

SECTION 3: Why Invest in Transit?

In order to take a fresh look at the Triangle's transportation issues, it is important to understand the economic, demographic, environmental and social forces that affect transportation in the region. The Special Transit Advisory Commission (STAC) examined these forces and considered how transit might interact with these forces in a way that would promote greater mobility and prosperity, stronger communities and enhance our quality of life. From these potential benefits, the Commission articulated a set of goals that became the framework for developing their recommendations (see page 24).

Over the past 11 months, the STAC considered an impressive amount of technical material. Members of the STAC asked questions about transit in general and transit in the Triangle. Answers to these questions, many of which are also asked by the public, have been compiled and are provided in Appendix D.

This section describes the role transit can play in the Triangle and the importance of investing in a regional transit system.

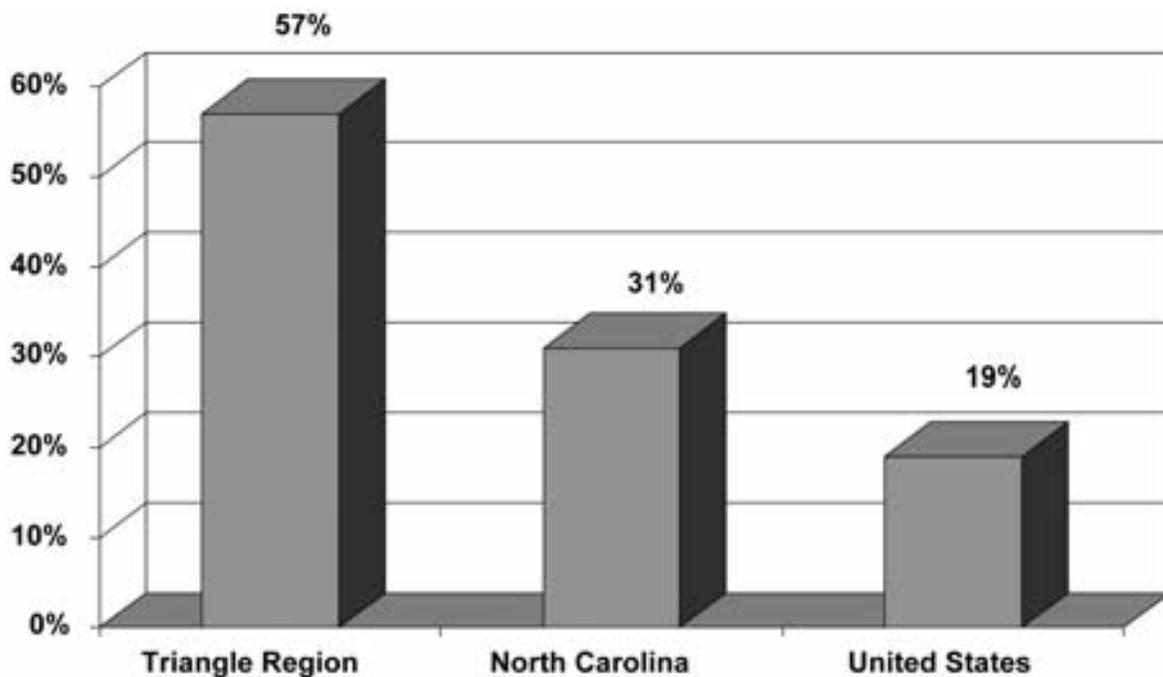
Economic, Demographic, Environmental and Social Forces

Our region has experienced a period of astounding growth in population over recent decades. The Research Triangle Region is home to 1.5 million people and is projected to grow rapidly to 2.5 million by 2035, about 3,000 people per month. Our growth rates have outpaced population growth for the nation and for North Carolina. From 1990 to 2000, Wake County was the 9th fastest growing county in the U.S. Although we are not yet a "big" region, we can expect to become one quickly.

These numbers tell us what we already know: people want to move here to build businesses,

Population Growth 1990–2005

Source: TJCOG



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careers and families because of the robust economy and high quality of life. However, the attractiveness of the Triangle is dependent on quality infrastructure, including our transportation network. This network is already straining to serve our current travel needs as the demand for transportation has steadily grown at a rate that far outpaces population growth. Future population growth and the increased traffic this will bring will only worsen the situation.

The maps below show the anticipated increase in congestion on our roadway network from 2002 to 2030. The projection for increasingly congested conditions have implications for businesses, which need travel time reliability for workers and for freight, and for individuals, who must cope with frustration and time lost to congestion on a daily basis.

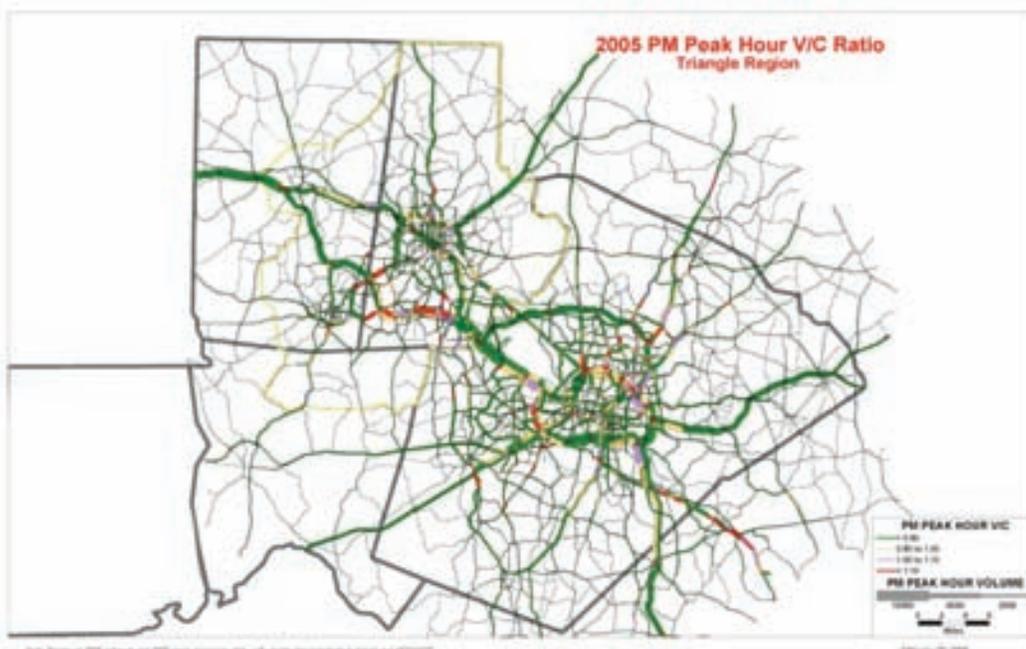
Not surprisingly, Triangle commuters are spending more time commuting, either because of congestion or because they are traveling greater distances. According to US Census figures, our commutes are getting longer. From 1990 to 2000, the average commute time in the Raleigh-Durham-Chapel Hill metropolitan area increased 23%. The number of workers who were able to reach their jobs in 20 minutes or less declined, while at the same time the percent of workers reporting one-way commutes of greater than 60 minutes increased.¹

These figures are a concern for several reasons. Long commutes, especially when combined with congestion:

- Limit the reach of businesses in marketing their goods and services and in their ability

Regional Road Network showing 2005 ratios of daily traffic volume (shown by width of lines) to capacity.

Purple are roads at or just over capacity; red are roads well over capacity. Source: DCHC MPO



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to attract employees from the regional labor pool

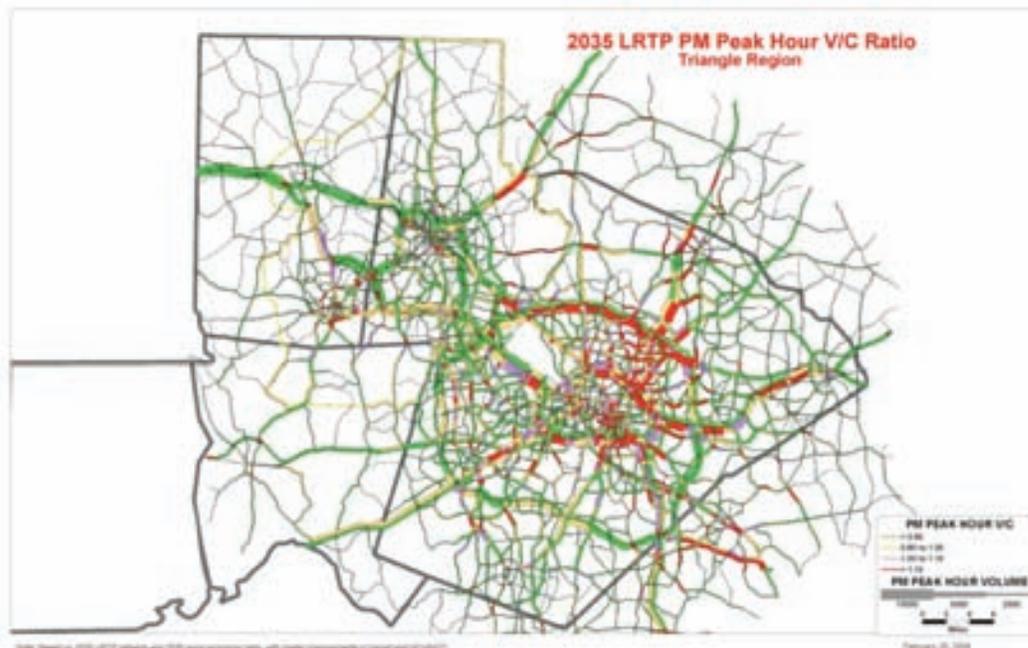
- Increase air pollution from vehicles resulting in impaired health for citizens and negative environmental impacts
- Are often intertwined with land use development that reinforces a regional pattern of sprawling, bedroom communities that empty out for the workday; these communities have difficulty developing a robust local economy and diversified tax base to build and sustain public services such as schools
- Are associated with lower levels of involvement in community affairs. Studies have shown that every additional 10 minutes spent commuting is associated with a 10% drop in involvement in a range of activities including town meetings, PTAs, church services, political activism and volunteerism.²

Many of the indirect effects of our travel patterns are actually effects stemming from the interplay between land use and transportation. An examination of our region's land use characteristics reveals several patterns that contribute to the increasing time we spend driving and the distances we drive:

- We are a low density region. Despite our tremendous growth, our regional population density is still lower than it was in 1980. With few natural barriers to development like mountains or large rivers, development has consumed land at a far more rapid pace than the increase in our population. Low density development increases infrastructure costs to run lines to distant locations. Also, providing police, fire and other services are more expensive with lower density.

Regional road network with 2035 projected volume to capacity ratios.

The increase in congestion comes despite implementing all projects in the region's two current Long Range Transportation Plans. Source: DCHC MPO



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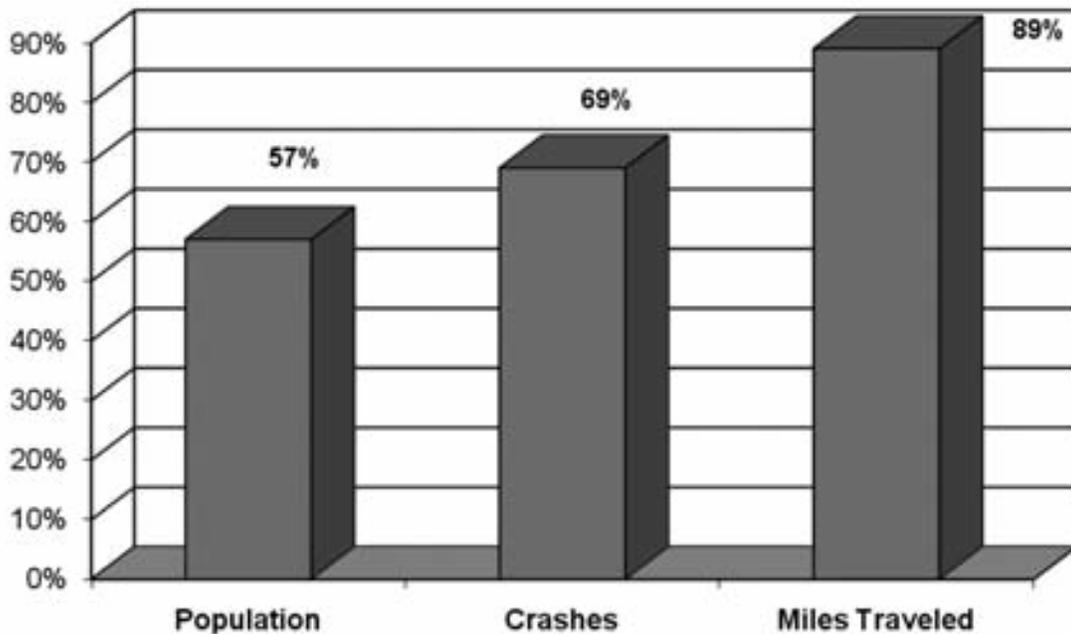
- We have a pattern of separate and segregated land uses. Generally our residential areas are segregated from retail stores, workplaces, schools, and civic and cultural facilities. This separation increases both the number of trips we make and the length of those trips at a rate faster than our population growth (see figure below).
- Our geographic and economic center, Research Triangle Park, is developed as a low-density, business and employment-only destination. Because the employees, customers and tenants of RTP do not live on the campus, these commuters travel longer distances and generally at the same time each day resulting in significant congestion and patterns of trips that begin at scattered locations and end at equally scattered destinations.

For transportation planning, these characteristics create unique challenges compared with the “typical” metropolitan pattern of a single, dense, downtown central business district. These land use factors, combined with our rapidly growing economy have been major forces in making our region one of the most sprawling, auto-centric regions in the nation.

This reliance on auto travel has consequences for individuals, households and the region. Substantial outlays are required to purchase, insure, maintain and operate an automobile. Fuel costs are becoming significant for many households, and with our long commutes, we can expect this to have an increasing impact on our residents. Auto-dependency also affects our physical health, creating fewer opportunities to make exercise part of our daily routines,

More People Driving More Miles: Changes from 1990–2003.

Note: Population and miles traveled are Triangle urbanized area; crashes are core counties of Durham, Orange and Wake. Source: TJCOG.



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contributing to an obesity epidemic. Our auto-centric infrastructure also severely curtails opportunities for active-living choices in our region. New and widened roadways have fragmented neighborhoods, towns, farms and wildlife habitat, disintegrating our essential community vitality and the health of natural systems. Aside from these direct impacts, our reliance on petroleum has regional and national policy implications. Automobiles are a major contributor to air pollution and greenhouse gases, so continuing to expand the highway system will negatively affect air quality and in turn, our physical health. Air pollution has financial impacts as well: increasingly stringent federal air quality standards will mean that the federal government may withhold transportation monies if our region cannot meet the standards.

Our changing demographics indicate that an even greater number of future residents will need alternatives to driving, because of age or economic status. For the elderly, physical issues can preclude auto ownership or driving. By 2035, those aged 65 and older will increase from less than 10% of our population in 2000 to more than 15% by 2035.³ Our auto-focused transportation system will present this group with considerable challenges to their personal mobility. Low income households can be heavily affected by the rising costs to own, maintain and operate an auto. Access to employment centers and educational opportunities becomes very difficult for those who do not have access to a car, challenging their ability to get and keep a job. From 1990 to 2000 the number of households without cars, either by choice or necessity, increased from 27,000 to 29,000. For these groups, considerable social and economic isolation can result from their constrained personal mobility. Furthermore, our region suffers when mobility limits the contributions the poor and elderly can make to our economy and community life.

Benefits of Transit

Taken together, these factors and projections compel us to take a new approach to our transportation future. A multi-modal web of transportation options including expanded regional bus service, city circulators, express routes and rail service to our downtowns, universities and medical centers would provide the following benefits:

- An alternative solution to the increasingly congested roadway network, which is unlikely to improve as travel demand will outstrip road construction
- More reliable travel times for commuters and customers; helps alleviate congestion for freight operators
- Practical alternatives for low income households, the elderly and other households without autos to meet their daily travel needs
- Employers can continue to attract employees from the entire region, giving greater flexibility locating firms and a wider labor pool from which to hire workers
- Reduced risks to the economy and to households when faced with future fuel cost or supply variability
- An alternative to driving alone that allows travel time to be productive
- Wider use of walking and bicycling as practical modes of travel, bringing health and environmental benefits and potentially increasing interactions within communities
- Reduced personal and economic risk of auto crashes and diminished auto use that may lower insurance premiums
- Address our air quality problems and reduced pressure on other natural systems
- Decrease our region's contribution to global climate change by reducing the number and length of auto trips
- Enhanced opportunities to shape development patterns to use land more

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- efficiently and sustainably, to preserve open space, forests and valuable agricultural lands
 - Shorter commutes by providing more efficient links between residences and work places
 - Reduced need to construct or expand major roadways that can have major negative effects on our communities and the natural environment
 - Opportunities for redevelopment and infill development that can increase the overall tax base while providing a greater range of housing types and business sites in highly accessible locations in transit-oriented developments
- Planning and building a transit system that has such far-reaching benefits is a complex and

Regions of Comparable Size and Fixed Guideway Transit, excluding commuter rail

Note: Includes all Combined Statistical Areas or Metropolitan Statistical Areas of comparable population in 2005; population figure for Research Triangle Region is combined total of the Raleigh-Cary MSA and the Durham MSA (includes Chapel Hill and Carrboro).

Region	2005 Population	Fixed Guideway Transit?
Baltimore-Towson	2,660,000	Yes
Buffalo	1,230,000	Yes
Charlotte-Gastonia	2,120,000	Yes
Cincinnati-Middletown	2,070,000	No
Cleveland-Akron	2,930,000	Yes
Denver-Boulder	2,870,000	Yes
Memphis	1,260,000	Yes
New Orleans	1,360,000	Yes
Pittsburgh	2,480,000	Yes
Portland-Vancouver	2,100,000	Yes
Research Triangle Region	1,415,339	No
Sacramento	2,190,000	Yes
St. Louis	2,840,000	Yes
Salt Lake City	1,590,000	Yes
San Diego	2,930,000	Yes
San Jose	1,750,000	Yes
Tampa-St. Petersburg	2,650,000	Yes

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challenging task. But we see considerable opportunity for such a system including:

Our innovative culture and regional competitiveness: Our region is known worldwide for being a center of technological creativity. The establishment of RTP was an early step in creating this culture, and represents truly visionary thinking about how our region could invest in its future to be well positioned in a changing global economy. One aspect of competitiveness among regions is the efficiency and effectiveness of their transportation systems. The Triangle is well located along major transportation corridors, both rail and highway, that can be used to build a more diversified transportation system. In comparison, nearly all metropolitan regions comparable in size to the Triangle have fixed guideway transit service, that is transit service that operates in its own lanes or tracks, separate from regular traffic (see table on page 22).

Our development community and our local governments: Many developers and local officials are showing increasing interest in, and commitment to, the type of land use planning and development needed to ensure the success of a regional transit system. We are seeing signs of substantial revitalization in our major downtowns and in other locations that will be well coordinated with regional transit corridors. Examples include the Plaza Condominiums in Raleigh, Meadowmont and 54 East in Chapel Hill, and West Village II in Durham. Throughout the region we see pockets of density and developments with a mix of activities that can be expected to support transit.

Real estate market research indicates that about 20–30% of people would prefer to live in compact, walkable neighborhoods where people can get to jobs, shopping and recreation without using a car.⁴ Where such neighborhoods exist or are built, they typically command a premium over

comparable suburban housing, reflecting rising demand and a relatively limited supply of housing in a walkable, transit-oriented pattern.⁵ Here in the Triangle, our housing market shows healthy demand for housing in these developments; our residents are paying for the opportunity to live in these places. Our developers and local planning professionals are also demonstrating that these developments can include an affordable housing component that opens up these desirable locations to lower income households.

Our inventory of transportation corridors: We have an extensive inventory of transportation corridors that can be used for transit service. For example, on roadways, many regions are finding ways to get buses out of existing roadway facilities, including allowing buses to run on shoulders during congested peak periods, giving buses priority at signals, or offering express routes between remote park and ride lots and major employment centers. These strategies can make buses competitive with autos for many trips. Our region also has rail corridors that link many of our communities, and continue on beyond our boundaries. These corridors are important freight and intercity passenger rail routes, and we can leverage these valuable assets to provide rail transit service within our region. We also have transit hubs built or under construction in Raleigh, RTP and Durham.

Setting Our Course

In order to develop a successful transit system, the region needs to give careful thought to why it should invest in transit. These reasons are the foundation for the goals that the region wants to attain in connection with a regional transit system. While many of the decisions made about transportation systems are based on technical data, transportation systems touch on many factors that are only measured in qualitative ways. To this end, the STAC developed a set of goals to use in conjunction with the technical data to guide the decisions about where transit

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investments should be made, what kind of investments are needed, and when and in what sequence to make them. These goals represent the values and principles that shaped the STAC's recommendations and are recommended as guidance for the MPOs as they work through the LRTP process and on into designing and building the system. Even when faced with difficult

choices because of financial or political pressures, the goals describe the choices that will enhance quality of life in our region. Throughout this report, the values and principles that underlay these goals surface in the specific recommendations and the rationale behind them.

STAC Goals for Regional Transit Vision Plan

- *Create a regional transit system which is efficient, convenient, affordable, attractive, safe, secure and accessible for people and commerce.*
- *Create a regional transit system which is multi-modal, seamless and interconnected with multiple transit choices for people and commerce.*
- *Encourage sustainable land use, ranging from compact, mixed-use, walkable and bikeable development to allowing for and preserving open space, trails, farmland, and historic, culturally valuable and environmentally sensitive areas.*
- *Reduce the need for and cost of new roads and other infrastructure by optimizing the capacity of existing roads.*
- *Minimize the impact on the natural environment, neighborhoods and cultural resources when selecting, building and improving transportation corridors.*
- *Create a regional transit system that improves our health by reducing air pollution, greenhouse gas emissions, water pollution and by promoting active living.*
- *Create a regional transit system that reduces our dependence on foreign oil and reduces our consumption of fossil fuels.*
- *Create a cost effective regional transit system with positive economic and social value for the region with adequate and proportional funding.*
- *Encourage economic development and reduce travel time and make it more productive*
- *Improve access to existing and future employment, services, leisure, health, education, cultural and natural resources for everyone, including the mobility impaired and economically disadvantaged.*
- *Strengthen all residents' feelings of belonging, connection and community throughout the region by creating shared public and private responsibility and investment for transit which demonstrates that the region can think and act inclusively with vision, creativity and open communication.*