendations made later in the report.

A. Growth Trends

North Carolina is fortunate in that its population and economic growth are strong, and show no signs of slowing. It is already home to new-economy industries, which means that the state as a whole—though not specific regions—suffers fewer economic shocks as older industries decline. The state's growth is concentrated in its seven major metropolitan areas, and more specifically, in the three largest metro areas: Charlotte, Raleigh-Durham, and Greensboro/Winston-Salem.

1. Population growth

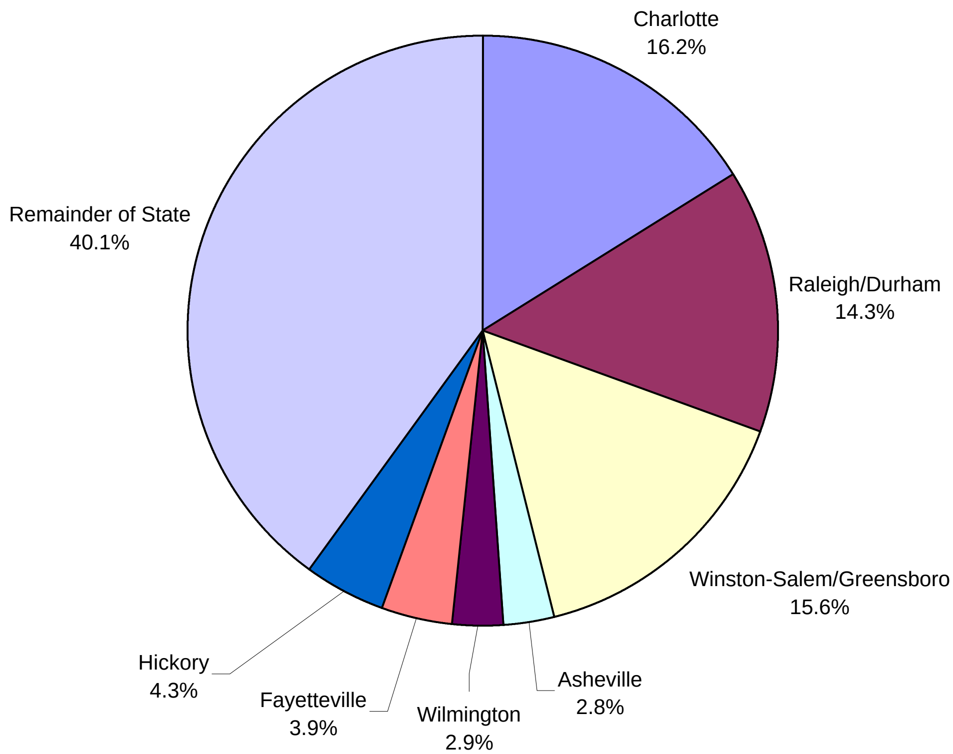
North Carolina is rapidly gaining population. The number of state residents grew from 6,632,448 in 1990 to almost 7,547,090 in 1998, a rate of 13.7 percent, making North Carolina the 6th fastest growing state in the country. North Carolina was ranked 5th in net domestic inmigration, with 60 percent, or 554,268, of the new residents moving from other states.

- **New residents are moving to the state's large metropolitan areas**. In the 1980s and 1990s, the state's seven largest metropolitan areas gained 77 percent and 74 percent, respectively, of the state's new residents.[3] The seven largest metropolitan areas comprised 60 of the state's population in 1998. The three largest metropolitan areas, Raleigh-Durham, Charlotte, and Greensboro/Winston-Salem, absorbed 63 percent of state population growth between 1980 and 1998—1,046,642 of 1,666,995 new residents. As a result, these three areas were home to 46 percent of the state's population, or 3,663,437 people, in 1998. (See Figure 1)

- **This metropolitan-centered population growth is expected to continue**. The state Office of Planning projects that in twenty years the state will add two million people. During that same time period, the Raleigh-Durham Metropolitan Area is expected to grow by 560,372 people, or 50 percent; the Charlotte region is expected to add 450,925 new residents, growing by 37 percent; the Greensboro/ Winston-Salem region should add 264,472, growing by 22 percent; and the Wilmington Region is expected grow by 96,349 people, or 45 percent.[4]

[3] North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999. North Carolina's seven largest metropolitan areas (in Census Bureau terminology, Metropolitan Statistical Areas, or MSAs) according to the Census Bureau, from largest to smallest population are Charlotte-Gastonia-Rock Hill, Greensboro--Winston-Salem--High Point, Raleigh-Durham-Chapel Hill, Hickory-Morganton-Lenoir, Fayetteville, Wilmington, and Asheville.
[4] NC State Office of Planning, "http://www.ospl.state.nc.us/demog/"

Figure 1: Seven Largest Metropolitan Areas' Share of State's Population, 1998



Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
The Charlotte Metropolitan Area Population includes only those counties in North Carolina.

- **The state's coastal areas are attracting high numbers of retirees, and gaining jobs**. A March 2000 report by the Milken Institute ranked counties and metropolitan areas by their elderly growth between 1990 and 1998. Among U.S. metropolitan areas, Jacksonville placed 7th with an elderly population growth rate of 40.2 percent, Wilmington came in 9th with 38.3 percent. Brunswick County's overall elderly growth rate was 55 percent.[5] The proportion of Dare County residents over age 65 grew 45 percent in the 1990s.[6] Coastal counties are also seeing job growth. From 1993 to 2000, Brunswick, Currituck, Dare, Hyde and Pender counties saw their number of jobs rise by more than 20 percent.[7]

  The state's mountain counties, however, still contain the greatest shares of elderly people. Four out of the five counties in the state with elderly populations of over 20 percent in 1997 were in the mountain area: Clay, Henderson, Polk, and Macon.[8]

- **The state's overall population is becoming more diverse**. Between 1980 and 1998, the Hispanic population in North Carolina grew by 184.5 percent, from 56,667 to 161,220 residents. Eighty percent of that growth occurred

[5] Frey, William H. and Ross C. DeVol, "Policy Brief: America's Demography in the New Century: Aging Baby Boomers and New Immigrants as Major Players," (Santa Monica, CA.: The Milken Institute 2000) p 10-12.
[6] "100 Counties that Boomed in the '90s" USA Today, July 21, 2000, p. 4A.
[7] "Coastal boom: 100 hot counties along Atlantic Ocean, Gulf of Mexico" USA Today, July 21, 2000, p. 5A.
[8] Stuart, Alfred W. and Douglas M. Orr Jr., The North Carolina Atlas, (Chapel Hill) UNC Press, 2000 p. 96.

between 1990 and 1998, when the state gained 84,000 Hispanic residents. In 1980, Hispanics accounted for just less than one percent of North Carolina residents, and in 1998, more than twice that, or 2.1 percent. According to figures compiled by *The Washington Post*, the Hispanic population growth rate in North Carolina from 1990 to 1998 was the highest in the South.[9] In 1997, the Hispanic population constituted only 2 percent of the total population in North Carolina but represented 5.7 percent of all births. New Hispanic residents are moving to the "urban crescent" or the I-85 corridor between Charlotte, Greensboro and Raleigh and to the military complexes in Onslow and Cumberland counties.[10]

The Asian population of the state is smaller, but growing rapidly. In 1998, there were 99,500 Asian residents, compared to 19,600 in 1980—a 408 percent leap. A majority of that growth, 57 percent, happened between 1990 and 1998. People of Asian descent were .33 percent of the population in 1980, and 1.3 percent of the population in 1998.

- **Different regions of the state vary widely in their percentage of non-white residents**. As of 1990, the Piedmont and Tidewater areas were 21 and 24 percent non-white, respectively, which is roughly proportionate to the state as a whole (North Carolina is 24.6 percent non-white). By contrast the inner coastal plain was almost 40 percent non-white, and as the *North Carolina Atlas* explains, "Many of those counties are poor and have limited economic opportunities." In virtually all of the mountain counties, fewer than 10 percent of the residents were non-white.[11]

- **Counties with large minority populations still have highest poverty rates**. In Northampton, Halifax, Warren, Edgecombe, Bertie and Hertford counties, 50 percent to 64 percent of the population was non-white.[12] According to 1995 Census Bureau estimates, these counties are generally the poorest in the state with poverty rates for the entire population ranging between 22 and 24.6 percent and childhood poverty rates ranging from 31 to 36.4 percent.[13]

- **Concentrated poverty in urban areas is a racial phenomenon**. In North Carolina, as in many places, more blacks than whites live in concentrated poverty—meaning that they live in neighborhoods in which 40 percent or more of the people are poor. Living in a concentrated poverty neighborhood is associated with higher dropout rates, teenage pregnancy rates, unemployment, and similar indicators. In the Charlotte metropolitan area in 1990, 22,907 black residents lived in concentrated poverty compared to 1,933 white residents - a nearly 12 to 1 ratio. Of the six metropolitan areas with data available from 1990, four—Charlotte, Greensboro, Fayetteville, and Wilmington—saw the ratio of black to white residents living in concentrated poverty increase from 1970 to 1990. Asheville and Raleigh-Durham saw the ratios decline over the twenty-year period but a disproportionate number of blacks still lived in concentrated poverty.[14]

2. Job Growth

[9] Pressley, Sue Anne "Hispanic Immigration Boom Rattles South; Rapid Influx to Some Areas Raises Tensions," The Washington Post, March 6, 2000, A3.
[10] Johnson, James H, Kren D. Johnson-Webb, and Walter C. Farrell Jr., "A Profile of Hispanic Newcomers to North Carolina," Popular Government, Fall 1999: p 5.
[11] Stuart, Alfred W. and Douglas M. Orr Jr., The North Carolina Atlas, Chapel Hill: UNC Press, 2000 p. 86, 87, 93.
[12] United States Census Bureau, "1990 to 1998 Annual Time Series of County Population Estimates By Race and Hispanic Origin," http://www.census.gov/population/www/estimates/co_crh.html
[13] United States Census Bureau, " Small Area Income and Poverty Estimates 1995," http://www.census.gov/hhes/www/saipe/stcty/sc95ftpdoc.html
[14] Jargowsky, Paul, Poverty and Place, New York: Russell Sage, 1997 p 238-239; U.S. Census data.

The "knowledge economy" sectors of advanced research, banking, and higher education are well rooted in the state's metropolitan areas. Research Triangle Park (RTP) is home to 98 high tech, pharmaceutical, and biotech companies including IBM, Nortel, Glaxo Wellcome, RTI, and Ericsson. The average salary of a Research Triangle Park employee is $54,145,[15] compared to $29,077 for an average Raleigh-Durham region worker.[16] The real and personal property value in the RTP translates to $16 million in annual taxes for Durham County and $1.4 million for Wake County.[17]

Two major national banks, Bank of America and First Union, are headquartered in Charlotte, which has the second largest dollar volume of headquartered banking assets of any metropolitan area in the nation.[18] According to 1996 figures, the city of Charlotte was ranked tenth in the number of financial services jobs in U.S. cities, and 17 percent of the central city payroll came from financial services jobs.[19]

There were 112 community colleges, private four-year colleges and universities, private two-year colleges, and state university campuses located in North Carolina in 1996. The colleges and universities serve as cornerstone assets for the communities in which they are located, providing jobs and a stable tax base, and funneling state, federal, and private resources into the towns. In 1996, the colleges and universities spent $650 million on research and development. These institutions also educate a substantial portion of the Research Triangle Park workforce: of the roughly 43,000 permanent and 10,000 contract employees working in Research Triangle Park, 10,824 have received bachelor's degrees and 3,844 have received masters degrees from local colleges and universities.[20]

- **Job growth is strong in the state's major metropolitan areas**. Between January 1989 and January 1999, 206,000 non-agricultural jobs were added in the Raleigh-Durham region—a 46 percent growth in jobs. Charlotte gained a total of 190,000 new non-agricultural jobs, a growth rate of 32 percent, in the same decade. The services industry led employment growth in both regions, creating 185,000 jobs in Raleigh and 192,000 jobs in Charlotte, which helped offset job losses in other industries.[21] The average unemployment rate in March of 2000 in all of the state was 3.4 percent, while Raleigh's unemployment rate was 1.6 percent, Charlotte's was 2.8 percent and Greensboro-Winston-Salem's was 2.5 percent.

- **The number of private-sector high tech jobs in North Carolina—particularly in the top three metro areas—is growing**. According to a recent Department of Housing and Urban Development report, the Raleigh-Durham, Charlotte, and Greensboro/Winston-Salem regions added almost 52,000 private sector tech jobs from 1992 to 1997. Raleigh-Durham's private high tech employment base grew by 41 percent, from 33,701 to 47,540 in 1997; Charlotte's grew by 49 percent, from 41,661 to 61,993; and Greensboro/Winston-Salem's grew by 56 percent, from 31,603 to 49,219.[22]

- **Suburbs are gaining jobs more quickly than central cities.** The city of Charlotte posted a 10 percent gain in jobs from 1993 to 1996, but suburban jobs grew faster at 16.3 percent. While the city was still home to more jobs

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[15] Research Triangle Park Foundation, http://www.rtp.org.
[16] U.S. Bureau of the Census, "1996 Average Annual Pay," /Press-Release/metro24.prn
[17] Hammer, Siler, George Associates, The Research Triangle Park: The First Forty Years, (Silver Spring, Maryland, 1999) p. 19.
[18] Stuart, Alfred W. and Douglas M. Orr Jr., The North Carolina Atlas, (Chapel Hill: UNC Press, 2000) p237.
[19] Immergluck, Daniel "Cities and Finance Jobs: The Effects of Financial Services Restructuring on the Location of Employment." (Washington, D.C.: Brookings Institution Center on Urban and Metropolitan Policy), November 1999
[20] Hammer, Siler, George Associates, The Research Triangle Park: The First Forty Years, (Silver Spring, Maryland, 1999) p. ii.; "Research Triangle Foundation, "Research Triangle Park Facts," http://www.rtp.org/rtpfacts/factsheet.html
[21] Employment Security Commission of North Carolina, http://www.esc.state.nc.us/
[22] U.S. Department of Housing and Urban Development, "State of the Cities 2000," http://webprod.aspensys.com/SOCDS/SOCDS_Home.htm

than the surrounding suburbs in 1996—358,305 in the city in comparison to 328,103 in the suburbs—the city's share of the metropolitan area's employment declined from 53.6 percent to 52.2 percent between 1993 and 1996.[23]

In Raleigh-Durham, available figures show that Raleigh is also losing its share of the metropolitan area's jobs. While the city of Raleigh also saw strong growth in jobs between 1993 and 1996, the surrounding suburbs (including the city of Durham) grew at a faster rate, causing the city's share of the metropolitan area's jobs to decline. The city had 149,480 jobs in 1993 and 171,895 jobs in 1996—a 15 percent increase. The suburbs had 265,039 jobs in 1993 and 323,480 jobs in 1996—a 22 percent increase. Raleigh's share of metropolitan area jobs declined slightly, from 36 percent to 34.7 percent, over the three-year period.[24]

The city of Greensboro outpaced its suburbs (suburban figures include the city of Winston-Salem) between 1993 and 1996, with the number of jobs growing from 135,513 to 154,706—a 14.2 percent increase. However, suburban jobs outnumber city jobs by almost 3 to 1. Suburban jobs grew 8.3 percent over the same time period, from 386,373 to 418,279. While the city did gain one percent in share of total jobs in the metropolitan area, it only held 27 percent of the total jobs in the metropolitan area.

- **Unemployment rates differ by race**. A report by the Bureau of Labor Statistics found that the average 1998 unemployment rate for blacks was over two and a half times the unemployment rate for whites (6.9 percent and 2.5 percent, respectively). The Hispanic unemployment rate (2.9 percent) was slightly higher than the white unemployment rate.[25]

3. Other Growth Patterns

Cities are capturing large numbers of new residents. Empowered by liberal annexation policies, cities have kept pace with metropolitan growth and maintained large shares of their region's population. The largest cities within the seven largest metropolitan areas captured 49 percent of the metro areas' population growth and 37 percent of the state's overall growth in the 1980s; and 55 percent of the metro growth and 40 percent of the state growth in the 1990s.[26] Cities, and central urban counties, are also benefiting from strong in-migration from other states, which replaces the North Carolinians who are leaving cities for the suburbs. According to a recent *Charlotte Observer* report, "[I]n every major metropolitan area, the growth in the suburbs is being fueled largely by people already living in that region."[27] (See Figure 2)

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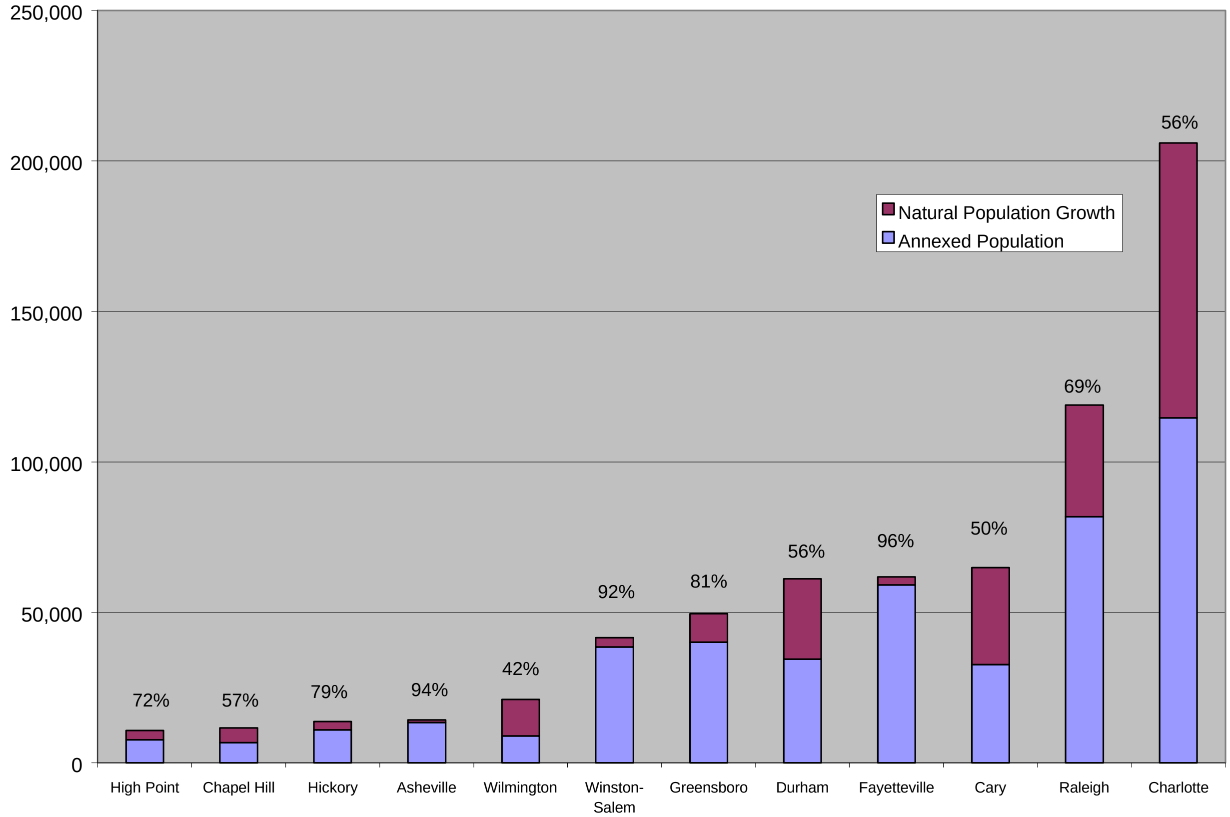
[23] Brennan, John and Edward W. Hill, "Where are the Jobs?: Cities, Suburbs and the Competition for Employment," (Washington D.C. Brookings: November, 1999).
[24] Brennan, John and Edward W. Hill, "Where are the Jobs?: Cities, Suburbs and the Competition for Employment," (Washington D.C.: Brookings: November, 1999).
[25] US. Department of Labor Bureau of Labor Statistics, Geographic Profile of Employment and Unemployment, 1998 (Washington, DC), November 1999, p. 51.
[26] The largest cities of the 7 largest Metropolitan Statistical Areas in North Carolina are Charlotte, Raleigh, Durham, Cary, Greensboro, Winston-Salem, Asheville, Fayetteville, Wilmington, and Hickory.
[27] Dodd, Scott et al. "New People May Be…From Here: Charlotteans Lead Migration to 2 Counties," Charlotte Observer, July 16, 2000, p. A1.

Figure 2: Percent of Population Growth by Annexation of Select Cities in North Carolina, 1980-1998



- **Cities are expanding their borders**. Using voluntary and involuntary annexation powers, cities in North Carolina grew considerably in physical size between 1990 and 1998. The city of Charlotte added 60 square miles between 1990 and 1998, bringing in 69,287 new residents. Raleigh annexed 22 square miles and almost 33,000 people. Winston-Salem grew by 24,885 people when it annexed 35.75 square miles. Greensboro and Durham each annexed about 23 square miles, growing by 14,082 and 13,610 new residents respectively.[28] This pace may not continue, given that annexation laws changed in 1998, making it more difficult for cities to add new territory.

- **Transportation spending favors highways over transit.** Approximately $1.7 billion of state funds are invested in North Carolina's highway system each year. About 1 percent of that amount, or $20 million, is spent on public transit.[29] Of $808 million available in North Carolina for flexible transfer from federal highway programs to transit projects, less than $10 million or 1.2 percent has been used since 1992.[30] Only five percent of federal funds were spent on all alternative modes in North Carolina from 1998-1999. This represents a 45 percent decrease from the eight percent spent from 1990 to 1991.[31]

[28] North Carolina Office of State Planning, "North Carolina Municipal Population 1998," (Raleigh, 1999).
[29] North Carolina Department of Transportation, Public Transportation Division, "Transit 2001 Technical Report", http://www.dot.state.nc.us/transit/transitnet/Activities/T2001/TechReportSec2.2.html.
[30] Puentes, Robert, "Flexible Funding for Transit: Who Uses It?", (Washington, D.C.: Brookings: May 2000.)
[31] Surface Transportation Policy Project, "Changing Direction: Federal Transportation Spending in the 1990's," March 2000, p. 16.

- **Proposed new highways are likely to create more development pressures**. Seventy percent of North Carolina's population is located within 15 miles of one of the state's five major interstate highways.[32] Following historical patterns, population growth will follow the location of highways, and more highways are in the works. An "outer loop" or second beltway is being built outside of Raleigh. Housing developments, offices, strip malls, and commercial development for the segments now being completed are already planned.[33] Charlotte is also in the process of building segments of an outer beltway.

- **Housing is becoming hard for middle and low-income people to afford**. The Wake County Government reports that median family income in Wake County has not kept pace with median housing value. Housing prices in the county grew 34 percent between 1990 and 1996, while median family income grew 18 percent. In the Charlotte metropolitan area, housing prices averaged $109,336 in 1990 and rose to $141,800 by the third quarter of 1999.[34] Charlotte and Raleigh are the Southeast's most expensive housing markets.[35] According to the National Low Income Housing Coalition, 33 percent of all renters in the Charlotte metro area, 35 percent in the Greensboro/Winston-Salem metro area, and 37 percent in the Raleigh-Durham metro area could not afford a one-bedroom apartment at a fair market rent. Roughly 40 percent of renters in these metro areas—and in the state as a whole—were priced out of a two-bedroom apartment.[36] According to the U.S. Department of Housing and Urban Development, there are 15,000 households in Charlotte with "worst case housing needs."[37]

- **Manufactured housing is an important source of housing in North Carolina**. Statewide, 40 percent of the new housing units authorized between 1990 and 1997 were mobile or modular homes.[38] "One in five families live in manufactured housing in North Carolina, and in 1998, North Carolina accounted for almost 10 percent of the nation's shipments of manufactured homes" according to a report by the Community Reinvestment Association of North Carolina.[39]

4. *What We Don't Know*

What are the metropolitan growth patterns across the state? There is a reasonable amount of information on the Charlotte and Raleigh-Durham regions as a whole, although not about how different parts of these metropolitan areas are growing. What are the growth patterns in the Greensboro/Winston-Salem, Wilmington, Fayetteville, Asheville, and other metropolitan areas—whether for the metropolitan area as a whole or for intra-metropolitan trends? How are these fast-growing areas dealing with the same fiscal, environmental, and social issues that Charlotte and Raleigh-Durham are confronting? Is there one predominant metropolitan growth story in North Carolina, or (this is more likely) several?

What are the growth patterns within individual metropolitan areas? Researcher Myron Orfield has found that within most metropolitan areas, explosive growth occurs in some areas and almost no growth happens in others.[40] This type of unbalanced growth increases development pressures in some areas, and leaves others areas out of economic

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[32] Stuart, Alfred W. and Douglas M. Orr Jr., The North Carolina Atlas, Chapel Hill: UNC Press, 2000, p 118. The five major interstate highways are I-40, I-95, I-85, I-26, and I-77.
[33] "Around The Loop," News and Observer, http://newsobserver.com/standing/collections/outerloop/maps/
[34] National Association of Realitors - www.nar.realtor.com/databank/ehsmet.htm and UNC-Charlotte Urban Institute, "Central Carolinas Choices Focus on the Region," www.uncc.edu/urbinst/focus.html.
[35] Chapman, Dan and Carol Leonnig, "Housing Crisis Denies Many a Decent Place to Live, Grow," The Charlotte Observer, June 12, 1999.
[36] National Low Income Housing Coalition/LIHIS, "Out of Reach," September 1999. http://www.nlihc.org
[37] Press Release: "America's Affordable Housing Shortage," U.S. Department of Housing and Urban Development, September 23, 1999.
[38] Stuart, Alfred W. and Douglas M. Orr Jr., The North Carolina Atlas, Chapel Hill: UNC Press, 2000, p. 98.
[39] Community Reinvestment Association of North Carolina, "An Analysis of 1998 HMDA Mortgage Lending Activity in North Carolina," Raleigh: 1999, p 2.
[40] Orfield, Myron, Metropolitics: A Regional Agenda for Community and Stability. Washington, D.C. and Cambridge, MA: Brookings Institution and Lincoln Institute of Land Policy, 1997

prosperity. So far, there has been no Orfield-style analysis of any of North Carolina's metropolitan areas. We do not know how North Carolina's metropolitan areas are growing. Where are people moving to and why? Is there pressure on some areas and not others? Where are the development pressures greatest in metropolitan areas? Where are the neighborhoods and communities that growth simply bypasses? Do people understand the connections between these places? Where are the new roads, infrastructure, and schools located? Are regions growing in a balanced fashion?

What is the relationship between race and poverty, and place and poverty? Where do the poor live in metropolitan areas? Preliminary research indicates that poverty and race are intertwined issues. While we have concentrated poverty statistics for 1990, we do not know how concentrated poverty rates in metropolitan areas changed during the last decade. What are the patterns of urban poverty? Is race playing a role in the location and direction of new development? Are racial and ethnic minorities concentrated in portions of regions? Are these same areas those that are typically poor and distressed? How are metropolitan growth patterns affected by racial, ethnic, and class separation? Where are low-income working families living? Where is the affordable housing in the metropolitan areas?

How do state and local policies fuel growth trends in North Carolina? In many places across the country, sprawling patterns of growth are facilitated by federal, state and local spending, tax, regulatory and administrative policies. Is state and local highway and infrastructure spending directing growth to the fringes of the metropolitan regions? Are economic development programs and spending taking jobs from the cities to the suburbs? What is the impact of the state's change in annexation law on growth? What local policies are facilitating or directing the location of growth and new developments? Are there policies preventing revitalization efforts or making them more costly? Where are vacant properties and brownfields located?

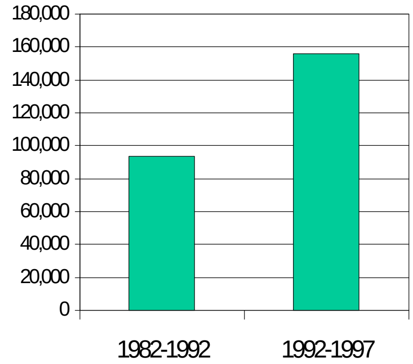
B. Growth's Consequences

The massive and steady population and job growth in the metropolitan areas—particularly in the regions of Charlotte, Raleigh-Durham, Wilmington, and Asheville—has led to growing public concern over sprawl, traffic congestion, air pollution, and loss of natural resources. These and other consequences associated with urban sprawl can quickly diminish a region's quality of life and can hamper economic growth.

- **North Carolina is developing phenomenal amounts of land**. The State of North Carolina was ranked 5th among the states in the number of acres of land developed between 1992 and 1997. Over this five-year period, a total of 781,500 acres of land, or roughly 156,000 acres per year, were developed in the state—which means that every year, an area just larger than the city of Charlotte was developed. The pace of development appears to be speeding up. From 1982 to 1992, an average of 93,580 acres was developed each year.[41] (See Figure 3)

[41] USDA Natural Resource Conservation Service, "Natural Resources Inventory," Preliminary Data, http://www.nhq.nrcs.usda.gov/CCS/NRIrlse.html

Figure 3: Average Amount of Land Developed Annually in North Carolina



1992-1997 Change in Total Land Developed

1. Texas	1,219,500
2. Pennsylvania	1,123,200
3. Georgia	1,053,200
4. Florida	945,300
5. North Carolina	**781,500**

- **Farmland and open space in metropolitan areas are disappearing**. The amount of land in farms in the Raleigh-Durham metropolitan area decreased from 1,108,848 acres in 1969 to 668,829 acres in 1997—a 40 percent loss.[42] In the Charlotte metropolitan area, from 1980 to 1990, 150,758 acres were developed. At its current pace, the region will have lost approximately 41 acres per day to development between 1980 and 2020.[43]

- **Residents of North Carolina are driving more, adding more congestion to the roads**. Total daily vehicle miles of travel (VMT) is up 12 percent in Winston-Salem[44], 20 percent in Durham, 31 percent in Raleigh, and 48 percent in Fayetteville since 1992. Asheville's VMT is up 12.1 percent since 1995 and Greensboro's is up 11.2 percent.[45] Fixed-route transit ridership has declined statewide.[46] In the Charlotte region, one study determined that since 1990 both the number of vehicle miles traveled each day on the region's freeways and the amount of fuel wasted each year because of traffic congestion more than doubled. Annual congestion costs and annual freeway hours of delay more than tripled during this time.[47] According to recent statistics, ridership on Charlotte Area Transit System (CATS) buses has been steadily declining since 1994.[48]

- **Air quality is getting worse**. A recent report by the American Lung Association ranked counties and metropolitan areas by the number and severity of air quality warnings. Mecklenberg and Wake Counties placed 12th and 24th respectively in a ranking of the twenty-five worst counties. As for metropolitan regions, Charlotte ranked as the 8th worst in the nation while Raleigh-Durham placed 17th.[49]

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[42] Triangle J Council of Governments, "Research Triangle Region Summary Growth Statistics," http://www.tjcog.dst.nc.us/rdc6.htm.
[43] Carolina's Land Conservation Network, "Piedmont Open Space and Land Conservation Strategic Framework: Research Summary Report," July 16, 1999.
[44] Figures are for regions defined as a "Federal-Aid Urbanized Area," which is an area of 50,000 or more persons that at a minimum encompasses the land area delineated as the urbanized area by the Bureau of the Census.
[45] Federal Highway Administration, Highway Statistics 1998, (Washington, D.C. GPO: 1999).
[46] North Carolina Department of Transportation, Public Transportation Division, "Transit 2001 Technical Report", http://www.dot.state.nc.us/transit/transitnet/Activities/T2001/TechReportSec2.2.html.
[47] Texas Transportation Institute, Urban Mobility Study, 1999, http://mobility.tamu.edu/study/cities/charlotte.stm.
[48] According to American Public Transportation Association data based on passenger trips per vehicle revenue mile. U.S. Department of Transportation, Federal Transit Administration, National Transit Database. 1998. http://www.ntdprogram.com/NTD/Profiles.nsf/1997+Exceeding+200000/4008/$File/P4008.PDF
[49] American Lung Association, "State of the Air 2000", http://www.lungusa.org/air2000/sota_text.html

- **Residential growth is straining some county budgets**. According to a memorandum to the Wake County Manager from the Director of the County's Budget and Management Services, for every dollar that new residential development provides in tax revenue to Wake County, it costs $1.48 in the form of school and non-school service expenditures.[50] Wake County will need to add 21 elementary schools, 13 middle schools and 10 high schools by 2010 to serve a projected student population of 130,000.[51] Building and maintaining schools, expanding infrastructure and providing services are already costing the county almost 50 percent more than the funding generated by residential taxes.[52] A 1998 Chatham County study found that the county's 1997-1998 total expenses were $40,448,182 while the total revenues were $39,506,022. Of these expenses, residential services[53] required $36,781,115 but brought in only $32,948,191 in tax revenue.[54]

- **Residents and corporations are concerned about growth patterns**. A recent survey of Raleigh voters found that "overpopulation / growth" was the single most important problem facing the city. "Traffic" was the second.[55] A similar poll conducted on the residents of the city of Cary found that "Traffic / Roads / Congestion" was the "most serious problem about living in Cary" and that "Growth / Too Much, Too Fast" was the second.[56] Executives at two Research Triangle Park companies, Cisco Systems and Glaxo Wellcome have said that traffic congestion is thwarting their plans to expand.[57]

What We Don't Know

What is the full extent of the environmental consequences of growth? Various reports have shown the loss of open space and farmland in the Charlotte and Raleigh-Durham regions, but what is the open space consumption or farmland loss rate in other metropolitan areas? The North Carolina Coastal Federation has publicized coastal environmental issues including the policy and governance issues that surround them, but what do we know about similar urban environmental issues, and their connection to policy? The Carolinas Land Conservation Network has done work in modeling land use and water quality. What can we learn about the impact of land use patterns on air quality in metropolitan areas, and the impact of growth on watersheds? How much growth is occurring on land served by septic tanks, and what are the short- and long-term consequences of this kind of growth?

What are the fiscal costs of growth for North Carolina's metropolitan areas? A report by North Carolina State University on Chatham County and a memo from Wake County government allude to the local financial issues relating to residential development. Both highlight the fiscal costs in services associated with new developments. But many questions remain. How do the costs of sprawl differ in different parts of the state? It is likely that sprawling development patterns – low density settlement, excessive land consumption– have different cost implications for mountainous, coastal, and landlocked counties. Understanding these differences could greatly assist localities in deciding what growth management tools and incentives to seek or implement.

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[50] Boutwell, Raymond G. "Why Tax Base Growth Doesn't Cover County Government Costs – A Memorandum to Richard Y. Stevens, Manager of Wake County," September 27, 1999.
[51] Triangle J Council of Governments, "Research Triangle Region Summary Growth Statistics," http://www.tjcog.dst.nc.us/rdc6.htm.
[52] Boutwell, Raymond G. "Why Tax Base Growth Doesn't Cover County Government Costs – A Memorandum to Richard Y. Stevens, Manager of Wake County," September 27, 1999.
[53] Expense areas included education, debt service, human service, public safety, economic development, government, recreation, enterprise funds, revenue funds, and capital projects funds.
[54] Renkow, Mitch, "The Cost of Community Services in Chatham County: A Report to the Chatham County Planning Department," (NC State University, 1998) p 9.
[55] North Carolina Political Research Group, "1997 Raleigh Local Issue Voter Survey," August 1997.
[56] Triangle Growth Strategies, Inc, "The Cary Growth Strategies Project," May 1998.
[57] Morrow, David J. "Corporate Park's Bucolic Appeal Is Lost in Traffic," The New York Times, May 16, 2000.

What are the social consequences of North Carolina's growth patterns? In many metropolitan areas around the country, sprawling development patterns have created a spatial mismatch between neighborhoods where low-income urban residents live and suburban communities where most entry-level jobs are being created. As the Urban Institute has shown, metropolitan areas like Atlanta and Los Angeles do not have the public transit necessary to connect workers to jobs in a timely fashion. How severe is the "spatial mismatch" in metropolitan areas like Charlotte and Raleigh-Durham? Are low-income workers finding it increasingly difficult to gain access to jobs in fast growing employment centers?

C. Growth's Impact on Rural Areas

The benefits and burdens of North Carolina's rapid growth are not spread evenly. Many rural areas have been socked by industrial restructuring and natural disasters. "Too much growth" is a problem that is difficult to imagine in these parts of the state.

- **Unemployment in non-metropolitan counties is, overall, higher than the state's rate**. The rural unemployment rate was 4.1 percent in March 2000, compared to a metropolitan overall unemployment rate of 2.6 percent, and a statewide unemployment rate of 3.4 percent.

- **Rural areas have been hit hard by industrial shifts**. Between January of 1989 and January of 1999 the textile industry lost 26 percent of its jobs and the apparel industry lost 49 percent of its jobs, a total decline of 97,100 jobs, mostly in rural areas of the state. During that same time period, an additional 8,900 jobs were lost in the tobacco industry, which experienced an employment decrease of 37 percent.[58]

- **Rural wages trail urban ones in several economic sectors**. In 1996, rural per capita income was less than 75 percent of urban per capita income. In seven major economic sectors—construction, manufacturing, transportation/commerce/utilities, wholesale trade, finance/insurance/real estate, services, and government—the average per capita income of rural counties trailed that of urban counties, by roughly $5,000 to $15,000 a year.[59]

- **Natural disasters have compounded rural problems**. Many communities—especially in the inner coastal area—have had to completely rebuild from the destruction of hurricanes and severe floods, particularly those that hit the state in 1999. That year, hurricanes and flooding caused $800 million in losses to the agricultural sector. Other losses include $89.4 million in the forestry industry and $19 million in commercial fishing. Fifty thousand homes were damaged in 39 counties. The flooding impacted 197 superfund sites, 355 hazardous waste sites, and 3900 underground storage tanks, putting 400,000 drinking-water wells at risk. Fifteen bridges were destroyed, 59 dams were damaged, and 55 people lost their lives. Total damages from the flooding and hurricanes are estimated at over $6 billion.[60] Economists at UNC-Wilmington recently revised real economic growth projections in the Southeast region of the state, cutting in half their original projections of 7 percent growth to 3.5 percent as a result of the hurricanes.

What We Don't Know

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[58] Employment Security Commission of North Carolina, CES data for January 1989 and January 1999.
[59] North Carolina Rural Economic Development Center, "Choices for a New Century," December 1999. Some of the disparity between rural and urban wages is attributable to lower living costs in rural areas.
[60] North Carolina Coastal Federation, "Coastal Review," Autumn 1999.

What different kinds of rural areas exist in North Carolina? Clearly, North Carolina does not have one rural story. Many rural areas, as described above, are struggling to survive the fluctuations in the agriculture, tobacco and textile industries as well as recover from natural disasters. But other rural areas are located on the edge of fast-growing metropolitan regions and are beginning to experience sprawling development patterns. Other rural areas are becoming destination sites for retirees and are struggling to retain their small town heritage. What is the typology of the state's rural areas? Do rural areas have distinctive spatial trends, like metropolitan areas tend to have? What range of policies can respond to the distinctive challenges of different rural areas?

III. PUTTING THE TRENDS TOGETHER

North Carolina is growing at a dramatic pace—in population, in jobs, and in land consumption. The state grew by 1.7 million people between 1980 and 1998, with 1.3 million people moving into the seven largest metropolitan areas. Research Triangle Park, the banking industry, and the post-secondary educational institutions have fueled prosperity and population growth in the large metropolitan areas of the state. Land consumption rates are also growing: each year between 1992 and 1997, an area larger than Charlotte was developed. Only four states in the country are consuming land more quickly.

The preponderance of growth is located in the state's seven largest metropolitan areas. Within these metro areas, cities are growing at a rapid pace, principally through annexation. Through liberal annexation powers, cities have kept pace with population growth—but not job growth—by expanding their boundaries into less dense suburban areas, thus retaining large percentages of the metropolitan area and state population. This process may be fiscally beneficial for cities, but allowing them to grow by physical expansion means there is less pressure to promote growth in existing areas through higher density development. Therefore, new regional growth pours into newly developing areas. Suburbs are gaining jobs more rapidly than central cities in most North Carolina metropolitan areas.

Rapid, sprawling growth is threatening the quality of life in many parts of North Carolina and could undermine the state's competitive edge. Growth is taking its toll in metropolitan areas. The state was ranked 5th nationwide in the number of acres of farmland lost between 1992-1997. The Charlotte Region has the 8th worst air quality in the nation—Raleigh-Durham the 17th. Daily vehicle miles of travel are growing significantly in every major metropolitan area. Increasing congestion is frustrating employees stuck in traffic and corporations looking to expand. New beltways will likely worsen the sprawl problem. Infrastructure needs to be expanded and schools need to be built. Some rural areas and small towns are also struggling with growth, either because they are located close to fast growing urban areas or because they are becoming destination sites for retirees and other new residents.

Growth is not uniform across the state, however: rural areas and areas with high concentrations of minorities are being left behind. In North Carolina's metropolitan areas, concentrated poverty is a racial phenomenon, affecting blacks much more than whites. In rural areas, the counties with the highest proportion of non-white residents also experience persistent poverty and sparse economic growth. Unemployment rates are significantly higher among non-whites than among whites. Unemployment rates are also higher in rural areas than in urban areas, and they have gotten worse as predominately rural jobs in the manufacturing, textile/apparel and tobacco industries have been lost. Rural counties and towns in the inner coastal plain of North Carolina suffered $6 billion in damages from flooding after hurricanes in 1999.

North Carolina needs to grow differently; its growth needs to be more compact and balanced. To accommodate future growth and to avoid the persistent consequences of urban sprawl, growth policies and governance powers must be rethought. State policies, particularly transportation policies, that facilitate sprawling development patterns need to be fundamentally revised. State and local governments must rethink land use policies so that more development occurs in older areas with infrastructure and not on farmlands, open space and sensitive coastal areas. Regional approaches to transportation and economic development must be expanded to reflect economic realities. While metropolitan areas and adjacent rural counties need to deal with too much growth, some rural areas need more—but the right kind of growth, which does not make them into anonymous exurbs of major metropolitan areas.

IV. What North Carolina Has Done

Like many states, North Carolina is at a crossroads on growth policies. In the past few years, widespread frustration with sprawling development patterns has precipitated an explosion in metropolitan thinking and action across the United States. A new policy language– “smart growth”, “livable communities”, “metropolitanism”, “sustainable development”–has emerged to describe efforts to curb sprawl, preserve open space and balance growth. This language has now become common not only among political, civic and corporate leaders but also among developers and other participants in the real estate industry.

The involvement of governors and state legislatures has been particularly noteworthy. Since 1997, states have made considerable progress on several fronts, including metropolitan governance, growth management, land use acquisition, infrastructure policy and information disclosure. The metropolitan reforms taking hold in state legislatures are ambitious and reflect a sharp departure from the general ethos that has dominated growth discussions in most parts of the country.

One legislative smart growth effort is still underway—the Commission to Address Smart Growth, Growth Management, and Development Issues. The Commission, chaired by State Senator Howard Lee and Representative Joe Hackney, will assess what the state should and should not do to control or direct growth. The 37-member legislative commission is made up of state and local elected officials, private business owners, representatives from advocacy and non-profit organizations, and scholars. The Commission is currently divided into four workgroups: Farmland and Open Space Preservation, Transportation, Community and Downtown Vitalization, and Regional Partnerships. The workgroups are expected to report back to the full commission in August 2000. The Commission’s findings and recommendations are expected in time for the 2001 legislative session.

North Carolina has many initiatives, some of them decades old, that deal with smart growth concerns like reinvestment in older communities, the preservation of open space, and regional governance arrangements. But the main way the state influences growth is through where it directs significant infrastructure funding. The state’s Interagency Quality Growth Task Force recently published an inventory of growth-influencing state government programs. These are not explicitly smart-growth programs, but rather programs that influence growth in any way. The ten programs that the task force cited as having the most influence on growth were programs for: highway building; transit improvements; water and sewer funding; the industrial development fund; industrial revenue bonds; on-site wastewater treatment; ambient air-quality standards; urban transit; water supply watersheds; and the local planning and management grant program.[61] Most of these programs could either support or retard sprawl, depending on how they are used. As we discuss later, unless all of these powerful programs—not just the transportation, planning, and environmental ones—make smart growth part of their day-to-day operations, it will be difficult for the state to grow differently.

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[61] Interagency Quality Growth Task Force, “An Inventory of State Government Programs that Influence Growth in North Carolina,” January, 2000.

Four areas of state activity deserve particular mention:

1. Reinvestment in Older Communities

The North Carolina Department of Commerce coordinates revitalization efforts of main streets, cities and towns. The Main Streets Program, a highly competitive, multi-year technical assistance program provides technical support for selected towns with populations less than 50,000. The state helps the community formulate a vision that guides the redevelopment and design process of its main streets. The state program provides redesign and architectural support while helping build community capacity. Similar initiatives include Historic Preservation Tax Incentives, and Historic Preservation Technical Assistance to Local Governments.

The Department of Commerce provides additional revitalization and economic development assistance to impoverished towns with over 5,000 people through the use of development zones.[62] Designated development zones are given extra economic development strategies and incentives, including tax credits. There are currently 49 municipalities with development zones.[63]

The state has three programs that provide funding and planning to refurbish old train stations or build new ones: the Historic Rail Station Rehabilitation, New Stations and Multimodal Facilities Program, the Passenger Rail program. Another program, the Urban Transit program, channels federal and state funds to transit systems in large metropolitan areas. The funds can be used for operating and capital expenses, or for planning.[64]

North Carolina has 23 seriously contaminated sites on the EPA's National Priorities List. A "spill database" maintained by the state lists over 14,000 sites that possess a threat of contamination.[65] A fair estimate is that there are roughly 1,000 brownfields in North Carolina.[66] The North Carolina General Assembly passed legislation in 1997 that allowed the state to "cap" brownfields legal liability. The parties taking part in the restoration and abatement of environmental damage to the property are given liability protection from the state in return for fulfilling a set of agreed upon obligations.[67] As a result, several brownfields pilot programs have sprung up across the state. One of the most notable is the current practice facilities site of the Charlotte Panthers professional football team. Other projects have begun in the cities of Burlington, High Point, Jacksonville, Durham, and Fayetteville.

The Rural Prosperity Task Force presented a report in February 2000 recommending several initiatives to address the growing disparity between rural and urban areas. The report focused on seven areas: the expansion of information technology to rural areas; the creation of a rural development authority and education and training for rural students and workers; enhancements of and support for the state's agriculture industry; investments in infrastructure including housing, roads, rail, sewer, and water; the expansion of community capacity; and support for flood-impacted communities. The state is acting on many of these recommendations, as we discuss later.

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[62] Research Triangle Institute, "North Carolina Brownfields Redevelopment Forum," http://www.rti.org/brownfields/forum.cfm
[63] Research Triangle Institute, "North Carolina Brownfields Redevelopment Forum," http://www.rti.org/brownfields/forum.cfm
[64] Interagency Quality Growth Task Force, "An Inventory of State Government Programs that Influence Growth in North Carolina," January, 2000.
[65] Whisnant, Richard, "Brownfields in a Green State," Popular Government, Winter 1999, p 4.
[66] Research Triangle Institute, "North Carolina Brownfields Redevelopment Forum," http://www.rti.org/brownfields/forum.cfm
[67] Whisnant, Richard, "Brownfields in a Green State," Popular Government, Winter 1999, p 6.

2. *Land Acquisition and Natural Resource Protection*

North Carolina has a Purchase of Agriculture Conservation Easement (PACE) Programs, also known as the Farmland Preservation Trust Fund. After years of existing without funding, in 1999 it protected 12 easements totaling 1,981 acres.[68] In its most recent session, the state legislature allocated $1.7 million for farmland preservation.

The General Assembly created the Clean Water Management Trust Fund in 1996 to provide grants to local governments, state agencies, and conservation nonprofits for projects that "enhance or restore degraded waters, protect unpolluted waters, and/or contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits."[69] The Trust is funded at the end of each fiscal year by the allocation of 6.5 percent of unreserved credit balance in the state's General Fund with a minimum funding allocation of $30 million dollars. Roughly $180 million has been allocated by the General Assembly since the program's inception four years ago. The state is committed to increasing its contribution to the fund to at least $100 million annually by 2003. To date, 45 percent of the funding grants have gone to streamside and shoreline buffer projects designed to protect and enhance water quality. One percent of the funds has been allocated for land acquisition and easements.[70] As noted below, various Coastal Areas Management Act provisions also provide for undeveloped land acquisition.

In April, Governor Hunt put forth a plan to preserve a million acres of open space and resource lands by the year 2010. The General Assembly recently codified the plan into state law. The plan does not have a direct funding mechanism to preserve the land but instead calls for an exploration of funding options. The plan suggests that the million acre goal can be met through the help of public private partnerships and smart growth.

3. *Local Growth Management*

North Carolina is a modified Dillon Rule state. In such states local governments must seek state approval for powers not granted to them in the annotated code. Local government charters, however, can be construed to include additional and supplementary powers that are reasonably necessary or expedient to carry those powers specifically granted to them into execution and effect.[71] Local governments are permitted by the state to develop land use plans outlining growth areas, and they are allowed to implement zoning standards. Local governments are permitted to implement an Environmental Impact Ordinance requiring an environmental impact assessment of any proposed development; however, they cannot refuse a development project solely because of that assessment. "Refusal to permit a development project must be based on some other local power, such as a properly enacted police power ordinance, a health rule, or a violation of the local land-use requirements,"[72] according to one expert.

Local governments do have the authority to create farmland preservation and easement programs. Since the passage of the legislation that empowered them to do so, in 1985, only two counties—Wake and Forsyth—have enacted farmland preservation programs, and only Forsyth has preserved farmland (1,345 acres on 23 farms).[73] Wake County started its farmland preservation program in 1989 but to date has only invested $25,000.[74]

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[68] American Farmland Trust," Fact Sheet: Status of State Pace Programs," (2000)http://www.farmlandinfo.org/fic/tas/tafs-pacestate.pdf
[69] Clean Water Management Trust Fund, "Welcome," http://www.cwmtf.net/welcome.html
[70] Carlton, Roy, Clean Water Trust Fund, Phone Interview, June 6, 2000.
[71]"Homebuilders Association of Charlotte, Inc. v. City of Charlotte, N.C. 1994," 442 S.E.2d 45, 336 N.C. 37,
[72] Whisnant, Richard, North Carolina Institute of Government, Phone Interview, May 25, 2000.
[73] American Farmland Trust," Fact Sheet: Status of Selected Local Pace Programs," (2000) http://www.farmlandinfo.org/fic/tas/tafs-paceloc.pdf
[74]"Saving a Rural Legacy," News and Observer, November 10, 1998.

Several counties have imposed adequate facilities ordinances. While local governments are not allowed to impose impact fees for general use purposes such as schools, they can impose a fee to cover utility and water hook-ups. However, counties and municipalities have not yet received clear permission from the state to use several local growth management tools, including: a transfer of development rights program, despite several efforts, most notably from Huntersville;[75] land value taxation; local tax options (except by explicit state action); inclusionary zoning ordinances; or local real estate transfer taxes.

The Coastal Areas Management Act of 1974 (CAMA) requires 20 coastal counties to adopt land use plans approved by the Coastal Resources Commission, and to require permits for development in places that have been designated Areas of Environmental Concern (AEC)[76]. County governments have authority to issue permits for minor developments in AEC areas that are consistent with the approved land-use plans, but larger developments require approval from the Division of Coastal Management.[77] CAMA also allows the state to purchase coastal property, and other coastal waterfronts. Under a provision of the law, the state will provide funds for local governments to acquire property for certain uses. This has the effect of keeping development away from potentially hazardous (because of floods or hurricanes) areas.[78]

CAMA has been criticized in recent years: environmentalists are concerned that the state program does not go far enough to protect coastal resources,[79] while local governments state that they have the best knowledge of their towns and should have more autonomy in their planning.[80] There is currently a two-year moratorium on the development of new or updated land-use plans while a planning review team prepares recommendations to restructure the program.

4. *Regional Governance*

Within the state, there are various formal regional bodies that coordinate and direct spending on transportation and infrastructure, provide social services, promote economic development, and provide technical assistance at the regional level. Some of these entities have governance authority, while others are advisory.

There are a total of 18 Councils of Governments and Lead Regional Organizations in North Carolina that provide technical assistance to local governments in zoning and land-use matters. They also coordinate social service programs such as housing and care for the elderly and convene regional discussions. As in other states, the COGs vary widely in their capacity and efficacy.

There are seven regional partnerships for economic development, in which the state Department of Commerce has established regional departments of commerce. The partnerships typically encompass several counties, and are designed to help regions compete more effectively for investment and develop unique regional advantages. The Department of Commerce's Division of Community Assistance also operates from regional offices, and provides technical assistance to local governments on growth and development issues.

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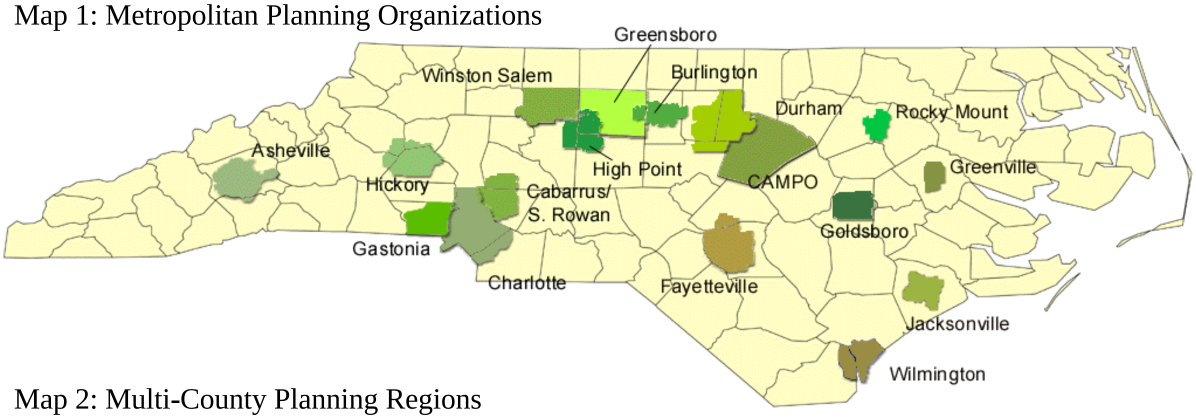
[75] Owens, David, North Carolina Institute of Government, Phone Interview, May 25, 2000.
[76] Areas of Environmental Concern typically include coastal wetlands, estuarine waters, watersheds, prime forestry land, public trust lands and waters, natural-hazard areas, historic areas, and areas designated by the Environmental Management Commission and the Marine Fisheries Commission.
[77] North Carolina Sediment Control Commission, "Sediments," January-March 1996, http://149.168.176.76/vol3no1sed2.html.
[78] Godschalk, David, "Coastal Hazards Mitigation: Public Notification, Expenditure Limitations, and Hazard Areas Acquisition," Report prepared for the North Carolina Division of Coastal Management (Chapel Hill: Center for Urban and Regional Studies). April, 1998
[79] Godschalk's report does not criticize CAMA from an environmental perspective. However, it does include a useful explanation of how CAMA legislation could be amended to limit state expenditures in coastal high hazard areas.
[80] North Carolina Division of Coastal Management, "Land Use Planning Review Team," http://dcm2.enr.state.nc.us/Land percent20Use percent20Planning/lup_mainpage.htm.

Metropolitan Planning Organizations (MPOs), which are mandated by federal law, serve as the lead transportation planning organizations for their regions. There are 17 MPOs in North Carolina, and they typically consist of a technical planning element, an authoritative element (usually local elected officials) and administrative support staff. [81]

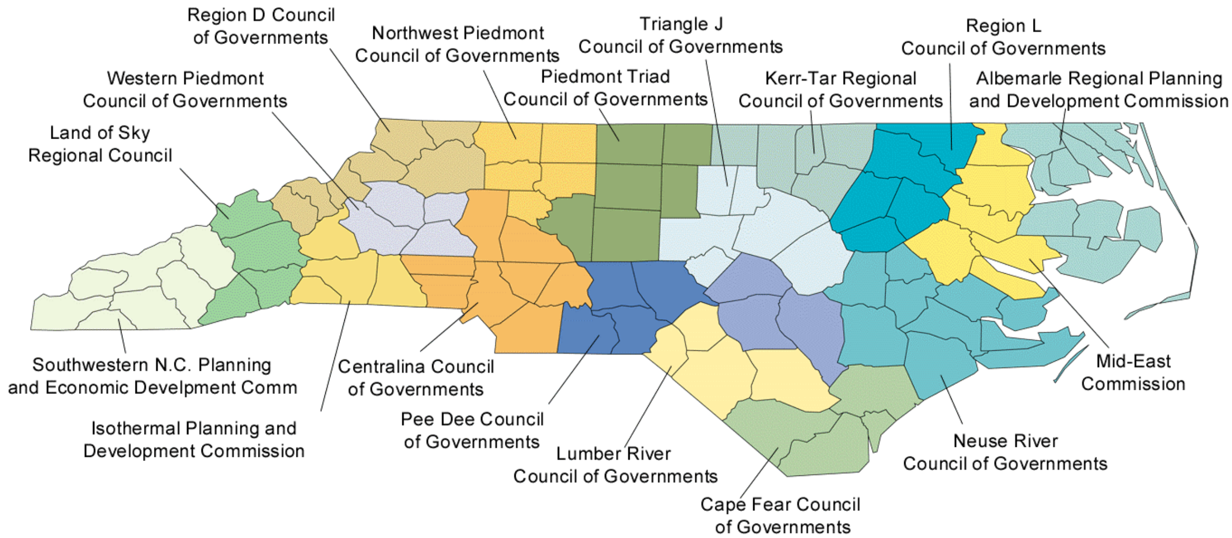
As the attached maps show, the boundaries and service areas of these regional entities do not match up. The jurisdictions of the councils of government, metropolitan planning organizations, the census-designated metropolitan statistical areas, and the state-coordinated economic development regions vary in just about every metropolitan area in the state. For instance, in the Greensboro-Winston / Salem metropolitan area, locally known as the "Triad," there are two regional planning entities or councils of government, four metropolitan planning organizations, and one economic development region that covers more counties than the metropolitan statistical area. Moreover, in the Triad, there are eight counties and two mid-size cities all determining land-use patterns and providing additional services. Greensboro is not the only example. There are also two metropolitan planning organizations in Raleigh-Durham region and four in the Charlotte region, in addition to regional councils of government, transit authorities, economic development regions, and local governments.

[81] Additionally, the state Department of Transportation has 14 separate Highway Divisions, each responsible for construction, maintenance and operation of the state highway system.

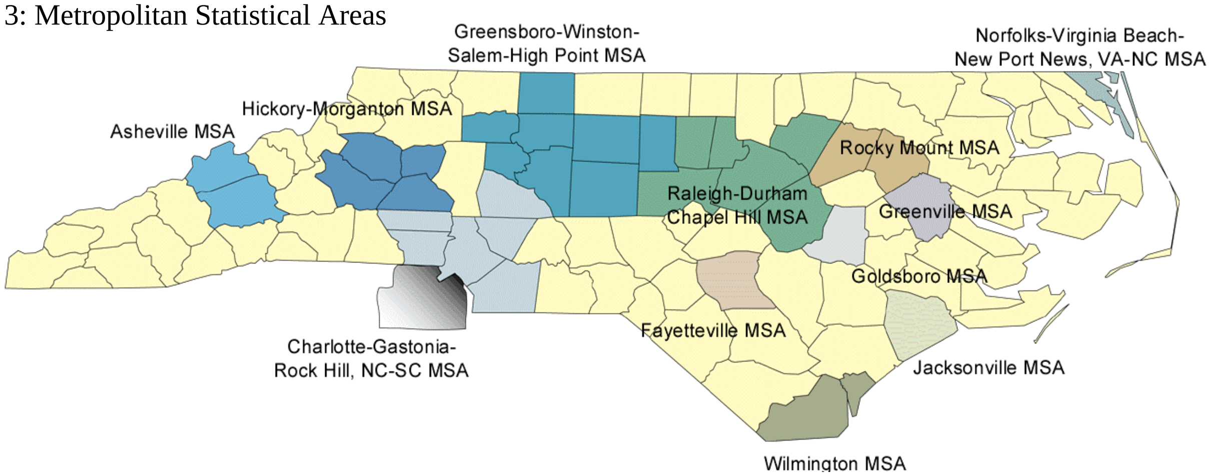
Map 1: Metropolitan Planning Organizations



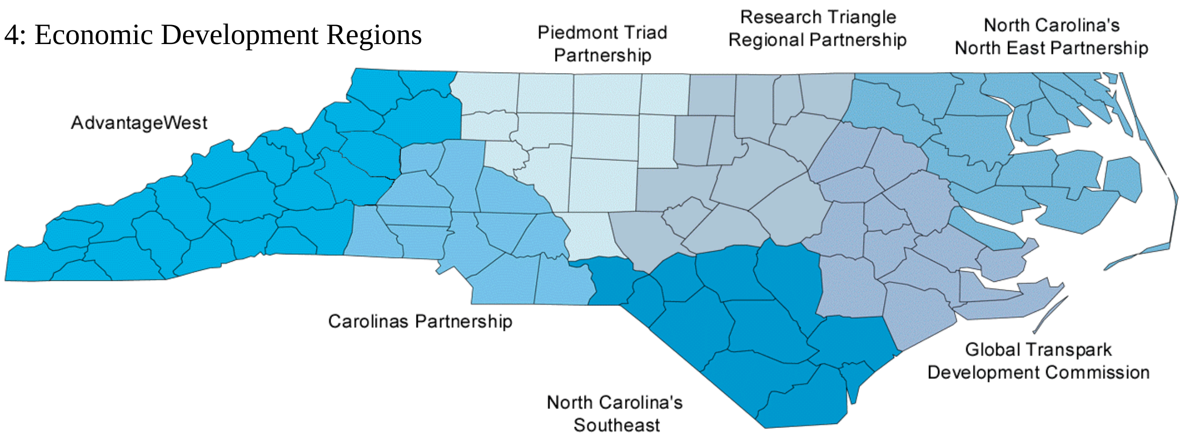
Map 2: Multi-County Planning Regions



Map 3: Metropolitan Statistical Areas



Map 4: Economic Development Regions



V. How North Carolina Could Grow Differently

We recommend that North Carolina consider eight major steps in its efforts to grow smarter. These eight steps are principally drawn from the actions of other states that are trying to address the negative consequences of sprawling development patterns. We do not suggest that North Carolina mimic what other states have done. It should learn from the actions in other states and study carefully what has worked and what has not worked. State leaders should then try to adapt and tailor policy reforms to the distinctive market, demographic and governing realities of North Carolina.

Moving beyond sprawl, of course, will involve more than an act of the governor or state legislature. A wide array of organizations—local governments, regional bodies, employers, builders, lenders, environmentalists, nonprofits, philanthropic foundations—need to change the way they do business if growth patterns are going to change in any significant way.

Step One: Level the Playing Field between Older Communities and Newer Developments

A number of states are working to revise the spatial distribution of state spending and tax policies, which in the past "tilted the playing field" in favor of greenfield development and newer communities. Maryland and New Jersey are in the vanguard of this movement and have acted to target direct spending and tax incentives to communities where infrastructure is already in place. In 1997 Maryland enacted laws to steer major state road, sewer, and school monies away from farms and open spaces to "priority funding areas." Some are designated in the law—Baltimore and certain areas within the Baltimore and Washington, D.C., beltways, for example. Counties may designate other areas if they meet certain guidelines. In 1998 New Jersey expanded on Maryland's approach: Governor Christine Todd Whitman ordered state agencies to give preference to projects in areas where infrastructure was already in place.

Smart growth policies do not stop development or repeal the operation of market forces; they simply control where the government chooses to spend its resources. According to Maryland's former state planning director, smart growth policies repeal an "insidious form of entitlement—the idea that state government has an open-ended obligation, regardless of where you choose to build a house or open a business, to be there to build roads, schools, sewers."

Directing state and local spending to older communities can help create living downtowns where compact mixed-used development already exists, infrastructure is already built and services are provided. Cities and older suburbs with attractive and competitive school systems; safe and clean neighborhoods; regionally competitive tax rates; well-maintained roads, sewer, and water systems; and a mix of services, entertainment and housing choices that appeal to young, single people, empty nesters and others mitigate development pressures elsewhere.

North Carolina should, to the extent feasible, direct new public investment to places that already have an infrastructure base, thereby building on and maximizing previous infrastructure investments. It should also provide incentives for local governments to do the same, perhaps as part of the local government toolbox described below.

Step Two: Rethink Transportation Policy

States like New Jersey understand that "leveling the playing field" requires first and foremost a rethinking of state transportation policy. The New Jersey Legislature recently approved a bill requiring the state Department of Transportation to emphasize repair of existing roads and bridges in its capital plan, and to report back to the legislature on its progress. The legislature must explicitly approve any new highway projects.

In North Carolina, as in many states, transportation policy has focused on highway and road expansion to the exclusion of alternative transportation strategies. Yet, a road-centered transportation policy has its limitations, particularly in large metropolitan markets struggling with traffic congestion, air quality problems and the accessibility demands of groups like the elderly and poor workers without cars, whose job opportunities are severely limited by a lack of public transportation options.

Rethinking transportation policy means several things. It means more money spent on alternative transportation strategies, particularly public transit in all its forms. In a society that is rapidly aging, public transit is increasingly a prerequisite for livable, accessible communities. In an economy defined by global competitive pressures, an efficient public transit system is increasingly a long-term, competitive necessity for regions. Public transit, where effective, can provide an efficient and desirable alternative to the automobile for middle class residents, a reliable way to link low-income workers with employers who need them and a responsible approach to ease the strain that explosive growth is placing on the natural environment.

Rethinking transportation policy also means integrating transportation—both transit and highways—and land use. Charlotte is designing and implementing a far-reaching public transit system. For this system to succeed, the city and county need to develop in more compact ways so that there is sufficient residential and economic density to support transit. Investment in transit should be accompanied by a more clustered form of residential, commercial and industrial development—"transit-oriented development"—to expand transportation choices for metropolitan residents. Additionally, Charlotte and Raleigh-Durham are both building outer beltways, but are aware that these major road projects may exacerbate sprawling development patterns. Charlotte, in particular, is trying to cluster development in areas close to planned beltway exits. If these metropolitan areas are to avoid the problems of Atlanta and other Sunbelt cities, serious and sustained attention needs to be paid to mitigating the potential harm of these large road projects.

Finally, rethinking transportation means devolving more power to regional and local entities. In North Carolina, transportation planning and decision-making has principally been a state function. Yet metropolitan areas represent the real, functioning units in the new economy. For these areas to remain competitive, transportation planning ultimately needs to be coordinated with housing, workforce, and economic development decisions. Since those other functions are inherently regional and local, efficient coordination will only occur if regional and local entities play a larger role in transportation planning, data gathering, research and decision making.

Thus, North Carolina needs to significantly expand its commitment to public transit and other alternative transportation strategies. It needs to do so in a way that reflects a unified vision of how regions operate rather than a series of parochial, separate investments. It needs to make sure that, at the state and metropolitan level, transportation of all types and land use are integrated. North Carolina needs to give regional and local entities more power over transportation information and decisions, so that they can coordinate transportation investments with other programs and priorities. Finally, North Carolina needs to make sure that a variety of citizen's voices are heard before transportation projects go forward, and develop mechanisms for meaningful citizen input.

Step Three: Invest in Land Acquisition and Reclamation

In recent years, an increasing number of state governments have been spending money to conserve land threatened by development and cleanup land in older communities. In 1998 ballot initiatives asked voters to approve bond measures or tax increases to preserve open space or acquire parks and wildlife habitats in Alabama, Arizona, Florida, Georgia, Michigan, Minnesota, New Jersey, New Mexico, Oregon, and Rhode Island. All passed except Georgia's and New Mexico's. New Jersey amended its constitution so that $1 billion over ten years will go to open space conservation efforts. Overall, voters in 1998 approved 72 percent of ballot measures to preserve open space and promote conservation, entailing a commitment to spend $7.5 billion, directly or indirectly, to implement these measures.

The voters' actions have continued through 1999 and this year. In 1999, for example, the Pennsylvania legislature enacted a 5-year, $650 million "Growing Greener" initiative to preserve farmland, protect open space, restore watersheds and help communities address land use. Earlier this year, California voters approved a $2.1 billion park bond and a $1.9 billion water bond. Nearly half of this new money will go to preserve open space in urbanized areas. It is expected that a number of states will have referenda on land-related issues in the November 2000 elections.

North Carolina should expand its existing land acquisition and brownfields reclamation program. That will principally require finding a way to fund Governor Hunt's million acre proposal. The state should explore all funding options available through the general appropriations process in the state legislature; if these fall short, it should consider bond referenda. Irrespective of the funding source, the state should target a portion of the funds for urban land reclamation and brownfield reclamation.

Step Four: Consider Broad Growth Management Policies

Since the early 1970s, eleven states—Delaware, Florida, Georgia, Maine, Maryland, New Jersey, Oregon, Rhode Island, Tennessee, Vermont, and Washington—have enacted state land use laws to direct local governments in the management of growth. Oregon has the most comprehensive growth management effort in the United States. In 1973 the state enacted the Land Conservation and Development Act to contain urban sprawl and preserve forests and farmland. The Act requires that urban growth boundaries be drawn around all cities throughout the state and mandates comprehensive land use planning at both the local and metropolitan level. The Act also requires that all city, county, and metropolitan plans be consistent with state planning goals and authorizes the State Land Conservation and Development Commission to enforce compliance with the consistency requirement.

The appetite for growth management is expanding across the country. In 1998, for example, Tennessee passed a law requiring counties to adopt land-use plans that designate growth boundaries for existing municipalities and set aside rural preservation and "planned growth areas." If a county does not have a land use plan in place in eighteen months, it will lose access to some state infrastructure funds, including federal highway grants.

One way for North Carolina to engage in broad growth management is to require all counties to adopt land use planning. Effective land use planning includes the financial and technical resources to create a plan, measure its performance as it is implemented, and enforce its provisions. These land use plans could, as in Tennessee, restrict federal and state infrastructure funds to "planned growth areas". We also believe the Charlotte, Raleigh-Durham and Greensboro / Winston-Salem metropolitan areas should assess the costs and benefits of alternative growth scenarios. At least one scenario should include an urban growth boundary so that citizens and metropolitan leaders can have a clear debate about the future of their communities.

Step Five: Give Local Governments Growth Management Tools and Assistance

Growth management is not just about broad policies like urban growth boundaries and comprehensive land use plans. It is also about empowering localities and counties with a wide array of tools, incentives and powers that can be adapted to local circumstances. Growth is best managed at the local level, but this is somewhat difficult in North Carolina, since municipal governments often have to seek approval from the legislature for tools and authorities not broadly implied in their charters. Legislative approval and clear authority for specific growth control tools has typically been given only to the specific local governments seeking that authority. For instance, Charlotte received authorization from the legislature to implement a half-cent sales tax increase to fund their regional transportation plan. While this authorization would appear to imply that other cities and counties could implement their own local sales tax, it does not guarantee the constitutionality of that tax. Local and regional entities need to be equipped with clear authorization powers from the state to better regulate land-use and development.

In essence, localities in North Carolina need a growth management toolbox for addressing local growth challenges. The toolbox could contain such powers, incentives, and standard procedures as: transfer of development rights, land value taxation, inclusionary zoning, impact fees, tiered development systems, buildable land inventories,[82] infill development plans, urban service boundaries, mixed-use financing, phased-in taxation of rehabilitated historic properties, eminent domain powers over commercial buildings, model "smart growth" codes and ordinances.[83] The state should also examine whether guidance and technical support is needed in using these tools, and whether state building codes need to be revised to make building rehabilitation economically feasible.

The state government should also consider providing funding for integrated land-use planning and technical assistance to localities that wish to explore alternative growth patterns. Effective growth management, of course, is ultimately about more than creative zoning and land use. Rather, it also encompasses planning, transportation / transit, economic development and environmental preservation. Success in one area depends on success in the others. Successful metropolitan transit systems need dense areas of population. Economic development requires the expansion of jobs and reliable access. Environmental preservation needs efficient land-use planning. But for a region to grow in a balanced fashion, local governments need the right tools and an expanded understanding of how public policies and practices can help create—or undermine—livable communities.

Step Six: Streamline and Expand Regional Governance

North Carolina's state and local governments have recognized the advantage of expanding services, governance, and authority beyond the borders of local governments. Various regional entities have been created to better address the economic, social and transportation needs of metropolitan areas. However, the boundaries and service areas of these regional entities do not match up. As noted above, the jurisdictions of the councils of government, metropolitan planning organizations, the census-designated metropolitan statistical areas, and the state-coordinated economic development regions vary in just about every metropolitan area in the state.

[82] A buildable land inventory was recently completed in Charlotte. See Weitz, Jerry, "Prospects for Applying 'Sprawl Busting' Programs in North Carolina," Presented at the 43rd Annual North Carolina Planning Conference, May 18-19, 2000.
[83] Many of these recommendations are found in an informal report, prepared for Governor James Hunt by North Carolina Department of Commerce: "Ideas Developed to Present to Governor Hunt and the Smart Growth Legislative Commission," May 25, 2000.

When regional authority is fragmented between various services—transportation, land use planning, and economic development—the advantages of regional governance are diluted. The effectiveness of these regional organizations is further limited when even the definition of the region varies between them. These incompatible definitions also make it complicated to gather the information needed to determine the health of the region.

For state and local governments to effectively deal with the growth and development of a region, governance reform needs to be implemented. This means several things. First, North Carolina should make efforts to harmonize the boundaries of regional entities, particularly in transportation planning. Second, councils of government need to be given adequate funding and capacity. Third, regional organizations need the power to enforce integrated, regional plans for transportation and other services. At the very least, the state should establish cross-review rules, so that different local jurisdictions can harmonize their plans and respect the connections between jurisdictions within a region.

Step Seven: Continue to Support Rural Economic Development

Rural areas will obviously benefit from the greater powers for localities, as in the "toolbox" described above. It is critical that state and local leaders think creatively about how to adapt statutes and programs that were developed in response to urban challenges, and apply them to rural problems. Central cities and rural areas both face unemployment, education, and persistent poverty problems. However, we recognize that in some cases, special programs and policies will be needed. There is no one answer or policy for rural areas: some may be on the edges of fast-growing urban areas, some may be retirement havens, while others may be deeply distressed.

Many of the Rural Prosperity Task Force's recommendations have been adopted by the legislature in some form or another. But more can be done, especially in fulfilling the rural redevelopment, education and training, and agriculture goals that the task force set. As a long-term goal, North Carolina should create the Rural Redevelopment Bank proposed by the task force. It should invest more in worker retraining, literacy and basic skills training programs, and the development and diversification of rural community college curricula. It should fully fund the school equity formula. The state should leverage private foundation support, which already exists, for building the capacity of rural community organizations.

It should make sure that the new Economic Opportunity Fund, which focuses exclusively on rural business investment, is flexible enough to meet the needs of a variety of rural businesses, and that other state-run rural development programs, such as the new Rural Redevelopment Authority, give local governments the flexibility to use programs and funding to accomplish their own, locally determined, goals.

Finally, the state should remember that smart growth applies to rural areas, as well as urban ones. The point of rural economic development is not to remake rural areas into suburban communities, but to allow rural communities to flourish while maintaining their unique, treasured character.

Step Eight: Disclose Growth and Spending Patterns

The success of many of the policy and program reforms described above will depend on solid, reliable and objective information. The state has an important role to play as a provider of demographic, market and programmatic information.

First, the state government should provide metropolitan and non-metropolitan areas with a clear spatial analysis of how state resources are allocated. A few states have begun to disclose the spatial allocation of state economic development funds and other investments. Disclosure of state spending patterns is not an onerous burden; in fact, it will subject state bureaucracies to the same standards that now govern private institutions like banks and thrifts.

Minnesota's disclosure law should be studied for replication. The Minnesota Subsidy Accountability Law mandates an annual reporting procedure for tracking economic development grants, loans and tax increment financing. Each local, regional, or state agency that provides the subsidies must report both the goals and results. A similar law has been enacted in Massachusetts.

Second, the state government should make available information about the performance of metropolitan markets. The state Department of Labor, for example, could track the pace of employment decentralization, by place and by sector. This market information will complement the state spending information described above. The federal government already mandates the collection of the pertinent data; what is missing is a sustained effort to interpret the information and make it available in an accessible form.

Finally, the state government can help to set benchmarks to gauge regional progress towards growing differently. These benchmarks could include such indicators as land consumption (especially compared to population growth), air and water quality, downtown residential and commercial expansion and vehicle miles traveled.

VI. HOW RESEARCH CAN HELP

Understanding growth patterns is a critical step in better directing growth. North Carolina needs to assess intra-metropolitan growth trends, the different growth patterns in various metropolitan areas, the connection between rural and metropolitan growth trends, and the different growth patterns among rural counties. It is critical that the research be spatial—meaning that it focuses on not just broad trends, but what places drive the trends, not just what is happening, but where it is happening. In Washington, D.C. and Atlanta, regional growth has occurred on one side of the metropolitan area, leaving poverty and disinvestment in portions of the inner urban core and older suburbs.[84] Understanding the relationship between sprawl and disinvestment and ensuring that North Carolina's metropolitan areas grow in a more balanced fashion begins with understanding the market and demographic patterns of each region. From there, state, regional and local entities can effectively plan for growth.

We recommend that state leaders consider a range of research initiatives. We believe that these efforts will help the state better design and implement smart growth policies going forward. We also believe that these efforts will enable the development, within the next two to three years, of a comprehensive white paper on "Growth in North Carolina". This white paper would provide a synthesis of research findings and enable policy makers to better understand the factors driving growth, the consequences of sprawling development and the policy reforms most likely to foster alternative growth patterns.

We recommend that North Carolina's corporate, civic, and political leaders undertake or support the following:

1. Create a "Research North Carolina" network to compile and seed research on growth and development patterns.

There is a significant amount of research available in the state, but precisely because there is so much, coming from so many different sources, it is difficult to find, assemble and analyze all of it. North Carolina needs a one-stop source for research on various metropolitan and rural areas, and for the state as a whole. We recommend that a single organization or network of researchers and existing organizations, "Research North Carolina," be created. The organization could, at a minimum, act as a clearinghouse on growth-related research for the state. It could, for example, establish a website with links to some of the reports mentioned in our bibliography. It could identify objective research and communicate findings in a way that informs the media as well as political, corporate, academic and constituency leaders. It could, under a more ambitious plan, even identify significant gaps in research and seed new analysis through independent scholars and researchers. The organization could be governed by a board of directors drawn from the private and nonprofit sectors.

Metropolitan Atlanta offers, perhaps, the most advanced model of a research consortium for North Carolina to consider. In the early 1970s, a group of Atlanta business and civic leaders created Research Atlanta to enable the city (and now the region) to "solve its problems through research". (For more information, see the website at www.researchatlanta.org). The organization supports independent research on a broad range of issues including government services, government structure, housing, taxation and transportation. While Georgia State University manages the daily operations and programs of the organization, Research Atlanta engages a broad mix of scholars from various universities and research institutions in the metropolitan area. A volunteer board of directors guides its work.

[84] See Brookings Institution Center on Urban and Metropolitan Policy, "A Region Divided: The State of Metropolitan Growth in Greater Washington, D.C." (July 1999) and Brookings Institution Center on Urban and Metropolitan Policy, "Moving Beyond Sprawl: The Challenge for Metropolitan Atlanta" (March 2000).

The State of Ohio provides an alternative model. Under the Ohio Urban University Program, annual state appropriations are provided to Cleveland State, Ohio State and other state institutions of higher education to conduct research on a broad array of urban and metropolitan challenges. Predictable state funding has helped to create an informal network of metropolitan researchers in the state who share findings and collaborate with each other on important projects.

In North Carolina, state universities may provide an administrative home for Research North Carolina, and will be important elements of a research network. We think it is important that Research North Carolina be an independent and "virtual" entity, even if it is managed by a university. Independence is critical because disparate constituencies—developers, environmentalists, business groups, urban advocates, state policymakers—must have confidence in Research North Carolina's work and use it as a basis for decision-making and agreement. "Virtual-ness" will allow Research North Carolina to attract a wide range of researchers and scholars who may be affiliated with other institutions.

2. Support research on:

- **Intra-metropolitan and rural trends**. How are North Carolina's metropolitan areas growing? Answering this question requires a detailed analysis of intra-metropolitan trends, not just assessments of metropolitan areas as a whole. Within regions, where are people moving to and why? Is there pressure on some areas and not others? Where are development pressures greatest in metropolitan areas? Where are the open spaces and farms at risk? Are all the sectors of regions—northern and southern sides, or inner core and outer suburbs—growing in a balanced way? Where is there substantial new public investment in roads, infrastructure and sewers? Where is there significant private investment? What neighborhoods are starved for both public and private capital and bypassed by development? This kind of information is needed for all of the state's metropolitan areas, not just the largest ones.

  Just as there are differences among communities within metropolitan areas, there are differences among rural areas. Rural areas on the edge of fast-growing metropolitan regions are not like rural areas located far from robust economic activity. Some small towns are economically healthy retirement communities, while others are struggling to survive the fluctuations in the agriculture industry. What is the typology of the state's rural areas? Do rural areas, like metropolitan areas, have distinct spatial trends?

  And, in both rural and metropolitan areas, what are the connections between place and poverty, and between race and poverty? Where do the poor live in metropolitan areas? How have concentrated poverty rates changed since 1990? Is race playing a role in the location and direction of new development? What are the patterns of urban and rural poverty? Are racial and ethnic minorities concentrated in portions of regions? Are these same areas typically poor and distressed? Where do low-income working families live?

  Myron Orfield's Metropolitan Area Research Corporation has mapped the growth dynamics in two dozen U.S. metropolitan areas, and also conducted a study of the state of Kentucky. Civic, corporate and political leaders should commission an Orfield study of North Carolina, with detailed GIS maps showing patterns of investment and distress, thereby gaining a fine-grained understanding of where growth is really happening in the state.

- **The impact of government policies on sprawl and central city revitalization efforts**. In many places across the country, sprawling patterns of growth are facilitated by federal, state and local spending, tax, regulatory and administrative policies. Some research on this topic has been done in North Carolina, but additional research is needed. To what extent is state and local highway and infrastructure spending directing growth to the fringes of metropolitan regions? Are economic development programs and spending taking jobs from the cities to the suburbs? What is the impact of the state's annexation law on growth? What local policies are facilitating or directing the location of growth and new developments? Are policies hindering revitalization efforts or making them more costly? Where are brownfields and vacant properties located?

In Michigan, the nonprofit Land Use and Zoning Center is conducting an extensive review of state policies to determine if they are or are not promoting sprawl. Researchers in North Carolina should do the same, and examine regional and local policies in metropolitan areas as well. It is worth reemphasizing that the policies that affect growth go far beyond transportation, economic development and land use, and include affordable housing, welfare, workforce, and education, to name a few.

- **The implementation of smart growth in other states and localities.** Over the next few years, the state of North Carolina will most likely enact a range of growth policies and dedicate additional resources to programs such as land acquisition. In implementing these new policies and programs, the state would greatly benefit from research that examines the experiences of other states and jurisdictions. States like Florida, Maryland and New Jersey are grappling with issues of how to target land acquisition funds and how to use these funds effectively in coordination with other state policies. States like Pennsylvania and Ohio are working to streamline the redevelopment of urban land. North Carolina does not need to reinvent the wheel. Leaders should commission systematic careful research that enables them to learn from the successes and mistakes of other states and, by so doing, save government and private sector resources. Additional research could use the experience of other states and localities to define the full range of incentives that should be included in the local growth management "toolbox," mentioned above. Legal analysis might be helpful to determine the current extent of local powers in a Dillon Rule environment.

- **Variations on costs—fiscal, environmental, and social—of sprawl in various parts of the state**. North Carolina is a large, diverse state. Its regions have distinct economies, topographies and natural assets. It is likely that sprawling development patterns—low density settlement, excessive land consumption—have different cost implications for a mountainous county like Buncombe than for a coastal county like New Hanover or a landlocked county like Wake. Understanding these differences could greatly assist localities in deciding what growth management tools and incentives to seek or implement. Also, given the flood damages of the last few years, understanding the relationship between growth, infrastructure and regulatory decisions, and flood vulnerability seems critical. What is the full extent of the environmental costs of growth? What can we learn about the impact of land use patterns on air quality in metropolitan areas, the impact of growth on watersheds? What are the social consequences of North Carolina's growth patterns? How severe is the spatial mismatch between low-income workers and entry-level jobs? Does a pattern of car-dependent growth limit the opportunities of poor, or minority, or elderly people?

- **Housing affordability's impact on growth patterns.** The spatial distribution of affordable housing plays a central role in shaping metropolitan growth patterns. In many metropolitan areas, few affordable housing options exist in fast growing employment centers in newer suburbs. The lack of affordable housing limits the employment opportunities of many working families, worsens congestion problems by forcing families to travel long distances to their place of employment and places enormous stresses on regional employers by limiting the pool of workers who can live within a reasonable commuting distance. Research should be commissioned in North Carolina to ascertain the spatial distribution of housing opportunities in metropolitan and non-metropolitan areas. The rental market survey recently completed by the Metropolitan Planning Council in Chicago represents model research that should be examined and, if feasible, replicated. Housing studies should also examine: the special effect that manufactured housing may have on the location of affordable housing and sprawling development patterns; the relationship between density, multi-family housing and property values; the determinants of housing affordability in the state; and the forces and preferences that shape people's decisions to live in particular areas, and whether or not the housing market is meeting the preferences of different segments of the population.

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Appendix to
Adding it Up: Growth Trends and Policies in North Carolina

A Report Prepared for the Z. Smith Reynolds Foundation
by the
Brookings Institution
Center on Urban and Metropolitan Policy
July, 2000

Trends in North Carolina's Major Metropolitan Areas

Asheville

- **Population**

The Asheville metropolitan area saw moderate population growth over the last two decades. 34,315 people have moved to the region since 1980, bringing the total number of residents to 212,076. Almost 53 percent of those new residents—18,078—moved to Buncombe County outside of the city limits of Asheville. Over the last two decades, the city of Asheville has annexed territory in Buncombe County bringing in 13,415 residents. Total population growth for the city during the time period was 14,272.[1]

- **Transportation**

Between 1995 and 1998, the daily vehicle miles traveled in the region[2] increased by 15.8 percent, from 5,199,000 to 6,021,000.[3]

- **Housing**

Forty percent of renters are unable to afford the cost of a two-bedroom apartment in the Asheville metropolitan area.[4]

- **Land**

The city of Asheville has physically grown by 41.6 percent since 1980, annexing 5.85 square miles in the 1980s and 12.09 square miles in the 1990s. It is currently 41.18 square miles.

- **Concentrated Poverty**

In 1970, 2022 black residents lived in concentrated poverty compared to 922 white residents—a 2.2 to 1 ratio. In 1990, by contrast, more whites than blacks lived in concentrated poverty: 1,945 white residents compared to 1153 black residents. There were roughly 29 Hispanics living in concentrated poverty in the Asheville metropolitan area in 1990.[5]

- **Expected Population Growth**

The population of the Asheville metropolitan region is expected to grow by 18 percent or 38,579 people by the year 2020. Most of these new residents—36,475 people—are expected to move to Buncombe County.[6]

Charlotte

- **Population**

In 1998, 1,374,470 people lived in the Charlotte metropolitan area (including York County, South Carolina). Between 1980 and 1998, the area gained 403,226 people. The region slightly grew faster in the 1990s than in the 1980s, by 212,600 people in the 1990s and 190,626 in the 1980s. The city of Charlotte grew by 206,004 - capturing 51 percent of the regions growth over that time period. 56 percent of the city's population growth -114,590 -occurred through annexation.

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[1] North Carolina Office of State Planning, "North Carolina Municipal Population 1998," (Raleigh, 1999).
[2] Region is defined as the Federal-Aid Urbanized Area which is an area of 50,000 or more persons that at a minimum encompasses the land area delinated as the urbanized area by the Bureau of the Census.
[3] Federal Highway Administration, Highway Statistics 1998, (Washington, D.C. GPO: 1999).
[4] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[5] Jargowsky, Paul, Poverty and Place, (New York: Russell Sage, 1997) p 238-239; U.S. Census data.
[6] NC State Office of Planning, "http://www.ospl.state.nc.us/demog/"

- **Transportation**

Between 1992 and 1998, the daily vehicle miles traveled in the region increased by 49.3 percent, from 11,387,000 to 17,003,000.[7]

- **Housing**

Thirty-seven percent of renters are unable to afford the cost of a two-bedroom apartment in the Charlotte metropolitan area.[8]

- **Jobs**

The city of Charlotte posted a 10 percent gain in jobs from 1993 to 1996, but suburban jobs grew faster, at 16.3 percent. While the city was still home to more jobs than the surrounding suburbs in 1996—358,305 in the city in comparison to 328,103 in suburbs—the city's share of the MSA's employment declined from 53.6 percent to 52.2 percent between 1993 and 1996.[9] From 1991-1993 the number of business establishments in the suburbs grew faster than the city—4.2 percent compared to 3.2 percent. Between 1993 and 1996, the suburbs gained almost three times as many business establishments—5.2 percent growth in the city and 14.9 percent in the suburbs.[10]

The region gained 190,200 new non-agriculture jobs between 1989 and 1999. This growth was led by a 46 percent gain in jobs in the services producing industry and a 25 percent gain in the trading industry. Almost 20,000 jobs were lost in the region in the textile industry and 25,000 were lost in the non-durable goods industry.

Private sector tech jobs grew by 49 percent in the MSA—from 41,661 in 1992 to 61,993 in 1997. The city more high tech jobs than its suburbs in 1997, with 35,040 in Charlotte compared to 26,953 in the suburbs.

- **Housing**

Charlotte averaged about a 60 percent of share of the metropolitan region's housing permits between 1986 and 1998. Of other large U.S. cities, only San Diego captured a larger share.[11] The average cost of a house increased from $109,336 in 1990 to $141,800 in the third quarter of 1999.[12]

- **Land**

Charlotte annexed 95.74 square miles between 1980 and 1998, growing from 138.44 square miles to 234.18 square miles—a land area growth rate of 69 percent. More land area growth occurred in the 1990s (59.95 square miles) than in the 1980s, (35.79 square miles).

- **Air Quality**

Mecklenburg County had 76 code orange days and 15 code red ozone days between 1996 and 1998. The county's air quality was ranked as the 12th worst in the nation by the American Lung Association. The Charlotte metropolitan area's air quality was ranked as the 8th worst in the nation.[13]

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[7] Federal Highway Administration, Highway Statistics 1998, (Washington, D.C. GPO: 1999).
[8] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[9] John Brennan and Edward W. Hill, "Where are the Jobs?: Cities, Suburbs and the Competition for Employment," (Washington D.C. Brookings: November, 1999).
[10] U.S. Department of Housing and Urban Development, "State of the Cities Report," (Washington D.C. GPO: 1999).
[11] Alexander von Hoffman, "Housing Heats Up: Home Building Patterns in Metropolitan Areas," (Washington DC: Brookings: December 1999).
[12] National Association of Realitors - www.nar.realtor.com/databank/ehsmet.htm and UNC-Charlotte Urban Institute,"Central Carolinas Choices Focus on the Region," www.uncc.edu/urbinst/focus.html
[13] American Lung Association, "State of the Air 2000," http://www.lungusa.org/air2000/sota_text.html

- **Concentrated Poverty**

In 1970, a total of 19,584 people lived in concentrated poverty—17,734 black residents and 1,850 whites—a 9.5 to 1 ratio. The ratio in 1990 grew to 11.8 to 1—22,907 black residents and 1,933 white residents. Just over 200 Hispanic residents lived in concentrated poverty in 1990, for a total of 25,045 people.[14]

- **Expected Population Growth**

The Charlotte metropolitan region is expected to grow by 37 percent, adding 450,925 people by the year 2020. More than half of the new residents—285,273—are expected to move into Mecklenberg County. Other counties anticipating large population growth are Cabarus, which expects add 44,494 people, or growth of 37 percent, and Union County, which expects 60,550 people, or growth of 55 percent.[15]

Fayetteville

- **Population**

The population of the Fayetteville MSA grew from 247,160 in 1980 to 292,744 in 1998—a growth rate of 18 percent. The city of Fayetteville grew by 103 percent from 59,507 to 121,338. Sixteen thousand people lived in territory that was annexed in the 1980s, and 43,014 lived in annexed territory in the 1990s. Thus, annexation accounted for almost all—96.5 percent—of the city's growth over the last two decades.[16]

- **Transportation**

Between 1992 and 1998, daily vehicle miles traveled in the region grew from 4,369,000 to 6,477,000, a growth rate of 48.2 percent.[17]

- **Housing**

Thirty-eight percent of renters are unable to afford the cost of a two-bedroom apartment in the Fayetteville metropolitan area.[18]

- **Concentrated Poverty**

In 1970, 18,027 residents in the Fayetteville metropolitan area lived in concentrated poverty neighborhoods, including 13,013 blacks and 5,014 whites. In 1990, though the number of residents living in concentrated poverty decreased by half, the ratio of blacks to whites living in concentrated poverty increased from 2.5 to 1 to 7.2 to 1. In 1990, 7,729 black residents, 1,071 white residents, and 152 Hispanic residents lived in concentrated poverty.

- **Expected Population Growth**

Cumberland County is expected to grow by 22 percent, or 63,208 people, by the year 2020.[19]

Greensboro/Winston-Salem

- **Population**

The Greensboro/Winston-Salem MSA gained 225,227 new residents between 1980 and 1998, bringing the metro area total to 1,175,990. Forty percent of these new residents—91,257 people—moved within the city limits of Greensboro and Winston-Salem. Eighty-six percent of the population growth of the two cities - 78,554 new residents - is attributable to annexation. The remainder of Guilford County (outside the city

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[14] Jargowsky, Paul, Poverty and Place, (New York: Russell Sage, 1997) p 238-239; U.S. Census data.
[15] NC State Office of Planning, "http://www.ospl.state.nc.us/demog/"
[16] North Carolina Office of State Planning, "North Carolina Municipal Population 1998," (Raleigh, 1999).
[17] Federal Highway Administration, Highway Statistics 1998, (Washington, D.C. GPO: 1999).
[18] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[19] NC State Office of Planning, "http://www.ospl.state.nc.us/demog/"

limits of Greensboro), grew by 21,331, despite losing territory containing 40,064 residents to Greensboro since 1980. Winston-Salem annexed 38,490 residents from Forsyth County since 1980. The remaining portion of Forsyth County (area located outside the city of Winston-Salem) gained only 4,353 new residents during that time period.

The outer counties of the region—Davidson, Randolph, Yadkin, Stokes, Alamance, Davie—gained 47,101 residents in the 1980s and 61,185 residents in the 1990s.[20]

- **Housing**

Forty-one percent of renters are unable to afford the cost of a two-bedroom apartment in the Greensboro/Winston-Salem metropolitan area.[21]

- **Transportation**

Total daily vehicle miles traveled in the Winston-Salem region increased 12.1 percent in six years, from 6,472,000 miles in 1992 to 7,260,000 miles in 1998. In the Greensboro region, they increased 11.2% from 6,813,000 to 7,580,000 between 1995 and 1998.[22]

- **Jobs**

The city of Greensboro outpaced its suburbs (suburban figures include the city of Winston-Salem) in percent job growth between 1993 and 1996. The number of city jobs grew from 135,513 to 154,706—a 14.2 percent increase. Suburban jobs grew 8.3 percent over the same time period, from 386,373 to 418,279 jobs. While the city's share of MSA jobs grew by one percent, it only held 27 percent of the total jobs in the MSA. The region's tech jobs grew by 56 percent, from 31,603 to 49,219, between 1992 and 1997.

- **Land**

Greensboro has annexed 42.61 square miles since 1980, growing to a size of 102.98 square miles—a land area growth of 70.6 percent. The city added slightly more land in the 90's (23.20 square miles) than the 80's (19.41 square miles).

Winston-Salem grew by 74.4 percent, adding 45.59 square miles to its 1980 size of 61.27. More growth occurred in the 90's than in the 80's, 35.75 square miles annexed compared to 9.84.

- **Concentrated Poverty**

In 1970 in the Greensboro/ Winston-Salem metropolitan area, 17,012 residents lived in concentrated poverty –15,073 blacks and 1,939 whites—a 7.7 to 1 ratio. The number of residents living in concentrated poverty rose to 18,026 in 1990. The ratio of black residents to white residents in concentrated poverty neighborhoods increased to 12.5 to 1. In 1990, there were 16,640 black residents, 1,322 white residents and 64 Hispanic residents living in concentrated poverty.[23]

- **Expected Population Growth**

The Greensboro/ Winston-Salem region is expected to grow by 22 percent, adding 264,472 people by the year 2020. Most of this growth is expected to go into Guilford County, which is anticipating a growth of 21 percent, or 81,066 new residents, and Forsyth County, which is expecting to grow by 18 percent or 52,873 new residents.[24]

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[20] North Carolina Office of State Planning, "North Carolina Municipal Population 1998," (Raleigh, 1999).
[21] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[22] Federal Highway Administration, Highway Statistics 1998, (Washington, D.C. GPO: 1999).
[23] Jargowsky, Paul, Poverty and Place, (New York: Russell Sage, 1997) p 238-239; U.S. Census data.
[24] NC State Office of Planning, "http://www.ospl.state.nc.us/demog/"

Hickory

- **Population**

The Hickory metropolitan area has grown by 52,564 people since 1980. More growth occurred in the 1990s than in the 1980s—30,610 new residents versus 21,954. The city of Hickory has gained 13,743 new residents since 1980.

- **Housing**

Thirty-seven percent of renters are unable to afford the cost of a two-bedroom apartment in the Hickory Metropolitan area.[25]

- **Land**

Hickory grew by almost 125% since 1980 adding 14.96 square miles to its 1980 size of 11.78 square miles.

- **Expected Population Growth**

The Hickory metropolitan area is expected to grow by 16 percent between 1998 and 2020, adding 52,790 people. Catawba County is expected to capture 26,101 new residents—just less than half of the expected regional growth.

Raleigh-Durham

- **Population**

The Raleigh-Durham MSA has grown by 418,189 new residents, or 62.9 percent, since 1980. The region added 193,697 new residents in the 1980's and 224,492 in the 1990's. On average, 74 new residents move into the Raleigh Durham metropolitan statistical area every day.[26] The Cities of Durham, Raleigh, and Cary grew by 244,930 new residents, accounting for 61 percent of the region's total population growth during this time. However, 148,993 of these residents were gained through annexation.

The city of Cary has grown from 21,763 residents in 1980 to 86,613 residents in 1998, a growth of almost 300 percent. A little more than half—32,724—of the 64,850 of the new residents were gained because they lived in territory annexed by the city. The city of Raleigh gained 118,956 new residents since 1980, but 81,842 (68 percent) of these residents were added because they lived in annexed areas. Despite the massive annexations of Cary and Raleigh, the remainder of Wake County (the area not included in the limits of Raleigh and Cary) still managed to add 89,593 new residents since 1980.

The city of Durham grew by 61,124 residents, including the 34,427 that lived in annexed areas. The remainder of Durham County actually lost 12,591 residents due to the city of Durham's annexation. The city's 162,273 residents comprise 80 percent of the county's total population of 200,768.

Johnston County grew by 52 percent over the 18 year period, adding 37,118 new residents. Johnston gained more residents in the 1990s (26,411) than in the 1980s (10,707). Orange County grew by 41 percent in the 1990s, adding 32,233 residents to bring the 1998 population to 109,288. Franklin County grew by 47 percent since 1980, and now has a total population of 44,438.[27]

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[25] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[26] Triangle J Council of Governments, "Research Triangle Region Summary Growth Statistics," http://www.tjcog.dst.nc.us/rdc6.htm.
[27] North Carolina Office of State Planning, "North Carolina Municipal Population 1998," (Raleigh, 1999).

- **Transportation**

The Raleigh/ Durham MSA has two regions designated as federal aid urbanized areas[28] . The first area covers Wake County including the cities of Raleigh and Cary. According to the Federal Highway Administration, daily vehicle miles traveled in that region increased 31.6 percent between 1992 and 1998, growing from 10,538,000 to 13,878,000.[29] Between 1991 and 1997, the number of cars in the county increased from 362,697 to 473,642.[30]

The second area covers the counties of Durham, Orange, and North East Chatham County. Daily vehicle miles traveled between 1992 and 1998 increased 20 percent, from 6,254,000 to 7,547,000.

- **Housing**

Forty-one percent of renters are unable to afford the cost of a two-bedroom apartment in the Raleigh-Durham Metropolitan area.[31]

Sixty-two percent of all building permits—119,206 out of 192,540—issued in the MSA between 1984 and 1998 were for projects located in Wake County. This number represents more than three times the amount issued in Durham County, which had 35,415 permits. Wake's residential permits include 86,633 single family units and 32,573 multi-family units. The number of permits in Johnston County tripled between 1984 and 1998, rising from 501 to 1,663.

The five cities of Cary, Chapel Hill, Garner, Durham and Raleigh combined had 112,539 permits, or 58 percent of the total new housing permits in the MSA since 1985. Raleigh led the five cities in permits with 48,710, followed by Durham with 28,943 and Cary with 25,843. More single family units (70,721) were built in the five cities than multi-family units (41,818.) [32]

According to Wake County Government, median family income in Wake County has not kept pace with median housing value. Between 1990 and 1996, median family income rose 18 percent, from $44,302 to $52,300. Median home price during that same time period rose 34 percent, from $97,200 to $130,000.[33]

- **Jobs**

While the city of Raleigh saw strong growth in jobs between 1993 and 1996, the surrounding suburbs (suburban figures include the city of Durham) grew at a faster rate ,causing the city to lose a portion of its share of the jobs in the MSA. The city had 149,480 jobs in 1993 and 171,895 jobs in 1996—a 15 percent increase. The suburbs had 265,039 jobs in 1993 and 323,480 jobs in 1996—a 22 percent increase. The city's share of the jobs located in the MSA declined from 36 percent to 34.7 percent over the three year period.[34]

Private sector tech jobs grew from 33,701 in 1992 to 47,540 in 1997, or by 41 percent. The suburbs had more tech jobs in 1997 than the city, 31,190 compared to 16,350.[35]

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[28] Region is defined as the Federal-Aid Urbanized Area which is an area of 50,000 or more persons that at a minimum encompasses the land area delinated as the urbanized area by the Bureau of the Census.
[29] Federal Highway Administration, "Highway Statistics 1998," (Washington: D.C. GPO: 1999)
[30] Wake County Government, "Trends Shaping Wake County - A PowerPoint Presentation," 1999.
[31] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[32] Triangle J Council of Governments," Residential Building Permits Issued 1985 to 1998," http://www.tjcog.dst.nc.us/rbpi8498.htm
[33] Wake County Government, "Trends Shaping Wake County - A PowerPoint Presentation," 1999
[34] John Brennan and Edward W. Hill, "Where are the Jobs?: Cities, Suburbs and the Competition for Employment," (Washington D.C.: Brookings, 1999).
[35] U.S. Department of Housing and Urban Development, "State of the Cities 2000" http://webprod.aspensys.com/SOCDS/SOCDS_Home.htm

- **Land**

Raleigh has annexed 56.32 square miles since 1980, growing 104.4 percent from 53.93 square miles to 110.25 square miles. More land growth occurred in the 1980s than in the 1990s, 34.19 square miles in the 1980s and 22.13 square miles in the 1990s.

Durham annexed 50.44 square miles between 1980 and 1998, growing by 119.2 percent from 42.32 to 92.76 square miles. Twenty-seven square miles were added in the 1980s, and 23.50 square miles were added in the 1990s. According to 1998 figures, in the city of Durham there are approximately 8,640 acres or 13.5 square miles of vacant land, representing 15 percent of the city's total land area.[36]

Cary has grown by 311.9 percent since 1980, annexing 31.38 square miles to reach its current size of 41.44 square miles. Most of the annexed land growth occurred between 1980 and 1990, when the city added 21.09 square miles compared to 10.29 square miles in the 1990s.

Between 1987 and 1997, urbanized land grew by almost 70 percent as more than 190,000 acres of open space were developed, bringing the total amount of urbanized land to 466,300 acres. Sixty-eight percent of the developed land came from forest land, and 29 percent came from cropland and pasture.[37]

- **Air Quality**

Wake County had 58 code orange ozone days and 6 code red ozone days between 1986 and 1998, giving it the 25th worst air quality of any county in the nation. The metropolitan area's air quality ranked 17th nationwide.

- **Concentrated Poverty**

In 1970, 23,753 residents lived in concentrated poverty in Raleigh-Durham, including 17,373 black residents and 6,388 white residents. In 1990, the number dropped slightly to 23,369 residents living in concentrated poverty—12,755 blacks, 10,307 whites and 307 Hispanics.[38]

- **Expected Population Growth**

The Raleigh-Durham metropolitan region is expected to grow by 52 percent by the year 2020, adding 560,372 people. Most of the growth is expected to go into Wake County, where 379,496 new residents (a population growth rate of 66 percent) are anticipated. Other counties in the region expecting large amounts of population growth are Durham, which is expected to grow by 52,094 people or 26 percent, and Johnston, which is expecting 55,795 new residents or a growth rate of 52 percent.[39]

Wilmington

- **Population**

The Wilmington Metropolitan Area grew by 76,436 residents between 1980 and 1998 bringing the population total to 215,684. During the same time period, The city of Wilmington grew by 21,058, with 8,901 of those new residents coming through the city's annexation of new territory. Brunswick and New Hanover counties grew by a combined 55,378 new residents. The city's population growth accounted for 36 percent of the region's overall growth in the 1980s and 21 percent in the 1990s. [40]

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[36] Bowman and Pagano, "Transforming America's Cities," Urban Affairs Review (March 2000), p 559-581.
[37] Triangle Land Conservancy, "Open Space 2000," (2000), http://www.mindspring.com/~tlcpage/.
[38] Jargowsky, Paul, Poverty and Place, (New York: Russell Sage, 1997) p 238-239; U.S. Census data.
[39] NC State Office of Planning, "http://www.ospl.state.nc.us/demog/"
[40] North Carolina Office of State Planning, "North Carolina Municipal Population 1998," (Raleigh, 1999).

- **Transportation**

Daily vehicle miles traveled rose 9.5 percent between 1995 and 1998, from 2,832,000 to 3,099,000 miles.[41]

- **Housing**

Forty-nine percent of renters are unable to afford the cost of a two-bedroom apartment in the Wilmington metropolitan area.[42]

- **Land**

The city of Wilmington has grown by 41.7 percent since 1980, annexing 8.56 square miles in the 1980s and 26 square miles in the 1990s. Its current size is 29.95 square miles.

- **Concentrated Poverty**

In 1970, there were 9,907 people living in concentrated poverty—8,042 black residents and 1,865 white residents. While the overall number of people living in concentrated poverty declined to 9,120 in 1990, the ratio of black to white residents living in concentrated poverty increased slightly, from 4.3 to 1 to 4.8 to 1. In 1990, 7,540 blacks 1,544 whites, and 36 Hispanics lived in concentrated poverty.[43]

- **Expected Population Growth**

The Wilmington metropolitan area is expected to grow by 45 percent, adding 96,349 new residents, by the year 2020. Most of the growth is expected to occur in New Hanover County, which is anticipating a 41 percent growth in population or 61,037 new residents. Brunswick County is expected to add 35,312 new residents, for a growth rate of 52 percent.[44]

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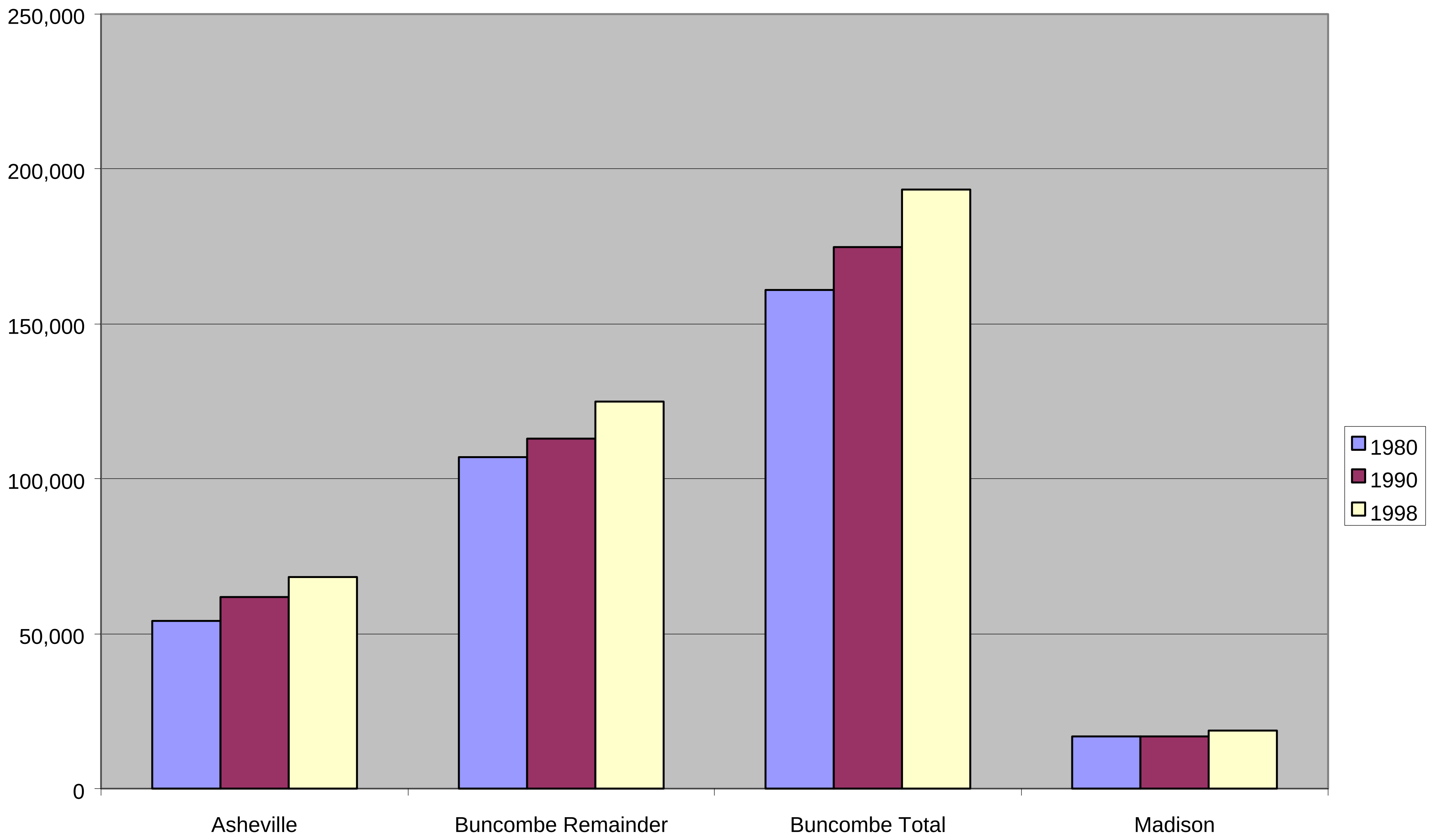
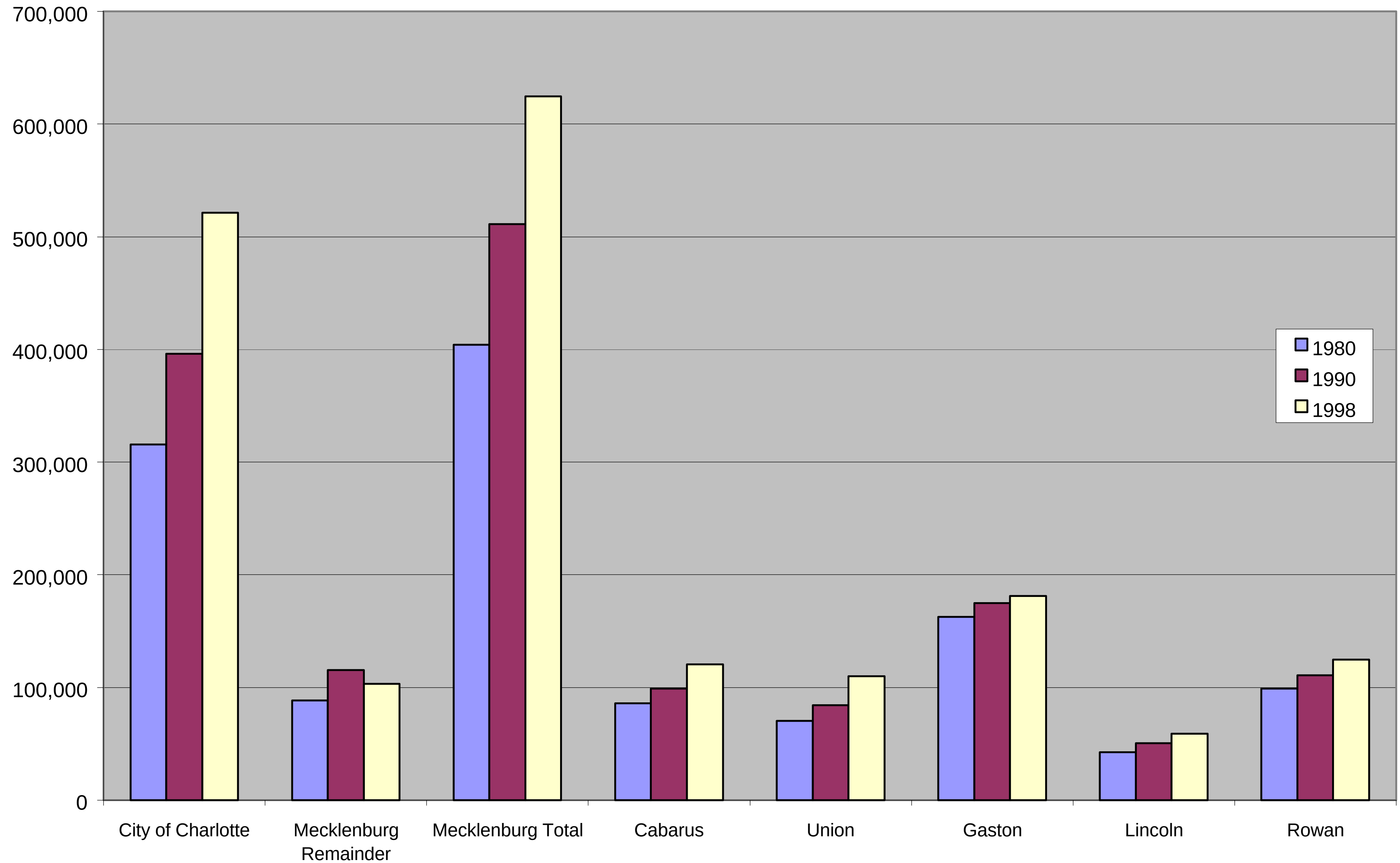
[41] Federal Highway Administration, Highway Statistics 1998, (Washington, D.C. GPO: 1999).
[42] National Low Income Housing Coalition, "Out of Reach," (Washington, D.C.), September 1999.
[43] Jargowsky, Paul, Poverty and Place, (New York: Russell Sage, 1997) p 238-239; U.S. Census data.
[44] NC State Office of Planning, http://www.ospl.state.nc.us/demog/

Figure 4: Asheville Metropolitan Area
Population 1980, 1990, & 1998



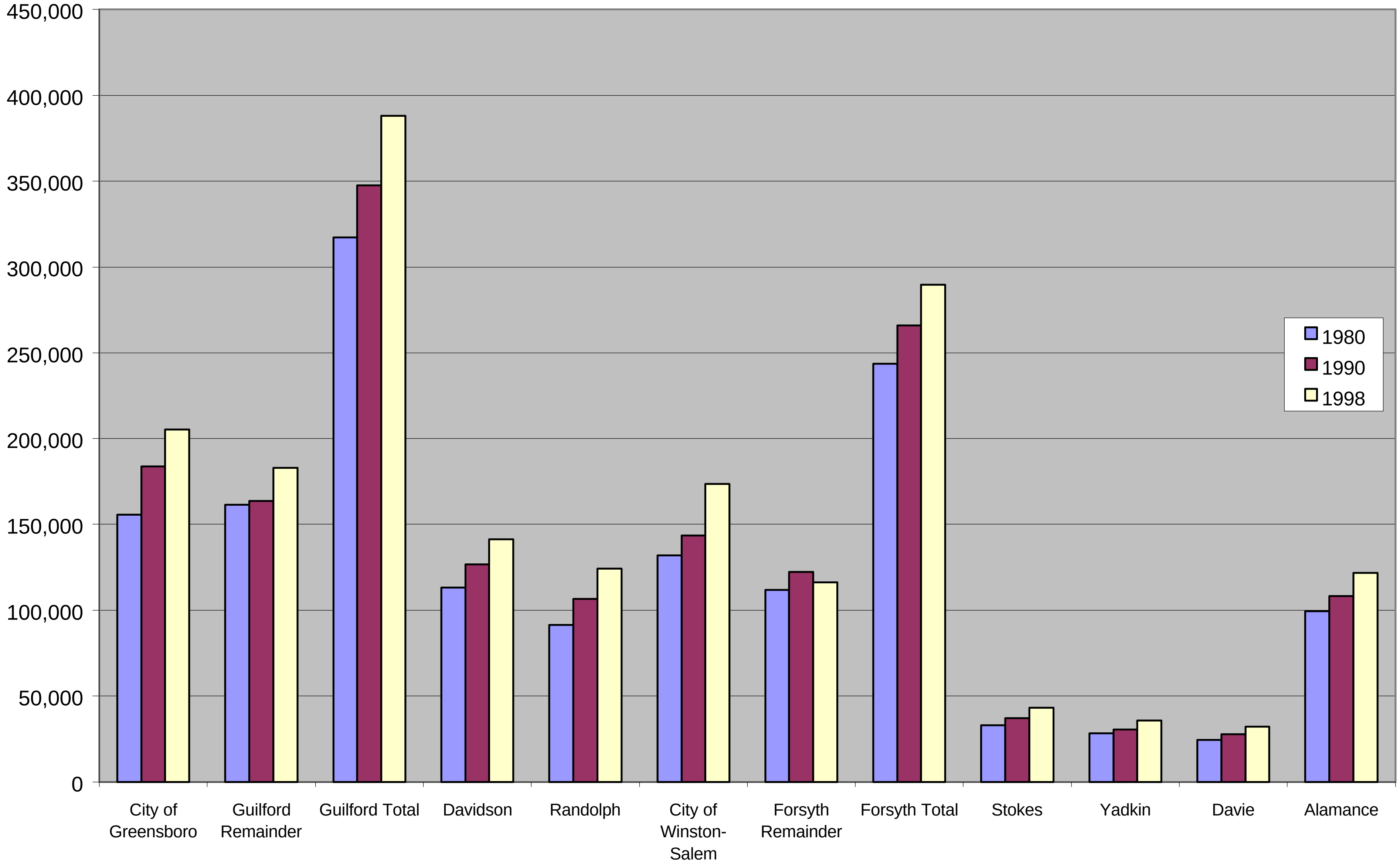
Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
The county "remainder" represents the population of the county not included in the population of the identified city(ies). The "total" population of a county includes the population of city(ies) located in its borders.

**Figure 5: Charlotte Metropolitan Area
Population 1980, 1990, & 1998**



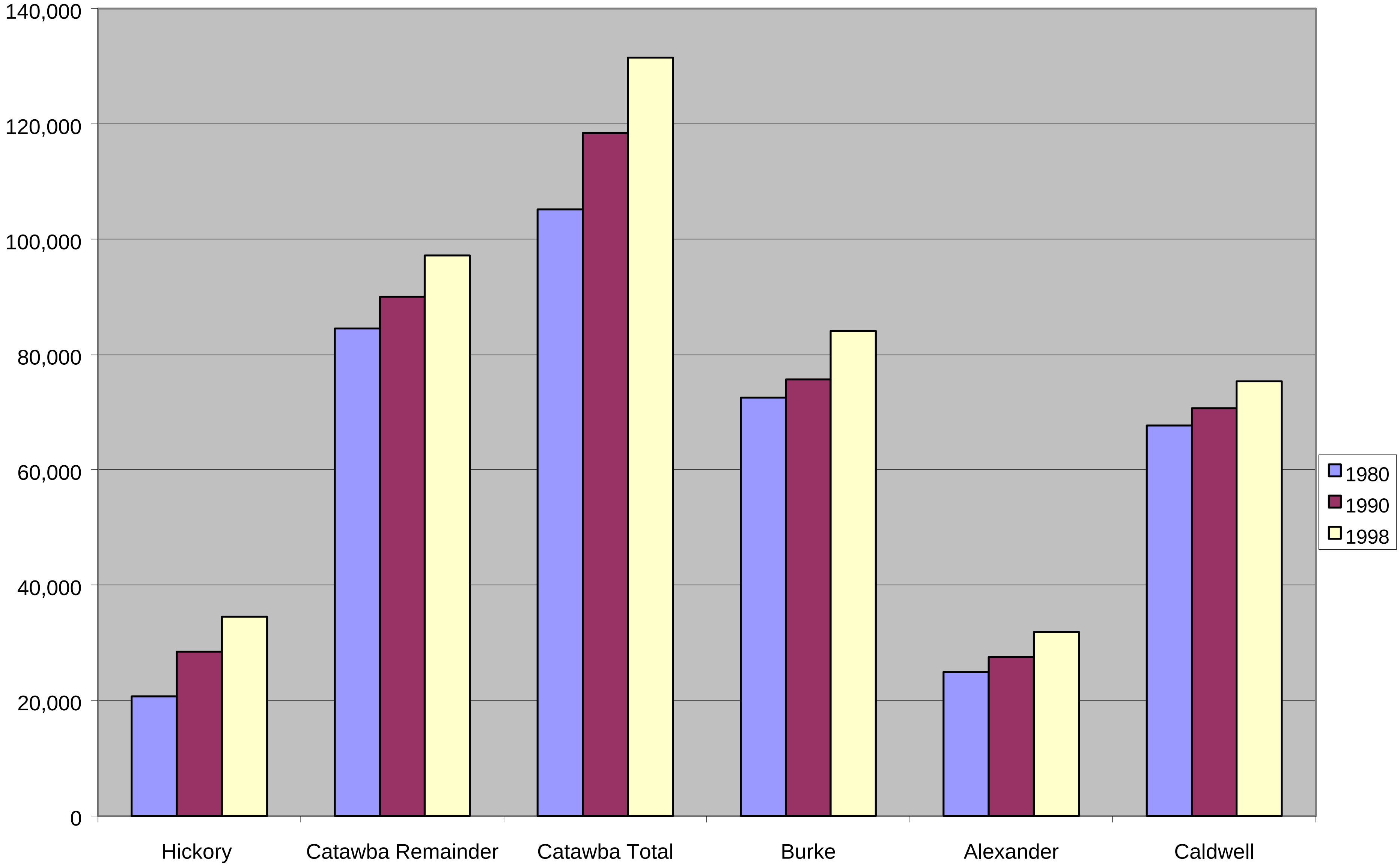
Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
The county "remainder" represents the population of the county not included in the population of the identified city(ies). The "total" population of a county includes the population of city(ies) located in its borders.

Figure 6: Greensboro-Winston-Salem Metropolitan Area Population 1980, 1990, & 1998



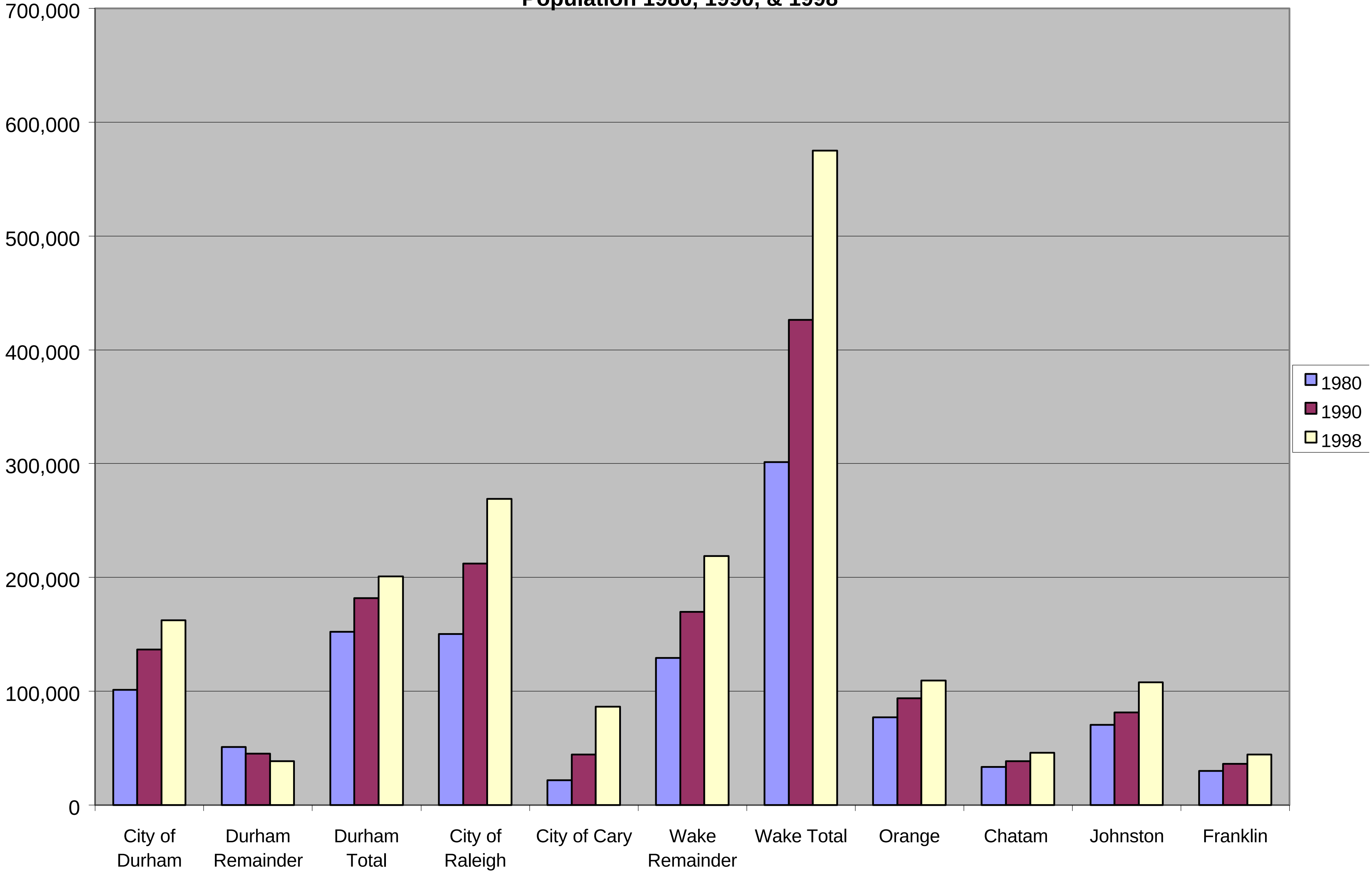
Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
The county "remainder" represents the population of the county not included in the population of the identified city(ies). The "total" population of a county includes the population of city(ies) located in its borders.

Figure 7: Hickory Metropolitan Area
Population 1980, 1990, & 1998



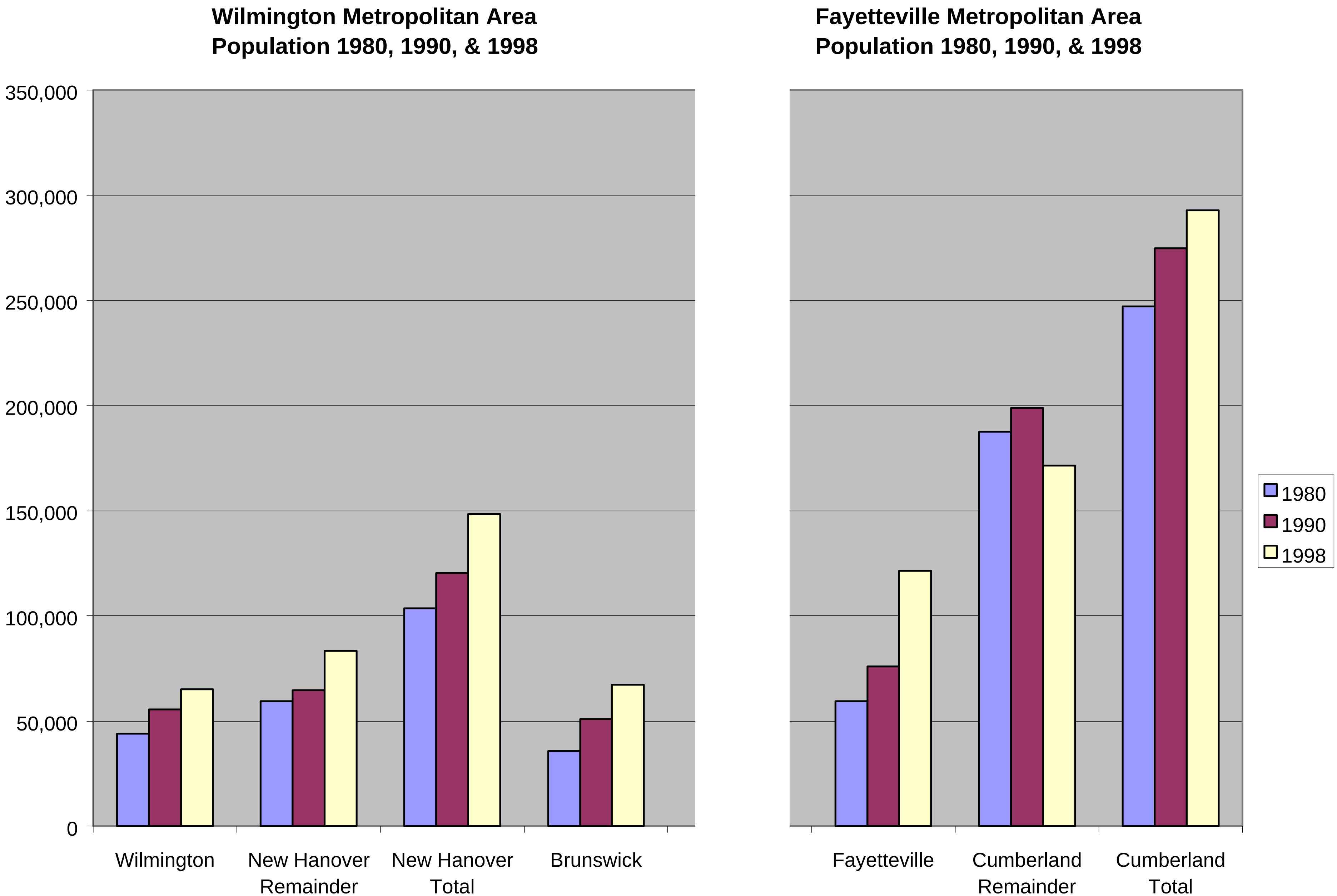
Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
In 1998, 143 people lived in the Burke County portion of the City of Hickory.
The county "remainder" represents the population of the county not included in the population of the identified city(ies). The "total" population of a county includes the population of city(ies) located in its borders.

Figure 8: Raleigh-Durham Metropolitan Area Population 1980, 1990, & 1998



Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
In 1998, 3 people lived in the Chatam County portion of the City of Cary and 22 people lived in the Orange County portion of the City of Durham.
The county "remainder" represents the population of the county not included in the population of the identified city(ies). The "total" population of a county includes the population of city(ies) located in its borders.

Figures 9 & 10



Source: North Carolina Office of State Planning, North Carolina Municipal Population 1998, Raleigh, 1999.
The county "remainder" represents the population of the county not included in the population of the identified city(ies). The "total" population of a county includes the population of city(ies) located in its borders.