

## ABOUT OUR HOME

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### OUR PEOPLE

The Triangle continues to attract businesses and families from across the nation. The mild climate and growing medical, university and technology research industries, and the secondary service economy that supports these primary industries, are among the major factors that are fueling this attraction. The result has been rapid changes in our population both in terms of growth and diversity. *Figure 1* and *Figure 2* provide population information covering the last forty years for the counties and municipalities that are entirely or partially in the MPO planning area, i.e., Chatham, Durham and Orange Counties.

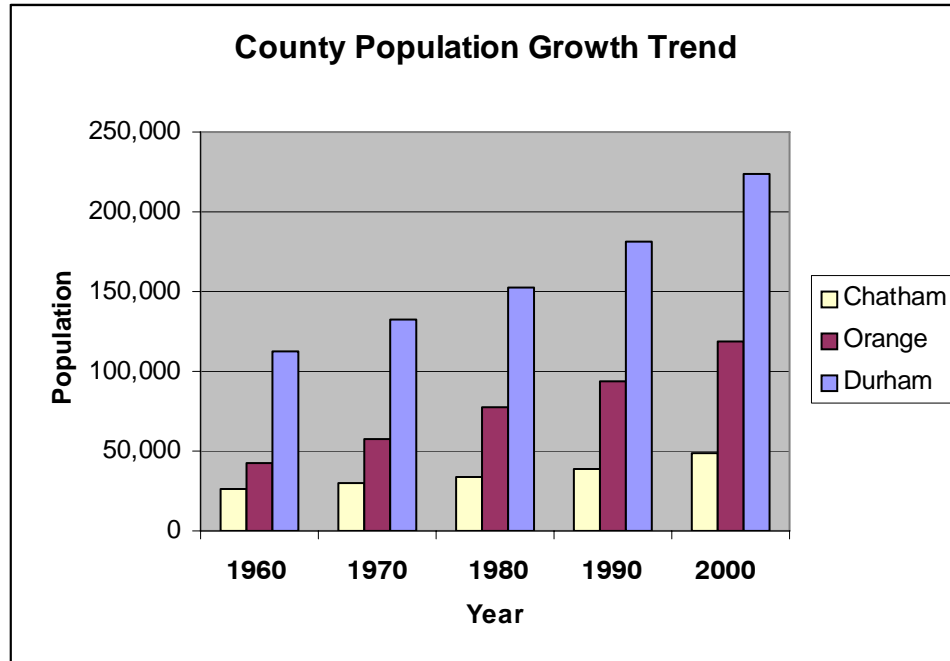
The population for all three counties increased 113% over the last forty years, and made a dramatic increase of 24% over just the last ten years, i.e., from 1990 to 2000. During the same ten-year period, the population increases in the principal municipalities were even more dramatic, ranging from 28% to 38%.

The composition of our growing population is changing, as well. The Triangle, like many urban areas around the county, is becoming more diverse in terms of ethnicity. *Figure 3* demonstrates that while the overall population increased by 24% in the three-county area over the last ten years, the Hispanic population increased almost six-fold, now representing approximately 7% of the total population. The increase in other ethnic population groups outpaced the overall population increase, as well. The population is also generally becoming younger. While working and retired age groups, i.e., 18-64 years and over 64 years in age, increased at or below the rate of the overall population, persons under 18 years of age increased at a rate, 27%, that exceeded the overall population growth.

Between now and 2030, expect the population of the Triangle to continue growing at a rapid pace, diversifying ethnically, and becoming younger. The fast growth and change will present many challenges to making our transportation system safe, efficient, and effective.

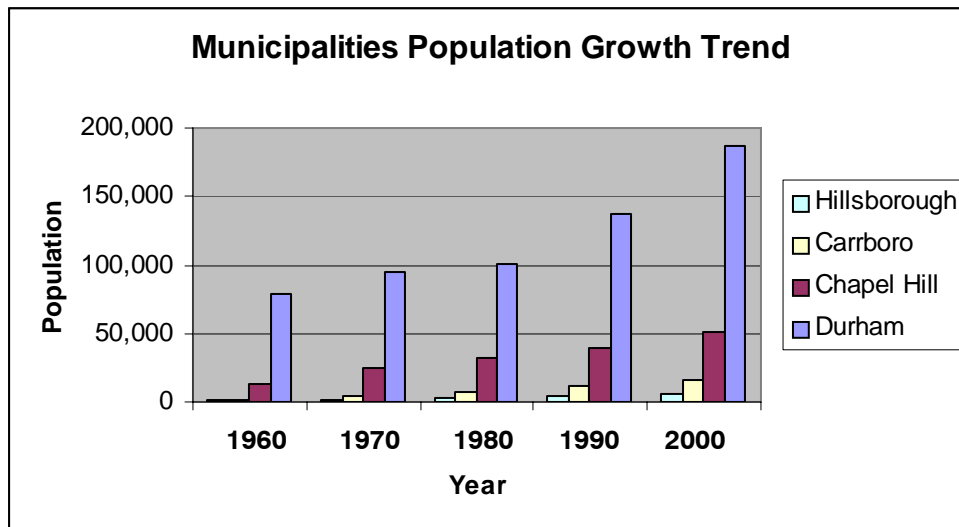


Figure 1



Source: U.S. Census Bureau

Figure 2



Source: U.S. Census Bureau

**Figure 3**  
**Age and Ethnicity Population Changes**  
**(Durham, Orange and Chatham Counties)**

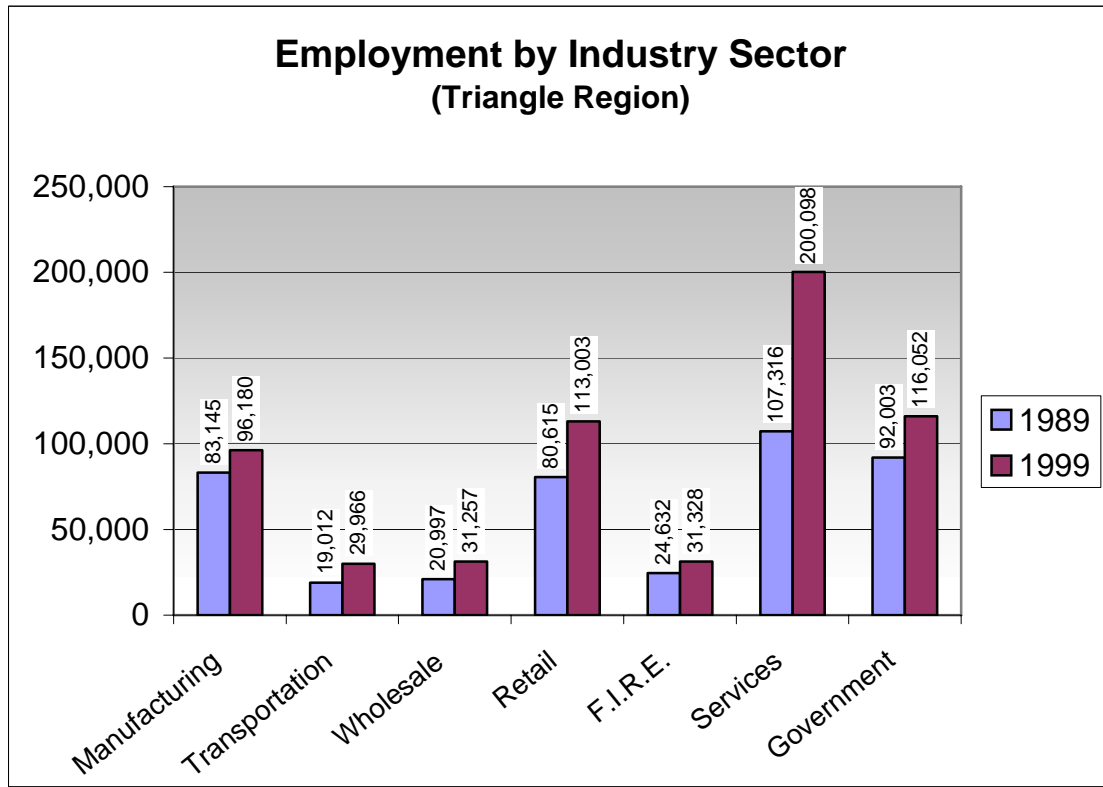
	Tot Pop	Under 18	18-64	65 & Over	White	Black	Hispanic
1990 Census	314,445	67,843	213,381	33,221	215,180	91,392	3,897
Census 2000	390,870	86,277	265,558	39,035	238,676	112,829	27,055
Percent Change	24%	27%	24%	18%	11%	23%	594%

## OUR ECONOMY

The growing and diversifying economy of the Triangle is the engine that attracts so many workers to the area. The regional economy has changed from being agricultural mills and government based to comprising a broad diversity of high technology private development, medical services, and higher educational centers. The location of several major colleges and universities, and the biotechnology, information services and other technology firms in the Research Triangle Park have attracted other businesses that need highly skilled workers and bring high paying jobs. The growth of these primary industries has pushed the growth of secondary industries, such as transportation, wholesale and retail trade, and business machines. The services sector that supports the growing workforce, such as retail, financial, real estate, and professional services, will grow tremendously, as well.

The data in *Figure 4* supports this assessment of changes in Triangle employment. From 1989 to 1999, overall employment grew by 190,174 jobs, or 44%, in the Triangle Region. The Services, Transportation, Wholesale and Retail sectors led this growth, increasing by 86%, 58%, 49%, and 40%, respectively. The growth in Manufacturing and Government lagged behind the overall growth rate, increasing by 16% and 26%, respectively.

Figure 4



The factors behind this growth are many. The Triangle has a reasonable cost-of-living compared to other high technology areas in the U.S., enjoys a pleasant climate, and possesses a business-friendly environment. There is an abundance of highly trained and skilled workers and an abundance of entrepreneurs willing to take the risks of starting new businesses. In fact, between 1989 and 1999, Durham ranked #2 in the United States in the number of major international facility investments (source: Greater Durham Chamber of Commerce). These factors will continue their strong attraction to new businesses, expanding companies, and workers over the next several decades. As a result, we can expect the character and growth rate of the economy to continue well into the future.

## OUR ENVIRONMENT

Among the many environmental concerns in our region, air quality, water resources, and land use are the most important. Air quality is an increasingly important concern in the Triangle Area, and it is directly linked with the transportation system. Ozone is a strong oxidizer and irritant that has been shown to decrease lung function and trigger asthma attacks among the young, elderly, and adults who work or exercise outdoors. Ozone forms in the atmosphere when NOx (nitric oxide) and VOC (volatile organic compounds) mix in the presence of sunlight. Highway Mobile emissions, i.e., from vehicle use on public roads, account for over one-half the NOx emissions in the Triangle Area. Given the serious health effects of ozone, the reduction of ozone emissions is an important goal of the MPO's long-range transportation system.

The Environmental Protection Agency (EPA) has established standards for common air pollutants. A geographic area that meets or exceeds the standard for a particular air pollutant is called an "attainment area." Likewise, an area that does not meet the standard is called a "non-attainment area." Standards are set for a number of pollutants, including ozone, nitrous dioxide and carbon monoxide.

In June 2004, the EPA cited the Triangle as non-attainment area for the “eight-hour” ozone standard, requiring the completion of certain air quality analyses and conformity plans. The non-attainment status can directly affect the community’s economic development efforts, and federal funding for transportation improvements can be delayed if a plan is not adopted that is deemed to bring the Triangle back into conformity. Industrial developments proposing to emit air pollutants may not be permitted to locate in the jurisdiction. Non-attainment status for one or more pollutants affects potential employment growth, and the quality of life.

Water quality is regional concern, as well. The Triangle Region is divided into two major drainage basins, both of which supply water for the Region’s drinking water reservoirs. The southern part of the Region drains into Jordan Reservoir and the Cape Fear River basin. The northern part of the Region drains into the Falls of the Neuse Reservoir and the Neuse River basin. All of the major watercourses in the Region drain to water supply reservoirs and affect the quality of their waters. The NC Division Water Quality (DWQ) classifies streams according to their best-intended uses. Surface waters, including streams, lakes, and estuaries, are rated as fully supporting, partially supporting or not supporting their intended uses. Intended uses could include water supply, aquatic life protection and swimming or other recreation. The DWQ has determined that several streams throughout the region do not support their intended uses. These streams include the New Hope, Third Fork and Northeast Creeks in the Cape Fear basin; and Ellerbe, Little Lick and Lick Creeks in the Neuse basin. All have impaired water quality.

The municipalities and counties in the region often apply special zoning regulations for the purposes of water supply watershed protection. These regulations often prohibit certain types of development in sensitive watershed areas, limit the intensity of development to minimize pollution from stormwater runoff, limit the amount of impervious surfaces allowed in new developments, and prohibit disturbing naturally vegetated areas on each side of most streams. Transportation plans must take into account the impact that new roadways, or widened alignments or intersections, might directly have on water quality, and the indirect effects that special watershed zoning might have on future development and the need for transportation resources in those areas.

How people in the region use land is a significant contributor or detractor to the community’s quality of life. Land is used for homes, businesses, community facilities and farming. Having a high level of access and mobility among these different centers of daily activity can be important in maintaining the social cohesion and economic efficiency of a community. The relative location of housing and employment activities in a community is a major factor in travel demand. Well-integrated land uses can reduce automobile related travel demand for work trips, while dramatically segregated land uses can increase this demand.

The Triangle Region is often characterized as having mostly low-density development, which is commonly called “sprawl.” Low-density housing, i.e., one to four dwelling units per acre, is the most common land use type in the MPO planning area and even within the Urban Growth Area of Durham County. According to a national study, *Measuring Sprawl and Its Impact*, the Triangle area ranks 3rd as the most sprawling region in the nation. (Charlotte was not ranked due to insufficient data.). The same study examines the environmental and social impacts of sprawl, concluding that persons in the most sprawling areas add many more miles of travel each day to their schedule, suffer more traffic deaths, and tend to endure worse air quality.

## **OUR CHALLENGE**

These characteristics of our home, a rapidly growing population and economy, a degrading environment, and more sprawling land uses, create many transportation challenges. More commuters are traveling longer distances, and the single-occupant automobile continues to dominate the commuter travel mode. Outside of commuter travel, more people are traveling to schools, daycare services, shopping centers, and social engagements, and the continued pattern of low density, segregated land uses makes the automobile the primary mode for making these trips. These characteristics have produced an increasing demand on our

transportation network, which in terms of “vehicle miles traveled” and other demand measures is experiencing a growth rate that is much greater than that of our population. The consequences have been traffic congestion, increasing transportation infrastructure costs, and further degradation of our air, water, open space, and other environmental qualities.

We know these consequences will continue well into the future as the population and economy rapidly grow, and current transportation modes and land use patterns remain mostly stable. Traffic congestion will steadily increase on our roadways in spite of massive investments in freeways, arterial roadways, and transit services. Air quality standards will be difficult to meet, particularly if new, more stringent standards are enacted. The quality of life, which attracts the professional and skilled workers and business investment to our region, may ultimately become threatened by the consequences of our growth and inadequate transportation infrastructure.

These consequences create many challenges for us, for example:

- How do we find the resources to invest in our transportation infrastructure, and to what extent does this demand for resources compete with other needs such as schools, water and waste treatment facilities, affordable housing, and social services?
- As we expand our roadway network to meet growing travel demand, how can we minimize the negative impacts on our travel times, air and water quality, and open spaces?
- How do we design a transportation network that serves the needs of both the less centralized business locations of the technology economy and struggling downtowns, of both the technology workforce and retail and basic service workers, of the diversifying population, of citizens concerned with the environment and those concerned with preserving the strength and diversity of our economy?

We are undertaking the update of our long-range transportation plan to help ensure that we are able to meet these challenges. We must plan now for the roadways, transit services, and bicycle, and pedestrian facilities that will be needed in 2030, if we expect to meet the travel demands of that future year. Our community has many great opportunities to create and maintain a strong, growing economy, high quality of life, affordable housing market, culturally diverse populace, and sustainable environment. Our ability to anticipate and meet the challenges in planning, designing, and building an efficient and effective transportation network is a key element for ensuring that we can make the most of these opportunities.